vgt environmental compliance solutions and laboratories

Surface Water Audit for Benedict Mayfield West Recycling Facility

30 June 2020

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Benedict Recycling Mayfield West Facility Surface Water Audit	
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Revision Table

Date	Version	Author	Reviewed	Approved
19/06/2020	D0	TO	GVT	TO
29/06/2020	D1	TO	AC	AC
30/06/2020	F0	TO	AC	AC

Independent Audit Declaration Form

Project Name: Benedict Recycling Pty Ltd

Consent Number: SSD7698

Description of Project: Recycling Facility

Project Address: 1a McIntosh Drive Mayfield West, NSW 2304

Proponent: Benedict Recycling Pty Ltd

Title of Audit: Surface Water Audit

Date: 30/06/2020

I declare that I have undertaken the Independent Audit and prepared the contents of the attached Independent Audit Report and to the best of my knowledge:

- The audit has been undertaken in accordance with relevant condition(s) of consent and the Independent Audit Post Approval Requirements (Department 2018);
- The findings of the audit are reported truthfully, accurately and completely;
- I have exercised due diligence and professional judgement in conducting the audit;
- I have acted professionally, objectively and in an unbiased manner;
- I am not related to any proponent, owner or operator of the project neither as an employer, business partner, employee, or by sharing a common employer, having a contractual arrangement outside the audit, or by relationship as spouse, partner, sibling, parent, or child;
- I do not have any pecuniary interest in the audited project, including where there is a reasonable likelihood or expectation of financial gain or loss to me or spouse, partner, sibling, parent, or child;
- Neither I nor my employer have provided consultancy services for the audited project that were subject to this audit except as otherwise declared to the Department prior to the audit; and
- I have not accepted, nor intend to accept any inducement, commission, gift or any other benefit (apart from payment for auditing services) from any proponent, owner or operator of the project, their employees or any interested party. I have not knowingly allowed, nor intend to allow my colleagues to do so.

Notes:

a) Under section 10.6 of the Environmental Planning and Assessment Act 1979 a person must not include false or misleading information (or provide information for inclusion in) in a report of monitoring data or an audit report produced to the Minister in connection with an audit if the person knows that the information is false or misleading in a material respect. The proponent of an approved project must not fail to include information in (or provide information for inclusion in) a report of monitoring data or an audit report produced to the Minister in connection with an audit if the person knows that the information is materially relevant to the monitoring or audit. The maximum penalty is, in the case of a corporation, $1 million and for an individual, $250,000; and

b) The Crimes Act 1900 contains other offences relating to false and misleading information: section 307B (giving false or misleading information – maximum penalty 2 years imprisonment or 200 penalty units, or both)

Name of Auditor: Tara O'Brien

Signature: 

Qualification: B SC, Grad. Cert. Env Studies, CPESC

Company: VGT Environmental Compliance Solutions Pty Ltd

Company Address: 4/30 Glenwood Drive Thornton NSW 2232

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1 Introduction

1.1 BACKGROUND

Benedict Recycling Pty Ltd (Benedict) is the operator of the Mayfield West Recycling Facility (SSD 7698) located at 1A McIntosh Drive, Mayfield West. Benedict was granted development consent for the Mayfield West Recycling Facility (the 'Site') by the Department of Planning, Industry and Environment (DPIE) on 13 March 2018 allowing increased processing capacity from 90 000 tonnes per year to 315 000 tonnes per year of general solid waste (non-putrescible). The operations commenced on 25 September 2018.

This audit was undertaken in compliance with Condition B38- Schedule 2 of SSD-7698 which states;

> *B38. Within 18 months of the commencement of operations, the Applicant must commission an independent Surface Water Audit of the Development to the satisfaction of the Secretary. The audit must:*
>
> *(a) be carried out by a suitably qualified and experienced expert whose appointment has been endorsed by the Secretary;*
>
> *(b) be conducted in consultation with the EPA;*
>
> *(c) audit the Development whilst it is in operation;*
>
> *(d) validate the development against the SWCMP required by Condition B33;*
>
> *(e) include a summary of any EPL water quality exceedances;*
>
> *(f) review the design and management practices of the Development against industry best practice for surface water;*
>
> *(g) include an action plan that identifies and prioritises additional surface water mitigation measures and/or treatment options that may be necessary to reduce surface water impacts; and*
>
> *(h) provide a further program of monitoring to address water quality issues that may emerge over time*.

The Audit was commissioned on 23 March 2020 and must be submitted 3 months from commissioning i.e. 23rd June 2020 in accordance with Condition B39. The Audit itself must be conducted within 18 months of commencement of operations i.e. 25 March 2020. Due to the impact of the COVID19 isolation requirements of NSW Health, the Audit was postponed until 10 June 2020 and was unable to be completed within the timeframe of the SSD 7698 consent requirements. An extension was granted to the 25th July 2020 because of the delayed site visit, see *Appendix D*.

1.2 AUDIT TEAM

Table 1. Audit Team Details

Audit Title	**Benedict Waste Recycling Facility Mayfield West Surface Water Audit**	
Site:	Benedict Waste Recycling Facility Mayfield West	
Client Contact:	Alycia Campbell	
Position:	Environmental Compliance Officer	
Client:	Benedict Recycling Pty Limited	
Client Address:	11 Narabang Way, Belrose NSW 2085	
Client Phone Number	0437 468 258	
Client Email:	alycia@benedict.com.au	
Audit Team:	Tara O'Brien	Sinead Kelly
	Lead Auditor Senior Environmental Scientist BSc, Grad. Cert. Env. Studies, CPESC	Assistant Auditor Environmental Scientist B.Env.Sc, CPESC (Associate)
Auditor's Telephone:	(02) 4028 6412 0429 334 471	
Auditor's Email:	tara@vgt.com.au	

1.3 AUDIT OBJECTIVES

In accordance with condition 38 of SSD 7698, this audit:

- Assesses the environmental performance of the development and compliance with the requirements of the consent and EPL 20771;
- Review the design and management practices of the Development against industry best practice for surface water; and
- Recommends appropriate measures or actions to improve the environmental performance of the development.

1.4 AUDIT SCOPE

The audit has been undertaken consistent with DPIEs Independent Audit Guideline: Post-approval Requirements, June 2018 (the Audit Guideline). The Audit reviews the surface water management on the site during operation and relevant conditions of consent, plans, licences and guidelines.

The audit findings presented in this report are based on the condition of the site at the time of the site inspection, consultation with relevant agencies, documentation publicly available and that provided by Benedict. All reasonable efforts have been made to gather adequate evidence which is current and relevant to the site for this audit.

1.5 AUDIT PERIOD

The Audit is a snapshot of operations on the day of the audit together with a review of relevant systems, documents, plans and licences developed or approved since the granting of consent SSD 7698 on the 13 March 2018.

2 Audit Methodology

2.1 SELECTION AND ENDORSEMENT OF AUDIT TEAM

Benedict sought approval from the DPIE for Tara O'Brien of VGT Environmental Compliance Solutions Pty Ltd (VGT) to conduct the Surface Water Audit and endorsement was received on correspondence dated 24th March 2020 (see *Appendix C*). Sinead Kelly of VGT was also selected to assist with the Audit and preparation of the Audit Report.

The team from Benedict included Alycia Campbell and Heath Nowlan.

2.2 AUDIT SCOPE DEVELOPMENT

The scope of the Audit was developed from initial discussions with the client and a review of the online information regarding the approvals and plans for the site. From the information provided and audit checklist was prepared and consultation with the EPA was undertaken.

Documentation reviewed is listed below.

Table 2. Summary of Documentation Reviewed for Audit

Document	Author	Date
Independent Environmental Audit	Barnett and May	4/12/2019
Satisfaction of Independent Environmental Audit	NSW Planning, Industry and Environment	20/3/2020
Endorsement of Surface Water Audit Team	NSW Planning and Environment	24/3/2020
Newcastle Site Complaints 2019 (from website)	Benedict	Jan 2019 to Dec 2019
EPL Monitoring Results (from website)	Benedict	2019 & 2020
Newcastle Site Complaints	Benedict	2019 &2020
Annual Review	Benedict	Jan 2019 to Dec 2019
Conditions Compliance Report	Benedict Within the AR	Jan 2019 to Dec 2019
Surface Water Characterisation and Mitigation Plan	EMM	6/09/2018
EPA Review of Surface Water Characterisation and Mitigation Plan	EPA	13/8/2018
Operational Environmental Management Plan	Benedict	Jul-18
Approval of Operation Environmental Management Plan	NSW Planning and Environment	25/9/2018

Document	Author	Date
B26 Compliance Certificate	Tooker and Associates	22/06/2018
EIS Mayfield West Recycling Facility	EMM	26/03/2015
EPL 20771	EPA	8/11/2018
SSD7698 Environmental Assessment Report & DA	NSW Planning and Environment	Mar-18
SSD7698 Development Consent Append A Plans	NSW Planning and Environment	Mar-18
SSD7698 Development Consent Append B	NSW Planning and Environment	Mar-18
Response to Submissions	EMM	20/07/2017
Surface Water Validation Report	EMM	May-20
Revised Due Date Correspondence for Surface Water Validation Report	Department of Planning, Industry and Environment	26/7/2019
Approval of Mark Tooker for Consultant to design SWMS	NSW Planning and Environment	4/04/2018
Approval of Chris Kuczera for Consultant to design SWCMP	NSW Planning and Environment	4/04/2018
Weekly Environmental Inspection Checklist - Newcastle	Benedict	ongoing
Annual Review 2018 Approval	Department of Planning, Industry and Environment	09/10/2019
Annual Review 2019 Approval	Department of Planning, Industry and Environment	30/04/2020
“Work as Constructed” Plans	Centurion Survey Pty Ltd	26/07/2018
Elite Fire Training Certificate of Completion	Elite Fire Training	18/11/2019

2.3 COMPLIANCE EVALUATION, SITE INTERVIEWS

Compliance was evaluated from a site inspection, key personnel interviews and further document review against a prepared table of compliance. An opening meeting was held and attended by Alycia Campbell (Environmental Representative) and Heath Nolan (Site Manager), Tara O'Brien (Senior Environmental Scientist) and Sinead Kelly (Environmental Scientist) of VGT.

A large number of documents and data were reviewed onsite, and where possible, compliance verified at the time of the site inspection. Other documentation has been made available to the audit team for offsite review and reporting and additional documents provided at the request of the audit team.

Findings have been reported in the table of compliance using the criteria provided in Audit Guideline.

2.4 CONSULTATION

Condition B38 of the Mayfield West consent requires that this SWA must be carried out in consultation with the EPA. VGT sent a letter to the EPA on May 14th 2020 advising of the Surface Water Audit date and inviting the EPA to provide comment regarding the Audit in advance. No response from the EPA has been received to date.

2.5 SITE INSPECTION

A site visit was conducted on the 10th June 2020 at the Benedict Mayfield West Recycling Facility. During the site visit the following was sighted / inspected:

- sediment water dams, drains and surface water structures;
- meteorological monitoring station;
- site office, workshop and storage areas;
- processing areas;
- site entry, weigh bridge, wheel wash and access tracks;
- site signage;
- perimeter bunds; and
- vegetation.

2.6 COMPLIANCE STATUS DESCRIPTORS

Compliance descriptors used have been those described in the Audit Guideline and reproduced below.

Table 3. Compliance Status Descriptors

Status	Description
Compliant	The auditor has collected sufficient verifiable evidence to demonstrate that all elements of the requirement have been complied with within the scope of the audit.
Non- Compliant	The auditor has determined that one or more specific elements of the conditions or requirements have not been complied with within the scope of the audit.
Not Triggered	A requirement has an activation or timing trigger that has not been met at the time when the audit is undertaken, therefore an assessment of compliance is not relevant.
Observation	Observations are recorded where the audit identified issues of concern which do not strictly relate to the scope of the audit or assessment of compliance. Further observations are considered to be indicators of potential non-compliances or areas where performance may be improved.
Note	A statement or fact, where no assessment of compliance is required.

In accordance with the Audit Guidelines, the terms partial compliance, partial non-compliance or administrative non-compliance or other similar terms are not used. Consistent with the Audit Guidelines the following risk levels have been used and assigned to the Non-Compliances found.

Table 4. Risk Levels

Risk Level	Description
Compliant	No or negligible risk.
Non-Compliant: High Risk	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence
Non-Compliant: Medium Risk	Non-compliance with; • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur
Non-Compliant: Low Risk	Non-compliance with: • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur.
Not Triggered	Assessment of risk not relevant.

3 Audit Findings

3.1 COMPLIANCE PERFORMANCE

In summary, the audit found:

- 176 Compliant;
- 5 Non-compliant; and
- 56 Not triggered.

The non-compliances are provided below in *Section 3.3*. The non-compliances have also been assigned a risk level in accordance with the Audit Guidelines and as defined in *Table 4.*

3.2 SUMMARY OF AGENCY NOTICES, ORDERS, PENALTY NOTICES OR PROSECUTIONS

No penalty notices have been issued by the EPA since the commencement of the operations under SSD 7698 in September 2018. There have been no non-compliances recorded by the EPA regarding the surface water management.

No other notices or orders have been issued to date that relate to the surface water management.

3.3 NON-COMPLIANCES

3.3.1 SSD Non-Compliances

Table 5. SSD Non-Compliances

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
Soils, Water Quality and Hydrology						
Chemical Spills and Fire Water Containment						
B43	To ensure that chemical spills and fire-water are contained on-site, prior to the commencement of operations and to the **satisfaction of FRNSW**, the Applicant must ensure: (a) a stormwater isolation valve is installed; the stormwater isolation valve must be closed at all times unless stormwater is being discharged and its closure must be monitored weekly;	Annual Review (AR) noted; *"1. There was no consultation with FRNSW during the preparation of the plan rather FRNSW comments were taken on board during the RTS phase of the assessment phase- Completed* *2. A weekly compliance checklist has since been implemented covering the sediment pond outlet valve. The valve is checked however, has not been documented as the auditor would like (31/01/2020)- Completed – weekly compliance checklist implemented onsite "* Elite Fire Training Certificate 18 November 2019	Satisfaction from Fire Rescue NSW (FRNSW) should be sought and documented. Weekly checklist contains valve inspections. Benedict Recycling Newcastle last completed Warden/Chief Warden Training Building Evacuation Training & the Use of Portable Fire Fighting Equipment in November 2019.	Non-compliant	Low	Seek formal approval from the FRNSW
	(c) the location of the stormwater isolation valve and any associated controls must be clearly identified on the site's fire hydrant block plan, fire sprinkler block plan and the site plan located within the site's Emergency Response Plan prepared as part of the OEMP as required by Condition C7.	PIRMP Appendix C Fire Fighting Equipment Location Map	Sited Fire Fighting Equipment Location Map during audit, no valve present on figure.	Non-compliant	Low	Recommend that the location of the stormwater isolation valve is added to PIRMP Appendix C, Fire Fighting Equipment Location Map
Appendix B- Applicant's Management and Mitigation Measures						
Water						
	The perimeter drain, installed prior to Benedict Recycling occupying the site, captures runoff from all active areas of the site. The site soil and water management system includes: • regularly maintaining sock filters;	IEA noted sock filters not installed	Sock filters not installed; coir logs are laid down around the 2-stage pit capturing Area 1 water. The logs are effectively slowing the flow of surface water and encouraging coarse sediment to drop out prior to entering the pit.	Non-compliant	Low	Recommend adding inspection of coir logs to checklist to monitor if replacing required.
	• the sedimentation basins in the perimeter drain will be upgraded. Poorly graded rock (50-150 mm diameter) will be used to form the sedimentation basin dams in the perimeter drain. The top of each dam will be approximately **0.5 to 1.0 m wide with the crest level approximately 0.3 m below** the top of the perimeter drain to allow overflow into the next basin when the storage capacity is exceeded;		A number of dam walls on the western and southern boundary did not appear to have been constructed to include the 0.3m lower level to ensure overflow water would pass directly into the next basin when storage capacity is exceeded. Surface water was observed on the inspection to be successfully directed to the next sediment basin but it may be possible for it to take a route which could potentially pool on vehicle tracks.	Non-Compliant	Low	Recommend conducting works ensure the top of each dam is low enough (0.3m) to allow overflow to the next basin.

3.3.2 EPL Non-Compliances

No conditions of the EPL were deemed non-compliant by the surface water auditors.

3.3.3 OEMP Non-Compliances

No conditions of the OEMP were deemed non-compliant by the surface water auditors.

3.3.4 SWCMP Non- Compliances

Table 6. SWCMP Non-Compliances

Relevant Reference	Aspect	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
Surface Water Management System						
Monitoring						
Weather and Water Quantity Monitoring						
6.3.3	From the SWCMP: Dust suppression monitoring — Benedict will record volumes of water used daily for dust suppression to improve the reliability of the site's water balance model. — Flow meter to sprinkler system and water cart use — Continuous — Volumes of water used daily for dust suppression will be recorded either by cumulative flow meter and/or a daily water cart count		Volumes of water used for dust suppression has not been recorded to date.	Non-Compliant	Low	Water cart volumes and any sprinklers systems used should be logged and used to inform the water balance for the site.

3.4 PREVIOUS AUDIT AND ANNUAL REVIEW RECOMMENDATIONS

There have been no previous dedicated audits on the surface water management system. An Independent Environmental Audit was undertaken by Barnett and May in for the period 25/9/2018 to 30/9/2019. This was followed by an Annual Review undertaken by Benedict for the period 1/1/2019 to 31/12/2019. The following items specific to the surface water management of the site that were noted and are outlined below.

Table 7. Relevant Independent Environmental Audit and Annual Review Findings

Relevant Reference	Aspect/ Non-Compliance	Independent Environmental Audit Observation	Audit Recommendations	Annual Review (AR) Observations	Where Addressed in this Report
SSD 7698					
B24	All excess water from the truck wash and wheel wash is to be discharged into suitable holding tanks and removed from the facility for treatment at an appropriately licensed facility or via trade waste.	The existing wheel wash is not provided with a mechanism for pumping or storing excess wastewater. It is noted that the wheel wash water will accumulate sediment and the removal of that sediment will be required to ensure that the wheel wash is effective.	1. Design and install a system to allow the collection and temporary storage of temporary wastewater from the wheel wash. 2. Ensure that wheel wash wastewaters are disposed of, off-site at an appropriately licenced facility.	AR Noted the wheel wash is not a net consumer of water. It needs to be continually topped up as water evaporates from the wheel wash throughout the day. If we were ever needing to empty excess water out we can use the onsite water cart to pump water out Action was deemed complete	Appendix H
B25	Prior to the commencement of operations, the Applicant must design, install and operate a surface water management system for the Development. The system must: (e) ensure vegetation within the sediment basin and perimeter drain has been removed and the surface water infrastructure has been sealed to prevent surface water infiltration to groundwater.	Maintenance of the perimeter drain has not been undertaken (removal of vegetation and re-sealing of the drain).	1. Undertake a detailed survey of the perimeter drain, identify all areas where vegetation has damaged the drain or the drain has been otherwise compromised. Remove all of the vegetation and reseal the drain.	AR noted any vegetation in the surface of the drain at or below the level of the site weir will be removed and repaired. Any surfaces above the weir are not relevant (30/04/2020) To be completed by 30/04/2020	Appendix H
B26	The Applicant must provide a Compliance Certificate to the Secretary prior to the commencement of operations, that confirms the surface water management system has been designed and installed as per the requirements of Condition B25 and the alterations will not impede or divert natural surface water runoff so as to cause a nuisance to adjoining properties.	Not noted	-	Submitted 26/07/2018	Appendix H
B28	The surface water management system must be operated and maintained for the duration of the Development.	The surface water management system has not been maintained in accordance with the requirements of the Approval. Specifically, the removal of vegetation and maintenance of the perimeter drain.	1. Undertake a detailed survey of the perimeter drain, identify all areas where vegetation has damaged the drain or the drain has been otherwise compromised. Remove all of the vegetation and reseal the drain. 2. Initiate a monthly environmental site inspection that covers all compliance issues under the Approval, including the surface water management system. Note that this should include the water treatment system (sumps and pumps).	AR noted; 1. See B25 comment (30/04/2020) 2. A weekly compliance checklist has since been implemented. The surface water treatment system (sumps and pumps) are checked however, this has not been documented as the auditor would like (31/01/2020). 2. Completed – weekly compliance checklist implemented onsite	Appendix H

Relevant Reference	Aspect/ Non-Compliance	Independent Environmental Audit Observation	Audit Recommendations	Annual Review (AR) Observations	Where Addressed in this Report
B29	The Applicant must maintain the surface water management system to minimise the infiltration of surface water to groundwater. This includes inspecting the infrastructure monthly for cracking and vegetation break through, removing the vegetation and sealing the infrastructure. Any maintenance on the surface water management system must be undertaken by a suitably qualified and experienced person(s), a record of these works must be kept for the life of the Development.	The surface water management system has not been maintained in accordance with the requirements of the Approval. Specifically, the removal of vegetation and maintenance of the perimeter drain.	1. Undertake a detailed survey of the perimeter drain, identify all areas where vegetation has damaged the drain or the drain has been otherwise compromised. Remove all of the vegetation and reseal the drain. 2. Initiate a monthly environmental site inspection that covers all compliance issues under the Approval, including the surface water management system.	AR noted; 1. See B25 comment (30/04/2020) 2. A weekly compliance checklist has since been implemented. The surface water treatment system (sumps and pumps) are checked however, this has not been documented as the auditor would like (31/01/2020). 2. Completed – weekly compliance checklist implemented onsite.	Appendix H
B34	Prior to the commencement of operations, the Applicant must prepare a Surface Water Characterisation and Mitigation Plan (SWCMP). The SWCMP must: (b) implement the most recent version of the SWCMP approved by the Secretary for the duration of the development.	The SWCMP was not being fully implemented at the time of the Audit. For example, the lack of maintenance of the perimeter drain.	1. Prepare and implement a monthly environmental compliance inspection checklist that provides a framework for on-going review of environmental compliance requirements.	AR noted 1. Completed – weekly compliance checklist implemented onsite	Appendix H
B35	Within six months of the commencement of operations and following the management measures being implemented as per SWCMP (Condition B33), the Applicant must provide a Surface Water Validation Report (SWVR) to the satisfaction of the Secretary. The SWVR must: (a) be carried out by a suitably qualified and experienced expert whose appointment has been endorsed by the Secretary; (b) be prepared in consultation with the EPA; (c) collect a minimum of four surface water samples from the sediment basin and four from the three-stage pit system; (d) characterise the surface water data (samples) and detail the potential impact of discharges on receiving surface waters with reference to ANZECC (2000) assessment criteria; (e) compare the results with the surface water characterisation in the SWCMP (Condition B33); (f) ensure surface water is being managed in accordance the EPL; (g) provide an assessment of the effectiveness of implemented mitigation measures; (h) if necessary, provide additional mitigation measures to control and/or treat all pollutants to ensure the ANZECC (2000) assessment criteria	Not Noted	-	Per Heidi Watters (DPIE) email confirmation on 26/07/2019 the timeframe for submitting the SWVR (within 1 month of the fourth sampling event) was accepted. As at 20/03/2020 three sampling events have occurred. AR also noted all studies and reports required by DPIE will be submitted within requested timeframes.	Appendix H, Appendix M, Section 3.5.3, Section 4

Relevant Reference	Aspect/ Non-Compliance	Independent Environmental Audit Observation	Audit Recommendations	Annual Review (AR) Observations	Where Addressed in this Report
	can be met including further storage or the installation of a water treatment plant; and (i) update the SWCMP to reflect any changes to the surface water management system.				
B42	As a minimum, the Applicant must ensure the 40,000 litre self-bunded diesel tank is managed as follows: (h) the diesel tank and re-fuelling area must be bunded within an area of impervious hardstand; and	While the tank is located within a bunded area, heavy plant is refuelled outside of the bund.	1. Install a bund (or catch drain) around the refuelling pad to ensure that any spills occurring during refuelling can be fully contained.	AR noted '*addressed in Sections 4.5 & 4.13 of OEMP, version 5.* ***See Section 6 and 7 (AR) below for further details '*** AR also noted 1. Bollards will be installed (31/03/2020)	Appendix H
	(i) a diesel spill kit must be stored in the refuelling area and deployed in the event of a spill.	The spill kit provided for the diesel fuel storage area was not properly provisioned.	1. Replenish the spill kit at the Diesel storage area. 2. Prepare and implement a weekly environmental compliance inspection checklist that covers spill kit inspection.	2. A weekly compliance checklist has since been implemented covering the fuel storage area. The fuel area is checked however has not been documented as the auditor would like (31/01/2020) 3. The refuelling area is bunded. All staff will be reminded via a toolbox talk to always refuel within this bunded area (31/03/2020) 4. The spill kit has since been replenished (31/01/2020) 5. A weekly compliance checklist has since been implemented covering the spill kit. The spill kit is checked on occasion, however, has not been documented as the auditor would like (31/01/2020). AR noted *addressed in Sections 4.5 & 4.13 of OEMP, version 5.* ***See Section 6 and 7 (AR) below for further details***	Appendix H
B43	To ensure that chemical spills and fire-water are contained on-site, prior to the commencement of operations and to the **satisfaction of FRNSW**, the Applicant must ensure:	The emergency response plan provides guidance in case of fire and requires that the value on the discharge point to the sedimentation basin be kept close to allow fire waters to be contained. No correspondence from FRNSW was available to the auditor endorsing the chemical or firewater containment capability at the site.	1. Contact FRNSW and seek approval for containment of fire water.	AR noted; '1. There was no consultation with FRNSW during the preparation of the plan rather FRNSW comments were taken on board during the RTS phase of the assessment phase- Completed' Approval from FRNSW must be sought	Appendix H, Table 5, Section 4
	(a) a stormwater isolation valve is installed, the stormwater isolation valve must be closed at all times unless stormwater is being discharged and its closure must be monitored weekly;	There is no weekly inspection of the sedimentation pond discharge valve.	1. Prepare and implement a weekly environmental compliance inspection checklist that includes weekly checks on the sediment pond outlet valve.	2. A weekly compliance checklist has since been implemented covering the sediment pond outlet valve. The valve is checked however, has not been documented as the auditor would like (31/01/2020)- Completed – weekly compliance checklist implemented onsite	Appendix H

Relevant Reference	Aspect/ Non-Compliance	Independent Environmental Audit Observation	Audit Recommendations	Annual Review (AR) Observations	Where Addressed in this Report
B78	Prior to the commencement of operations, the main processing building and segregated heavy waste processing and stockpiling area must be sealed with either asphalt or concrete to minimise infiltration of surface water to groundwater.	Not noted	-	AR noted completed August 2018	Appendix H
C5	The Applicant must carry out the construction of the Development in accordance with the OEMP approved by the Secretary (and as revised and approved by the Secretary from time to time), unless otherwise agreed by the Secretary.	All elements of the OEMP and Subplans were not being implemented at the time of the Audit.	1. Refer to the non-compliance recommendations above.	AR noted 'addressed in OEMP, version 5. **See Section 6 and 7 (AR) below for further details'**	Appendix H
C15	The Applicant must: (a) make copies of the following publicly available on its website: (i) the documents referred to in Condition A2;	This condition requires Benedict to upload copies of the following Documents: a) Conditions of Consent - these are contained in the OEMP that has been uploaded to the Website. b) EIS - a copy of the EIS **had not been** uploaded to the Website at the time of the audit. c) RTS (Appendix A to the Approval) - uploaded to the Website d) Amended Application (Appendix A to the Approval) - uploaded to the Website e) Management and Mitigation Measures (Appendix B to the Approval) - uploaded to the Website.	1. Upload a copy of the EIS to the Benedict Website.	EIS is on the website	Appendix H
Appendix B- Water	The site soil and water management system includes: sock filters treating runoff prior to discharge into the perimeter drain;	The required sock filters were not in place.	1. Install (and maintain) sock filters along the inside edge of the perimeter drain.	Note, minor technical difference noted from the conditions of consent that provided a suitable solution to 'treating the runoff prior to discharge to the perimeter drain' and has not compromised the integrity of the surface water management. Recommend adding inspection of these logs to checklist to monitor if replacing required.	Appendix H, Table 5 Section 4
	The following actions will be taken as part of the proposal: • the trees will be removed from the perimeter drain and the perimeter drain will be sealed;	1. Maintenance of the perimeter drain has not been undertaken (removal of vegetation and re-sealing of the drain).	1. Undertake a detailed survey of the perimeter drain, identify all areas where vegetation has damaged the drain or the drain has been otherwise compromised. Remove all of the vegetation and reseal the drain.	Inspection of perimeter drain noted no trees in vicinity of drain and was sealed with concrete.	Appendix H
	• the sealed perimeter drain and final sedimentation basin will be inspected monthly to ensure that vegetation is not growing through the seal. If vegetation is found to be growing through the sides of the drain or basin, it will be removed and the seal repaired;	No weekly or monthly inspections of the surface water management system are undertaken and documented.	1. Prepare and implement a weekly and monthly environmental compliance inspection checklist covering the surface water management system.	Weekly inspection list includes weed checks, within the perimeter drain and sediment basin.	Appendix H
EPL20771					

Relevant Reference	Aspect/ Non-Compliance	Independent Environmental Audit Observation	Audit Recommendations	Annual Review (AR) Observations	Where Addressed in this Report
O5.5	The surface water management system must be maintained to minimise the infiltration of surface water to groundwater. This includes inspecting the surface water infrastructure monthly for cracking and vegetation breakthrough, removing the vegetation and sealing the surface water infrastructure.	1. Maintenance of the perimeter drain has not been undertaken (removal of vegetation and re-sealing of the drain).	1. Undertake a detailed survey of the perimeter drain, identify all areas where vegetation has damaged the drain or the drain has been otherwise compromised. Remove all of the vegetation and reseal the drain.	Surface water management system infrastructure are all inspected weekly within checklist. The site is sealed, vegetation has been removed from the perimeter drains and appropriate repairs undertaken.	Appendix H
Operational Environmental Impacts					
Water	Use of this surface water will have a negligible impact on water reaching the Hunter River or flows in the river.	No water discharges have occurred during the audit period; therefore, no impacts have occurred.		No water discharges have occurred during the audit period; therefore, no impacts have occurred.	-
Monitoring Results and Complaints					
Water	-	No water discharges have occurred during the audit period; therefore, no impacts have occurred.	-	No water was discharged between 01 January 2019 – 31 December 2019.	-
Complaints	-	Not stated	-	No complaints relating to water management were received during the reporting period.	-

3.5 MANAGEMENT PLANS, SUBPLANS AND POST APPROVAL DOCUMENTS

3.5.1 Operational Environmental Management Plan (OEMP)

The OEMP is required under SSD 7698 Condition C4. Compliance with the relevant sections of the OEMP has been assessed and there were no Non-Compliances. The full assessment of the relevant sections is found in *Appendix H*.

Table 8. OEMP Assessment and Recommendations

Relevant Condition Reference	Condition	Inspections/Observations	Recommendation
OEMP			
Compliance	The surface water management system is to be maintained to minimise the infiltration of surface water to groundwater including a monthly inspection for cracks and vegetation breakthrough. Any maintenance of the surface water management system must be undertaken by a suitably qualified and experienced person and record of works retained for the duration of the development;	Surface water management system infrastructure is inspected weekly within checklist.	Include maintenance of surface water management system infrastructure in documentation either on checklist or reference diary entries.
OP5.4	The Surface Water Monitoring results and the SWCMP will be published on Benedict's website. Records of surface water complaints are to be kept in MWRF's record system for at least four years.	SWCMP is available on the website. No complaints have been recorded to date. Ongoing monitoring event based and quarterly monitoring (of the holding tanks and sediment basin during wet weather), as outlined in the SWCMP table 6.1 for sites listed in table 6.2 are not listed on the website. Note, the criteria and monitoring requirements are currently listed as provisional pending review after the SWVR is completed.	The SWCMP will be amended within 3 months (as per condition C8 of approval) of approval of the SWVR incorporating recommendations from the SWVR. Any revision of the SWCMP should amend the provisional criteria to actual criteria, with reference to the SWVR findings. Quarterly wet weather monitoring of the holding tanks and sediment basin should commence and be reported on the website.

3.5.2 Surface Water Characterisation and Mitigation Plan (SWCMP)

The SWCMP is required under SSD 7698 Condition B33. Compliance with the relevant sections of the SWCMP has been assessed and there were 4 Non-Compliances as summarised in *Table 6*. The full assessment of the relevant sections is found in *Appendix H*.

The SWCMP is generally compliant with the SSD conditions.

Table 9. SWCMP Assessment and Recommendations

Relevant Condition Reference	Condition	Inspections/Observations	Recommendation
SWCMP			
2.3	The recommendations outlined in Attachment A of the EPA's letter (EPA August 2018) have been incorporated into the relevant sections of this SWCMP, in particular, Section 5.1 (Additional investigations). It is noted that **consultation will be conducted with EPA prior to the commencement of SWVR** sampling and assessment to confirm adequacy of proposed sampling and assessment methodology. Following the completion of the SWVR, the **SWCMP will be updated** to reflect any changes in the surface water management system which may be necessitated due to the findings of the SWVR. Mitigation measures and contingency measures contained in this SWCMP will also be revised as required following finalisation of the SWVR.	SWVR was completed May 2020. SWCMP Appendix B notes consultation with EPA in the form of a letter from the EPA dated 13 August 2018. Approval for SWVR is pending at the time of this audit. Until the SWVR is approved there will be no changes to the surface water management system.	SWCMP to be updated soon as SWVR has been approved. The SWCMP will be amended within 3 months (as per condition C8 of approval) of approval of the SWVR incorporating recommendations from the SWVR.

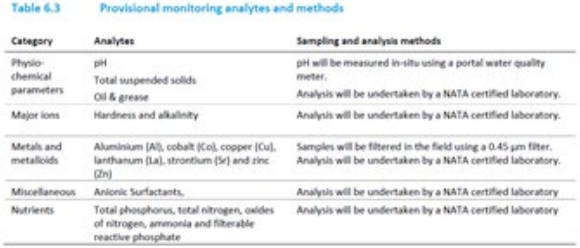
Relevant Condition Reference	Condition	Inspections/Observations	Recommendation
4.1	A surface water characterisation assessment has been undertaken to address the following consent conditions: • Condition B33(f) – collect representative samples, including a minimum of four surface water samples from the sediment basin and the two-stage pit. The surface water samples must be analysed for the analytical suite identified in Table 3.16 of the RTS. • Condition B33(g) – characterise the surface water for the entire development and assess the potential impact of discharges on receiving surface waters with reference to ANZECC (2000) assessment criteria.	Note, characterisation assessment has been undertaken as per consent conditions. When compared to ANZECC Guidelines, international guidelines and eco-toxicity literature, particularly for acute trigger values, water characterisation results have identified that elevated concentration of suspended solids, oil and grease, copper and zinc as the residual receiving water risks associated with site discharge. Discharge has not occurred. It was concluded that human contact risk was low as it is unlikely to be ingested. SWVR completed May 2020 and approval is pending. Further assessment of the potential impacts to the receiving surface water was undertaken and deemed low due to the infrequent nature and short duration and that toxicants are below acute trigger values.	The SWCMP will be amended within 3 months (as per condition C8 of approval) of approval of the SWVR incorporating recommendations from the SWVR.
5.1	Further investigations will be undertaken to: ….... • verify the initial characterisation results that are reported in Section 4 (in line with EPA recommendation, this will include the calculation of a hardness algorithm to demonstrate the hardness of receiving waters);	SWVR completed May 2020 but does not include an assessment of the hardness of receiving waters.	Hardness adjustments only apply to receiving waters that are freshwater as per Section .4.3. ANZECC 2000 Vol 1. Since the Hunter River estuary is a marine water ecosystem, no hardness algorithm is required. Include justification in the updated SWCMP.

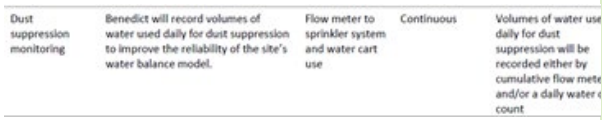
Relevant Condition Reference	Condition	Inspections/Observations	Recommendation
	carry out appropriate modelling and assessment of the mixing process of controlled and overflow discharges to the Hunter River (where required);	No investigations have been undertaken to date.	Modelling is not required, include justification in the updated SWCMP.
	review the practicalities and benefits of using flocculants or coagulants to either; improve the water quality in the sediment basin; or improve the water quality of controlled discharge from the sediment basin.	SWCMP discusses the use of flocculant to maximise sediment removal.	Review the routine use of flocculation in the sediment basins with regards to the water balance and usage on the site i.e. water deficit. Given that discharge has not been required, nor has the sediment basin overflowed, investigations could be undertaken to determine if flocculation be undertaken only if discharge or overflow would occur.
5.2.1.	any maintenance on the surface water management system is to be undertaken by a suitably qualified and experienced person(s), a record of these works will be kept for the life of the Development;	Surface water management system infrastructure is inspected weekly within checklist.	Keep a record of minor repairs, reference the checklist where repairs are note to diary entries or other records.
6.1.	The discharge criteria will be finalised once the validation monitoring (described in Section 6.3.2) is completed.	SWVR completed May 2020. Discharge criteria to be finalised once SWVR is approved and the review of the SWCMP is undertaken.	Review of discharge criteria to be undertake by Benedict once SWVR approved.

<table>
<tr><th>Relevant Condition Reference</th><th>Condition</th><th>Inspections/Observations</th><th>Recommendation</th></tr>
<tr><td></td><td>Table 6.1 Provisional discharge criteria
<table><tr><th>Analyte</th><th>Discharge criteria mg/L</th><th>Basis</th></tr><tr><td>pH</td><td>6.5-8.5</td><td>EPL 20771</td></tr><tr><td>TSS</td><td>50</td><td>EPL 20771</td></tr><tr><td>Oil and grease</td><td>10</td><td>EPL 20771</td></tr><tr><td>anionic surfactants</td><td>1.82</td><td>Acute trigger value as established in Table 4.4</td></tr><tr><td>aluminium</td><td>0.45</td><td>Acute trigger value as established in Table 4.4</td></tr><tr><td>cobalt</td><td>0.11</td><td>Acute trigger value as established in Table 4.4</td></tr><tr><td>copper</td><td>0.007</td><td>Acute trigger value as established in Table 4.4</td></tr><tr><td>lanthanum</td><td>0.012</td><td>Acute trigger value as established in Table 4.4</td></tr><tr><td>strontium</td><td>1.50</td><td>Acute trigger value as established in Table 4.4</td></tr><tr><td>zinc</td><td>0.045</td><td>Acute trigger value as established in Table 4.4</td></tr><tr><td>other</td><td>Acute trigger value</td><td>Acute trigger value to be established for any analyte that exceeds a chronic trigger value in future sampling.</td></tr></table></td><td></td><td></td></tr>
<tr><td>6.2.1.</td><td>This risk will be progressively assessed through the following monitoring:

…….

• discharge samples will be collected quarterly (during wet weather conditions) once the initial five samples are collected.</td><td>No discharge required to date.
Discharge criteria to be finalised once SWVR is approved and the review of the SWCMP is undertaken.</td><td>Review of discharge criteria to be undertake by Benedict once SWVR approved.
Ongoing monitoring to commence once criteria established</td></tr>
<tr><td>6.3.1.</td><td>Table 6.2 Provisional discharge monitoring requirements
<table><tr><th>Category</th><th>Trigger</th><th>Sampling locations</th></tr><tr><td>Holding tanks (initial sampling)[1]</td><td>Samples will be collected following the initial five tank filling events</td><td>• Holding tanks
• Sediment basin</td></tr><tr><td>Controlled discharge (assessment)[2]</td><td>Prior to a controlled discharge occurring</td><td>• Sediment basin</td></tr><tr><td>Controlled discharge (verification)</td><td>During a controlled discharge</td><td>• Sediment basin</td></tr><tr><td>Uncontrolled overflows</td><td>Within 24 hours of an uncontrolled overflow occurring</td><td>• Sediment basin</td></tr><tr><td>Quarterly monitoring (during wet weather)[3]</td><td>Samples will be collected during wet weather conditions on a quarterly basis</td><td>• Holding tanks
• Sediment basin</td></tr></table>Notes: 1. This monitoring requirement will be discontinued after the initial five samples have been collected.
2. This monitoring requirement will be discontinued if water quality data indicates that the quality of controlled discharge has a low risk of exceeding the discharge criteria.
3. Any samples collected during a quarter can be used to meet the quarterly monitoring requirement provided samples are collected from both the holding tanks and sediment basin at the same time.</td><td>No discharge required to date.
Holdings tanks were tested as part of the SWVR completed May 2020.
Ongoing monitoring event based and quarterly monitoring (of the holding tanks and sediment basin during wet weather), as outlined in the SWCMP table 6.1 should commence pending approval of SWVR and review of SWCMP.</td><td>Ongoing monitoring requirements should be finalised once the SWVR report has been reviewed by the DPIE. Once the SWCMP is finalised/approved this information can be reported on the website.</td></tr>
</table>

Relevant Condition Reference	Condition	Inspections/Observations	Recommendation
	Table 6.3 Provisional monitoring analytes and methods  Category / Analytes / Sampling and analysis methods Physio-chemical parameters: pH — pH will be measured in-situ using a portal water quality meter. Total suspended solids; Oil & grease — Analysis will be undertaken by a NATA certified laboratory. Major ions: Hardness and alkalinity — Analysis will be undertaken by a NATA certified laboratory. Metals and metalloids: Aluminium (Al), cobalt (Co), copper (Cu), lanthanum (La), strontium (Sr) and zinc (Zn) — Samples will be filtered in the field using a 0.45 µm filter. Analysis will be undertaken by a NATA certified laboratory. Miscellaneous: Anionic Surfactants, — Analysis will be undertaken by a NATA certified laboratory Nutrients: Total phosphorus, total nitrogen, oxides of nitrogen, ammonia and filterable reactive phosphate — Analysis will be undertaken by a NATA certified laboratory	No discharge required to date. Holdings tanks were tested as part of the SWVR completed May 2020. Ongoing monitoring event based and quarterly monitoring (of the holding tanks and sediment basin during wet weather), as outlined in the SWCMP table 6.1 should commence pending approval of SWVR and review of SWCMP.	As above
6.3.2.	In response to the EPA recommendation (EPA Letter August 2018), where relevant, the surface water validation report will include appropriate modelling and assessment of the mixing process of controlled and overflow discharges to the Hunter River to demonstrate that ANZECC trigger values are achieved at the edge of a near field mixing zone and that there are no impacts within the mixing zone such as objectionable deposits or bioaccumulation.	SWVR noted that "risks to receiving water from site discharges are assessed to be low due to the infrequent nature and short duration of any basin overflows and concentrations of toxicants being below acute trigger values" No modelling and assessment has been undertaken to date.	Hardness adjustments only apply to receiving waters that are freshwater as per Section .4.3. ANZECC 2000 Vol 1. Since the Hunter River estuary is a marine water ecosystem, no hardness algorithm is required. Include justification in the updated SWCMP.
	Any alterations to the surface water management system identified in the SWVR will be implemented prior to further site discharges. The SWCMP will be updated to reflect any changes to the surface water management system.	Approval for SWVR is pending at the time of this audit. Until the SWVR is approved there will be no changes to the surface water management system.	The SWCMP will be amended within 3 months (as per condition C8 of approval) of approval of the SWVR incorporating recommendations from the SWVR.

Relevant Condition Reference	Condition	Inspections/Observations	Recommendation
6.3.3.		Volumes of water used for dust suppression has not been recorded to date.	Water cart volumes and any sprinklers systems used should be logged and used to inform the Surface Water Validation Report (SWVR) by EMM dated 21st May 2020 provided following audit. This report recommends that the trade waste discharge agreement is not pursued, and trade waste discharges are removed from the water management plan. Validation monitoring determined the risk to the receiving environment was low. Contingency measures have thus not been required.
8	Contingency measures will be implemented under the following circumstances: • in the event the Hunter Trade Waste application approval is delayed or not approved; and • if the validation monitoring or discharge monitoring results show analytes above non-trivial levels.		Review the SWCMP and justify the removal of the requirement of a Trade Waste Permit.

3.5.3 Surface Water Validation Report (SWVR)

The SWVR is required under SSD 7698 Condition B35. The SWVR was found to be complaint with Condition B35 and included a number of recommendations.

The SWVR has been completed and approval by the Secretary is pending. Once approval has been provided the SWCMP should be amended and incorporate the results and recommendations of the SWVR.

3.6 ENVIRONMENTAL PERFORMANCE

The environmental performance of the Site was found to be generally good. During the site visit there were no areas of concern identified (e.g. there were no observations of erosion or pollution). Site staff were aware of environmental requirements and relevant documentation and records were kept on site.

Annual returns for EPL 20771 had been submitted for each reporting period and recorded nil non-compliances since the operations commenced. Nil environmental incidents and complaints were also recorded during the audit period.

No high risk level non-compliances were identified with a total of 11 non-compliances.

3.7 CONSULTATION OUTCOMES

The EPA was invited to comment however no response was received (see Appendix G).

3.8 COMPLAINTS

No surface water complaints received to date. A complaints register is updated monthly and made available on the Benedict website.

3.9 INCIDENTS

No incidents have been reported on the Benedict website. Pollution Incident Response Management Plan (PIRMP) training is undertaken annually.

3.10 ACTUAL VERSES PREDICTED ENVIRONMENTAL IMPACTS

Predicted impacts outlined in the EIS are summarised below.

Table 10. EIS Predictions and Actual Impacts

Prediction	Comment
Water used for dust suppression will reduce runoff from the site by 12% (or about 7,500 m³ of runoff per year). Use of this surface water will have a negligible impact on water reaching the Hunter River or flows in the river.	There has been no discharge from the site and no discernible impact on the Hunter River.
The basins can store the 90th percentile 5 day rainfall runoff from the site (4370m³) to allow settling. The captured runoff will be pumped out within 5 days in order to provide storage for the next storm.	The dams have effectively captured stormwater since the commencement of operations with no uncontrolled discharge occurring. Dust suppression activities utilise the captured water an d maintain adequate freeboard in the basins.
Any water released after the storm in dry weather has to have a suspended solids content of less than 50 mg/L.	There has been no discharge from the site.
The majority of the site will have a stabilised surface and will not produce significant	The operational areas of the site are sealed and do not produce significant sediment.

quantities of sediment or solids in runoff from the site.	
The proposed recycling processing facility and mitigation measures have been formulated to minimise the impact on water related aspects of the site and the Hunter River. As such, the proposed development will not have a significant adverse impact on the:- ○ **stormwater runoff;** ○ **wastewater disposal;** ○ **potable water demand;** ○ **contamination of runoff;** ○ **flooding;** ○ **acid sulphate soils; and** ○ **watercourse**	There has been no discernible impact on these items.

Predicted impacts outlined in the SWCMP are summarised below.

Table 11. SWCMP Predictions and Actual Impacts

Prediction	Comment
Residual receiving water risks- Water characterisation results have identified that elevated concentration of suspended solids, oil and grease, copper and zinc as the residual receiving water risks associated with site discharge.	No discharge has occurred from the site. In summary the SWVR determined the risks to receiving water from site discharges are low because of: the infrequent nature and short duration of any basin overflows; and concentrations of toxicants being below acute trigger values.
Human health risks- Human contact with stormwater will be limited to incidental exposure during maintenance and due to the application of stormwater as dust suppression. The water characterisation results presented in Section 4.4 [SWCMP] are generally within the guideline values for secondary contact that are provided in Section 5 of ANZECC (2000). These values are conservative for this application as they assume ingestion of 100 ml of water occurs.	There has been no identified impact to human health.

Note, the validation report (SWVR) has now been completed pending DPIE approval. As such the Provisional Discharge Criteria predictions (in the SWCMP) have yet to be reviewed and updated. This will be undertaken once approval of the SWVR is obtained.

3.11 PREVIOUS SURFACE WATER AUDIT RECOMMENDATIONS

There have been no previous Surface Water Audits. An Independent Environmental Audit has been undertaken in 2019 and the relevant points and recommendations are discussed in *Section 3.4.*

4 Recommendations and Actions

4.1 NON-COMPLIANCES

Recommendations and actions for the Non-Compliances noted are summarised below.

Table 12. Recommendations/Actions for Non-Compliances

Condition/Item	Details	Recommendation /Action
SSD7698 B43	To ensure that chemical spills and fire-water are contained on-site, prior to the commencement of operations and to the satisfaction of FRNSW, the Applicant must ensure:	Seek formal approval from the FRNSW
SSD7698 B43	(c) the location of the stormwater isolation valve and any associated controls must be clearly identified on the site's fire hydrant block plan, fire sprinkler block plan and the site plan located within the site's Emergency Response Plan prepared as part of the OEMP as required by Condition C7.	Recommend that the location of the stormwater isolation valve is added to PIRMP Appendix C, Fire Fighting Equipment Location Map
SSD7698 B43	The Applicant must provide regular reporting on the environmental performance of the Development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent	The SWCMP will be amended within 3 months (as per condition C8) of approval of the SWVR incorporating recommendations from the SWVR. Any revision of the SWCMP should amend the provisional criteria to actual criteria, with reference to the SWVR findings. Once the SWCMP is finalised/approved the monitoring requirements will be reported on the website.

Condition/Item	Details	Recommendation /Action
SSD7698 C15	The Applicant must: (a) make copies of the following publicly available on its website: (i) the documents referred to in Condition A2 [*including water management plans*]; (iii) all approved strategies, plans and programs required under the conditions of this consent; (iv) a comprehensive summary of the monitoring results of the Development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;	The SWCMP will be amended within 3 months (as per condition C8) of approval of the SWVR incorporating recommendations from the SWVR. Any revision of the SWCMP should amend the provisional criteria to actual criteria, with reference to the SWVR findings. Once the SWCMP is finalised/approved the monitoring requirements will be reported on the website.
SSD7698 C15	(b) keep this information up to date, to the **satisfaction of the Secretary**	
SSD7698 Appendix B-Water	regularly maintaining sock filters;	Recommend adding inspection of coir logs to checklist to monitor if replacing required.
SSD7698 Appendix B-Water	the sedimentation basins in the perimeter drain will be upgraded. Poorly graded rock (50-150 mm diameter) will be used to form the sedimentation basin dams in the perimeter drain. The top of each dam will be approximately **0.5 to 1.0 m wide with the crest level approximately 0.3 m below** the top of the perimeter drain to allow overflow into the next basin when the storage capacity is exceeded;	Recommend conducting works ensure the top of each dam is low enough (0.3m) to allow overflow to the next basin.
SWCMP 5.1	verify the initial characterisation results that are reported in Section 4 (in line with EPA recommendation, this will include the calculation of a hardness algorithm to demonstrate the hardness of receiving waters);	Conduct an assessment of the hardness of the receiving waters and compare with the results obtained in the SWVR **OR** justify why this might not be necessary and include in the updated SWCMP
SWCMP 5.1	carry out appropriate modelling and assessment of the mixing process of controlled and overflow discharges to the Hunter River (where required);	Conduct modelling and assessment of the mixing processes of controlled and overflow discharges to the Hunter River **OR** justify why this might not be necessary and include in the updated SWCMP.

Condition/Item	Details	Recommendation /Action
SWCMP 6.3.2	In response to the EPA recommendation (EPA Letter August 2018), where relevant, the surface water validation report will include appropriate modelling and assessment of the mixing process of controlled and overflow discharges to the Hunter River to demonstrate that ANZECC trigger values are achieved at the edge of a near field mixing zone and that there are no impacts within the mixing zone such as objectionable deposits or bioaccumulation.	Water cart volumes and any sprinklers systems used should be logged and used to inform the water balance for the site.
SWCMP 6.3.3	Dust suppression monitoring | Benedict will record volumes of water used daily for dust suppression to improve the reliability of the site's water balance model. | Flow meter to sprinkler system and water cart use | Continuous | Volumes of water used daily for dust suppression will be recorded either by cumulative flow meter and/or a daily water cart count	Water cart volumes and any sprinklers systems used should be logged and used to inform the water balance for the site.

4.2 OPPORTUNITIES FOR IMPROVEMENT

Recommendations and actions for opportunities for improvement noted are summarised below.

Table 13. Recommendations/Actions for Opportunities for Improvement

Item	Action/Recommendation
1	Keep a record of minor repairs or maintenance on the surface water management system. Reference in the checklist where repairs are noted in diary entries or other records.
2	Include reference to PIRMP in SWCMP as a measure for managing any pollution exceedances.
3	Review of the SWCMP Contingency Measures to account for any mitigation measures that do not adequately address the site water pollution risks within 3 months of approval of the SWVR.
4	Review the routine use of flocculation in the sediment basins with regards to the water balance and usage on the site i.e. water deficit. Given that discharge has not been required, nor has the sediment basin overflowed, investigations could be undertaken to determine if flocculation be undertaken only if discharge or overflow would occur.
5	The trade waste discharge agreement is not pursued, and trade waste discharges are removed from the water management plan after providing justification and approval from DPIE. Include water balance data in the justification.

5 References

Ref 1 DECC (2004) Managing Urban Stormwater Soils and Construction V1

Ref 2 DECC (2009) Managing Urban Stormwater Soils and Construction V2E Mines and Quarries

Ref 3 ANZECC/ARMCANZ 2000, *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, Australian and New Zealand Environment Conservation Council and Agriculture and Resource Management Council of Australian and New Zealand.

Ref 4 ANZG (2018), Australian and New Zealand Guidelines for Fresh & Marine Water Quality

Ref 5 EMM 2018, *Mayfield West Recycling Facility – Surface Water Characterisation and Mitigation Plan,* Prepared for Benedict Recycling Pty Ltd by EMM Consulting Pty Ltd.

Ref 6 EMM 2020, *Mayfield West Recycling Facility – Surface Water Validation Report,* Prepared for Benedict Recycling Pty Ltd by EMM Consulting Pty Ltd.

Appendix A: SSD 7698 Conditions of Consent

Development Consent

Section 4.38 of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning under delegation executed on 11 October 2017, I approve the Development Application referred to in Schedule 1, subject to the conditions specified in Schedule 2.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts
- set standards and performance measures for acceptable environmental performance
- require regular monitoring and reporting
- provide for the ongoing environmental management of the Development.

Sargeant

Anthea Sargeant
Executive Director
Key Sites and Industry Assessments

Sydney 13 March 2018

SCHEDULE 1

Application No:	SSD 7698
Applicant:	Benedict Recycling Pty Ltd
Consent Authority:	Minister for Planning
Land:	Lot 1 DP 874109 1a McIntosh Drive, Mayfield West
Development:	Increase in processing capacity of an existing resource recovery facility to 315,000 tonnes per year of general solid waste (non-putrescible) including construction and demolition waste and commercial and industrial waste.

TABLE OF CONTENTS

DEFINITIONS

Applicant	Benedict Recycling Pty Ltd or any other person carrying out any development to which this consent applies
Amended Application	Mayfield West Recycling Facility SSD 7698 - Development Application Amendment letter, dated 24 August 2017, prepared by EMM
ANZECC (2000)	Australian and New Zealand Guidelines for Fresh and Marine Water Quality, prepared by Australian and New Zealand Environment and Conservation Council 2000
AS	Australian Standard
BCA	Building Code of Australia
CEMP	Construction Environmental Management Plan
Certifying Authority	A person who is authorised by or under Section 6.17 of the EP&A Act to issue Part 4A certificates
Conditions of this consent	The conditions contained in Schedule 2 of this document
Construction	The demolition and removal of buildings or works, the carrying out of works for the purpose of the Development, including earthworks, and erection of buildings and other infrastructure permitted by this consent (including sealing the site and installation of the 40,000 L diesel tank)
Council	Newcastle City Council
Day	The period from 7 am to 6 pm on Monday to Saturday, and 8 am to 6 pm on Sundays and Public Holidays
Decommissioning	The controlled process of safely retiring a facility from service, including decontamination, dismantling and disposal after the cessation of operations
Department	Department of Planning and Environment
Development	The development as described in the EIS and RTS and Amended Application and as generally depicted in Appendix A including the works and activities comprising resource recovery of waste, as modified by the conditions of this consent
DPI	NSW Department of Primary Industries
Earthworks	Bulk earthworks, site levelling, import and compaction of fill material, excavation for installation of drainage and services, to prepare the site for construction
EIS	The Environmental Impact Statement titled Environmental Impact Statement, Mayfield West Recycling Facility, prepared by EMM, dated 11 October 2016 submitted with the application for consent for the development, including any additional information provided by the Applicant in support of the application
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPL	Environment Protection Licence issued by the EPA under the POEO Act
Evening	The period from 6 pm to 10 pm
Feasible	Relates to engineering considerations and what is practical to build
FRNSW	Fire and Rescue NSW
General solid waste (non-putrescible)	As defined in Part 3 Schedule 1 of the POEO Act
Heavy vehicle	Any vehicle with a gross vehicle mass of five tonnes or more
Heritage	Encompasses both Aboriginal and historic heritage including sites that predate European settlement, and a shared history since European settlement
Heritage Item	An item as defined under the Heritage Act 1977, and assessed as being of local, State and/ or National heritage significance, and/or an Aboriginal Object or Aboriginal Place as defined under the National Parks and Wildlife Act 1974
Incident	A set of circumstances causing or threatening material harm to the environment, and/or an exceedance of the limits or performance criteria in this consent
kL	Kilolitre
Land	In general, the definition of land is consistent with the definition in the EP&A Act
Limited Occasions	No greater than six times per year and only for a period of less than two weeks in length for each occasion
Management & Mitigation Measures	The management and mitigation measures set out in Appendix B
Material harm	Is harm that:

	• involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or • results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment).
Minister	Minister for Planning (or delegate)
Mitigation	Activities associated with reducing the impacts of the Development prior to or during those impacts occurring
NCC	National Construction Code
Night	The period from 10 pm to 7 am on Monday to Saturday, and 10 pm to 8 am on Sundays and Public Holidays
OEH	Office of Environment and Heritage
OEMP	Operational Environmental Management Plan
Operation	The receipt, removal or processing of waste, upon the completion of construction
PCA	Principal Certifying Authority authorised under Section 6.17 of the EP&A Act
POEO Act	*Protection of the Environment Operations Act 1997*
POEO (Waste) Regulation	*Protection of the Environment Operations (Waste) Regulation 2014*
Rehabilitation	The restoration of land disturbed by the development to a good condition, to ensure it is safe, stable and non-polluting
Reasonable	Relates to the application of judgment in arriving at a decision, taking into account: mitigation benefits, costs of mitigation versus benefits provided, community views, and the nature and extent of potential improvements
RRF	Resource Recovery Facility
Registered Aboriginal Parties	Means the Aboriginal persons identified in accordance with the document entitled "Aboriginal cultural heritage consultation requirements for proponents 2010" (DECCW)
RTS	The Applicant's response to issues raised in submissions received in relation to the application for consent for the development under the EP&A Act, titled Mayfield West Recycling Facility Response to Submissions, prepared by EMM, dated 20 July 2017
Secretary	Secretary of the Department, or nominee
Sensitive Receivers	A location where people are likely to work, occupy or reside, including a dwelling, school, hospital, office or public recreational are
Site	The land listed in Schedule 1
SSD 7698	The Development as described in Schedule 1, the EIS and the RTS and the Amended Application
Waste	Has the same meaning as the definition of the term in the dictionary to the POEO Act
Year	A period of 12 consecutive months

SCHEDULE 2

PART A: ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

A1. In In addition to meeting the specific performance measures and criteria in this consent, all reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.

TERMS OF CONSENT

A2. The Development may only be carried out:
- (a) in compliance with the conditions of this consent;
- (b) in accordance with the directions of the Secretary;
- (c) in accordance with the EIS, RTS and Amended Application;
- (d) in accordance with development layout plans and drawings in the RTS and Amended Application (see Appendix A); and
- (e) in accordance with the management and mitigation measures (see Appendix B).

A3. Consistent with the requirements in this consent, the Secretary may make written directions to the Applicant in relation to:
- (a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Secretary; and
- (b) the implementation of any actions or measures contained in any such document referred to in (a) above.

A4. The conditions of this consent and directions of the Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition A2(c), A2(d) and A2(e). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition A2(c), A2(d) and A2(e) the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

Note: For the purposes of this condition, there will be an inconsistency between documents if it is not possible to comply with both documents, or in the case of a condition of consent or direction of the Secretary, and a document, if it is not possible to comply with both the condition or direction, and the document.

LIMITS OF CONSENT

A5. This consent lapses five years after the date from which it operates, unless the Development has physically commenced on the land to which the consent applies before that date.

A6. The Applicant must not receive or process on site more than 315,000 tonnes per year of general solid waste (non-putrescible).

A7. The Applicant must not:
- (a) crush more than 71,000 tonnes per year of waste; and
- (b) shred more than 5,400 tonnes per year of timber.

A8. The amount of waste stored on site at any one time must not exceed 53,733 tonnes.

A9. This consent does not permit any areas of the site to be leased to third parties for storage purposes or approval of any portion of the site as a storage premises.

A10. The Applicant shall aim to achieve a recycling rate of 95% of all waste and a disposal rate of not more than 5% to landfill.

A11. Stockpiles of waste and recycled product on-site must not be more than seven (7) metres in height when measured from the finished ground level of the site.

A12. Heavy vehicles are not permitted to access Werribi Street.

NOTIFICATION OF COMMENCEMENT

A13. The date of commencement of each of the following phases of the Development must be notified to the Department in writing, at least one month before that date:
- (a) construction;

(b) operation;
(c) cessation of operations; and
(d) decommissioning.

A14. If the construction or operation or decommissioning of the Development is to be staged, the Department must be notified in writing at least one month before the commencement of each stage, of the date of commencement and the Development to be carried out in that stage.

STAGING, COMBINING AND UPDATING STRATERGIES, PLANS OR PROGRAMS

A15. With the approval of the Secretary, the Applicant may:
(a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the Development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);
(b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and
(c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the Development).

A16. If the Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.

A17. If approved by the Secretary, updated strategies, plans or programs supersede the previous versions of them and must be implemented in accordance with the condition that requires the strategy, plan or program.

REQUEST FOR INFORMATION

A18. The Applicant must retain all weighbridge records as required by the POEO (Waste) Regulation and for the life of the Development. The weighbridge records must be made immediately available on request by the Secretary and/or the EPA.

A19. The Applicant must retain waste classification records for all wastes received on the site and waste disposed from the site for the life of the Development. The waste classification records must be made immediately available on request by the EPA and/or the Secretary.

EVIDENCE OF CONSULTATION

A20. Where conditions of this consent require consultation with an identified party, the Applicant must:
(a) consult with the relevant party prior to submitting the subject document to the Secretary for approval; and
(b) provide details of the consultation undertaken including:
(i) a description of how matters raised by those consulted have been resolved to the satisfaction of both the Applicant and the party consulted; and
(ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.

STATUTORY REQUIREMENTS

A21. The Applicant must ensure that all licences, permits and approval/consents are obtained as required by law and maintained as required throughout the life of the Development. No condition of this consent removes the obligation for the Applicant to obtain, renew or comply with such licences, permits or approval/consents.

STRUCTURAL ADEQUACY

A22. All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the Development, must be constructed in accordance with the relevant requirements of the BCA.

A23. Prior to the commencement of the operations, the Applicant must obtain a Building Information Certificate from Council in accordance with Division 6.7 of the *Environmental Planning and Assessment Act 1979*.

Note:
- *Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.*
- *Part 8 of the EP&A Regulation sets out the requirements for the certification of the Development.*

UTILITIES AND SERVICES

A24. Prior to the construction of any utility works associated with the Development, the Applicant must obtain relevant approvals from service providers.

PROTECTION OF PUBLIC INFRASTRUCTURE

A25. Before the commencement of construction, the Applicant must:
(a) consult with the relevant owner and provider of services that are likely to be affected by the Development to make suitable arrangements for access to, diversion, protection and support of the affected infrastructure;
(b) prepare a dilapidation report identifying the condition of all public infrastructure in the vicinity of the site (including roads, gutters and footpaths); and
(c) submit a copy of the dilapidation report to the Secretary and Council.

A26. Unless the Applicant and the applicable authority agree otherwise, the Applicant must:
(a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by carrying out the Development; and
(b) relocate, or pay the full costs associated with relocating any infrastructure that needs to be relocated as a result of the Development.

COMPLIANCE

A27. The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the Development.

SECTION 7.12 CONTRIBUTIONS TO COUNCIL

A28. Prior to the commencement of the operations, a contribution must be paid to Council in accordance with Section 7.12 of the EP&A Act, in particular the *City of Newcastle Section 94A Development Contributions Plan 2009 (Updated July 2017)* (adjusted on a quarterly basis (from the date of this consent), to account for movements in the Australian Bureau of Statistics Consumer Price Index – Building Construction (NSW)). A receipt for the payment to Council of the Section 7.12 Levy Contributions must be submitted to the Secretary prior to the commencement of the operations.

Note: *The Section 7.12 Levy as determined at the date of this consent is $3938.69*

OPERATION OF PLANT AND EQUIPMENT

A29. All plant and equipment used on site, or to monitor the performance of the development must be:
(a) maintained in a proper and efficient condition; and
(b) operated in a proper and efficient manner.

MODIFICATION OF CONSENT

A30. Prior to the commencement of operations and in order for the development of land to proceed in a coordinated and orderly manner and to avoid potential conflicts with this consent, the Applicant must modify DA2015/0291 (described in **Table 1**) pursuant to Section 4.17(1)(b) of the *Environmental Planning and Assessment Act 1979* and Clause 97 of the *Environmental Planning and Assessment Regulation 2000* such that the recycling facility including acceptance of up to 90,000 tonnes per annum of waste (pre-classified general solid wastes (non-putrescible waste)) is removed from the development consent.

Table 1: Consent to be Modified

Determination Date	DA Number	Details
8 March 2016	DA2015/0291	Recycling facility involving: • acceptance of up to 90,000 tonnes per annum of waste (pre-classified general solid wastes (non-putrescible waste)) such as construction and demolition wastes • ancillary waste activities • construction of truck wash facilities • associated site works.

PART B: ENVIRONMENTAL PERFORMANCE AND MANAGEMENT

WASTE MANAGEMENT

Statutory Requirements

B1. All waste materials removed from the site must only be directed to a waste management facility or premises lawfully permitted to accept the materials.

B2. Waste generated outside the site must not be received at the site for storage, treatment, processing, reprocessing, or disposal, except as expressly permitted by an EPL.

B3. The Applicant must record the amount of waste (in tonnes) received at the site on a daily basis.

B4. The Applicant must retain all sampling and waste classification data for the life of the Development in accordance with the requirements of the EPA.

B5. No biochar production or storage is approved under the terms of this consent.

Receipt, Storage & Handling of Waste

B6. The Applicant must only receive waste on site that is authorised for receipt by an EPL.

B7. The Applicant must ensure any waste generated on the site during construction and from general office activities is classified in accordance with the EPA's *Waste Classification Guidelines, 2014* or its latest version, and disposed of to a facility that may lawfully accept the waste.

B8. Loads predominantly containing glass are not permitted to be crushed at the site.

B9. The Applicant must:
- (a) implement auditable procedures to:
  - (i) ensure the site does not accept wastes that are prohibited; and
  - (ii) screen incoming waste loads.
- (b) ensure that:
  - (i) all waste types that are controlled under a tracking system have the appropriate documentation prior to acceptance at the site;
  - (ii) all waste received at the site must be recorded in accordance with clause 27 of the POEO (Waste) Regulation;
  - (iii) details of the quantity, type and source of wastes received on the site must be provided to the EPA and the Secretary when requested; and
  - (iv) staff receive adequate training in order to be able to recognise and handle any hazardous or other prohibited waste including asbestos.

B10. The Applicant must assess and classify all liquid and non-liquid wastes to be taken off site in accordance with the EPA's *Waste Classification Guidelines Part 1: Classifying Waste, November 2014*, or its latest version and dispose of all wastes to a facility that may lawfully accept the waste.

B11. All waste must be:
- (a) stored wholly within the designated waste stockpile areas.
- (b) loaded and unloaded within the designated loading and unloading areas.

Waste Monitoring Program

B12. From the commencement of operations, the Applicant must implement a Waste Monitoring Program for the Development. The program must:
- (a) be prepared by a suitably qualified and experienced person(s) prior to the commencement of operations;
- (b) include suitable provision to monitor the:
  - (i) quantity, type and source of waste received on site;
  - (ii) type of waste and the material crushed and shredded on site;
  - (iii) quantity, type and quality of the outputs produced on site; and
  - (iv) number of days crushing has occurred per calendar year.
- (c) ensure that:
  - (i) all waste that is controlled under a tracking system has the appropriate documentation prior to acceptance at the site; and
  - (ii) staff receive adequate training to be able to recognise and handle any hazardous or other prohibited waste including asbestos.

Waste Management Plan

B13. Prior to the commencement of operations, the Applicant must prepare a Waste Management Plan (WMP) for the Development to the satisfaction of the Secretary. The WMP must form part of the OEMP required by Condition C4 and be prepared in accordance with Condition C7. The WMP must:
(a) detail the type and quantity of waste to be received during operation of the Development;
(b) include details of stockpile limits in the incoming waste receival area and waste storage areas;
(c) include procedures for ensuring no build-up of waste will occur in the incoming waste receival area during unexpected machinery breakdown and 24-hour waste receival for major infrastructure projects; and
(d) details the requirements for non-conforming waste handling and removal.

B14. The Applicant must:
(a) not commence the operations until the Waste Management Plan required by Condition B13 is approved by the Secretary; and
(b) implement the most recent version of the Waste Management Plan approved by the Secretary.

Pests, Vermin and Noxious Weed Management

B15. The Applicant must:
(a) implement suitable measures to manage pests, vermin and declared noxious weeds on the site; and
(b) inspect the site on a regular basis to ensure that these measures are working effectively, and that pests, vermin or noxious weeds are not present on site in sufficient numbers to pose an environmental hazard, or cause the loss of amenity in the surrounding area.

Note: For the purposes of this condition, noxious weeds are those species subject to an order declared under the *Noxious Weed Act 1993*.

SOILS, WATER QUALITY AND HYDROLOGY

Erosion and Sediment Control

B16. Prior to the commencement of construction, the Applicant must install and maintain suitable erosion and sediment control measures on-site, in accordance with the relevant requirements in the latest version of the *Managing Urban Stormwater: Soils and Construction Guideline* and the Erosion and Sediment Control Plan included in the CEMP required by Condition C1.

Pollution of Waters

B17. The Development must comply with Section 120 of the *POEO Act*, which prohibits the pollution of waters, except as expressly provided in an EPL.

B18. Any discharge or water quality criteria specified under the EPL must be complied with.

B19. Surface water must only be discharged from the location specified in the EPL.

B20. Overland flow from the Development must be contained within the sealed areas of the site.

B21. Any spills must be contained and disposed of at a licenced facility.

B22. Any servicing or repair work on motor vehicles or mobile plant is to be carried out within a sealed area that has environmental controls appropriate for servicing or repair work. This must include bunding where there this work could result in liquids being spilled.

Truck and Wheel Wash

B23. The floor of the truck wash is to be suitably graded and or bunded across the external door openings to prevent the escape of stored materials, process water or spilt liquids.

B24. All excess water from the truck wash and wheel wash is to be discharged into suitable holding tanks and removed from the facility for treatment at an appropriately licensed facility or via trade waste.

Surface Water Management System

B25. Prior to the commencement of operations, the Applicant must design, install and operate a surface water management system for the Development. The system must:
(a) be designed and constructed by a suitably qualified and experienced person(s) endorsed by the Secretary;

(b) be generally in accordance with the conceptual design in the RTS, the letter titled Mayfield West Recycling Facility (SSD 7698) – Water Assessment, dated 8 September 2017 prepared by EMM and applicable Australian Standards;
(c) ensure that the system capacity has been designed in accordance with Australian Rainfall and Runoff (Engineers Australia, 2016) and Managing Urban Stormwater: Council Handbook (EPA, 1997);
(d) include detention basins with a minimum capacity to contain the 90th percentile rainfall over any consecutive 5 day period in accordance with *Managing Urban Stormwater - Soils and Construction Vol. 2B: Waste landfills* (Department of Environment and Climate Change NSW, 2008). The wet weather capture capacity requirements of the sediment basins and water treatment system may be modified by the EPL subject to the required surface water characterisation (Condition B33);
(e) ensure vegetation within the sediment basin and perimeter drain has been removed and the surface water infrastructure has been sealed to prevent surface water infiltration to groundwater; and
(f) bund any potentially contaminating waste, any surface water leaving this area must be directed to the three-stage pit or equivalent for treatment, the water must then be directed to holding tanks for testing and depending on its quality either discharged to the perimeter drain or sewer as trade waste see Appendix A.

B26. The Applicant must provide a Compliance Certificate to the Secretary prior to the commencement of operations, that confirms the surface water management system has been designed and installed as per the requirements of Condition B25 and the alterations will not impede or divert natural surface water runoff so as to cause a nuisance to adjoining properties.

B27. Prior to the commencement of operations, works-as-executed drawings signed by a registered surveyor must be submitted to the certifying authority demonstrating that the stormwater drainage and finished ground levels have been constructed as approved.

B28. The surface water management system must be operated and maintained for the duration of the Development.

B29. The Applicant must maintain the surface water management system to minimise the infiltration of surface water to groundwater. This includes inspecting the infrastructure monthly for cracking and vegetation break through, removing the vegetation and sealing the infrastructure. Any maintenance on the surface water management system must be undertaken by a suitably qualified and experienced person(s), a record of these works must be kept for the life of the Development.

B30. The Applicant must maintain the surface water detention basins on site with a minimum capacity to contain the 90th percentile rainfall over any consecutive 5-day period in accordance with *Managing Urban Stormwater - Soils and Construction Vol.* 2B: Waste landfills. The *Managing Urban Stormwater* series of document relate to clean sediment and therefore the wet weather capture and storage capacity requirements of the sediment basins and treatment systems may be modified by the EPL based on the required surface water characterisation (Condition B33).

B31. The Applicant must ensure that a visible marker is installed in the sediment detention basin in a position that shows the freeboard in the basin that equates to the volume required to contain all rainfall and runoff in the catchment from a 90th percentile rainfall event over any consecutive 5-day period.

B32. All waste unloaded at the public hand unloading area must be unloaded and stockpiled underneath the public unloading awning or within the main processing building.

Surface Water Characterisation and Mitigation Plan

B33. Prior to the commencement of operations, the Applicant must prepare a Surface Water Characterisation and Mitigation Plan (SWCMP) to the satisfaction of the Secretary to characterise the surface water and implement a mitigation plan, the SWCMP must form part of the OEMP required by Condition C4 and be prepared in accordance with Condition C7. The SWCMP must:
(a) be carried out by a suitably qualified and experienced person(s) whose appointment has been endorsed by the Secretary;
(b) be prepared in consultation with the EPA;
(c) detail the triggers of when the pump which transfers surface water from the three-stage pit to the holding tanks would be activated;
(d) detail the type and size of the bunding around the potentially contaminating waste area;
(e) detail the frequency of overflows from the three-stage pit and sediment basin;
(f) collect representative samples, including a minimum of four surface water samples from the sediment basin and the three-stage pit. The surface water samples must be analysed for the analytical suite identified in Table 3.16 of the RTS;
(g) characterise the surface water for the entire development and detail the potential impact of discharges on receiving surface waters with reference to ANZECC (2000) assessment criteria;

(h) be based on the results of the surface water characterisation, investigate all practical alternatives to discharge and whether sediment basin sizing, at-source pollution controls, tertiary water treatment, water treatment plants and other treatment and reuse options are appropriate;
(i) provide the Secretary with a timeframe for and implement the measures identified in sub-clause (h);
(j) consider the human health risks associated with the surface water reuse process at the site;
(k) include details of the maintenance procedures of the sediment basins and surface water infrastructure;
(l) describe the procedures for maintaining vegetation along the perimeter drain and sediment basin;
(m) establish an ongoing surface water monitoring program to validate the proposed mitigation measures. The surface water monitoring program must provide monitoring details of surface water flows, quality, storage and discharge limits;
(n) identify measures for managing pollutant exceedances; and
(o) identify contingency options to account for any mitigation measures that do not adequately address the site water pollution risks.

B34. The Applicant must:
(a) not commence the operations until the SWCMP required by Condition B33 is approved by the Secretary; and
(b) implement the most recent version of the SWCMP approved by the Secretary for the duration of the development.

Water Quality Validation

B35. Within six months of the commencement of operations and following the management measures being implemented as per SWCMP (Condition B33), the Applicant must provide a Surface Water Validation Report (SWVR) to the satisfaction of the Secretary. The SWVR must:
(a) be carried out by a suitably qualified and experienced expert whose appointment has been endorsed by the Secretary;
(b) be prepared in consultation with the EPA;
(c) collect a minimum of four surface water samples from the sediment basin and four from the three-stage pit system;
(d) characterise the surface water data (samples) and detail the potential impact of discharges on receiving surface waters with reference to ANZECC (2000) assessment criteria;
(e) compare the results with the surface water characterisation in the SWCMP (Condition B33);
(f) ensure surface water is being managed in accordance the EPL;
(g) provide an assessment of the effectiveness of implemented mitigation measures;
(h) if necessary, provide additional mitigation measures to control and/or treat all pollutants to ensure the ANZECC (2000) assessment criteria can be met including further storage or the installation of a water treatment plant; and
(i) update the SWCMP to reflect any changes to the surface water management system.

B36. Any alterations to the surface water management system identified in the SWVR must be implemented prior to any further controlled discharges occurring to the satisfaction of the Secretary.

B37. The Applicant must comply with any amended surface water quality criteria and discharge limits identified in the EPL.

Surface Water Audit

B38. Within 18 months of the commencement of operations, the Applicant must commission an independent Surface Water Audit of the Development to the satisfaction of the Secretary. The audit must:
(a) be carried out by a suitably qualified and experienced expert whose appointment has been endorsed by the Secretary;
(b) be conducted in consultation with the EPA;
(c) audit the Development whilst it is in operation;
(d) validate the development against the SWCMP required by Condition B33;
(e) include a summary of any EPL water quality exceedances;
(f) review the design and management practices of the Development against industry best practice for surface water;
(g) include an action plan that identifies and prioritises additional surface water mitigation measures and/or treatment options that may be necessary to reduce surface water impacts; and
(h) provide a further program of monitoring to address water quality issues that may emerge over time.

B39. Within three months of commissioning this audit, the Applicant must submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report. The Applicant must comply with any reasonable requirement(s) of the Secretary arising from the Surface Water Audit.

Groundwater

B40. Within 12 months of the commencement of operations the Applicant must conduct a Groundwater Monitoring Program to the satisfaction of the Secretary. The program must:
(a) be carried out by a suitably qualified and experienced expert in consultation with the EPA;
(b) ascertain the potential for leakage of the sediment basin and perimeter drain to groundwater;
(c) detail baseline data, groundwater levels and groundwater quality against the relevant criteria;
(d) provide mitigation and contingency measures to prevent the sediment basins from leaking; and
(e) identify a program for ongoing groundwater monitoring and reporting.

B41. Within three months of the completion of the Groundwater Monitoring Program, the Applicant must submit a copy of the Groundwater Monitoring Program as identified in Condition B40 to the Secretary and the EPA.

Diesel Tank Management

B42. As a minimum, the Applicant must ensure the 40,000 litre self-bunded diesel tank is managed as follows:
(a) the tank must be installed in the centre of the site in accordance with Figure 3.1 of the RTS;
(b) the tank must be installed in accordance with the relevant Australian Standards, must be above ground and be protected against impact from heavy vehicles;
(c) the refuelling area must be covered with an awning to minimise dirty water run-off;
(d) overfilling of the tank must be prevented through gauging and monitoring of the tank's contents;
(e) hoses used for transfer of diesel must be inspected weekly;
(f) in an emergency, flow of liquid from the storage tank to a consuming device must be immediately shut off;
(g) the shut off valve must comply with the relevant Australian Standard and be fire resistant;
(h) the diesel tank and re-fuelling area must be bunded within an area of impervious hardstand; and
(i) a diesel spill kit must be stored in the refuelling area and deployed in the event of a spill.

Chemical Spills and Fire Water Containment

B43. To ensure that chemical spills and fire-water are contained on-site, prior to the commencement of operations and to the satisfaction of FRNSW, the Applicant must ensure:
(a) a stormwater isolation valve is installed, the stormwater isolation valve must be closed at all times unless stormwater is being discharged and its closure must be monitored weekly;
(b) during an incident, the stormwater isolation valve must remain in the closed position until manually opened upon confirmation that stormwater isolation is no longer required or once any contaminated water is disposed via trade waste or at a site that can lawfully receive the waste; and
(c) the location of the stormwater isolation valve and any associated controls must be clearly identified on the site's fire hydrant block plan, fire sprinkler block plan and the site plan located within the site's Emergency Response Plan prepared as part of the OEMP as required by Condition C7.

TRAFFIC AND ACCESS

Traffic and Access

B44. The Applicant must implement all reasonable and feasible measures to minimise the impact on the site's access road and any impacts on 1 McIntosh Drive, Mayfield West (Lot 16 in DP 270249).

B45. Prior to the commencement of operations, the vehicular entrance and exit driveways and the direction of traffic movement within the site are to be permanently marked on the pavement surface.

B46. All customers are not permitted to leave their vehicles anywhere on the site other than the public unloading area and to access the pedestrian walkways between marked car parking spaces and the weighbridge and office area.

Parking

B47. Prior to the commencement of operations, the Applicant must provide and mark 25 on-site parking spaces (including two accessible spaces) for staff and visitors to ensure that traffic associated with the Development does not utilise public and residential streets or public parking facilities. Parking areas are to be constructed in accordance with the latest version of Australian Standard 2890. All parking associated with the Development must be contained on site.

B48. Parking is only permitted within the designated parking spaces.

Operating Conditions

B49. The Applicant must ensure:
- (a) all vehicular movement to and from the site must be in a forward direction;
- (b) internal roads, driveways and parking (including grades, turn paths, sight distance requirements, aisle widths, aisle lengths and parking bay dimensions) associated with the Development are maintained in accordance with the latest version of Australian Standard 2890.1 and Australian Standard 2890.2;
- (c) the swept path of the longest vehicle entering and exiting the site, as well as manoeuvrability through the site, is in accordance with the relevant AUSTROADS guidelines;
- (d) the Development does not result in any vehicles queuing on the public road network or along the sites access road owned known as 1 McIntosh Drive, Mayfield West (Lot 16 in DP 270249) which is subject to a right of carriageway;
- (e) heavy vehicles and bins associated with the Development are not to be parked on local roads or footpaths in the vicinity of the site;
- (f) only light vehicles and trailers are permitted within the public unloading area, no heavy vehicles are permitted within the public unloading area;
- (g) all vehicles are wholly contained on site before being required to stop;
- (h) all loading and unloading of materials is carried out on-site in designated areas;
- (i) the different activities such as unloading (public and contractor), processing and stockpiling areas at the site are clearly marked and separated by physical barriers to ensure safety is maintained;
- (j) signage must be erected to direct the public and contractors to the designated unloading and loading areas;
- (k) public and contractor unloading areas are kept separate;
- (l) pedestrian access paths are clearly marked and interactions between pedestrians and vehicles must be minimised;
- (m) an outbound wheel wash must be installed behind the exit weighbridge as per Figure 3.9 of the RTS;
- (n) signage is erected and vehicles at the site do not exceed a speed of 20 km/h;
- (o) vehicle manoeuvring areas must always be kept clear of any obstacles, including parked cars; and
- (p) the turning areas in the car park are kept clear of any obstacles, including parked cars, at all times.

Operational Traffic and Pedestrian Management Plan

B50. Prior to the commencement of operations, the Applicant must prepare an Operational Traffic and Pedestrian Management Plan (OTPMP) for the Development to the satisfaction of the Secretary. The plan must form part of the OEMP required by Condition C4 and be prepared in accordance with Condition C7. The OTPMP must:
- (a) be prepared by a suitably qualified and experienced person(s);
- (b) be prepared in consultation with Council;
- (c) detail the measures that would be implemented to ensure road safety and network efficiency during operation;
- (d) detail measures to ensure public safety is maintained at all times including marking pedestrian access ways and signage to direct the public to the public unloading area;
- (e) detail how the public unloading area will be barricaded from the contractor unloading areas and processing areas to ensure safety is maintained;
- (f) detail how traffic exiting the main processing building will give way to traffic exiting the segregated heavy waste processing and stockpiling area to ensure vehicles safely exit the site;
- (g) detail heavy vehicle routes, access and parking arrangements;
- (h) include a Driver Code of Conduct to:
  - (i) minimise the impact on the local and regional road network;
  - (ii) minimise conflicts with other road users;
  - (iii) minimise road traffic noise; and
  - (iv) ensure truck drivers use Steel River Boulevard and McIntosh Drive (the use of Murray Dwyer Circuit is not permitted);
  - (v) ensure truck drivers use specified routes
- (i) include a program to monitor the effectiveness of these measures; and
- (j) if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.

B51. The Applicant must:
- (a) not commence the operations until the OTPMP required by Condition B50 is approved by the Secretary; and
- (b) implement the most recent version of the OTPMP approved by the Secretary for the duration of the development.

AIR QUALITY

Meteorological Station

B52. Before the commencement of the operations, the Applicant must install a suitable meteorological station on the site that complies with the requirements in the EPA's *Approved Methods for Sampling of Air Pollutants in New South Wales*.

B53. The Applicant must maintain the meteorological station to the satisfaction of the EPA for the life of the development.

Dust Minimisation

B54. All reasonable steps must be taken to minimise dust generated during all works authorised by this consent.

B55. The Applicant must ensure that:
(a) all on-site roads and car parking areas are sealed with concrete or asphalt;
(b) all operating, storage, unloading and loading areas must be sealed with concrete, asphalt or other impervious barrier(s) of the same or greater quality;
(c) water sprinklers at the crushing and screening plant must be utilised at all time when the plant is operational;
(d) dust suppressants must be used to prevent particulate emissions from stockpiles and other dust generating sources;
(e) trucks and vehicles entering and leaving the Development that are carrying loads of dust generating materials must have their loads covered at all times, except during loading and unloading;
(f) crushing occurs for no more than 46 days per year in total;
(g) crushing does not occur during adverse meteorological conditions;
(h) all operations and activities occurring at the Development must be carried out in a manner that minimises the emissions of air pollutants from the Development;
(i) trucks associated with the Development do not track dirt onto the public road network;
(j) public roads used by these trucks are kept clean; and
(k) any works are carried out progressively on site to minimise exposed surfaces.

Air Quality Discharges

B56. Equipment must be installed and operated in accordance with best practice to ensure that the development complies with all load limits, air quality criteria, air emission limits and air quality monitoring requirements as specified in the EPL applicable to the site.

Air Quality Management Plan

B57. Prior to the commencement of operations, the Applicant must prepare an Air Quality Management Plan (AQMP) to the satisfaction of the Secretary. The AQMP must form part of the OEMP required by Condition C4 and be prepared in accordance with Condition C7. The AQMP must:
(a) be prepared by a suitably qualified and experienced person(s);
(b) be prepared in consultation with the EPA;
(c) detail and rank all emissions from all sources of the Development, including particulate emissions and odour;
(d) describe the measures that will be implemented to minimise the potential risks to adverse air quality in the area including:
    (i) the management and mitigation measures to be employed at the site;
    (ii) plant and equipment being maintained to ensure that it is in good order;
    (iii) how the air quality impacts of the development will be minimised during adverse meteorological conditions or extraordinary events;
    (iv) identification of high emission generating operational activities, including proposed times when these works will be carried out (including respite periods if required) and mitigation measures to minimise adverse impacts from these activities;
    (v) compliance with the relevant conditions of this consent;
(e) identify the control measures that will be implemented for each emission source; and
(f) define what constitutes an air quality incident and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents.

B58. The Applicant must:
(a) not commence the operations until the AQMP required by Condition B57 is approved by the Secretary: and
(b) implement the most recent version of the AQMP approved by the Secretary for the duration of the development.

Air Quality Monitoring and Reporting

B59. The Applicant must carry out Air Quality Monitoring and Reporting of the Development for the first three crushing events following the commencement of the operations to the satisfaction of the Secretary. The monitoring and reporting must:

(a) be carried out by a suitably qualified and experienced person(s) whose appointment has been endorsed by the Secretary;
(b) monitor the dust emissions whilst the Development is in operation and crushing (as described section 3.5 of the RTS) is occurring;
(c) include a summary of air emission related complaints and any actions that were carried out to address the complaints;
(d) validate the Development against air quality predictions in the RTS;
(e) review design and management practices of the Development against industry best practice for dust emissions; and
(f) include an action plan that identifies and prioritises additional dust mitigation measures that may be necessary to reduce emissions.

B60. Within three months of each monitoring event, the Applicant must submit a copy of the Air Quality Monitoring Report (Condition B59) to the Secretary, together with its response to any recommendations.

Odour

B61. The Applicant must ensure the Development does not cause or permit the emission of any offensive odour (as defined in the POEO Act).

NOISE

Hours of Work

B62. The Applicant must comply with the hours detailed in **Table 2**.

Table 2: Hours of Work

Activity	Day	Time
Construction	Monday to Friday	7 am to 6 pm
	Saturday	8 am to 1 pm
	Sunday and Public Holidays	Not Permitted
Waste Receival	Monday to Friday	6 am to 6 pm
	Saturday	6 am to 5 pm
	Sundays and Public Holidays	7 am to 3 pm
Waste Processing	Monday to Friday	6 am to 6 pm
	Saturday	6 am to 5 pm
	Sundays and Public Holidays	Not Permitted
Waste Dispatch	Monday to Friday	6 am to 6 pm
	Saturday	6 am to 5 pm
	Sunday and Public Holidays	Not Permitted

B63. Works outside of the hours identified in Condition B62 may be undertaken in the following circumstances:

(a) the works are inaudible at the nearest sensitive receivers;
(b) for the delivery or dispatch of materials as requested by the NSW Police Force or other public authorities for safety reasons; or
(c) where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

B64. Waste receival is permitted on a 24-hour per day basis on limited occasions to facilitate major infrastructure projects. Limited occasions is defined as:

(a) no greater than six times per year; and
(b) only for a period of less than two weeks in length for each occasion.

B65. The Secretary, Council and all adjacent landowners must be notified no later than 48 hours prior to each of the 24-hour waste receival periods referred to in Condition B64 along with a description of the major infrastructure projects which necessitate the 24-hour operations.

B66. During the 24-hour waste receival period (as stipulated in Condition B64), the number of heavy vehicles accessing the site from 6 pm to 6 am must not exceed 12.

Noise Management

B67. The crusher and shredder are only permitted to be operated in the segregated heavy waste processing and stockpiling area, no further south than 130 m from the northern site boundary (see Appendix A).

B68. The mobile screens in the segregated heavy waste processing and stockpiling area must not be operated simultaneously with the crusher or shredder.

B69. The Applicant must:
(a) implement best practice, including all reasonable and feasible noise management and mitigation measures to minimise operational, low frequency and traffic noise generated by the Development;
(b) minimise the noise impacts of the Development during adverse meteorological conditions;
(c) maintain the effectiveness of any noise suppression equipment on plant at all times and ensure defective plant is not used operationally until fully repaired; and
(d) regularly assess noise emissions and relocate, modify and/or stop operations to ensure compliance with the relevant conditions of this consent.

Operational Noise Limits

B70. The Applicant must ensure that noise generated by operation of the Development does not exceed the noise limits in **Table 3.**

Table 3: Noise Limits dB(A)

Location	Day $L_{Aeq(15\ minute)}$	Evening $L_{Aeq(15\ minute)}$	Night $L_{Aeq(15\ minute)}$	Night L_{AMax}
R1	48	40	40	51
R2	49	41	41	52
R3	47	39	39	51
R4	47	39	39	50
R5	50	42	42	53
R6	48	41	41	51
R7	48	41	41	52
R8	48	40	40	52
R9	49	42	42	52
R10	49	41	41	51
R11	49	42	42	52
R12	42	41	41	48
R13	40	36	36	47
Mayfield West Primary School	Internal 35 dB(A) – Noisiest 1 hr period (when in use)			
Church of Christ	Internal 40 dB(A) LAeq, period (when in use)			
Scout Hall	External 55 dB(A) Leq, period (when in use)			

Note: *Noise generated by the Development is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy. Refer to the plan in Appendix A for the location of residential sensitive receivers.*

VIBRATION

Vibration Criteria

B71. Vibration caused by construction at any residence or structure outside the site must be limited to:
(a) for structural damage, German Standard DIN 4150 Part 3 Structural Vibration in Buildings. Effects on Structures; and
(b) for human exposure, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: A Technical Guideline (Department of Environment and Conservation, 2006).

FIRE MANAGEMENT

B72. Prior to the commencement of operations, the final design of the development must be finalised in consultation with and to the satisfaction of the Secretary and include suitable additional provisions for special hazards by specifically addressing Clauses E1.10 and E2.3 of Volume One of the *National Construction Code (NCC) Series*. In particular, the following matters must be addressed:

(a) Clauses E1.10 and E2.3 of Volume One of the NCC be complied with to the meet the operational requirements of FRNSW;
(b) the stockpile storage within any building and/or open yard storage on the allotment be limited in size and volume and arranged to minimise fire spread;
(c) the arrangement of stockpiles of combustible material, stored externally, on the allotment be sufficiently separated to permit FRNSW vehicle access between stockpiles;
(d) the site must be serviced by a fire hydrant system that has a minimum water supply capable to extinguishing the sites largest fire load stockpile;
(e) buildings which store recyclable material must include a smoke hazard system that facilitates FRNSW firefighting operations;
(f) if deemed necessary by the Secretary, by virtue of applying Clauses E1.10 and E2.3 to the Development, that any significant building used to process recyclable material is provided with an appropriate fire suppression system; and
(g) the containment on-site of fire water run-off.

ABORIGINAL HERITAGE

Unexpected Finds Protocol

B73. If Aboriginal objects are uncovered during construction work in the immediate area, work must stop and the Regional Operations Group of the OEH, Council and the Registered Aboriginal Parties are to be consulted.

HAZARDS AND RISK

Dangerous Goods

B74. The quantities of dangerous goods stored and handled at the site must be below the threshold quantities listed in the Department of Planning's *Hazardous and Offensive Development Application Guidelines – Applying SEPP 33* at all times.

B75. Dangerous goods, as defined by the *Australian Dangerous Goods Code*, must be stored and handled strictly in accordance with:

(a) all relevant Australian Standards;
(b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; and
(c) the Environment Protection Manual for Authorised Officers: Bunding and Spill Management, technical bulletin (EPA,1997).

In the event of an inconsistency between the requirements listed from a) to c) above, the most stringent requirement must prevail to the extent of the inconsistency.

Bunding

B76. The Applicant must store all chemicals, fuels and oils used on-site in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and EPA's *Storing and Handling of Liquids: Environmental Protection – Participants Manual* (DECC, 2007) (as may be updated or replaced from time to time).

CONTAMINATION

B77. Any works carried out on the site that involve the disturbance of (or contact with) soil or groundwater are to be carried out in accordance with the requirements of the report titled *Site Management Plan for Subsurface Disturbance Activities, McIntosh Drive Mayfield NSW. Ref: N4113204_SMP_Rev4_2Oct09*, prepared by AECOM Pty Ltd, dated 2 October 2009.

B78. Prior to the commencement of operations, the main processing building and segregated heavy waste processing and stockpiling area must be sealed with either asphalt or concrete to minimise infiltration of surface water to groundwater.

B79. Prior to the commencement of construction, the Applicant must prepare an unexpected finds protocol to ensure that potentially contaminated material is appropriately managed. The protocol must form part of the CEMP

required by Condition C1 and must ensure any material identified as contaminated must be disposed off-site, with the disposal location and results of testing submitted to Council, prior to its removal from the site.

VISUAL AMENITY

Landscaping

B80. The Applicant must maintain the landscaping and vegetation on the site in accordance with the approved Landscape Plan prepared by Terras Landscape Architects dated 9 September 2015 in Appendix A.

Lighting

B81. The Applicant must ensure the lighting associated with the Development:
(a) complies with the latest version of *AS 4282 (INT) - Control of Obtrusive Effects of Outdoor Lighting;*
(b) is mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network including at night; and
(c) is not installed on the exterior of the Development and does not flash, chase or scintillate or contain promotional material of a visually intrusive nature.

SITE SECURITY

B82. The Applicant must:
(a) maintain the 1.8 m perimeter fence and security gates on the site in accordance with Council's requirements; and
(b) ensure the security gates are locked whenever the site is not in operation or unattended.

COMMUNITY ENGAGEMENT

B83. The Applicant must consult with the community regularly throughout the Development, including consultation with the nearby, adjacent landowners, sensitive receivers, relevant regulatory authorities, Registered Aboriginal Parties and other interested stakeholders.

CONCEPTUAL DECOMISSIONING PLAN

B84. Prior to the commencement of operations, the Applicant must prepare a Conceptual Decommissioning Management Plan (CDMP) for the Development to the satisfaction of the Secretary. The plan must form part of the OEMP required by Condition C4. The CDMP must:
(a) include a schedule for the decommissioning of the Development;
(b) detail how the following would be achieved:
  (i) ensure the site is left in a safe, stable and non-polluting manner;
  (ii) removal of all waste from the site in a lawful manner;
  (iii) restoration of the site so that the contamination status is no worse than that described in the Site Audit Report -Former EMD Facility Mayfield West, prepared for Delta EMD, prepared by Environ Australia Pty Ltd, November 2009; and
  (iv) ensure public safety is maintained.
(c) include procedures for notification of the surrounding landowners;
(d) include procedures for safe removal of any machinery and structures;
(e) include measures to mitigate any environmental impacts associated with the removal of the Development;
(f) include details of monitoring that would be undertaken during the decommissioning of the Development; and
(g) be reviewed 12 months prior to the closure of the site to the satisfaction of the Secretary.

PART C: ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

C1. The Applicant must prepare a Construction Environmental Management Plan (CEMP) to the satisfaction of the Secretary. The CEMP must:
- (a) be approved by the Secretary prior to the commencement of construction;
- (b) identify the statutory approvals that apply to the Development;
- (c) describe all activities to be undertaken on the site during construction of the Development, including a clear indication of construction stages in particular how the sealing works will be staged and any associated impacts on operation, construction of surface water infrastructure must also be addressed;
- (d) outline all environmental management practices and procedures to be followed during construction works associated with the Development;
- (e) detail how unexpected finds, traffic, erosion and sedimentation and noise will be managed;
- (f) include a complaints handling procedure;
- (g) detail how the environmental performance of the construction works will be monitored, and what actions will be taken to address identified adverse environmental impacts; and
- (h) describe the roles and responsibilities for all relevant employees involved in construction works associated with the Development.

C2. As part of the CEMP required under Condition C1 of this consent, the Applicant must include the following:
- (a) Erosion and Sediment Control Plan (see Condition B16);
- (b) Unexpected Finds Protocol (see Condition B79).

C3. The Applicant must carry out the construction of the Development in accordance with the CEMP approved by the Secretary (and as revised and approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN

C4. The Applicant must prepare an Operational Environmental Management Plan (OEMP) to the satisfaction of the Secretary. The OEMP must:
- (a) be approved by the Secretary prior to the commencement of operations;
- (b) be prepared by a suitably qualified and experienced expert;
- (c) provide the strategic framework for environmental management of the Development;
- (d) identify the statutory approvals that apply to the Development;
- (e) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the Development;
- (f) describe the procedures that would be implemented to:
  - (i) keep the local community and relevant agencies informed about the operation and environmental performance of the Development;
  - (ii) receive, handle, respond to, and record complaints;
  - (iii) resolve any disputes that may arise;
  - (iv) respond to any non-compliance; and
  - (v) respond to emergencies and provide an Emergency Response Plan;
- (g) include the following environmental management plans:
  - (i) Waste Management Plan (see Condition B13);
  - (ii) Surface Water Characterisation and Mitigation Plan (see Condition B33);
  - (iii) Operational Traffic and Pedestrian Management Plan (see Condition B50);
  - (iv) Air Quality Management Plan (see Condition B57); and
  - (v) Conceptual Decommissioning Management Plan (see Condition B84).

C5. The Applicant must carry out the construction of the Development in accordance with the OEMP approved by the Secretary (and as revised and approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

COMPLIANCE REGISTER TABLE

C6. The Applicant must submit a Compliance Register Table to the Secretary with any Environmental Management Plans, which details where the relevant conditions have been addressed within the Environmental Management Plan.

MANAGEMENT PLAN REQUIREMENTS

C7. The Applicant must ensure that the environmental management plans required under Condition C4 of this consent are prepared by a suitably qualified person or persons in accordance with best practice and include:
- (a) detailed baseline data;

(b) a description of:
  (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);
  (ii) any relevant limits or performance measures/criteria; and
  (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the Development or any management measures;
(c) a description of the management measures that would be implemented to comply with the relevant statutory requirements, limits or performance measures/criteria;
(d) a program to monitor and report on the:
  (i) impacts and environmental performance of the Development; and
  (ii) effectiveness of any management measures (see (c) above)
(e) a contingency plan to manage any unpredicted impacts and their consequences;
(f) a program to investigate and implement ways to improve the environmental performance of the Development over time;
(g) a protocol for managing and reporting any:
  (i) incidents;
  (ii) complaints;
  (iii) non-compliances with statutory requirements; and
  (iv) exceedances of the impact assessment criteria and/or performance criteria; and
(h) a protocol for periodic review of the plan.

Revision of Strategies, Plans and Programs

C8. Within three months of:
(a) approval of a modification;
(b) approval of an annual review under Condition C9;
(c) submissions of an incident report under Condition C11; or
(d) completion of an audit under Condition C13.

the Applicant must review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Secretary.

Note: *This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the Development.*

ANNUAL REVIEW

C9. Each year, the Applicant must review the environmental performance of the Development to the satisfaction of the Secretary. This review must:
(a) describe the development that was carried out in the previous calendar year, and the Development that is proposed to be carried out over the next year;
(b) provide a conditions compliance report which tracks the compliance of the development with the conditions of this approval;
(c) include a comprehensive review of the monitoring results and complaints records of the Development over the previous calendar year, which includes a comparison of these results against the:
  (i) the relevant statutory requirements, limits or performance measures/criteria;
  (ii) requirements of any plan or program required under this consent;
  (iii) the monitoring results of previous years; and
  (iv) the relevant predictions in the EIS;
(d) detail and provide evidence for the number of days crushing and the 24-hour waste receival operations has occurred;
(e) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
(f) identify any trends in the monitoring data over the life of the Development;
(g) identify any discrepancies between the predicted and actual impacts of the Development, and analyse the potential cause of any significant discrepancies; and
(h) describe what measures will be implemented over the next year to improve the environmental performance of the Development.

REPORTING

Incident Reporting

C10. The Applicant must notify the Secretary and any other relevant agencies of any incident or potential incident with actual or potential significant off-site impacts on people or the biophysical environment associated with the Development immediately after the Applicant becomes aware of the incident.

C11. Within seven days of the date of this incident, the Proponent must provide the Secretary and any relevant agencies with a detailed report on the incident.

Regular Reporting

C12. The Applicant must provide regular reporting on the environmental performance of the Development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

AUDITING

Independent Environmental Audit

C13. Within one year of the commencement of operations, and every three years thereafter, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the Development. This audit must:

(a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
(b) include consultation with the relevant agencies;
(c) assess the environmental performance of the Development and assess whether it is complying with the requirements in this consent, and any other relevant approvals, relevant EPL(s) (including any assessment, plan or program required under these approvals);
(d) review the adequacy of any approved strategy, plan or program required under the abovementioned consents; and
(e) recommend measures or actions to improve the environmental performance of the Development, and/or any strategy, plan or program required under these consents.

Note: *This audit team must be led by a suitably qualified auditor, and include relevant experts in any other fields specified by the Secretary.*

C14. Within three months of commissioning this audit, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.

ACCESS TO INFORMATION

C15. The Applicant must:

(a) make copies of the following publicly available on its website:
    (i) the documents referred to in Condition A2;
    (ii) all current statutory approvals for the Development;
    (iii) all approved strategies, plans and programs required under the conditions of this consent;
    (iv) a comprehensive summary of the monitoring results of the Development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
    (v) a complaints register updated on a monthly basis;
    (vi) the annual reviews of the Development;
    (vii) any independent environmental audit of the Development and the Applicant's response to the recommendations in any audit; and
    (viii) any other matter required by the Secretary
(b) keep this information up to date, to the satisfaction of the Secretary

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granted on the 13/3/18

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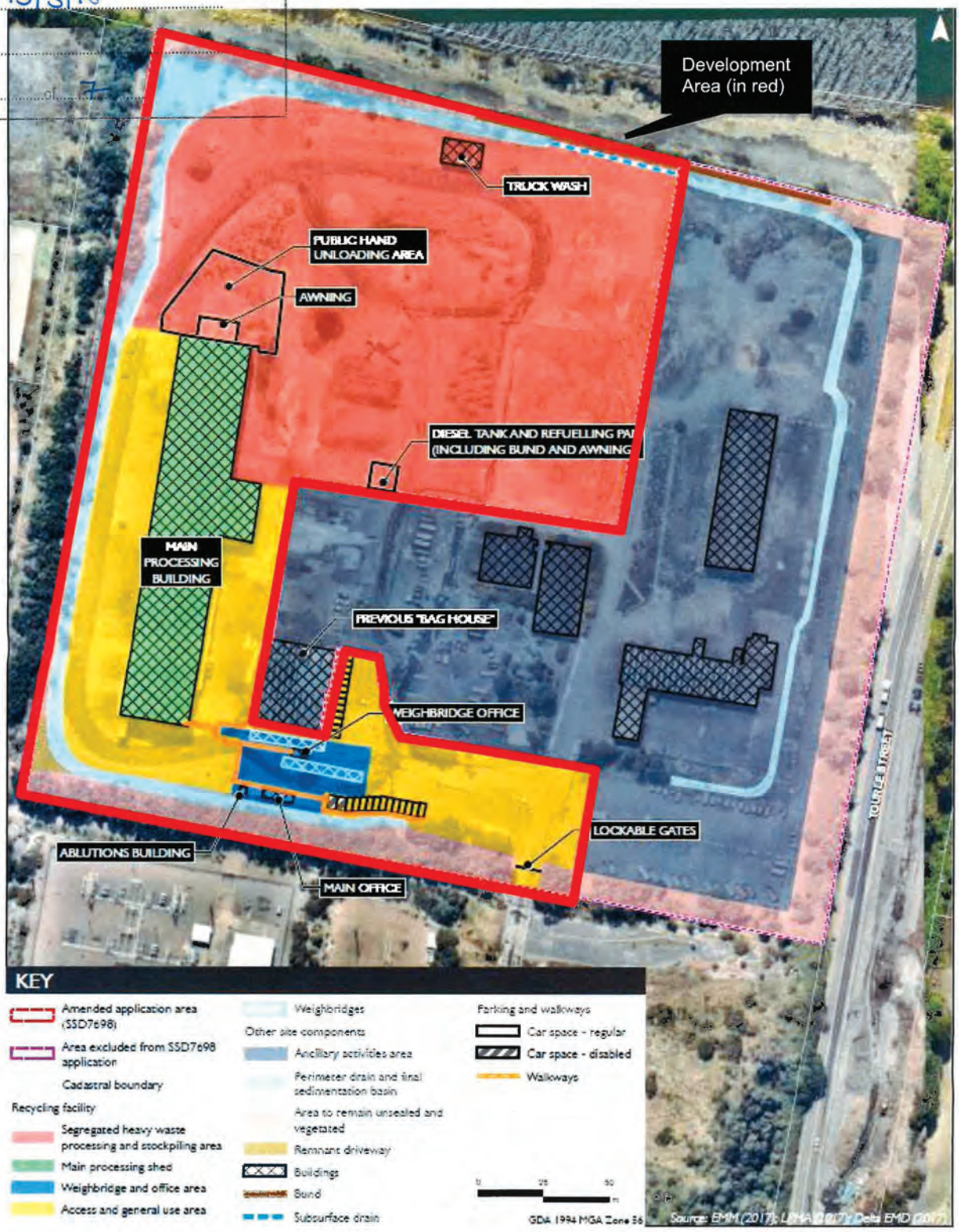
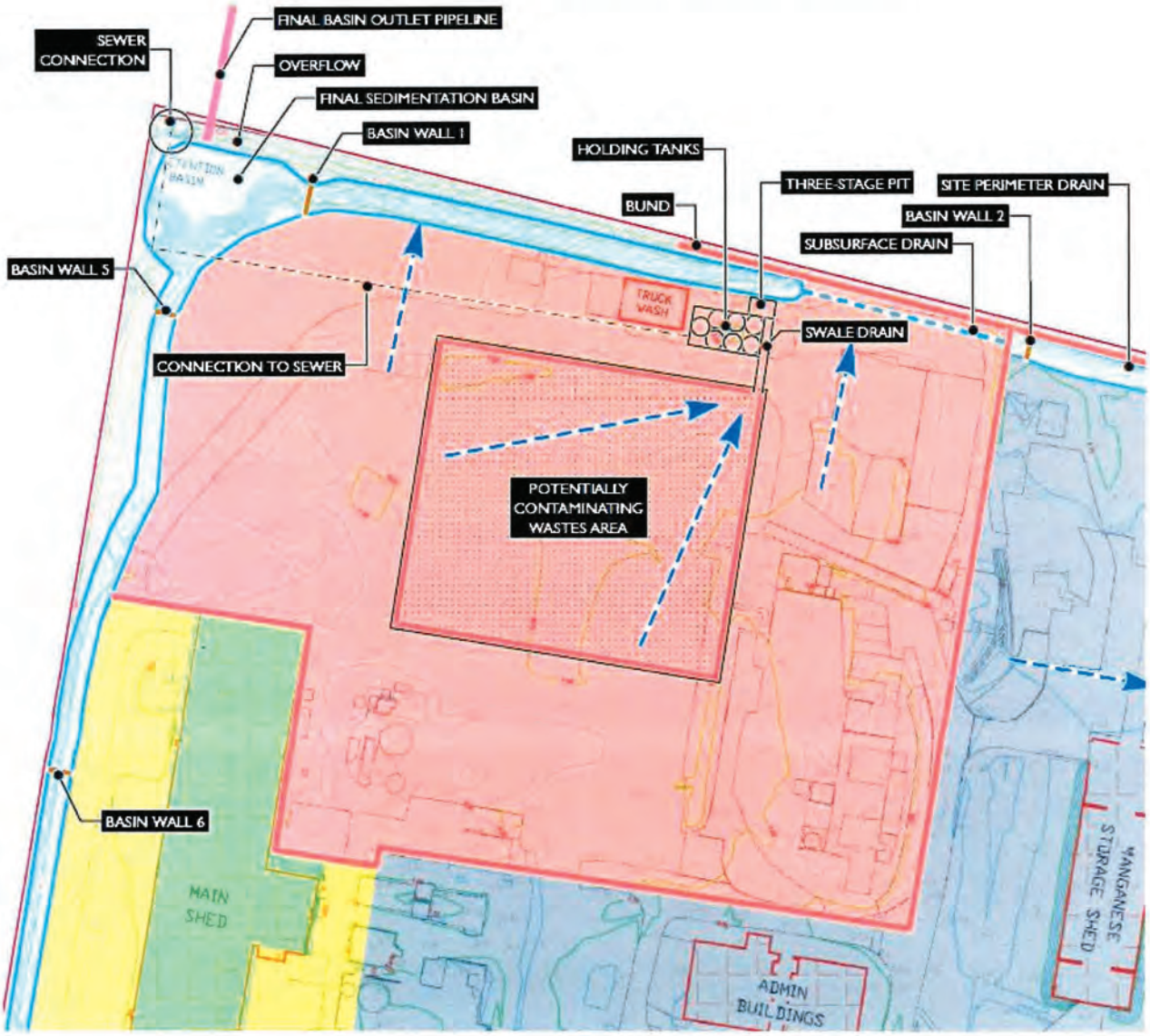
Sheet No. 1 of 7

APPENDIX A PLANS

Development Layout Plan



Location of Surface Water Management Infrastructure



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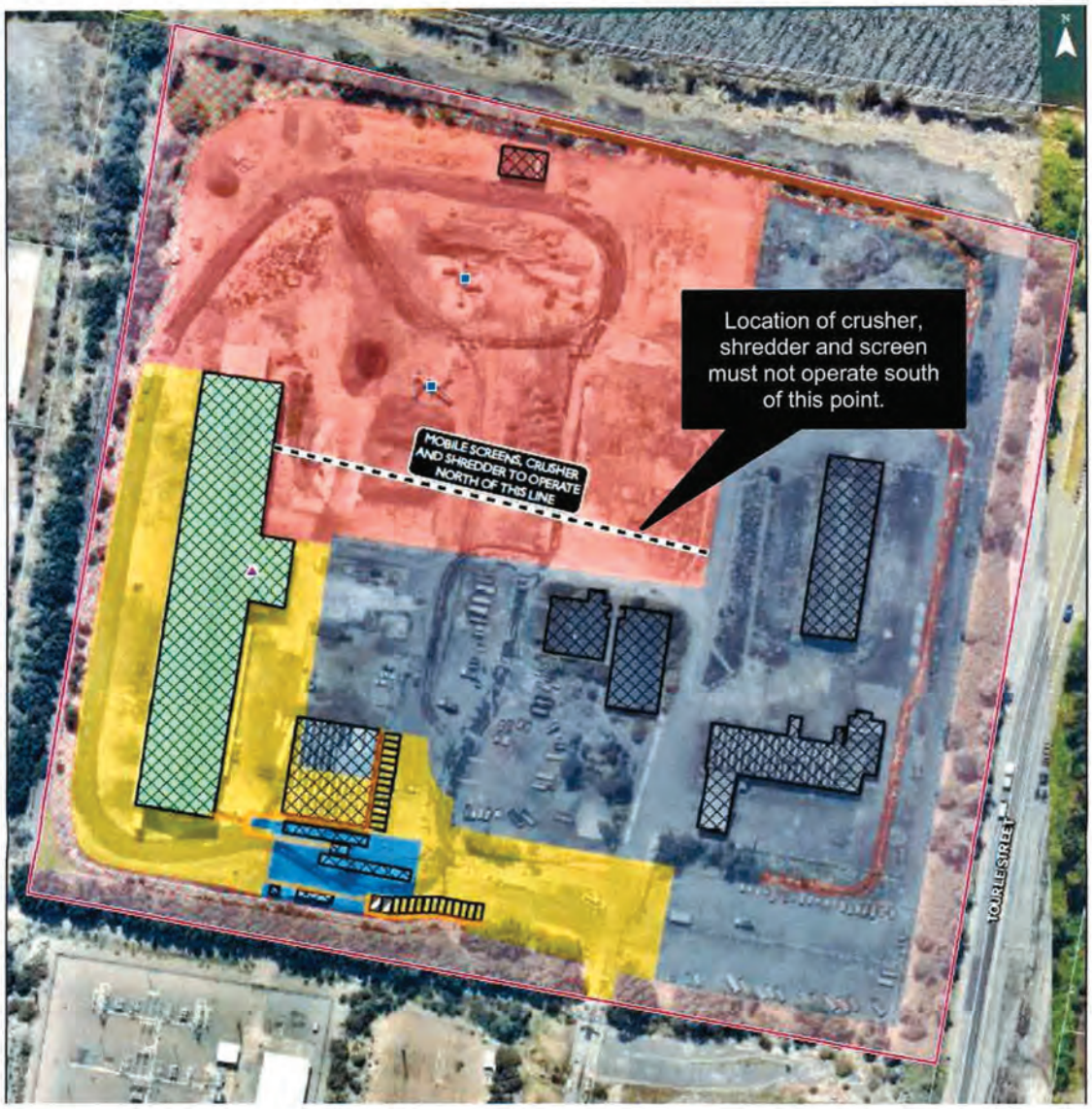
Location of Crusher, Shredder and Screens



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Sensitive Receiver Locations

Landscape Plan

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7698

LEGEND

- Z1 — ZONE 1 - NORTHERN BOUNDARY SUPPLEMENTARY PLANTING
- Z2 — ZONE 2 - BUND PLANTING
- Z3 — ZONE 3 - EASEMENT PLANTING CLIENT TO SEEK PERMISSION FROM LANDOWNER TO AUGMENT EXISTING VEGETATION
- Z4 — ZONE 3 - BUND PLANTING TO BE PROVIDED IF VEGETATION ON ADJACENT RMS LAND IS REMOVED.

VEGETATION MANAGEMENT

STRONGLY RECOMMEND SOIL TESTING DUE TO THE POOR CONDITION OF EXISTING TREES AND TO ENSURE ADEQUATE ESTABLISHMENT OF PROPOSED SPECIES

REFER TO SPECIFICATIONS FOR FURTHER DETAIL

ZONE 1 - NORTHERN BOUNDARY - SUPPLEMENTARY PLANTING

EXISTING CONDITION:
- EXISTING TREES WITH SOME IN POOR CONDITION
- LOW GROUND COVERS PRESENT
- WEED SPECIES PRESENT

PROPOSED WORKS:
- REMOVE WEED SPECIES
- MONITOR EXISTING TREES AND WHERE HEALTH DOES NOT IMPROVE DURING FIRST 3 MONTHS OF MAINTENANCE PERIOD REMOVE AND REPLACE WITH ADDITIONAL Casuarina TREES
- PROVIDE 30% GREEN SHADE CLOTH TO CHAIN WIRE FENCE TO PROVIDE ADDITIONAL SCREENING AND ALLOW LIGHT FOR PLANT GROWTH.
- PROVIDE JUTE MATTING TO STEP AREAS OF WEED REMOVAL
- PROVIDE Casuarina TREES AND LOW MAINTENANCE GRASSES TO STABILISE AND PROVIDE SCREENING
- MAXIMISE TREE RETENTION
- PROVIDE SUPPLEMENTARY TREES AND GROUND COVERS

ZONE 2 - PLANTING OVER EXISTING HARDSTAND (WESTERN BOUNDARY)

EXISTING CONDITION:
- EXISTING STORMWATER DRAIN LOCATED ON BOUNDARY
- A/C 1.5M² BETWEEN STORMWATER DRAIN AND BOUNDARY
- EXISTING CURRENTLY PROVIDES SCREENING TO A MAJORITY OF THE WESTERN BOUNDARY

PROPOSED WORKS:
- RIP A/C BETWEEN STORMWATER DRAIN AND BOUNDARY TO 150mm AND REMOVE WHERE REQUIRED
- PROVIDE ADDITIONAL TOPSOIL WHERE REQUIRED
- PROVIDE MASONRY EDGE TO STORMWATER DRAIN AND ROAD TO CONTAIN IMPORTED TOPSOIL
- PIN JUTE MATTING TO PREVENT EROSION AND RETAIN MOISTURE
- PROVIDE Casuarina TREES AND LOW MAINTENANCE GRASSES TO STABILISE AND PROVIDE SCREENING
- OPTION TO EXTEND LANDSCAPE TREATMENT FOR ENTIRE WESTERN BOUNDARY IF REQUIRED.

ZONE 3 - EXISTING VEGETATED EASEMENT

CLIENT TO SEEK LANDOWNER PERMISSION TO AUGMENT VEGETATION WITHIN EASEMENT

EXISTING CONDITION:
- EXISTING EASEMENT BETWEEN SUBJECT SITE AND OTHER INDUSTRIAL PREMISES
- SIGNIFICANT VEGETATION PRESENT WHICH PROVIDES SCREENING FOR A MAJORITY OF THE WESTERN BOUNDARY
- SMALL AREA CONTAINING SPARSE TREES ALLOWING FILTERED VIEWS INTO THE SITE (IDENTIFIED ON PLAN)

PROPOSED WORKS:
- REMOVE WEED SPECIES
- PROVIDE MASS PLANTING TO STABILISE SOIL
- PROVIDE JUTE MATTING TO STEP AREAS OF WEED REMOVAL
- MAXIMISE TREE RETENTION
- PROVIDE SUPPLEMENTARY TREES AND GROUND COVERS

ZONE 4 - PLANTING OVER EXISTING HARDSTAND (EASTERN BOUNDARY)

EXISTING CONDITION:
- RMS VEGETATION CURRENTLY PROVIDES SCREENING TO ALL OF THE EASTERN BOUNDARY
- 1.8M CHAIN WIRE FENCE ALONG PROPERTY BOUNDARY
- A/C SURFACE WITHIN PROPERTY BOUNDARY

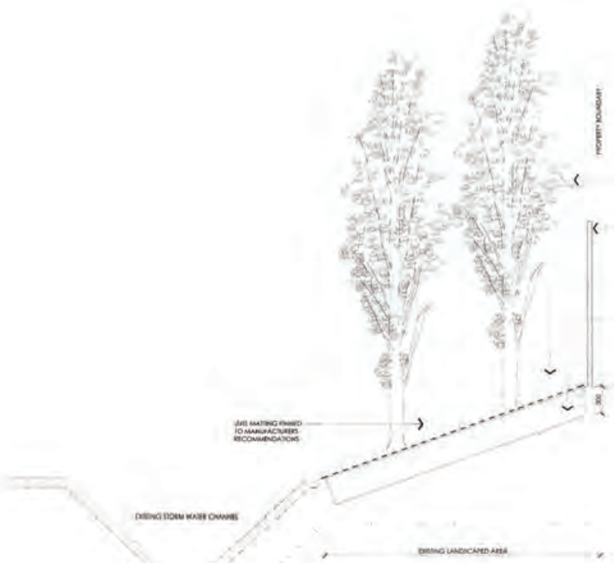
PROPOSED WORKS (SHOULD EXISTING VEGETATION ON RMS LAND BE REMOVED):
- RIP A/C WITHIN BOUNDARY TO 150mm AND REMOVE WHERE REQUIRED
- PROVIDE ADDITIONAL TOPSOIL WHERE REQUIRED
- PROVIDE MASONRY EDGE TO CONTAIN IMPORTED TOPSOIL
- PIN JUTE MATTING TO PREVENT EROSION AND RETAIN MOISTURE
- PROVIDE Syzygium 'Resilience' AND LOW MAINTENANCE GRASSES TO STABILISE AND PROVIDE SCREENING
- PROVIDE 30% GREEN SHADE CLOTH TO CHAIN WIRE FENCE TO PROVIDE ADDITIONAL SCREENING AND ALLOW LIGHT FOR PLANT GROWTH.

rev	date	comments	by	verified
D	09.09.15	CC	GF	PW
C	31.07.15	DRAFT	GF	PW
B	31.07.15	DRAFT	GF	PW
A	24.07.15	DRAFT	GF	PW

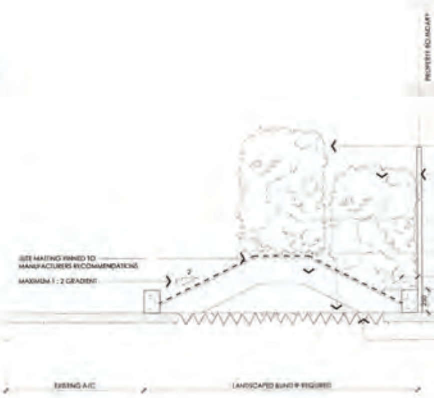
PROJECT: MAYFIELD WEST RECYCLING FACILITY
SITE: 80 TOURLE STREET MAYFIELD WEST
CLIENT: BENEDICT
DRAWING: LANDSCAPE PLAN

terras landscape architects

drawn	scale	size	date
GF	1:750@A1	1/3	09.09.15
project	project no.	drawing no.	revision no.
CC	10944.5	L01	D



01 - **NORTHERN BOUNDARY PLANTING**
Section A-A
Scale 1:20



02 - **EASTERN BOUNDARY PLANTING**
Section B-B
Scale 1:20

PLANT SCHEDULE

[illegible]

ABV	BOTANICAL NAME	COMMON NAME	HEIGHT	POT SIZE	SPACING
	TREES				
Ar	Allocasuarina torulosa	Forest She-Oak	10-20m	45L	3m c/c
Cg	Casuarina glauca	Swamp She-Oak	15m	45L	3m c/c
	SHRUBS				
Sr	Syzygium 'Resilience'	Resilience	2-3m	35L	1m c/c
	SUPPLEMENTARY PLANTING				
Ca	Carex appressa	Tall Sedge	0.8m	2.5 Litre	4/m²
Fn	Ficinia nodosa	Knobby Club-Rush	0.5-1m	2.5 Litre	4/m²
Ll	Lomandra longifolia	Mat Rush	1m	2.5 Litre	3/m²
Pa	Pennisetum alopecuroides	Swamp Foxtail	0.8m	2.5 Litre	4/m²

[illegible]

NSW GOVERNMENT
Planning

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No. 7698

granted on the 13/3/18

Signed KM

Sheet No. 6 of 7

rev no:	date:	comments	by:	verified:
D	09.09.15	CC	GF	PW
C	31.07.15	DRAFT	GF	PW
B	31.07.15	DRAFT	GF	PW
A	24.07.15	DRAFT	GF	PW

PROJECT: MAYFIELD WEST RECYCLING FACILITY
SITE: 80 TOURLE STREET MAYFIELD WEST
CLIENT: BENEDICT
DRAWING: LANDSCAPE DETAILS

terras landscape architects

drawn	scale		date
GF	1:20@A1	2/3	09.09.15
CC	10944.5	L02	D

GENERALLY

L1.0 GENERAL
All landscape works shall be carried out by a person or business eligible for membership with the Landscape Contractor Association of NSW or comparable trade organisation. The Contractor shall allow for all restriction to his operations caused as a result of other contractors, likely damage to existing structures, fences, retaining walls, pavements, services or other improvements either within or outside the site. The Contractor shall be responsible for ensuring that full and adequate protection from damage shall be provided to all finished surfaces and material subject to staining or other disfigurement, and shall be responsible for making good all damages and disfigurement.
Check with engineers drawings when available to see extent of earthwork, drainage, changes in and location of services, coordinated works as required.

L2.0 ORDERING - LANDSCAPE
REQUIREMENT: Within 14 days of the date of acceptance of tender, furnish proof of ordering the required materials, and advise immediately if any supply difficulties are encountered. Ensure Substitutions shall not be approved unless accepted in writing by the supervisor. The plant schedule shall be the accepted document for plant quantities and sizes to be used for the project. Where discrepancies arise between the drawings and the plant schedule seek clarification from the supervisor as soon as practicable.

L3.0 WORK NEAR TREES - GROUNDWORKS
PROTECTION: Protect trees to be retained from damage. Take necessary precautions. Do not store or otherwise place bulk materials and harmful materials under or near trees. Do not place spoil from excavations against tree trunks, even for short periods. Prevent damage to tree bark. Do not attach stays, guys and the like to trees. Avoid compaction of the ground under trees.
WORK UNDER TREES: Do not add or remove topsoil within the drip line, use hand methods such that root systems are preserved intact and undamaged. Open up excavations under tree canopies for as short a period as possible.
ROOTS: Where it is necessary to cut tree roots, use means such that the cutting does not unduly disturb the remaining root system.
DAMAGES: Any damage to trees to be retained will be attended to by a qualified arborist who will prepare a report covering rectification works. Submit report to supervisor for approval. Conduct remedial works as required including removal and replacement if so recommended. All costs to be borne by the contractor.

L4.0 INSPECTION - LANDSCAPE
NOTICE: Give minimum two (2) days notice unless otherwise indicated so that inspection may be made of the following, as applicable:
- Plants available on site for nursery compliance inspection prior to planting.
- Subgrades cultivated and/or prepared prior to placing topsoil.
- Plant material set out before planting.
- Completion of planting establishment work.

L5.0 STANDARDS - LANDSCAPING
REFERENCED DOCUMENTS:
- AS 4419 Soils for landscaping and garden use - 1998
- AS 4454 Composts, soil conditioners and mulches - 1997
- AS 4373 Pruning of amenity trees - 1996
- AS 2303 Tree stock for landscape use - 2015.

L6.0 SAMPLES - LANDSCAPE
PLANTS: All plants shall be made available for inspection on site or at local nursery. The entire material represented may be rejected, except of plants with a correctable defect subject to satisfactory treatment.
TREES SHALL COMPLY WITH AS 2303:2015 Tree stock for landscape use.
BULK MATERIALS: 2 kg sample of each type specified. Submit bulk material samples, not less than 2 working days before bulk deliveries.
INSPECTION OF TREES:
Timing: Trees may be inspected before shipment.
Partial sampling: Expose a small section of the rootball, by washing, sufficient to permit inspection of root development from the stem to the outer extremity. After inspection, carefully replace soil.
Root systems: Root systems may be inspected using partial sampling at the following rate:
- <20 trees: 1 tree sampled.
- 21 - 50 trees: 2 trees sampled
- >51 trees: 4%.

Forward order contracts: Submit regular reports in writing to the contract administrator. Include checks against specification requirements, and current photographs.
Inspection frequency: 3 months
Report frequency: 3 months.

Compliance
General: Non-compliance may lead to rejection of the entire batch.
Substitution: If non-complying trees are proposed, submit proposal in writing to the contract administrator. Only written approvals of substitution are recognised. Submit a copy of the written approval of substitution with the non-complying trees.

Holding proposals
General: Submit proposals in writing to the contract administrator for proposed methods for holding trees beyond specified dates so that trees will continue to comply.

Shipment
Responsibility: Landscape Contractor.

L7.0 WEEDS:
Eradicate weeds by environmentally acceptable methods using a non-residual glyphosate herbicide at the manufacturers recommended rates. Regularly remove, by hand, rubbish and weed growth that may occur or recur throughout grassed, planted and mulched areas. Continue eradication throughout the course of the works and during the Planting Establishment Period so that a weed free area is established at completion of the establishment period.

L8.0 EXISTING SERVICES - LANDSCAPING
Existing services on site may include but not limited to storm water drainage, water, and associated power service conduits. Locations of all services should be established prior to excavation and cultivation of planting beds and installation of trees etc. Do not excavate by machine within 1m of existing underground services without prior approval or identification of service locations. Services locations where shown are approximate only, the true location of actual in ground services must be determined by the contractor on site.

L9.0 SETOUT AND DIMENSIONS
Critical design dimensions to be confirmed by the landscape contractor by survey before commencing work. Check engineers drawings where available to determine extent of earthworks, structures.

SOILS

L10.0 SOIL TESTING
Sampling: As recommended in AS 4419 (2003) Appendix A.

Sampling technique: The following sampling technique should be used in conjunction with the guidelines recommended in AS 4419 (2003). Where discrepancies arise, refer to the Superintendent for clarification prior to proceeding with any works. The Contractor shall arrange for the following soil tests to be carried out for any proposed ameliorated site soil:
Soil testing shall be done in accordance with SESL specifications.
- For each test, take six samples of each soil type. These should be taken from various locations. Each sample should be approximately one spade full in quantity.
- For each soil type, thoroughly mix the six samples together to obtain an 'average' sample. Ensure that mixing is carried out in a clean mixing container, with no impurities such as cement residue or imported soil etc present. Extract 1kg (approximately a 2L ice-cream container) final samples from each of the three mixed batches.
- Package and forward to the soil laboratory for testing, together with a site plan locating sources of soil samples and a record of any relevant details about the site and source locations.
- Type of Soil Test Required: Soil testing shall be undertaken in accordance with SESL specifications, for the purpose of analysing the characteristics and recommendations for use as a landscaping topsoil for a mixture of native species, exotic species, and turfing.
- Lead time: Allow a minimum of five full working days for completion of soil testing, and check with laboratory to ensure testing will not delay landscaping works. Supply soil tests to Company Representative once available.

Soil testing is to be done as per SESL specifications. Testing to include:
- USGA PSA Sieve & Hydrometer
- HC3 Hydraulic Conductivity @ 3 pts (8,16,32 drops)
- LP_4419 Large Particles by 4419
- TOC_DC Total Organic Carbon (Dumas C)
- Watt_4419 Wettability by 4419
- Disp_4419 Dispersibility by 4419
- ECEC_NH4Cl Exchangeable Cations & Soluble correction (was CECACSOL)
- EC_Sol Electrical Conductivity 1:5 Ratio
- P_M3 Phosphorus in M3 by ICP I
- NO3_Sol Soluble Nitrate

L11.0 SUBSOIL PREPARATION - LANDSCAPE
CULTIVATION: Cultivate bases of planting holes and beds 150mm, do not use augers unless followed with cultivation of sides and base. Do not disturb services or tree roots; if necessary cultivate these areas by hand. Cultivate manually within 300 mm of paths or structures. Remove stones exceeding 25 mm, clods of earth exceeding 50 mm, and any weeds, rubbish or other deleterious material brought to the surface during cultivation. Trim the surface to the required design levels after cultivation.

L12.0 SUBSOIL ADDITIVES - LANDSCAPE
ADDITIVES: Apply required additives to stockpiled site topsoil as required by soil tests.
Topsoil:
Where topsoil is to be stockpiled for reuse, incorporate additives as recommended in soil testing by cultivating through the topsoil. For excavated garden beds or backfill to planting holes, incorporate additives into stockpiled topsoil prior to placement.
Subsoil:
Incorporate additives as recommended in soil testing by cultivating through the subsoil.

L13.0 SOIL - LANDSCAPE
DEFINITIONS: (From AS 4419 - 1998. Soils for landscaping and garden use)
- TYPE 01 General purpose soil: A soil which is suitable for the growing of domestic plants.
- TYPE 02 Premium garden soil: A general purpose soil that contains additional organic matter (min 10% OM)
- TYPE 03 Topsoil: the original surface layer of soil from grassland, bushland or cultivated land.

Soil for the landscape works shall be free from weeds including but not limited to, onion weed, nut grass, clover, wandering jew, bindi and oxalis. The landscape contractor shall obtain a certificate from the soil supplier that the soil provided for the project is weed free and be made available to the client if requested. Soil shall be assumed to be placed to all mass planting bed areas and individual tree planting locations. The landscape contractor is responsible for the removal and or disposal of all spoil or excess soil excavated in the process of implementing the landscape works. Soils shall comply with the texture classification 'Medium - (sandy Loam)' or 'Coarse - (sandy soil)'

L14.0 SOIL LEVELS
Finished soil levels shall allow turf or mulch to be finished level to the top of timber edging, paving or concrete footpaths or as otherwise shown on drawings.

L15.0 PLACING SOIL - LANDSCAPE
PLACING: Place the approved soil on the prepared subsoil. Spread and grade evenly, making the necessary allowances so that the required finished levels and contours may be achieved after light compaction. Prevent areas of excess compaction being caused by constructional plant. Avoid differential subsidence and produce a finished soil surface which is:
at design levels;
- smooth and free from stones or lumps of soil;
- graded to drain freely, without ponding, to catchment points;
- graded evenly into adjoining ground surfaces; and
- ready for planting.

L16.0 COMPOST - LANDSCAPE
GENERALLY:
DESCRIPTION: Well rotted vegetable material or animal manure, or other approved material, free from harmful chemicals, grass and weed growth, and with a neutral Ph value.

L17.0 FERTILISER - LANDSCAPE
REQUIREMENT: Provide proprietary fertilisers, delivered to the site in sealed bags marked to show manufacturer or vendor, weight, fertiliser type, NPK ratio, recommended uses and application rates. Use in accordance with the manufacturer's recommendations.

SOFT LANDSCAPE WORKS

L18.0 PLANTS - LANDSCAPE
Supply plants to the following quality:
- are vigorous, well established, free from disease and pests, of good foliage, have large healthy root systems, with no evidence of root curl, restriction or damage.
- are hardened off, not soft or forced, and suitable for planting in the natural climatic conditions prevailing at the site.
- do not require staking to stand upright other than staking to control damage from strong winds or local conditions.
- Staking should then be as detailed on the drawings and provide free movement with support only to protect from excessive movement.

SUBSTITUTIONS: Make no substitutions.
LABELLING: Label at least one plant of each species or variety in a batch with a readable tag.
REPLACEMENTS: Using plants of the same type, quality and size, replace any plants which are damaged whilst being transported to the site or during the work under the Contract, or which fail or are rejected. Trees which are vandalised are to be replaced using the same type, quality and size.
STORAGE: Deliver plant material to the site on a day to day basis, and plant immediately after delivery. If this is not possible, keep the plants in good condition on the site, adequately protected from frost, wind, sun and vermin by appropriate storage methods including an on-site nursery of sufficient size, with provision for watering the stock.
POTTING-ON: Do not carry out potting-on unless authorised.

L19.0 PLANTING ESTABLISHMENT - LANDSCAPE
PERIOD: The Planting Establishment Period commences at the date of issue of a written certificate of practical completion from the superintendent.
PROGRAM: Furnish a proposed planting maintenance program with the tender.
LOG BOOK: Keep a log book recording when and what maintenance work has been done and what materials, including toxic materials, have been used. Make the log book available for inspection on request.
RECURRENT WORKS: Throughout the Planting Establishment Period, continue to carry out recurrent works of a maintenance nature including, but not limited to, watering, mowing, weeding, rubbish removal, fertilising, pest and disease control, staking and tying, replanting, cultivating, pruning and keeping the site neat and tidy.
REPLACEMENTS: Continue to replace failed, damaged or stolen plants for the extent of the Planting Establishment Period.
MULCHED SURFACES: Maintain the surface in a clean and tidy condition and reinstate the mulch as necessary.
SITE WATER: The contractor shall be responsible for sourcing, checking availability and if required importing water to maintain the plants during the plant establishment period as required under this specification.

L20.0 MULCH - LANDSCAPE
GENERALLY: Use mulch as scheduled which is free of deleterious and extraneous matter such as soil, weeds and sticks. Use organic mulches which are free of stones AND COMPLY WITH AUSTRALIAN STANDARDS SPECIFYING LESS THAN 5% FINES. Use fine well rotted mulch chipped on site, chip to match ANL 'Forest Blend' 20-40mm mulch. Additional mulch ANL 'Forest Blend' or equivalent.
APPLICATION: Place mulch to the required depth, clear of plant stems, and rake to an even surface flush with the surrounding finished levels.

SCHEDULE OF MATERIALS AND FINISHES

NOTE: Use proprietary items as specified below or similar item equal in workmanship, materials and design if approved by the Superintendent.

L21.0 SOIL SCHEDULE
If requested by the superintendent a basic soil test shall be carried out at the contractors expense to ascertain the physical and chemical properties of the proposed imported soil where no certificate of soil type is provided.

LOCATION	DEPTH	SOIL TYPE
Tree / Mass Planting	Top 300mm	Imported premium garden soil (10% Compost) Or site topsoil ameliorated as per soil test recommendations.
Tree / Mass Planting	Below 300mm	General purpose soil - sandy loam Or site topsoil ameliorated as per soil test recommendations.

NOTE:
WHERE TREES ARE PROPOSED A MINIMUM OF 600mm SOIL IS TO BE PROVIDED

L22.0 HOLD POINTS - CHECKS REQUIRED.
Landscape contractor shall provide superintendent notification of Checks on progress of the works required and obtain approval to proceed following checking of hold points below.

STAGE OF WORKS	REQUIRED WORK TO BE COMPLETED	NOTICE
Plant stock	All plants to be made available on site or at local nursery or holding area prior to planting	2 days
Subgrades	Excavated and cultivated with sub soil drainage lines installed prior to placing soil.	1 day
Planting works	Placement of planting and planting techniques	1 day
Completion	Completion of all hard and soft landscape works as documented on the drawings.	2 days
Maintenance period	Completion of plant establishment activities	2 days

L23.0 FERTILISER SCHEDULE

LOCATION	TYPE	N:P:K RATIO
Tree / Mass Planting	6 month slow release	18:2.6:10-Natives

L24.0 MULCH SCHEDULE

LOCATION	TYPE	DEPTH
Tree / Mass Planting	Equal to ANL 'Forest Blend' (COARSE 20-40mm)	75mm

L25.0 JUTE MESH / TREE PROTECTION SCHEDULE

LOCATION	TYPE	EQUAL TO
Tree / Mass Planting	MaxJute Thick	Treemax - MaxJute Thick

L26.0 PLANT ESTABLISHMENT SCHEDULE

AREA	PERIOD	NOTES
Tree / Mass Planting	52 weeks	from date of written acceptance of practical completion for landscape works

NOTE:
Landscape inspection to be undertaken 3 months after practical completion to determine the retention of existing trees within ZONE 1, should these trees require removal additional Casuarinas are to be planted as replacement.

rev no:	date:	comments:	by:	verified:
D	09.09.15	CC	GF	PW
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A	24.07.15	DRAFT	GF	PW

PROJECT: MAYFIELD WEST RECYCLING FACILITY
SITE: 80 TOURLE STREET MAYFIELD WEST
CLIENT: BENEDICT
DRAWING: LANDSCAPE SPECIFICATIONS

terras landscape architects

drawn:	scale:	no in set:	date:
GF	1:20@A1	3/3	09.09.15
checked:	project no:	drawing no:	revision:
CC	10944.5	L03	D

APPENDIX B
APPLICANT'S MANAGEMENT AND MITIGATION MEASURES

Key issue	Management measure
General	A public hand unloading area has been established outside of the northern end of the main processing shed to separate contactor and public tipping for safety reasons. Only light vehicles and trailers are permitted in the public hand unloading area. No heavy vehicles are permitted in this area. Currently unsealed areas within the site that are not part of the 'Area to remain unsealed and vegetated' will be progressively sealed with concrete or asphalt. Trucks delivering or picking up stored items will access the storage compounds on sealed access roads. Lighting in the southern car park will be designed to comply with AS 1158.
Rubbish and light waste	All light waste (including light waste within co-mingled waste) will be tipped inside the main processing shed. The access road between McIntosh Drive and the recycling facility site will be inspected daily to ensure that there is no rubbish is left along the access road (most likely food and beverage waste from drivers). The site boundary fences will be inspected daily and any wind-blown light waste within the site will be removed and sent to the main processing shed. Any rubbish found along the access road between McIntosh Drive and the recycling facility site will be removed promptly.
Security	The site's security measures will continue to be implemented, including deployment of guards when the site is not operating (including at night), use of remotely accessed security cameras and maintenance of fences and gates.
Air quality	The following management measures will continue to be implemented to minimise air quality impacts: • all existing sealed/hardstand areas will be retained; • water sprays will be used over any other bare or unsealed surfaces that have not yet been sealed and have the potential to generate unacceptable amounts of dust; • all vehicle movements will be restricted to designated routes marked out by appropriate signage and fencing using sealed internal roads; • access to unsealed areas will be prevented; • water sprays will be used at stockpiles, crushing and screening plants and during material handling as necessary; • a wheel wash in the weighbridge area will be used if required to clean truck tyres to prevent mud or sediment being carried to and deposited on the access road (and public roads); and • existing sheds will be used to undertake particulate generating activities where possible. Irrigation sprays will only used when the surface of a stockpile is dry and irrigation will be ceased when the surface is wet. Dust and odour control procedures, including current monitoring requirements, are detailed in the EMP (see EIS Appendix D).
Greenhouse gases	The following management measures will continue to be implemented to minimise greenhouse gases emissions: • on-site equipment will be regularly maintained and serviced to maximise fuel efficiency; • vehicle kilometres travelled on-site will be minimised; • energy efficiency will be progressively reviewed and, where necessary, changes will continue to be implemented throughout the life of the operations.
Noise	The following management measures will continue to be implemented to minimise noise emissions: • operations will be limited to the hours and types of operation approved; and • machinery will be correctly operated and maintained. Regular noise monitoring is conducted by the Site Leading Hand/Supervisor and any noise complaints received are referred to the Site Leading Hand/Supervisor and to the Site Manager. The two mobile screens in the segregated heavy waste processing and stockpiling area, the crusher/screen and the shredder will be operated no further south than 130 m from the northern site boundary. The two mobile screens in the segregated heavy waste processing and stockpiling area will not be operated simultaneously with the crusher/screen and shredder.

Key issue	Management measure
Traffic	Site generated traffic will continue to be formally directed to continue to travel only via Steel River Boulevard and McIntosh Drive when travelling within the Steel River estate. Benedict Recycling will continue to maintain the access road between McIntosh Drive and the Recycling Facility site in a fit and proper condition and to a suitable standard, repairing it when required at no cost to Ausgrid. This will include repairing any minor areas of surface rutting using 50 mm hot mix asphalt. Trucks will not be allowed to queue on the access road between McIntosh Drive and the Recycling Facility site.
Water	The perimeter drain, installed prior to Benedict Recycling occupying the site, captures runoff from all active areas of the site. The site soil and water management system includes: • prevention of runoff from external areas discharging across the site; • a perimeter drain with seven sedimentation basins; • a final sedimentation basin with outlet controls; • sock filters treating runoff prior to discharge into the perimeter drain; • flocculation of stored water in the basins as necessary; and • pumping water in the final sedimentation basin, after testing, to the discharge chamber to reduce water levels in the basin prior to forecast rain if required. Only commercially available non-toxic flocculants will be used at the site. Actions that will continue to be implemented to prevent impacts to water include: • water is used for dust suppression but is not used for product processing; • there are no significant excavations within the site; • regularly maintaining sock filters; • removal of sediment from the sedimentation basins when the sediment depth is greater than 200 mm; • recycling of sediment if of appropriate quality or disposal to a facility approved to accept contaminated sediment; • water in the final sedimentation basin is tested before a controlled discharge and, unless it overflows, is only be discharged if it meets water quality trigger values; and • water in the sedimentation basins is used for dust suppression to minimise the mains water required; • groundwater is not used. The following actions will be taken as part of the proposal: • the trees will be removed from the perimeter drain and the perimeter drain will be sealed; • the final sedimentation basin will be sealed; • additional storage volume will be provided as part of the works to seal the drain and final sedimentation basin volume; • the sedimentation basins in the perimeter drain will be upgraded. Poorly graded rock (50–150 mm diameter) will be used to form the sedimentation basin dams in the perimeter drain. The top of each dam will be approximately 0.5 to 1.0 m wide with the crest level approximately 0.3 m below the top of the perimeter drain to allow overflow into the next basin when the storage capacity is exceeded; • the sealed perimeter drain and final sedimentation basin will be inspected monthly to ensure that vegetation is not growing through the seal. If vegetation is found to be growing through the sides of the drain or basin, it will be removed and the seal repaired; • the segregated heavy waste processing and stockpiling area will be sealed with concrete or asphalt with the sealed area extending to the perimeter drain; • a bund will be erected around the segregated heavy waste processing and stockpiling area directing all runoff from the area to the perimeter drain; • any material in the sealed segregated heavy waste processing and stockpiling area that is not in a stockpile will be removed using a front end loader bucket; • the sealed segregated heavy waste processing and stockpiling area will be routinely swept using a sweeper; • bunds will be erected to direct surface runoff away from unsealed areas; and • concrete will be applied to the floor of the main processing shed where liquids may infiltrate to groundwater, eg through cracks.

Key issue	Management measure
	The following actions will be taken in respect to water discharge: • If water levels are between about 2 m and 3 m from the base of the sedimentation basin and meets water quality trigger values, water will be manually discharged from the final sedimentation basin using the outlet valve to maintain a freeboard in the final sedimentation basin. • Water in the final sedimentation basin will be tested before a controlled discharge and unless it overflows, it will only be discharged if it meets water quality trigger values. • When the basin is discharging, daily samples of the discharging water will be collected from the final basin outlet pipe and will be analysed in accordance with the discharge monitoring program. • A water level gauge will be installed in the final sedimentation basin. A Surface Water Monitoring and Mitigation Plan will be prepared that details: • meteorological monitoring; • water level monitoring; • validation monitoring; • routine monitoring; and • sediment monitoring. It will provide trigger values and responses, including treatment of site runoff prior to discharge and contingency measures.
Soils and contamination	No further ground excavation is anticipated so contaminated soil will not be disturbed. However, should excavation be required, the SMP for Subsurface Disturbance Activities (EIS Appendix E) will be implemented. The following measures will be implemented to prevent site activities exacerbating contamination of the site: • plant and equipment will be maintained to prevent hydrocarbon leaks; • plant maintenance will only occur in sealed areas where spills, should they occur, will be contained and cleaned up immediately using a spill response kit; • a spill response kit will be deployed next to maintenance activities; • vehicles parked in the storage compounds will be parked on sealed areas; and • maintenance activities that may result in the loss of fluids will be conducted within a shed with a sealed floor and at least 5 m from the nearest open doorway. The diesel tank will be installed in accordance with Australian Standards and will incorporate the following measures: • Prevention: – overfilling of tanks will be prevented through gauging or monitoring of the tank's contents; – hoses used for transfer of diesel will be regularly inspected; – tanks, vents and fittings will be inspected regularly and valves will be regularly overhauled (at periods not exceeding 10 years); and – there will be regular inspections of the tank and surrounds and any liquid inside the bunded areas will be removed as soon as practicable following established procedures. • Protection: – the diesel tank will be self-bunded (with a capacity of 10% more than the tank's capacity); – the bund will be large enough to contain a spillage in accordance with the requirement of AS1940 para 5.8; – the bund drain valve will be kept closed and locked except during supervised drainage, and a sign will be placed to display the need to keep the drain valve closed and locked; – the tank will be enclosed by colourbond (or similar) walls to prevent leaks in the site of the tank spraying outside of the bund; – diesel pumps will be designed such that the discharge pressure cannot exceed design limit of pump or piping in the case of dead heading (shut-off at the pump discharge); – an emergency shut-off device will be provided on each pump;

Key issue	Management measure
	– provision will be made to quickly shut off the flow of liquid from the storage tank to a consuming device in an emergency. The shut off valve will comply with para 6.3.3 in AS1940, including resistance in a fire; and – diesel pumps will be designed such that the discharge pressure cannot exceed design limit of pump or piping in the case of dead heading (shut-off at the pump discharge). • Refuelling: – mobile plant will be refuelling within a bunded area with runoff from within the bund reporting to a oil-water separator; – the refuelling area will be covered by an awning so that rainwater does not enter the refuelling area; – there will be a diesel spill kit stored at the bowser; and – in the case of a spill, used absorbent material will be disposed at an appropriately licensed waste facility.
Visual	As part of the construction of the recycling facility, the following management measures were implemented to minimise potential visual impacts to the surrounding area: • *Casuarina sp.* were planted along the northern boundary and the northern section of the western boundary of the site to mitigate visual impacts from viewpoints to the north, north-east and west; and • rubbish from around the site boundaries was removed. • Litter is removed from the site on a regular basis and a number of litter control measures are listed within the EMP (EIS Appendix D). • Irrigation pipes have been installed and screening vegetation will be watered if required to maintain healthy growth. • Screening vegetation will be visually inspected and additional trees will be planted to ensure effective screening if required.

Appendix B: EPA Licence

Environment Protection Licence

Licence - 20771

Licence Details	
Number:	20771
Anniversary Date:	25-May

Licensee

BENEDICT RECYCLING PTY LIMITED

PO BOX 431

FRENCHS FOREST NSW 1640

Premises

BENEDICT RECYCLING MAYFIELD WEST

1A MCINTOSH DRIVE

MAYFIELD WEST NSW 2304

Scheduled Activity

Resource recovery

Waste storage

Fee Based Activity	Scale
Recovery of general waste	Any general waste recovered
Waste storage - other types of waste	Any other types of waste stored

Region

Waste & Resource Recovery

59-61 Goulburn Street
SYDNEY NSW 2000

Phone: (02) 9995 5000

Fax: (02) 9995 5999

PO Box A290

SYDNEY SOUTH NSW 1232

Environment Protection Licence

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Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

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The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

BENEDICT RECYCLING PTY LIMITED
PO BOX 431
FRENCHS FOREST NSW 1640

subject to the conditions which follow.

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1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Resource recovery	Recovery of general waste	Any general waste recovered
Waste storage	Waste storage - other types of waste	Any other types of waste stored

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
BENEDICT RECYCLING MAYFIELD WEST
1A MCINTOSH DRIVE
MAYFIELD WEST
NSW 2304
LOT 1 DP 874109

A3 Information supplied to the EPA

A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:
a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and
b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

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2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

P1.1 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

P1.2 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

Water and land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
1	Final Sediment Basin	Final Sediment Basin	Final sediment basin in north-western corner of the site. (See DOC18/798710)

P1.3 The following points referred to in the table below are identified in this licence for the purposes of weather and/or noise monitoring and/or setting limits for the emission of noise from the premises.

Noise/Weather

EPA identification no.	Type of monitoring point	Location description
2	Noise monitoring	R1 - Kerr Street
3	Noise monitoring	R2 - Woodstock Street - north/east
4	Noise monitoring	R3 - Woodstock Street - north/west
5	Noise monitoring	R4 - Simpson Court
6	Noise monitoring	R5 - Shelley Close
7	Noise monitoring	R6 - Groongal Street - East
8	Noise monitoring	R7 - Groongal Street
9	Noise monitoring	R8 - Groongal Street
10	Noise monitoring	R9 - Gregson Avenue
11	Noise monitoring	R10 - Gregson Avenue
12	Noise monitoring	R11 - 80 Gregson Avenue
13	Noise monitoring	R12 - Terry Street
14	Noise monitoring	R13 - Olearia Cresent

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15	Noise monitoring	Mayfield West Primary School
16	Noise monitoring	Church of Christ
17	Noise monitoring	Scout Hall
18	Meteorological Station – to determine meteorological conditions for noise monitoring	

Note: Locations referred to in the table above are consistent with the Noise Impact Assessment - Recycling Facility, 80 Tourle Street, Mayfield West by EMM Consulting (Report J14152RP1) dated 15 September 2016.

3 Limit Conditions

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Concentration limits

L2.1 For each monitoring/discharge point or utilisation area specified in the table\s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

L2.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.

L2.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\s.

L2.4 Water and/or Land Concentration Limits

POINT 1

Pollutant	Units of Measure	50 Percentile concentration limit	90 Percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Oil and Grease	milligrams per litre				10
pH	pH				6.5-8.5

Total suspended solids	milligrams per litre	50

L3 Waste

L3.1 The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled “Waste” and meeting the definition, if any, in the column titled “Description” in the table below.
Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled “Activity” in the table below.
Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled “Other Limits” in the table below.
This condition does not limit any other conditions in this licence.

Code	Waste	Description	Activity	Other Limits
NA	General solid waste (non-putrescible)	Basic Oxygen Slag Electric Arc Furnace Slag Electric Arc Ladle Slag Granulated Blast Furnace Slag Rail Ballast	Resource recovery Waste storage	These waste types can only be received at the premises if the waste does not contain any contaminant levels exceeding the limits for General Solid Waste stated in the EPA's Waste Classification Guidelines Part 1: Classifying Waste.
NA	General solid waste (non-putrescible)	Excavated Natural Material	Resource recovery Waste storage	These waste types can only be received at the premises if the waste does not contain any contaminant levels exceeding the limits for General Solid Waste stated in the EPA's Waste Classification Guidelines Part 1: Classifying Waste.

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NA	General solid waste (non-putrescible)	Soils that meet the CT1 thresholds for General Solid Waste in Table 1 of the Waste Classification Guidelines as in force from time to time with the exception of the maximum threshold values for contaminants specified in the 'Other Limits" column	Resource recovery Waste storage	Arsenic: 40mg/kg Cadmium: 2mg/kg Copper: 200mg/kg Mercury 1.5mg/kg Zinc: 600mg/kg Petroleum Hydrocarbons C6-C9: 150mg/kg Petroleum Hydrocarbons C10-C36: 1600mg/kg Polycyclic aromatic hydrocarbons: 80mg/kg Polychlorinated biphenyls (individual): 1mg/kg No acid sulphate soil is to be received at the premises.
NA	General solid waste (non-putrescible)	Grit, sediment, litter and gross pollutants collected in, and removed from, stormwater treatment devices and/or stormwater management systems, that has been dewatered so that they do not contain free liquids.	Resource recovery Waste storage	
NA	General solid waste (non-putrescible)	Biosolids categorised as unrestricted use, or restricted use 1,2 or 3.	Resource recovery Waste storage	
NA	General solid waste (non-putrescible)	Household waste from municipal clean-up that does not contain putrescible waste.	Resource recovery Waste storage	
NA	General solid waste (non-putrescible)	Cement Fibre Board	Resource recovery Waste storage	
NA	General solid waste (non-putrescible)	Concrete Batch Plant Waste	Resource recovery Waste storage	
NA	General solid waste (non-putrescible)	Paper or cardboard	Resource recovery Waste storage	
NA	General solid waste	Glass, plastics, rubber,	Resource recovery	

	(non-putrescible)	plasterboard, ceramics, brick, concrete or metal	Waste storage
NA	General solid waste (non-putrescible)	Wood waste	Resource recovery Waste storage
NA	General solid waste (non-putrescible)	Garden waste	Resource recovery Waste storage
NA	General solid waste (non-putrescible)	Asphalt Waste	Resource recovery Waste storage
NA	General solid waste (non-putrescible)	Virgin Excavated Natural Material	Resource recovery Waste storage
NA	General solid waste (non-putrescible)	Building and demolition waste	Resource recovery Waste storage

L3.2 The premises may accept up to 315,000 tonnes of general solid waste (non-putrescible) per annum

Authorised Amount

L3.3 Notwithstanding any limit specified in the above table, the licensee shall not exceed the authorised amount specified in this licence. Where the authorised amount is less than the total of all wastes listed above, the authorised amount will take precedent.

L3.4 The authorised amount of waste permitted on the premises cannot exceed 53,733 tonnes at any one time.

L3.5 All waste stockpiles occurring as part of the operation at the premises must be no greater than 7.0 metres in height.

L3.6 All waste activities, including unloading, loading, processing and stockpiling of wastes, is only permitted within the area as identified as the Development Area in the State Significant Development 7698 - Appendix A Plans - Development Layout Plan.

L4 Noise limits

L4.1 Noise limits

LOCALITY	DAY LAeq (15 minutes)	Evening LAeq (15 minutes)	Night LAeq (15 minutes)	Night Amax
R1	48	40	40	51
R2	49	41	41	52
R3	47	39	39	51
R4	47	39	39	50
R5	50	42	42	53
R6	48	41	41	51
R7	48	41	41	52

R8	48	40	40	52
R9	49	42	42	52
R10	49	41	41	51
R11	49	42	42	52
R12	42	41	41	48
R13	40	36	36	47
Mayfield West Primary School	Internal 35 dB(A) - Noisiest 1 hour period (when in use)			
Church of Christ	Internal 40 dB(A) - Noisiest 1 hour period (when in use)			
Scout Hall	External 55 dB(A) - (when in use)			

L4.2 For the purpose of condition L4.1:
- Day is defined as the period from 7 a.m. to 6 p.m. Monday to Saturday and 8 a.m. to 6 p.m. Sunday and Public Holidays.
- Evening is defined as the period 6 p.m. to 10 p.m.
- Night is defined from 10 p.m. to 7 a.m. Monday to Saturday and 10 p.m. to 8 a.m. Sunday and Public Holidays.

L4.3 The noise limits set out in condition L4.1 apply under all meteorological conditions except for the following:
a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or
b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
c) Stability category G temperature inversion conditions.

L4.4 To determine compliance:
a) the Leq(15 minute) noise limits in condition L4.1, the noise measurement equipment must be located:
- approximately on the property, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or
- within 30 metres of a dwelling façade, but not closer than 3 metres, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or where applicable
- within approximately 50 metres of the boundary of a National Park or Nature Reserve.
b) with any LAmax in condition L4.1, the noise measurement equipment must be located within 1 metre of a dwelling façade.
c) with the noise limits in condition L4.1, the noise measurement equipment must be located:
- at the most affected point at a location where there is no dwelling at the location; or
- at the most affected point within an area at a location prescribed by conditions L4.4(a) or L4.4(b).

L4.5 A non-compliance of conditions L4.1 will still occur where noise generated from the premises in excess of the appropriate limit is measured:
- at a location other than an area prescribed by conditions L4.4(a) and L4.4(b); and/or
- at a point other than the most affected point at a location.

Note: For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.

L4.6 The crusher and shredder are only permitted to be operated in the segregated heavy waste processing and stockpiling area, no further south than 130 m from the northern site boundary in accordance with the State Significant Development 7698 - Appendix A Plans - Location of Crusher, Shredder and Screens.

L4.7 The mobile screens in the segregated heavy waste processing area and stockpiling area must not be operated simultaneously with the crusher or shredder.

L5 Hours of operation

L5.1 Hours of operation

ACTIVITY	DAY	TIME
Construction	Monday to Friday	7 a.m. to 6 p.m.
	Saturday	8 a.m. to 1 p.m.
	Sundays and Public Holidays	Not Permitted
Waste Receival	Monday to Friday	6 a.m. to 6 p.m.
	Saturday	6 a.m. to 5 p.m.
	Sundays and Public Holidays	7 a.m. to 3 p.m.
Waste Processing	Monday to Friday	6 a.m. to 6 p.m.
	Saturday	6 a.m. to 5 p.m.
	Sundays and Public Holidays	Not Permitted
Waste Despatch	Monday to Friday	6 a.m. to 6 p.m.
	Saturday	6 a.m. to 5 p.m.
	Sundays and Public Holidays	Not Permitted

L5.2 Works outside the hours identified in condition L5.1 may be undertaken in the following circumstances:
i. the works are inaudible at the nearest sensitive receivers; or
ii. for the delivery or dispatch of materials as requested by the NSW Police Force or other public authorities for safety reasons; or
iii. where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

L5.3 Waste receival is permitted on a 24-hour per day basis on limited occasions to facilitate major infrastructure projects. Limited occasions is defined as:
i) no greater than six times per year; and
ii) only for a period of less than two weeks in length for each occasion.

L5.4 The EPA must be notified no later than 48 hours prior to each of the 24-hour waste receival periods referred to in condition L5.3 along with a description of the major infrastructure projects which necessitate the 24-hour operations.

4 Operating Conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.
This includes:
a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:
a) must be maintained in a proper and efficient condition; and
b) must be operated in a proper and efficient manner.

O3 Dust

O3.1 Activities occurring in or on the premises must be carried out in a manner that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.

O3.2 Trucks entering and leaving the premises that are carrying loads of dust generating materials must have their loads covered at all times, except during loading and unloading.

O3.3 No material including sediment is permitted to be tracked from the premises.

O4 Emergency response

O4.1 A copy of the current version of the Pollution Incident Response Management Plan (PIRMP) for the premises must be kept at the premises.

Note: A PRIMP is required under Part 5.7A of the *Protection of the Environment Operations Act* 1997 and its regulations. The PIRMP must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment. The PIRMP must be tested at least annually or following a pollution incident.

O5 Processes and management

O5.1 A litter management program must be implemented, which includes litter patrol to ensure that the local amenity is not degraded.

Bunding

O5.2 All above ground tanks containing material capable of causing harm to the environment must be stored within a bund or within an alternative spill containment system that achieves the same outcome.

O5.3 Bunds must:
a) have walls and floors constructed of impervious materials;
b) be of sufficient capacity to contain 110% of the volume of the tank (or 110% volume of the largest tank where a group of tanks are installed);
c) have floors graded to a collection sump; and
d) not have a drain valve incorporated in the bund structure,

or be constructed and operated in a manner that achieves the same environmental outcome.

Surface Water Management

O5.4 A surface water management system must be operated and maintained at the premises at all times.

O5.5 The surface water management system must be maintained to minimise the infiltration of surface water to groundwater. This includes inspecting the surface water infrastructure monthly for cracking and vegetation breakthrough, removing the vegetation and sealing the surface water infrastructure.

O5.6 The final sediment basin must be maintained with a minimum capacity to contain the 90th percentile rainfall over any consecutive 5-day period in accordance with *Managing Urban Stormwater - Soils and Construction Vol.* 2B: Waste landfills.

O5.7 A visible marker must be installed and maintained in the final sediment basin in a position that shows freeboard in the basin that equates to the volume required to contain all rainfall and runoff in the catchment from a 90th percentile rainfall event over any consecutive 5-day period.

O6 Waste management

O6.1 All putrescible waste received at the premises must be:
a) stored in an enclosed vessel; and
b) disposed of, to a place that can lawfully receive that waste, within 24 hours of receipt.

O6.2 Waste collected at the premises that is unable to be recycled, must not be stored at the premises and must be taken to a lawful waste facility at least once a week.

O6.3 All co-mingled waste (to include but not limited to metals, shredded wood products, glass and non-recyclable residues) received at the Premises must be unloaded, processed and stockpiled within an enclosed processing shed.

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5 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:
a) in a legible form, or in a form that can readily be reduced to a legible form;
b) kept for at least 4 years after the monitoring or event to which they relate took place; and
c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
a) the date(s) on which the sample was taken;
b) the time(s) at which the sample was collected;
c) the point at which the sample was taken; and
d) the name of the person who collected the sample.

M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

M2.2 Water and/ or Land Monitoring Requirements

POINT 1

Pollutant	Units of measure	Frequency	Sampling Method
Oil and Grease	milligrams per litre	Daily during any discharge	Grab sample
pH	pH	Daily during any discharge	Grab sample
Total suspended solids	milligrams per litre	Daily during any discharge	Grab sample

M3 Testing methods - concentration limits

M3.1 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a

pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

M4 Weather monitoring

M4.1 At the point(s) identified below, the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1 of the table below, using the corresponding sampling method, units of measure, averaging period and sampling frequency, specified opposite in the Columns 2, 3, 4 and 5 respectively.

POINT 18

Parameter	Sampling method	Units of measure	Averaging period	Frequency
Temperature at 2 metres	AM-4	degrees Celsius	1 hour	Continuous
Temperature at 10 metres	AM-4	degrees Celsius	1 hour	Continuous
Wind Direction at 10 metres	AM-2 & AM-4	Degrees	15 minutes	Continuous
Wind Speed	AM-2 & AM-4	metres per second	15 minutes	Continuous
Sigma Theta	AM-2 & AM-4	Degrees	15 minutes	Continuous
Rainfall	AM-4	millimetres	15 minutes	Continuous
Relative humidity	AM-4	percent	1 hour	Continuous

M5 Recording of pollution complaints

M5.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M5.2 The record must include details of the following:
a) the date and time of the complaint;
b) the method by which the complaint was made;
c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
d) the nature of the complaint;
e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
f) if no action was taken by the licensee, the reasons why no action was taken.

M5.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M5.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M6 Telephone complaints line

M6.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M6.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M6.3 The preceding two conditions do not apply until one month after the date of the issue of this licence.

M7 Noise monitoring

M7.1 To assess compliance with the noise limits specified within this licence, the licensee must undertake operator attended noise monitoring at each specified noise monitoring point in accordance with the table below.

POINT 5,9,12

Assessment period	Minimum frequency in a reporting period	Minimum duration within assessment period	Minimum number of assessment period
Day	Quarterly	15 minutes	1 operation day
Evening	Quarterly	15 minutes	1 operation day
Night	Quarterly	15 minutes	1 operation day

6 Reporting Conditions

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

1. a Statement of Compliance,
2. a Monitoring and Complaints Summary,
3. a Statement of Compliance - Licence Conditions,
4. a Statement of Compliance - Load based Fee,
5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

R1.3 Where this licence is transferred from the licensee to a new licensee:
a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

R1.5 The Annual Return for the reporting period must be supplied to the EPA via eConnect *EPA* or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.7 Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
a) the licence holder; or
b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

R2 Notification of environmental harm

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
a) where this licence applies to premises, an event has occurred at the premises; or
b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:
a) the cause, time and duration of the event;
b) the type, volume and concentration of every pollutant discharged as a result of the event;
c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

R4 Other reporting conditions

Noise Monitoring Report

R4.1 A noise compliance assessment report must be submitted to the EPA within 30 days of the completion of the quarterly monitoring. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include:
a) as assessment of compliance with noise limits for R5,R9 and R12; and
b) an outline of any management actions taken within the monitoring period to address any exceedences of the noise limits for R5, R9 and R12.

7 General Conditions

G1 Copy of licence kept at the premises or plant

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

8 Special Conditions

E1 Financial Assurance

E1.1 A financial assurance in the form of an unconditional and irrevocable and on demand guarantee from a bank, building society or credit union operating in Australia as “Authorised Deposit-taking Institutions” under the*Banking Act 1959* of the Commonwealth of Australia and supervised by the Australian Prudential regulatory Authority (APRA) must be provided to the EPA prior to the issue of the licence. The financial assurance must be in favour of the EPA in the amount of three hundred and thousand dollars ($300,000). The financial assurance is required to secure or guarantee funding for works or programs required by or under this licence.

The licensee must provide to the EPA an initial financial assurance in favour of the EPA the amount of one hundred thousand dollars ($100,000) within one (1) month of the issue of this licence.

An additional one hundred thousand dollars ($100,000) must be provided in favour of the EPA to the EPA within 12 months from the licence issue dates.
A final one hundred thousand dollars ($100,000) must be provided in favour of the EPA to the EPA within 24 months from the licence issue date.

E1.2 The licensee must provide to the EPA, along with the original counterpart guarantee, confirmation in writing that the financial institution providing the guarantee is subject to supervision by the Australian Prudential Regulatory Authority (APRA).

E1.3 The financial assurance must contain a term that provides that any money claimed can be paid to the EPA or, at the direction of the EPA, to any other person.

E1.4 The financial assurance must be maintained during the operation of the facility, and thereafter, until such time as the EPA is satisfied the premises is environmentally secure.

E1.5 The financial assurance must be replenished by the full amount claimed or realised if the EPA has claimed on or realised the financial assurance or any part of it to undertake a work or program required to be carried out by the licence which has not been undertaken by the licence holder.

E1.6 The EPA may require an increase in the amount of the financial assurance at any time as a result of reassessment of the total likely costs and expenses of rehabilitation of the premises.

E1.7 The licensee must provide to the EPA the original counterpart guarantee within five working days of the issue of:

a) the financial assurance required by condition E1.1, and
b) the adjusted financial assurance, also required by condition E1.1.

E1.8 The EPA may claim on a financial assurance under s303 of the POEO Act if a licensee fails to carry out any work or program required to comply with the conditions of this licence.

E2 Environmental Obligations of Licensee

E2.1 While the licensee's premises are being used for the purpose to which the licence relates, the licensee must:
a) Clean up any spill, leak or other discharge of any waste(s) or other material(s) as soon as practicable after it becomes known to the licensee or to one of the licensee's employees or agents.
b) In the event(s) that any liquid and non-liquid waste(s) is unlawfully deposited on the premises, such waste(s) must be removed and lawfully disposed of as soon as practicable or in accordance with any direction given by the EPA.
c) Provide all monitoring data as required by the conditions of this licence or as directed by the EPA.

E2.2 In the event of an earthquake, storm, fire, flood or any other event where it is reasonable to suspect that a pollution incident has occurred, is occurring or is likely to occur, the licensee (whether or not the premises continue to be used for the purposes to which the licence relates) must:
a) make all efforts to contain all firewater on the licensee's premises,
b) make all efforts to control air pollution from the licensee's premises,
c) make all efforts to contain any discharge, spill or run-off from the licensee's premises,
d) make all efforts to prevent flood water entering the licensee's premises,
e) remediate and rehabilitate any exposed areas of soil and/or waste,
f) lawfully dispose of all liquid and solid waste(s) stored on the premises that is not already securely disposed of,
g) at the request of the EPA monitor groundwater beneath the licensee's premises and its potential to migrate from the licensee's premises,
h) at the request of the EPA monitor surface water leaving the licensee's premises; and
i) ensure the licensee's premises is secure.

E2.3 After the licensee's premises cease to be used for the purpose to which the licence relates or in the event that the licensee ceases to carry out the activity that is the subject of this licence, that licensee must:
a) remove and lawfully dispose of all liquid and non-liquid waste stored on the licensee's premises; and
b) rehabilitate the site so that its contamination status is no worse than that described in the Site Audit Report - Former EMD Facility Mayfield West, prepared for Delta EMD, prepared by ENVIRON Australia Pty Ltd, November 2009, Audit Number: GN 397.

E3 EPA may claim on financial assurance

E3.1 The EPA may claim on a financial assurance under s303 of the POEO Act if a licensee fails to carry out

any work or program required to comply with the conditions of this licence or clean up notice issued under section 91 of the POEO Act.

Environment Protection Licence

Licence - 20771

Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

Environment Protection Licence

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flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environmen t Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 mo nths. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.

Environment Protection Licence

Licence - 20771

TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste

Ms Jenny Lange

Environment Protection Authority

(By Delegation)

Date of this edition: 25-May-2016

End Notes

2	Licence varied by notice	1544732 issued on 11-Oct-2016
3	Licence varied by notice	1563285 issued on 08-Nov-2018

Appendix C:
Endorsement of Audit Team

Ms Alycia Campbell
Environmental Compliance Officer
Benedict Recycling Pty Ltd
PO Box 10
MOOREBANK NSW 1875

Contact: Joel Curran
Phone: (02) 6575 3401
Email: joel.curran@planning.nsw.gov.au
compliance@planning.nsw.gov.au
Our ref: SSD 7698

Email: alycia@benedict.com.au

CC: Greg Thomson, mail@vgt.com.au

Dear Ms Campbell

Mayfield West Recycling Facility

SSD 7698 Condition B38 – Surface Water Audit

Reference is made to correspondence from Benedict Recycling Pty Ltd (Benedict) to the Department of Planning, Industry and Environment (the Department) on 23 March 2020 requesting the endorsement of a suitably qualified and experienced expert to carry out the Surface Water Audit (SWA), as per Schedule 2, Condition B38 of SSD 7698 (the consent) for the Mayfield West Recycling Facility (the facility).

The Department has reviewed the request and considers Ms Tara O'Brien to have the necessary skills and experience to carry out the SWA.

As per Schedule 2, Condition B39 of the consent, please submit the a copy of SWA report, together with a response to any recommendations, via the Department's Major Project Website (https://www.planningportal.nsw.gov.au/major-projects) by **25 June 2020**.

If you have any questions regarding the above, please contact Joel Curran, Senior Compliance Officer on the details above or compliance@planning.nsw.gov.au

Yours sincerely

HWatters 24/3/2020

Heidi Watters
Team Leader Northern
Compliance, Planning & Assessments

Appendix D:
Correspondence of Due Date Extension for SWA

Ms Alycia Campbell
Environmental Compliance Officer
Benedict Recycling Pty Ltd
PO Box 10
MOOREBANK NSW 1875

By Email Only: alycia@benedict.com.au

05/05/2020

Dear Ms Campbell

Mayfield West Recycling Facility (SSD 7698)
Extension of Time – Surface Water Audit

I refer to your request (SSD-7698-PA-9) for an extension of time (25 June 2020 to 25 July 2020) to submit the Surface Water Audit (SWA) for the Mayfield West Recycling Facility, as required under Schedule 2, Part B, Condition B39 of SSD 7698 (the Consent).

The Department of Planning, Industry and Environment (the Department) notes the following:

- Endorsement of Ms Tara O'Brien as a suitably qualified and experienced expert to carry out the SWA was given by the Department on 24 March 2020;
- Schedule 2, Part B, Condition B39 does not allow for an extension of time (3 months from commissioning) within which Benedict Recycling Pty Ltd must submit a copy of the audit report to the Department;
- Current COVID-19 restrictions have prevented Benedict Recycling Pty Ltd and Ms Tara O'Brien from completing the SWA as planned.

Submission of the SWA to the Department after 25 June 2020 would in normal circumstances be considered a breach of Schedule 2, Part B, Condition B39 of the Consent; however, given the current COVID-19 restrictions, in this case the Department would not look to pursue any enforcement action as a result of the breach.

Please submit the SWA to the Department via the Major Projects website by **25 July 2020.**

If you wish to discuss the matter further, please contact Joel Curran, Senior Compliance Officer on 02 4904 2702.

Yours sincerely
APPROVERSIGNATUREANDDETAILSWILLBEINSERTEDHERE

As nominee of the Planning Secretary

Appendix E:
Endorsement of Experts for SWCMP

NSW GOVERNMENT | Planning & Environment

Contact Name: Jeremy Slattery
Number: +612 8276 1296
Email: Jeremy.Slattery@planning.nsw.gov.au

Mr Ernest Dupere
Benedict Recycling Pty Ltd
PO Box 431
Frenchs Forest NSW 1640

Attention: Philip Towler
ptowler@emmconsulting.com.au

Dear Mr Dupere

Mayfield West Recycling Facility
Endorsement of Experts
(SSD 7698)

I refer to your correspondence dated 22 March 2018, seeking approval for Mr Mark Tooker of Tooker & Associates to design a Surface Water Management System (SWMS) and Mr Chris Kuczera of EMM to prepare a Surface Water Characterisation and Mitigation Plan (SWCMP), as required by SSD 7698 Conditions B25 and B33.

The Department has reviewed the qualifications of Mr Mark Tooker and considers he has the appropriate skills and experience to design the Surface Water Management System.

The Department has reviewed the qualifications of Mr Chris Kuczera and considers he has the appropriate skills and experience to prepare a Surface Water Characterisation and Mitigation Plan.

Should you have any queries in relation to this matter, please contact Jeremy Slattery, Environmental Officer on the above contact details.

Yours sincerely

C. Ritchie

Chris Ritchie
Director
Industry Assessments
as delegate of the Secretary

4/4/18.

Appendix F:
Condition B26 Compliance Certification- Tooker and Associates

TOOKER+
ASSOCIATES

Benedict Recycling Pty Ltd
Mayfield West Recycling Facility
1A McIntosh Drive, Mayfield West
Attention: Mr Peter Mills

22 June 2018

Dear Sir,

Area 1 Initial Tank and Holding Tanks Inspection

The expanded operations at the Mayfield West Recycling Facility were approved on the 13 March 2018 by the Minister of Planning as State Significant Development No. 7698. Schedule 2 Part B Consent Condition B25 entitled Surface Water Management System requires the water management system to be designed and constructed by a person endorsed by the Secretary. I have been endorsed by the Secretary for this purpose.

The surface water management system for the site has been divided into two separate areas. The bunded Area 1, "Potentially Contaminated Wastes Area", from which surface runoff will be captured in an initial tank (6m x 4m x 2m deep) and pumped to holding tanks with a capacity of 230,000L. Water in the holding tanks will be reused onsite for dust suppression and excess water will be discharged to the perimeter channel if the water has suitable quality. Any excess water which does not meet the water quality requirements will be discharged to the sewer.

The initial tank was proposed to be a three stage tank to aid settling of sediment. It was found that there was excessive turbulence in the first stage chamber so this chamber was enlarged to incorporate the first two stages into one stage with plan dimensions of 4m x 4m. This improves the initial settling behaviour in the tank. Also, the tank depth has been increased from 2m to 2.5m to further aid settling in the tank.

The Area 1 surface management equipment was inspected on the 21 June 2018. This letter is to confirm that the initial tank has been installed as a two stage tank with dimensions of 4m x 6m x 2.5m deep. Flocculation equipment has been installed to deliver flocculant to all areas of the tank to aid removal of particulate matter. A 29 L/s pump has been installed to transfer water from the initial tank to the holding tanks. Five holding tanks each with a capacity of 50,000L provides a storage capacity of 250,000L which is above the design volume required of 230,000m3. This volume was chosen because it suited the commercially available tank sizes. It is a favourable outcome because it will further reduce the potential for overflows. Drainage pipes are installed to deliver water from the tanks to the perimeter basin or to the sewer as required.

In accordance with Condition B26, I confirm that the Area 1 surface water management equipment has been installed to achieve the outcomes in the project approval.

Yours sincerely

Mark Tooker

Director

m 0409 912 631 e mark.tooker@tookerandassociates.com.au a 30 Walworth Avenue, Newport abn 39 619 046 070

Appendix G:
EPA Consultation

Environmental
Compliance
Solutions Pty Ltd

PO Box 2335 Greenhills NSW 2323
P (02)4028 6412 E mail@vgt.com.au
www.vgt.com.au ABN 26 621 943 888

Thursday, 14 May 2020

Waste and Resource Recovery Branch,
NSW EPA
117 Bull St,
Newcastle West NSW 2302

ATTN: Karen Gallagher

Dear Karen,

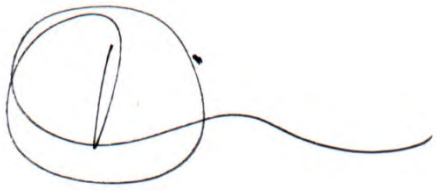
RE: Surface Water Audit for Benedict Recycling Mayfield SSD-7698

VGT Environmental Compliance Solutions Pty Ltd (VGT) has been engaged by Benedict Mayfield West Recycling Facility located on 1a McIntosh Drive, Mayfield West to conduct a Surface Water Audit as required by SSD-7698 Condition B38 (see attached consent).

Condition B38 requires that the Audit must be carried out in consultation with the EPA and as such, VGT invites the EPA to provide comment regarding the Audit scheduled to be undertaken on-site in June 2020. Note that all Consent Conditions and Management Plans and monitoring data may be obtained online on https://www.benedict.com.au/about/policies-compliance/.

If you have any questions or require more information, please do not hesitate to call me on 0429 33 44 71 or Alycia Campbell of Benedict Recycling on 0437 468 258.

Yours Sincerely



Tara O'Brien

DOC18/574595

Ms Kate Masters
Department of Planning and Environment
Industry Assessments
PO Box 39
SYDNEY NSW 2001
kate.masters@planning.nsw.gov.au

Standard and Electronic Mail
13 August 2018

Dear Ms Masters

Mayfield West Recycling Facility – SSD 7698 – Surface Water Characterisation Assessment

I refer to your email to the Environment Protection Authority (**EPA**) dated 26 July 2017, requesting comments on the Surface Water Characterisation Assessment and Mitigation Plan (**the Plan**), prepared by EMM Consulting for the Mayfield West Recycling Facility, located at 1A McIntosh Drive, Mayfield NSW (**the Premises**).

The EPA has reviewed the Plan and believes it contains several deficiencies which are set out in full in Attachment A.

The EPA considers however that the deficiencies can be addressed as part of the Surface Water Validation Report provided that appropriate contingency mitigation options are in place.

While the EPA acknowledges that the water management system has not yet been fully established, and that there has been limited data collected to date, there is an indication of a range of water quality risks in leachate and stormwater from the different waste types handled at the Premises. The EPA considers that the additional investigations proposed in the Plan are not an adequate response to the data and potential risk to water quality. In particular, the limited data, the limited range of analytes proposed for ongoing assessment, and the quality and frequency of managed overflows are areas of risk to be further addressed.

The recommendations in Attachment A include suggestions for additional investigations and consideration of mitigation measures and contingencies to improve the proposed validation monitoring and reporting process. If Benedict Recycling can address the issues in Attachment A and include the recommended additional investigations and contingencies in the proposed Surface Water Validation Reporting process, then the EPA considers that the validation program could proceed with the expanded operations. This would allow data to be collected from an operational water management system, with representative rainfall events and site activities representative of expanded operations.

If you have any further questions in relation to this matter please contact Karen Gallagher on 02 49086822.

Yours sincerely

STEVEN JAMES
Unit Head, Waste Compliance - Hunter
Environment Protection Authority

Enclosed: Attachment A

Attachment A

Technical Advice Water (TAW) advice on the Surface Water Characterisation and Mitigation Plan (the Plan) for Mayfield West Recycling expansion

The Plan does not set out the types of material to be handled in Area 1 compared to Area 2. The information on the materials that will constitute "potentially contaminating wastes" to be handled in Area 1 appear to be defined in an EMM letter of 8 September 2017 (Doc ref: J14152_EPA_08Sep17_PT, Section 2.1). This information, and information on material to be handled in Area 2, should be carried over into operational plans for the site.

It should be noted that the Area 1 water management system was not functional during sampling for the Plan and a trade waste agreement was not in place as proposed in the approved design.

It is recommended that:

- *the types of materials that will be handled in Areas 1 and 2 are specified in operational plans including a clear definition of what constitutes "potentially contaminating wastes" that will be handled in Area 1*
- *the water management system be fully established and material to be handled moved to the target area to properly inform the validation monitoring; and*
- *a trade waste agreement is put in place in a timely manner, plus contingencies put in place if this cannot be achieved.*

Treatment system design

It is noted that the holding tanks design is inconsistent with the development consent and the Plan now refers to a two-stage pit rather than a three-stage pit. It is difficult to determine if an additional pit could further improve water quality as it is noted that the capacity and two-stage pit is also greater than the previously proposed three-stage pit, which could increase retention times.

If there is potential for reduced treatment performance of a two-stage pit compared to a three-stage pit, the result may be a need for greater frequency and volume of discharges to sewer.

It is recommended that adequate contingencies be considered for implementation if the validation report results continue to show analytes above relevant trigger values, including additional pits or other treatment measures, at source controls and/or increased runoff capture volumes to minimise the frequency of managed overflows. All practical measures to improve water quality should be implemented.

Receiving water

Section 4.4.1 states that "*Both controlled discharges and uncontrolled overflows will drain into the southern arm of the Hunter River Estuary. The Hunter River Estuary at the discharge location receives strong tidal flows and associated tidal flushing. The receiving water is therefore considered to be a marine environment. Due to the strong tidal flows, the potential for site discharges to alter the water quality in the Hunter River Estuary are considered to be negligible*."

This is not an appropriate conclusion regarding potential impacts on the environment.

It is recommended that if dilution in the environment is considered then appropriate modelling of the mixing process would be required to demonstrate that ANZECC trigger values are achieved at the edge of a near field mixing zone and that there were no impacts within the mixing zone such as objectionable deposits or bioaccumulation.

Water characterisation (Section 4.5)
PAHs

Section 4.4.3 states that: "*It is noted that PAHs were below the LOR in all samples except for Event 4 (collect from the two-stage pit) which identified levels of some PAHs that are similar to the low reliability trigger values that are reported in Section 8.3 of Volume 2 of ANZECC (2000). As no PAHs were detected in samples from the sediment basin, PAHs are not considered to be potential analytes of concern*."

Rather than discounting PAHs as potential analytes of concern, the results may be indicative of a general site risk, including:

- a range of potential pollutants periodically introduced from materials handled onsite
- some PAHs are bioaccumulative therefore even if PAHs are not detected in the sediment basin that does not necessarily mean that risks cannot develop over time in the basins or in the receiving environment.
- the sewer discharge is still not in place and therefore currently any detections of PAHs in the two-stage tank system can not be appropriately managed.

It is noted that for one sample (sample ID ES1817001-001) that benzo(a)pyrene TEQ was calculated to be 2.9 µg/L. This analyte has a low reliability trigger value of 0.2 µg/L.

The limited data set so far for PAHs does not provide a basis for removing it from the ongoing discharge analyte list at this point.

It is recommended that PAHs remain part of the ongoing discharge monitoring and verification monitoring programs until it can be adequately demonstrated that this pollutant does not represent a risk to receiving waters.

Oil and grease

The Plan states that "*Oil and grease concentrations ranged from below detection to 78 mg/l. Three of the six samples exceeded the EPL limit of 10 mg/l. As TPHs and TRHs were generally below detection, the oil and grease is not expected to be associated with hydrocarbons. The laboratory method used to measure oil and grease uses an organic solvent to extract hydrocarbons from the sample. The organic solvent also extracts other non-hydrocarbon related organic substances. The source of elevated oil and grease is likely to be associated with the elevated levels of suspended sediment. However, this requires further assessment*."

While these oils and greases may contribute to suspended solids or be associated with them, suspended solids are not the source of the oil and grease.

Nutrients

Section 4.5.1 states that concentrations of nitrogen and phosphorus were generally similar to untreated stormwater runoff from urban areas. Comparison with pollutant levels in urban stormwater is not an appropriate approach to considering the potential impacts of a discharge from licensed premises. Section 45 of the POEO Act requires discharges to be considered on a case and site-specific basis with reference to the receiving waters, including a requirement to consider the maintenance or restoration of the relevant environmental values.

The mitigation assessment therefore does not appropriately account for the potential risks of nutrients.

It is recommended that the ongoing discharge monitoring, verification monitoring and validation report address nutrient risks. Results for ammonia and oxides of nitrogen should also be considered.

Metals and inorganics

A range of metals exceeded the ANZECC trigger values, e.g. aluminium, cobalt, copper, lanthanum, strontium and zinc and are proposed for ongoing discharge monitoring and validation monitoring.

Copper and zinc
Copper and Zinc were detected in the sediment basins in one sample at levels that may be acutely toxic at the point of discharge. It is stated that this sampling event was after wet weather not during wet weather, however, if it is detected in a discharge basin then there is potential for elevated levels to be in controlled discharges or managed overflows.

It is recommended that copper and zinc be considered for licence limits and immediate actions taken to reduce potential levels in discharges (including bringing forward the implementation of the proposed further investigations in the Plan for zinc and copper such as use of flocculants). Where necessary, following validation monitoring further treatment or mitigation options may be necessary.

Fluoride
The Plan states that "*fluoride levels exceed the low reliability trigger value in all samples. This low reliability trigger value is often exceeded indicating that the low reliability trigger value of 0.115 mg/l requires further investigation*." Based on new ecotoxicity information on fluoride available to the EPA, a trigger value of 2.4 mg/L can be used in the ongoing assessment.

Acute trigger values
Section 4.5.2 – "Assessment of metals and inorganics", states that discharges "… *are expected to occur for a short period of time (ie less than 4 days). Accordingly, potential receiving water quality risks associated with site discharge are considered to be acute (ie due to short term exposure) rather than chronic (ie due to long term exposure)."*

This conclusion is not appropriate for the following reasons:

- Consistent with the National Water Quality Management Strategy policies and principles, EPA policy is that the NSW Water Quality Objectives (and therefore the relevant ANZECC trigger values) should be met at the edge of a near field mixing zone and if no mixing zone is available or defined then the ANZECC trigger values should be achieved at the point of discharge.
- There are matters under s45 of the POEO Act that require consideration, including the practical measures available to avoid, minimise and mitigate pollution.
- Repeated exposure to ongoing controlled discharges and managed overflows would constitute a chronic exposure in receiving waters, including any small waterway carrying the wastewater to the river and habitats around the discharge point.
- There is potential pollutant loading issues in the environment such as accumulation of pollutants in sediments and via nutrient cycling.

The first step is to consider all practical measures to minimise pollution and consider whether overflow frequency requirements are commensurate with risk. Overflow frequency requirements are currently based on *Managing Urban Stormwater – Soils and Construction Volume 2E Mines and quarries* (Blue Book Volume 2E), however this is based on clean sediment, not sediment basins that contain contaminants/leachates.

Acute values could only be considered as a basis for developing maximum licence limits if all practical measures are demonstrated to be put in place to avoid and minimise pollution and the limits aim to prevent acute levels at the point of discharge.

It is also not accepted that elevated metals may be associated with contamination of the surface water system by construction activities that were occurring onsite at the time of sampling as metals have been detected in potential water discharges from similar operations that are not undergoing construction.

It is recommended that ANZECC trigger values are used in the ongoing validation assessments. If dilution in the environment is to be considered then appropriate mixing process modelling would be

required to demonstrate that the ANZECC trigger values are achieved at the edge of a near field mixing zone and that there were no impacts within the mixing zone such as objectionable deposits or bioaccumulation.

Additional investigations (Section 5.1 of the Plan)

The additional investigations proposed are not based on an appropriate assessment of risk, i.e. the investigations are:

- based on only considering acute trigger values for a range of analytes based on limited data
- not adequately considering nutrient risks
- not further considering the potential for PAHs to be an ongoing risk factor
- not considering the potential for a range of other pollutants to be present now that a sub-set of pollutants sampled has been shown to be present in wastewater
- not considering the potential for higher concentration of pollutants from Area 1 once it is established with only "*potentially contaminating wastes*."

The outcomes of the additional investigations are proposed to be documented in the Surface Water Validation Report that is proposed to be prepared within six months of the commencement of expanded operations.

It is recommended that the above risk factors are also taken into account in the additional investigations and also include:

- *factoring in the application of chronic-based trigger values in the assessment of mitigation and contingency options*
- *consideration of further options to minimise the frequency and volume of managed overflows (such as a secondary basin to capture and further treat overflows)*
- *calculation of hardness algorithm should be provided to demonstrate that hardness of receiving waters are used in the assessment.*

The currently proposed investigations are limited to:

- assessing the performance of the water management system once the Area 1 water management system is operational
- verifying the initial characterisation results
- reviewing the practicalities and benefits of using flocculants or coagulants to either;
    - improve the water quality in the sediment basin; or
    - improve the water quality of controlled discharge from the sediment basin.

The above proposed approaches should still be progressed based on the following:

- The additional investigations for zinc and copper treatment could also address levels of other metals.
- Area 1 is not yet established and discharges to sewer is proposed be available for wastewater that is not suitable for controlled discharge.
- contingency options have been identified during the development assessment process and in the Plan including additional treatment options and available land area for further treatment system if required.
- the assessment of a full range of options can occur concurrently with or following the validation monitoring program.

It should be noted that further options than currently proposed are likely to be required based on the data provided in the Plan. It is therefore recommended that a full range of additional options and contingencies are adequately progressed in the validation report.

<u>Water treatment chemicals</u>

EPA should require an assessment of any proposed water treatment chemicals such as the proposed flocculant and contaminants to ensure low risk options are used and residual chemicals are not discharged to the environment. The Response to Submissions provided a commitment to use only commercially available non-toxic flocculants at the site.

It is recommended that this assessment be provided to the EPA prior to the Validation Report as the Plan indicates that Benedict Recycling have already engaged Nalco to investigate the most suitable chemical treatment options and there are potential risks related to copper and zinc.

Two stage pit, basin and tank sizing

The Plan states that when basin levels are high and water quality is suitable, water will be discharged to the Hunter River Estuary as a controlled discharge. The basins must be kept at a capacity that allows its design volume to be captured after the proposed five-day management period.

It is recommended that a site management plan clearly documents the methods to achieve this outcome, i.e. pump or onsite storage or controlled discharges.

Managed overflows
The additional investigation proposed should also further consider mitigation of managed overflows based on current and the additional validation monitoring proposed. It is possible that based on the initial results, the frequency of managed overflows based on Blue Book Volume 2E may not be adequately protective as Volume 2E relates to clean sediments. It is noted, however, that the design of the system is better than Volume 2E (Areas 1 and 2 average 1.4 overflows per year verses average 2-4 overflows per year set out in Volume 2E guidance). As stated above, however, Volume 2E relates to clean sediment, not sediment basins receiving waste contaminants/leachates.

Based on existing data that indicate contaminated leachate is a likely risk factor for the site, it is recommended that:

- *overflow frequency is tracked through ongoing monitoring and the water balance model improved over time through the proposed weather and water quantity monitoring*
- *further options to minimise overflows are considered as part of the Surface Water Validation report*
- *further at-source controls or additional treatment of managed overflows are considered as part of the validation report such as a secondary basin.*

The extent of the required mitigation measure will depend on results of the ongoing and validation monitoring programs.

Validation sampling program methodology

In addition to the analytes proposed for ongoing discharge quality monitoring from Table 6.3 in the Plan, it is recommended that nutrients, PAHs and water treatment chemicals be added to the ongoing discharge monitoring at least in the short term until more representative results are obtained.

Monitoring

Validation monitoring (Section 6.3.2)
In accordance with Condition B35, this section indicates that a minimum of four surface water samples will be collected from the sediment basin and four from the two-stage pit 6 months after expanded operations based on analyses of analytes identified in Table 4.2 of the Plan, (i.e. the full suite of analytes).

It should be clarified that the proposed validation monitoring is in addition to the samples already collected, it follows the completion of current works on the water management system and where possible targets rainfall events that generate runoff and discharge.

Other pollutants
The detection of a range of pollutants in collected stormwater indicates a potential risk of a wide range of potential pollutants in leachate that were not included in the initial sampling suite. In addition to reviewing the risk related to frequency and volume of managed overflows, an appropriate response to the data would be to review the analyte list to consider other potential pollutants.

It is recommended that the following analytes remain or are added to the proposed sampling suite for validation monitoring:

- Nutrients (total phosphorus and nitrogen, oxides of nitrogen, ammonia, filtrable reactive phosphate)
- PAHs
- **Methylphenols (new)**
- **Cyanide (new)**
- **Water treatment chemicals (new)**

Contingency measures (Section 8)

It is recommended that:

- *The contingency measures be updated to account for resolution of issues raised above as the contingencies listed in the Plan are based on exceeding proposed discharge criteria that have not been appropriately developed.*
- *The contingencies should also cover the contingency options committed to in the development assessment process including the information that: "There is ample area within the site to install a water treatment system." (EMM letter of 27 September, Doc reference J14152_EPA_08Sep17_PT)*
- *As discussed above, contingencies should also cover options to reduce the frequency and volume of managed overflows where water quality data indicates potential risks to receiving waters.*

Appendix H:
Compliance Tables

Benedict's Recycling Audit Checklist

1 SSD 7698 Conditions of Consent

Table 1. SSD 7698 Conditions of Consent

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
Soils, Water Quality and Hydrology						
Erosion and Sediment Control						
B16	Prior to the commencement of construction, the Applicant must install and maintain suitable erosion and sediment control measures on-site, in accordance with the relevant requirements in the latest version of the Managing Urban Stormwater: Soils and Construction Guideline and the Erosion and Sediment Control Plan included in the CEMP required by Condition C1.	AR noted that this was only applicable to construction.	Not currently relevant as construction phase completed and all surface water matters now covered under the OEMP.	Compliant		
Pollution of Waters						
B17	The Development must comply with Section 120 of the *POEO Act,* which prohibits the pollution of waters, except as expressly provided in an EPL.	AR noted that this is covered in Section 2.2 of OEMP, version 5.	There have been no discharges from the site since the commencement of operations.	Not Triggered	Not Triggered	
B18	Any discharge or water quality criteria specified under the EPL must be complied with.	AR noted that this is covered in Section 2.2 of OEMP, version 5.	There have been no discharges from the site since the commencement of operations.	Not Triggered	Not Triggered	
B19	Surface water must only be discharged from the location specified in the EPL.	AR noted that this is covered in Section 2.2 of OEMP, version 5.	There have been no discharges from the site since the commencement of operations.	Not Triggered	Not Triggered	
B20	Overland flow from the Development must be contained within the sealed areas of the site.	AR noted that this is covered in Section 2.2 of OEMP, version 5.	All surface water observed to be contained within the site area.	Not Triggered	Not Triggered	
B21	Any spills must be contained and disposed of at a licenced facility.	AR noted that this is covered in Section 2.2 of OEMP, version 5. *Independent Audit also noted Spillage SWMS requires all spills to be contained, collected and disposed of.*	PIRMP covers spill procedures and is available on site and on website. No spills to date.	Not Triggered	Not Triggered	
B22	Any servicing or repair work on motor vehicles or mobile plant is to be carried out within a sealed area that has environmental controls appropriate for servicing or repair work. This must include bunding where there this work could result in liquids being spilled.		No vehicles or mobile plant observed being serviced outside sealed areas. Waste oil has own spill kit.	Compliant		

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
Truck and Wheel Wash						
B23	The floor of the truck wash is to be suitably graded and or bunded across the external door openings to prevent the escape of stored materials, process water or spilt liquids.	AR noted was not done.	No truck wash on site yet as operations do not require it. No trucks are owned by Benedict.	Not Triggered	Not Triggered	
B24	All excess water from the truck wash and wheel wash is to be discharged into suitable holding tanks and removed from the facility for treatment at an appropriately licensed facility or via trade waste.	AR Noted the wheel wash is not a net consumer of water. It needs to be continually topped up as water evaporates from the wheel wash throughout the day. If we were ever needing to empty excess water out we can use the onsite water cart to pump water out Action was deemed complete	No truck wash on site yet as operations do not require it. No trucks are owned by Benedict. No pumping of water has been required to date for the wheel wash. Audit undertaken following recent and ongoing rainfall, there was pooling around the wheel wash however it was not affecting traffic flow and no oil and grease was visible.	Not Triggered	Not Triggered	
Surface Water Management System						
B25	Prior to the commencement of operations, the Applicant must design, install and operate a surface water management system for the Development. The system must: (a) be designed and constructed by a suitably qualified and experienced person(s) endorsed by the Secretary;	AR noted system has been completed and certified. Tooker and Associates Compliance Certification.	System is installed and has been certified. Tooker and Associates approved by DPE as appropriately qualified to design the Surface Water Management System (Append A SWCMP-Correspondence dated 4/4/2018).	Compliant		
	(b) be generally in accordance with the conceptual design in the RTS, the letter titled Mayfield West Recycling Facility (SSD 7698) -Water Assessment, dated 8 September 2017 prepared by EMM and applicable Australian Standards;	Tooker and Associates Compliance Certification.	System is installed and has been certified.	Compliant		
	(c) ensure that the system capacity has been designed in accordance with Australian Rainfall and Runoff (Engineers Australia, 2016) and Managing Urban Stormwater: Council Handbook (EPA, 1997);	Tooker and Associates Compliance Certification. Area 1 reported to have a total capacity of 286m3. Require 200m3 for design storm from SWCMP (p3). Area 2 reported to have capacity of 3,793m3 in sediment dam by survey. Require 2,852m3 for 90th % 5-day storm event in SWCMP (p3).	Dams and tanks visually inspected during site visit. Area 2 sediment dam had freeboard available following recent rainfalls.	Compliant		

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
	(d) include detention basins with a minimum capacity to contain the 90th percentile rainfall over any consecutive 5 day period in accordance with *Managing Urban Stormwater - Soils and Construction Vol. 28: Waste landfills* (Department of Environment and Climate Change NSW, 2008). The wet weather capture capacity requirements of the sediment basins and water treatment system may be modified by the EPL subject to the required surface water characterisation (Condition B33);	Area 1 reported to have a total capacity of 286m3. Require 200m3 for design storm from SWCMP (p3). Area 2 reported to have capacity of 3,793m3 in sediment dam by survey. Require 2,852m3 for 90th % 5-day storm event in SWCMP (p3).	As above	Compliant		
	(e) ensure vegetation within the sediment basin and perimeter drain has been removed and the surface water infrastructure has been sealed to prevent surface water infiltration to groundwater; and	AR noted any vegetation in the surface of the drain at or below the level of the site weir will be removed and repaired. Any surfaces above the weir are not relevant (30/04/2020). To be completed by 30/4/2020.	Drain and sediment basin visually inspected, trees have been removed and repairs to drains undertaken as required because of previous root systems.	Compliant		
	(f) bund any potentially contaminating waste, any surface water leaving this area must be directed to the three-stage pit or equivalent for treatment, the water must then be directed to holding tanks for testing and depending on its quality either discharged to the perimeter drain or sewer as trade waste see Appendix A.	Surface Water Validation Report (SWVR) by EMM dated 21st May 2020 provided following audit. This report recommends that the trade waste discharge agreement is not pursued and trade waste discharges are removed from the water management plan	No waste or surface water was noted to be leaving the site during inspection. Jute logs are in place to direct surface water from Area 1 to the two-stage pit. There has been no need to direct water from the holding tanks to the perimeter drain or sewer to date	Compliant		Ensure SWMP is in line with SWVR
B26	The Applicant must provide a Compliance Certificate to the Secretary prior to the commencement of operations, that confirms the surface water management system has been designed and installed as per the requirements of Condition B25 and the alterations will not impede or divert natural surface water runoff so as to cause a nuisance to adjoining properties.	AR noted submitted 26/07/2018. Tooker and Associates Compliance Certification.	System is installed and has been certified. All surface water observed to be contained within the site area.	Compliant		
B27	Prior to the commencement of operations, works-as-executed drawings signed by a registered surveyor must be submitted to the certifying authority demonstrating that the stormwater drainage and finished ground levels have been constructed as approved.	AR noted Compliant Survey Drawings	Survey Drawing observed and endorsed by surveyor.	Compliant		

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
B28	The surface water management system must be operated and maintained for the duration of the Development.	AR noted it was submitted 26/07/2018 AR also noted; 1. See B25 comment (30/04/2020) 2. A weekly compliance checklist has since been implemented. The surface water treatment system (sumps and pumps) are checked however, this has not been documented as the auditor would like (31/01/2020). 2. Completed – weekly compliance checklist implemented onsite	Sighted *Environmental Inspection Checklist - Newcastle* which includes items for water treatment system.	Compliant		
B29	The Applicant must maintain the surface water management system to minimise the infiltration of surface water to groundwater. This includes inspecting the infrastructure monthly for cracking and vegetation break through, removing the vegetation and sealing the infrastructure. Any maintenance on the surface water management system must be undertaken by a suitably qualified and experienced person(s), a record of these works must be kept for the life of the Development.	AR noted; 1. See B25 comment (30/04/2020) 2. A weekly compliance checklist has since been implemented. The surface water treatment system (sumps and pumps) are checked however, this has not been documented as the auditor would like (31/01/2020). 2. Completed – weekly compliance checklist implemented onsite.	Sighted *Environmental Inspection Checklist* which includes items for water treatment system. Minor repairs to concrete in drains where vegetation removed noted. Diary entries discussed as the main area where maintenance notes are made.	Compliant		Keep a record of minor repairs. Reference the checklist where repairs are noted to diary entries or other records.
B30	The Applicant must maintain the surface water detention basins on site with a minimum capacity to contain the 90th percentile rainfall over any consecutive 5-day period in accordance with *Managing Urban Stormwater - Soils and Construction Vol.* 2B: Waste landfills. The *Managing Urban Stormwater* series of document relate to clean sediment and therefore the wet weather capture and storage capacity requirements of the sediment basins and treatment systems may be modified by the EPL based on the required surface water characterisation (Condition B33).	Tooker and Associates Compliance Certification. Area 1 reported to have a total capacity of 286m3. Require 200m3 for design storm from SWCMP (p3). Area 2 reported to have capacity of 3,793m3 in sediment dam by survey. Require 2,852m3 for 90th % 5-day storm event in SWCMP (p3).	Desilting of 1st Stage pit has occurred, and silt was reused back on site. Area 2 Sediment Dam had freeboard during site inspection, following recent rainfalls.	Compliant		
B31	The Applicant must ensure that a visible marker is installed in the sediment detention basin in a position that shows the freeboard in the basin that equates to the volume required to contain all rainfall and runoff in the catchment from a 90th percentile rainfall event over any consecutive 5-day period.	AR noted compliant- Noted in Section 4.5 and Appendix E of OEMP, version 5	Marker is installed clearly in Area 2 Sediment Dam	Compliant		

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
B32	All waste unloaded at the public hand unloading area must be unloaded and stockpiled underneath the public unloading awning or within the main processing building.		Unloading area inspected and confirmed to be placed at the unloading awning or within main processing building.	Compliant		
Surface Water Characterisation and Mitigation Plan						
B33	Prior to the commencement of operations, the Applicant must prepare a Surface Water Characterisation and Mitigation Plan (SWCMP) **to the satisfaction of the Secretary** to characterise the surface water and implement a mitigation plan, the SWCMP must form part of the OEMP required by Condition C4 and be prepared in accordance with Condition C7. The SWCMP must:	SWCMP dated September 2018 by EMM	SWCMP approved via Letter dated 25/09/2018 from Christ Ritchie as delegate of the Planning Secretary	Compliant		
	a) be carried out by a suitably qualified and experienced person(s) whose appointment has been endorsed by the Secretary;	Chris Kuczera of EMM approved in DPE correspondence dated 4/4/2018 (Appendix a of SCWMP)		Compliant		
	(b) be prepared in consultation with the EPA;	SWCMP described consultation (p7 and Appendix B))	Note the EPA made a number of recommendations which were addressed in the SWCMP.	Compliant		
	(c) detail the triggers of when the pump which transfers surface water from the three-stage pit to the holding tanks would be activated;	SWCMP p10. *'The pump in the two stage pit will be activated when the two stage pit is three quarters full.'*	Pump inspected during site visit and appears to be in good order. Float switches are used to automatically trigger the pump.	Compliant		
	(d) detail the type and size of the bunding around the potentially contaminating waste area;	SWCMP section 3.2 *Area 1 has a 0.52 ha surface area and is sealed and bunded.*	Area is bunded with concrete bollards and sealed at base.	Compliant		
	(e) detail the frequency of overflows from the three-stage pit and sediment basin;	SWCMP section 3.2 and Appendix C *The water balance found both the two stage pit and sediment basin would overflow 1.4 times per year (Tooker 2016).*	No overflows have occurred to date.	Not Triggered	Not Triggered	

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
	(f) collect representative samples, including a minimum of **four** surface water samples from the sediment basin and the three-stage pit. The surface water samples must be analysed for the analytical suite identified in Table 3.16 of the RTS;	SWCMP SWVR	Four samples have been collected between August 2019 to March 2020 as stated in SWVR. SWVR has been completed May 2020. The SWCMP may be amended once validation is completed. All surface water sampling results have been characterised relative to the default values from the ANECC/ARMCANZ (2000) guidelines.	Compliant		Commence amendments to the SWCMP now the SWVR is finalised
	(g) characterise the surface water for the entire development and detail the potential impact of discharges on receiving surface waters with reference to ANZECC (2000) assessment criteria;	SWCMP Section 4.4, SWVR	SWVR has been completed May 2020. Surface water characterisation has been undertaken. All surface water sampling results have been characterised relative to the default values from the ANZECC/ARMCANZ (2000) guidelines.	Compliant		
	(h) be based on the results of the surface water characterisation, investigate all practical alternatives to discharge and whether sediment basin sizing, at-source pollution controls, tertiary water treatment, water treatment plants and other treatment and reuse options are appropriate;	SWCMP, SWVR	SWCMP has incorporated results of the surface water characterisation. SWVR has been completed.	Compliant		The SWCMP will be amended within 3 months (as per condition C8 of approval) of approval of the SWVR incorporating recommendations from the SWVR.
	(i) provide the Secretary with a timeframe for and implement the measures identified in sub-clause (h);	AR states not applicable	SWCMP has incorporated results of the surface water characterisation and implemented items in sub-clause h). Time frame no longer relevant. SWVR has been completed and the SWCMP will be amended within 3 months of approval of the SWVR.	Compliant		The SWCMP will be amended within 3 months (as per condition C8 of approval) of approval of the SWVR incorporating recommendations from the SWVR. .
	(j) consider the human health risks associated with the surface water reuse process at the site;	SWCMP Section 4.5.4	Health risks have been addressed	Compliant		
	(k) include details of the maintenance procedures of the sediment basins and surface water infrastructure;	SWCMP Section 5.2.1	Maintenance procedures have been addressed	Compliant		
	(I) describe the procedures for maintaining vegetation along the perimeter drain and sediment basin;	SWCMP Section 5.2.1	Vegetation has been removed from perimeter drain	Compliant		

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
	(m) establish an ongoing surface water monitoring program to validate the proposed mitigation measures. The surface water monitoring program must provide monitoring details of surface water flows, quality, storage and discharge limits;	SWCMP Section 6.3 SWVR	Validation has been completed in May 2020.	Compliant		The SWCMP will be amended soon incorporating recommendations from the SWVR
	(n) identify measures for managing pollutant exceedances; and	SWCMP Section 6.3 & Section 7 SWVR	Recommendations provided in SWCMP. Reference to PIRMP could be included.	Compliant		Include reference to PIRMP in SWCMP.
	(o) identify contingency options to account for any mitigation measures that do not adequately address the site water pollution risks.	SWCMP Section 8	SWVR has been completed and review of the SWCMP Contingency Measures will be undertaken within 3 months of approval of the SWVR.	Compliant		Review of the SWCMP Contingency Measures will be undertaken within 3 months of approval of the SWVR.
B34	The Applicant must: (a) not commence the operations until the SWCMP required by Condition B33 is approved by the Secretary: and	AR notes that SWCMP approved 25/09/2018.	SWCMP approved via Letter dated 25/09/2018 from Christ Ritchie as delegate of the Planning Secretary	Compliant		
	(b) implement the most recent version of the SWCMP approved by the Secretary for the duration of the development.		SWCMP implemented but subject to further review when updated following recent validation report recommendations.	Compliant		The SWCMP will be amended within 3 months (as per condition C8 of approval) of approval of the SWVR incorporating recommendations from the SWVR.
Water Quality Validation						
B35	Within six months of the commencement of operations and following the management measures being implemented as per SWCMP (Condition B33), the Applicant must provide a Surface Water Validation Report (SWVR) to the satisfaction of the Secretary. The SWVR must:	Per Heidi Watters (DPE) email confirmation on 26/07/2019 the timeframe for submitting the SWVR (within 1 month of the fourth sampling event) was accepted. AR also noted all studies and reports required by DPIE will be submitted within requested timeframes.	Email from Heidi Watters confirming due date of SWVR sighted. Validation report completed May 2020.	Compliant		

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
	(a) be carried out by a suitably qualified and experienced expert whose appointment has been endorsed by the Secretary;	As above	Chris Kuczera was endorsed by the DPIE via letter July 2019.	Compliant		
	(b) be prepared in consultation with the EPA;	As above	The framework for the SWVR was prepared in consultation with the Environmental Protection Agency (EPA) during the finalisation of the SWCMP.	Compliant		
	(c) collect a minimum of four surface water samples from the sediment basin and four from the three-stage pit system;	As above	Included in SWVR	Compliant		
	(d) characterise the surface water data (samples) and detail the potential impact of discharges on receiving surface waters with reference to ANZECC (2000) assessment criteria;	As above	Included in SWVR	Compliant		
	(e) compare the results with the surface water characterisation in the SWCMP (Condition B33);	As above	Included in SWVR	Compliant		
	(f) ensure surface water is being managed in accordance the EPL;	As above	Included in SWVR, “compliance with the EPL is a matter for the EPA”. No discharges offsite required to date.	Compliant		
	(g) provide an assessment of the effectiveness of implemented mitigation measures;		Included in SWVR	Compliant		
	(h) if necessary, provide additional mitigation measures to control and/or treat all pollutants to ensure the ANZECC (2000) assessment criteria can be met including further storage or the installation of a water treatment plant; and		Included in SWVR	Compliant		
	(i) update the SWCMP to reflect any changes to the surface water management system.		Will be completed soon, using recently finalised SWVR. Approval for SWVR (completed in May) is pending at the time of this audit. Until the SWVR is approved there have been no changes to the surface water management system.	Compliant		The SWCMP will be amended within 3 months (as per condition C8 of approval) of approval of the SWVR incorporating recommendations from the SWVR.

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
B36	Any alterations to the surface water management system identified in the SWVR must be implemented prior to any further controlled discharges occurring to the satisfaction of the Secretary.	AR noted in Appendix E of OEMP, version 5	Will be completed soon, using recently finalised SWVR. Until the SWVR is approved there have been no changes to the surface water management system.	Compliant		The SWCMP will be amended within 3 months (as per condition C8 of approval) of approval of the SWVR incorporating recommendations from the SWVR.
B37	The Applicant must comply with any amended surface water quality criteria and discharge limits identified in the EPL.		No discharges to date	Not - Triggered	Not Triggered	
Surface Water Audit						
B38	Within 18 months of the commencement of operations, the Applicant must commission an independent Surface Water Audit of the Development to the satisfaction of the Secretary. The audit must:		This audit once submitted and approved will provide compliance with this condition.	Compliant		
	(a) be carried out by a suitably qualified and experienced expert whose appointment has been endorsed by the Secretary;	AR noted a letter of endorsement was received from the Department on 25/03/2020.		Compliant		
	(b) be conducted in consultation with the EPA;		Letter to EPA sent 14th May 2020 via email, no response to date.	Compliant		
	(c) audit the Development whilst it is in operation;		Site was in operation during site visit 10/06/2020	Compliant		
	(d) validate the development against the SWCMP required by Condition B33;		SWCMP compliance assessed in this report.	Compliant		
	(e) include a summary of any EPL water quality exceedances;		No exceedances recorded	Compliant		
	(f) review the design and management practices of the Development against industry best practice for surface water;		Audited against Managing Urban Stormwater- Soils and Construction and found to generally comply.	Compliant		
	(g) include an action plan that identifies and prioritises additional surface water mitigation measures and/or treatment options that may be necessary to reduce surface water impacts; and		See Surface Water Audit report.	Compliant		
	(h) provide a further program of monitoring to address water quality issues that may emerge over time.		See Surface Water Audit report.	Compliant		

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
B39	Within three months of commissioning this audit, the Applicant must submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report. The Applicant must comply with any reasonable requirement(s) of the Secretary arising from the Surface Water Audit.		To be completed by proponent.	Not triggered		
Diesel Tank Management						
B42	(c) the refuelling area must be covered with an awning to minimise dirty water run-off;	AR noted in Sections 4.5 & 4.13 of OEMP, version 5. **See Section 6 and 7 below for further details** AR also noted 1. Bollards will be installed (31/03/2020) 2. A weekly compliance checklist has since been implemented covering the fuel storage area. The fuel area is checked however has not been documented as the auditor would like (31/01/2020) 3. The refuelling area is bunded. All staff will be reminded via a toolbox talk to always refuel within this bunded area (31/03/2020) 4. The spill kit has since been replenished (31/01/2020) 5. A weekly compliance checklist has since been implemented covering the spill kit. The spill kit is checked on occasion, however, has not been documented as the auditor would like (31/01/2020). AR noted in Sections 4.5 & 4.13 of OEMP, version 5.	Awning sited during inspection.	Compliant		
	(h) the diesel tank and re-fuelling area must be bunded within an area of impervious hardstand; and		Diesel tank and refuelling area is bunded with concrete	Compliant		
	(i) a diesel spill kit must be stored in the refuelling area and deployed in the event of a spill.		Diesel spill response station sited during inspection.	Compliant		

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
Chemical Spills and Fire Water Containment						
B43	To ensure that chemical spills and fire-water are contained on-site, prior to the commencement of operations and to the **satisfaction of FRNSW**, the Applicant must ensure: (a) a stormwater isolation valve is installed; the stormwater isolation valve must be closed at all times unless stormwater is being discharged and its closure must be monitored weekly;	AR noted; 1. There was no consultation with FRNSW during the preparation of the plan rather FRNSW comments were taken on board during the RTS phase of the assessment phase- Completed 2. A weekly compliance checklist has since been implemented covering the sediment pond outlet valve. The valve is checked however, has not been documented as the auditor would like (31/01/2020)- Completed – weekly compliance checklist implemented onsite Elite Fire Training Certificate 18 November 2019	Satisfaction from FRNSW should be sought and documented. Weekly checklist contains valve inspections. Benedict Recycling Newcastle last completed Warden/Chief Warden Training Building Evacuation Training & the Use of Portable Fire Fighting Equipment in November 2019.	Non-compliant	Low	Seek formal approval from the FRNSW
	(b) during an incident, the stormwater isolation valve must remain in the closed position until manually opened upon confirmation that stormwater isolation is no longer required or once any contaminated water is disposed via trade waste or at a site that can lawfully receive the waste; and	Environmental Inspection Checklist - Newcastle	Weekly checklist includes checking that the stormwater isolation valve in the sediment basin is closed.	Compliant		
	(c) the location of the stormwater isolation valve and any associated controls must be clearly identified on the site's fire hydrant block plan, fire sprinkler block plan and the site plan located within the site's Emergency Response Plan prepared as part of the OEMP as required by Condition C7.	PIRMP Appendix C Fire Fighting Equipment Location Map	Sited Fire Fighting Equipment Location Map during audit, no valve present on figure.	Non-compliant	Low	Recommend that the location of the stormwater isolation valve is added to PIRMP Appendix C, Fire Fighting Equipment Location Map
Fire Management						
B72	Prior to the commencement of operations, the final design of the development must be finalised in consultation with and **to the satisfaction of the Secretary** and include suitable additional provisions for special hazards by specifically addressing Clauses E 1.10 and E2.3 of Volume One of the National Construction Code (NCC) Series. In particular, the following matters must be addressed: (g) **the containment on-site of fire water run-off**.		The Secretary has approved the OEMP and associated subplans as evidence in approval letter dated 25/9/2018 and associated emails. This includes approval of associated Emergency Response Plans, Operational Traffic and Pedestrian Management Plan.	Compliant		

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
Bunding						
B76	The Applicant must store all chemicals, fuels and oils used on-site in appropriately bunded areas in accordance with the requirements 'of all relevant Australian Standards, and EPA's Storing and Handling of Liquids: Environmental Protection - Participants Manual (DECC, 2007) (as may be updated or replaced from time to time).	AR noted in Sections 4.13 of OEMP, version 5	All chemicals stored in shed on sealed concrete. Sited during inspection.	Compliant		
Contamination						
B78	Prior to the commencement of operations, the main processing building and segregated heavy waste processing and stockpiling area must be sealed with either asphalt or concrete to minimise infiltration of surface water to groundwater.		Main processing building and segregated heavy waste processing and stockpiling area is sealed with concrete.	Compliant		
Construction Environmental Management Plan						
C2	As part of the CEMP required under Condition C1 of this consent, the Applicant must include the following: (a) Erosion and Sediment Control Plan (see Condition B16);	AR noted that this was only applicable to construction.	Not currently relevant as construction phase completed and all surface water matters now covered under the OEMP.	Compliant		
Operational Environmental Management Plan						
C4	The Applicant must prepare an Operational Environmental Management Plan (OEMP) to the satisfaction of the Secretary. The OEMP must: (g) include the following environmental management plans: (ii) Surface Water Characterisation and Mitigation Plan (see Condition B33);	g) Noted AR in Appendices D-G & I of OEMP, version 5	OEMP reviewed and includes SWCMP. The Secretary has approved the OEMP and associated subplans as evidence in approval letter dated 25/9/2018	Compliant		
Reporting						
Incident Reporting						
C10	The Applicant must notify the Secretary and any other relevant agencies of any incident or potential incident with actual or potential significant off-site impacts on people or the biophysical environment associated with the Development immediately after the Applicant becomes aware of the incident.	AR noted in Section 5.4 and Section 6 of OEMP, version 5	No incidents to date.	Not-Triggered	Not Triggered	

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
C11	Within seven days of the date of this incident, the Proponent must provide the Secretary and any relevant agencies with a detailed report on the incident.	AR *noted in Section 6 of OEMP, version 5.* ***See Section 6 and 7 below for further details***	No incidents to date.	Not-Triggered	Not Triggered	
Regular Reporting						
C12	The Applicant must provide regular reporting on the environmental performance of the Development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.	AR noted in Section 5.3 of OEMP, version 5	Website is updated monthly to notify of results. Discharges have not been necessary to date. Updates are usually made mid-monthly to the website. The website is up to date at the time of the audit with June. Ongoing monitoring event based and quarterly monitoring (of the holding tanks and sediment basin during wet weather), as outlined in the SWCMP table 6.1 for sites listed in table 6.2 are not listed on the website. Note, the criteria and monitoring requirements are currently listed as provisional pending review after the SWVR is completed.	Not-Triggered	Not Triggered	The SWCMP will be amended within 3 months (as per condition C8 of approval) of approval of the SWVR incorporating recommendations from the SWVR. Any revision of the SWCMP should amend the provisional criteria to actual criteria, with reference to the SWVR findings. Quarterly wet weather monitoring of the holding tanks and sediment basin should commence and be reported on the website once the SWCMP is updated, finalised and approved.
Access to Information						
C15	The Applicant must: (a) make copies of the following publicly available on its website: (i) the documents referred to in Condition A2 [*including water management plans*]; (iii) all approved strategies, plans and programs required under the conditions of this consent; (iv) a comprehensive summary of the monitoring results of the Development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;	AR noted https://www.benedict.com.au/about/policies-compliance/ under the tab 'Information relating to Mayfield West'. **See Section 6 and 7 below for further details**	Website is updated monthly to notify of results. Discharges have not been necessary to date. Updates are usually made mid-monthly to the website. The website is up to date at the time of the audit with June. Ongoing monitoring event based and quarterly monitoring (of the holding tanks and sediment basin during wet weather), as outlined in the SWCMP table 6.1 for sites listed in table 6.2 are not listed on the website. Note, the criteria and monitoring requirements are	Not-Triggered	Not Triggered	The SWCMP will be amended within 3 months (as per condition C8 of approval) of approval of the SWVR incorporating recommendations from the SWVR. Any revision of the SWCMP should amend the provisional criteria to actual criteria, with reference to the SWVR findings. Quarterly wet weather monitoring of the holding tanks and sediment basin should commence and be reported on the website once the SWCMP is updated, finalised and approved.

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
			currently listed as provisional pending review after the SWVR is completed.			
	(b) keep this information up to date, to the **satisfaction of the Secretary**		Website is updated monthly to notify of results. Discharges have not been necessary to date. Updates are usually made mid-monthly to the website. The website is up to date at the time of the audit with June. Ongoing monitoring event based and quarterly monitoring (of the holding tanks and sediment basin during wet weather), as outlined in the SWCMP table 6.1 for sites listed in table 6.2 are not listed on the website. Note, the criteria and monitoring requirements are currently listed as provisional pending review after the SWVR is completed. Satisfaction of the Secretary is obtained on an annual basis via the Annual Review. This encompasses a review of data published to the website. Current AR has been accepted by DPIE.	Not-Triggered	Not Triggered	The SWCMP will be amended within 3 months (as per condition C8 of approval) of approval of the SWVR incorporating recommendations from the SWVR. Any revision of the SWCMP should amend the provisional criteria to actual criteria, with reference to the SWVR findings. Quarterly wet weather monitoring of the holding tanks and sediment basin should commence and be reported on the website once the SWCMP is updated, finalised and approved.
Appendix B- Applicant's Management and Mitigation Measures						
Water						
	The perimeter drain, installed prior to Benedict Recycling occupying the site, captures runoff from all active areas of the site. The site soil and water management system includes:		During inspection perimeter drain was capturing all runoff from the site	Compliant		
	• prevention of runoff from external areas discharging across the site;		No inflow of surface water from off-site noted during inspection	Compliant		
	• a perimeter drain with seven sedimentation basins;		Seven check dams were observed to be installed during inspection. 5 on the western drain and 2 on the northern drain.	Compliant		

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
	• a final sedimentation basin with outlet controls;		Sediment basin with outlet controls cited during inspection.	Compliant		
	• sock filters treating runoff prior to discharge into the perimeter drain;	IEA noted sock filters not installed	Sock filters not installed; coir logs are laid down around the 2-stage pit capturing Area 1 water. The logs are effectively slowing the flow of surface water and encouraging coarse sediment to drop out prior to entering the pit.	Compliant		Note, minor technical difference noted from the conditions of consent that provided a suitable solution to 'treating the runoff prior to discharge to the perimeter drain' and has not compromised the integrity of the surface water management. Recommend adding inspection of these logs to checklist to monitor if replacing required.
	• flocculation of stored water in the basins as necessary; and		Chemical flocculation is undertaken on site as necessary using Ultrion chemical flocculant.	Compliant		
	• pumping water in the final sedimentation basin, after testing, to the discharge chamber to reduce water levels in the basin prior to forecast rain if required.		Pumping of water from the sedimentation basin has not been required to date.	Not-Triggered	Not-Triggered	
	Only commercially available non-toxic flocculants will be used at the site.		Chemical flocculation is undertaken on site as necessary using Ultrion chemical flocculant.	Compliant		
	Actions that will continue to be implemented to prevent impacts to water include: • water is used for dust suppression but is not used for product processing;		Water is used solely for dust suppression.	Compliant		
	• there are no significant excavations within the site;		No excavations sited during inspection.	Compliant		
	• regularly maintaining sock filters;	IEA noted sock filters not installed	Sock filters not installed; coir logs are laid down around the 2-stage pit capturing Area 1 water. The logs are effectively slowing the flow of surface water and encouraging coarse sediment to drop out prior to entering the pit.	Non-compliant	Low	Recommend adding inspection of coir logs to checklist to monitor if replacing required.
	• removal of sediment from the sedimentation basins when the sediment depth is greater than 200 mm;		Sediment has been removed once to date and was reused on site to level an area. All sediment dams were observed to have adequate freeboard during inspection.	Compliant		

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
	• recycling of sediment if of appropriate quality or disposal to a facility approved to accept contaminated sediment;		Sediment has been removed once to date and was reused on site to level an area. No sediment has been exported off site to date.	Compliant		
	• water in the final sedimentation basin is tested before a controlled discharge and, unless it overflows, is only be discharged if it meets water quality trigger values; and		Discharge from final sedimentation basin not required to date.	Not-Triggered		
	• water in the sedimentation basins is used for dust suppression to minimise the mains water required;		Water is used solely for dust suppression.	Compliant		
	• groundwater is not used.		Groundwater verbally confirmed to not be in use during interview/inspection.	Compliant		
	The following actions will be taken as part of the proposal: • the trees will be removed from the perimeter drain and the perimeter drain will be sealed;		Inspection of perimeter drain noted no trees in vicinity of drain and was sealed with concrete.	Compliant		
	• the final sedimentation basin will be sealed;		Final sedimentation basin was confirmed to be sealed during inspection.	Compliant		
	• additional storage volume will be provided as part of the works to seal the drain and final sedimentation basin volume;		Confirmed by Tooker and Associates	Compliant		
	• the sedimentation basins in the perimeter drain will be upgraded. Poorly graded rock (50-150 mm diameter) will be used to form the sedimentation basin dams in the perimeter drain. The top of each dam will be approximately **0.5 to 1.0 m wide with the crest level approximately 0.3 m below** the top of the perimeter drain to allow overflow into the next basin when the storage capacity is exceeded;		A number of dam walls on the western and southern boundary did not appear to have been constructed to include the 0.3m lower level to ensure overflow water would pass directly into the next basin when storage capacity is exceeded. Surface water was observed on the inspection to be successfully directed to the next sediment basin but it may be possible for it to take a route which could potentially pool on vehicle tracks.	Non-Compliant	Low	Recommend conducting works ensure the top of each dam is low enough (0.3m) to allow overflow to the next basin.

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
	• the sealed perimeter drain and final sedimentation basin will be inspected monthly to ensure that vegetation is not growing through the seal. If vegetation is found to be growing through the sides of the drain or basin, it will be removed and the seal repaired;	Environmental Inspection Checklist - Newcastle	Weekly inspection list includes weed checks, within the perimeter drain and sediment basin.	Compliant		
	• the segregated heavy waste processing and stockpiling area will be sealed with concrete or asphalt with the sealed area extending to the perimeter drain;		Inspection noted site is sealed.	Compliant		
	• a bund will be erected around the segregated heavy waste processing and stockpiling area directing all runoff from the area to the perimeter drain;		Concrete bollard bund noted during inspection.	Compliant		
	• any material in the sealed segregated heavy waste processing and stockpiling area that is not in a stockpile will be removed using a front-end loader bucket;		Front end loader observed during inspection (I didn't see it in that specific area though I don't think?)	Compliant		
	• the sealed segregated heavy waste processing and stockpiling area will be routinely swept using a sweeper;		Sweeper present on site but not observed in use on the day due to wet weather.	Compliant		
	• bunds will be erected to direct surface runoff away from unsealed areas; and		Whole site is sealed.	Compliant		
	• concrete will be applied to the floor of the main processing shed where liquids may infiltrate to groundwater, e.g. through cracks.		Main shed is sealed with concrete base, observed during inspection.	Compliant		
	The following actions will be taken in respect to water discharge: • If water levels are between about 2 m and 3 m from the base of the sedimentation basin and meets water quality trigger values, water will be manually discharged from the final sedimentation basin using the outlet valve to maintain a freeboard in the final sedimentation basin.		No discharge required to date.	Not - Triggered	Not Triggered	

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Compliance Assessment	Risk Assessment	Compliance Finding/Recommendations
	• Water in the final sedimentation basin will be tested before a controlled discharge and unless it overflows, it will only be discharged if it meets water quality trigger values.		No discharge required to date.	Not - Triggered	Not Triggered	
	• When the basin is discharging, daily samples of the discharging water will be collected from the final basin outlet pipe and will be analysed in accordance with the discharge monitoring program.		No discharge required to date.	Not - Triggered	Not Triggered	
	• A water level gauge will be installed in the final sedimentation basin.		Water level marker observed installed in final sedimentation basin.	Compliant		
	A Surface Water Monitoring and Mitigation Plan will be prepared that details: • meteorological monitoring; • water level monitoring; • validation monitoring; • routine monitoring; and • sediment monitoring. • It will provide trigger values and responses, including treatment of site runoff prior to discharge and contingency measures.	EMM SWCMP reviewed	SWCMP addresses the issues listed. The plan will be updated as required once validation monitoring completed.	Compliant		

2 EPL 20771 Audit Checklist

Table 2. EPL 20771 Audit Checklist

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
Limit Conditions						
Pollution of Waters						
L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.		No discharge required to date.	Not - Triggered		
Concentration Limits						
L2.1	For each monitoring/discharge point or utilisation area specified in the table\s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table [L2.4]. POINT 1 Pollutant / Units of Measure / 50 Percentile concentration limit / 90 Percentile concentration limit / 3DGM concentration limit / 100 percentile concentration limit Oil and Grease / milligrams per litre / / / / 10 pH / pH / / / / 6.5-8.5 Total suspended solids / milligrams per litre / / / / 50		No discharge required to date.	Not - Triggered		
Operating Conditions						
Surface Water Management						
O5.4	A surface water management system must be operated and maintained at the premises at all times.	Environmental Inspection Checklist - Newcastle	Drains and sediment dams installed. Surface water management system infrastructure are all inspected weekly within checklist. SWCMP approved and in operation. Trucks have maintenance records.	Compliant		Include maintenance of surface water management system infrastructure in documentation either on checklist or reference diary entries.
O5.5	The surface water management system must be maintained to minimise the infiltration of surface water to groundwater. This includes inspecting the surface water infrastructure monthly for cracking and vegetation breakthrough, removing the vegetation and sealing the surface water infrastructure.	AR noted; 1. See B25 comment (30/04/2020) 2. A weekly compliance checklist has since been implemented. The surface water treatment system (sumps and pumps) are checked however, this has not been documented as the auditor would like (31/01/2020). 2. Completed	Surface water management system infrastructure are all inspected weekly within checklist. The site is sealed, vegetation has been removed from the perimeter drains and appropriate repairs undertaken.	Compliant		

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
		– weekly compliance checklist implemented onsite Environmental Inspection Checklist - Newcastle				
O5.6	The final sediment basin must be maintained with a minimum capacity to contain the 90th percentile rainfall over any consecutive 5-day period in accordance with Managing Urban Stormwater - Soils and Construction Vol. 2B: Waste landfills.		No discharge or de-silting required to date. Capacity appears to be sufficient during inspection. Captured water utilised in dust suppression.	Compliant		
O5.7	A visible marker must be installed and maintained in the final sediment basin in a position that shows freeboard in the basin that equates to the volume required to contain all rainfall and runoff in the catchment from a 90th percentile rainfall event over any consecutive 5-day period.		Water level marker observed installed in final sedimentation basin.	Compliant		
Monitoring and Recording Conditions						
Requirement to monitor concentration of pollutants discharged						
M2.1	For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:		No discharge required to date.	Not - Triggered		
M2.2	Water and/ or Land Monitoring Requirements POINT 1 **Pollutant** / **Units of measure** / **Frequency** / **Sampling Method** Oil and Grease / milligrams per litre / Daily during any discharge / Grab sample pH / pH / Daily during any discharge / Grab sample Total suspended solids / milligrams per litre / Daily during any discharge / Grab sample		No discharge required to date.	Not - Triggered		
M3.1	**Testing methods - concentration limits** Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.		No discharge required to date.	Not - Triggered		

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
M5.1	**Recording of pollution complaints** The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.		No complaints regarding water received to date. Complaints register available on Benedict website.	Not - Triggered		
General Conditions						
Copy of licence kept at the premises or plant						
G1.1	A copy of this licence must be kept at the premises to which the licence applies.		Sited copy of EPL that is kept on premises at weighbridge.	Compliant		

3 Operational Environmental Management Plan Audit Checklist

Table 3. Operational Environmental Management Plan Audit Checklist

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendation
Surface Water Management						
Primary Environmental Goal						
4.5	Stormwater gathered by the facility shall not adversely affect the site or its surrounds		No discharge required to date; no surface water observed to be leaving the site.	Compliant		
Related Environmental Goals						
	• Ensure compliance with SSD Approval and EPL; • Assuring quality of operations; • Preventing degradation of local amenity; • Adequate staffing and training; and • Implementation of the most recent version of the Surface Water Characterisation and Management Plan as approved by DPE.		Site observed to be generally compliant with SSD Approval and EPL. SWCMP has been approved as part of the OEMP approval in correspondence from DPIE dated 25/9/2018. No discharge required to date; no surface water observed to be leaving the site. PIRMP tested annually, sited Training Record for Pollutant Incidents and the pollution Incident Response Management Plan (PIRMP).	Compliant		
Compliance						
	Overland flow from the Development must be contained within the sealed areas of the site.		Overland flow observed during inspection to be directed to perimeter drains and sumps.	Compliant		
	Any spills must be contained and disposed of at a licensed facility.		No spills to date. Spill kits observed in place around the site.	Not - triggered	Not Triggered	
	Any servicing or repair work on motor vehicles or mobile plant is to be carried out within a sealed area that has environmental controls appropriate for servicing or repair work. This must include bunding where there this work could result in liquids being spilled.		Concrete bunding observed installed diesel tank and re-fuelling area.	Compliant		

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendation
	All excess water from the wheel wash is to be discharged into suitable holding tanks and removed from the facility for treatment at an appropriately licensed facility or via trade waste.	AR Noted the wheel wash is not a net consumer of water. It needs to be continually topped up as water evaporates from the wheel wash throughout the day. If we were ever needing to empty excess water out we can use the onsite water cart to pump water out Action was deemed complete	No pumping of water has been required to date for the wheel wash. Audit undertaken following recent and ongoing rainfall, there was pooling around the wheel wash however it was not affecting traffic flow and no oil and grease was visible.	Not Triggered	Not Triggered	
	The surface water management system must be operated and maintained for the duration of the Development.	Environmental Inspection Checklist - Newcastle	Surface water management system infrastructure is inspected weekly within checklist.	Compliant		
	The surface water management system is to be maintained to minimise the infiltration of surface water to groundwater including a monthly inspection for cracks and vegetation breakthrough. Any maintenance of the surface water management system must be undertaken by a suitably qualified and experienced person and record of works retained for the duration of the development;	AR noted; 1. See B25 comment (30/04/2020) 2. A weekly compliance checklist has since been implemented. The surface water treatment system (sumps and pumps) are checked however, this has not been documented as the auditor would like (31/01/2020). 2. Completed – weekly compliance checklist implemented onsite	Surface water management system infrastructure is inspected weekly within checklist.	Compliant		Include maintenance of surface water management system infrastructure in documentation either on checklist or reference diary entries.
	The surface water detention basins on site are to be maintained with a minimum capacity to contain the 90th percentile rainfall over any consecutive 5-day period.		No discharge or de-silting required to date. Captured water would be utilised in dust suppression.	Compliant		
	The Applicant must comply with any amended surface water quality criteria and discharge limits identified in the EPL.		No discharge required to date.	Compliant		
Procedures						
Surface Water						
OP5.1	Stormwater gathered on site shall be managed to ensure it is not contaminated and limiting in sediment.		No discharge required to date. De-silting undertaken once to date.	Compliant		

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendation
Surface Water Management						
OP5.2	Surface Water Management is detailed in the Surface Water Characterisation and Management Plan (SWCMP) (refer Appendix E). Key measures include: • Maintaining the surface water management system as approved including maintaining the sealed surfaces to minimise the potential for surface water to infiltrate to ground water;		Surface water management system infrastructure is inspected weekly within checklist. Areas noted during audit where drain has been re-sealed following tree removal.	Compliant		
	• Flocculation of stored water in the basins as necessary;		Flocculation is undertaken in the 2-stage basin and water reused for dust-suppression.	Compliant		
	• Only commercially available non-toxic flocculants will be used at the site;		Ultrion chemical flocculant used.	Compliant		
	• Water is used for dust suppression but is not used for product processing;		Confirmed verbally during audit.	Compliant		
	• There are to be no significant excavations within the site;		No excavations sited during audit.	Compliant		
	• Removal of sediment from the sedimentation basins when the sediment depth is greater than 200 mm;		Sediment depth not confirmed during audit. No discharges required from site to date.	Compliant		
	• Recycling of sediment if of appropriate quality or disposal to a facility approved to accept contaminated sediment;		Sediment has been recycled on one occasion from the 2-stage pit. No requirement for silt to be disposed to a facility to date.	Compliant		
	• Water in the final sedimentation basin is tested before a controlled discharge and, unless it overflows, is only be discharged if it meets water quality trigger values;		No discharge required to date.	Compliant		
	• Water in the sedimentation basins is used for dust suppression to minimise the mains water required;		Confirmed verbally during audit.	Compliant		
	• Groundwater is not used;		Confirmed verbally during audit.	Compliant		
	• Surface water is only be discharged from the location specified in the EPL;		No discharge required to date.	Compliant		
	• Overland flow from the facility is contained within the sealed areas of the site;		No surface water was noted to be leaving the site during inspection.	Compliant		

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendation
	• All excess water from the wheel wash is discharged into suitable holding tanks and removed from the facility for treatment at an appropriately licensed facility or via trade waste;	AR Noted the wheel wash is not a net consumer of water. It needs to be continually topped up as water evaporates from the wheel wash throughout the day. If we were ever needing to empty excess water out we can use the onsite water cart to pump water out Action was deemed complete	No pumping of water has been required to date for the wheel wash. Audit undertaken following recent and ongoing rainfall, there was pooling around the wheel wash however it was not affecting traffic flow and no oil and grease was visible.	Not-Triggered	Not Triggered	
	• All waste unloaded at the public hand unloading area must be unloaded and stockpiled within the main processing building;		Unloading area inspected and confirmed to be placed at the unloading awning or within main processing building.	Compliant		
	• Ensuring the stormwater isolation valve remains in a closed position to contain chemical spills or fire water until manually opened following disposal of contaminated water to either trade waste or to a licensed facility; and	Environmental Inspection Checklist - Newcastle	Weekly checklist includes checking that the stormwater isolation valve in the sediment basin is closed.	Compliant		
	• • Ensuring all works carried out on the site that involve the disturbance of (or contact with) soil or groundwater are carried out in accordance with the requirements of the report titled Site Management Plan (AECOM 2009) refer Appendix H.		Site is sealed and no excavation required	Compliant		
Monitoring						
OP5.3	A surface water monitoring program will be implemented to provide ongoing validation of the effectiveness of the management measures contained in the SWCMP. Details of the monitoring program are contained in the SWCMP.		Monitoring program has commenced and validation ongoing.	Compliant		

Relevant Condition **Reference**	Condition	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendation
Recording						
OP5.4	The Surface Water Monitoring results and the SWCMP will be published on Benedict's website. Records of surface water complaints are to be kept in MWRF's record system for at least four years.		SWCMP is available on the website. No complaints have been recorded to date. Ongoing monitoring event based and quarterly monitoring (of the holding tanks and sediment basin during wet weather), as outlined in the SWCMP table 6.1 for sites listed in table 6.2 are not listed on the website. Note, the criteria and monitoring requirements are currently listed as provisional pending review after the SWVR is completed.	Compliant		The SWCMP will be amended within 3 months (as per condition C8 of approval) of approval of the SWVR incorporating recommendations from the SWVR. Any revision of the SWCMP should amend the provisional criteria to actual criteria, with reference to the SWVR findings. Quarterly wet weather monitoring of the holding tanks and sediment basin should commence and be reported on the website.

4 Surface Water Characterisation and Mitigation Plan Audit Checklist

Table 4. Surface Water Characterisation and Mitigation Plan Audit Checklist

Relevant Reference	Aspect	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
Statutory Context						
Protection of the Environment Operations Act 1997						
2.2	In accordance with the EPL and Condition B19 of the SSD approval, water may only be discharged from the site from the licensed discharged point being the final basin outlet pipe (outfall chamber) within the sedimentation basin in the north-west corner of the site.		No discharge required to date.	Compliant		
	Condition B18 of the SSD approval requires that any discharge or water quality criteria specified under the EPL must be complied with. The EPL has the following concentration limits: • oil and grease: 10 mg/L; • pH: 6.5-8.5; and • total suspended solids: 50 mg/L. Condition B37 requires the site to comply with any amended surface water quality criteria and discharge limits identified in the EPL.		No discharge required to date.	Compliant		
	Section 120 of the POEO Act prohibits the pollution of waters, except as expressly provided in an EPL.		No discharge required to date.	Compliant		
2.3	The draft SWCMP was forwarded to the EPA for comment. The EPA provided comment in a letter response (EPA August 2018). This response is contained in Appendix G of this SWCMP.			Noted		
	The EPA raised concerns associated with the potential for a range of water quality risks from the different waste types handled at the premises. However, the EPA considered these concerns could be addressed as part of the Surface Water Validation Report (SWVR) required under Condition B35 of the SSD approval.	AR states as per Heidi Watters (DPE) email confirmation on 26/07/2019 the timeframe for submitting the SWVR (within 1 month of the fourth sampling event) was accepted. As at 20/03/2020 three sampling events have occurred. AR also noted all studies and reports required by DPIE will be submitted within requested timeframes. SWVR	SWVR was completed May 2020.	Compliant		

Relevant Reference	Aspect	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
	The recommendations outlined in Attachment A of the EPA's letter (EPA August 2018) have been incorporated into the relevant sections of this SWCMP, in particular, Section 5.1 (Additional investigations). It is noted that **consultation will be conducted with EPA prior to the commencement of SWVR** sampling and assessment to confirm adequacy of proposed sampling and assessment methodology. Following the completion of the SWVR, the **SWCMP will be updated** to reflect any changes in the surface water management system which may be necessitated due to the findings of the SWVR. Mitigation measures and contingency measures contained in this SWCMP will also be revised as required following finalisation of the SWVR.	SWCMP Appendix B SWVR	SWVR was completed May 2020. SWCMP Appendix B notes consultation with EPA in the form of a letter from the EPA dated 13 August 2018. Approval for SWVR is pending at the time of this audit. Until the SWVR is approved there will be no changes to the surface water management system.	Compliant		SWCMP to be updated soon as SWVR has been approved. The SWCMP will be amended within 3 months (as per condition C8 of approval) of approval of the SWVR incorporating recommendations from the SWVR.
Surface Water Management System						
Design						
3.1	The surface water management system has been designed and certified by Mark Tooker, who has been approved by the Secretary of DPE as a suitably qualified and experienced person as required by Condition B25(a). Mark Tooker's design report is provided as Appendix C.	Letter from DPE approving Mark Tooker dated 4/4/2018 (see Appendix A of SWCMP).		Compliant		
	A compliance certificate to certify the surface water management system has been installed as per the requirements of Condition B25 is contained in Appendix F.	Letter from Mark Tooker dated 22/6/2018 certifying the WMS has been installed as per Cond. B25 requirements (see Appendix F of SWCMP)		Compliant		
Surface Water Management System						
Area 1 surface water management system						
3.2.1	General solid waste that is considered to have a higher risk of contaminating stormwater will be stockpiled and processed in a designated area that is referred to as Area 1. …. Area 1 has a 0.52 ha surface area and is sealed and bunded. Runoff from Area 1 will be initially treated in a sediment pit (referred to as a two stage pit) prior to being pumped into a series of plastic holding tanks that will have a collective capacity of 250 m3. The pump in the two stage pit will be activated when the two stage pit is three quarters full. Water in the holding tanks will be either: ☐ used for dust suppression; ☐ discharged to the sewer as trade waste; or ☐ released into the perimeter drain (subject to favourable water quality).	Work As Constructed documents dated 26/07/2018 drawings 0011WAC01 - Centurion Survey Pty Ltd	Capacity certified by Tooker and Associates. Captured water from Area 1 is used only for dust suppression, confirmed verbally during inspection. Discharge to sewer not required to date.	Compliant		

Relevant Reference	Aspect	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
Area 2 water management system						
3.2.2	The remainder of the site is referred to as Area 2. Area 2 has a 7.4 ha contributing catchment area that comprises the remainder of the SSD approved site (including haul roads, site buildings and waste stockpiles) and the remainder of Lot 1 DP 874109 (comprised of currently unused lay down areas, derelict site buildings and leased areas. ……Runoff from Area 2 drains to a perimeter drain that has been sealed using asphalt. The perimeter drain is sealed and contains a number of rock check dams to enhance the capture of coarse sediments. The drain flows into a sedimentation basin that is located in the north western portion of the site. The basin has been sealed and has a volume of 2,852 m^3 which exceeds the minimum capacity required by Condition B25(d).	Work As Constructed documents dated 26/07/2018 drawings 0011WAC01 - Centurion Survey Pty Ltd	System generally on accordance with plan.	Compliant		
	Water accumulated in the basin will be managed as follows: • water will be used for dust suppression as required; • in accordance with Condition B31 a visible marker has been installed in the final sedimentation basin, showing the freeboard in the basin required to contain runoff from a 90th percentile rainfall event over any consecutive 5 day event; • when basin levels are high and water quality is suitable, water will be discharged to the Hunter River Estuary as controlled discharge; and • uncontrolled overflows to the Hunter River will occur when the basin is full.		Water is used for dust suppression. Marker has been installed in final sedimentation basin. Discharge has not been required to date.	Compliant		
Surface Water Characterisation						
Overview						
4.1	A surface water characterisation assessment has been undertaken to address the following consent conditions: • Condition B33(f) – collect representative samples, including a minimum of four surface water samples from the sediment basin and the two-stage pit. The surface water samples must be analysed for the analytical suite identified in Table 3.16 of the RTS. • Condition B33(g) – characterise the surface water for the entire development and assess the potential impact of discharges on receiving surface waters with reference to ANZECC (2000) assessment criteria.	SWCMP Section 4 & Appendix D	Note, characterisation assessment has been undertaken as per consent conditions. When compared to ANZECC Guidelines, international guidelines and eco-toxicity literature, particularly for acute trigger values, water characterisation results have identified that elevated concentration of suspended solids, oil and grease, copper and zinc as the residual receiving water risks associated with site	Compliant		The SWCMP will be amended within 3 months (as per condition C8 of approval) of approval of the SWVR incorporating recommendations from the SWVR.

Relevant Reference	Aspect	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
			discharge. Discharge has not occurred. It was concluded that human contact risk was low as it is unlikely to be ingested. SWVR completed May 2020 and approval is pending. Further assessment of the potential impacts to the receiving surface water was undertaken and deemed low due to the infrequent nature and short duration and that toxicants are below acute trigger values.			
Mitigation and Management Measures						
Additional Investigations						
5.1	Further investigations will be undertaken to: • assess the performance of the water management system once the Area 1 water management system is operational, including consideration of further options to minimise the frequency and volume of managed overflows;	SWVR SWCMP	SWVR completed May 2020. No overflows have occurred since operations commenced.	Compliant		
	• verify the initial characterisation results that are reported in Section 4 (in line with EPA recommendation, this will include the calculation of a hardness algorithm to demonstrate the hardness of receiving waters);	SWVR SWCMP	SWVR completed May 2020 but does not include an assessment of the hardness of receiving waters.	Not Triggered	Not Triggered	Hardness adjustments only apply to receiving waters that are freshwater, the Hunter River Estuary is a marine ecosystem. Include justification in the updated SWCMP.
	• carry out appropriate modelling and assessment of the mixing process of controlled and overflow discharges to the Hunter River (where required);	SWVR SWCMP	No hardness investigations have been undertaken to date.	Not Triggered	Not Triggered	Hardness adjustments only apply to receiving waters that are freshwater, the Hunter River Estuary is a marine ecosystem. Include justification in the updated SWCMP.
	• monitor overflow frequency and controlled discharge through ongoing monitoring. This will inform the water balance model over time; and	SWVR SWCMP	No discharge required to date.	Not Triggered	Not Triggered	

Relevant Reference	Aspect	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
	• review the practicalities and benefits of using flocculants or coagulants to either; o improve the water quality in the sediment basin; or o improve the water quality of controlled discharge from the sediment basin.	Tooker + Associated Surface Water Management System May 2018. SWCMP	SWCMP discusses the use of flocculant to maximise sediment removal.	Compliant		Review the routine use of flocculation in the sediment basins with regards to the water balance and usage on the site i.e. water deficit. Given that discharge has not been required, nor has the sediment basin overflowed, investigations could be undertaken to determine if flocculation be undertaken only if discharge or overflow would occur.
	Benedict Recycling have already engaged a process water engineer to investigate the most suitable chemical treatment options. The selected water treatment system will be commissioned prior to the commencement of water validation sampling. The EPA will be consulted prior to and during the installation and commissioning of the selected water treatment system.		Water systems have been installed and certified.	Compliant		
	The outcomes of the additional investigations will be documented in the Surface Water Validation Report that will be prepared within six months of the commencement of expanded operations, in accordance with Condition B35.	SWVR AR states as per Heidi Watters (DPE) email confirmation on 26/07/2019 the timeframe for submitting the SWVR (within 1 month of the fourth sampling event) was accepted. AR also noted all studies and reports required by DPIE will be submitted within requested timeframes.	SWVR completed May 2020	Compliant		

Relevant Reference	Aspect	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
Ongoing Management Measures						
Maintenance of Surface Water System						
5.2.1	The following measures will be implemented to ensure the functionality of the surface water system: • in accordance with Condition B28, the surface water management system will be operated and maintained for the duration of the development;	AR noted; 1. See B25 comment (30/04/2020) 2. A weekly compliance checklist has since been implemented. The surface water treatment system (sumps and pumps) are checked however, this has not been documented as the auditor would like (31/01/2020). 2. Completed – weekly compliance checklist implemented onsite Environmental Inspection Checklist – Newcastle	Surface water management system infrastructure is inspected weekly within checklist.	Compliant		
	• in accordance with Condition B29, the surface water management system will be maintained to minimise the infiltration of surface water to groundwater including monthly inspections and maintenance as required to address cracking and vegetation breakthrough through the seal of the perimeter drain or final sedimentation basin;	AR noted; 1. See B25 comment (30/04/2020) 2. A weekly compliance checklist has since been implemented. The surface water treatment system (sumps and pumps) are checked however, this has not been documented as the auditor would like (31/01/2020). 2. Completed – weekly compliance checklist implemented onsite. Environmental Inspection Checklist – Newcastle	Surface water management system infrastructure is inspected weekly within checklist. Perimeter drain observed to be sealed and repairs had been made on tree damaged areas.	Compliant		
	• any maintenance on the surface water management system is to be undertaken by a suitably qualified and experienced person(s), a record of these works will be kept for the life of the Development;	Environmental Inspection Checklist – Newcastle	Surface water management system infrastructure is inspected weekly within checklist.	Compliant		Keep a record of minor repairs, reference the checklist where repairs are note to diary entries or other records.
	• sediment accumulated in the perimeter drains and sediment basin will be removed on an as needed basis;		Sediment has been removed once from the 2-stage sump and reused on site.	Compliant		
	• in accordance with Condition B20, overland flow from the development will be contained within the sealed areas of the site; and		Overland flow observed to be contained within the site.	Compliant		

Relevant Reference	Aspect	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
	• in accordance with Condition B24, all excess water from the wheel wash will be discharged into suitable holding tanks and removed from the MWRF for treatment at an appropriately licensed facility or to trade waste.	AR Noted the wheel wash is not a net consumer of water. It needs to be continually topped up as water evaporates from the wheel wash throughout the day. If we were ever needing to empty excess water out we can use the onsite water cart to pump water out Action was deemed complete	Wheel wash observed during site visit partially filled with water following recent rainfall. Wheel wash has not required water to be removed to date due to excess. If water required to be removed it will be reused in dust suppression on site. SWVR recommends the trade waste discharge agreement is not pursued and trade waste discharged be removed from the water management plant.	Not Triggered	Not Triggered	
Spills						
5.2.2	The following management measures will address potential impacts on water quality arising from any spills or firewater: • in accordance with Condition B43, the stormwater isolation valve within the outfall chamber will be monitored weekly to ensure it remains in a closed position to contain chemical spills or fire water. It is to remain closed until manually opened to facilitate controlled discharge. Controlled discharge is discharge further in Section 6.2.2;	AR noted; 2. A weekly compliance checklist has since been implemented covering the sediment pond outlet valve. The valve is checked however, has not been documented as the auditor would like (31/01/2020)- Completed – weekly compliance checklist implemented onsite Environmental Inspection Checklist - Newcastle	Weekly checklist contains valve inspections.	Compliant		
	• any spills will be contained (as safe and practical), and clean-up materials disposed of at a licensed facility;		Diesel spill response station sited during inspection.	Compliant		
	• in accordance with Condition B22, any servicing or repair work on motor vehicles or mobile plant will be carried out within the main processing shed or other sealed area on the site that has environmental controls appropriate for servicing or repair work. This will include bunding where there this work could result in liquids being spilled;		Diesel tank and refuelling area sited as bunded with concrete during inspection. Workshop shed area is also sealed.	Compliant		

Relevant Reference	Aspect	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
	• in accordance with Condition B42 overfilling of the diesel tank will be prevented through gauging and monitoring of the tank's contents;	AR noted in Sections 4.5 & 4.13 of OEMP, version 5. **See Section 6 and 7 below for further details** AR also noted 1. Bollards will be installed (31/03/2020) 2. A weekly compliance checklist has since been implemented covering the fuel storage area. The fuel area is checked however has not been documented as the auditor would like (31/01/2020) 3. The refuelling area is bunded. All staff will be reminded via a toolbox talk to always refuel within this bunded area (31/03/2020) 4. The spill kit has since been replenished (31/01/2020) 5. A weekly compliance checklist has since been implemented covering the spill kit. The spill kit is checked on occasion, however, has not been documented as the auditor would like (31/01/2020).	Weekly checklist includes check of fuel area and spill kits maintained on site.	Compliant		
	• hoses used for transfer of diesel will be inspected weekly;		Weekly checklist includes check of fuel area and spill kits maintained on site.	Compliant		
	• in an emergency, flow of liquid from the diesel tank to a consuming device will be immediately shut off; and		PIRMP training includes emergency procedures.	Compliant		
	• a diesel spill kit will be stored in the refuelling area and deployed in the event of a spill.		Diesel spill response station sited during inspection.	Compliant		
Waste Management						
5.2.3	The following measures will be implemented to minimise sediment and contaminant mobilisation arising from the management of waste on the site: • Waste is to be segregated, with potentially contaminated waste, as described in Section 3.2, stored within the bunded Area 1;		Bunding of Area 1 inspected during inspection.	Compliant		
	• all waste unloaded at the public unloading area is to be unloaded and stockpiled within the main processing building (in accordance with Condition B32);		Unloading area inspected and confirmed to be placed at the unloading awning or within main processing building.	Compliant		
	• irrigation sprays will be only used when the surface of a stockpile is dry and irrigation is to cease when the surface of the stockpile is wet;		No irrigation observed on the day of inspection due to wet weather.	Compliant		
	• site water will be used for dust suppression but will not be used for product processing; and		Site water is used only for dust suppression	Compliant		

<table>
<tr><th>Relevant Reference</th><th>Aspect</th><th>Documents Provided</th><th>Inspections/Observations</th><th>Assessment</th><th>Risk Assessment</th><th>Compliance Finding/Recommendations</th></tr>
<tr><td></td><td>• all excess water from the wheel wash is to be discharged into suitable holding tanks and discharged via trade waste or removed from the MWRF for treatment at an appropriately licensed facility. It is noted that wheel wash systems are a net user of water so excess water is only expected to be produced during maintenance.</td><td>AR Noted the wheel wash is not a net consumer of water. It needs to be continually topped up as water evaporates from the wheel wash throughout the day. If we were ever needing to empty excess water out we can use the onsite water cart to pump water out

Action was deemed complete</td><td>No pumping of water has been required to date for the wheel wash.

Audit undertaken following recent and ongoing rainfall, there was pooling around the wheel wash however it was not affecting traffic flow and no oil and grease was visible.</td><td>Not Triggered</td><td>Not Triggered</td><td></td></tr>
<tr><td colspan="7">Discharge Protocols and Monitoring</td></tr>
<tr><td colspan="7">Provisional Discharge Criteria</td></tr>
<tr><td>6.1</td><td>The discharge criteria will be finalised once the validation monitoring (described in Section 6.3.2) is completed.

Table 6.1 Provisional discharge criteria
<table><tr><th>Analyte</th><th>Discharge criteria mg/L</th><th>Basis</th></tr><tr><td>pH</td><td>6.5-8.5</td><td>EPL 20771</td></tr><tr><td>TSS</td><td>50</td><td>EPL 20771</td></tr><tr><td>Oil and grease</td><td>10</td><td>EPL 20771</td></tr><tr><td>anionic surfactants</td><td>1.82</td><td>Acute trigger value as established in Table 4.4</td></tr><tr><td>aluminium</td><td>0.45</td><td>Acute trigger value as established in Table 4.4</td></tr><tr><td>cobalt</td><td>0.11</td><td>Acute trigger value as established in Table 4.4</td></tr><tr><td>copper</td><td>0.007</td><td>Acute trigger value as established in Table 4.4</td></tr><tr><td>lanthanum</td><td>0.012</td><td>Acute trigger value as established in Table 4.4</td></tr><tr><td>strontium</td><td>1.50</td><td>Acute trigger value as established in Table 4.4</td></tr><tr><td>zinc</td><td>0.045</td><td>Acute trigger value as established in Table 4.4</td></tr><tr><td>other</td><td>Acute trigger value</td><td>Acute trigger value to be established for any analyte that exceeds a chronic trigger value in future sampling.</td></tr></table></td><td>SWVR</td><td>SWVR completed May 2020. Discharge criteria to be finalised once SWVR is approved and the review of the SWCMP is undertaken.</td><td>Not Triggered</td><td>Not Triggered</td><td>Review of discharge criteria to be undertake by Benedict once SWVR approved.</td></tr>
<tr><td colspan="7">Management of Discharge</td></tr>
<tr><td colspan="7">Discharge from the Holding Tanks</td></tr>
<tr><td>6.2.1</td><td>Runoff from Area 1 will be collected in the two-stage pit before being pumped into the holding tanks. Water stored in the holding tanks will be either released into the perimeter drain or discharged into the sewer as trade waste.</td><td></td><td>No requirement to discharge from holding tanks to perimeter drain to date.

Water from the tanks can be transferred to the perimeter drains if required.</td><td>Compliant</td><td></td><td></td></tr>
<tr><td></td><td>Release from the holding tanks to the perimeter drain will only occur if the water in the holding tanks is assessed to have a low risk of degrading the water quality of the sediment basin.</td><td></td><td>No discharge required to date.</td><td>Not Triggered</td><td>Not Triggered</td><td></td></tr>
<tr><td></td><td>This risk will be progressively assessed through the following monitoring:

• discharge samples will be collected from one of the tanks and the sediment basin following the initial five tank filling events (ie five independent rainfall events that enable the holding tanks to be partially or fully filled); and</td><td>SWCMP

SWVR</td><td>Although this monitoring refers to ‘discharge’, technically it is requiring sampling of the tank and sediment basin prior to potential discharge, which has been undertaken for the SWCMP and SWVR.

No discharge required to date.</td><td>Compliant</td><td></td><td></td></tr>
</table>

Relevant Reference	Aspect	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
			The SWCMP and SWVR assessed the water quality and risk to receiving waters. Ongoing monitoring to be undertaken once criteria is confirmed after approval of the SWVR and review of the SWCMP.			
	• discharge samples will be collected quarterly (during wet weather conditions) once the initial five samples are collected.		No discharge required to date. Discharge criteria to be finalised once SWVR is approved and the review of the SWCMP is undertaken.	Not Triggered	Not Triggered	Review of discharge criteria to be undertake by Benedict once SWVR approved. Ongoing monitoring to commence once criteria established.
	The initial five samples will provide sufficient information to enable the water quality risks associated with the release of water from the holding tanks into the perimeter drain to be reliably assessed. If this information indicates that the risks are low, release from the holding tank into the perimeter drain will be undertaken without monitoring each release event.		No discharge required to date.	Not Triggered	Not Triggered	
	If release into the perimeter drain is considered to be high risk, all water in the holding tanks will be discharged to the sewer as trade waste. This discharge will be undertaken in accordance with a trade waste agreement.	SWVR	SWVR recommends that the trade waste discharge agreement is not pursued.	Not Triggered	Not Triggered	
Controlled Discharge						
6.2.2	Controlled discharge will be required to reduce the frequency and occurrence of uncontrolled overflows from the sediment basin. Controlled discharges will occur via pumped dewatering of the sediment basin into piped drainage that drains into the Hunter River Estuary. All controlled discharge will be manually operated.		No discharge required to date. SWVR noted that “risks to receiving water from site discharges are assessed to be low due to the infrequent nature and short duration of any basin overflows and concentrations of toxicants being below acute trigger values”	Compliant		
	The following protocols will be applied to managing controlled discharges: • Following a rainfall event, site management will review rainfall forecasts and basin levels to establish the need for controlled discharge.		No discharge required to date.	Not Triggered	Not Triggered	

<table>
<tr><th>Relevant Reference</th><th>Aspect</th><th>Documents Provided</th><th>Inspections/Observations</th><th>Assessment</th><th>Risk Assessment</th><th>Compliance Finding/Recommendations</th></tr>
<tr><td></td><td>• If controlled discharge is deemed advantageous, discharge samples will be collected. Laboratory results will be available within two business days.</td><td></td><td>No discharge required to date.</td><td>Not Triggered</td><td>Not Triggered</td><td></td></tr>
<tr><td></td><td>• If laboratory results indicate that the discharge criteria will not be exceeded, controlled discharge will occur. Additional discharge samples will be collected during discharge to verify the water quality during discharge.</td><td></td><td>No discharge required to date.</td><td>Not Triggered</td><td>Not Triggered</td><td></td></tr>
<tr><td></td><td>Over time, if water quality data indicates that the quality of controlled discharge has a low risk of exceeding the discharge criteria, pre-discharge monitoring requirements will be discontinued. This will provide more flexibility on the timing of controlled discharge. Monitoring during discharge will be maintained.</td><td></td><td></td><td>Not Triggered</td><td>Not Triggered</td><td></td></tr>
<tr><td colspan="7">Uncontrolled Overflows</td></tr>
<tr><td>6.2.3</td><td>Uncontrolled overflows will unavoidably occur when the sediment basin is full. The frequency and magnitude of uncontrolled overflows can be reduced by controlled discharges. If uncontrolled overflows occur, a discharge sample will be collected from the basin within 24 hours of discharge.</td><td></td><td>No discharge required to date.</td><td>Not Triggered</td><td>Not Triggered</td><td></td></tr>
<tr><td colspan="7">Monitoring</td></tr>
<tr><td colspan="7">Provisional Discharge Quality Monitoring</td></tr>
<tr><td>6.3.1</td><td>Table 6.2 Provisional discharge monitoring requirements
<table><tr><th>Category</th><th>Trigger</th><th>Sampling locations</th></tr><tr><td>Holding tanks (initial sampling)[1]</td><td>Samples will be collected following the initial five tank filling events</td><td>• Holding tanks
• Sediment basin</td></tr><tr><td>Controlled discharge (assessment)[2]</td><td>Prior to a controlled discharge occurring</td><td>• Sediment basin</td></tr><tr><td>Controlled discharge (verification)</td><td>During a controlled discharge</td><td>• Sediment basin</td></tr><tr><td>Uncontrolled overflows</td><td>Within 24 hours of an uncontrolled overflow occurring</td><td>• Sediment basin</td></tr><tr><td>Quarterly monitoring (during wet weather)[3]</td><td>Samples will be collected during wet weather conditions on a quarterly basis</td><td>• Holding tanks
• Sediment basin</td></tr></table>Notes: 1. This monitoring requirement will be discontinued after the initial five samples have been collected.
2. This monitoring requirement will be discontinued if water quality data indicates that the quality of controlled discharge has a low risk of exceeding the discharge criteria.
3. Any samples collected during a quarter can be used to meet the quarterly monitoring requirement provided samples are collected from both the holding tanks and sediment basin at the same time.</td><td>SWVR</td><td>No discharge required to date.
Holdings tanks were tested as part of the SWVR completed May 2020.
Ongoing monitoring event based and quarterly monitoring (of the holding tanks and sediment basin during wet weather), as outlined in the SWCMP table 6.1 should commence pending approval of SWVR and review of SWCMP.</td><td>Not Triggered</td><td>Not Triggered</td><td>Review of discharge criteria to be undertaken by Benedict and ongoing quarterly monitoring of the holding tanks and sediment basin during wet weather should commence.</td></tr>
</table>

Relevant Reference	Aspect	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
	Table 6.3 Provisional monitoring analytes and methods Category / Analytes / Sampling and analysis methods Physio-chemical parameters: pH — pH will be measured in-situ using a portal water quality meter. Total suspended solids; Oil & grease — Analysis will be undertaken by a NATA certified laboratory. Major ions: Hardness and alkalinity — Analysis will be undertaken by a NATA certified laboratory. Metals and metalloids: Aluminium (Al), cobalt (Co), copper (Cu), lanthanum (La), strontium (Sr) and zinc (Zn) — Samples will be filtered in the field using a 0.45 µm filter. Analysis will be undertaken by a NATA certified laboratory. Miscellaneous: Anionic Surfactants, — Analysis will be undertaken by a NATA certified laboratory Nutrients: Total phosphorus, total nitrogen, oxides of nitrogen, ammonia and filterable reactive phosphate — Analysis will be undertaken by a NATA certified laboratory	SWVR	No discharge required to date. Holdings tanks were tested as part of the SWVR completed May 2020. Ongoing monitoring event based and quarterly monitoring (of the holding tanks and sediment basin during wet weather), as outlined in the SWCMP table 6.1 should commence pending approval of SWVR and review of SWCMP.	Not triggered	Not Triggered	Review of discharge criteria to be undertaken by Benedict and ongoing quarterly monitoring of the holding tanks and sediment basin during wet weather should commence.
Validation Monitoring						
6.3.2	In accordance with Condition B35, within six months of the commencement of expanded operations, a Surface Water Validation Report (SWVR) will be prepared. The SWVR will be prepared in consultation with the EPA and will: • collect a minimum of four surface water samples from the sediment basin and four from the two stage pit;	SWVR AR states as per Heidi Watters (DPE) email confirmation on 26/07/2019 the timeframe for submitting the SWVR (within 1 month of the fourth sampling event) was accepted. AR also noted all studies and reports required by DPIE will be submitted within requested timeframes.	SWVR completed May 2020. Collection of water samples and field observations on four occasions for both sample points between August 2019 to March 2020.	Compliant		
	• analyse samples for all analytes identified in Table 4.2 of this SWCMP and characterise the samples with reference to ANZECC (2000), Hunter River baseline water quality, the results of the surface water characterisation monitoring program, and EPL conditions; and	SWVR SWCMP	SWVR noted that “risks to receiving water from site discharges are assessed to be low due to the infrequent nature and short duration of any basin overflows and concentrations of toxicants being below acute trigger values”	Compliant		
	• in addition to the analytes identified in Table 4.2, at the request of the EPA (August 2018) the following analytes will also be analysed during the validation sampling: o methylphenols; o PAHs; o cyanide; and o water treatment chemicals (dependent on selected water treatment option).	SWVR	Methylphenols, PAHs and cyanide were all analysed as part of the SWVR. Ultrion coagulant was used during the SWVR period.	Compliant		

Relevant Reference	Aspect	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
	• provide an assessment of the effectiveness of implemented mitigation measures and if necessary provide additional measures.	SWVR	Table 4.2 in the SWVR reviews the effectiveness of the key elements of the Water Management System and makes recommendations.	Compliant		
	In response to the EPA recommendation (EPA Letter August 2018), where relevant, the surface water validation report will include appropriate modelling and assessment of the mixing process of controlled and overflow discharges to the Hunter River to demonstrate that ANZECC trigger values are achieved at the edge of a near field mixing zone and that there are no impacts within the mixing zone such as objectionable deposits or bioaccumulation.	SWVR	SWVR noted that "risks to receiving water from site discharges are assessed to be low due to the infrequent nature and short duration of any basin overflows and concentrations of toxicants being below acute trigger values" No modelling and assessment has been undertaken to date.	Not Triggered	Not Triggered	Hardness adjustments only apply to receiving waters that are freshwater, the Hunter River Estuary is a marine ecosystem. Include justification in the updated SWCMP.
	Any alterations to the surface water management system identified in the SWVR will be implemented prior to further site discharges. The SWCMP will be updated to reflect any changes to the surface water management system.	SWVR	Approval for SWVR is pending at the time of this audit. Until the SWVR is approved there will be no changes to the surface water management system.	Compliant		The SWCMP will be amended within 3 months (as per condition C8 of approval) of approval of the SWVR incorporating recommendations from the SWVR.
Weather and Water Quantity Monitoring						
6.3.3	Table 6.4 Weather and water quantity monitoring requirements Aspect: Meteorological monitoring; Objective: To accurately record site rainfall. This information can be used to calibrate the site water balance model and demonstrate compliance with rainfall related consent conditions; Monitoring location: On site meteorological station; Frequency: Continuous; Monitoring description: Benedict will operate an onsite meteorological station capable of measuring rainfall		Weather station and monitoring was observed during the site audit.	Compliant		
	Dust suppression monitoring; Benedict will record volumes of water used daily for dust suppression to improve the reliability of the site's water balance model.; Flow meter to sprinkler system and water cart use; Continuous; Volumes of water used daily for dust suppression will be recorded either by cumulative flow meter and/or a daily water cart count		Volumes of water used for dust suppression has not been recorded to date.	Non-Compliant	Low	Water cart volumes and any sprinklers systems used should be logged and used to inform the water balance for the site.
	Discharges from the sediment basin; To record the occurrence of controlled discharges and uncontrolled overflows from the sediment basin; Sediment basin; During discharge; Qualitatively record the discharge time, duration and type		No discharge from the site has occurred to date.	Not Triggered	Not Triggered	
	Discharges to trade waste; To monitor discharges to trade waste in accordance with a trade waste agreement; Trade waste discharge location; As required by the trade waste agreement; As required by the trade waste agreement		Trade waste permit has not been pursued. SWVR recommends it not be sought as it is unlikely to be required.	Not Triggered	Not Triggered	

Relevant Reference	Aspect	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
Incident Procedure						
Water Quality Incident Procedure						
7.1	A water quality incident is defined as any incident or potential incident that poses an actual or potential significant off-site impact on water quality or a non-compliance in relation to the SSD approval conditions relevant to water management on the site. In all cases, where a potential or actual water quality incident occurs, the incident is to be reported immediately to the site leading hand/ supervisor.		Noted. No incidents to date to report.	Not Triggered	Not Triggered	
	Water quality incidents are to be reported via telephone to the EPA and DPE immediately after the incident occurs. Formal written advice is to be provided to the EPA and DPE within 7 days of the incident occurring. The incident report should include: ☐ time and date the incident occurred; ☐ name of person recording the incident; ☐ nature, details and location of the incident; ☐ duration of the incident; ☐ actions taken to contain or ameliorate the effects of the incident; and ☐ actions taken to minimise the reoccurrence of the incident.		No incidents to date to report.	Not Triggered	Not Triggered	
Complaint Procedure						
7.2	Any enquiries or complaints made by members of the public to site personnel are to be directed to the site manager.		No complaints regarding water system.	Not Triggered	Not Triggered	
	All information relating to such complaints will be kept in a register. The register will include, but not be restricted to, the following information: □ date and time of complaint; □ complainant details (ie full name, address and contact details where these have been voluntarily provided); □ nature and source of complaint; □ action taken; and □ follow-up with complainant.		Complaints register has been uploaded to the website. No complaints regarding water system.	Not Triggered	Not Triggered	

Relevant Reference	Aspect	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
	Complaints will be reported to DPE and EPA annually through annual reviews and annual returns respectively. The complaint register will be made available to any relevant regulatory authority or independent auditor upon request.	Complaints Register	No complaints regarding water system.	Compliant		
	The complaint register will be publicly available on the Benedict website in accordance with Condition C15.	Complaints Register	Complaints register has been uploaded to the website and is up to date.	Compliant		
	Should the complaint be relevant to any of the surface water management SSD approval conditions, it shall be handled as per the relevant conditions.		No complaints to date.	Not Triggered	Not Triggered	
Contingency Measures						
8	Contingency measures will be implemented under the following circumstances: □ in the event the Hunter Trade Waste application approval is delayed or not approved; and □ if the validation monitoring or discharge monitoring results show analytes above non trivial levels.		Surface Water Validation Report (SWVR) by EMM dated 21st May 2020 provided following audit. This report recommends that the trade waste discharge agreement is not pursued, and trade waste discharges are removed from the water management plan. Validation monitoring determined the risk to the receiving environment was low. Contingency measures have thus not been required.	Not Triggered	Not Triggered	Review the SWCMP and justify the removal of the requirement of a Trade Waste Permit.

Relevant Reference	Aspect	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
	Contingency measures would include all practical measures to improve water quality. Consideration would be given to: □ additional monitoring to identify the source of the degraded water quality; □ review operational practices to reduce water quality risks, such as further segregation and/or bunding of waste types; □ treatment of water in the sediment basin using coagulants or flocculants; □ treatment of controlled discharges to improve water quality; □ source controls to minimise the risk of pollutants entering the stormwater system in identified high risk areas; □ additional water treatment options, including consideration of further water treatment systems if required; and □ increase runoff capture/storage volumes.		Contingencies included in the SWCMP. These will be reviewed once the SWVR is approved.	Compliant		
Continual Improvement						
9	Environmental performance of the MWRF's surface water management system will be evaluated through the **validation monitoring program** (refer Section 6.2) and the findings of the **independent surface water audit** (refer Section 9.2). Continual improvement will be ensured through the **routine monitoring program, the annual review process** (refer Section 9.1) and **independent environment audits** (refer Section 9.3). Any actions identified through these processes will be implemented as required.	Independent Environmental Audit. Annual Review. Approval letters from DPIE. Surface Water Validation Report. Monitoring Results.	This report will fulfil the requirement for an independent surface water audit. An annual review has been undertaken for 2018 and 2019 for the period 1st Jan to 31st Dec 2019. The independent audit was undertaken and reported 4th Dec 2019. Actions implemented included the completion of the SWVR (including monitoring) and this audit.	Compliant		`
	The SWCMP will be reviewed and if necessary, revised, in accordance with Condition C8 of the SSD approval, within three months of the following: □ approval of a modification; □ approval of an annual review (refer Section 9.1); □ submission of an incident report (refer Section 7.1); or	Independent Environmental Audit. Annual Review. Approval letters from DPIE. Surface Water Validation Report. Monitoring Results. SWCMP.	Annual review submitted 30/3/2020 for the period 1/1/2019 to 31/12/2020 was satisfactory to DPIE as per correspondence from Heidi Watters (DPIE) dated 30/4/2020. The SWCMP is due to be reviewed by 31/7/2020.	Compliant		

Relevant Reference	Aspect	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
	completion of an audit under Condition C13 (refer Section 9.3).		IEA report completed 4/12/2019. The SWCMP has been reviewed via this SWA within 3 months of approval of IEA. IEA was endorsed by DPIE in correspondence dated 20/3/2020. The SWCMP will be reviewed shortly after completion of the SWVR.			
Annual Review						
9.1	The environmental performance of the surface water management system and supporting mitigation measures will be reviewed by Benedict and **reported annually to DPE** through the **annual review** in accordance with Condition C9.	Annual Review. Approval letters from DPIE.	Annual review submitted 30/3/2020 for the period 1/1/2019 to 31/12/2020 was satisfactory to DPIE as per correspondence from Heidi Watters (DPIE) dated 30/4/2020.	Compliant		
	The annual review will include a **conditions compliance report** which will include a review the MWRF's compliance with conditions identified in Section 2.1. The annual review will also include a **comprehensive review of surface water monitoring results**, which will include a comparison of results against the relevant criteria identified in Section 6 of this plan and monitoring results of previous years.	Annual Review.	AR contains conditions compliance report and a review of surface water monitoring results.	Compliant		
	The annual review process will also identify **measures,** as required, that will be implemented over the following year **to further improve the environmental performance of the surface water management system.**	Annual Review.	AR contains measures to improve performance	Compliant		
Independent Surface Water Audit						
9.2	In accordance with Condition B38, within 18 months of the commencement of expanded operations, an **independent surface water audit** of the MWRF [site] will be undertaken. The audit is to:		This audit satisfies this condition.	Compliant		
	• be carried out by a suitably qualified and experienced expert whose appointment has been endorsed by the Secretary;	AR noted a letter of endorsement was received from the Department on 25/03/2020.		Compliant		
	• be conducted in consultation with the EPA;	Correspondence to EPA dated 14th May 2020.	EPA was invited to comment on the upcoming SWA in May 2020 but not response was received.	Compliant		
	• audit the MWRF whilst it is in operation;		The site was in operation at the time of the audit.	Compliant		

Relevant Reference	Aspect	Documents Provided	Inspections/Observations	Assessment	Risk Assessment	Compliance Finding/Recommendations
	• validate the development against this SWCMP;		Audit conducted validation of the SWCMP.	Compliant		
	• include a summary of any EPL water quality exceedances;		See Surface Water Audit report. Note; no discharges to report.	Compliant		
	• review the design and management practices of the MWRF against industry best practice for surface water;		Review undertaken.	Compliant		
	• include an action plan that identifies and prioritises additional surface water mitigation measures and/or treatment options that may be necessary to reduce surface water impacts; and		Action plan included in the Surface Water Audit report.	Compliant		
	• provide a further program of monitoring to address water quality issues that may emerge over time.		Suggested program of monitoring summarised in Surface Water Audit report.	Compliant		
	Benedict will **submit the audit to DPE**, together with its response to any recommendations of the audit. The **SWCMP will be reviewed**, as required, in consultation with DPE following the surface water audit.		This will occur post audit submission	Not Triggered	Not Triggered	
Independent Environmental Audit						
9.3	**Within one year** of the commencement of expanded operations, and **every three years thereafter**, or as directed by DPE, Benedict will arrange an independent environmental audit of the MWRF in accordance with Condition C13 of the SSD approval.		IEA report completed 4/12/2019	Compliant		
	These audits will provide ongoing independent reviews the performance of the MWRF's surface water management system and the adequacy of the SWCMP. Any recommendations to improve the environmental performance of the surface water management system will be considered and adopted, as appropriate, in consultation with DPE.		Noted	Compliant		

Appendix I:
OEMP and Associated Plans Approval Letter

NSW GOVERNMENT | Planning & Environment

Contact Name: Bruce Zhang
Number: 02 9274 6137
Email: bruce.zhang@planning.nsw.gov.au

Mr Ernest Dupere
Benedict Recycling Pty Ltd
PO Box 431
Frenchs Forest NSW 1640

cc: Mr Philip Towler, EMM Consulting
ptowler@emmconsulting.com.au

Dear Mr Dupere

Mayfield West Recycling Facility
Approval of Operational Environmental Management Plan
(SSD 7698)

I refer to your correspondence dated 10 May 2018, seeking approval for the Operational Environmental Management Plan (OEMP) and associated sub-plans as required by Condition C1 of Schedule 2 of SSD 7698, including the following sub-plans:

- Waste Management Plan (Condition B13)
- Surface Water Characterisation and Mitigation Plan (Condition B33)
- Operational Traffic and Pedestrian Management Plan (Condition B50)
- Air Quality Management Plan (Condition B57)
- Conceptual Decommissioning Management Plan (Condition B84).

The Department has reviewed the revised management plans and concludes the plans address the relevant conditions. As such, the following plans are approved:

- Operational Environmental Management Plan, prepared by Benedict Recycling Pty Ltd, dated 30 July 2018, Revision 05
- Waste Management Plan, prepared by Benedict Recycling Pty Ltd, dated 25 May 2018, Revision 04
- Surface Water Characterisation and Mitigation Plan, prepared by EMM Consulting, dated 6 September 2018, Version 4
- Operational Traffic and Pedestrian Management Plan, prepared by The Traffic Planner, dated 30 July 2018, Version 1.2
- Air Quality Management Plan, prepared by Ramboll Australia, dated 29 June 2018, Revision 2
- Conceptual Decommissioning Management Plan, prepared by EMM Consulting, dated 3 May 2018, Final V2.

Please note that you are also required to satisfy all other relevant conditions of consent prior to the commencement of operation, including condition B72 regarding fire management.

Should you have any queries in relation to this matter, please contact Bruce Zhang, Environmental Assessment Officer on the above contact details.

Yours sincerely

C. Ritchie 25/9/18.

Chris Ritchie
Director
Industry Assessments
as delegate of the Planning Secretary

Appendix J:
Condition B72 Correspondence

From:	Janet Krick
To:	Bruce Zhang
Cc:	Phil Towler
Subject:	RE: Mayfield West Recycling Facility (SSD 7698) Approval of Operational Environmental Management Plan
Attachments:	image001.png image002.jpg image003.jpg image004.jpg

Hi Bruce,

Many thanks for sending through the approval for the OEMP.

Please note, Condition B72 has been addressed within the OEMP (Section 4.12) and Emergency Response Plan (ERP) (Section 8) and through inclusion of the 2018 Final Fire Safety Certificate for the site in Appendix L of the OEMP and Appendix 1 of the ERP. Compliance with operational aspects of Condition B72 will be reported where relevant through annual reporting and demonstrated during independent audits.

Kind regards

Janet Krick | Senior Environmental Planner

T 02 4907 4800 | **D** 02 4907 4815 | **M** 0456 664 212 | **F** 02 4907 4899

www.emmconsulting.com.au

From: Bruce Zhang [mailto:Bruce.Zhang@planning.nsw.gov.au]
Sent: Tuesday, 25 September 2018 1:14 PM
To: Janet Krick; Phil Towler
Cc: DPE PSVC Compliance Mailbox
Subject: Mayfield West Recycling Facility (SSD 7698) Approval of Operational Environmental Management Plan

Dear Janet

Please see ***attached*** Approval of Operational Environmental Management Plan for Mayfield West Recycling Facility (SSD 7698).

Please note that you are also required to satisfy all other relevant conditions of consent prior to the commencement of operation, including condition B72 regarding fire management.

The Approval is also posted to the Applicant, Benedict Recycling Pty Ltd.

Should you have any questions, please do not hesitate to contact me.

Kind regards

Bruce Zhang
Environmental Assessment Officer
Industry Assessments
320 Pitt Street | SYDNEY NSW 2000
T 02 9274 6137 E bruce.zhang@planning.nsw.gov.au

Appendix K:
SWVR Due Date Correspondence

From:	Heidi Watters
To:	Janet Krick
Cc:	Alycia Campbell; Chris Kuczera; Phil Towler; Leah Cook
Subject:	RE: SSD 7698 Mayfield West Recycling Facility Condition B35 and clarification regarding commencement of operations
Date:	Friday, 26 July 2019 12:41:44 PM
Attachments:	image001.jpg image002.png image003.png image004.png

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Hi Janet

Thank you for email. The timeframe for submitting the SWVR (within 1 month of the forth sampling event) is accepted.

Also thank you for confirming the commencement date of the expanded operations to 25 September 2018. The revised commencement date affects the following conditions:

- Part B condition B38 – the Independent Surface Water Audit must be commissioned by 25 March 2020. Therefore, the proposed audit team should be provided to the Department for review and endorsement before this date.
- Part B conditions B40 and B41 – the Groundwater Monitoring Program is to be completed by 25 September 2019 and submitted to the Secretary and EPA by 25 December 2019.
- Part C condition C13 - the Independent Environmental Audit must be commissioned by 25 September 2019. Therefore, the proposed audit team should be provided to the Department for review and endorsement before this date.

Please call or email if you have any further questions.

Regards

Heidi Watters
Senior Compliance Officer

Planning & Assessment | Department of Planning, Industry and Environment
T 02 6575 3401 | **M** 0472 820 374| **E** heidi.watters@planning.nsw.gov.au
PO Box 3145 | Singleton NSW 2330
Please direct all email correspondence to compliance@planning.nsw.gov.au
www.dpie.nsw.gov.au

The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

From: Janet Krick <jkrick@emmconsulting.com.au>
Sent: Friday, 26 July 2019 8:21 AM
To: Heidi Watters <Heidi.Watters@Planning.nsw.gov.au>
Cc: Alycia Campbell <Alycia@benedict.com.au>; Chris Kuczera <ckuczera@emmconsulting.com.au>; DPE PSVC Compliance Mailbox <compliance@planning.nsw.gov.au>; Phil Towler <ptowler@emmconsulting.com.au>
Subject: SSD 7698 Mayfield West Recycling Facility Condition B35 and clarification regarding commencement of operations

Hi Heidi,

Thanks for your time last week. As discussed please find attached letter from Chris Kuczera, outlining the proposed approach for the Surface Water Validation Plan (Condition B35).

Also as we discussed, I would like to confirm the actual start date of expanded operations. We provided the notification for commencement of expanded operations in accordance with A13 as being the 27 August 2018. However due to the delay in the approval of the OEMP for the site, the actual start date of expanded operations was not until 25 September 2018 following the receipt of DPIE's official approval of the OEMP and subplans.

Please do not hesitate to contact myself or Chris if you require any clarification regarding the above.

Kind regards

Janet Krick
Senior Environmental Planner

T 02 4907 4800
M 0456 664 212
D 02 4907 4815
Connect with us

NEWCASTLE | Level 1, 146 Hunter Street, Newcastle 2300

Appendix L:
DPIE acceptance of IEA

Planning, Industry & Environment

Ms Alycia Campbell
Environmental Compliance Officer
Benedict Recycling Pty Ltd
PO Box 10
MOOREBANK NSW 1875

Contact: Joel Curran
Phone: (02) 4904 2702
Email: joel.curran@planning.nsw.gov.au
compliance@planning.nsw.gov.au
Our ref: SSD 7698

Email: alycia@benedict.com.au

CC: Ken Holmes, ken@baeckea.com.au

Dear Ms Campbell

MAYFIELD WEST RECYCLING FACILITY (SSD 7698) – INDEPENDENT ENVIRONMENTAL AUDIT

Reference is made to the revised Independent Environmental Audit (IEA) report and Response to Audit Recommendations (RAR) for the Mayfield West Recycling Facility, prepared as required by Schedule 2, Part C, condition C13 of SSD 7698 (the consent) and submitted by Benedict Recycling Pty Ltd (Benedict) to the Department of Planning, Industry and Environment (the Department) on 5 March 2020.

The Department considers that the revised IEA report and RAR generally satisfy the requirements of the consent. Please note that acceptance of the IEA report and RAR is not an endorsement of the compliance status of the project.

Non-compliances identified in the IEA have been assessed in accordance with the Department's Compliance Policy. The Department has commenced investigations and further correspondence will be forthcoming regarding the non-compliances identified against:

- Schedule 2 Condition B28;
- Schedule 2 Condition B29;
- Schedule 2 Condition B42;
- Schedule 2 Condition B43; and
- Schedule 2 Condition B72;

For all other non-compliances with conditions of the consent identified in the IEA, the Department has determined to record the breaches and at this stage, no further enforcement action is proposed. However, please note that recording the breach does not preclude the Department from taking alternative enforcement action, should it become apparent that an alternative response is more appropriate.

Please include a status update for all actions provided in the RAR in the next Annual Review, until all actions are completed.

Please contact Joel Curran, Senior Compliance Officer on the details above should you have any questions regarding this matter.

Yours sincerely,

HWatters 20/3/2020

Heidi Watters
Team Leader Northern
Compliance, Planning & Assessments

Appendix M:
SWVR

Mayfield West Recycling Facility

Surface water validation report

Prepared for Benedict Recycling Pty Limited
May 2020

EMM Newcastle
Level 1, 146 Hunter Street
Newcastle NSW 2300

T 02 4907 4800
E info@emmconsulting.com.au

www.emmconsulting.com.au

Mayfield West Recycling Facility

Surface water validation report

Report Number

J14152 RP19

Client

Benedict Recycling Pty Limited

Date

21 May 2020

Version

v2 Final

Prepared by

Chris Kuczera
Associate water resources engineer
21 May 2020

Approved by

Dr Philip Towler
Associate Director
21 May 2020

Executive Summary

Benedict Recycling Pty Ltd (Benedict) owns and operates a resource recovery facility at 1a McIntosh Drive, Mayfield West (the facility). In 2018 the Minister for Planning approved a consent modification (SSD 7698) enabling the facility to increase the processing capacity to 315,000 tonnes per year of general solid waste (non-putrescible). Schedule 2 of the consent includes several water management related conditions. This report addresses Consent Condition B35, which requires the preparation of a Surface Water Validation Report (SWVR).

The SWVR included, collection of water samples and field observations on four occasions between August 2019 to March 2020; laboratory analyses of the collected water samples; and collection and interpretation of the results to characterise the quality of surface water within the site. The results are compared to:

- default guideline values (DGVs) presented in the ANZECC/ARMCANZ (2000) guidelines, which are the same as the more recent ANZG (2018) guidelines for the analytes considered.
- concentration limits specified in the facility's Environment Protection Licence (EPL); and
- water characterisation results presented in the Surface Water Characterisation and Mitigation Plan (SWCMP) that was prepared by EMM in 2018.

All samples were collected during or shortly after separate wet weather events where rainfall totals ranged from 72 to 182 mm, generating surface runoff from some areas of the facility. During each event, samples were collected from the following locations:

- Holding tanks that receive (via pumping) runoff from a bunded area (referred to as Area 1) where general solid waste that is considered to have a higher risk of contaminating stormwater is stockpiled and processed. The holding tanks overflow into the facility's greater water management system when full.
- The facility's sedimentation basin (the basin) that receives runoff from the waste management facility as well as an adjoining area that comprises derelict buildings and unused laydown areas. The basin overflows to the Hunter River Estuary when full.

The basin's water quality was characterised as being slightly alkaline and having elevated (relative to DGVs) turbidity, and nutrients, aluminium and copper concentrations. The concentrations of all organic, inorganic and metal toxicants tested other than aluminium and copper were below detection limits and/or DGVs in all samples. The suspended solids concentration exceeded the EPL discharge limit of 50 mg/L in all four samples, although there were no discharges required from the site at the time. The water quality has improved relative to the SWCMP results. This is despite the operations being expanded post SSD approval.

The water quality of runoff from Area 1 was characterised poorer/higher risk than basin water quality due to:

- Higher turbidity and suspended sediment levels/concentrations.
- Higher concentrations of nutrients (nitrogen and phosphorus).
- A higher risk of metal toxicants exceeding DGVs.
- An increased risk of hydrocarbon related contamination (ie total recoverable hydrocarbons and total petroleum hydrocarbons).

Chapter 4 of this report reviews the existing water management system and includes several recommendations to improve both the effectiveness and operational aspects of the system.

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Appendices

Tables

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1 Introduction

1.1 Background and purpose

Benedict Recycling Pty Ltd (Benedict) owns and operates a resource recovery facility at 1a McIntosh Drive, Mayfield West (the facility). In 2018 the Minister for Planning approved a consent modification (SSD 7698) enabling the facility to increase the processing capacity to 315,000 tonnes per year of general solid waste (non-putrescible). Schedule 2 of the consent includes several water management related conditions. This report addresses Consent Condition B35, which requires the preparation of a Surface Water Validation Report (SWVR).

1.2 Surface Water Characterisation and Mitigation Plan

This report references a Surface Water Characterisation and Mitigation Plan (SWCMP) that was prepared by EMM in 2018. The SWCMP formed part of the State Significant Development (SSD) application and included:

- A description of water management system upgrades proposed as part of the SSD application.
- A surface water characterisation assessment that was informed by sampling completed between March and June 2018 (the SWCMP sampling). It is noted that this sampling was mostly completed prior to the completion of water management system upgrades.
- A framework for this SWVR.

1.3 ANZECC guidelines

As required by consent condition B35, this report references information from the ANZECC/ARMCANZ (2000) guidelines. At the time of writing, these guidelines are the same as the more recent ANZG (2018) guidelines for the analytes considered.

1.4 Consent Condition B35

Table 1.1 reproduces the requirements of Consent Condition B35 and explains how each requirement is addressed in the document.

Table 1.1 Summary of Consent Condition B35

Condition	Assessment overview
B35. Within six months of the commencement of operations and following the management measures being implemented as per SWCMP (Condition B33), the Applicant must provide a Surface Water Validation Report (SWVR) to the satisfaction of the Secretary. The SWVR must:	
a) be carried out by a suitably qualified and experienced expert whose appointment has been endorsed by the Secretary;	This SWVR has been prepared by Chris Kuczera, an Associate Water Resources Engineer at EMM. The Department of Primary Industry and Environment endorsed Chris in a letter dated 11 July 2019.
b) be prepared in consultation with the EPA;	The framework for the SWVR was prepared in consultation with the Environmental Protection Agency (EPA) during the finalisation of the SWCMP.
c) collect a minimum of four surface water samples from the sediment basin and four from the two-stage pit system;	Four surface water samples have been collected during independent rainfall events from the sediment basin and holding tanks that receive water pumped from the two-stage pit.

Table 1.1 Summary of Consent Condition B35

Condition	Assessment overview
d) characterise the surface water data (samples) and detail the potential impact of discharges on receiving surface waters with reference to ANZECC (2000) assessment criteria;	All surface water sampling results have been characterised relative to the relevant default values from the ANZECC/ARMCANZ (2000) guidelines. Refer to Section 3.2.
e) compare the results with the surface water characterisation in the SWCMP (Condition B33);	All surface water sampling results from the sedimentation basin have been compared to the relevant results presented in the SWCMP. Refer to Section 3.2.
f) ensure surface water is being managed in accordance the EPL;	All water quality sampling results have been characterised relative to the relevant default values from the ANZECC/ARMCANZ (2000) guidelines and concentration limits described in the Environment Protection Licence (EPL 20771). Compliance with the EPL is a matter for the EPA.
g) provide an assessment of the effectiveness of implemented mitigation measures;	The effectiveness of the current water management system is reviewed in Section 4.2.
h) if necessary, provide additional mitigation measures to control and/or treat all pollutants to ensure the ANZECC (2000) assessment criteria can be met including further storage or the installation of a water treatment plant; and	Recommendations are made in Section 4.2.
i) update the SWCMP to reflect any changes to the surface water management system.	The SWCMP has not been updated as part of this SWVR.

1.5 Report structure

This report is structed as follows:

- Chapter 2 describes the existing water management system.
- Chapter 3 describes the SWVR monitoring methods and results.
- Chapter 4 reviews the existing water management system and makes recommendations.

2 Water management system

The facility's water management system receives surface water runoff from Lot 1 DP874109 (the lot), which has a total area of approximately 7.9 ha. The materials handling portion of the waste management facility is operated in the western portion of the lot, within a 3.7 ha area. The remaining 4.2 ha of the lot comprises buildings, storage of empty customer bins and laydown areas.

Water within the lot is managed separately in the following areas:

- Area 1 – is a 0.52 ha bunded area where general solid waste that is considered to have a higher risk of contaminating stormwater is stockpiled and processed. Runoff from Area 1 is managed as follows:
    - Surface water runoff drains to a sump (referred to as the two-stage pit). Water from the sump is pumped to a series of holding tanks (the Area 1 tanks). The Area 1 tanks comprise five connected 50 kL tanks, providing a total storage capacity of 250 kL (EMM 2018).
    - Water in the Area 1 tanks is used for dust suppression following each rainfall event. Surplus water either spills into the Area 2 water management system or is discharged to the sewer as trade waste (it is noted that this is subject to a trade waste agreement being finalised).
- Area 2 – refers to the remainder of the lot which includes site buildings, haul roads, stockpiles of material with low contamination risk and buildings, storage of empty customer bins and laydown areas that are not part of the waste management facility. Runoff from Area 2 is managed as follows:
    - Runoff is conveyed to a sedimentation basin (the basin) that is in the north-western corner of the lot. The basin has an estimated volume of 2.8 ML (EMM 2018).
    - A 'pump and treat' style water treatment system is manually operated during wet weather conditions. The treatment system extracts water from near the basin outlet and adds a coagulant at a controlled rate. Water is returned to the western perimeter drain, immediately upstream of the basin. The Ultrion coagulant was used during the SWVR period. Ultrion is a low molecular weight cationic coagulant that contains aluminium chloride hydroxide. 'Pump and treat' style systems are typically used to treat water captured in a basin and typically need to run for 1–2 days following the cessation of rainfall to achieve effective treatment.
    - Water collected in the basin is used for dust suppression following each rainfall event.
    - When full, the basin will discharge via overflow. The SWCMP also describes a framework for controlled discharges (if water quality is suitable). Benedict have advised that no controlled discharges have been implemented since SSD approval. Any discharged water flows into the southern arm of the Hunter River Estuary via a drainage system.

Figure 2.1 shows the conceptual framework of the water management system and Figure 2.2 shows the water management system layout and locations of Area 1 and Area 2.

EMM site observations during monitoring undertaken to inform the SWVR are described in Section 3.1.2.

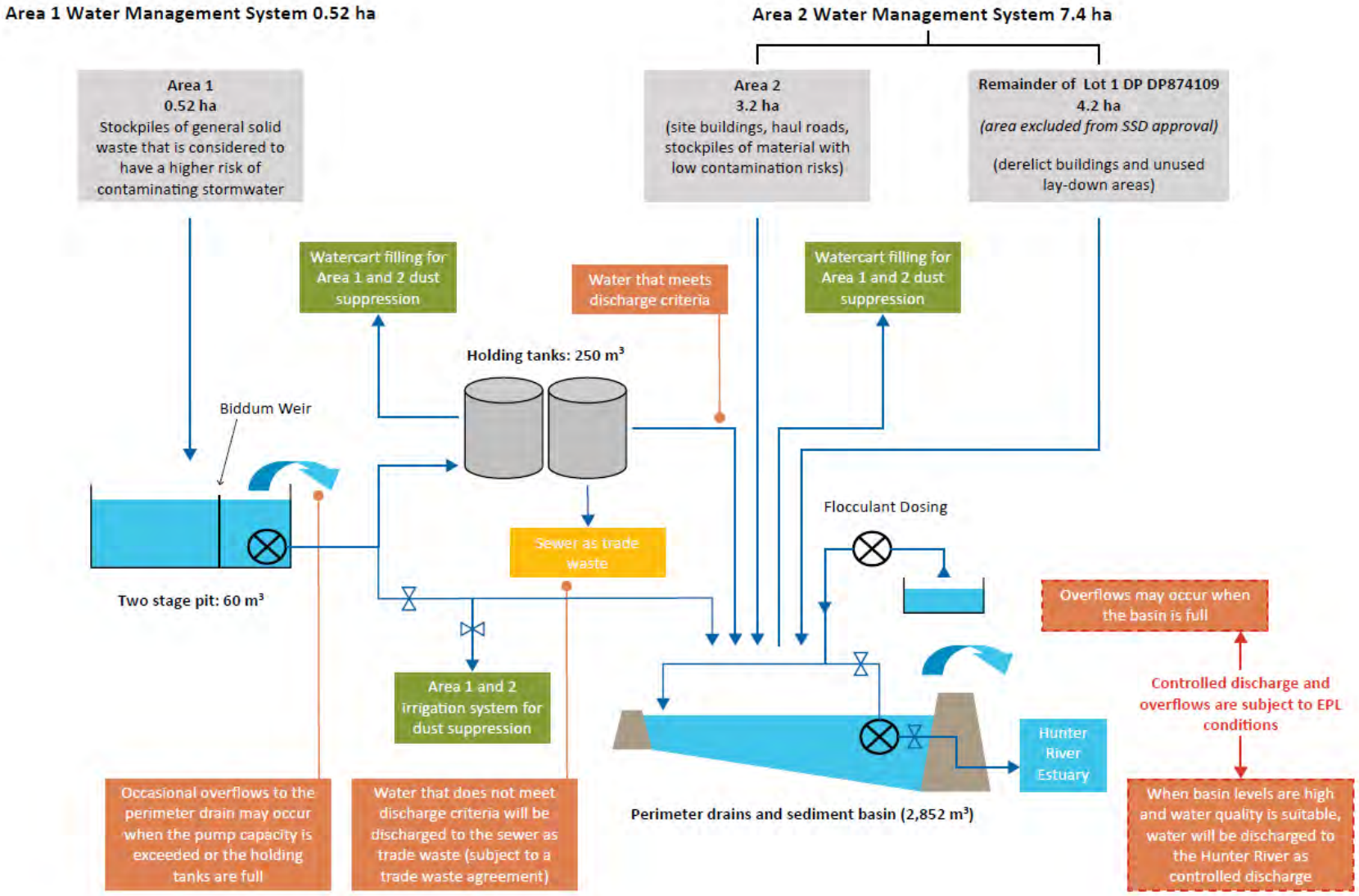
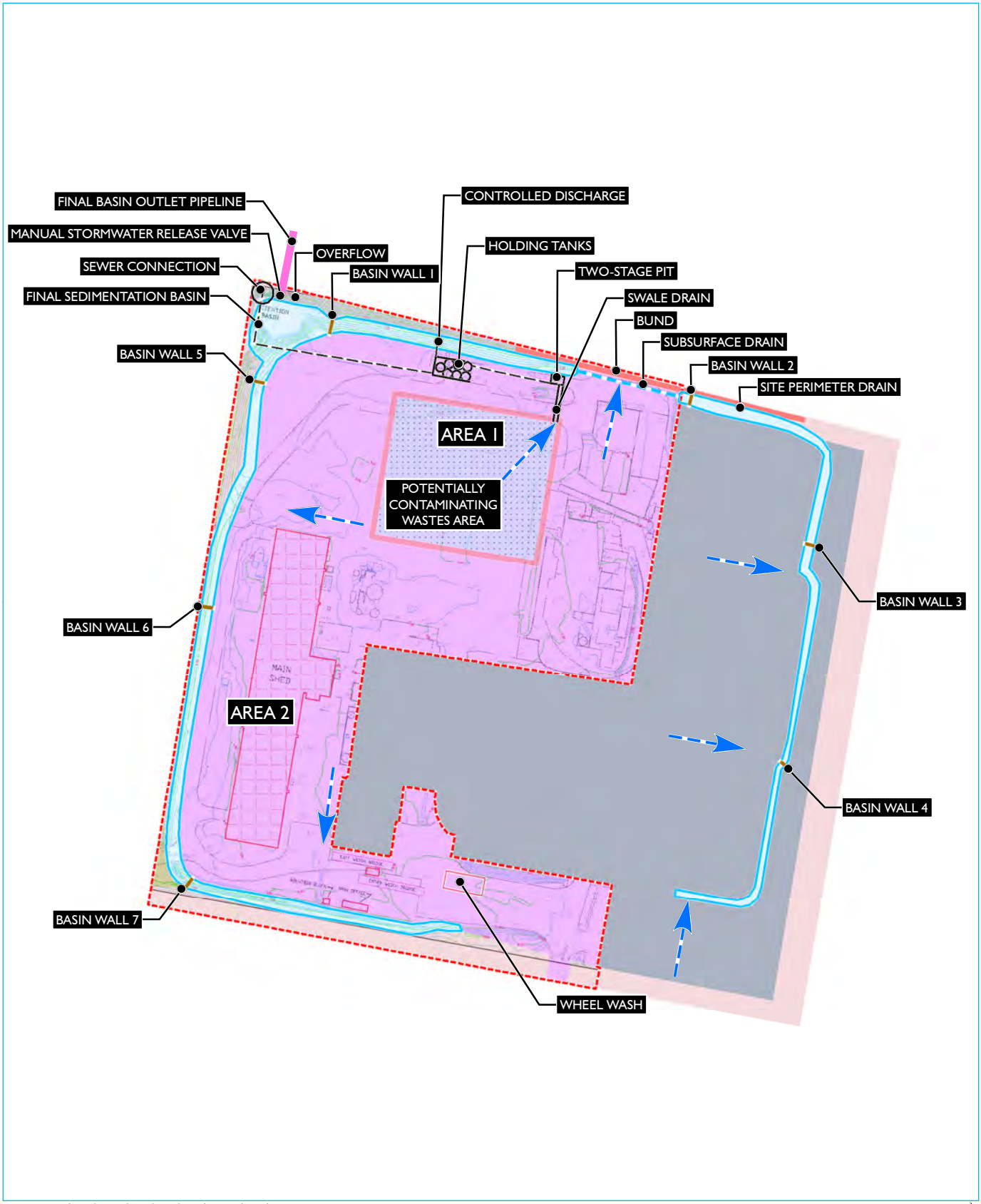


Figure 2.1 **Water management system framework**



Source: EMM (2020); DFSI (2017); GA (2011); ASGC (2006)

0 25 50 m
GDA 1994 MGA Zone 56
N

KEY

- Development area
- Recycling facility
- Drain and bund with single valved discharge point
- Bund
- Basin wall
- Overland flow path

Water management system layout

Mayfield West Recycling Facility
Surface water validation report
Figure 2.2

EMM creating opportunities

\\emmsvr1\EMMJobs\2014\J14152 - Benedict Newcastle Recycling\GIS\02_Maps\SW001_WaterManagement_20200507_01.mxd 7/05/2020

3 Validation monitoring program

A surface water quality monitoring program was completed by EMM to inform this SWVR. The program comprised sampling and analysis of surface water within the facility from four independent rainfall events between August 2019 and March 2020 (the SWVR period).

Section 3.1 describes the sampling locations, methods and weather and site context for each sampling event. Results are presented in Section 3.2 and discussed in Section 3.3.

3.1 Completed monitoring

3.1.1 Locations

For each sampling event, water quality samples were collected from the following locations:

- The basin – samples were collected near the basin outlet.
- Area 1 tanks – samples were collected from the top of the first tank that receives water pumped from the two-stage pit.

3.1.2 Rainfall and site context

A summary of the rainfall estimates, site observations and sampling locations for each sampling event are provided in Table 3.1. It is also noted that Benedict advised that no discharges occurred during the SWVR period.

Table 3.1 Sampling context and site observation

Sampling event	Rainfall context[1]	Site observations (at time of sampling)	Sampling locations
Event 1 31 August 2019 and 2 September 2019	**Wet weather**: **significant rainfall** • 110 mm of rainfall was recorded in the 36 hours prior to sampling on 31 August 2019. • 124 mm of rainfall was recorded in the 3 ½ days prior to sampling on 2 September 2019.	31 August 2019 • The water level in the basin was 200 mm below the outlet. • The water treatment plant had been operating for 2–3 hours prior to sampling. The water in the basin appeared to be turbid. 2 September 2019 • One and a half of the five 50 kL Area 1 tanks were full of water.	• Basin sampled on 31 August 2019 • Area 1 tank sampled on 2 September 2019
Event 2 17 September 2019	**Wet weather**: **significant rainfall** • 72 mm of rainfall was recorded in the 36 hours prior to sampling.	• The water level in the basin was 200 mm below the outlet. • The water treatment plant had been operating for 2–3 hours prior to sampling. The water in the basin appeared to be turbid. • One and a half of the five 50 kL Area 1 tanks were full of water.	Basin and Area 1 tank
Event 3 10 February 2020	**Wet weather**: **significant rainfall** • 113 mm of rainfall was recorded in the 36 hours prior to sampling. • 182 mm of rainfall was recorded in the week prior to sampling.	• The water level in the basin was 300 mm below the outlet. • The water treatment plant had been operating for 24 hours prior to sampling. The water in the basin appeared to be moderately turbid. • Two and a half of the five 50 kL Area 1 tanks were full of water.	Basin and Area 1 tank

Table 3.1 Sampling context and site observation

Sampling event	Rainfall context[1]	Site observations (at time of sampling)	Sampling locations
Event 4 27 March 2020	**Wet weather**: **significant rainfall** • 95 mm of rainfall was recorded in the 48 hours prior to sampling.	• The water level in the basin was 300 mm below the outlet. • The water treatment plant had been operating for 36 hours prior to sampling. The water in the basin appeared to be moderately turbid. • All five of the 50 kL Area 1 tanks were full of water. Benedict advised that the tanks had not been dewatered since Event 3.	Basin and Area 1 tank

1. The rainfall depths were recorded by Benedict's on-site weather station. The recorded depths are similar to totals recorded at local Bureau of Meteorology operated gauges.

3.1.3 Methods

Table 3.1 describes monitoring analytes and methods.

Table 3.2 Monitoring analytes and methods

Category	Analytes	Sampling and analysis methods
Physico-chemical parameters	pH, turbidity, electrical conductivity, total suspended solids and total dissolved solids Total alkalinity and hardness	Analysis was undertaken by a NATA-certified laboratory.
Nutrients	Ammonia, nitrite, nitrate, oxidised nitrogen (NOx), total kjeldahl nitrogen (TKN) and total nitrogen Reactive and total phosphorus	Analysis was undertaken by a NATA-certified laboratory.
Metals and metalloids	Aluminium (Al), arsenic (As), Boron (B), cadmium (Cd), chromium (Cr), cobalt (Co), copper (Cu), iron (Fe), lead (Pb), mercury (Hg), molybdenum (Mo), nickel (Ni), selenium (Se), silver (Ag), vanadium (V) and zinc (Zn)	Samples were filtered in the field using a 0.45 µm filter. Analysis was undertaken by a NATA-certified laboratory.
Organics	Benzene, toluene, ethylbenzene and xylene (BTEX) Polyaromatic hydrocarbons (PAHs) Phenols Total petroleum hydrocarbons (TPH) Total recoverable hydrocarbons (TRH)	Samples were filtered in the field using a 0.45 µm filter. Analysis was undertaken by a NATA-certified laboratory.
Inorganics	Fluoride and cyanide	Analysis was undertaken by a NATA-certified laboratory.
Surfactants	Anionic surfactants	Analysis was undertaken by a NATA-certified laboratory.

3.2 Monitoring results

Water quality results are presented in Table 3.3 (basin) and Table 3.4 (Area 1 tanks). The results are compared to default guideline values (DGVs) and EPL concentration limits. The approach to selecting DGVs is discussed further below.

The basin results (presented in Table 3.3) are compared to the results from the SWCMP sampling (EMM 2018). For each analyte, the range in water quality values between the SWVR and SWCMP monitoring programs are described as either trending lower, being similar or trending higher.

The Area 1 tank results (presented in Table 3.4) are compared to the SWVR basin results to enable a comparison of water quality from Area 1 and Area 2. It is noted that the Area 1 tanks were not installed during the SWCMP sampling.

Laboratory certificates are provided in Appendix A.

i Selecting guideline values

The approach applied in the SWCMP (EMM 2018) to selecting DGVs was adopted. This approach is described below.

- **Stressors** – values for physical and chemical stressors in south-east Australia (estuaries) from the ANZECC/ARMCANZ (2000) guidelines were adopted.

- **Toxicants** – values for slightly-to-moderately disturbed ecosystems from the ANZECC/ARMCANZ (2000) guidelines were adopted (where available). Given the receiving water is the Hunter River Estuary, DGVs for marine water were preferentially used for analytes that have high reliability DGVs for marine water. The following approach was applied to establish DGVs for analytes that do not have high reliability trigger values for marine water:

    - 2nd preference – High reliability DGVs for freshwater (where available).

    - 3rd preference – Low reliability DGVs for marine water that are reported in Volume 2 of ANZECC/ARMCANZ (2000).

    - 4th preference – Low reliability DGVs for freshwater that are reported in Volume 2 of ANZECC/ARMCANZ (2000).

The table notes describe the assumptions applied to selecting each DGV. It is also noted that the DGVs for toxicants are based on chronic (ie long term) exposure to toxicants. This is discussed further in Section 3.3.

Table 3.3 Water quality summary – Basin

	Unit	EPL limit[4]	DGV[1,2]		SWVR sampling (basin)					SWCMP (basin)	SWVR to SWCMP comparison[6]
			Fresh	Marine	Event 1	Event 2	Event 3	Event 4	Range	Range	
Physico-chemical parameters											
pH	-	6.5 – 8.5	-	7.0 – 8.5	8.3	**8.6**	8.1	8.3	8.1 – **8.6**	6.9 – **8.6**	Similar
Electrical conductivity	µS/cm	-	-	-	434	444	349	294	294 – 444	289 – 305	Higher
Total dissolved solids	mg/L	-	-	-	302	336	231	230	230 – 336	Not sampled	-
Turbidity	NTU	-	-	10	**228**	**271**	**110**	**169**	**110 – 271**	Not sampled	-
Suspended solids	mg/L	50	-	-	**100**	**160**	**79**	**101**	**79 – 160**	**147 – 1,015**	Lower
Total hardness (as $CaCO_3$)	mg/L	-	-	-	183	172	113	106	113 – 183	45 – 189	Similar
Total alkalinity (as $CaCO_3$)	mg/L	-	-	-	33	42	49	48	33 – 49	37 – 104	Similar
Analytical results – nutrients (as N or P)											
Ammonia	mg/L	-	-	0.91 (toxicant) 0.015 (stressor)	<0.01	<0.01	**0.67**	0.03	<0.01 – **0.67**	<0.01 – **0.12**	Higher
Oxidised nitrogen	mg/L	-	-	0.015	**0.19**	**0.23**	**0.30**	**0.26**	**0.19 – 0.30**	**0.34 – 1.70**	Lower
Total kjeldahl nitrogen	mg/L	-	-	-	1.0	1.1	3.4	1.2	1.0 – 3.4	0.7 – 1.2	Higher
Total nitrogen	mg/L	-	-	0.30	**1.2**	**1.3**	**3.7**	**1.5**	**1.2 – 3.7**	**0.8 – 1.7**	Higher
Reactive phosphorus	mg/L	-	-	0.005	**0.03**	**<0.01**	**0.02**	**0.10**	**<0.01 – 0.10**	Not sampled	-
Total phosphorus	mg/L	-	-	0.030	**0.22**	**0.34**	**0.15**	**0.31**	**0.15 – 0.34**	**0.12 – 1.14**	Lower
Analytical results – inorganics											
Cyanide	mg/L	-	**0.007**	**0.004**	-	-	-	<0.004	<0.004	Not sampled	-
Fluoride	mg/L	-	**2.4**[5]	**-**	0.3	0.2	0.3	0.1	0.1 – 0.3	0.2 – 0.3	Similar
Surfactants											
Anionic Surfactants as MBAS	mg/L		**0.28**	**0.0001**[3]	<0.1	0.2	<0.1	<0.1	<0.1 – 0.2	<0.1 – 0.2	Similar

Table 3.3 Water quality summary – Basin

			DGV[1,2]		SWVR sampling (basin)					SWCMP (basin)	SWVR to SWCMP comparison[6]
	Unit	EPL limit[4]	Fresh	Marine	Event 1	Event 2	Event 3	Event 4	Range	Range	
Organics											
Oil and Grease	mg/L	10	-	-	-	<5	6	<5	<5 - 6	<5 – **78**	Lower
TRH	µg/L	-	-	-	All below detection					Below detection	Similar
TPH	µg/L	-	-	-	All below detection					Below detection	Similar
BTEX	µg/L	-	-	-	All below detection					Below detection	Similar
Phenols	µg/L	-	-	-	All below detection					Below detection	Similar
Naphthalene	µg/L	-	16	50	<5	<5	<5	<1	<5	Not sampled	-
Other PAHs	µg/L	-	-	-	-	-	-	below detection	below detection	Not sampled	-
Analytical results – metals (0.45µm field filtered)											
Aluminium (Al)	mg/L	-	0.055	0.0005[3]	0.03	**0.17**	**0.09**	0.04	0.03 – **0.17**	0.04 – **0.18**	Similar
Arsenic (As)	mg/L	-	0.024(As III) 0.013 (As V)	0.0023 (As III)[3] 0.0045(As V)[3]	0.002	0.002	0.003	0.002	0.002 – 0.003	<0.001 – 0.001	Higher, but below DGV
Boron (B)	mg/L	-	0.37	-	0.07	0.06	0.08	<0.05	<0.05 – 0.08	<0.05	Higher, but below DGV
Cadmium (Cd)	mg/L	-	0.0002	0.0007	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	Similar
Chromium – Total (Cr)	mg/L	-	0.003[3] Cr (III) 0.001 (Cr VI)	0.027 (Cr III) 0.004 (Cr VI)	0.002	-	0.003	0.002	0.002 – 0.003	<0.001 – **0.016**	Lower
Cobalt (Co)	mg/L	-	0.0028[3]	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	Similar
Copper (Cu)	mg/L	-	0.0014	0.0013	**0.006**	**0.006**	**0.005**	**0.002**	**0.002 – 0.006**	**0.002 – 0.030**	Lower
Iron (Fe)	mg/L	-	0.3[3]	-	<0.05	0.11	<0.05	<0.05	<0.05 – 0.11	<0.05	Similar
Lead (pb)	mg/L	-	0.0034	0.0044	<0.001	0.001	<0.001	<0.001	<0.001 – 0.001	<0.001 – **0.059**	Lower
Mercury (Hg)	mg/L	-	0.00006	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	Similar

Table 3.3 Water quality summary – Basin

			DGV[1,2]		SWVR sampling (basin)					SWCMP (basin)	SWVR to SWCMP comparison[6]
	Unit	EPL limit[4]	Fresh	Marine	Event 1	Event 2	Event 3	Event 4	Range	Range	
Molybdenum (Mo)	mg/L	-	0.034[3]	0.23[3]	0.003	0.003	0.002	0.003	0.002 – 0.003	0.002 – 0.005	Lower
Silver (Ag)	mg/L	-	0.00005	0.0014	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	Similar
Vanadium (V)	mg/L	-	0.006[3]	0.100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01 – 0.03	Lower
Zinc (Zn)	mg/L	-	0.008	0.015	<0.005	0.010	0.009	<0.005	<0.005 – 0.010	<0.005 – **0.154**	Lower

Notes:
1. The DGV for physico-chemical parameters and nutrients refer to the values for physical and chemical stressors in south-east Australia (estuaries) that are reported in Tables 3.3.2 and 3.3.3 of ANZECC/ARMCANZ (2000). DGV for toxicants refer to the values for slightly–moderately disturbed freshwater and marine ecosystems that are reported in Table 3.4.1 of ANZECC/ARMCANZ (2000) unless otherwise stated.
2. Unless otherwise stated, the DGV for dissolved metals refer to the high reliability trigger values for slightly–moderately disturbed ecosystems that are reported in Table 3.4.1 of ANZECC/ARMCANZ (2000). It is noted that no hardness adjustments have been made.
3. The DGV refers to a low reliability trigger values that are provided in Volume 2 of ANZECC/ARMCANZ (2000).
4. Refers to an EPL concentration limit (EPL 20771).
5. The DGV was provided by the EPA (August 2018).
6. Comparison is SWVR to SWCMP ranges (ie 'Higher' refers to the SWVR range being materially greater than the SWCMP range).

Bold denotes a DGV or Range is exceeded.
Red denotes the adopted DGV. Given the receiving water is the Hunter River Estuary, preference has been given to the guideline values for estuarine and marine environments, where a suitable value is available.
Purple denotes a low reliability marine trigger value that has not been used as a high reliability freshwater trigger value is available.

Table 3.4 Water quality summary – Area 1 tanks

			DGV		SWVR sampling – Area 1 tanks					SWVR sampling (basin)	SWVR sampling Area 1 tanks to basin comparison[6]
	Unit	EPL limit	Fresh	Marine	Event 1	Event 2	Event 3	Event 4	Range	Range[6]	
Physico-chemical parameters											
pH	-	6.5 – 8.5	-	7.0 – 8.5	7.3	7.8	7.7	7.7	7.3 – 7.7	8.1 – **8.6**	Lower pH
Electrical conductivity	µS/cm	-	-	-	618	807	664	629	618 – 807	294 – 444	Higher
Total dissolved solids	mg/L	-	-	-	464	535	590	528	464 – 590	230 – 336	Higher
Turbidity	NTU	-	-	10	**152**	**159**	**580**	**231**	**152 – 580**	**110 – 271**	Higher
Suspended solids	mg/L	50	-	-	**100**	**78**	**266**	**136**	**78 – 266**	**79 – 160**	Similar
Total hardness (as $CaCO_3$)	mg/L	-	-	-	215	264	177	181	177 – 264	113 – 183	Higher
Total alkalinity (as $CaCO_3$)	mg/L	-	-	-	84	95	80	65	65 – 95	33 – 49	Higher
Analytical results – nutrients (as N or P)											
Ammonia	mg/L	-	-	0.91 (toxicant) 0.015 (stressor)	<0.01	<0.01	0.07	**0.24**	**<0.01 – 0.24**	<0.01 – **0.67**	Similar
Oxidised nitrogen	mg/L	-	-	0.015	<0.01	**0.03**	**1.09**	**1.20**	**<0.01 – 1.20**	**0.19 – 0.30**	Higher
Total kjeldahl nitrogen	mg/L	-	-	-	2.9	1.9	3.7	2.3	1.9 – 3.7	1.0 – 3.4	Higher
Total nitrogen	mg/L	-	-	0.30	**2.9**	**1.9**	**4.8**	**3.5**	**1.9 – 4.8**	**1.2 – 3.7**	Higher
Reactive phosphorus	mg/L	-	-	0.005	**0.07**	**0.04**	**0.26**	**0.51**	**0.04 – 0.51**	**<0.01 – 0.10**	Higher
Total phosphorus	mg/L	-	-	0.030	**0.67**	**0.36**	**0.61**	**0.68**	**0.36 – 0.68**	**0.15 – 0.34**	Higher
Analytical results – inorganics											
Cyanide	mg/L	-	0.007	0.004	-	-	-	<0.004	-	<0.004	Similar
Fluoride	mg/L	-	2.4[5]	-	0.4	0.3	1.0	0.5	0.3 – 1.0	0.1 – 0.3	Similar
Surfactants											
Anionic Surfactants as MBAS	mg/L	-	0.28	0.0001[3]	<0.1	0.2	<0.1	<0.1	<0.1 – 0.2	<0.1 – 0.2	Similar

Table 3.4 Water quality summary – Area 1 tanks

			DGV		SWVR sampling – Area 1 tanks					SWVR sampling (basin)	SWVR sampling Area 1 tanks to basin comparison[6]
	Unit	EPL limit	Fresh	Marine	Event 1	Event 2	Event 3	Event 4	Range	Range[6]	
Organics											
Oil and Grease	mg/L	**10**	-	-	-	<5	6	<5	<5 - 6	<5 - 6	Similar
TRH (sum of total)	µg/L	-	-	-	360	Events 2 to 4 were below detection				Below detection	Higher
TPH (sum of total)	µg/L	-	-	-	360	Events 2 to 4 were below detection				Below detection	Higher
BTEX	µg/L	-	-	-	All below detection					Below detection	Similar
Phenols	µg/L	-	-	-	All below detection					Below detection	Similar
Naphthalene	µg/L	-	16	50	<5	<5	<5	<1.0	<5	<5	Similar
Other PAHs	µg/L	-	-	-	-	-	-	below detection	below detection	below detection	Similar
Analytical results – metals (0.45µm field filtered)											
Aluminium (Al)	mg/L	-	0.055	0.0005[3]	0.04	**0.06**	**0.27**	0.01	**0.01 – 0.27**	0.03 **– 0.17**	Similar
Arsenic (As)	mg/L	-	0.024(As III) 0.013 (As V)	0.0023 (As III)[3] 0.0045(As V)[3]	0.006	0.004	0.005	0.005	0.004 – 0.006	0.002 – 0.003	Higher, but below DGV
Boron (B)	mg/L	-	0.37	-	<0.05	0.07	0.07	0.06	<0.05 – 0.07	<0.05 – 0.08	Similar
Cadmium (Cd)	mg/L	-	0.0002	0.0007	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	Similar
Chromium – Total (Cr)	mg/L	-	0.003[3] (Cr III) 0.001 (Cr VI)	0.027 (Cr III) 0.004 (Cr VI)	0.004	-	0.003	0.002	0.002 – 0.004	0.002 – 0.003	Lower
Cobalt (Co)	mg/L	-	0.0028[3]	0.001	0.001	<0.001	<0.001	<0.001	<0.001 – 0.001	<0.001	Similar
Copper (Cu)	mg/L	-	0.0014	0.0013	**0.005**	**0.002**	**0.010**	**0.008**	**0.002 – 0.010**	**0.002 – 0.006**	Higher
Iron (Fe)	mg/L	-	0.3[3]	-	0.16	0.10	0.12	<0.05	<0.05 – 0.16	<0.05 – 0.11	Higher, but below DGV
Lead (pb)	mg/L	-	0.0034	0.0044	<0.001	<0.001	0.001	<0.001	<0.001 – 0.001	<0.001 – 0.001	Similar
Mercury (Hg)	mg/L	-	0.00006	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.001	<0.001	Similar

Table 3.4 Water quality summary – Area 1 tanks

			DGV		SWVR sampling – Area 1 tanks					SWVR sampling (basin)	SWVR sampling Area 1 tanks to basin comparison[6]
	Unit	EPL limit	Fresh	Marine	Event 1	Event 2	Event 3	Event 4	Range	Range[6]	
Molybdenum (Mo)	mg/L	-	0.034[3]	0.23[3]	0.006	0.007	0.004	0.008	0.004 – 0.008	0.002 – 0.003	Higher, but below DGV
Silver (Ag)	mg/L	-	0.00005	0.0014	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	Similar
Vanadium (V)	mg/L	-	0.006[3]	0.100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Similar
Zinc (Zn)	mg/L	-	0.008	0.015	0.018	0.012	0.008	0.006	0.006 – **0.018**	<0.005 – 0.010	Higher

Notes:
1. The DGV for physico-chemical parameters and nutrients refer to the values for physical and chemical stressors in south-east Australia (estuaries) that are reported in Tables 3.3.2 and 3.3.3 of ANZECC/ARMCANZ (2000). DGV for toxicants refer to the values for slightly–moderately disturbed freshwater and marine ecosystems that are reported in Table 3.4.1 of ANZECC/ARMCANZ (2000) unless otherwise stated.
2. Unless otherwise stated, the DGV for dissolved metals refer to the high reliability trigger values for slightly–moderately disturbed ecosystems that are reported in Table 3.4.1 of ANZECC/ARMCANZ (2000). It is noted that no hardness adjustments have been made.
3. The DGV refers to a low reliability trigger values that are provided in Volume 2 of ANZECC/ARMCANZ (2000).
4. Refers to an EPL concentration limit (EPL 20771).
5. The DGV was provided by the EPA (August 2018).
6. Comparison is SWVR Area 1 tanks to SWVR basin ranges (ie 'Higher' refers to the SWVR Area 1 tanks range being materially greater than the SWVR basin range).

Bold denotes a DGV or Range is exceeded.
Red denotes the adopted DGV. Given the receiving water is the Hunter River Estuary, preference has been given to the guideline values for estuarine and marine environments, where a suitable value is available.
Purple denotes a low reliability marine trigger value that has not been used as a high reliability freshwater trigger value is available.

3.3 Results discussion

This section discusses the basin and Area 1 tanks water quality results that are presented in Table 3.3 and Table 3.4.

3.3.1 Basin results

As discussed in Chapter 2, the basin receives surface water runoff from a 7.9 ha catchment that comprises the entire waste management facility (waste storage and handling occurs within a 3.7 ha portion of the lot) and a 4.2 ha area that contains buildings, storage of empty customer bins and a laydown area. This catchment is referred to as Area 2.

With reference to Table 3.3, the basin water quality is characterised as being slightly alkaline and having elevated (relative to DGVs) turbidity levels and nutrients, aluminium (2 of 4 samples) and copper (all samples) concentrations. It is noted that all organics (PAHs, TRH, TPH, BTEX and Phenols) and metal and inorganic toxicants tested other than aluminium and copper were below detection limits and/or DGVs in all samples. Benedict has advised that no discharges from the basin occurred during the SWVR period.

i Comparison to EPL concentration limits

Comparison of the SWVR basin water quality presented in Table 3.3 to concentration limits from the EPL indicates that:

- Suspended solids concentrations exceed the EPL limit of 50 mg/L in all four samples.
- pH and oil and grease concentrations were generally within the EPL limits.

ii Comparison to SWCMP results

Comparison of the SWVR basin water quality presented in Table 3.3 to basin water quality results presented in the SWCMP (and summarised in Table 3.3) indicate that:

- Salinity levels have increased.
- Turbidity and suspended sediment levels/concentrations are lower but still exceed DGV and EPL limits.
- Organic nitrogen (ammonia and total kjeldahl nitrogen) have increased. However, oxidised nitrogen and phosphorus are lower.
- Metal toxicants are generally lower with less metals exceeding DGVs and exceedances were generally of lower magnitude.

In summary, the SWVR results indicate that the water quality has improved relative to the SWCMP results. This is despite the operations being expanded post SSD approval.

iii Water treatment chemicals

As noted in Chapter 2, Ultrion coagulant was used to treat water in the basin during the SWVR period. Ultrion is a modern low molecular weight cationic coagulant that contains aluminium chloride hydroxide. The use of this coagulant has potential to increase both water salinity and aluminium concentrations. With reference to Table 3.3:

- While aluminium concentrations exceeded the DGV in 2 out of 4 samples, the range in concentrations were similar to the SWCMP sampling range. Hence, there is no evidence that aluminium concentrations have increased as a result of coagulant use.

- The increase in salinity is likely to be due to the coagulant use. It is noted that the receiving water (the Hunter River Estuary) would not be sensitive to changes in salinity.

3.3.2 Area 1 tank results

As discussed in Chapter 2, Area 1 is a 0.52 ha bunded area where general solid waste that is considered to have a higher risk of contaminating stormwater is stockpiled and processed. Runoff from Area 1 drains to a sump (referred to as the two-stage pit). Water from the sump is pumped to the Area 1 tanks, which comprise five connected 50 kL tanks, providing a total storage capacity of 250 kL. As described in Table 3.1, the Area 1 tanks were observed by EMM to be less than 50% utilised during the SWVR monitoring events 1 to 3, which comprised up to 182 mm of rainfall in the week prior to sampling. This is likely to be due to significant rainfall absorption in stockpiles and the storage of rainfall in puddles between stockpiles within the bunded area.

Water quality samples were collected from the top of the first tank that receives water pumped from the two-stage pit. With reference to Table 3.4, the water quality is characterised as having a near neutral pH and elevated (relative to DGVs) turbidity, nutrients, aluminium (2 of 4 samples), copper (all samples) and zinc (1 of 4 samples). TRHs and TPHs were also detected in one sample TRHs and TPHs are hydrocarbon related chemicals.

Comparison to the SWVR basin results indicates that the water quality of runoff from Area 1 is poorer/higher risk than runoff from Area 2 due to:

- Higher turbidity and suspended sediment levels/concentrations.
- Higher concentrations of nutrients (nitrogen and phosphorus).
- A higher risk of metal toxicants with additional metals exceeding DGVs and generally higher magnitudes of exceedance.
- An increased risk of hydrocarbon related contamination (ie TRH and TPHs).

4 Water management system review

This section reviews risks to receiving waters and the functionality of the existing water management system.

4.1 Receiving water risks

As described in Chapter 2, discharges from the facility's water management system can occur from the basin via overflows (when full) or controlled discharge (if water quality is suitable). Any discharged water flows into the southern arm of the Hunter River Estuary via a drainage system. As noted in Table 3.1, no basin overflows were observed by EMM during the SWVR site inspections. Benedict have also advised that no overflows or controlled discharges from the basin occurred over the SWVR period.

Overflows from the basin may occur occasionally for short periods of time under certain rainfall conditions. The water quality characterisation results presented in Table 3.3 were collected during or shortly after significant rainfall events and are considered to be representative of the water quality of any potential basin overflows. The water quality is characterised as being slightly alkaline and having elevated (relative to DGVs) turbidity and nutrient aluminium and copper concentrations. All organics (PAHs, TRH, TPH, BTEX and phenols) and metal and inorganic toxicants other than aluminium and copper tested were below detection limits and/or DGVs in all samples.

As basin overflows are expected to occur occasionally for short periods of time (ie less than 4 days), receiving water quality risks associated with overflows are considered to be acute (ie due to short term exposure) rather than chronic (ie due to long term exposure). Acute trigger values for aluminium and copper were established in the SWCMP using information provided in ANZECC/ARMCANZ (2000) guidelines, international guidelines and eco-toxicity literature.

Table 4.1 compares the maximum concentrations of aluminium and copper that were recorded during the SWVR sampling to the DGVs and acute trigger values and demonstrates that active trigger values were not exceed.

Table 4.1 Chronic and acute trigger values

Analyte	Units	Maximum concentration	DGV (chronic exposure)	Trigger value[1] (acute exposure)	Acute trigger value exceeded
Aluminium	mg/L	0.17	0.055	0.45	No
Copper	mg/L	0.006	0.0013	0.007	No

Notes: 1. Sourced from SWCMP (Table 4.4). Refer to SWCMP Appendix E for further information on the assumptions applied to calculate acute trigger values.

In summary the risks to receiving water from site discharges are low because of:

- the infrequent nature and short duration of any basin overflows; and
- concentrations of toxicants being below acute trigger values.

4.2 System functionality review

A review of the functionality and effectiveness of the existing water management system has been undertaken in order to address Consent Condition B35(g). The review has considered:

- the water quality data presented in this report;
- site observations made by EMM during the collection of water quality samples (see Table 3.1); and

- information provided by Benedict.

The following aspects of the water management system have not been reviewed:

- Drainage system effectiveness.
- Matters addressed in the groundwater monitoring program, which is presented separately as required by Consent Condition B40.
- Compliance with consent conditions. This will be addressed in the Surface Water Audit that is required by Consent Condition B38.

Table 4.2 reviews the effectiveness of key elements of the facility's water management system. Recommendations are made to improve both the effectiveness and operational aspects of the system.

Table 4.2 Water management system review

Aspect	Observed effectiveness	Recommendations
1 – Area 1 water management system		
1.1 – System functionality	• During Events 1 to 3 the Area 1 water management system was observed to be operating effectively as: – runoff from the bunded area was being captured in the Area 1 tanks; and – no overflows from the Area 1 tanks into the Area 2 water management system were observed (see Table 3.1). • The effectives during Event 4 is discussed below (see aspect 1.3).	• Nil
1.2 – Trade waste discharges	• EMM understands that a trade waste discharge agreement is yet to be finalised. • Based on the observation that the Area 1 tanks were only 50% utilised during events 1 to 3 (despite significant rainfall occurring), discharges to trade waste are not considered to be necessary.	• The trade waste discharge agreement is not pursued. • Trade waste discharges are removed from the water management plan.
1.3 – Area 1 tank dewatering	• Benedict advised that the Area 1 tanks were not dewatered between events 3 and 4 (see Table 3.1). This may have resulted in some surplus water spilling into the Area 2 water management system.	• Water captured in the Area 1 tanks should be dewatered (via dust suppression use) following each rainfall event to ensure volume is available to capture runoff from the next rainfall event.

Table 4.2 Water management system review

Aspect	Observed effectiveness	Recommendations
2 – Area 2 water management system		
2.1 – Basin water treatment system	The 'pump and treat' style treatment system was observed to have limited effectiveness as: • turbidity and suspended sediments exceeded relevant DGV or EPL discharge limits (although water was not being discharged) in all samples (see Table 3.3); and • the system is manually operated and therefore requires the site to be staffed when it is required and for the staff to observe that action is required. 'Pump and treat' style treatment systems are typically used to treat captured water following a rainfall event, with the treatment system generally needing to run for 1–2 days to achieve effective results. As evidenced by the monitoring results (see Table 3.3), this style of system provides limited treatment during basin overflow conditions (should they occur), when water may overflow shortly after entering the basin. There is no benefit in treating captured water as it can be used for dust suppression following a rainfall event.	• The existing treatment system / approach is discontinued. • Benedict update the site water balance to more reliably estimate the frequency and magnitude of overflows from the basin. Alternative suspended sediment management measures may be required if overflows are assessed to occur more than 2 – 4 time per year. This is a typical overflow frequency for a sedimentation basin that is sized to capture the 5-day 90th percentile rainfall event (DECC, 2008). It is noted that: – the 5-day 90th percentile rainfall event is referenced in consent condition B25 as an acceptable design capacity for the basin; and – risks to receiving water from site discharges are assessed to be low due to the infrequent nature and short duration of any basin overflows and concentrations of toxicants being below acute trigger values (see Section 4.1).
2.2 – Controlled discharges from the basin water treatment system	As described in Figure 2.1, the water management plan makes provision for controlled discharges from the basin when water quality is suitable. The current management practice is to use water captured in both the basin and the Area 1 tanks for dust suppression following rainfall. This is the most practical management approach as it avoids the need for rapid water quality testing and potentially water treatment.	• Nil

5 References

ANZECC/ARMCANZ 2000, *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, Australian and New Zealand Environment Conservation Council and Agriculture and Resource Management Council of Australian and New Zealand.

ANZG (2018), Australian and New Zealand Guidelines for Fresh & Marine Water Quality

Department of Environment and Climate Change (2008), Managing Urban Stormwater – Soils and Construction Vol 2B: Waste Landfills

EMM 2018, *Mayfield West Recycling Facility – Surface Water Characterisation and Mitigation Plan*, Prepared for Benedict Recycling Pty Ltd by EMM Consulting Pty Ltd.

Appendix A

Laboratory certificates of analysis

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2010659**	Page	: 1 of 7
Amendment	: **1**		
Client	: **EMM CONSULTING PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR CHRIS KUCZERA	Contact	: Customer Services ES
Address	: 6/146 Hunter Street Newcastle 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: J14152 BENEDICT NEWCASTLE	Date Samples Received	: 27-Mar-2020 11:23
Order number	: ----	Date Analysis Commenced	: 27-Mar-2020
C-O-C number	: ----	Issue Date	: 06-Apr-2020 11:45
Sampler	: JASON O'BRIEN		
Site	: ----		
Quote number	: SY/327/16		
No. of samples received	: 2		
No. of samples analysed	: 2		

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
- Surrogate Control Limits

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
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Neil Martin	Team Leader - Chemistry	Chemistry, Newcastle West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the 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.

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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.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Amendment (06/04/2020): This report has been amended and re-released to allow the reporting of additional analytical data.
- MBAS is calculated as LAS, molecular weight 348
- TDS by method EA-015 may bias high for various samples due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- 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	BASIN	TANK	----	----	----
			Client sampling date / time	27-Mar-2020 10:20	27-Mar-2020 10:00	----	----	----
Compound	CAS Number	LOR	Unit	ES2010659-001	ES2010659-002	--------	--------	--------
				Result	Result	----	----	----
EA005: pH								
pH Value	----	0.01	pH Unit	**8.27**	**7.72**	----	----	----
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**294**	**629**	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	**230**	**528**	----	----	----
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	**101**	**136**	----	----	----
EA045: Turbidity								
Turbidity	----	0.1	NTU	**169**	**231**	----	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**48**	**65**	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	**48**	**65**	----	----	----
ED093F: SAR and Hardness Calculations								
Total Hardness as CaCO3	----	1	mg/L	**106**	**181**	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	**0.04**	**0.01**	----	----	----
Arsenic	7440-38-2	0.001	mg/L	**0.002**	**0.005**	----	----	----
Barium	7440-39-3	0.001	mg/L	**0.015**	**0.038**	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L	**0.002**	**0.002**	----	----	----
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L	**0.002**	**0.008**	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	----	----	----
Molybdenum	7439-98-7	0.001	mg/L	**0.003**	**0.008**	----	----	----
Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	----	----	----
Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	----	----	----
Strontium	7440-24-6	0.001	mg/L	**0.175**	**0.235**	----	----	----
Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	----	----	----
Zinc	7440-66-6	0.005	mg/L	<0.005	**0.006**	----	----	----
Boron	7440-42-8	0.05	mg/L	<0.05	**0.06**	----	----	----
Iron	7439-89-6	0.05	mg/L	<0.05	<0.05	----	----	----
EG035F: Dissolved Mercury by FIMS								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	BASIN	TANK	----	----	----
				Client sampling date / time	27-Mar-2020 10:20	27-Mar-2020 10:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2010659-001	ES2010659-002	--------	--------	--------
					Result	Result	----	----	----
EG035F: Dissolved Mercury by FIMS - Continued									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	----	----	----
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		<0.004	<0.004	----	----	----
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		**0.1**	**0.5**	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.03**	**0.24**	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		**0.06**	**0.60**	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.20**	**0.60**	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.26**	**1.20**	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		**1.2**	**2.3**	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		**1.5**	**3.5**	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.31**	**0.68**	----	----	----
EK071G: Reactive Phosphorus as P by discrete analyser									
Reactive Phosphorus as P	14265-44-2	0.01	mg/L		**0.10**	**0.51**	----	----	----
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		<5	<5	----	----	----
EP050: Anionic Surfactants as MBAS									
Anionic Surfactants as MBAS	----	0.1	mg/L		<0.1	<0.1	----	----	----
EP075(SIM)A: Phenolic Compounds									
2-Methylphenol	95-48-7	1.0	µg/L		<1.0	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		<2.0	<2.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		<1.0	<1.0	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	<1.0	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	<1.0	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	BASIN	TANK	----	----	----
				Client sampling date / time	27-Mar-2020 10:20	27-Mar-2020 10:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2010659-001	ES2010659-002	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued									
Fluorene	86-73-7	1.0	µg/L		<1.0	<1.0	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	<1.0	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	<1.0	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	<1.0	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	<1.0	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	<1.0	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	<1.0	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	<1.0	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	<1.0	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	µg/L		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	µg/L		<0.5	<0.5	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	BASIN	TANK	----	----	----
				Client sampling date / time	27-Mar-2020 10:20	27-Mar-2020 10:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2010659-001	ES2010659-002	--------	--------	--------
					Result	Result	----	----	----
EP080: BTEXN - Continued									
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		21.2	20.4	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		43.5	45.2	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		38.2	45.1	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		59.1	63.3	----	----	----
Anthracene-d10	1719-06-8	1.0	%		61.7	65.4	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		78.0	83.8	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		111	107	----	----	----
Toluene-D8	2037-26-5	2	%		102	102	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		96.8	94.0	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	Recovery Limits (%) High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2004247**	Page	: 1 of 7
Client	: **EMM CONSULTING PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR CHRIS KUCZERA	Contact	: Customer Services ES
Address	: 6/146 Hunter Street Newcastle 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: J14152 BENEDICT NEWCASTLE	Date Samples Received	: 10-Feb-2020 12:00
Order number	: ----	Date Analysis Commenced	: 10-Feb-2020
C-O-C number	: ----	Issue Date	: 17-Feb-2020 16:33
Sampler	: Jason O'Brien		
Site	: ----		
Quote number	: EN/112/18 - Primary work only		
No. of samples received	: 2		
No. of samples analysed	: 2		

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Signatories

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Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Neil Martin	Team Leader - Chemistry	Chemistry, Newcastle West, NSW

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- 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	Basin	Tank	----	----	----
			Client sampling date / time	10-Feb-2020 10:45	10-Feb-2020 10:30	----	----	----
Compound	CAS Number	LOR	Unit	ES2004247-001	ES2004247-002	--------	--------	--------
				Result	Result	----	----	----
EA005: pH								
pH Value	----	0.01	pH Unit	**8.13**	**7.70**	----	----	----
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**349**	**664**	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	**231**	**590**	----	----	----
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	**79**	**266**	----	----	----
EA045: Turbidity								
Turbidity	----	0.1	NTU	**110**	**580**	----	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**49**	**80**	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	**49**	**80**	----	----	----
ED093F: SAR and Hardness Calculations								
Total Hardness as CaCO3	----	1	mg/L	**113**	**177**	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	**0.09**	**0.27**	----	----	----
Arsenic	7440-38-2	0.001	mg/L	**0.003**	**0.005**	----	----	----
Barium	7440-39-3	0.001	mg/L	**0.017**	**0.041**	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L	**0.003**	**0.003**	----	----	----
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L	**0.005**	**0.010**	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	**0.001**	----	----	----
Molybdenum	7439-98-7	0.001	mg/L	**0.002**	**0.004**	----	----	----
Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	----	----	----
Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	----	----	----
Strontium	7440-24-6	0.001	mg/L	**0.193**	**0.215**	----	----	----
Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	----	----	----
Zinc	7440-66-6	0.005	mg/L	**0.009**	**0.008**	----	----	----
Boron	7440-42-8	0.05	mg/L	**0.08**	**0.07**	----	----	----
Iron	7439-89-6	0.05	mg/L	<0.05	**0.12**	----	----	----
EG035F: Dissolved Mercury by FIMS								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	Basin	Tank	----	----	----
				Client sampling date / time	10-Feb-2020 10:45	10-Feb-2020 10:30	----	----	----
Compound	CAS Number	LOR	Unit		ES2004247-001	ES2004247-002	--------	--------	--------
					Result	Result	----	----	----
EG035F: Dissolved Mercury by FIMS - Continued									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	----	----	----
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		**0.3**	**1.0**	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.67**	**0.07**	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		**0.04**	**0.06**	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.26**	**1.03**	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.30**	**1.09**	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		**3.4**	**3.7**	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		**3.7**	**4.8**	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.15**	**0.61**	----	----	----
EK071G: Reactive Phosphorus as P by discrete analyser									
Reactive Phosphorus as P	14265-44-2	0.01	mg/L		**0.02**	**0.26**	----	----	----
EP020: Oil and Grease (O&G)									
Oil & Grease	----	5	mg/L		**6**	**6**	----	----	----
EP050: Anionic Surfactants as MBAS									
Anionic Surfactants as MBAS	----	0.1	mg/L		<0.1	<0.1	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		<1.0	<1.0	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		<1.0	<1.0	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		<1.0	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		<2.0	<2.0	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		<1.0	<1.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		<1.0	<1.0	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		<1.0	<1.0	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		<1.0	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		<1.0	<1.0	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	Basin	Tank	----	----	----
				Client sampling date / time	10-Feb-2020 10:45	10-Feb-2020 10:30	----	----	----
Compound	CAS Number	LOR	Unit		ES2004247-001	ES2004247-002	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)A: Phenolic Compounds - Continued									
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		<1.0	<1.0	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		<1.0	<1.0	----	----	----
Pentachlorophenol	87-86-5	2.0	µg/L		<2.0	<2.0	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	<100	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	<2	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**21.5**	**18.0**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		**45.1**	**37.2**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		**58.8**	**64.0**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**65.8**	**64.7**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	Basin	Tank	----	----	----
				Client sampling date / time	10-Feb-2020 10:45	10-Feb-2020 10:30	----	----	----
Compound	CAS Number	LOR	Unit		ES2004247-001	ES2004247-002	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)T: PAH Surrogates - Continued									
Anthracene-d10	1719-06-8	1.0	%		**98.4**	**79.5**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	1.0	%		**78.6**	**64.9**	**----**	**----**	**----**
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**100**	**91.3**	**----**	**----**	**----**
Toluene-D8	2037-26-5	2	%		**113**	**123**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	2	%		**87.4**	**89.1**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1930176**	Page	: 1 of 6
Amendment	: **1**		
Client	: **EMM CONSULTING PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR CHRIS KUCZERA	Contact	: Customer Services ES
Address	: 6/146 Hunter Street Newcastle 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: J14152 BENEDICT NEWCASTLE	Date Samples Received	: 18-Sep-2019 16:39
Order number	: ----	Date Analysis Commenced	: 18-Sep-2019
C-O-C number	: ----	Issue Date	: 25-Sep-2019 13:56
Sampler	: CHRIS KUCZERA		
Site	: ----		
Quote number	: SY/327/16		
No. of samples received	: 2		
No. of samples analysed	: 2		

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
- Surrogate Control Limits

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*
Alex Rossi	Organic Chemist	Sydney Organics, Smithfield, NSW
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Neil Martin	Team Leader - Chemistry	Chemistry, Newcastle West, 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.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Amendment (25/09/2019): This report has been amended and re-released to allow the reporting of additional analytical data.
- 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	BASIN	TANK	----	----	----
			Client sampling date / time	18-Sep-2019 00:00	18-Sep-2019 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1930176-001	ES1930176-002	--------	--------	--------
				Result	Result	----	----	----
EA005: pH								
pH Value	----	0.01	pH Unit	**8.57**	**7.76**	----	----	----
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**444**	**807**	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	**336**	**535**	----	----	----
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	**160**	**78**	----	----	----
EA045: Turbidity								
Turbidity	----	0.1	NTU	**271**	**159**	----	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**42**	**95**	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	**42**	**95**	----	----	----
ED093F: SAR and Hardness Calculations								
Total Hardness as CaCO3	----	1	mg/L	**172**	**264**	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	**0.17**	**0.06**	----	----	----
Arsenic	7440-38-2	0.001	mg/L	**0.002**	**0.004**	----	----	----
Barium	7440-39-3	0.001	mg/L	**0.024**	**0.049**	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L	**0.003**	**0.002**	----	----	----
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	----	----	----
Copper	7440-50-8	0.001	mg/L	**0.006**	**0.002**	----	----	----
Lead	7439-92-1	0.001	mg/L	**0.001**	<0.001	----	----	----
Molybdenum	7439-98-7	0.001	mg/L	**0.003**	**0.007**	----	----	----
Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	----	----	----
Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	----	----	----
Strontium	7440-24-6	0.001	mg/L	**0.285**	**0.351**	----	----	----
Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	----	----	----
Zinc	7440-66-6	0.005	mg/L	**0.010**	**0.012**	----	----	----
Boron	7440-42-8	0.05	mg/L	**0.06**	**0.07**	----	----	----
Iron	7439-89-6	0.05	mg/L	**0.11**	**0.10**	----	----	----
EG035F: Dissolved Mercury by FIMS								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	BASIN	TANK	----	----	----
			Client sampling date / time	18-Sep-2019 00:00	18-Sep-2019 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1930176-001	ES1930176-002	--------	--------	--------
				Result	Result	----	----	----
EG035F: Dissolved Mercury by FIMS - Continued								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	----	----	----
EK010: Chlorine								
Chlorine - Total Residual	----	0.2	mg/L	**4.6**	<0.2	----	----	----
EK040P: Fluoride by PC Titrator								
Fluoride	16984-48-8	0.1	mg/L	**0.2**	**0.3**	----	----	----
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	<0.01	<0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	----	----	----
EK058G: Nitrate as N by Discrete Analyser								
Nitrate as N	14797-55-8	0.01	mg/L	**0.23**	**0.03**	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	**0.23**	**0.03**	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	**1.1**	**1.9**	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser								
^ Total Nitrogen as N	----	0.1	mg/L	**1.3**	**1.9**	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	**0.34**	**0.36**	----	----	----
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	<0.01	**0.04**	----	----	----
EP020: Oil and Grease (O&G)								
Oil & Grease	----	5	mg/L	<5	<5	----	----	----
EP050: Anionic Surfactants as MBAS								
Anionic Surfactants as MBAS	----	0.1	mg/L	**0.2**	**0.2**	----	----	----
EP075(SIM)A: Phenolic Compounds								
2-Methylphenol	95-48-7	1.0	µg/L	<1.0	<1.0	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L	<2.0	<2.0	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L	<1.0	<1.0	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L	<1.0	<1.0	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	<50	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	BASIN	TANK	----	----	----
				Client sampling date / time	18-Sep-2019 00:00	18-Sep-2019 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES1930176-001	ES1930176-002	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Petroleum Hydrocarbons - Continued									
C15 - C28 Fraction	----	100	µg/L		<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	<100	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ Total Xylenes	----	2	µg/L		<2	<2	----	----	----
^ Sum of BTEX	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**22.2**	**22.9**	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		**49.9**	**37.7**	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		**41.2**	**38.0**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**82.0**	**79.4**	----	----	----
Anthracene-d10	1719-06-8	1.0	%		**68.0**	**67.3**	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		**69.5**	**66.4**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**72.8**	**83.5**	----	----	----
Toluene-D8	2037-26-5	2	%		**105**	**124**	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**110**	**125**	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1927907-AA**	Page	: 1 of 6
Amendment	: **1**		
Client	: **EMM CONSULTING PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR CHRIS KUCZERA	Contact	: Customer Services ES
Address	: 6/146 Hunter Street Newcastle 2300	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61-2-8784 8555
Project	: J14152 BENEDICT NEWCASTLE	Date Samples Received	: 02-Sep-2019 10:59
Order number	: ----	Date Analysis Commenced	: 02-Sep-2019
C-O-C number	: ----	Issue Date	: 05-May-2020 14:20
Sampler	: ----		
Site	: ----		
Quote number	: SY/327/16		
No. of samples received	: 2		
No. of samples analysed	: 2		

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
- Surrogate Control Limits

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
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Neil Martin	Team Leader - Chemistry	Chemistry, Newcastle West, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the 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.

- MBAS is calculated as LAS, molecular weight 348
- TDS by method EA-015 may bias high for sample 5due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- Amendment (05/05/2020): This report has been amended and re-released to allow the reporting of specific samples as requested by Chris Kuczera.
- 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	BASIN	TANK	----	----	----
			Client sampling date / time	31-Aug-2019 10:00	02-Sep-2019 10:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1927907-001	ES1927907-002	--------	--------	--------
				Result	Result	----	----	----
EA005: pH								
pH Value	----	0.01	pH Unit	**8.32**	**7.28**	----	----	----
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**434**	**618**	----	----	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	**302**	**464**	----	----	----
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	**100**	**100**	----	----	----
EA045: Turbidity								
Turbidity	----	0.1	NTU	**228**	**152**	----	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**33**	**84**	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	**33**	**84**	----	----	----
ED093F: SAR and Hardness Calculations								
Total Hardness as CaCO3	----	1	mg/L	**183**	**215**	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	**0.03**	**0.04**	----	----	----
Arsenic	7440-38-2	0.001	mg/L	**0.002**	**0.006**	----	----	----
Barium	7440-39-3	0.001	mg/L	**0.015**	**0.047**	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	----	----	----
Chromium	7440-47-3	0.001	mg/L	**0.002**	**0.004**	----	----	----
Cobalt	7440-48-4	0.001	mg/L	<0.001	**0.001**	----	----	----
Copper	7440-50-8	0.001	mg/L	**0.006**	**0.005**	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	----	----	----
Molybdenum	7439-98-7	0.001	mg/L	**0.003**	**0.006**	----	----	----
Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	----	----	----
Silver	7440-22-4	0.001	mg/L	<0.001	<0.001	----	----	----
Strontium	7440-24-6	0.001	mg/L	**0.292**	**0.217**	----	----	----
Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	----	----	----
Zinc	7440-66-6	0.005	mg/L	<0.005	**0.018**	----	----	----
Boron	7440-42-8	0.05	mg/L	**0.07**	<0.05	----	----	----
Iron	7439-89-6	0.05	mg/L	<0.05	**0.16**	----	----	----
EG035F: Dissolved Mercury by FIMS								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	BASIN	TANK	----	----	----
			Client sampling date / time	31-Aug-2019 10:00	02-Sep-2019 10:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1927907-001	ES1927907-002	--------	--------	--------
				Result	Result	----	----	----
EG035F: Dissolved Mercury by FIMS - Continued								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	----	----	----
EK010: Chlorine								
Chlorine - Total Residual	----	0.2	mg/L	<0.2	<0.2	----	----	----
EK040P: Fluoride by PC Titrator								
Fluoride	16984-48-8	0.1	mg/L	**0.3**	**0.4**	----	----	----
EK055G: Ammonia as N by Discrete Analyser								
Ammonia as N	7664-41-7	0.01	mg/L	<0.01	<0.01	----	----	----
EK057G: Nitrite as N by Discrete Analyser								
Nitrite as N	14797-65-0	0.01	mg/L	**0.02**	<0.01	----	----	----
EK058G: Nitrate as N by Discrete Analyser								
Nitrate as N	14797-55-8	0.01	mg/L	**0.17**	<0.01	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser								
Nitrite + Nitrate as N	----	0.01	mg/L	**0.19**	<0.01	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser								
Total Kjeldahl Nitrogen as N	----	0.1	mg/L	**1.0**	**2.9**	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser								
^ **Total Nitrogen as N**	----	0.1	mg/L	**1.2**	**2.9**	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser								
Total Phosphorus as P	----	0.01	mg/L	**0.22**	**0.67**	----	----	----
EK071G: Reactive Phosphorus as P by discrete analyser								
Reactive Phosphorus as P	14265-44-2	0.01	mg/L	**0.03**	**0.07**	----	----	----
EP050: Anionic Surfactants as MBAS								
Anionic Surfactants as MBAS	----	0.1	mg/L	<0.1	<0.1	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	**160**	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	**200**	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	<50	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L	<50	**360**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L	<20	<20	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	BASIN	TANK	----	----	----
				Client sampling date / time	31-Aug-2019 10:00	02-Sep-2019 10:00	----	----	----
Compound	CAS Number	LOR	Unit		ES1927907-001	ES1927907-002	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C10 - C16 Fraction	----	100	µg/L		<100	**190**	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	**170**	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	**360**	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	**190**	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	<2	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**90.0**	**87.8**	----	----	----
Toluene-D8	2037-26-5	2	%		**98.0**	**101**	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**91.5**	**89.3**	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

Appendix N:
Complaints Register

Benedict Recycling Pty Limited

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

Complaints Register

a complaints register updated on a monthly basis

Summary of Complaint:

Date and time	Details of Complaint	Action taken
01/01/2019 - 31/01/2019	No complaints received this month	N/A

Benedict Recycling Pty Limited

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

Complaints Register

a complaints register updated on a monthly basis

Summary of Complaint:

Date and time	Details of Complaint	Action taken
01/02/2019 - 28/2/2019	No complaints received this month	N/A

Benedict Recycling Pty Limited

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

Complaints Register

a complaints register updated on a monthly basis

Summary of Complaint:

Date and time	Details of Complaint	Action taken
01/03/2019 - 31/3/2019	No complaints received this month	N/A

Benedict Recycling Pty Limited

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

Complaints Register

a complaints register updated on a monthly basis

Summary of Complaint:

Date and time	Details of Complaint	Action taken
01/04/2019 - 30/04/2019	No complaints received this month	N/A

Benedict Recycling Pty Limited

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

Complaints Register

a complaints register updated on a monthly basis

Summary of Complaint:

Date and time	Details of Complaint	Action taken
01/05/2019 - 31/05/2019	No complaints received this month	N/A

Benedict Recycling Pty Limited

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

Complaints Register

a complaints register updated on a monthly basis

Summary of Complaint:

Date and time	Details of Complaint	Action taken
01/06/2019 - 30/06/2019	No complaints received this month	N/A

Benedict Recycling Pty Limited

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

Complaints Register

a complaints register updated on a monthly basis

Summary of Complaint:

Date and time	Details of Complaint	Action taken
01/07/2019 - 31/07/2019	No complaints received this month	N/A

Benedict Recycling Pty Limited

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

Complaints Register

a complaints register updated on a monthly basis

Summary of Complaint:

Date and time	Details of Complaint	Action taken
09/08/2019 at 9:50am	EPA received a complaint from a member of the community who drove past the site and noticed a large dust plume fog in the immediate area and poor visibility	Due to windy conditions all activities on site creating uncontrollable dust were ceased

Benedict Recycling Pty Limited

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

Complaints Register

a complaints register updated on a monthly basis

Summary of Complaint:

Date and time	Details of Complaint	Action taken
01/09/2018 - 30/09/2018	No complaints received this month	N/A

Benedict Recycling Pty Limited

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

Complaints Register

a complaints register updated on a monthly basis

Summary of Complaint:

Date and time	Details of Complaint	Action taken
01/10/2019 - 31/10/2019	No complaints received this month	N/A

Benedict Recycling Pty Limited

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

Complaints Register

a complaints register updated on a monthly basis

Summary of Complaint:

Date and time	Details of Complaint	Action taken
01/11/2019 - 30/11/2019	No complaints received this month	N/A

Benedict Recycling Pty Limited

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

Complaints Register

a complaints register updated on a monthly basis

Summary of Complaint:

Date and time	Details of Complaint	Action taken
01/12/2019 - 31/12/2019	No complaints received this month	N/A

Benedict Recycling Pty Limited

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

Complaints Register

a complaints register updated on a monthly basis

Summary of Complaint:

Date and time	Details of Complaint	Action taken
01/01/2020 - 31/01/2020	No complaints received this month	N/A

Benedict Recycling Pty Limited

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

Complaints Register

a complaints register updated on a monthly basis

Summary of Complaint:

Date and time	Details of Complaint	Action taken
01/02/2020 - 29/02/2020	No complaints received this month	N/A

Benedict Recycling Pty Limited

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

Complaints Register

a complaints register updated on a monthly basis

Summary of Complaint:

Date and time	Details of Complaint	Action taken
01/03/2020 - 31/03/2020	No complaints received this month	N/A

Benedict Recycling Pty Limited

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

Complaints Register

a complaints register updated on a monthly basis

Summary of Complaint:

Date and time	Details of Complaint	Action taken
01/04/2020 - 30/04/2020	No complaints received this month	N/A

Benedict Recycling Pty Limited

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

Complaints Register

a complaints register updated on a monthly basis

Summary of Complaint:

Date and time	Details of Complaint	Action taken
01/05/2020 - 30/05/2020	No complaints received this month	N/A

Appendix O:
Discharge Monitoring Results

Benedict Recycling Pty Limited

Jan-19

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

EPA Licence No: 20771

Water Monitoring Requirements:

Grab samples are required to be taken daily during any discharge event.

Location of Monitoring Points:

Monitoring Point 1: Valve controlled outlet chamber and pipeline located within sedimentation pond in north-western corner of the site (see Figure 2.1 in DOC15/0291).

Summary of Results:

Monitoring Point 1:

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples
Oil and Grease	mg/L	10	-	-	-
pH	pH	6.5 - 8.5	-	-	-
Total Suspended Solids	mg/L	50	-	-	-

Individual Results:

Monitoring Point 1:

Sample Date	Pollutant	Unit of Measure	100 Percentile Concentration Limit	Test Result	Exceedance (Y/N)
No discharge events during period					

Benedict Recycling Pty Limited

Feb-19

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

EPA Licence No: 20771

Water Monitoring Requirements:

Grab samples are required to be taken daily during any discharge event.

Location of Monitoring Points:

Monitoring Point 1: Valve controlled outlet chamber and pipeline located within sedimentation pond in north-western corner of the site (see Figure 2.1 in DOC15/0291).

Summary of Results:

Monitoring Point 1:

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples
Oil and Grease	mg/L	10	-	-	-
pH	pH	6.5 - 8.5	-	-	-
Total Suspended Solids	mg/L	50	-	-	-

Individual Results:

Monitoring Point 1:

Sample Date	Pollutant	Unit of Measure	100 Percentile Concentration Limit	Test Result	Exceedance (Y/N)
No discharge events during period					

Benedict Recycling Pty Limited

Mar-19

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

EPA Licence No: 20771

Water Monitoring Requirements:

Grab samples are required to be taken daily during any discharge event.

Location of Monitoring Points:

Monitoring Point 1: Valve controlled outlet chamber and pipeline located within sedimentation pond in north-western corner of the site (see Figure 2.1 in DOC15/0291).

Summary of Results:

Monitoring Point 1:

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples
Oil and Grease	mg/L	10	-	-	-
pH	pH	6.5 - 8.5	-	-	-
Total Suspended Solids	mg/L	50	-	-	-

Individual Results:

Monitoring Point 1:

Sample Date	Pollutant	Unit of Measure	100 Percentile Concentration Limit	Test Result	Exceedance (Y/N)
No discharge events during period					

Benedict Recycling Pty Limited

Apr-19

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

EPA Licence No: 20771

Water Monitoring Requirements:

Grab samples are required to be taken daily during any discharge event.

Location of Monitoring Points:

Monitoring Point 1: Valve controlled outlet chamber and pipeline located within sedimentation pond in north-western corner of the site (see Figure 2.1 in DOC15/0291).

Summary of Results:

Monitoring Point 1:

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples
Oil and Grease	mg/L	10	-	-	-
pH	pH	6.5 - 8.5	-	-	-
Total Suspended Solids	mg/L	50	-	-	-

Individual Results:

Monitoring Point 1:

Sample Date	Pollutant	Unit of Measure	100 Percentile Concentration Limit	Test Result	Exceedance (Y/N)
No discharge events during period					

Benedict Recycling Pty Limited

May-19

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

EPA Licence No: 20771

Water Monitoring Requirements:

Grab samples are required to be taken daily during any discharge event.

Location of Monitoring Points:

Monitoring Point 1: Valve controlled outlet chamber and pipeline located within sedimentation pond in north-western corner of the site (see Figure 2.1 in DOC15/0291).

Summary of Results:

Monitoring Point 1:

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples
Oil and Grease	mg/L	10	-	-	-
pH	pH	6.5 - 8.5	-	-	-
Total Suspended Solids	mg/L	50	-	-	-

Individual Results:

Monitoring Point 1:

Sample Date	Pollutant	Unit of Measure	100 Percentile Concentration Limit	Test Result	Exceedance (Y/N)
No discharge events during period					

Benedict Recycling Pty Limited

Jun-19

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

EPA Licence No: 20771

Water Monitoring Requirements:

Grab samples are required to be taken daily during any discharge event.

Location of Monitoring Points:

Monitoring Point 1: Valve controlled outlet chamber and pipeline located within sedimentation pond in north-western corner of the site (see Figure 2.1 in DOC15/0291).

Summary of Results:

Monitoring Point 1:

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples
Oil and Grease	mg/L	10	-	-	-
pH	pH	6.5 - 8.5	-	-	-
Total Suspended Solids	mg/L	50	-	-	-

Individual Results:

Monitoring Point 1:

Sample Date	Pollutant	Unit of Measure	100 Percentile Concentration Limit	Test Result	Exceedance (Y/N)
No discharge events during period					

Benedict Recycling Pty Limited

Jul-19

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

EPA Licence No: 20771

Water Monitoring Requirements:

Grab samples are required to be taken daily during any discharge event.

Location of Monitoring Points:

Monitoring Point 1: Valve controlled outlet chamber and pipeline located within sedimentation pond in north-western corner of the site (see Figure 2.1 in DOC15/0291).

Summary of Results:

Monitoring Point 1:

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples
Oil and Grease	mg/L	10	-	-	-
pH	pH	6.5 - 8.5	-	-	-
Total Suspended Solids	mg/L	50	-	-	-

Individual Results:

Monitoring Point 1:

Sample Date	Pollutant	Unit of Measure	100 Percentile Concentration Limit	Test Result	Exceedance (Y/N)
No discharge events during period					

Benedict Recycling Pty Limited

Aug-19

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

EPA Licence No: 20771

Water Monitoring Requirements:

Grab samples are required to be taken daily during any discharge event.

Location of Monitoring Points:

Monitoring Point 1: Valve controlled outlet chamber and pipeline located within sedimentation pond in north-western corner of the site (see Figure 2.1 in DOC15/0291).

Summary of Results:

Monitoring Point 1:

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples
Oil and Grease	mg/L	10	-	-	-
pH	pH	6.5 - 8.5	-	-	-
Total Suspended Solids	mg/L	50	-	-	-

Individual Results:

Monitoring Point 1:

Sample Date	Pollutant	Unit of Measure	100 Percentile Concentration Limit	Test Result	Exceedance (Y/N)
No discharge events during period					

Benedict Recycling Pty Limited

Sep-19

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

EPA Licence No: 20771

Water Monitoring Requirements:

Grab samples are required to be taken daily during any discharge event.

Location of Monitoring Points:

Monitoring Point 1: Valve controlled outlet chamber and pipeline located within sedimentation pond in north-western corner of the site (see Figure 2.1 in DOC15/0291).

Summary of Results:

Monitoring Point 1:

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples
Oil and Grease	mg/L	10	-	-	-
pH	pH	6.5 - 8.5	-	-	-
Total Suspended Solids	mg/L	50	-	-	-

Individual Results:

Monitoring Point 1:

Sample Date	Pollutant	Unit of Measure	100 Percentile Concentration Limit	Test Result	Exceedance (Y/N)
No discharge events during period					

Benedict Recycling Pty Limited

Oct-19

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

EPA Licence No: 20771

Water Monitoring Requirements:

Grab samples are required to be taken daily during any discharge event.

Location of Monitoring Points:

Monitoring Point 1: Valve controlled outlet chamber and pipeline located within sedimentation pond in north-western corner of the site (see Figure 2.1 in DOC15/0291).

Summary of Results:

Monitoring Point 1:

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples
Oil and Grease	mg/L	10	-	-	-
pH	pH	6.5 - 8.5	-	-	-
Total Suspended Solids	mg/L	50	-	-	-

Individual Results:

Monitoring Point 1:

Sample Date	Pollutant	Unit of Measure	100 Percentile Concentration Limit	Test Result	Exceedance (Y/N)
No discharge events during period					

Benedict Recycling Pty Limited

Nov-19

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

EPA Licence No: 20771

Water Monitoring Requirements:

Grab samples are required to be taken daily during any discharge event.

Location of Monitoring Points:

Monitoring Point 1: Valve controlled outlet chamber and pipeline located within sedimentation pond in north-western corner of the site (see Figure 2.1 in DOC15/0291).

Summary of Results:

Monitoring Point 1:

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples
Oil and Grease	mg/L	10	-	-	-
pH	pH	6.5 - 8.5	-	-	-
Total Suspended Solids	mg/L	50	-	-	-

Individual Results:

Monitoring Point 1:

Sample Date	Pollutant	Unit of Measure	100 Percentile Concentration Limit	Test Result	Exceedance (Y/N)
No discharge events during period					

Benedict Recycling

Dec-19

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

EPA Licence No: 20771

Water Monitoring Requirements:

Grab samples are required to be taken daily during any discharge event.

Location of Monitoring Points:

Monitoring Point 1: Valve controlled outlet chamber and pipeline located within sedimentation pond in north-western corner of the site (see Figure 2.1 in DOC15/0291).

Summary of Results:

Monitoring Point 1:

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples
Oil and Grease	mg/L	10	-	-	-
pH	pH	6.5 - 8.5	-	-	-
Total Suspended Solids	mg/L	50	-	-	-

Individual Results:

Monitoring Point 1:

Sample Date	Pollutant	Unit of Measure	100 Percentile Concentration Limit	Test Result	Exceedance (Y/N)
No discharge events during period					

Benedict Recycling Pty Limited

Jan-20

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

EPA Licence No: 20771

Water Monitoring Requirements:

Grab samples are required to be taken daily during any discharge event.

Location of Monitoring Points:

Monitoring Point 1: Valve controlled outlet chamber and pipeline located within sedimentation pond in north-western corner of the site (see Figure 2.1 in DOC15/0291).

Summary of Results:

Monitoring Point 1:

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples
Oil and Grease	mg/L	10	-	-	-
pH	pH	6.5 - 8.5	-	-	-
Total Suspended Solids	mg/L	50	-	-	-

Individual Results:

Monitoring Point 1:

Sample Date	Pollutant	Unit of Measure	100 Percentile Concentration Limit	Test Result	Exceedance (Y/N)
No discharge events during period					

Benedict Recycling Pty Limited

Feb-20

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

EPA Licence No: 20771

Water Monitoring Requirements:

Grab samples are required to be taken daily during any discharge event.

Location of Monitoring Points:

Monitoring Point 1: Valve controlled outlet chamber and pipeline located within sedimentation pond in north-western corner of the site (see Figure 2.1 in DOC15/0291).

Summary of Results:

Monitoring Point 1:

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples
Oil and Grease	mg/L	10	-	-	-
pH	pH	6.5 - 8.5	-	-	-
Total Suspended Solids	mg/L	50	-	-	-

Individual Results:

Monitoring Point 1:

Sample Date	Pollutant	Unit of Measure	100 Percentile Concentration Limit	Test Result	Exceedance (Y/N)
No discharge events during period					

Benedict Recycling Pty Limited

Mar-20

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

EPA Licence No: 20771

Water Monitoring Requirements:

Grab samples are required to be taken daily during any discharge event.

Location of Monitoring Points:

Monitoring Point 1: Valve controlled outlet chamber and pipeline located within sedimentation pond in north-western corner of the site (see Figure 2.1 in DOC15/0291).

Summary of Results:

Monitoring Point 1:

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples
Oil and Grease	mg/L	10	-	-	-
pH	pH	6.5 - 8.5	-	-	-
Total Suspended Solids	mg/L	50	-	-	-

Individual Results:

Monitoring Point 1:

Sample Date	Pollutant	Unit of Measure	100 Percentile Concentration Limit	Test Result	Exceedance (Y/N)
No discharge events during period					

Benedict Recycling Pty Limited

Apr-20

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

EPA Licence No: 20771

Water Monitoring Requirements:

Grab samples are required to be taken daily during any discharge event.

Location of Monitoring Points:

Monitoring Point 1: Valve controlled outlet chamber and pipeline located within sedimentation pond in north-western corner of the site (see Figure 2.1 in DOC15/0291).

Summary of Results:

Monitoring Point 1:

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples
Oil and Grease	mg/L	10	-	-	-
pH	pH	6.5 - 8.5	-	-	-
Total Suspended Solids	mg/L	50	-	-	-

Individual Results:

Monitoring Point 1:

Sample Date	Pollutant	Unit of Measure	100 Percentile Concentration Limit	Test Result	Exceedance (Y/N)
No discharge events during period					

Benedict Recycling Pty Limited

May-20

Newcastle - 1A McIntosh Drive, Mayfield West NSW 2304

EPA Licence No: 20771

Water Monitoring Requirements:

Grab samples are required to be taken daily during any discharge event.

Location of Monitoring Points:

Monitoring Point 1: Valve controlled outlet chamber and pipeline located within sedimentation pond in north-western corner of the site (see Figure 2.1 in DOC15/0291).

Summary of Results:

Monitoring Point 1:

Pollutant	Unit of Measure	100 Percentile Concentration Limit	Lowest sample value	Highest sample value	Mean of samples
Oil and Grease	mg/L	10	-	-	-
pH	pH	6.5 - 8.5	-	-	-
Total Suspended Solids	mg/L	50	-	-	-

Individual Results:

Monitoring Point 1:

Sample Date	Pollutant	Unit of Measure	100 Percentile Concentration Limit	Test Result	Exceedance (Y/N)
No discharge events during period					

Appendix P:
Annual Review Acceptance 2018 & 2019

Planning, Industry & Environment

Ms Alycia Campbell
Environmental Compliance Officer
Benedict Recycling Pty Ltd
PO Box 10
MOOREBANK NSW 1875

Email: alycia@benedict.com.au

Contact: Heidi Watters
Phone: (02) 6575 3401
Email: heidi.watters@planning.nsw.gov.au
compliance@planning.nsw.gov.au
Our Ref: SSD 7698 (#19069)

Dear Ms Campbell

Mayfield West Recycling Facility (SSD 7698)
2018 Annual Review

Reference is made to the revised 2018 Annual Review for the period 13 March 2018 to 31 December 2018 (the reporting period), for the Mayfield West Recycling Facility (the facility), as required by Schedule 2 Part C condition C9 of SSD 7698 (the consent) and submitted to the Department of Planning, Industry and Environment (the Department) on 30 September 2019.

The Department has reviewed the revised 2018 Annual Review and considers it to generally satisfy the requirements of the consent. Please note that acceptance of the Annual Review is not an endorsement of the compliance status of the project.

As required by Schedule 2 Part C condition C15 of the consent, please make a copy of the 2018 Annual Review publicly available on the project website by **31 October 2019**.

Should you need to discuss the above, please contact Heidi Watters on the details above or email to compliance@planning.nsw.gov.au

Yours sincerely

9.10.19

Ben Harrison
Director - Compliance
As nominee of the Secretary

Ms Alycia Campbell
Environmental Compliance Officer
Benedict Recycling Pty Ltd
PO Box 10
MOOREBANK NSW 1875

By Email Only: compliance@benedict.com.au

30/04/2020

Mayfield West Recycling Facility (SSD 7698)
Annual Review 2019

Dear Ms Campbell

Reference is made to the Annual Review for the period 1 January 2019 to 31 December 2020, submitted to the Department of Planning, Industry and Environment (the Department) o n 30 March 2020 as required under Schedule 2, Part C, Condition 9 SSD 7698 (the consent).

The Department has reviewed the Annual Review and considers it to satisfy the reporting requirements of the approval and the Department's *Annual Review Guideline* (October 2015). Please make publicly available a copy of the 2019 Annual Review on the company website, preferably by **30 May 2020**.

Please note that the Department's acceptance of this Annual Review is not an endorsement of the compliance status of the project. Non-compliances identified in the Annual Review will be assessed in accordance with the Department's Compliance Policy. Further correspondence may be sent in relation to non-compliances.

Should you need to discuss the above, please contact Joel Curran, Senior Compliance Officer, on 02 4904 2702.

Yours sincerely

Heidi Watters
Team Leader Northern
Compliance
As nominee of the Secretary

Appendix Q:
Fire Training Certificate






EliteFire TRAINING

Certificate of Completion

This Certificate does not represent completion of a Nationally Recognised Course

This is to certify that

Benedict Recycling Newcastle

Has successfully completed

Warden / Chief Warden Training
Building Evacuation Training & the
Use of Portable Fire Fighting Equipment

18 November 2019

This training was performed by Elite Fire Training as part of Work Health & Safety legislative requirements in accordance with the procedures identified in Australian Standards (AS3745 and AS1851)

This certificate is valid for 12 months from the date shown

Ryan Timeus

Workplace Trainer and Assessor

environmental
compliance solutions
and laboratories

Beyond Compliance

VGT Environmental Compliance Solutions Pty Ltd
ABN 26 621 943 888

Unit 4, 30 Glenwood Drive Thornton NSW 2322
PO Box 2335, Greenhills NSW 2323

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