Appendix A Licence, Notice, and Audit Scope

Appendix A1 Landfill Licence

ntepa Northern Territory Environment Protection Authority

ENVIRONMENT PROTECTION LICENCE

(Pursuant to section 34 of the *Waste Management and Pollution Control Act*)

Licensee	City of Darwin*
Licence Number	**EPL188 - 03**
Registered Business Address	City of Darwin* 1 Harry Chan Avenue Darwin NT 0800
ABN	11 503 313 301
Premises Address	Lot 03952 Town of Sanderson plan(s) S 79/149A VANDERLIN DR, HOLMES
Anniversary Date:	01 July
Commencement Date:	01/07/2021
Expiry Date:	29/06/2021
Scheduled Activity	Operating **premises** for the disposal of **waste** by burial that service, or are designed to service, the **waste** disposal requirements of more than 1000 persons. Collecting, transporting, storing, re-cycling, treating or disposing of a **listed waste** (as per Table 1) on a commercial or fee for service basis, other than in or for the purpose of a sewage treatment plant. Operating **premises**, other than a sewage treatment plant, associated with collecting, transporting, storing, re-cycling, treating or disposing of a **listed waste** (as per Table 1) on a commercial or fee for service basis.

Description

The Shoal Bay Waste Management Facility (SBWMF) is a municipal waste resource recovery and disposal site operated by the City of Darwin (CoD). The SBWMF services both domestic and commercial customers in the Darwin area.

The licence is for the operation of the SBWMF, including Stage 1 to 6 landfill waste cells, two temporary leachate evaporation systems, two leachate storage ponds, greenwaste hardstand area, weighbridge and community buy back shop.

Table 1 - Listed Wastes Authorised to be Handled

Listed Waste	Collection	Transport	Storage	Treatment	Recycling	Disposal
Animal effluent and residues	✗	✗	✗	✗	✗	✓
Asbestos	✗	✗	✗	✗	✗	✓
Clinical and related wastes	✗	✗	✗	✗	✗	✓
Lead, lead compounds	✗	✗	✓	✗	✗	✗
Sewage sludge and residues including nightsoil and septic tank sludge	✗	✗	✗	✗	✗	✓
Soils contaminated with a listed waste	✗	✗	✗	✗	✗	✓
Tyres	✗	✗	✓	✓	✓	✓
Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish	✗	✗	✓	✗	✗	✗
Acidic solutions or acids in solid form	✗	✗	✓	✗	✗	✗
Waste mineral oils unfit for their original intended use	✗	✗	✓	✗	✗	✗

✓ Activity authorised by this licence

✗ Activity not authorised by this licence

ENVIRONMENT PROTECTION LICENCE 188 - 03

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ATTACHMENTS

INFORMATION ABOUT THIS LICENCE

- This licence does not in any way relieve the licence holder from its obligations to comply with the *Waste Management and Pollution Control Act* (WMPC Act), including the general environmental duty in section 12 of the WMPC Act and the duty to notify of incidents causing or threating to cause pollution under section 14 of the WMPC Act.

Duration of a licence (section 40, 43 and 45 of the WMPC Act)

- A licence will remain in force until its expiry date or until it is surrendered by the licensee or is suspended or cancelled in accordance with the WMPC Act.
- The licensee must notify the Northern Territory Environment Protection Authority (NT EPA) within 14 days after ceasing to conduct the activity.
- The licensee may, with the approval of the NT EPA, surrender the licence to the NT EPA.

Amendment or Revocation of a licence (section 37 of the WMPC Act)

- The licensee may apply to amend or revoke a condition of this licence.
- A fee applies and the application must be made using the designated form via NT EPA Online.
- The NT EPA may also amend or revoke a condition of this licence as set out in section 38 of the WMPC Act.

Transfer of a licence (section 46 of the WMPC Act)

- The licensee can apply to transfer their licence to another person.
- A fee applies and the application must be made via NT EPA Online.

Renewal of a licence (section 40 of the WMPC Act and section 3 of the Regulations)

- The licensee may apply for the renewal of their licence not earlier than 90 days, and not later than 30 days, before their licence expires.
- A fee applies and the application must be made via NT EPA Online.

Public Register

- A copy of environment protection licences and any plans for environmental management, reports, submissions or documents required as a condition of an environment protection licence, will be placed on a register in accordance with section 9 of the WMPC Act.
- A copy of the Annual Return will be placed on the register.
- The NT EPA makes this register freely available from the NT EPA website.

Environment Protection Objectives (Part 4 of the WMPC Act), and Water Quality Standards (section 73 of the *Water Act*)

- An Environment Protection Objective (EPO) is a statutory instrument to establish principles on which:
  a. environmental quality is to be maintained, enhanced, managed or protected;
  b. pollution, or environmental harm resulting from pollution, is to be assessed, prevented, reduced, controlled, rectified or cleaned up; and
  c. effective waste management is to be implemented or evaluated.

- In accordance with section 18 of the WMPC Act a beneficial use, quality standard, criteria or objective declared under section 73 of the *Water Act* and in force is an environment protection objective for the purposes of the WMPC Act.
- The following EPOs and Beneficial Use Declarations (BUDs) are relevant to this licence:
    - Declared Beneficial Use for the Darwin Harbour Area: Water Quality Objectives, NTG Gazette 29 June 2010.

Environmental Interests

- This section highlights sensitivity of the surrounding land use and environment associated with the location of the approved activity:
- Sites of Conservation Significance
    - SOC 6 - Darwin Harbour
    - SOC 8 - Shoal Bay

Cultural Interests

- It is the licensee's responsibility to contact the Aboriginal Areas Protection Authority, appropriate land council or other governing body and ensure that any Authority Certificates required as a result of conducting the licensed activity are obtained and complied with.

RULES FOR INTERPRETING THE CONDITIONS OF THIS LICENCE

- Where there is a discrepancy between the conditions of this licence and any plan, standard, guideline or other document referred to in this licence, the conditions of this licence prevail to the extent of the inconsistency.
- Any reference to any standard (Australian or international) in this licence means the relevant parts of the current version of that standard.
- A reference to any guideline or code of practice (or to the relevant parts of any guideline or code of practice) in this licence means the current version of the guideline or code of practice.
- Under section 39 of the WMPC Act, any contravention of or failure to comply with this licence by the licensee may be an offence.
- In determining whether the licensee has committed an offence, the licensee may be liable for the conduct of its directors, employees or agents.
- The licensee should ensure that each of its directors, employees, contractors or agents are aware of, and comply with, this licence.
- In this licence, unless the contrary intention appears, words that are defined in the WMPC Act are intended to have the meaning given to them in that Act.

LICENCE CONDITIONS

GENERAL

1 The licensee must ensure the contact details recorded in NT EPA Online for this licence are correct at all times.

2 The licensee must at all times have a 24 hour emergency contact.

3 The licensee must pay the annual fee calculated in accordance with the method prescribed in the Regulations within 50 business days of the anniversary of the commencement date of this licence, for each year or part of a year that this licence is in force.

4 The licensee must cause clear and legible signage, in English, to be displayed in a prominent location at each public entrance to the premises that includes the following details:

4.1 environment protection licence number issued under the WMPC Act; and

4.2 24 hour emergency contact details.

5 The licensee must cause a copy of this licence to be available for inspection by any person, in hard copy form, at the premises.

6 The licensee must provide to the NT EPA, within 10 business days of a request, a copy of any document, monitoring data or other information in relation to the activity, in the format requested by the NT EPA.

7 All notices, reports, documents or other correspondence required to be provided as a condition of this licence, unless otherwise specified as a condition of this licence, must be provided in electronic form by uploading the document via NT EPA Online.

8 Within 10 business days of any amendment being made to a document listed in Table 2 the licensee must provide the amended document to the NT EPA, along with:

8.1 a tabulated summary of the amendment(s) with document references;

8.2 reasons for the amendment(s); and

8.3 an assessment of environmental risk associated with the amendment(s).

9 **Table 2 : Documents to apply**

Document Title	Document Reference
Environmental Management Plan - Shoal Bay Waste Management Facility - City of Darwin	189753-43

10 The NT EPA may require the licensee to revise or amend and resubmit any amended document. Where the NT EPA requires a document to be resubmitted, the licensee must submit it to the NT EPA by the date specified by the NT EPA.

11 The licensee must, for the duration of this licence, implement, maintain and follow a Consultation and Communication Plan which includes a strategy for communicating with persons who are likely to have a real interest in, or be affected by, the activity.

12 The licensee must operate and maintain a community feedback number.

13 The licensee must display the community feedback number:

13.1 where the licensee has a website, in a prominent location on the licensees website;

13.2 in the Consultation and Communication Plan; and

13.3 in other publicly available documents relating to the activity.

14 The licensee must maintain a Complaint Log for all complaints received by the licensee in relation to the activity.

15 The licensee must ensure that the Complaint Log includes, for each complaint received by the licensee, the following information:

15.1 the person to whom the complaint was made;

15.2 the person responsible for managing the complaint;

15.3 the date and time the complaint was reported;

15.4 the date and time of the event(s) that led to the complaint;

15.5 the contact details of the complainant if known, or where no details are provided a note to that effect;

15.6 the nature of the complaint;

15.7 the nature of event(s) giving rise to the complaint;

15.8 prevailing weather conditions at the time (where relevant to the complaint);

15.9 the action taken in relation to the complaint, including any follow-up contact with the complainant; and

15.10 if no action was taken, why no action was taken.

16 The licensee must implement, maintain and follow an Emergency Response Plan that addresses procedures for responding to emergencies associated with the activity that may cause environmental harm.

EARLY SURRENDER OF LICENCE

17 Any reports, records or other information required or able to be provided by the licensee under this licence must be submitted to the NT EPA prior to the licensee surrendering the licence. If the date on which a report, record or other information is required falls after the date the licensee requests to surrender this licensee, the licensee must provide the report, record or information as far as possible using data available to the licensee up to and including the date the request to surrender the licence is made.

OPERATIONAL

18 The licensee must not collect, transport, store, recycle, treat or dispose of listed waste other than the listed waste specified in Table 1.

18.1 Soils contaminated with a listed waste may include any of the listed waste defined in schedule 2 of the Waste Management and Pollution Control (Administration) Regulations and/or or per-and poly-fluoro alkyl substances (PFAS).

18.2 Waste must only be accepted that meets the waste classification and acceptance criteria detailed in Attachment 1 of this licence.

18.3 Stage 1 and Stage 2 are unlined and cannot accept waste detailed in Attachment 1 of this licence, except asbestos in Stage 2 accordance with this licence.

18.4 Stage 3 and Stage 4 are closed, with no waste disposed of in these stages.

18.5 Stage 5 and Stage 6 use a composite liner system and can accept waste provided concentrations are less than the upper limits defined for composite liners in Attachment 1 in the licence.

19 The licensee must ensure any plant and equipment used by the licensee in conducting the activity:

19.1 is reasonably fit for the purpose and use to which it is put.

19.2 is maintained.

19.3 is operated by a person trained to use the plant and equipment.

19.4 is operated by, or operated by a person accompanied by, a person trained to handle, store or dispose of listed waste in connection with the activity.

20 The licensee must ensure that wastewater generated from washing plant and equipment associated with the activity does not cause pollution.

21 The licensee must segregate waste received at the premises in clearly designated areas for recycling, re-use or disposal.

22 The licensee must segregate waste generated at the premises in clearly designated areas for recycling, re-use or disposal.

23 The licensee must ensure that litter:

23.1 is contained within the boundary of the premises.

23.2 is not deposited or allowed to accumulate in stormwater drain(s), water or leachate dam(s).

23.3 does not accumulate along the boundary of the premises.

23.4 is collected and disposed of on a daily basis.

24 The licensee must not cause or permit waste to be burned at the premises.

25 The licensee must maintain a log of fires occurring at the premises including the following information:

25.1 the time and date of when the fire was reported;

25.2 the circumstance which ignited the fire;

25.3 the time and date of when the fire ceased and whether it burnt out or was extinguished;

25.4 the location of the fire on the premises (e.g. timber stockpile, putrescible waste);

25.5 prevailing weather conditions;

25.6 observations made in regard to smoke direction and dispersion;

25.7 the amount of waste combusted by the fire; and

25.8 action taken to extinguish the fire.

25.9 measures taken to reduce the risk of further fire at the premises.

26 The licensee must notify the NT EPA of any incidents at the premises causing or threatening to cause pollution including but not limited to fires, leachate breakouts, loss of containment from dams or storage.

27 The licensee must contact the Pollution Hotline on telephone number 1800 064 567 as soon as practicable after (and in any case, within 24 hours after) first becoming aware of the incident. The licensee must provide the status of the incident and this licence number when contacting the Pollution Hotline.

28 The licensee must complete a section 14 incident report form and submit to both waste@nt.gov.au and pollution@nt.gov.au an incident investigation report within 14 days.

29 The incident investigation report must include:

29.1 when the incident was detected and by whom;

29.2 the date and time of the incident;

29.3 the actual or potential causes and potential contributing factors to the incident;

29.4 the risk of environmental harm arising from the incident;

29.5 the action(s) that were or will be undertaken to mitigate any environmental harm arising from the incident;

29.6 correction actions that have or will be undertaken to ensure the incident does not reoccur; and

29.7 if no action was taken, why no action was taken.

30 The licensee must ensure that neither leachate nor water pond on the surface of the premises.

31 The licensee must only store leachate:

31.1 in covered ponds identified as 'leachate storage ponds' in Attachment 2; or

31.2 in enclosed storage tanks with bunded areas constructed, sized, operated and maintained to contain 110% capacity of the largest container within the bund.

32 The licensee must, at least three months prior to the commencement of construction of a new landfill cell, or extension of an existing landfill cell, submit to the NT EPA an application for an environment protection approval under section 31(1)(a) of the WMPC Act unless the new landfill cell or the extension of an existing landfill cell has previously been approved by the NT EPA in accordance with the WMPC Act.

33 The licensee must ensure that all materials that are likely to cause environmental harm are handled and stored in areas with a containment system in accordance with the relevant Australian Standard. Where no relevant Australian Standard exists, the containment system must be sized to contain 110% of the volume of the largest container within the area.

34 The licensee must only handle asbestos containing material which is packed and contained in accordance with Section 4.8 of the *NT Worksafe and Safe Work Australia How to Safely Remove Asbestos Code of Practice*.

35 The licensee must dispose of asbestos containing material in accordance with the NT EPA *Asbestos Disposal in the Northern Territory* disposal requirements, within Stage 2 designated area only as defined by boundary coordinates in Table 3.

Table 3: Stage 2 Designated Asbestos Burial Area

Asbestos burial location within the following boundary coordinates	
Easting	Northing
709535	8630550
709823	8630482
709891	8630007
709518	8630001

36 The licensee must maintain a record of all asbestos containing material buried at the premises including the quantity of the material buried.

37 The licensee must dispose of asbestos containing material by burying it:

37.1 in the case of asbestos fibre and dust waste, at a minimum depth of 3 metres; and

37.2 in the case of stabilised asbestos waste in a bonded matrix, at a minimum depth of 1 metre.

38 The licensee must ensure that any tyres stored on the premises do not exceed the limits specified in Table 4:

Table 4: Tyre Limits

Height of stockpile	< or equal to 3 metres
Widthe of stockpile	< or equal to 5 metres
Length of stockpile	< or equal to 45 metres
Separation distance between stockpiles	> or equal to 15 metres
Separation to distance from end of stockpile	> or equal to 10 metres
Firebreak perimeter around each tyre stockpile	> or equal to 4 metres

39 The licensee must not store tyres within 50 metres of any vegetation that is more that 50mm high.

40 The licensee must ensure that all listed waste being transported to and from the premises is transported by a person licensed under section 30 of the WMPC Act to transport the listed waste.

41 The licensee must notify the NT EPA prior to making any operational change that will cause, or is likely to cause, an increase in the potential for environmental harm.

42 The licensee must cover waste in accordance with the NT EPA *Guideline for the Siting, Design and Management of Solid Waste Disposal Sites* in the Northern Territory.

DISCHARGES AND EMISSIONS

43 The licensee must ensure there is no migration or overflow of a contaminant or waste, which causes or may cause environmental harm, beyond the boundary of the land on which the premises are located.

(For the avoidance of doubt, this condition is not intended to authorise the discharge of a contaminant or waste to any land or water which discharge has not been specifically authorised by another condition of this licence).

44 The licensee must not allow a contaminant or waste, which causes or may cause environmental harm, to enter water.

45 The licensee must ensure that quality of surface water leaving site does not exceed the limits specified in Attachment 3 of this licence.

46 The licensee must ensure that stormwater is diverted away from landfill waste cells.

Emissions to air

47 The activity must not cause or release, beyond the boundary of the premises:

47.1 visible steam;

47.2 smoke;

47.3 offensive odour;

47.4 dust or particulates; or

47.5 noise which unreasonably interferes with or is likely to unreasonably interfere with the enjoyment of the area by persons who occupy a place within the area or are otherwise lawfully in the area.

48 This licence authorises emissions to air from within the authorised emission point(s) identified in Table 5 and as otherwise allowed in accordance with the conditions of this licence.

Table 5 Authorised Emission Point

Single stack on the BeneVap 150 and two stacks on BeneVap 300 Leachate Treatment System located within the leachate pond precinct with the following boundary coordinates	
Easting	Northing
709505	8630593
709638	8630588
709642	8630841
709515	8630839

49 The licensee must ensure that the emissions from all emission events at the authorised emission point do not exceed the limits specified in Attachment 7 of this licence.

Environmental Audit

50 The licensee must undertake, in November of each year, an environmental audit by a qualified person to evaluate:

50.1 the extent to which compliance has been achieved with this licence.

50.2 the ability and effectiveness of management systems to manage waste and prevent pollution.

50.3 compliance with the submitted Irrigation, Operations and Maintenance Program.

51 The licensee must submit the proposed scope for the environmental audit no later than 20 business days prior to the proposed commencement date of the environmental audit (which must be specified when the proposed scope is submitted), to the NT EPA for review and approval.

52 The NT EPA may require the licensee to revise or amend and resubmit any proposed scope for an environmental audit. Where the NT EPA requires the environmental audit scope to be resubmitted, the licensee must submit it to the NT EPA by the date specified by the NT EPA.

53 The licensee must ensure that each environmental audit:

53.1

does not commenced until written approval of the environmental audit scope is received from the NT EPA; and

53.2 is undertaken in accordance with the approved scope.

54 The licensee must ensure that, for each environmental audit undertaken by the licensee:

54.1 a written report is prepared and signed by the qualified person who conducted the audit;

54.2 the written report is completed within 2 calendar months of the licensee's receipt of the NT EPA's approval of the environmental audit scope; and

54.3 the written report is provided in full to the NT EPA within 10 business days of being signed by the qualified person.

MONITORING

55 The licensee must implement and undertake the following monitoring programs from the commencement date of this licence:

55.1 surface water as detailed in Attachment 3 of this licence;

55.2 groundwater monitoring as detailed in Attachment 4 and Attachment 5 of this licence;

55.3 leachate monitoring as detailed in Attachment 6 of this licence;

55.4 emissions monitoring as detailed in Attachment 7 of this licence;

55.5 depositional monitoring as detailed in Attachment 8 of this licence; and

55.6 soil monitoring as detailed in Attachment 9 of this licence.

For the purposes of this condition, the word "land" does not include water or air on or above land.

56 The licensee must ensure there is no:

56.1 exceedance of the surface water trigger values detailed in Attachment 3 of this licence on three consecutive sampling occasions; or

56.2 at greater than or equal to two times the trigger value; or

56.3 exceedance at a median value for six consecutive monitoring results.

57 The licensee must for all land based monitoring points:

57.1 install and maintain appropriate identification signage so that they are reasonably identifiable at all times.

57.2 maintain safe access and egress, as is reasonably practicable.

58 The licensee must ensure any samples collected in connection with the activity or this licence, are obtained by, or under the supervision of a qualified sampler.

59 The licensee must ensure that, for each sample collected in connection with the activity or this licence, the following information must be recorded and retained:

59.1 the date on which the sample was collected;

59.2 the time at which the sample was collected;

59.3 the location at which the sample was collected;

59.4 the name of the person who collected the sample;

59.5 the chain of custody forms relating to the sample;

59.6 the field measurements (if any) and analytical results (if any) relating to the sample; and

59.7 laboratory quality assurance and quality control documentation.

60 The licensee must ensure that every sampling location is sampled in each sampling round. Where a sampling location is inaccessible or dry during a sampling round, further attempts must be made to sample in that same round should accessibility or water return to that location.

61 The licensee must ensure that all monitoring samples are analysed at a laboratory with current NATA accreditation or equivalent.

62 The licensee must ensure that laboratory results for all surface water, groundwater, leachate, air emissions, depositional and soil monitoring undertaken in accordance with this licence are made available to the NT EPA within one month of testing.

RECORDING AND REPORTING

63 The licensee must maintain records of the nature, quantities and source of waste, other than listed waste, received at the premises in each successive 12 month period following the commencement date of this licence.

64 The licensee must keep and maintain records relating to the activity undertaken and the listed waste handled by the licensee in each successive 12 month period following the commencement of this licence, which include:

64.1 the date of collection;

64.2 the source of the listed waste;

64.3 the name of the transport company, if not the licensee;

64.4 the vehicle registration;

64.5 a description of the listed waste;

64.6 the quantity of the listed waste;

64.7 the final destination of the listed waste; and

64.8 whether the listed waste was stored, recycled, treated or disposed of.

65 The licensee must retain records relating to waste, including listed waste, as required by the conditions of this licence, for a period of 2 years after the end of the 12 month period to which the record relates.

66 The licensee must at all times maintain an up to date environmental monitoring database which records:

66.1 leachate pumping volumes; and

66.2 monitoring results for any monitoring required under this licence from January 2010 to present.

67 The licensee must keep records of all non-compliances with this licence. These records must be adequate to enable the licensee to comply with the non-compliance notification conditions of this licence.

68 The licensee must notify the NT EPA of any non-compliance with this licence by completing the Non-Compliance Notification via NT EPA Online, as soon as practicable after (and in any case within 24 hours after) first becoming aware of the non-compliance.

69 The licensee must keep records of all exceedances of emission limits detailed in Attachment 7 of this licence and surface water trigger values detailed in Attachment 3 of this licence. These records must be adequate to enable the licensee to comply with the exceedance notification conditions of this licence.

70 The licensee must as soon as practicable (and in any case within 24 hours) after becoming aware, notify the NT EPA when the emissions limits detailed in Attachment 7 of this licence are exceeded.

71 The licensee must ensure that the notifications of exceedances include the following information:

71.1 when the exceedance was detected and by whom;

71.2 the date and time of the exceedance;

71.3 the actual and potential causes and contributing factors to the exceedance;

71.4 the risk of environmental harm arising from the exceedance;

71.5 the action(s) that have or will be undertaken to address the exceedance and/or environmental harm;

71.6 if no action was taken, why no action was taken; and

71.7 a date when an incident investigation report will be submitted to the NT EPA.

72 The licensee must submit a completed Annual Return via NT EPA Online within 10 business days after each anniversary date of this licence, which report relates to the proceeding 12 month period.

73 The NT EPA may require the licensee to revise or amend and resubmit any Annual Return. Where the NT EPA requires the Annual Return to be resubmitted, the licensee must submit it to the NT EPA by the date specified by the NT EPA.

74 The licensee must complete and provide to the NT EPA a Monitoring Report, as prescribed by this licence, within 20 business days after each anniversary date of this licence.

75 The licensee must ensure that each Monitoring Report:

75.1 is prepared in accordance with the requirements of the NT EPA *'Guideline for Reporting on Environmental Monitoring'*;

75.2 reports on all surface water, groundwater, leachate, air emissions, depositional and soil monitoring undertaken for this licence and as part of the environmental monitoring program for the site;

75.3 results for surface water are analysed by a person with expertise in hydrology;

75.4 results for groundwater are analysed by a person with expertise in hydrogeology;

75.5 includes a tabulation of all monitoring data required as a condition of this licence. Data must be provided electronically in Microsoft Excel format;

75.6 includes long term trend analysis of monitoring data to demonstrate any environmental impact associated with the activity over a minimum period of three years (where the data is available). Data used in this analysis must be provided electronically in Microsoft Excel format;

75.7 reports on all environmental monitoring exceedances and investigations undertaken for this licence; and

75.8 includes an assessment of environmental impact from the licensed activity.

76 The NT EPA may require the licensee to revise or amend and resubmit any Monitoring Report. Where the NT EPA requires the Monitoring Report to be resubmitted, the licensee must submit it to the NT EPA by the date specified by the NT EPA.

STAGE 6 LANDFILL WASTE CELLS REQUIRED OUTCOMES

77 The licensee must implement the recommendations made by the independent environmental auditor in the report entitled Construction Verification Audit Report Shoal Bay Waste Disposal Facility, Stage 6 (EHS Support Pty Ltd Project Number AUS##C02723_2021) dated 22 February 2021 in the operation of Stage 6.

78 The maximum interim waste filling height of landfill waste cells 6A and 6B must not exceed RL50mAHD.

79 The licensee must within one month of the issue of this licence, install a sign that clearly and legibly survey marker where RL50mAHD is located for line of sight for landfill waste cells 6A and 6B.

80 The licensee must inspect and test the Separation Geotextile in cell 6A in accordance with the technical specifications outlined in the Stage 6 Detailed Design Report dated (Golder Associates Pty Ltd 18106426-014-R-Rev0) dated 1 February 2019 prior to waste filling.

81 The licensee must not directly cause or pump any leachate (including treated or concentrated leachate) into any landfill waste cell or landfill, without NT EPA approval.

82 The licensee must ensure that surface water sample location GWI6 in Attachment 3 of the monitoring program commences within one month of the commencement of this licence.

83 The licensee must ensure that groundwater sampling locations GW16-3, GW16-12 and GW16-30 in Attachment 5 of the monitoring program commences within one month of the commencement of this licence.

84 The licensee must ensure that the level of leachate within any lined landfill waste cell does not exceed 300mm at any time.

PERFORMANCE IMPROVEMENT

85 The licensee must under stable operating conditions undertake air emissions testing from all exhaust stacks within the authorised discharge location, and assess results against the parameters detailed in Attachment 7 of this licence.

86 The licensee must remodel the predictive air emissions modelling as detailed in the *BeneVap Leachate Treatment Facility: Air Quality Assessment* dated 11 September 2020 to include the additional air emission point sources from the BeneVap 150 and BeneVap 300, using measured emissions from each stack as well as a worst case scenario using the emission limits in Attachment 7 of this licence.

87 The licensee must submit an impact assessment report to the NTEPA addressing conditions 86, and 87 by no later than 14 July 2021.

88 The licensee must develop an Integrated Leachate Monitoring, Inspection and Maintenance program for the site, reviewed by an independent environmental auditor. The program is to include, but not limited to;

88.1 leachate collection systems and all leachate sources received by the system.

88.2 method of conveyance of leachate from all source points to the leachate management system.

88.3 leachate leakage detection system.

88.4 the subgrade drainage testing and their locations.

88.5 the type of leachate pump and operation of pumping systems.

88.6 data collection infrastructure and recording methodology.

88.7 a program for the inspection of drainage, pumps, blockages, flows and equipment.

89 The licensee must submit the integrated Leachate Monitoring, Inspection and Maintenance program reviewed by an independent environmental auditor to the NT EPA by 30 October 2021.

90 The licensee must develop a Landfill Gas Monitoring Plan in accordance with the *NT EPA Guidelines for Siting, Design and Management of Solid Waste Disposal Sites* in the Northern Territory that at a minimum:

90.1 incorporates a site plan identifying all monitoring wells (established and proposed) and their GPS locations.

90.2 monitoring program (thresholds, parameters and frequency), based on trend analysis over a minimum of 3 years.

90.3 gas emission controls systems.

90.4 sub-surface mitigation controls.

90.5 maintenance program.

90.6 reviewed by a qualified person.

91 The licensee must submit the Landfill Gas Monitoring Plan to the NT EPA by no later than 15 November 2021.

92 The licensee must develop a revised Environmental Management Plan (EMP) for the premises that incorporates:

92.1 a holistic integrated environmental management plan for the premises.

92.2 approved changes to plant, equipment and construction works since the last EMP revision.

92.3 measured performance criteria.

92.4 staged progressive rehabilitation plan.

92.5 staged capping and closure planning.

93 The licensee must submit the revised Environmental Management Plan to the NT EPA by no later than 13 December 2021.

94 The licensee must develop of a revised Site Water Balance plan that includes:

94.1 leachate volumes within all landfill stages validated by onsite monitoring data.

94.2 predicted volumes from all potential sources.

95 The licensee must submit the revised Site Water Balance plan to the NT EPA by 30 October 2021.

96 The licensee must develop a stockpile management plan that includes a detailed list of wastes received and stockpiled, their quantities, stockpile dimensions, locations and intended use by 13 December 2021.

END OF LICENCE CONDITIONS

This licence is not valid unless signed below:

Leonie Cooper
Director Environment Authorisations
Delegate of the Northern Territory
Environment Protection Authority
Dated: 02/07/2021

DEFINITIONS

All terms in the Licence which are defined in the *Waste Management and Pollution Control Act* have the meaning given in that Act unless otherwise or further defined in this section.

DEFINITION	In this licence, unless a contrary intention appears:
24 hour emergency contact	the phone number of a person who can be contacted at any time and be capable of responding to and providing information about any incident associated with the activity.
Activity	the Scheduled activity as described on the covering page of this licence.
AHD	Australian Height Datum is the official national vertical datum for Australia.
Air	includes any layer of the atmosphere.
Annual fee	yearly fee payable in respect of the activity as specified in the WMPC Act and the Regulations.
Annual Return	an NT EPA prescribed format for demonstrating and reporting compliance with the conditions of this licence and providing information on waste volumes for the preceding 12 month period.
ANZECC/ARMCANZ	Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand, 2000: National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting.
Asbestos containing material	any material that contains asbestos.
Business days	a day not Saturday, Sunday or a public holiday, in the Northern Territory.
Community feedback number	a telephone number enabling members of the public to contact, at any time, a person or voice mail system that can accept, on behalf of the licensee, enquiries or complaints about the activity, and to which the licensee must respond.
Complaint Log	a register of complaints to be maintained by the Licensee that records the details of each complaint received in relation to the activity.
Consultation and Communication Plan	a written plan documenting proposed consultation and communications for the activity before, during and after the activity which includes a strategy for communicating with members of the public who are likely to have a real interest in, or be affected by, the activity.
Contact details	includes the 24 hour emergency contact, and name, position title and phone number of a representative of the licensee who can be contacted about the licence and activity.
Contaminant	a solid, liquid or gas or any combination of such substances and includes: (a) noise, odour, heat and electromagnetic radiation; (b) a prescribed substance or prescribed class of substances; and (c) a substance having a prescribed property or prescribed class of properties.
Discharges	allow a liquid, gas or other substance to flow out from where it has been confined.
Emergency Response	a written plan documenting the licensee's procedures for responding to

Plan	emergencies caused by, resulting from or associated with the activity and that may cause environmental harm.
Environmental audit	has the meaning given in section 47 of the WMPC Act.
Environmental harm	(a) any harm to or adverse effect on the environment; or (b) any potential harm (including the risk of harm and future harm) to or potential adverse effect on the environment, of any degree or duration and includes environmental nuisance.
Environmental nuisance	means: (a) an adverse effect on the amenity of an area that: (i) is caused by noise, smoke, dust, fumes or odour; and (ii) unreasonably interferes with or is likely to unreasonably interfere with the enjoyment of the area by persons who occupy a place within the area or are otherwise lawfully in the area; or (b) an unsightly or offensive condition caused by contaminants or waste.
Incident	includes: (a) an accident, emergency or malfunction; and (b) a deliberate action, whether or not that action was taken by the person conducting the activity in the course of which the incident occurred.
Land	includes water and air on, above or under land.
Landfill	a waste disposal site for the controlled deposit of solid waste by burial onto or into land.
Landfill cell	a purpose built area for the disposal of waste within a landfill.
Landfill Closure and Post Closure Plan	a written plan which specifies the landfill closure and post-closure activities as set out in the NT EPA Guidelines for the Siting, Design and Management of Solid Waste Disposal Sites in the Northern Territory.
Leachate	any liquid produced by the action of water percolating through waste, and that contains contaminants.
Listed waste	a waste included under Schedule 2 of the Regulations.
Litter	litter, garbage, rubbish, refuse or waste matter, and includes the body of a dead animal.
Maintain	kept in a manner that it does not present or cause a risk of environmental harm or a hazard to persons or property or, for the purposes of documents including plans, a process of reviewing and amending documentation to ensure it is relevant.
Material environmental harm	environmental harm that: (a) is not trivial or negligible in nature; (b) consists of an environmental nuisance of a high impact or on a wide scale; (c) results, or is likely to result, in not more than $50,000 or the prescribed amount (whichever is greater) being spent in taking appropriate action to prevent or minimise the environmental harm or rehabilitate the environment; or (d) results in actual or potential loss or damage to the value of not more than $50,000 or the prescribed amount (whichever is greater).
NATA	National Association of Testing Authorities, Australia.
Non-compliance	failure or refusal to comply, whether by act or omission, with obligations or requirements and includes any exceedance of a licence limit.

Non-compliance notification	an NT EPA prescribed format for notifying the NT EPA of a non-compliance.
NT EPA Online	online system for Environment Protection Licence (EPL), Environment Protection Approval (EPA) and Waste Discharge Licence (WDL) lodgement and maintenance.
Plant and equipment	all material items used in association with the activity, including (but not limited to) storage vessels and containers, pipe work and hosing, vehicles (including vessels), tools, and measuring equipment.
Point source discharge	means any discernible, confined or discrete conveyance from which contaminants or waste are or may be discharged.
Pollute	(a) emit, discharge, deposit, or disturb, directly or indirectly, a contaminant or waste; or (b) cause, permit, or fail to prevent, directly or indirectly, the emission, discharge, deposition, disturbance or escape of a contaminant or waste.
Pollution	(a) a contaminant or waste that is emitted, discharged, deposited or disturbed or that escapes; or (b) a contaminant or waste, effect or phenomenon, that is present in the environment as a consequence of an emission, discharge, deposition, escape or disturbance or a contaminant or waste.
Premises	the premises identified in this licence which includes equipment, plant and structures, whether stationary or portable, and the land on which premises are situated.
Public entrance	access to the premises that is utilised by the public.
Putrescible waste	the component of the waste stream liable to become putrid. For example, organic matter that has the potential to decompose with the formation of malodorous substances, usually refers to vegetative, food and animal products.
Qualified person	a person registered under Section 68 of the WMPC Act.
Qualified sampler	a person who has training and experience in obtaining samples from the relevant environmental medium.
Regulations	*Waste Management and Pollution Control (Administration) Regulations*.
Rehabilitation Plan	a written plan to ensure that the objectives of rehabilitation are achieved as set out in the NT EPA Guidelines for the Siting, Design and Management of Solid Waste Disposal Sites in the Northern Territory.
Serious environmental harm	environmental harm that is more serious than material environmental harm and includes environmental harm that: (a) is irreversible or otherwise of a high impact or on a wide scale; (b) damages an aspect of the environment that is of a high conservation value, high cultural value or high community value or is of special significance; (c) results or is likely to result in more than $50,000 or the prescribed amount (whichever is greater) being spent in taking appropriate action to prevent or minimise the environmental harm or rehabilitate the environment; or (d) results in actual or potential loss or damage to the value of more than $50,000 or the prescribed amount (whichever is greater).
Solid inert waste	solid waste that has no active chemical or biological properties. These wastes do not undergo environmentally significant physical, chemical or biological transformation.

Stormwater	water flowing over ground surfaces, in natural streams and drains as a direct result of rainfall over a catchment and consists primarily of rainfall runoff.
Trigger values	assigned value for each indicator used to assess the risk to an environmental value, a value that initiates some type of pre-defined management action.
Waste	(a) a solid, a liquid or a gas; or (b) a mixture of such substances, that is or are left over, surplus or an unwanted by-product from any activity (whether or not the substance is of value) and includes a prescribed substance or class of substances.
Waste Transport Certificate	the NT EPA waste tracking documentation used to track listed waste being transported interstate as required in accordance with the National Environment Protection (Movement of Controlled Waste between States and Territories) Measures.
Wastewater	water that contains a contaminant or waste.
Water	includes: (a) surface water, ground water and tidal waters; (b) coastal waters of the Territory, within the meaning of the Coastal Waters (Northern Territory Powers) Act 1980 of the Commonwealth; and (c) water containing an impurity.
WMPC Act	the Northern Territory *Waste Management and Pollution Control Act*.

Attachment 1 Waste Acceptance Criteria

Category	Composite Liner		Double Liner	
	Upper Limits		Upper Limits	
Contaminant concentration thresholds (dry weight)	$ASLP_1$	TC_2	$ASLP_2$	TC_2
Units	(mg/L)	(mg/kg)	(mg/L)	(mg/kg)
Inorganic Species				
Antimony[3,8]	2	75	8	300
Arsenic	0.7	500	2.8	2000
Barium[3]	70	6250	280	25000
Beryllium[5]	1	100	4	400
Boron	30	15000	120	60000
Cadmium	0.2	100	0.8	400
Chromium (VI)	5	500	20	2000
Copper	200	5000	800	20000
Lead	1	1500	4	6000
Mercury	0.1	75	0.4	300
Molybdenum[6]	5	1000	20	4000
Nickel	2	3000	8	12000
Selenium[6]	1	50	4	200
Silver[6]	10	180	40	720
Tributyltin oxide[3]	0.1	2.5	0.4	10
Zinc	300	35000	1200	140000
Anions				
Chloride	25000	N/A	N/A	N/A
Cyanide (amenable)[5]	3.5	1250	14	5000
Cyanide (total)	8	2500	32	10000
Fluoride6	150	10000	600	40000
Iodide	10	N/A	40	N/A
Nitrate	5000	N/A	20000	N/A
Nitrite	300	N/A	1200	N/A
Organic Species				
Benzene	0.1	4	0.4	16
Benzo(a)pyrene[7]	0.001	5	0.004	20
C6-C9 petroleum hydrocarbons[6]	N/A	650	N/A	2600
C10-C36 petroleum hydrocarbons[6]	N/A	10000	N/A	40000
Carbon tetrachloride	0.3	12	1.2	48
Chlorobenzene	30	1200	120	4800
Chloroform[5]	6	240	24	960
2 Chlorophenol	30	1200	120	4800
Cresol (total)[5]	200	8000	800	32000
Di (2 ethylhexyl) phthalate	1	40	4	160
1,2-Dichlorobenzene	150	6000	600	24000
1,4-Dichlorobenzene	4	160	16	640
1,2-Dichloroethane	0.3	12	1.2	48
1,1-Dichloroethene	6	240	12	480
1,2-Dichloroethene	6	240	24	960
Dichloromethane (methylene chloride)	0.4	16	1.6	64
2,4-Dichlorophenol	20	800	80	3200
2,4-Dinitrotoluene[5]	0.13	5.2	0.52	21
Ethylbenzene	30	1200	120	4800
Ethylene diamine tetra acetic acid (EDTA)	25	1000	100	4000
Formaldehyde	50	2000	200	8000
Hexachlorobutadiene	0.07	2.8	0.28	11
Methyl ethyl ketone[5]	200	8000	800	32000
Nitrobenzene[5]	2	80	8	320
PAHs (total)[7,10]	N/A	100	N/A	400
Phenols (total, non-halogenated)[5,11]	14	560	56	2200
Polychlorinated biphenyls[4]	See note 4	See note 4	See note 4	See note 4

Category	Composite Liner		Double Liner	
	Upper Limits		Upper Limits	
Styrene	3	120	12	480
1,1,1,2-Tetrachloroethane[5]	10	400	40	1600
1,1,2,2-Tetrachloroethane[5]	1.3	52	5.2	210
Tetrachloroethene	5	200	20	800
Toluene	80	3200	320	12800
Trichlorobenzene (total)	3	120	12	480
1,1,1-Trichloroethane[5]	30	1200	120	4800
1,1,2-Trichloroethane[5]	1.2	48	4.8	190
Trichloroethene[5]	0.5	20	2	80
2,4,5-Trichlorophenol[5]	400	16000	1600	64000
2,4,6-Trichlorophenol	2	80	8	320
Vinyl chloride	0.03	1.2	0.12	4.8
Xylenes (total)	60	2400	240	9600
Pesticides				
Aldrin + dieldrin	0.03	1.2	0.12	4.8
DDT + DDD + DDE[9]	2	50	N/A	50
2,4-D	3	120	12	480
Chlordane	0.1	4	0.4	16
Heptachlor	0.03	1.2	0.12	4.8
per-and poly-fluoro alkyl substances (PFAS)				
PFOA [12]	0.0056	50	0.056	50
Sum of PFOS + PFHxS [12]	0.0007	50	0.007	50

Notes:

[1] Where not otherwise specified, ASLP criteria are derived from the NHMRC Australian Drinking Water Guidelines (1996) Guideline Health Values, multiplied by 100.

[2] Where not otherwise specified, TC criteria for _inorganic species' and _anions' has been adopted as the National Environment Protection Measure on the Assessment of Site Contamination 1999, Health Investigation Level for Commercial/Industrial land.

[3] TC adopted from the Risk-based Assessment of Soil and Groundwater Quality in the Netherlands, Intervention Values for Soil.

[4] Waste containing polychlorinated biphenyls (PCBs) must be managed in accordance with the Commonwealth Department of Environment, Water, Heritage and the Arts Polychlorinated Biphenyls Management Plan.

[5] ASLP adopted from TCLP2 value specified in Department of Environment and Climate Change NSW, Waste Classification Guidelines Part1: Classifying Waste, 2014.

[6] TC adopted from SCC2 value specified in Department of Environment and Climate Change NSW, Waste Classification Guidelines Part 1: Classifying Waste, 2014.

[7] TC value adopted from the National Environment Protection Measure on the Assessment of Site Contamination 199, Health Investigation Level for Commercial/industrial land.

[8] ASLP adopted from World Health Organisation (WHO) Antimony in drinking water. Background document for development of WHO guidelines for Drinking-water quality 2003, multiplied by 100.

[9] TC values adopted from the ANZECC Organochlorine Pesticides Waste Management Plan 1999.

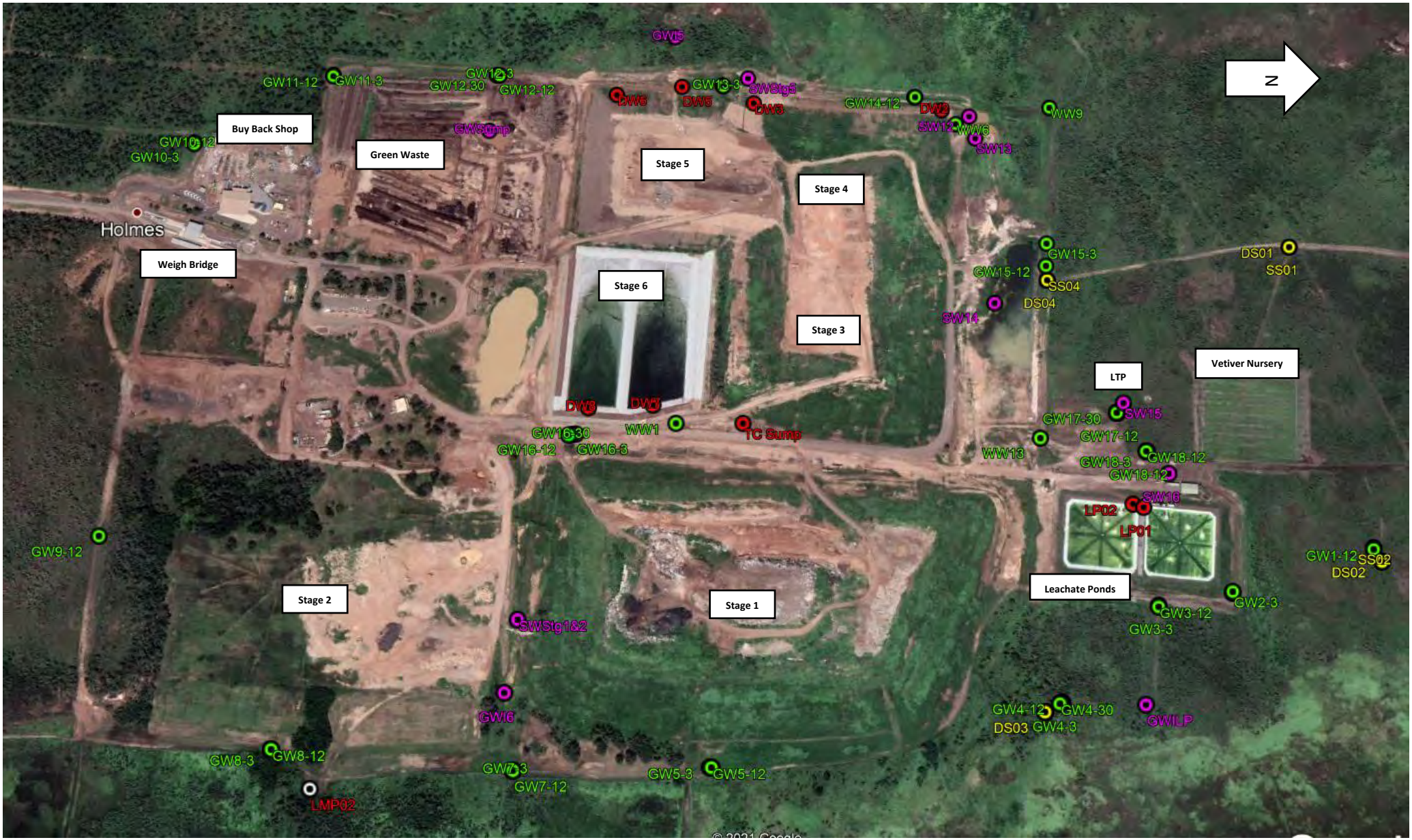
[10] Total sum of naphthalene, acenapthylene, acenapthne, anthracene, bezo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, benzo(a)pyrene, chrysene, dibenzo(a,h)anthracene, fluorene, fluoranthene, indeno(1,2,3-c,d)pyrene, phenanthrene and pyrene.

[11] Total sum of phenol, 2-methylphenol(o-cresol), 3-methylphenol(mcresol), 4-methylphenol(p-cresol), 2,4-dimethylphenol, 2,4-dinitrophenol, 2-methyl-4,6-dinitrophenol, 2-nitrophenol, 4-nitrophenol, 2-cyclohexyl-4,6- dinitrophenol and dinoseb.

[12] Based on PFAS NEMP 2.0 however, trigger values for the latest NEMP must be used when available

Stage 1 and Stage 2 of the Shoal Bay Waste Management Facility are unlined and cannot accept waste detailed in this attachment, except asbestos in Stage 2 in accordance with the licence. Stage 3 and Stage 4 are closed, waste is not disposed of in these stages. Stage 5 and Stage 6 use a composite liner system and can accept waste provided concentrations are less than the upper limits defined for composite liners in Attachment 1 in the licence.

Attachment 2 Shoal Bay Waste Management Facility Site Layout and Monitoring Locations



Attachment 3 – Surface Water Monitoring Program and Trigger Values

			Sample Locations								
		Sample Locations									
		Site Code	SW12	SW13	SW14	GW Sump	SWStg1&2	SWStg5	GWILP	GWI5	GWI6
		Easting (m E)	709035	709065	709287	709102	709724	709003	709771	708952	709811
		Northing (m S)	8630495	8630504	8630536	8629880	8629982	8630206	8630733	8630107	8629975
Parameter	**Units**	**Trigger Value**	**Frequency**								
Field Measurement											
Flow	kL/day	-	-	-	-	-	M[3]	M[3]	C[4]	C[4]	C[4]
Water Level	measure	-	M	M	M	M[5]	-	-	-	-	-
pH	pH units	6 – 8.5[1]	M	M	M	M[5]	M[5]	M[5]	Q	Q	Q
Electrical Conductivity (EC)	µS/cm	-	M	M	M	M[5]	M[5]	M[5]	Q	Q	Q
Dissolved Oxygen (DO)	% saturation	80 – 100[1]	M	M	M	M[5]	M[5]	M[5]	Q	Q	Q
Temperature	ºC	-	M	M	M	M[5]	M[5]	M[5]	Q	Q	Q
Turbidity	NTU	-	M	M	M	M[5]	M[5]	M[5]	Q	Q	Q
Metals/Metalloids (filtered (0.45µm) and unfiltered)											
Boron (B)	µg/L	-	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Cadmium (Cd)		1.4[2]	A[5]	A[5]	A[5]	A[5]	A[5]	A[5]	A	A	A
Chromium (Cr)[7]		20[6]	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Cobalt (Co)		14[2]	A[5]	A[5]	A[5]	A[5]	A[5]	A[5]	A	A	A
Copper (Cu)		3[2]	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Lead (Pb)		6.6[2]	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Nickel (Ni)		200[2]	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Zinc (Zn)		23[2]	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Other											
Total Organic Carbon (TOC)	mg/L	-	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Chemical Oxygen Demand (COD)		-	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Total Suspended Solids (TSS)		10[1]	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Total Dissolved Solids (TDS)		-	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Major Ions											
Carbonate (CO_3)	mg/L	-	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Bicarbonate (HCO_3)		-	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Calcium (Ca)		-	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Magnesium (Mg)		-	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Potassium (K)		-	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q

Sodium (Na)		-	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Chloride (Cl)		-	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Sulphate (SO_4)		-	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Nutrients											
Ammonia (NH_3 as N)	µg/L	20[1]	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Nitrate (NO_3)		-	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Nitrite (NO_2)		-	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Oxides of Nitrogen (NO_x)		20[1]	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Total Nitrogen (TN)		300[1]	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Total Phosphorous (TP)		30[1]	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Filterable reactive phosphorous (FRP)		10[1]	M[5]	M[5]	M[5]	M[5]	M[5]	M[5]	Q	Q	Q
Hydrocarbons											
Total Recoverable Hydrocarbons (TRH)	µg/L	-	A[5]	A[5]	A[5]	A[5]	A[5]	A[5]	A	A	A
Benzene		900[2]	A[5]	A[5]	A[5]	A[5]	A[5]	A[5]	A	A	A
Toluene		-	A[5]	A[5]	A[5]	A[5]	A[5]	A[5]	A	A	A
Ethylbenzene		-	A[5]	A[5]	A[5]	A[5]	A[5]	A[5]	A	A	A
Xylene		-	A[5]	A[5]	A[5]	A[5]	A[5]	A[5]	A	A	A
Naphthalene		90[2]	A[5]	A[5]	A[5]	A[5]	A[5]	A[5]	A	A	A
PFAS (per-and poly-fluoroalkyl substances) (Analysis on a minimum of 28 PFAS compounds using LC-MS/MS)											
PFOS	µg/L	2[8]	A[5]	A[5]	A[5]	A[5]	A[5]	A[5]	A	A	A
PFOA		632[8]	A[5]	A[5]	A[5]	A[5]	A[5]	A[5]	A	A	A

C – Continuous
M – Monthly
Q – Quarterly (January, April, July, October)
A – Annually (January)

[1] – Based on Darwin Harbour Water Objectives (Shoal Bay upper area marine ambient water quality)
[2] – Based on 90% species protection for marine waters ANZECC Water Quality Guidelines 2018 (ANZG 2018)
[6] – Based on Hexavalent chromium 90% species protection ANZECC Water Quality Guidelines 2018 (ANZG 2018)

[3] – Estimate the flow at the time of sampling
[4] – Using a flow meter
[5] – Only during months October to April
[7] – Analyse for Trivalent and Hexavalent Chromium if total chromium exceeds trigger value
[8] – Based on PFAS NEMP 2.0 however, trigger values for the latest NEMP must be used when available

Attachment 4 - Groundwater Monitoring Program

Parameter	Units	Frequency (all monitoring bores identified in Appendix 5)
Field Measurement		
Flow	kL/day	M[1]
Standing Water Level (SWL)	m AHD	M
pH	pH units	Q
Electrical Conductivity (EC)	µS/cm	Q
Dissolved Oxygen (DO)	% saturation	Q
Temperature	ºC	Q
Reduction Oxidation Potential (REDOX)	mV	Q
Metals/Metalloids (filtered (0.45µm))		
Arsenic (As)	µg/L	A
Boron (B)		Q
Cadmium (Cd)		A
Chromium (Cr)		Q
Cobalt (Co)		A
Copper (Cu)		Q
Lead (Pb)		Q
Lithium (Li)		A
Nickel (Ni)		Q
Vanadium (V)		A
Zinc (Zn)		Q
Major Ions		
Carbonate (CO_3)	mg/L	Q
Bicarbonate (HCO_3)		Q
Calcium (Ca)		Q
Magnesium (Mg)		Q
Potassium (K)		Q
Sodium (Na)		Q
Chloride (Cl)		Q
Sulphate (SO_4)		Q
Nutrients		
Ammonia (NH_3 as N)	µg/L	Q
Ammonium (NH_4)		Q
Nitrate (NO_3)		Q
Nitrite (NO_2)		Q
Oxides of Nitrogen (NO_x)		Q
Total Nitrogen (TN)		Q
Total Phosphorous (TP)		Q
Hydrocarbons		
Total Recoverable Hydrocarbons (TRH)	µg/L	A
Benzene		A
Toluene		A
Ethylbenzene		A
Xylene		A
Naphthalene		A
PFAS (per-and poly-fluoroalkyl substances) (Analysis on a minimum of 28 PFAS compounds using LC-MS/MS)		
PFOS	µg/L	Q
PFOA		Q
Other		
Chemical Oxygen Demand (COD)	mg/L	Q
Total Organic Carbon (TOC)		Q
Total Dissolved Solids (TDS)		Q
Organophosphate Pesticides	µg/L	A

Organochlorine Pesticides		A
Polychlorinated Biphenyls		A
Tributyltin Oxide		A
Phenols		A
Escherichia Coli	CFU 100mL	A
Enterococci		A

M – Monthly
Q – Quarterly (January, April, July, October)
A – Annually (January)
[1] – If the water level is above top of casing when measuring SWLs then estimate the flow.

Attachment 5 - Groundwater Monitoring Locations

Bore ID	Easting	Northing	TOC mAHD	Screened interval mBGL	Screened lithology
GW1-3	709564	8631004	8.63	1.5 - 3	Siltstone
GW1-12	709566	8631004	8.59	9 - 12	Siltstone
GW2-3	709629	8630835	7.94	1.5 - 3	Siltstone
GW2-12	709631	8630835	7.94	9 - 12	Siltstone
GW3-3	709652	8630746	9.80	1.5 - 3	Siltstone
GW3-12	709654	8630746	9.82	9 - 12	Siltstone
GW4-3	709775	8630634	5.49	1.5 - 3	Siltstone
GW4-12	709776	8630633	5.44	9 - 12	Siltstone
GW4-30	709777	8630631	5.20	15 - 21	Gravelly sand, Sandstone
GW5-3	709880	8630224	5.41	1.5 - 3	Siltstone
GW5-12	709880	8630226	5.33	9 - 12	Siltstone, Gravelly Clay
GW7-3	709900	8629992	5.03	1.5 - 3	Siltstone
GW7-12	709900	8629994	5.08	9 - 12	Siltstone, Sandy Silt
GW8-3	709896	8629708	5.28	1.5 - 3	Claystone
GW8-12	709896	8629708	5.22	9.1 - 12.1	Claystone, Sandstone
GW9-12	709660	8629469	15.93	9 - 12	Siltstone
GW10-3	709147	8629507	18.06	1.5 - 3	Siltstone
GW10-12	709149	8629507	17.98	9.1 - 12.1	Siltstone
GW11-3	709040	8629671	13.38	1.5 - 3	Siltstone
GW11-12	709042	8629671	13.38	9 - 12	Siltstone, Sandstone
GW12-3	709024	8629881	12.07	1.5 - 3	Siltstone
GW12-12	709024	8629883	12.04	9 - 12	Siltstone
GW12-30	709024	8629885	12.05	24 - 30	Sandstone
GW13-3	709017	8630175	12.88	3 - 4.5	Siltstone
GW13-12	709016	8630174	12.86	10 - 13.5	Siltstone
GW14-3	709013	8630423	6.73	1.5 - 3	Siltstone
GW14-12	709013	8630424	6.64	9 - 12	Siltstone
GW15-3	709230	8630599	11.06	1.5 - 3	Siltstone
GW15-12	709233	8630599	11.04	9 - 12	Siltstone
GW16-3	709493	8630030	14.55	1.5 - 3	Porcilinite
GW16-12	709494	8630025	14.61	9 -12	Siltstone
GW16-30	709495	8630021	14.56	20 - 26	Siltstone
GW17-3	709387	8630672	tba	0.5 - 4	siltstone
GW17-12	709384	8630672	tba	8 - 11	Sandy clay loam
GW17-30	709418	8630691	tba	27 - 30	Fine loamy sand
GW18-3	709464	8630729	tba	tba	tba
GW18-12	709464	8630728	tba	8 - 12	Sandy clay loam
WW1	709471	8630151	16.60	0 - 6.3	-
WW6	709047	8630478	7.46	0 - 20.4	-
WW9	709016	8630598	7.09	1 - 9.8	Siltstone
WW13	709457	8630598	0.7	1 - 10	Siltstone

Attachment 6 - Leachate Monitoring Program

		Sample Locations									
	Site Code	LP01	LP02	DW2	DW3	DW5	DW6	DW7[1]	DW8[1]	TC Sump	LMP02
	Easting (m E)	709534	709531	709029	709038	709023	709041	709450	709459	709465	709938
	Northing (m S)	8630726	8630713	8630459	8630216	8630122	8630039	8630121	8630042	8630233	8629759
Parameter	**Units**	**Frequency**									
Flow	kL/day	-	-	C[2]	C[2]	C[2]	C[2]	C[2]	C[2]	C[2]	C[2]
Water Level	measure	M	M	M	M	M	M	M	M	M	M
pH	pH units	Q	Q	B	B	B	B	B	B	B	B
Electrical Conductivity (EC)	µS/cm	Q	Q	B	B	B	B	B	B	B	B
Dissolved Oxygen (DO)	% saturation	Q	Q	B	B	B	B	B	B	B	B
Temperature	ºC	Q	Q	B	B	B	B	B	B	B	B
Turbidity	NTU	Q	Q	B	B	B	B	B	B	B	B
Metals/Metalloids (filtered (0.45µm) and unfiltered)											
Aluminium (Al)	µg/L	Q	Q	B	B	B	B	B	B	B	B
Arsenic (As)		Q	Q	B	B	B	B	B	B	B	B
Boron (B)		Q	Q	B	B	B	B	B	B	B	B
Cadmium (Cd)		Q	Q	B	B	B	B	B	B	B	B
Chromium (Cr)		Q	Q	B	B	B	B	B	B	B	B
Cobalt (Co)		Q	Q	B	B	B	B	B	B	B	B
Copper (Cu)		Q	Q	B	B	B	B	B	B	B	B
Iron (Fe)		Q	Q	B	B	B	B	B	B	B	B
Lead (Pb)		Q	Q	B	B	B	B	B	B	B	B
Lithium (Li)		Q	Q	B	B	B	B	B	B	B	B
Manganese (Mn)		Q	Q	B	B	B	B	B	B	B	B
Mercury (Hg)		Q	Q	B	B	B	B	B	B	B	B
Nickel (Ni)		Q	Q	B	B	B	B	B	B	B	B
Selenium (Se)		Q	Q	B	B	B	B	B	B	B	B
Vanadium (V)		Q	Q	B	B	B	B	B	B	B	B
Zinc (Zn)		Q	Q	B	B	B	B	B	B	B	B
Major Ions											
Carbonate (CO_3)	mg/L	Q	Q	B	B	B	B	B	B	B	B
Bicarbonate (HCO_3)		Q	Q	B	B	B	B	B	B	B	B
Calcium (Ca)		Q	Q	B	B	B	B	B	B	B	B
Magnesium (Mg)		Q	Q	B	B	B	B	B	B	B	B
Potassium (K)		Q	Q	B	B	B	B	B	B	B	B

Sodium (Na)		Q	Q	B	B	B	B	B	B	B	B
Chloride (Cl)		Q	Q	B	B	B	B	B	B	B	B
Sulphate (SO_4)		Q	Q	B	B	B	B	B	B	B	B
Nutrients											
Ammonia (NH_3)	µg/L	Q	Q	B	B	B	B	B	B	B	B
Ammonium (NH_4)		Q	Q	B	B	B	B	B	B	B	B
Nitrate (NO_3)		Q	Q	B	B	B	B	B	B	B	B
Nitrite (NO_2)		Q	Q	B	B	B	B	B	B	B	B
Oxides of Nitrogen (NOx)		Q	Q	B	B	B	B	B	B	B	B
Total Nitrogen (TN)		Q	Q	B	B	B	B	B	B	B	B
Total Phosphorous (TP)		Q	Q	B	B	B	B	B	B	B	B
Filterable reactive phosphorous (FRP)		Q	Q	B	B	B	B	B	B	B	B
Hydrocarbons											
Total Recoverable Hydrocarbons (TRH)	µg/L	Q	Q	B	B	B	B	B	B	B	B
Polycyclic Aromatic Hydrocarbons (PAHs)		Q	Q	B	B	B	B	B	B	B	B
Benzene		Q	Q	B	B	B	B	B	B	B	B
Toluene		Q	Q	B	B	B	B	B	B	B	B
Ethylbenzene		Q	Q	B	B	B	B	B	B	B	B
Xylene		Q	Q	B	B	B	B	B	B	B	B
Naphthalene		Q	Q	B	B	B	B	B	B	B	B
PFAS (per-and poly-fluoro alkyl substances) (Analysis on a minimum of 28 PFAS compounds using LC-MS/MS)											
PFOS	µg/L	Q	Q	B	B	B	B	B	B	B	B
PFOA		Q	Q	B	B	B	B	B	B	B	B
Other											
Organophosphate Pesticides	µg/L	A	A	-	-	-	-	-	-	-	-
Organochlorine Pesticides		A	A	-	-	-	-	-	-	-	-
Polychlorinated Biphenyls		A	A	-	-	-	-	-	-	-	-
Tributyltin Oxide		A	A	-	-	-	-	-	-	-	-
Phenols		A	A	-	-	-	-	-	-	-	-
Chemical Oxygen Demand (COD)	mg/L	Q	Q	B	B	B	B	B	B	B	B
Total Suspended Solids (TSS)		Q	Q	B	B	B	B	B	B	B	B
Total Organic Carbon (TOC)		Q	Q	B	B	B	B	B	B	B	B
Total Dissolved Solids (TDS)		Q	Q	B	B	B	B	B	B	B	B
Escherichia Coli	CFU 100ml	A	A	-	-	-	-	-	-	-	-
Enterococci		A	A	-	-	-	-	-	-	-	-

C – Continuous
M – Monthly

Q – Quarterly (January, April, July, October)
B – Biannually (January, July)
A – Annually (July)

[1] **-** Sampling points for Stage 6 leachate collection only active once Stage 6 begins to accept waste
[2] – Using a flow meter

Attachment 7 Emissions Monitoring Program

Substance	Units	Emission Limit^	Frequency	Test Method^
Sample Plane Criteria	-	-	During commissioning and Two months after commissioning and Four months after commissioning then Quarterly (January, April, July and October)	TM-1
Oxides of Nitrogen (NO_x) (as NO_2)	mg/m^3	350		TM-11
Hydrogen Chloride	mg/m^3	100		TM-8
Carbon Monoxide	mg/m^3	125		TM-32
Carbon Dioxide	mg/m^3	-		TM-24
Fluorine compounds (as Hydrogen Fluoride)	mg/m^3	50		TM-9
Sulphuric acid mists	mg/m^3	100		TM-13
Dioxins and Furans	ng/m^3	0.1		TM-18
Type 1 and Type 2 substances in aggregate. antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, selenium, tin or vanadium or any compound containing one or more of those elements.	mg/m^3	1		TM-12 and TM-13 and TM-14
Cadmium (Cd) and cadmium compounds	mg/m^3	0.2		TM-14
Mercury (Hg) and mercury compounds	mg/m^3	0.2		TM-14
Volatile Organic Compounds (VOCs), as n-propane [1]	mg/m^3	40		TM-34 [1]
Chlorine (Cl_2)	mg/m^3	200		TM-7
Hydrogen Sulphide (H_2S) [2]	mg/m^3	5		TM-5 [2]
PFAS (Analysis on a minimum of 28 PFAS compounds using LC-MS/MS)	µg/L	- *		-
Ammonia – N [3]	mg/m^3	-		TM-3 [3]
Odour [4]	-	-		OM-7 [4]
Polychlorinated Biphenyls	mg/m^3	-		-
Sulphur Dioxide	mg/m^3	-		TM-4

* - No limit currently set. If further revisions of the PFAS NEPM include an emission limit then the new limit will apply.

^ - Based on the New South Wales Environmental Operations (Clean Air) Regulations 2010.

[1] - The prescribed method, TM-34, will be used with modification. A moisture removal trap will be placed in front of the solid sorbent media to prevent water from entering the media. Both the condensate captured in the trap and the sorbent media will be analysed for VOCs and the results will be combined and reported.

[2] - The prescribed method, TM-5, will be used with modification. A sample of exhaust gas will be passed through a buffer solution to remove any potential SO_2 present before being captured in a specialised gas sampling bag.

[3] - The prescribed method TM-3 will be used with modification. A moisture removal trap will be placed in front of the media to prevent water from entering the tube.

[4] - The odour samples bags will be diluted beyond the suggested limit in OM-7 (AS4323.3). This is required to avoid condensation forming in the sample bags.

Attachment 8 - Depositional Sampling Program

		Sample Locations			
	Site Code	DS01	DS02	DS03	DS04
	Easting (m E)	709187	709580	709788	709252
	Northing (m S)	8630904	8631014	8630614	8630601
Parameter	**Units**	**Frequency**			
Metals/Metalloids					
Aluminium (Al)	µg/L	B	B	B	B
Boron (B)		B	B	B	B
Chromium (Cr)		B	B	B	B
Cobalt (Co)		B	B	B	B
Copper (Cu)		B	B	B	B
Lead (Pb)		B	B	B	B
Lithium (Li)		B	B	B	B
Mercury (Hg)		B	B	B	B
Nickel (Ni)		B	B	B	B
Zinc (Zn)		B	B	B	B
PFAS (per-and poly-fluoro alkyl substances) (Analysis on a minimum of 28 PFAS compounds using LC-MS/MS)					
PFOS	µg/L	B	B	B	B
PFOA		B	B	B	B
B – Biannually (January, July)					

Attachment 9 – Soil Sampling Program

		Sample Locations			
	Site Code	SS01	SS02	SS03	SS04
	Easting (m E)	709187	709580	709788	709252
	Northing (m S)	8630904	8631014	8630614	8630601
Parameter	**Units**	**Frequency**			
Metals/Metalloids					
Aluminium (Al)	µg/L	B	B	B	B
Boron (B)		B	B	B	B
Chromium (Cr)		B	B	B	B
Cobalt (Co)		B	B	B	B
Copper (Cu)		B	B	B	B
Lead (Pb)		B	B	B	B
Lithium (Li)		B	B	B	B
Mercury (Hg)		B	B	B	B
Nickel (Ni)		B	B	B	B
Zinc (Zn)		B	B	B	B
PFAS (per-and poly-fluoro alkyl substances) (Analysis on a minimum of 28 PFAS compounds using LC-MS/MS)					
PFOS	µg/L	B	B	B	B
PFOA		B	B	B	B
B – Biannually (January, July)					

Appendix A2 Section 48 Notice

NOTICE TO CARRY OUT ENVIRONMENTAL AUDIT PROGRAM

(Issued pursuant to section 48(1) of the ***Waste Management and Pollution Control Act 1998***)

ISSUED TO: City of Darwin ("You")

OF: 1 HARRY CHAN AVENUE
Darwin NT 0800

WHEREAS the Northern Territory Environment Protection Authority (NT EPA) is satisfied for the reasons stated in **Attachment A** to this notice that you are a person required to carry out an Environmental Audit Program in relation to the Shoal Bay Waste Management Facility (SBWMF) located on that part of Lot 03952 Town of Sanderson, Northern Territory as delineated in **yellow** in **Attachment C** (the premises), comprising an environmental audit, within the meaning of s47(a), (b), (c), (d) and (f) of the ***Waste Management and Pollution Control Act 1998,*** to evaluate:

i. the ability of management systems to manage waste or prevent, reduce, control, rectify or clean up pollution or environmental harm resulting from pollution; and

ii. the extent to which actions required to be undertaken, or results required to be achieved, for waste management or the prevention, reduction, control, rectification or clean-up of pollution or environmental harm resulting from pollution have been taken or achieved; and

iii. the extent, nature and source of wastes generated by an activity, premises or process; and

iv. the likelihood of waste management problems or pollution resulting in environmental harm occurring and the adequacy of safeguards in place to prevent their occurrence or limit their impact on the environment; and

v. the types, amount, distribution and mobility of contaminants and wastes present in the environment at the premises that have the potential to cause environmental harm;

NOW TAKE NOTICE that you are required to comply with each of the requirements specified in **Attachment B** to this notice on and from the date of issue of this notice or such later date as may be specified in this notice.

ISSUE DATE: 27 October 2022

Amy Dennison

……
AMY DENNISON
EXECUTIVE DIRECTOR
ENVIRONMENTAL REGULATION
DELEGATE OF THE NT EPA

Important Notice

Failure to comply with this notice is an offence under section 52 of the ***Waste Management and Pollution Control Act 1998*** (the Act) and may incur significant penalties and/or other statutory action.

This notice takes effect on the date on which it is served upon you. Pursuant to section 108 of the Act, **you have the right to apply for a review of the decision to issue you with this Notice to carry out an Environmental Audit Program. If you intend to apply for a review, YOU MUST MAKE AN APPLICATION WITHIN 28 DAYS after the day on which this notice of the decision was given.** For information on how to lodge an application for review, contact the Northern Territory Environment Protection Authority, telephone (08) 8924 4218.

Pursuant to section 112 of the Act the person issued with this notice must fulfil certain obligations before selling, leasing, sub-leasing, giving or exchanging land, premises, a vehicle or business, which is the subject of this Notice.

ATTACHMENT A
REASONS FOR ISSUING THIS NOTICE

1. City of Darwin (CoD) occupies and controls the parcel of land located at Lot 03952 Town of Sanderson plan(s) S 79/149A (the lot) delineated in **blue** in **Attachment C**;

2. Within this parcel is the Shoal Bay Waste Management Facility (SBWMF) delineated in **yellow** in **Attachment C** (the premises);

3. SBWMF commenced operation on 1 April 1987 and licensing under the ***Waste Management and Pollution Control Act 1998*** (the Act) commenced in 2001;

4. CoD have previously been issued Environment Protection Licences (EPLs): EPL188 from 1 July 2016 to 30 June 2021, with amendments EPL188-01 and EPL188-02);

5. CoD is currently operating the premises for the purpose of providing waste and recycling management services to the Greater Darwin region;

6. The lot contains and is surrounded by sensitive wetland habitats that are immediately adjacent to the premises including and described by:

    a. Shoal Bay – Micket Creek nationally recognised wetland area (Directory of Important Wetlands in Australia NT032);

    b. Shoal Bay Site of Conservation Significance; and

    c. Darwin Area Primary Storm Surge Inundation Zone;

7. The premises is near to potentially sensitive receptors including but not limited to:

    a. residential properties 0.6km to the southwest and within 2km to the northwest;

    b. Darwin Harbour Region Declaration of Beneficial Uses and Objectives area;

    c. Holmes Jungle Nature Park within 1km to the south; and

    d. Buffalo Creek Management Area within 2km to the north;

8. While CoD has maintained control of the premises, a number of commercial operators have previously been issued EPLs to conduct licensed activities at the premises on behalf of CoD;

9. On 2 July 2021, EPL188-03 was issued to the CoD pursuant to section 34 of the Act and is set to expire on 1 July 2026;

10. Table 1 of EPL188-03 authorises the following activities involving listed wastes at the premises:

Table 1.

Listed Waste	Collection	Transport	Storage	Treatment	Recycling	Disposal
Animal effluent and residues	✗	✗	✗	✗	✗	✓
Asbestos	✗	✗	✗	✗	✗	✓
Clinical and related wastes	✗	✗	✗	✗	✗	✓
Lead, lead compounds	✗	✗	✓	✗	✗	✗
Sewage sludge and residues including nightsoil and septic tank sludge	✗	✗	✗	✗	✗	✓
Soils contaminated with a listed waste	✗	✗	✗	✗	✗	✓
Tyres	✗	✗	✓	✓	✓	✓
Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish	✗	✗	✓	✗	✗	✗
Acidic solutions or acids in solid form	✗	✗	✓	✗	✗	✗
Waste mineral oils unfit for their original intended use	✗	✗	✓	✗	✗	✗

✓ Activity authorised by this licence

✗ Activity not authorised by this licence

11. EPLs issued for activities at the premises include requirements to undertake monitoring programs and submit reports, annual returns and audits to the Northern Territory Environment Protection Authority (NT EPA);

12. Reports submitted to the NT EPA (in accordance with EPL188-03 conditions) indicate some non-compliances with EPL188-03 conditions that can or have the potential to cause harm to the environment including:

    a. prior to March 2022 insufficient leachate management and storage capability;

    b. prior to January 2022 insufficient contaminated surface water management and/or storage capability; and

    c. prior to January 2022 insufficient measures to prevent contamination of groundwater and potentially surface water from the migration of leachate;

13. Annual returns submitted to the NT EPA in accordance with EPL188-03 detail CoD's non-compliances with licence conditions, including:

    a. prior to December 2021, some instances of failure to report non-compliances at all or within the required timeframe when non-compliances have been identified;

b. prior to January 2022 failure to conduct a surface water quality monitoring program in accordance with licence condition requirements; and

c. prior to January 2022 failure to conduct appropriate groundwater quality monitoring in accordance with licence condition requirements;

14. As a result of CoD's non-compliance with its licence conditions, NT EPA have taken various compliance and enforcement actions to address some of the immediate and ongoing environmental concerns at the premises and to mitigate environmental harm;

15. The following issues at the premises give rise to concerns that historical activities are causing detrimental impacts at and beyond the premises:

    a. historically inadequate leachate management and storage systems;

    b. suspected integrity issues of the landfill cell and/or pond lining systems built prior to 2015; and

    c. suspected inadequate environmental risk assessment of cumulative impacts at and beyond the premises;

16. The full nature and extent of pollution and contamination at and beyond the premises is unknown;

17. The cumulative impacts from the operations at the premises are unknown and hence the environmental audit program will enable the cumulative impacts to be understood and assessed;

18. An Environmental Audit program will enable:

    a. any data deficiencies to be addressed, existing data consolidated and analysed resulting in an improved understanding of any environmental impacts as a result of current activities at the SMWMF;

    b. a review of all current practices to ensure that they are sufficient to minimise any future environmental harm;

    c. identification of targeted and risk based remediation actions as may be required; and

    d. a detailed evidence-supported plan for SBWMF operations and activities for the medium and long term.

ATTACHMENT B
NOTICE REQUIREMENTS

1. Pursuant to section 48 of the ***Waste Management and Pollution Control Act 1998*** (the Act), the City of Darwin is required to carry out an environmental audit program (the program) at and beyond the premises (as delineated in **yellow** in **Attachment C**) to evaluate:

    a. the ability of management systems to manage waste or prevent, reduce, control, rectify or clean up pollution or environmental harm resulting from pollution, including but not limited to:

        i. a review of environmental systems, practices and procedures in place at the premises;

        ii. a review of operational environmental management systems and procedures; and

        iii. a review of service agreements with contractors in relation to operational management of the premises;

    b. the extent to which actions are required to be undertaken, or results required to be achieved, for waste management or the prevention, reduction, control, rectification or clean-up of pollution or environmental harm resulting from pollution have been taken or achieved, including but not limited to:

        i. an assessment of the extent and nature of pollution and environmental harm at and from the premises caused by operations at the premises;

        ii. the environmental improvements necessary to comply with legislative and regulatory requirements including environment protection approval and licence conditions; and

        iii. actions and timeframes for implementing environmental improvements;

    c. the extent, nature and source of wastes generated by the activities at the premises;

    d. the likelihood of waste management problems or pollution resulting in environmental harm occurring and the adequacy of safeguards in place to prevent their occurrence or limit their impact on the environment, including but not limited to:

        i. an audit of the operations at the premises and comparison with best practice landfill management contained in the Victorian EPA publication 788.3 Siting, design, operation and rehabilitation of landfills; and

        ii. an assessment of the viability and sustainability of the landfill operations at the premises in light of its location and future likely climate change and sea level rise considerations;

    e. the types, amount, distribution and mobility of contaminants and wastes present in the environment at the premises that have the potential to cause environmental harm, including but not limited to:

        i. the types, amount, distribution and mobility of landfill leachate present at and beyond the premises including surface waters and groundwater modelling; and

        ii. the types, amount, distribution and mobility of landfill gases present at and beyond the premises including surface waters and groundwater;

2. The audit program must be performed by a qualified person registered under section 68 of the Act (the auditor);

3. By **22 November 2022**, you must engage the auditor(s), accredited under section 68 of the Act to undertake the program at the premises;

4. You must provide the details of the auditor commissioned to conduct the works to the NT EPA via email to pollution@nt.gov.au within **10 business days** of engagement;

5. By **13 January 2023**, you must submit to the NT EPA via email to pollution@nt.gov.au the scope of works for the program prepared by the auditor, prior to commencing the program;

6. By **12 May 2023**, you must submit to the NT EPA via email to pollution@nt.gov.au an Interim Environmental Audit Report prepared by the person referred to in requirement 3 above;

7. By **15 December 2023** you must submit to the NT EPA via email to pollution@nt.gov.au the results of the program in the form of an **Environmental Audit Report** prepared by the auditor;

8. The **Environmental Audit Report** must include an assessment of actual environmental harm and the potential risk of environmental harm from contaminants and wastes present in the environment at and beyond the premises;

9. The **Environmental Audit Report** must include an assessment of current management systems and the suitability of the management systems to mitigate environmental impacts;

10. The **Environmental Audit Report** must assess the actual and potential risk of environmental harm from activities conducted at the premises, as determined by:

    a. review of systems, plans, procedures, monitoring programs, data, records, reports or information that is relevant to the scope of the audit as the auditor sees fit;

    b. review of activities, processes, plant and equipment at the premises that is relevant to the scope of the audit as the auditor sees fit; and

    c. collection and/or modelling of existing, available and any new data that is relevant to the scope of the audit as the auditor sees fit;

11. The **Environmental Audit Report** must:

    a. consider all relevant guidance including, but not limited to:

        i. the National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM) 1999 (amended 2013);

        ii. the Northern Territory Contaminated Land Guideline (CLG) 2017;

        iii. Victorian EPA publication number 788.3 – Siting, design, operation and rehabilitation of landfills;

        iv. Victorian EPA publication number 1490.1 – Closed landfill guidelines;

v. Victorian EPA publication number 1323.3 – Landfill licencing guidelines including but not limited to Appendix 6: Scope for audit of landfill operation;

vi. Victorian EPA publication number 952.5 – Guideline for the preparation of environmental audit reports on risk to the environment;

vii. Victorian EPA publication number 953.2 – Environmental auditor guidelines for conducting environmental audits;

viii. Victorian EPA publication number 1684 – Landfill gas fugitive emissions monitoring guideline;

ix. Victorian EPA publication number 840.2 – The clean-up and management of polluted groundwater; and

x. long term viability and sustainability of waste management operations at the premises;

b. determine if the activities conducted at the premises have caused environmental harm or give rise to a potential risk of any possible harm or adverse impact to the environment;

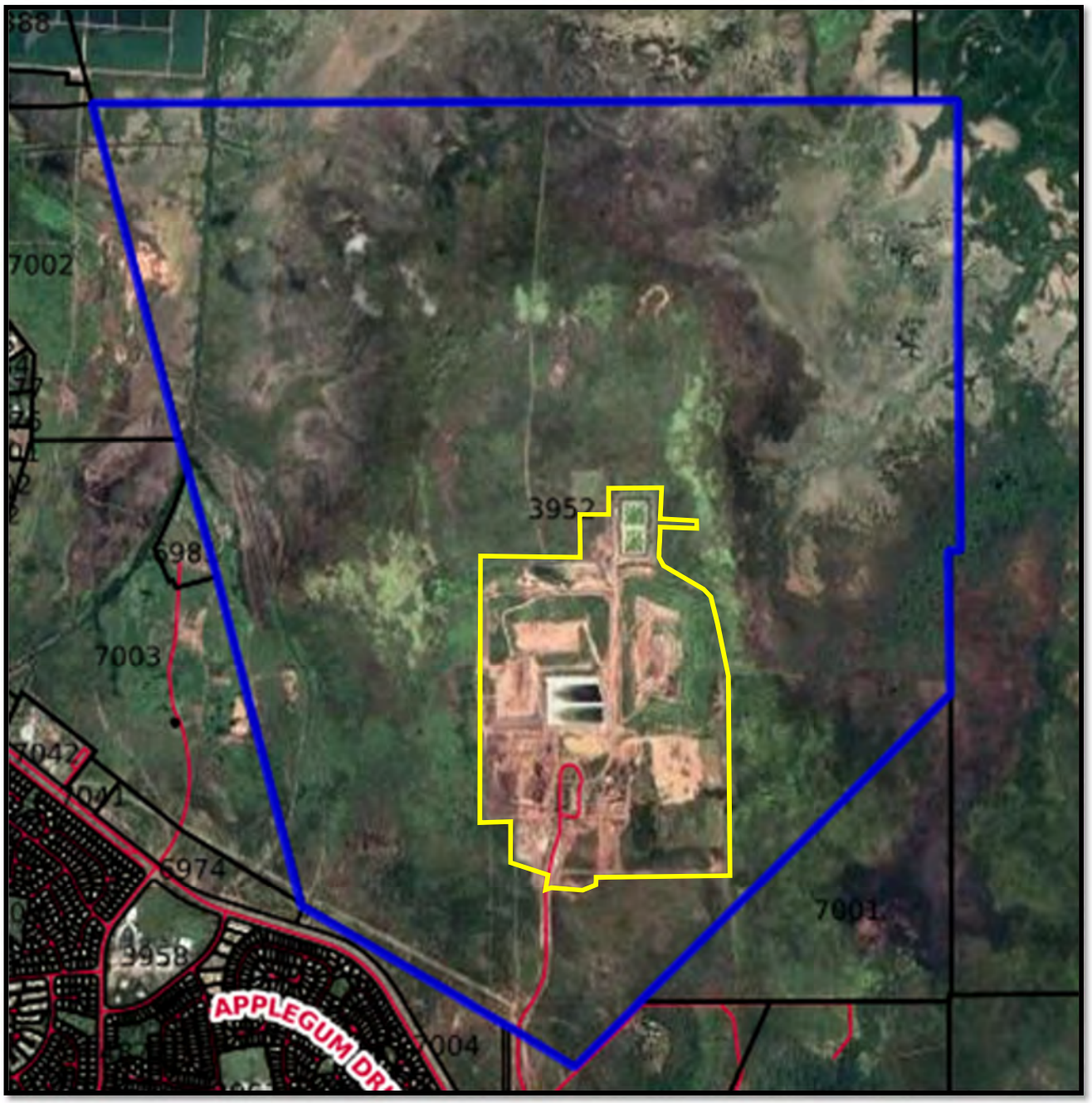
c. recommend measures necessary to reduce the actual harm and risk of harm to an acceptable level where actual harm or risk of possible harm to the environment has been identified;

d. propose a timetable for the implementation of all recommended measures to address the findings of the Audit; and

e. identify the likely environmental monitoring requirements that will be required to manage the ongoing and future environmental impacts from the premises post the cessation of waste disposal at the premises.

ATTACHMENT C

THE PREMISES



Appendix A3 Audit Scope

12 December 2022

Ref: C04201-L01

Nick Fewster
Executive Manager – Environment and Waste Services
City of Darwin Council
CIVIC CENTRE Harry Chan Avenue | GPO Box 84 Darwin NT 0801

RE: Audit Program Scope to Conduct an Environmental Audit of Shoal Bay Waste Management Facility in relation to requirement of EPA Section 48 Notice

Dear Nick,

The following Audit Scope has been prepared following City of Darwin Council (Council) engagement of Stephen Cambridge of EHS Support Pty Ltd in the capacity as an Environmental Auditor (appointed pursuant to the *Environment Protection Act 2017* of Victoria), to conduct an environmental audit program in relation to the requirements of Northern Territory Environment Protection Authority (NT EPA) Section 48 Notice requirements for the Shoal Bay Waste Management Facility (the site). The details of the proposed Audit Scope are provided as follows, with the site plan included in **Attachment 1**, and the Section 48 Notice included in **Attachment 2**.

Table 1 - Summary Details of Audit

Auditor	Stephen Cambridge
Qualified Person	The NT EPA has approved persons accredited under the New South Wales, Victorian, South Australian, Western Australian and Queensland Site Auditor Schemes, as a class of persons suitable to undertake Environmental Audits in the Northern Territory (NT) in accordance with Section 68 of the NT's Waste Management and Pollution Control Act 1998. Therefore, the nominated Auditor (Stephen Cambridge) is a Qualified Person able to undertake this Audit.
Name of person requesting audit	Nick Fewster
Relationship to premises/location	Executive Manager, Environment and Waste Services – City of Darwin Council
Date of request to conduct Audit	17 November 2022
Proposed completion date of the audit	Final Audit report prior to 15 December 2023 (Section 48 Notice requirement)
Reason for Audit	Requirement of Section 48 Notice (NT EPA, 27 October 2022)
Description of activity to be audited	Auditing of operations of Shoal Bay Waste Management Facility

Site / Premises name	Shoal Bay Waste Management Facility. Attached is a site location plan that illustrates the boundary of the site.
Building / complex sub-unit No	-
Street / Lot – Lower No.	Lot 03952 Town of Sanderson plan(s) S79/149A
Street / Lot – Upper No.	-
Street Name	Vanderlin
Street type (road, court, etc)	Drive
Street suffix (North, South etc)	-
Suburb	Holmes
Postcode	0812
GIS Coordinate of Site centroid[1]	GDA94
Latitude (GDA94)	-12.383017
Longitude(GDA94)	130.924963
Proposed members of Audit support team	The following Audit support team members are proposed to be involved with the Audit program: • William Dillon – Environmental Scientist • Dr Rebecca Fraser – Contaminant Hydrogeologist • David Ife – Senior Principal Hydrogeologist The Auditor may seek advice from other specialists during the course of the Audit if the need arises.

Conflict of Interest Considerations

The nominated Auditor has conducted the following Auditing roles at the Shoal Bay Waste Management Facility:

- Audit of Cell 6 landfill liner construction;
- Audit of Stage 3 and 4 cap construction (in progress);
- Verification of Irrigation Management Plan (required as per EPA Permit #321 related to the Stage 3 and 4 landfill cap); and
- Auditor verification of the Integrated Leachate Management Program as required by Condition 88 of the EPL (#188).

In Victoria, EPA generally prohibits Auditors to undertake both Operations Audits and Construction Audits of cell liners or capping systems on the same landfill site, unless it can be demonstrated that no conflict of interest exists. EPA Victoria consider that a potential conflict of interest can exist where an Auditor has

[1] Longitude and latitude (decimal degrees) coordinates in the 1994 Geocentric Datum of Australia (GDA94) is required to six decimal places.

conducted an Audit of a landfill cell liner then conducts an operations audit (including review of monitoring data). This scenario is relevant if any contamination issues, such as leachate contamination of groundwater, may have resulted from a defect in the landfill liner during the liner construction works subject to the Audit. This could represent a potential conflict of interest, in the event that the impact to the environment was related to the cell construction activities which the same Auditor was involved with.

For this current Audit Scope, the Auditor has considered the potential for conflict of interest, and at this stage does not consider that a conflict of interest exists for conducting the Auditing works associated with the Section 48 Notice, in relation to his previous Auditing roles at the site. The reasons for this are stated as follows:

- Cell 6 was designed and constructed to best practice standards and landfilling with waste commenced in about September 2021, and therefore it is unlikely that an environmental impact would have occurred associated with this liner (i.e. such as a leachate releases to groundwater) in the expected time period of the Section 48 Audit.
- Stage 3 and 4 landfill capping works are in progress, and therefore if there was any impact to the environment associated with the completed capping works, then this would not be anticipated in the time period of this Section 48 Notice Audit, but rather would likely be associated with a legacy issue from the previous construction of the Stage 3 and 4 landfill cell liners (if any), which the Auditor was not involved with.
- The leachate irrigation plan for Stage 3 and 4, and the site-wide leachate management plan, could require amendments or updates in future as an outcome of the Section 48 Notice Audit if they are found to be deficient or require further measures to meet the requirements of the Section 48 Notice. If that were required, then the previous verification provided by the Auditor would be superseded by the S48 Notice requirements.

If at any time during the Section 48 Audit program, the Auditor identifies that a potential or actual conflict of interest has arisen (related to previous or current works being undertaken by the Auditor), then he may need to cease the Section 48 Auditing role at that time.

Audit Scope requirements in relation to Northern Territory EPA Section 48 Notice

The scope of the Audit in relation to NT EPA Section 48 Notice is detailed in Condition 1 of the Notice, and details that the Audit program is to evaluate:

a. *the ability of management systems to manage waste or prevent, reduce, control, rectify or clean up pollution or environmental harm resulting from pollution, including but not limited to:*

    i. *a review of environmental systems, practices and procedures in place at the premises;*

    ii. *a review of operational environmental management systems and procedures; and*

    iii. *a review of service agreements with contractors in relation to operational management of the premises;*

b. *the extent to which actions are required to be undertaken, or results required to be achieved, for waste management or the prevention, reduction, control, rectification or clean up of pollution or*

environmental harm resulting from pollution have been taken or achieved, including but not limited to:

i. assessment of the extent and nature of pollution and environmental harm at and from the premises from the operations at the premises;
ii. environmental improvements necessary to comply with legislative and regulatory requirements including environment protection approval and licence conditions; and
iii. actions and timeframes for implementing environmental improvements;

c. the extent, nature and source of wastes generated by the activities at the premises;

d. the likelihood of waste management problems or pollution resulting in environmental harm occurring and the adequacy of safeguards in place to prevent their occurrence or limit their impact on the environment, including but not limited to:

i. an audit of the operations at the premises and comparison with best practice landfill management contained in the Victorian EPA publication 788.3 Siting, design, operation and rehabilitation of landfills; and

ii. an assessment of the viability and sustainability of the landfill operations at the premises in light of its location and future likely climate change and sea level rise considerations;

e. the types, amount, distribution and mobility of contaminants and wastes present in the environment at the premises that have the potential to cause environmental harm, including but not limited to:

i. the types, amount, distribution and mobility of landfill leachate present at and beyond the premises including surface waters and groundwater modelling; and

ii. the types, amount, distribution and mobility of landfill gases present at and beyond the premises including surface waters and groundwater

Based on the prescribed scope items, the following detailed Audit scope is provided in the following sections.

Audit Objectives

The objective of the Audit program is to identify and, where possible, quantify the actual or potential risk of any possible harm or detriment to the environment caused by operation or aftercare management of the waste management facility, inclusive of any legacy issues associated with historical landfill operations.

Activities to be Audited

The activities to the Audited include:

- the operations of the waste management facility, including the operational landfill cells and associated infrastructure, including the leachate management system; and
- aftercare management activities associated with closed landfill cells.

Component(s) of the activity to be Audited

The Audit program scope includes consideration of all aspects of the waste management facility operation and aftercare management, and appraisal of the potential and actual environmental risks associated with the landfill.

Components of the activity to be considered include:

- Waste disposal operations at the site including nature of the waste stream and short-term cell cover/completion practices;
- Environmental engineering at the site including construction of cell lining and capping systems;
- Leachate management;
- Leachate, surface water, and groundwater monitoring;
- Landfill gas (LFG) management/monitoring measures;
- Surface water control/management measures;
- Progressive rehabilitation;
- Aftercare management; and
- General environmental management measures including noise/dust/odour suppression, litter control, fire control, waste acceptance protocols, vermin and weed control and chemical/fuel handling.

These will be evaluated by:

- Reviewing records and/or management systems relevant to the management of the site, including the nature of wastes deposited; containment systems installed; leachate management; and rehabilitation works for areas where landfilling has been completed;
- Reviewing documentation relating to groundwater occurrence and behaviour at the site;
- Reviewing all reports, measurements and other data provided in regard to groundwater, leachate, surface water and LFG monitoring;
- Collecting and reviewing any other data or information that was considered relevant;
- Visiting the site to observe first-hand the operating standards and practices that have been adopted together with the recording of observations and results of inspections of the site.

Segment of the environment to be considered

The segments of the environment to be included in the Audit program include any areas of the environment potentially affected by emissions to air at the site, subsurface geology, groundwater beneath the site, any surface water on or near the site or linked hydrogeologically to the site, and the environment surrounding the site to which the activity may pose a risk.

Elements of the environment to be considered

Groundwater, surface water, land, air, and noise.

Beneficial Uses to be considered

As defined by the NT EPA as relevant to the receiving environments, such as the Beneficial Uses of water relevant to the site and surrounds, as defined in the *Water Act 1992* (Northern Territory of Australia). Where there are no Beneficial Uses defined in the NT legalisation, it is proposed to adopt the Beneficial Uses (now called Environmental Values) referred to in the Victorian Government *Environmental Reference Standard* 26 May 2021.

Risk assessment to be conducted

Risk assessment(s) will be undertaken to determine whether a potential or actual risk of harm to the environment exists at the site. At this stage the type of risk assessment(s) to be undertaken are not fully known as the site data has not been reviewed, however risk assessment approaches may consist of the following:

- **Qualitative risk assessment**: using the approach of consequence and likelihood, and resultant qualitative risk ranking, for all environmental values relevant to the site. The qualitative risk assessment will follow the approach HB 436:2013 *Risk management guidelines – Companion to AS/NZS ISO 13000: 2009* and using the risk assessment definitions for consequence and likelihood as detailed in EPA Victoria Publication 1321.2 *Licence Assessment Guidelines* (EPA, 2012).
- **Tier 1 risk assessment**: an initial screening assessment of risk to environmental values will be undertaken in accordance with the approach as detailed in the *National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM) 1999 (amended 2013)*. This will include screening monitoring data against published or site-specific criteria for the relevant media (e.g. groundwater, surface water, air).
- **Tier 2 quantitative risk assessment**: at this stage it is not known whether a quantitative assessment of risk, beyond the Tier 1 Risk Assessment will be required. Determination of whether a quantitative risk assessment is required will be conducted as part of the Audit program and would depend upon the results of the Tier 1 Risk Assessment, combined with the development of a Conceptual Site Model and modelling of contaminant migration where considered necessary. Where the Conceptual Site Model indicates there may be complete exposure pathway for human or environmental receptors for contaminants at concentrations of potential concern, then a quantitative assessment or human health and/or ecological risk may be necessary.
- **Landfill gas risk assessment**: landfill gas risk assessment will be conducted by a combination of qualitative assessment Tier 1 risk assessment (i.e. comparison of monitoring results to published criteria) and utilising the approach as detailed in the NSW EPA *Assessment and management of hazardous ground gases – Contaminated Land Guidelines* May 2020, including calculation of Gas Screening Values (GSVs) for the site where appropriate.

Period of time over which the audit is to be conducted

The Audit program will be conducted over the period from Audit Scope submission to NT EPA (i.e. 13 January 2023) through to the completion of the Audit Report (15 December 2023) and will consider any current and historical data considered relevant to meet the Audit objectives. It is noted that in practice, monitoring data will only be able to be considered up to a certain point in time during the Audit, to allow sufficient time for consideration and reporting of data in the Audit report. Therefore the Audit program will consider monitoring data up to 30 September 2023.

Exclusions from the scope of the audit

No specific exclusions, however, if any items are identified as being excluded from the Audit during the course of the Audit program, this will be reported in the Interim and Final Audit reports.

Audit Criteria and Guidelines

Audit criteria will be derived principally from the following guidelines and standards:

1. **Waste management and operational compliance criteria***: Environment Protection Licence EPL188 – 03.*
2. **Water quality**: Australian and New Zealand Guidelines for Fresh and Marine Water Quality (nominally 90% protection level).
3. **Land and groundwater contamination**: *National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM) 1999 (amended 2013).*
4. **Landfill gas criteria***: Victorian EPA publication number 788.3 – Siting, design, operation and rehabilitation of landfills.*
5. **PFAS specific criteria:** *PFAS National Environmental Management Plan Version 2.0 – January 2020* (or as amended).

Additional guidelines and standards will be referenced as part of the Audit and may include:

i. *Northern Territory Contaminated Land Guideline (CLG) 2017;*
ii. Victorian EPA publication number 1490.1 – *Closed landfill guidelines;*
iii. Victorian EPA publication number 1323.3 – *Landfill licencing guidelines* including but not limited to Appendix 6: Scope for audit of landfill operation*;*
iv. Victorian EPA publication number 2041 – *Guidelines for conducting environmental audits;*
v. Victorian EPA publication number 1684 – *Landfill gas fugitive emissions monitoring guideline;*
vi. Victorian EPA publication number 2001 – *Guidance for the clean-up and management of contaminated groundwater.*
vii. NSW EPA (May 2020) - *Assessment and management of hazardous ground gases*

Conducting the Audit Program

The tasks required to conduct the Audit program are broadly outlined in the following table.

Table 2 - Summary of Audit Schedule and Tasks

Task	Description
1	Audit scope preparation.
2	Works to inform interim Audit Report, inclusive of the following tasks:
	a. Review of existing information to inform site inspection including monitoring and Operations Audit reports, environmental systems, practices and procedures, and relevant service agreements with contractors (e.g. Veolia).
	b. Site inspection #1 (Wet Season), including review of site activities on site
	c. Groundwater and leachate fate and transport assessment, including analytical modelling if required.
	d. Site inspection #2 (Dry Season), follow up inspection for review of site activities on site
3	Preparation of Interim Audit Report: it is anticipated that the interim Audit report will include the Auditor's review and appraisal of the site operations, based on site inspections and document review, and also an interim appraisal of the risk to the environment and draft recommendations.
4	Review further data obtained from Interim Audit Report recommendations, and address feedback from Council and NT EPA on interim Audit report. Update groundwater fate and transport model (if required), with off-site monitoring data.
5	Preparation of Final Audit Report

Environmental Audit Report

The Environmental Audit Report will be prepared in general accordance with the format and content specified in Appendix 6 of the EPA Victoria publication number 1323.3 *Landfill licensing* guidelines, and Appendix 5 of EPA Victoria publication number 1490.4 *Closed landfill guidelines*, and where appropriate, in accordance with the EPA Victoria publication number 2041 – *Guidelines for conducting environmental audits.*

Specific inclusion of the items detailed in the NT EPA Section 48 Notice within the Audit report will be conducted, as follows:

> *Condition 8: The **Environmental Audit Report** must include an assessment of actual environmental harm and the potential risk of environmental harm from contaminants and wastes present in the environment at and beyond the premises;*
>
> *Condition 9: The **Environmental Audit Report** must include an assessment of current management systems and the suitability of the management systems to mitigate environmental impacts;*

*Condition 10: The **Environmental Audit Report** must assess the actual and potential risk of environmental harm from activities conducted at the premises, as determined by:*

a. *review of systems, plans, procedures, monitoring programs, data, records, reports or information that is relevant to the scope of the audit as the auditor sees fit;*

b. *review of activities, processes, plant and equipment at the premises that is relevant to the scope of the audit as the auditor sees fit; and*

c. *collection and/or modelling of data that is that relevant to the scope of the audit as the auditor sees fit;*

*Condition 11: The **Environmental Audit Report** must:*

a. *consider all relevant guidance documents (*see list above)*;*

b. *determine if the activities conducted at the premises have caused environmental harm or give rise to a potential risk of any possible harm or adverse impact to the environment;*

c. *recommended measures necessary to reduce the actual harm and risk of harm to an acceptable level where actual harm or risk of possible harm to the environment has been identified;*

d. *propose a timetable for the implementation of all recommended measures to address the findings of the Audit; and*

e. *identify the likely environmental monitoring requirements that will be required to manage the ongoing and future environmental impacts from the premises post the cessation of waste disposal at the premises.*

The Section 48 Notice also requires an assessment of *the long-term viability and sustainability of waste management operations at the premises.*

If you have any questions or comments regarding this proposed Audit program scope, please contact the undersigned.

Yours Sincerely,
For and on behalf of EHS Support Pty Ltd

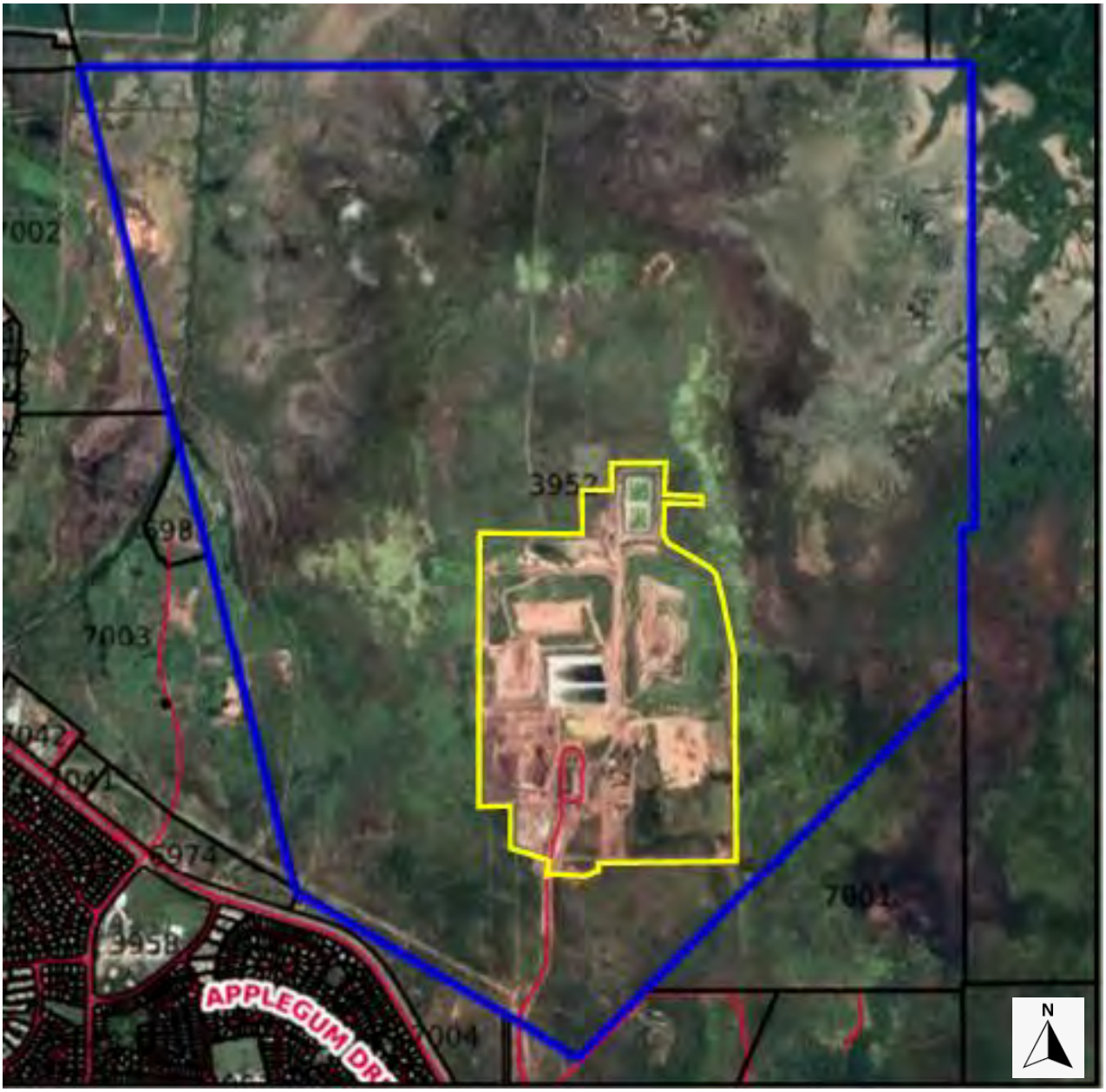
Stephen Cambridge
Environmental Auditor
Mobile – 0400 349 009
Stephen.cambridge@ehs-support.com

Attachments:

1. **Site location plan**
2. **Section 48 Notice**

Attachment 1 – Site Plan

Site plan and Audit Area (from Section 48 Notice)
Facility (site boundary shown in yellow.
Leased area boundary shown in blue.
Not to scale.



Attachment 2 - Section 48 Notice

NOTICE TO CARRY OUT ENVIRONMENTAL AUDIT PROGRAM

(Issued pursuant to section 48(1) of the ***Waste Management and Pollution Control Act 1998***)

ISSUED TO: City of Darwin ("You")

OF: 1 HARRY CHAN AVENUE
Darwin NT 0800

WHEREAS the Northern Territory Environment Protection Authority (NT EPA) is satisfied for the reasons stated in **Attachment A** to this notice that you are a person required to carry out an Environmental Audit Program in relation to the Shoal Bay Waste Management Facility (SBWMF) located on that part of Lot 03952 Town of Sanderson, Northern Territory as delineated in **yellow** in **Attachment C** (the premises), comprising an environmental audit, within the meaning of s47(a), (b), (c), (d) and (f) of the ***Waste Management and Pollution Control Act 1998,*** to evaluate:

i. the ability of management systems to manage waste or prevent, reduce, control, rectify or clean up pollution or environmental harm resulting from pollution; and

ii. the extent to which actions required to be undertaken, or results required to be achieved, for waste management or the prevention, reduction, control, rectification or clean-up of pollution or environmental harm resulting from pollution have been taken or achieved; and

iii. the extent, nature and source of wastes generated by an activity, premises or process; and

iv. the likelihood of waste management problems or pollution resulting in environmental harm occurring and the adequacy of safeguards in place to prevent their occurrence or limit their impact on the environment; and

v. the types, amount, distribution and mobility of contaminants and wastes present in the environment at the premises that have the potential to cause environmental harm;

NOW TAKE NOTICE that you are required to comply with each of the requirements specified in **Attachment B** to this notice on and from the date of issue of this notice or such later date as may be specified in this notice.

ISSUE DATE: 27 October 2022

Amy Dennison

……
AMY DENNISON
EXECUTIVE DIRECTOR
ENVIRONMENTAL REGULATION
DELEGATE OF THE NT EPA

Important Notice

Failure to comply with this notice is an offence under section 52 of the ***Waste Management and Pollution Control Act 1998*** (the Act) and may incur significant penalties and/or other statutory action.

This notice takes effect on the date on which it is served upon you. Pursuant to section 108 of the Act, **you have the right to apply for a review of the decision to issue you with this Notice to carry out an Environmental Audit Program. If you intend to apply for a review, YOU MUST MAKE AN APPLICATION WITHIN 28 DAYS after the day on which this notice of the decision was given.** For information on how to lodge an application for review, contact the Northern Territory Environment Protection Authority, telephone (08) 8924 4218.

Pursuant to section 112 of the Act the person issued with this notice must fulfil certain obligations before selling, leasing, sub-leasing, giving or exchanging land, premises, a vehicle or business, which is the subject of this Notice.

ATTACHMENT A
REASONS FOR ISSUING THIS NOTICE

1. City of Darwin (CoD) occupies and controls the parcel of land located at Lot 03952 Town of Sanderson plan(s) S 79/149A (the lot) delineated in **blue** in **Attachment C**;

2. Within this parcel is the Shoal Bay Waste Management Facility (SBWMF) delineated in **yellow** in **Attachment C** (the premises);

3. SBWMF commenced operation on 1 April 1987 and licensing under the ***Waste Management and Pollution Control Act 1998*** (the Act) commenced in 2001;

4. CoD have previously been issued Environment Protection Licences (EPLs): EPL188 from 1 July 2016 to 30 June 2021, with amendments EPL188-01 and EPL188-02);

5. CoD is currently operating the premises for the purpose of providing waste and recycling management services to the Greater Darwin region;

6. The lot contains and is surrounded by sensitive wetland habitats that are immediately adjacent to the premises including and described by:

    a. Shoal Bay – Micket Creek nationally recognised wetland area (Directory of Important Wetlands in Australia NT032);

    b. Shoal Bay Site of Conservation Significance; and

    c. Darwin Area Primary Storm Surge Inundation Zone;

7. The premises is near to potentially sensitive receptors including but not limited to:

    a. residential properties 0.6km to the southwest and within 2km to the northwest;

    b. Darwin Harbour Region Declaration of Beneficial Uses and Objectives area;

    c. Holmes Jungle Nature Park within 1km to the south; and

    d. Buffalo Creek Management Area within 2km to the north;

8. While CoD has maintained control of the premises, a number of commercial operators have previously been issued EPLs to conduct licensed activities at the premises on behalf of CoD;

9. On 2 July 2021, EPL188-03 was issued to the CoD pursuant to section 34 of the Act and is set to expire on 1 July 2026;

10. Table 1 of EPL188-03 authorises the following activities involving listed wastes at the premises:

Table 1.

Listed Waste	Collection	Transport	Storage	Treatment	Recycling	Disposal
Animal effluent and residues	✗	✗	✗	✗	✗	✓
Asbestos	✗	✗	✗	✗	✗	✓
Clinical and related wastes	✗	✗	✗	✗	✗	✓
Lead, lead compounds	✗	✗	✓	✗	✗	✗
Sewage sludge and residues including nightsoil and septic tank sludge	✗	✗	✗	✗	✗	✓
Soils contaminated with a listed waste	✗	✗	✗	✗	✗	✓
Tyres	✗	✗	✓	✓	✓	✓
Waste from the production, formulation and use of inks, dyes, pigments, paints, lacquers and varnish	✗	✗	✓	✗	✗	✗
Acidic solutions or acids in solid form	✗	✗	✓	✗	✗	✗
Waste mineral oils unfit for their original intended use	✗	✗	✓	✗	✗	✗

✓ Activity authorised by this licence

✗ Activity not authorised by this licence

11. EPLs issued for activities at the premises include requirements to undertake monitoring programs and submit reports, annual returns and audits to the Northern Territory Environment Protection Authority (NT EPA);

12. Reports submitted to the NT EPA (in accordance with EPL188-03 conditions) indicate some non-compliances with EPL188-03 conditions that can or have the potential to cause harm to the environment including:

    a. prior to March 2022 insufficient leachate management and storage capability;

    b. prior to January 2022 insufficient contaminated surface water management and/or storage capability; and

    c. prior to January 2022 insufficient measures to prevent contamination of groundwater and potentially surface water from the migration of leachate;

13. Annual returns submitted to the NT EPA in accordance with EPL188-03 detail CoD's non-compliances with licence conditions, including:

    a. prior to December 2021, some instances of failure to report non-compliances at all or within the required timeframe when non-compliances have been identified;

b. prior to January 2022 failure to conduct a surface water quality monitoring program in accordance with licence condition requirements; and

c. prior to January 2022 failure to conduct appropriate groundwater quality monitoring in accordance with licence condition requirements;

14. As a result of CoD's non-compliance with its licence conditions, NT EPA have taken various compliance and enforcement actions to address some of the immediate and ongoing environmental concerns at the premises and to mitigate environmental harm;

15. The following issues at the premises give rise to concerns that historical activities are causing detrimental impacts at and beyond the premises:

    a. historically inadequate leachate management and storage systems;

    b. suspected integrity issues of the landfill cell and/or pond lining systems built prior to 2015; and

    c. suspected inadequate environmental risk assessment of cumulative impacts at and beyond the premises;

16. The full nature and extent of pollution and contamination at and beyond the premises is unknown;

17. The cumulative impacts from the operations at the premises are unknown and hence the environmental audit program will enable the cumulative impacts to be understood and assessed;

18. An Environmental Audit program will enable:

    a. any data deficiencies to be addressed, existing data consolidated and analysed resulting in an improved understanding of any environmental impacts as a result of current activities at the SMWMF;

    b. a review of all current practices to ensure that they are sufficient to minimise any future environmental harm;

    c. identification of targeted and risk based remediation actions as may be required; and

    d. a detailed evidence-supported plan for SBWMF operations and activities for the medium and long term.

ATTACHMENT B
NOTICE REQUIREMENTS

1. Pursuant to section 48 of the ***Waste Management and Pollution Control Act 1998*** (the Act), the City of Darwin is required to carry out an environmental audit program (the program) at and beyond the premises (as delineated in **yellow** in **Attachment C**) to evaluate:

    a. the ability of management systems to manage waste or prevent, reduce, control, rectify or clean up pollution or environmental harm resulting from pollution, including but not limited to:

        i. a review of environmental systems, practices and procedures in place at the premises;

        ii. a review of operational environmental management systems and procedures; and

        iii. a review of service agreements with contractors in relation to operational management of the premises;

    b. the extent to which actions are required to be undertaken, or results required to be achieved, for waste management or the prevention, reduction, control, rectification or clean-up of pollution or environmental harm resulting from pollution have been taken or achieved, including but not limited to:

        i. an assessment of the extent and nature of pollution and environmental harm at and from the premises caused by operations at the premises;

        ii. the environmental improvements necessary to comply with legislative and regulatory requirements including environment protection approval and licence conditions; and

        iii. actions and timeframes for implementing environmental improvements;

    c. the extent, nature and source of wastes generated by the activities at the premises;

    d. the likelihood of waste management problems or pollution resulting in environmental harm occurring and the adequacy of safeguards in place to prevent their occurrence or limit their impact on the environment, including but not limited to:

        i. an audit of the operations at the premises and comparison with best practice landfill management contained in the Victorian EPA publication 788.3 Siting, design, operation and rehabilitation of landfills; and

        ii. an assessment of the viability and sustainability of the landfill operations at the premises in light of its location and future likely climate change and sea level rise considerations;

    e. the types, amount, distribution and mobility of contaminants and wastes present in the environment at the premises that have the potential to cause environmental harm, including but not limited to:

        i. the types, amount, distribution and mobility of landfill leachate present at and beyond the premises including surface waters and groundwater modelling; and

        ii. the types, amount, distribution and mobility of landfill gases present at and beyond the premises including surface waters and groundwater;

2. The audit program must be performed by a qualified person registered under section 68 of the Act (the auditor);

3. By **22 November 2022**, you must engage the auditor(s), accredited under section 68 of the Act to undertake the program at the premises;

4. You must provide the details of the auditor commissioned to conduct the works to the NT EPA via email to pollution@nt.gov.au within **10 business days** of engagement;

5. By **13 January 2023**, you must submit to the NT EPA via email to pollution@nt.gov.au the scope of works for the program prepared by the auditor, prior to commencing the program;

6. By **12 May 2023**, you must submit to the NT EPA via email to pollution@nt.gov.au an Interim Environmental Audit Report prepared by the person referred to in requirement 3 above;

7. By **15 December 2023** you must submit to the NT EPA via email to pollution@nt.gov.au the results of the program in the form of an **Environmental Audit Report** prepared by the auditor;

8. The **Environmental Audit Report** must include an assessment of actual environmental harm and the potential risk of environmental harm from contaminants and wastes present in the environment at and beyond the premises;

9. The **Environmental Audit Report** must include an assessment of current management systems and the suitability of the management systems to mitigate environmental impacts;

10. The **Environmental Audit Report** must assess the actual and potential risk of environmental harm from activities conducted at the premises, as determined by:

    a. review of systems, plans, procedures, monitoring programs, data, records, reports or information that is relevant to the scope of the audit as the auditor sees fit;

    b. review of activities, processes, plant and equipment at the premises that is relevant to the scope of the audit as the auditor sees fit; and

    c. collection and/or modelling of existing, available and any new data that is relevant to the scope of the audit as the auditor sees fit;

11. The **Environmental Audit Report** must:

    a. consider all relevant guidance including, but not limited to:

        i. the National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM) 1999 (amended 2013);

        ii. the Northern Territory Contaminated Land Guideline (CLG) 2017;

        iii. Victorian EPA publication number 788.3 – Siting, design, operation and rehabilitation of landfills;

        iv. Victorian EPA publication number 1490.1 – Closed landfill guidelines;

v. Victorian EPA publication number 1323.3 – Landfill licencing guidelines including but not limited to Appendix 6: Scope for audit of landfill operation;

vi. Victorian EPA publication number 952.5 – Guideline for the preparation of environmental audit reports on risk to the environment;

vii. Victorian EPA publication number 953.2 – Environmental auditor guidelines for conducting environmental audits;

viii. Victorian EPA publication number 1684 – Landfill gas fugitive emissions monitoring guideline;

ix. Victorian EPA publication number 840.2 – The clean-up and management of polluted groundwater; and

x. long term viability and sustainability of waste management operations at the premises;

b. determine if the activities conducted at the premises have caused environmental harm or give rise to a potential risk of any possible harm or adverse impact to the environment;

c. recommend measures necessary to reduce the actual harm and risk of harm to an acceptable level where actual harm or risk of possible harm to the environment has been identified;

d. propose a timetable for the implementation of all recommended measures to address the findings of the Audit; and

e. identify the likely environmental monitoring requirements that will be required to manage the ongoing and future environmental impacts from the premises post the cessation of waste disposal at the premises.

ATTACHMENT C

THE PREMISES