



<b>Licence number</b>	L7021/1997/15
<b>Licence holder</b>	City of Karratha
<b>Registered business address</b>	Welcome Road KARRATHA WA 6714
<b>DWER file number</b>	DER2013/000622-1
<b>Duration</b>	21/06/2015 to 20/06/2034
<b>Date of amendment</b>	28/08/2020
<b>Premises details</b>	Seven Mile Waste Disposal Facility Seven Mile Road GAP RIDGE WA 6714 Legal description - Lot 85 on Plan 180017 and Lot 552 on Plan 71049 As defined in Schedule 1

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i> )	Assessed design capacity
Category 57: Used tyre storage (general)	200,000 tyres
Category 61: Liquid waste facility	116,500 tonnes per annual period
Category 61A: Solid waste facility	10,000 tonnes per annual period
Category 62: Solid waste depot	20,000 tonnes per annual period
Category 64: Class II or III putrescible landfill site	150,000 tonnes per annual period

This licence is granted to the licence holder, subject to the attached conditions, on 28 August 2020, by:

A/MANAGER WASTE INDUSTRIES  
REGULATORY SERVICES

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

## Licence history

Reference number	Date	Summary of changes
L7021/1997/13	20 June 2009	Licence re-issue.
L7021/1997/14	20 June 2012	Licence re-issue.
L7021/1997/14	23 August 2013	Licence amendment for two evaporation ponds.
L7021/1997/14	30 October 2014	Licence amendment for addition of Category 62 and conversion to new format.
L7021/1997/15	11 June 2015	Licence re-issue.
L7021/1997/15	3 December 2015	Licence amendment for administrative changes.
L7021/1997/15	23 December 2016	Licence amendment to accept oily saline water for disposal via evaporation.
L7021/1997/15	18 May 2017	Licence amendment for construction of Class III cells and rehabilitation of existing landfill cell.
L7021/1997/15	29 October 2018	Minor amendment allowing the acceptance of Class III and the use of the constructed Class III cell.
L7021/1997/15	12 November 2019	Licence amendment for the addition of Category 61A, the increase of throughput capacity of Category 57, amalgamation of previous licence and amendment notices, and conversion to new format.
L7021/1997/15	20 May 2020	Licence amendment for an increase in annual waste acceptance, expansion of liquid and solid waste acceptance, expansion of Special Waste Type 1 acceptance, Special Waste Type 3 acceptance, and clarifications to the existing licence containment infrastructure.
L7021/1997/15	28 August 2020	Licence amendment for the closure and capping of Cell 0

## Interpretation

In this licence:

- (a) the words ‘including’, ‘includes’ and ‘include’ in conditions mean “including but not limited to”, and similar, as appropriate;
- (b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
- (c) where tables are used in a condition, each row in a table constitutes a separate condition;
- (d) any reference to an Australian or other standard, guideline, or code of practice in this licence:
  - (i) if dated, refers to that particular version; and

- (ii) if not dated, refers to the latest version and therefore may be subject to change over time;
- (e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and
- (f) unless specified otherwise, all definitions are in accordance with the EP Act.

**NOTE:** This licence requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this licence.

# Conditions

## Landfill cell works specifications

1. The Licence Holder must ensure that the proposed Works specified in Column 1 of Table 1 are designed and constructed to meet or exceed the specifications in Column 2 of Table 1 for the infrastructure in each row of Table 1.
2. The Licence Holder must not depart from the specifications in Table 1 except:
  - (a) Where such departure is minor in nature and does not materially change or affect the infrastructure; or
  - (b) Where such departure improves the functionality of the infrastructure and does not increase risks to public health, public amenity or the environment; and
  - (c) All other Conditions in this Licence are still satisfied.

**Table 1: Landfill cell works specifications**

Column 1	Column 2
Infrastructure	Specifications (design and construction)
Proposed Landfill Cells 1 – 12	<p>The Licence Holder must ensure that:</p> <ol style="list-style-type: none"><li>1) Compacted subgrade to be smooth and free of debris;</li><li>2) Proposed Cells 1-12 are lined with a Geosynthetic Clay Liner (GCL) with a permeability (as manufactured) of <math>\leq 5 \times 10^{-11}</math> m/s;</li><li>3) GCL has a moisture content of <math>\leq 50\%</math> at time of installation;</li><li>4) A primary impermeable barrier (2mm high density polyethylene (HDPE) geomembrane, in accordance with GRI GM 13) is installed above the GCL;</li><li>5) A non-woven polypropylene geotextile protection/cushion layer is placed over the primary impermeable barrier;</li><li>6) Installation of a 300 mm leachate collection layer, pipework and extraction system;</li><li>7) A non-woven polypropylene separation geotextile placed over the leachate collection layer; and</li><li>8) Cell Lining shall be subject to construction quality assurance processes in accordance with Level 1 of the <i>Australian Standard AS3798-2007 Guidelines on Earthworks for Commercial and Residential Developments</i>.</li></ol>

3. Where departures under Condition 2 are claimed, the Licence Holder must provide the CEO with a list of departures which are certified as complying with Condition 2 at the same time as the certifications under Condition 5.
4. The Licence Holder must within 30 days of each item of infrastructure required by Condition 2 being constructed:
  - (a) undertake an audit of their compliance with the requirements of Condition 2; and

- (b) prepare and submit to the CEO an audit report on that compliance.
5. The report required by Condition 4(b), must:
- (a) be certified by a suitably qualified professional engineer that each item of infrastructure specified in Specifications 1-7 in Table 1 has been constructed in accordance with the Conditions of the Licence with no material defects;
  - (b) include a Construction Quality Assurance Report which demonstrates compliance with Specification 8 of Table 1 and is signed by a suitably qualified engineer; and
  - (c) be signed by a person authorised to represent the Licence Holder and contain the printed name and position of that person within the company.

## Capping works specifications

6. The Licence Holder must ensure that the capping works of the landfill cells specified in Table 2 meet or exceed the corresponding specifications in that table.

**Table 2: Landfill capping works specifications**

Landfill cell	Specifications	Date of completion
Cell 0 - crown	<ol style="list-style-type: none"> <li>1) To be constructed to achieve a gradient of a maximum of 1V:17H;</li> <li>2) Waste regulation layer above waste to be at least 200 mm thick and comprised of soil;</li> <li>3) Gas collection layer above regulation layer to be comprised of a gas collection geocomposite (geonet), with a granular gas collection layer of a minimum thickness of 300 mm (particle size of less than 50 mm) used where required in discrete areas of the upper slope, as indicated in Schedule 1;</li> <li>4) Linear Low Density Polyethylene (LLDPE) geomembrane above gas collection layer to be installed with double welded seams in accordance with the GRI GM 17, to be at least 1.5 mm thick;</li> <li>5) Drainage layer above LLDPE geomembrane to be comprised of a drainage geocomposite;</li> <li>6) Subsoil layer above separation geotextile to be at least 1000 mm thick and be comprised of site won subsoils;</li> <li>7) Top soil layer above subsoil to be at least 200 mm thick and contain mulch; and</li> <li>8) Hydromulch/seeding layer above top soil layer.</li> </ol>	Capping of Cell 0 to be completed by 30 June 2023.
Cell 0 – side slope	<ol style="list-style-type: none"> <li>1) To be constructed to achieve a gradient of maximum of 1V:5H;</li> <li>2) Regulation layer above waste to be at least 200 mm thick and comprised of soil;</li> <li>3) Gas collection layer above regulation layer to be comprised of a gas collection geocomposite (geonet);</li> <li>4) LLDPE geomembrane above gas collection layer to be installed with double welded seams in</li> </ol>	Capping of Cell 0 to be completed by 30 June 2023

Landfill cell	Specifications	Date of completion
	<p>accordance with the GRI GM 17, to be at least 1.5 mm thick;</p> <p>5) Drainage layer above LLDPE geomembrane to be comprised of a drainage geocomposite;</p> <p>6) Subsoil layer above separation geotextile to be at least 1000 mm thick and be comprised of site won subsoils;</p> <p>7) Top soil layer above subsoil to be at least 200 mm thick and contain mulch; and</p> <p>8) Hydromulch/seeding layer above top soil layer.</p>	
Cell 0 – temporary waste slope	1) To be constructed to achieve a gradient of a maximum of 1V:3H.	Capping of Cell 0 to be completed by 30 June 2023.
Cell 0 – landfill gas infrastructure	<p>1) To be located as depicted in Schedule 1;</p> <p>2) To be constructed as per the specification in Schedule 1 with a 40 m separation distance between gas wells; and</p> <p>3) Vertical gas wells to be fitted with aspiromatic cowls and have the capacity to be converted to an active gas extraction system.</p>	Installation to be completed by 30 June 2023.
Cell 0 - Surface water management infrastructure (Phase 1)	<p>1) To consist of:</p> <p>a) The north surface water attenuation pond, including inlets and outlets;</p> <p>b) Swale drain 1 up to chainage 365 m;</p> <p>c) Swale drain 2 up to chainage 680 m; and</p> <p>d) The associated pipe crossing;</p> <p>As depicted in Schedule 1;</p> <p>2) To be constructed to accommodate a 1% Annual Exceedance Probability (AEP) storm event of 24hrs duration;</p> <p>3) The north surface water attenuation pond to be lined with a 2mm high density polyethylene (HDPE) geomembrane, as outlined in Schedule 1; and</p> <p>4) Swale drains to be lined with a separation geotextile, earth and contain rock armouring so as to maintain integrity, as outlined in Schedule 1.</p>	Phase 1 construction to be completed by 30 June 2023

7. The Licence Holder must undertake construction quality assurance testing for the items listed in Column 1 of Table 3, for the corresponding properties listed in Column 2 of Table 3, using the corresponding standards listed in Column 3 of Table 3, at the corresponding frequency listed in Column 4 of Table 3, within the corresponding tolerance standards listed in Column 5 of Table 3.

**Table 3: Construction quality assurance testing**

Column 1	Column 2	Column 3	Column 4	Column 5
Item	Property	Standards	Frequency	Tolerance standard
Conformance testing upon shipment to site (LLDPE)	Thickness (min. average)	ASTM D5994	Every 5 rolls	1.35 mm
	Thickness (min.)			1.27 mm
	Tensile properties	ASTM D6693 Type IV		
	Strength at break			16 N/mm
	Elongation at break			950 (300) %
	2% Modulus (max.)	ASTM D5323		630 kN/m
	Tear resistance (min. average)	ASTM D1004		165 (150) N
	Puncture resistance (min. average)	ASTM D4833		430 (370) N
	Carbon black content (core prior to lamination)	ASTM D4218		2.0 – 3.0 %
	Carbon black dispersion	ASTM D5596		Category 1/Category 2
	Sheet density (min. avg.)	ASTM D792	Every 10 rolls	≤ 0.939 g/cc
	Dimensional stability	ASTM D1204	Certified	± 2 %
	Multi-Axial Tensile (min.)	ASTM D5617	Per formulation	30 %
	Oven Aging at 85°C  Standard Oxidative Induction Time (min. avg.) OR High Oxidative Induction Time (min. avg.)	ASTM D5721		% retained after 90 days
		ASTM D3895		
		ASTM D5885		35 %
	UV Resistance High Oxidative Induction Time (min. avg.)	ASTM D7238		% retained after 1600hrs
		ASTM D5885		
	Roll dimension - width	None specified.	Every roll	6.80 m

Column 1	Column 2	Column 3	Column 4	Column 5
Item	Property	Standards	Frequency	Tolerance standard
Start-up test weld (LLDPE)	Welding equipment	None specified.	<ul style="list-style-type: none"> <li>• Start of works daily and whenever welding equipment is shut off for more than one hour; and</li> <li>• After significant changes in weather conditions</li> </ul>	None specified.
	Weld conditions	None specified.	<ul style="list-style-type: none"> <li>• Test weld strips will be required whenever personnel or equipment are changed and/or wide temperature fluctuations are experienced; and</li> <li>• Minimum 1.5 m continuous seam.</li> </ul>	None specified.
Destructive weld testing (LLDPE)	Onsite, hand tensiometer in peel and shear	ASTM 6392	Every weld	Peel: 290 N/25mm Shear: 394 N/25mm
Non-destructive weld testing (LLDPE)	Air pressure test	ASTM D5820	All seams over full length	Observed, validated and recorded by the consultant
	Vacuum box test	ASTM D5641		Presence/absence of bubbles
Visual inspection (LLDPE)	Tears, punctures, abrasions, cracks, indentations and thin spots	None specified.	Every roll	None specified.

8. All laboratory tests must be performed in a NATA accredited geosynthetics laboratory.
9. The Licence Holder must submit a construction quality assurance report to the CEO within 30 calendar days following the completion of capping works for Cell 0.



- 10.** The report required by Condition 9 must:
- document the quality of the completed capping works for each landfill cell;
  - demonstrate that all requirements of the capping works specifications and the quality assurance provisions in Condition 6 have been complied with;
  - assess and document test results against tolerance standards in Condition 7;
  - document all repairs resulting from non-destructive weld testing; and
  - be certified by a suitably qualified engineer.

## Waste acceptance

- 11.** The Licence Holder must only accept onto the premises waste of a waste type, which does not exceed the corresponding rate at which waste is received, and which meets the corresponding acceptance specification, as set out in Table 4.

**Table 4: Waste acceptance**

Waste Type	Waste Code (where relevant)	Rate at which waste is received	Acceptance Specification <sup>1</sup>
Clean Fill	N/A	Combined total limit of 150 000 tonnes per annual period	None specified.
Inert Waste Type 1	N/A		None specified.
Inert Waste Type 2	T140 (used tyres)		Tyres and plastic only.
Putrescible Waste (including green waste)	N/A		None specified.
Solid Waste	B100, D220, D221, J100, J170, N100, N160		Limited to: <ul style="list-style-type: none"> <li>Acids in solid form</li> <li>Lead and lead compounds</li> <li>Used lead acid batteries</li> <li>Engine oil filters and other used oil filters</li> <li>Oily rags and hoses</li> <li>Aerosol cans</li> <li>Empty drums</li> <li>Quarantine waste</li> <li>Contaminated solid waste</li> <li>Drill mud</li> </ul> Must meet the acceptance criteria for Class III landfills.
Special Waste Type 1	N220		No friable asbestos shall be accepted.
Special Waste Type 2	R100, R120, R130, R140		Biomedical / clinical waste that is not radioactive <sup>2</sup> .
Special Waste Type 3	M270		Waste must meet the acceptance criteria for a Class III landfill as specified in Table 17, Schedule 3.

Liquid Waste (other than septage waste, sewerage waste, waste from grease traps)	D300, F100, F110, F120, F130, J100, J120, J170, L100, L150, M130, M250, M270, N140, N205	Combined total of 116 500 tonnes per annual period	<p>Limited to:</p> <ul style="list-style-type: none"> <li>Waste oil, oily wastes (e.g. from oil filters) and oily water</li> <li>car and truck wash waters from wash down bays</li> <li>industrial wash waters, including those originating from cooling towers, industrial plants, ports, landfills, textile effluent and residues, and other industrial processes</li> <li>saline water</li> <li>brake fluid, coolant, ethylene glycol (antifreeze), propylene glycol, radiator fluid</li> <li>surfactants and detergents</li> <li>fire wash waters</li> <li>Scrubber sludge, industrial waste treatment sludges and residues</li> <li>aqueous and solvent based wastes from the production, formulation and use of inks, dyes, pigments, paints, lacquers, varnishes, resins, latex, plasticisers, glues and adhesives</li> <li>PFAS contaminated material, including waste PFAS containing products</li> </ul>
Liquid waste (Septage waste, Sewerage waste, waste from grease traps)	K110, K130, K210		<p>Biological waste (septage and grease trap waste only). Tankered into the premises and discharged in one of the three receiving ponds.</p>

Note 1: Additional requirements for the acceptance of controlled waste (including asbestos and tyres) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.

Note 2: Information relating to the classification of radioactive waste can be found in the *Western Australian Radiation Safety Act 1975*.

- 12.** The Licence Holder must ensure that where waste does not meet the waste acceptance criteria set out in Condition 11 it is removed from the Premises by the delivery vehicle or, where that is not possible, stored in a quarantined storage area or container and removed to an appropriately authorised facility as soon as practicable.

## Waste processing

13. The Licence Holder must ensure that wastes accepted onto the Premises are only subjected to the processes set out in Table 5 and in accordance with any process limits described in Table 5.

**Table 5: Waste processing**

Waste type (s)	Process	Process limits <sup>1,2</sup>
All	Disposal of waste by landfilling	<ul style="list-style-type: none"> <li>Shall only take place within designated landfill trenches or cells;</li> <li>No waste shall be temporarily stored or landfilled within 35m from the boundary of the premises; and</li> <li>The separation distance between the base of the landfill and the highest groundwater level shall not be less than 2m.</li> </ul>
Clean Fill	Receipt, handling and disposal by landfilling	None specified.
Inert Waste Type1		None specified.
Solid Waste	Receipt, handling and disposal by landfilling	<ul style="list-style-type: none"> <li>DrumMuster products must be triple rinsed prior to acceptance on the premises.</li> <li>Pond sludges generated at the Premises must meet the acceptance criteria for Class III landfills prior to disposal on-site.</li> </ul>
Solid Waste (Quarantine Waste)	Receipt, handling and disposal by landfilling	<ul style="list-style-type: none"> <li>Not to be deposited within 2 m of the final tipping service of the landfill</li> <li>No works must be carried out on the landfill that could lead to quarantine wastes being excavated or uncovered</li> <li>During disposal access to the landfill area, where quarantine waste is buried, shall be restricted to authorised personnel only.</li> </ul>
Solid Waste (Lead acid batteries)	Receipt, handling and storage prior to disposal off site	Batteries must be stored in a fully enclosed and bunded area/container.
Liquid Waste (other than septage waste, sewerage waste, waste from grease traps)	Receipt handling and storage prior to disposal offsite or via evaporation	<ul style="list-style-type: none"> <li>Waste oils and paints must be stored in a fully enclosed and bunded area/container prior to removal for disposal offsite</li> <li>PFAS contaminated waste must be immediately disposed of into evaporation pond 7 only</li> <li>All other wastes must be immediately deposited into evaporation ponds 5 or 6 for disposal via evaporation</li> <li>Wastes must be stored or deposited into evaporation ponds in a manner that ensures there is no mixing of incompatible waste types</li> </ul>

Waste type (s)	Process	Process limits <sup>1,2</sup>
Liquid waste (Septage waste, Sewerage waste, waste from grease traps)	Physical, biological and chemical treatment	<ul style="list-style-type: none"> <li>pH to be maintained at 6.5 to 9</li> <li>To be disposed of to evaporation ponds 1, 2 and 3</li> </ul>
Inert Waste Type 2 (Tyres)	Receipt, handling, shredding, storage prior to re-use or disposal by landfilling	<ul style="list-style-type: none"> <li>No more than 200,000 tyres or equivalent shall be stored onsite at any one time</li> <li>Tyres must be wet down prior to shredding.</li> <li>Tyres found to contain any contaminants or evidence of being previously burnt must not be shredded.</li> <li>Shredding of tyres must not take place where temperatures exceed 44 degrees Celsius.</li> <li>Shredded tyres pieces not to exceed a maximum of 250 mm in diameter.</li> <li>Tyre shred must not be stored on the Premises for longer than 3 years.</li> </ul> <p>Refer also to conditions 24 – 29</p>
Putrescible Waste	Receipt, handling and storage prior to disposal	None specified.
	Disposal by Burning	<p>Only green waste is to be burnt on site. Green waste shall only be burnt if;</p> <ul style="list-style-type: none"> <li>It has been dried and seasoned for at least 2 months before burning;</li> <li>it takes place in a designated burning area at least 25 m from the boundary of any active disposal areas;</li> <li>it takes place in trenches or windrows;</li> <li>it takes place only when an adequate supply of water is available to effectively manage the burning process; and</li> <li>it is free of any contaminants.</li> </ul>
Special Waste Type 1	Receipt, handling and disposal by landfilling	<ul style="list-style-type: none"> <li>Only to be disposed of into a designated asbestos disposal area within the landfill;</li> <li>Not to be deposited within 2 m of the final tipping surface of the landfill; and</li> <li>No works shall be carried out on the landfill that could lead to a release of asbestos fibres.</li> </ul>
Special Waste Type 2		<ul style="list-style-type: none"> <li>Only to be disposed of into a designated biomedical waste disposal area within the landfill;</li> <li>Not to be deposited within 2 m of the final tipping surface of the landfill; and</li> </ul>

Waste type (s)	Process	Process limits <sup>1,2</sup>
		<ul style="list-style-type: none"> <li>No works shall be carried out on the landfill that could lead to biomedical wastes being excavated or uncovered.</li> </ul>
Special Waste Type 3	Receipt, handling and disposal by landfilling	Waste must be immediately disposed of to an operational Class III landfill cell.

Note 1: Requirements for landfilling tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.

Note 2: Additional requirements for the acceptance and landfilling of controlled waste (including asbestos and tyres) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.

- 14.** The Licence Holder must manage the landfilling activities to ensure:
- The size of the tipping face is kept to a minimum and not larger than 30 m in length and 2 m in height;
  - Waste is levelled and compacted to ensure all faces are stable and capable of retaining rehabilitation material; and
  - Rehabilitation of a cell or phase takes place within 12 months after disposal in that cell or phase has been completed.
- 15.** The Licence Holder must ensure that cover is applied to waste in accordance with Table 6 and that sufficient stockpiles of cover are maintained on site at all times.

**Table 6: Cover requirements**

Waste Type	Material	Depth	Timescales
Inert Waste Type 2	Inert Waste Type 1 or soil	100mm	As soon as practicable after deposit
Putrescible Wastes	Inert Waste Type 1, soil or clay	150mm	As soon as practicable and not later than the end of the working day
	Inert Waste Type 1, soil, or clay	1,000mm	Within 3 months of achieving final waste contours
Special Waste Type 1	Inert Waste Type 1 or clean fill	300mm	As soon as practicable and not later than the end of the working day after deposit.
	Inert Waste Type 1 or soil	1,000mm	As soon as practicable after deposit
Special Waste Type 2	Inert Waste Type 1 or clean fill	300mm	As soon as practicable and not later than the end of the working day after deposit and prior to compaction
	Inert Waste Type 1 or soil	1,000mm	As soon as practicable after deposit
Special Waste Type 3	Inert Waste Type 1 or soil	100mm	As soon as practicable after deposit

Note 1: Additional requirements for the covering of tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.

16. The Licence Holder must implement the following security measures at the site:
  - (a) erect and maintain suitable fencing to prevent unauthorised access to the site;
  - (b) ensure that any entrance gates to the Premises are securely locked when the premises are unattended; and
  - (c) undertake regular inspections of all security measures and repair damage as soon as practicable.
17. The Licence Holder must install and maintain a sign at the entrance to the Premises which clearly displays the following information:
  - (a) hours of operation;
  - (b) contact telephone number;
  - (c) a warning indicating penalties for people lighting fires; and
  - (d) list of materials accepted for recycling and the location of where they can be deposited on the premises.
18. The Licence Holder must take all reasonable and practical measures to ensure that no windblown waste escapes from the Premises and that windblown waste is collected on at least a weekly basis and returned to the tipping area.

## Fire management

19. The Licence Holder must ensure fire-fighting equipment stored on site is capable of controlling and extinguishing a tyre fire.
20. The Licence Holder must ensure that water and other liquid waste that may result from fire-fighting on the Premises is captured and contained within the Premises.
21. The Licence Holder must ensure that any fire water is removed from the Premises by a carrier licensed under the *Environmental Protection (Controlled Waste) Regulations 2004*, or disposed to Evaporation Ponds 5 or 6.
22. The Licence Holder must ensure that an unauthorised fire on the Premises is extinguished as soon as possible.

## Tyre storage

23. The Licence Holder must ensure that all tyres are stacked on their side walls or if stored on their treads, are baled with a non-combustible securing device.
24. The Licence Holder must ensure that tyres are only stacked on level ground at the Premises.
25. The Licence Holder must ensure that tyre storage complies with the following:
  - (a) Each stockpile is located at a minimum of 18 m from any fence, combustible material or wall;
  - (b) Each stockpile is a maximum of 60 m<sup>2</sup> in area;
  - (c) Each stockpile is a maximum of 3 m in height;
  - (d) A maximum of four individual stockpiles will be grouped with a minimum separation distance of 2.5 m between the stockpiles;
  - (e) Each group of stockpiles will have a minimum separation distance of 18 m between stockpile groups; and

- (f) Stockpiles must be located as shown in the Map of tyre storage areas as defined in Schedule 1.
26. The Licence Holder must install and undertake the Works for the tyre shred storage infrastructure:
- (a) specified in Column 1;
  - (b) to the requirements specified in Column 2;
  - (c) at the location specified in Column 3
- of Table 7.

**Table 7: Tyre shred storage infrastructure requirements table**

Column 1	Column 2	Column 3
Infrastructure	Requirements (design and construction)	Site plan reference
Tyre shred storage trenches	<ul style="list-style-type: none"> <li>Trenches will be a maximum of 20 m long, a maximum of 5 m wide and to a maximum depth of 2 m below ground level (17.5 m AHD);</li> <li>A separation distance of a minimum of 6 m is to be maintained between all trenches;</li> <li>Clearly visible and legible signage must be erected on individual trenches to clearly identify the date on which the trenches reached their capacity of tyre shred; and</li> <li>Targeted wetting must occur when construction has the potential to generate fugitive dust.</li> </ul>	Trenches located as shown in the Map of tyre storage areas as defined in Schedule 1.

27. The Licence Holder must ensure that all tyre shred is stored within tyre shred storage trenches built for this purpose.
28. The Licence Holder must ensure that tyre stockpiles and tyre shred storage trenches at the Premises do not obscure fire protection equipment (including fire hydrants and fire hoses) or related signage.

## Liquid Waste Management

29. The Licence Holder must ensure that waste material is only stored and/or treated within vessels or compounds provided with the infrastructure detailed in Table 8.

**Table 8: Containment infrastructure**

Vessel or compound	Material	Requirements
Pond 1 (Receiving Pond)	Wastewater	Clay lined to achieve a permeability of $10^{-9}$ m/s or less (or equivalent)
Pond 2 (Receiving Pond)	Wastewater	Clay lined to achieve a permeability of $10^{-9}$ m/s or less (or equivalent)
Pond 3 (Receiving Pond)	Wastewater	Clay lined to achieve a permeability of $10^{-9}$ m/s or less (or equivalent)

Vessel or compound	Material	Requirements
Pond 4 (Sedimentation Pond)	Treated Wastewater	Clay lined to achieve a permeability of $10^{-9}$ m/s or less (or equivalent)
Ponds 5 & 6 (Evaporation Ponds)	Liquid waste	HDPE lined to achieve a permeability of $10^{-9}$ or less (or equivalent)
Pond 7 (Evaporation Pond)	Leachate and Special Waste Type 3	HDPE lined to achieve a permeability of $10^{-9}$ or less (or equivalent)
North surface water attenuation pond	Surface water run-off from Cell 0 capping profile	HDPE lined to achieve a permeability of $10^{-9}$ or less (or equivalent)

- 30.** The Licence Holder must manage all wastewater treatment, leachate, evaporation and surface water attenuation ponds such that:
- (a) Overtopping of the ponds does not occur;
  - (b) A freeboard equal to, or greater than, 500mm is maintained;
  - (c) The integrity of the containment infrastructure is maintained;
  - (d) Trapped overflows are maintained on the outlet of ponds to prevent carry-over of surface floating matter; and
  - (e) Vegetation and floating debris (emergent or otherwise) is prevented from encroaching onto pond surfaces or inner pond embankments.
- 31.** The Licence Holder shall immediately recover, or remove and dispose of spills (outside of an engineered containment system) of hydrocarbons, septage, sewage, grease trap waste, industrial wash waters, paint, biomedical/clinical wastes, leachate, acids, bases or chemicals associated with the disposal or handling of waste onsite.
- 32.** The Licence Holder shall ensure that stormwater within the Premises is adequately managed so that it is diverted from areas of the Premises where there is stored or deposited waste.

## Monitoring

- 33.** The Licence Holder must undertake ambient groundwater monitoring in accordance with the requirements specified in Schedule 2.
- 34.** The Licence Holder must adhere to the field quality assurance and quality control procedures specified in Schedule 2 for the monitoring required by Condition 33.
- 35.** The Licence Holder must ensure that all sample analysis is undertaken by a laboratory with current NATA accreditation for the parameters specified unless otherwise specified in Schedule 2.
- 36.** The Licence Holder must record the total amount of waste accepted onto the premises, for each waste type listed in Table 9, in the corresponding unit, and for each corresponding time period, as set out in Table 9.



**Table 9: Waste accepted onto the premises**

Waste Type	Units	Time Period
Clean fill	Tonnes	Each load arriving at the Premises.
Solid Wastes		
Liquid Wastes		
Inert Waste Type 1		
Inert Waste Type 2		
Putrescible Waste		
Green Waste		
Special Waste Type 1		
Special Waste Type 2		
Special Waste Type 3		
Waste outputs		

37. The Licence Holder must record the total amount of waste removed from the premises, for each waste type listed in Table 10, in the corresponding unit, and for each corresponding time period set out in Table 10.

**Table 10: Waste removed from the Premises**

Waste Type	Units	Time Period
Waste type as defined in the Landfill Definitions	Tonnes	Each load leaving or rejected from the Premises.

38. The Licence Holder must record the volume of leachate generated by the Class III landfill cells in the corresponding unit, at the corresponding frequency and at the corresponding monitoring points specified in Table 11.

**Table 11: Leachate monitoring**

Parameter	Units	Frequency	Monitoring point
Volume of leachate generated from Class III landfill cells	m <sup>3</sup>	Continuous	<ul style="list-style-type: none"> <li>Extraction point of all Class III landfill cells; and</li> <li>Outlet at Evaporation pond 7</li> </ul>

39. The Licence Holder must undertake landfill gas monitoring in accordance with the requirements set out in Table 12.

**Table 12: Monitoring of Landfill Gas**

Monitoring point reference	Parameter	Units	Frequency	Method
Cell 0 vertical landfill gas wells	Volumetric flow rate	L/hr m <sup>3</sup> /day	Monthly for 6 months following installation; then every 2 months for 6 months	Landfill gas wells as located in Schedule 1

- 40.** The Licence Holder has prepare and submit to the CEO, within 12 months of the installation of the gas wells being completed, a Landfill Gas Management Plan for Cell 0.
- 41.** The Landfill Gas Management Plan required by Condition 40 must:
- (a) provide a summary of landfill gas monitoring data obtained from the first 6 months of monitoring;
  - (b) detail a proposed landfill gas treatment suitable for the documented gas generation rate of Cell 0;
  - (c) outline any modifications to the vertical landfill gas wells to accommodate the selected landfill gas treatment, and
  - (d) be certified by a suitably qualified engineer.

## Records

- 42.** All information and records required by the Licence shall:
- (a) Be legible; and
  - (b) If amended, be amended in such a way that the original and subsequent amendments remain legible or a capable of retrieval; and
  - (c) Except for records listed in 42(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent Licence; and
  - (d) For those following records, be retained until the expiry of the Licence and any subsequent Licence:
    - (i) Off-site environmental effects; or
    - (ii) Matters which affect the condition of the land or waters.
- 43.** The Licence Holder must:
- (a) undertake an audit of their compliance with the conditions of this licence during the preceding annual period; and
  - (b) prepare and submit to the CEO by no later than 90 days after the end of that Annual Period an Annual Audit Compliance Report in the approved form.
- 44.** The Licence Holder must record the following information in relation to complaints received by the Licence Holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:
- (a) the name and contact details of the complainant, (if provided);
  - (b) the time and date of the complaint;

- (c) the complete details of the complaint and any other concerns or other issues raised; and
  - (d) the complete details and dates of any action taken by the licence holder to investigate or respond to any complaint.
- 45.** The Licence Holder must maintain a register of Special Waste Type 1 (asbestos waste) Special Waste Type 2 (biomedical and clinical waste) and Quarantine waste disposed of at the Premises which shall include a plan showing the position of Special Waste Type 1 (asbestos waste) Special Waste Type 2 (biomedical and clinical waste) and Quarantine waste disposed of at the Premises.

## Reporting

- 46.** The Licence Holder must submit to the CEO by no later than 90 days after the end of each annual period, an Annual Environmental Report for that Annual Period for the conditions listed in Table 13, and which provides information in accordance with the corresponding requirement set out in Table 13.

**Table 13: Annual Environmental Report**

Condition or table (if relevant)	Requirement
Table 7	Summary of the number of tyre shred storage trenches constructed and the date that each individual trench was filled to capacity with tyre shred
Tables 9 and 10	Monitoring of inputs and outputs
Table 16	Monitoring of ambient groundwater quality
Table 11	Monitoring of quantities of landfill leachate generated (cumulative volume)
Table 12	Monitoring of landfill gas generation
-	Summary of any failure or malfunction of any pollution control equipment and any incidents that have occurred during the annual period and any action taken
44	Complaints summary

- 47.** The Licence Holder must ensure that the Annual Environmental Report referred to in condition 46 also contains:
- (a) An assessment of the information contained within the report against previous monitoring results and Licence limits and/or targets; and
  - (b) A list of any original monitoring reports submitted to the Licence Holder from third parties for the Annual Period and make these reports available on request.

## Notification

48. The Licence Holder must ensure that the parameters listed in Table 14 are notified to the CEO in accordance with the notification requirements of the table.

**Table 14: Notification requirements**

Condition or table (if relevant)	Parameter	Notification requirement <sup>1</sup>
22	Unauthorised fire	Within 14 days of unauthorised fire
-	Any failure or malfunction of any pollution control equipment or any incident, which has caused, is causing or may cause pollution	As soon as practicable but no later than 5pm of the next usual working day

Note 1: Notification requirements in the Licence shall not negate the requirement to comply with s72 of the EP Act.

## Definitions

In this Licence, the terms in Table 15 have the meanings defined.

**Table 15: Definitions**

Term	Definition
Acceptance criteria	has the meaning defined in the Landfill Definitions.
ACM	means asbestos containing material and has the meaning defined in the Guidelines for Assessment, Remediation and Management of Asbestos Contaminated Sites, Western Australia (WA Department of Health, 2009).
AEP	Annual Exceedance Probability
AHD	means the Australian Height Datum.
Annual Period	means a 12 month period commencing from 1 January until 31 December in the same year.
Annual Audit Compliance Report	means a report in a format approved by the CEO as published on DWER's website at: <a href="https://www.der.wa.gov.au/our-work/licences-and-works-approvals/publications">https://www.der.wa.gov.au/our-work/licences-and-works-approvals/publications</a> (as amended from time to time).
AS/NZS 5667.1	means the current version of Australian Standard AS/NZS 5667.1 <i>Water quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples</i> .
AS/NZS 5667.11	means the current version of Australian Standard AS/NZS 5667.11 <i>Water Quality – Sampling – Guidance on sampling of groundwaters</i>
ASTM D1004	means the American Society for Testing and Materials ASTM D1004, <i>Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting</i>
ASTM D1505	Means the American Society for Testing and Materials ASTM D1505, <i>Standard Test Method for Density of Plastics by the Density-Gradient Technique</i>
ASTM D1603	Means the American Society for Testing and Materials ASTM D1603, <i>Standard Test Method for Carbon Black Content in Olefin Plastics</i>
ASTM 3895	Means the American Society for Testing and Materials ASTM D3895, <i>Standard Test Method for Oxidative-Induction Time of Polyolefins by Differential Scanning Calorimetry</i>
ASTM D4833	Means the American Society for Testing and Materials ASTM D4833 / D4833M-07(2013)e1, <i>Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products</i>
ASTM D5596	Means the American Society for Testing and Materials ASTM D5596-03(2016), <i>Standard Test Method For Microscopic Evaluation of the Dispersion of Carbon Black in Polyolefin Geosynthetics</i>

Term	Definition
ASTM D5641	Means the American Society for Testing and Materials ASTM D5641 / D5641M-16, <i>Standard Practice for Geomembrane Seam Evaluation by Vacuum Chamber</i>
ASTM 5885	Means the American Society for Testing and Materials ASTM D5885 / D5885M-17, <i>Standard Test Method for Oxidative Induction Time of Polyolefin Geosynthetics by High-Pressure Differential Scanning Calorimetry</i>
ASTM 5721	Means the American Society for Testing and Materials ASTM D5721, <i>Standard Practice for Air-Oven Aging of Polyolefin Geomembranes</i>
ASTM D5820	Means the American Society for Testing and Materials ASTM D5820, <i>Standard Practice for Pressurized Air Channel Evaluation of Dual-Seamed Geomembranes</i>
ASTM D5917	Means the American Society for Testing and Materials ASTM D5917, <i>Standard Test Method for Trace Impurities in Monocyclic Aromatic Hydrocarbons by Gas Chromatography and External Calibration</i>
ASTM D5994	Means the American Society for Testing and Materials ASTM D5994, <i>Standard Test Method for Measuring Core Thickness of Textured Geomembranes</i>
ASTM D6392	Means the American Society for Testing and Materials ASTM D6392, <i>Standard Test Method for Determining the Integrity of Nonreinforced Geomembrane Seams Produced Using ThermoFusion Methods</i>
ASTM D6693	Means the American Society for Testing and Materials ASTM D6693, <i>Standard Test Method for Determining Tensile Properties of Nonreinforced Polyethylene and Nonreinforced Flexible Polypropylene Geomembranes</i>
ASTM D792	Means the American Society for Testing and Materials ASTM D792, <i>Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement</i>
Averaging period	means the time over which a limit or target is measured or a monitoring result is obtained.
Books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919 <a href="mailto:info@dwer.wa.gov.au">info@dwer.wa.gov.au</a>
Clean fill	has the meaning defined in the Landfill Definitions.
Construction and Demolition waste	has the meaning defined in the Landfill Definitions.

Term	Definition
Controlled waste	has the definition in <i>Environmental Protection (Controlled Waste) Regulations 2004</i> .
Compliance Report	means a report in a format approved by the CEO as presented by the Licence Holder or as specified by the CEO (guidelines and templates may be available on the Department's website).
Condition	means a condition to which this Licence is subject under s.62 of the EP Act.
Dangerous goods	has the meaning defined in the <i>Dangerous Goods Safety (Storage and Handling of Non-Explosives) Regulations 2007</i> .
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
Department Request	means a request for Books or other sources of information to be produced, made by an Inspector or the CEO to the Licence Holder in writing and sent to the Licence Holder's address for notifications, as described at the front of this Licence, in relation to: <ul style="list-style-type: none"> <li>(a) compliance with the EP Act or this Licence;</li> <li>(b) the Books or other sources of information maintained in accordance with this Licence; or</li> <li>(c) the Books or other sources of information relating to Emissions from the Premises.</li> </ul>
Designated burning area	means an area of a landfill site that has been designated by the occupier of the site as a designated burning area.
Discharge	has the same meaning given to that term under the EP Act.
DWER	Department of Water and Environmental Regulation.
Emission	has the same meaning given to that term under the EP Act.
Environmental Harm	has the same meaning given to that term under the EP Act.
EP Act	means the <i>Environmental Protection Act 1986</i> (WA).
EP Regulations	means the <i>Environmental Protection Regulations 1987</i> (WA).
Freeboard	means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point.
GCL	Geosynthetic Clay Liner
Greenwaste	means waste that originates from flora.
GRI GM 13	means Geosynthetic Research Institutes (GRI) Test Methods, Test Properties and Testing Frequency for High Density Polyethylene (HDPE) Smooth and Textured Geomembranes.
GRI GM 17	means Geosynthetic Research Institutes (GRI) Test Methods, Test Properties and Testing Frequency for Linear Low Density Polyethylene (LLDPE) Smooth and Textured Geomembranes.
Hardstand	means a compacted or other suitably lined surface with a permeability of $10^{-9}$ metres/second or less.
HDPE	High Density Polyethylene

<b>Term</b>	<b>Definition</b>
Implementation Agreement or Decision	has the same meaning given to that term under the EP Act.
Inert waste type 1	has the meaning defined in the Landfill Definitions.
Inert waste type 2	has the meaning defined in the Landfill Definitions.
Inspector	means an inspector appointed by the CEO in accordance with s.88 of the EP Act.
Landfill Definitions	means the document titled 'Landfill Waste Classification and Waste Definitions 1996' published by the CEO of DWER and as amended from time to time.
Licence	refers to this document, which evidences the grant of a Licence by the CEO under s.57 of the EP Act, subject to the Conditions.
Licence Holder	refers to the occupier of the premises being the person to whom this Licence has been granted, as specified at the front of this Licence.
Material Environmental Harm	has the same meaning given to that term under the EP Act.
Mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
NATA	means the National Association of Testing Authorities, Australia.
NATA accredited	means in the relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis.
PFAS	Per- and polyfluoroalkyl substances
Pollution	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Licence applies, as specified at the front of this Licence and as shown on the map in Schedule 1 to this Licence.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Putrescible waste	has the meaning defined in the Landfill Definitions.
Primary Activities	refers to the Prescribed Premises activities listed on the front of this Licence, at the locations shown in Schedule 1.
Quarantined storage area or containment	means a hardstand storage area or sealed-bottomed container that is separate and isolated from authorized waste disposal areas and is capable of containing all non-conforming waste and its constituents, these areas must be clearly marked and their access restricted to authorised personnel.
Quarterly period	means the 4 inclusive periods from 1 January to 31 March, 1 April to 30 June, 1 July to 30 September, and 1 October to 31 December.
Rehabilitation	means the completion of the engineering of a landfill cell and includes capping and/or final cover.
Serious Environmental	has the same meaning given to that term under the EP Act.



Term	Definition
Harm	
Special Waste Type 1	has the meaning defined in the Landfill Definitions.
Special Waste Type 2	has the meaning defined in the Landfill Definitions.
Special Waste Type 3	has the meaning defined in the Landfill Definitions.
Spot sample	means a discrete sample representative at the time and place at which the sample is taken.
Suitably qualified professional engineer	<p>means a person who:</p> <ul style="list-style-type: none"> <li>a) holds a Bachelor of Engineering recognized by Engineers Australia; and</li> <li>b) has a minimum of 5 years of experience working in a supervisory area of geotechnical engineering; and</li> <li>c) is employed by an independent third party external to the Licence Holder's business;</li> </ul> <p>or is otherwise approved in writing by the CEO to act in this capacity.</p>
Tipping area	means the area of the landfill in which waste other than cover material is being deposited.
Unreasonable Emission	has the same meaning given to that term under the EP Act.
Usual working day	means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia.
Waste	has the same meaning given to that term under the EP Act.
Waste code	means the waste code assigned to a type of controlled waste for purposes of waste tracking and reporting as specified in DWER's 'Controlled Waste Category List; (July 2014), as amended from time to time.
Wastewater	means water that is a by-product of domestic, industrial, commercial or agricultural activities.

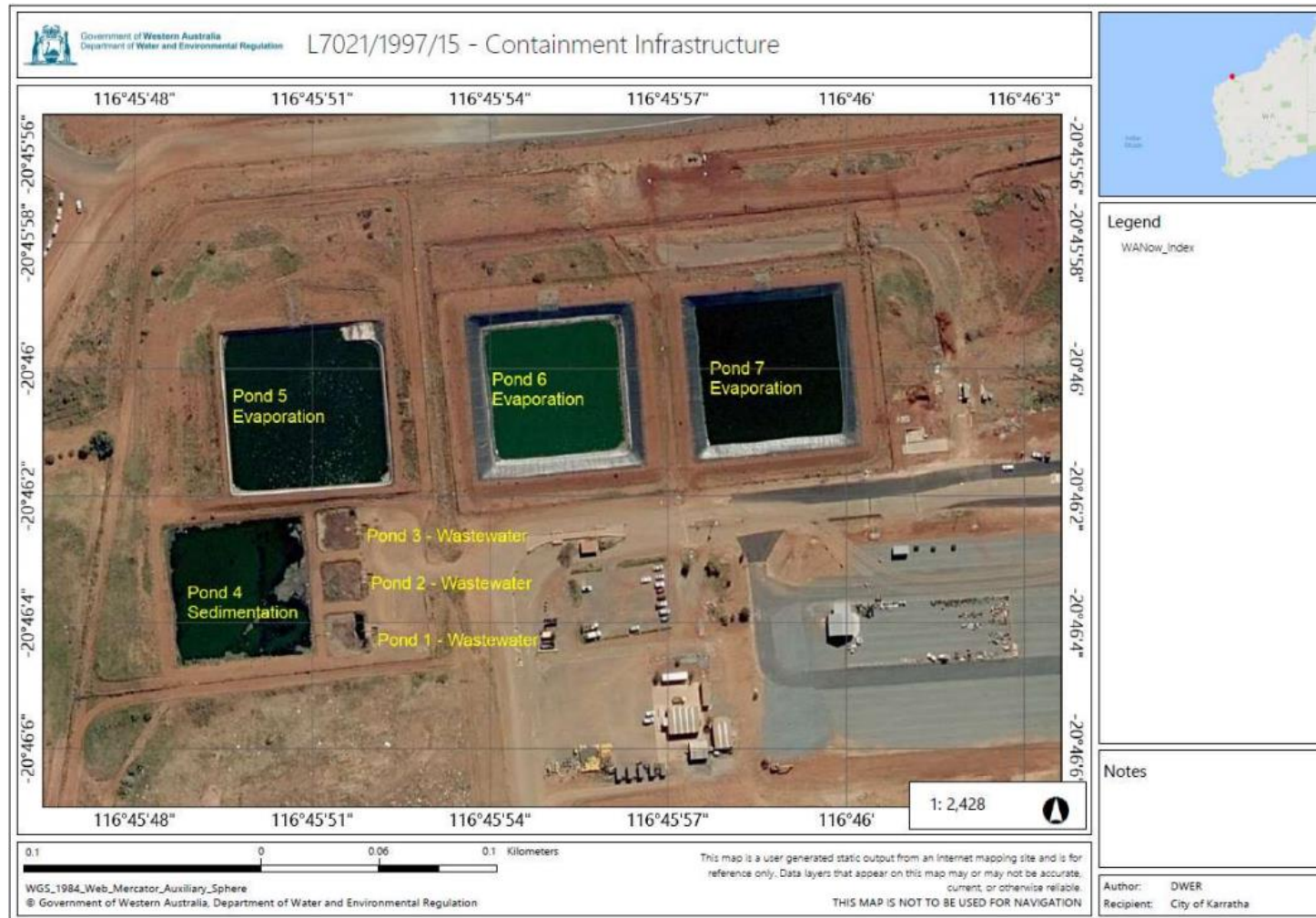
# Schedule 1: Maps

## Premises map

The Premises are shown in the map below. The red line depicts the Premises boundary.



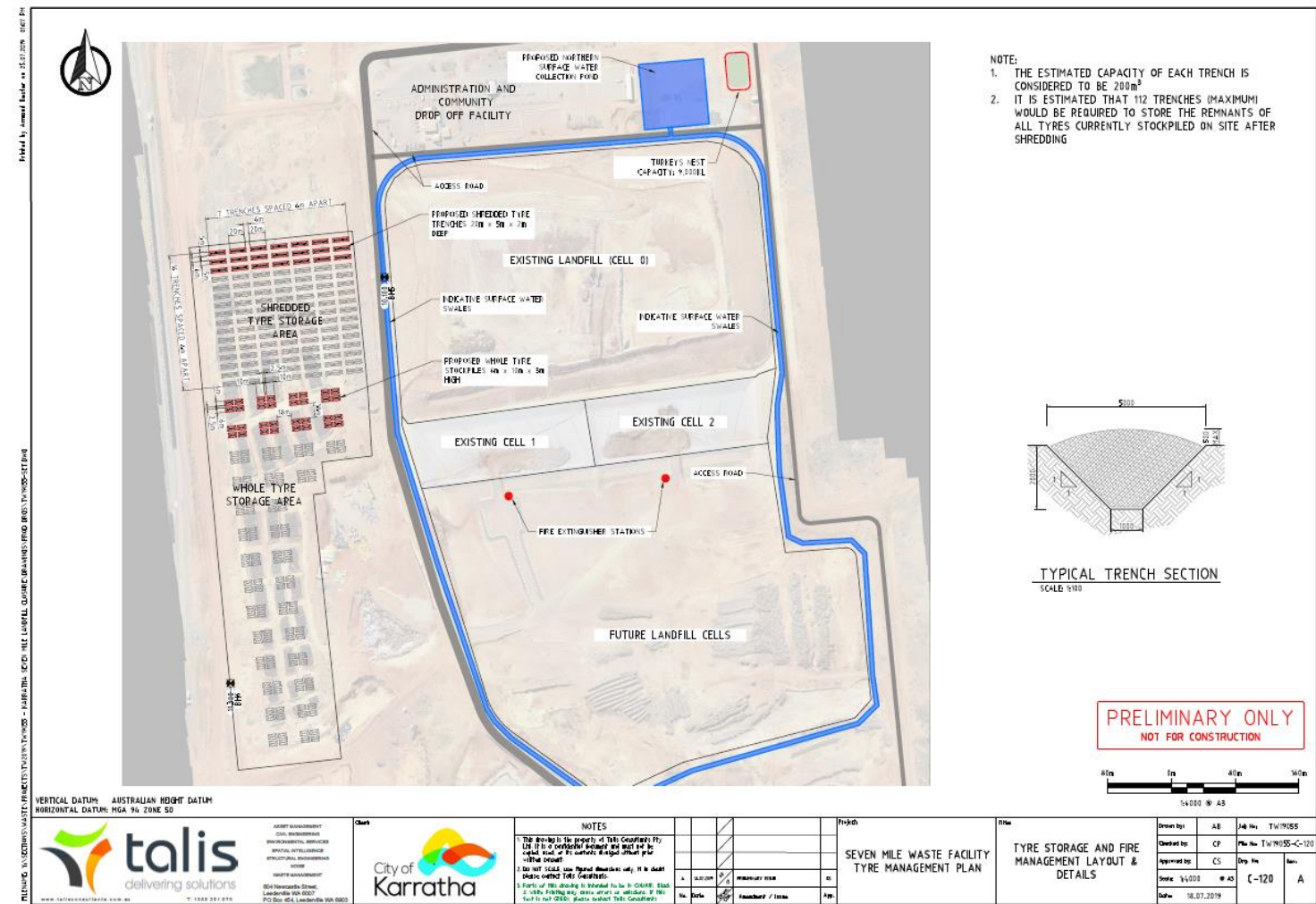
## Map of wastewater, leachate and evaporation ponds



L7021/1997/15 Amended: 28 August 2020

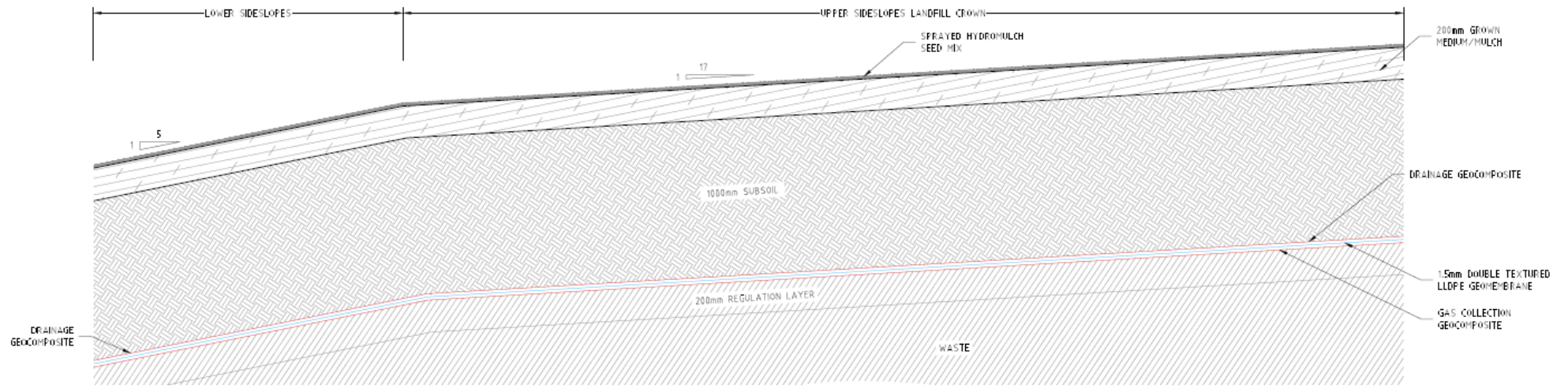
IR-T06 Licence Template v4.0 (April 2019)





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## Side slope and crown capping system of Cell 0



TYPICAL SECTION - LANDFILL CAP UPPER + LOWER SIDESLOPE INTERFACE  
SCALE: 1/5

Printed by: Admin, Project: 4010, Date: 10/10/2019 10:55

VERT EXAG 1:1  
Datum 5,000

NORTHERN SURFACE  
WATER COLLECTION FORD

CELL 0

STORMWATER  
SWALE

EXISTING GROUND LEVEL

ON 245.0m

TO CELL 1 & 2

DESIGN LEVELS	EXISTING LEVELS	DEPTH	SLOPE	CHAINAGE
11.56	11.56			0.00
11.54	11.54	0.02		1.00
11.52	11.52	0.04		2.00
11.50	11.50	0.06		3.00
11.48	11.48	0.08		4.00
11.46	11.46	0.10		5.00
11.44	11.44	0.12		6.00
11.42	11.42	0.14		7.00
11.40	11.40	0.16		8.00
11.38	11.38	0.18		9.00
11.36	11.36	0.20		10.00
11.34	11.34	0.22		11.00
11.32	11.32	0.24		12.00
11.30	11.30	0.26		13.00
11.28	11.28	0.28		14.00
11.26	11.26	0.30		15.00
11.24	11.24	0.32		16.00
11.22	11.22	0.34		17.00
11.20	11.20	0.36		18.00
11.18	11.18	0.38		19.00
11.16	11.16	0.40		20.00
11.14	11.14	0.42		21.00
11.12	11.12	0.44		22.00
11.10	11.10	0.46		23.00
11.08	11.08	0.48		24.00
11.06	11.06	0.50		25.00
11.04	11.04	0.52		26.00
11.02	11.02	0.54		27.00
11.00	11.00	0.56		28.00
10.98	10.98	0.58		29.00
10.96	10.96	0.60		30.00
10.94	10.94	0.62		31.00
10.92	10.92	0.64		32.00
10.90	10.90	0.66		33.00
10.88	10.88	0.68		34.00
10.86	10.86	0.70		35.00
10.84	10.84	0.72		36.00
10.82	10.82	0.74		37.00
10.80	10.80	0.76		38.00
10.78	10.78	0.78		39.00
10.76	10.76	0.80		40.00
10.74	10.74	0.82		41.00
10.72	10.72	0.84		42.00
10.70	10.70	0.86		43.00
10.68	10.68	0.88		44.00
10.66	10.66	0.90		45.00
10.64	10.64	0.92		46.00
10.62	10.62	0.94		47.00
10.60	10.60	0.96		48.00
10.58	10.58	0.98		49.00
10.56	10.56	1.00		50.00

SCALE: 1:2000

SWALE 1 LONG SECTION (EAST)

VERT EXAG 1:1  
Datum 5,000

NORTHERN SURFACE  
WATER COLLECTION FORD

CELL 0

STORMWATER  
SWALE

EXISTING GROUND LEVEL

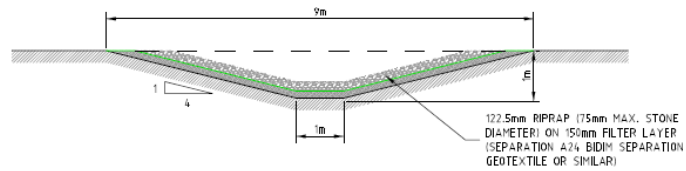
ON 245.0m

TO CELL 1 & 2

DESIGN LEVELS	EXISTING LEVELS	DEPTH	SLOPE	CHAINAGE
11.56	11.56			0.00
11.54	11.54	0.02		1.00
11.52	11.52	0.04		2.00
11.50	11.50	0.06		3.00
11.48	11.48	0.08		4.00
11.46	11.46	0.10		5.00
11.44	11.44	0.12		6.00
11.42	11.42	0.14		7.00
11.40	11.40	0.16		8.00
11.38	11.38	0.18		9.00
11.36	11.36	0.20		10.00
11.34	11.34	0.22		11.00
11.32	11.32	0.24		12.00
11.30	11.30	0.26		13.00
11.28	11.28	0.28		14.00
11.26	11.26	0.30		15.00
11.24	11.24	0.32		16.00
11.22	11.22	0.34		17.00
11.20	11.20	0.36		18.00
11.18	11.18	0.38		19.00
11.16	11.16	0.40		20.00
11.14	11.14	0.42		21.00
11.12	11.12	0.44		22.00
11.10	11.10	0.46		23.00
11.08	11.08	0.48		24.00
11.06	11.06	0.50		25.00
11.04	11.04	0.52		26.00
11.02	11.02	0.54		27.00
11.00	11.00	0.56		28.00

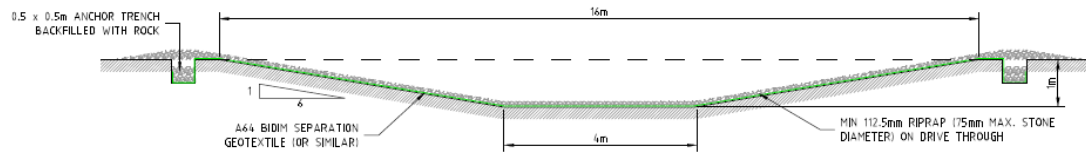


## Surface water management infrastructure specifications



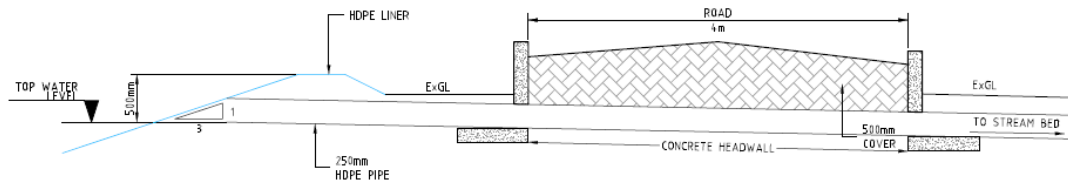
SWALE TYPICAL SECTION

SCALE: 1:50



DRIVE THROUGH SWALE TYPICAL SECTION

SCALE: 1:100

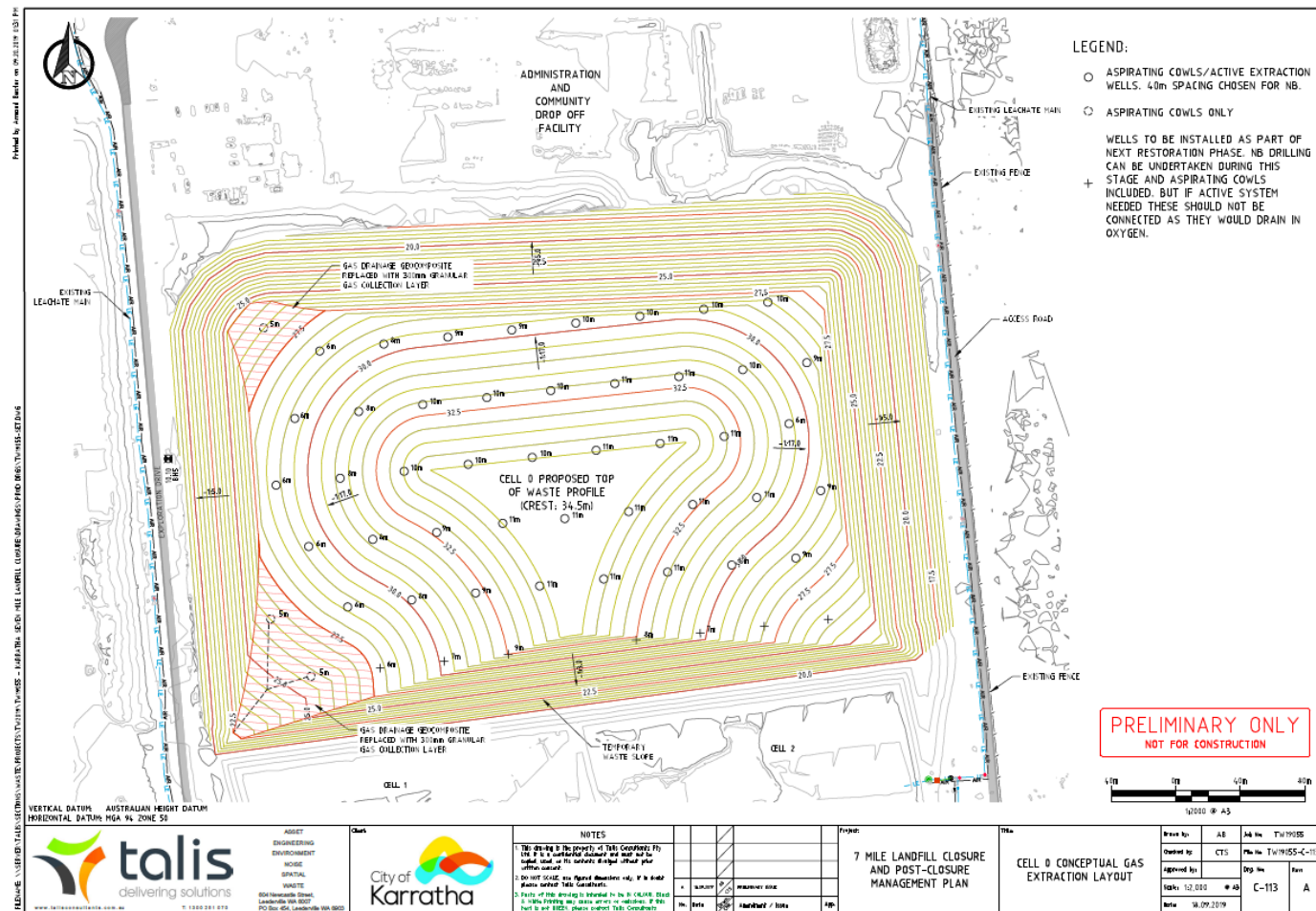


TYPICAL STORM WATER COLLECTION POND SPILLWAY

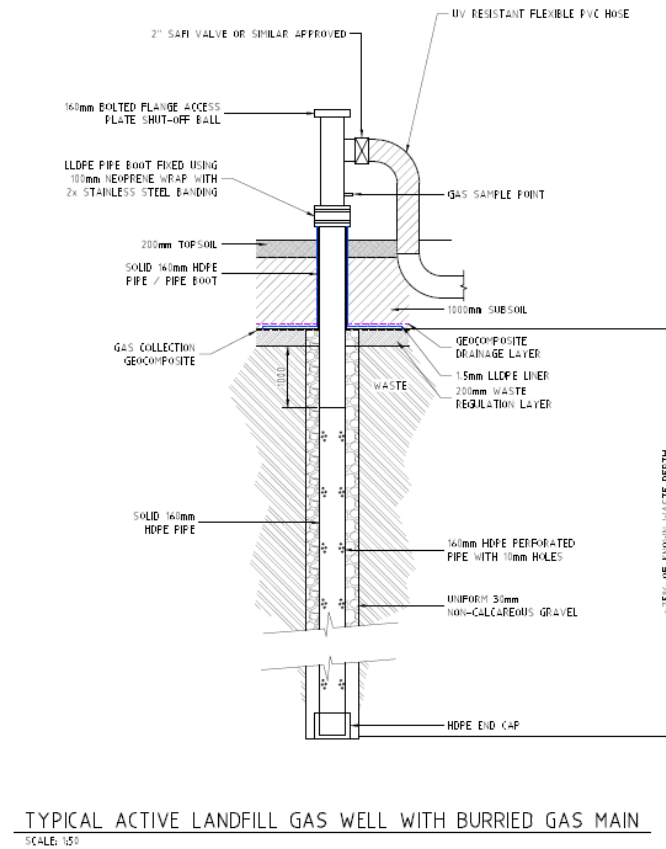
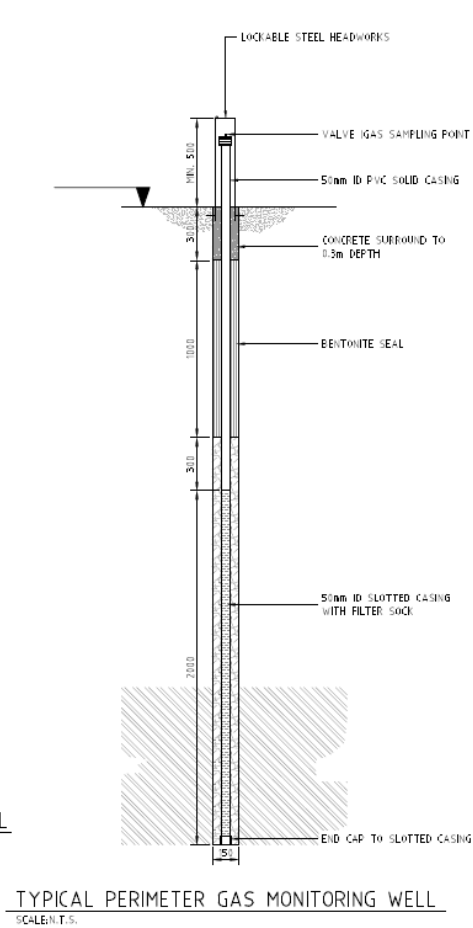
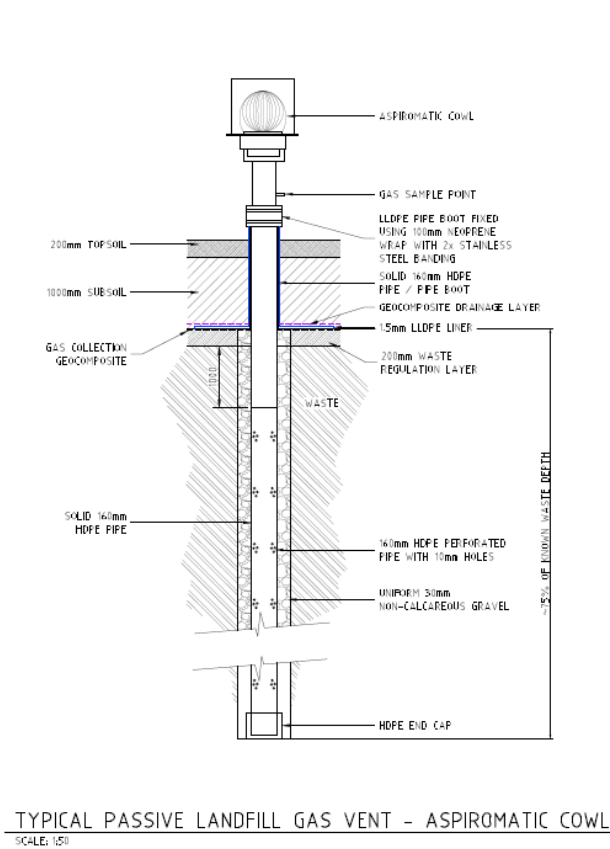
SCALE: 1:50



## Map of locations of vertical gas wells within Cell 0



## Vertical gas well construction specification



PRELIMINARY ONLY  
NOT FOR CONSTRUCTION

## Schedule 2: Monitoring

### Ambient Groundwater Monitoring

The Licence Holder must monitor the locations specified in Column 1 of Table 16, for the parameters specified in Column 2 of Table 16, reported in the units specified in Column 3 of Table 16, using the averaging period specified in Column 4 of Table 16, at the frequency specified in Column 5 of Table 16, and in accordance with the method specified in Column 6, of Table 16.

**Table 16: Monitoring of ambient groundwater quality**

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Monitoring point reference and location	Parameter	Units	Averaging Period	Frequency	Method
MW 1 – 8 and Bores 2 – 5 as depicted in the ‘Monitoring locations’ map of Schedule 2.	pH <sup>1</sup>	pH units	Spot sample	Quarterly: monitoring is to be undertaken such that there are at least 45 days in between the days on which samples are taken in successive quarters	AS/NZS 5667.1 and AS/NZS 5667.11
	Electrical conductivity	µS/cm			
	Standing water level (SWL) <sup>2</sup>	m AHD (and mbgl)			
	Biochemical oxygen demand	mg/L			
	Reactive phosphorus				
	Total phosphorus				
	Chloride				
	Total recoverable hydrocarbons				
	Total Nitrogen				
	Nitrate- nitrogen				
	Ammonia-nitrogen				
	Hexavalent chromium				
	Total chromium				
	Cadmium				
	Cobalt				
	Copper				
	Mercury				
	Molybdenum				
Nickel					

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Monitoring point reference and location	Parameter	Units	Averaging Period	Frequency	Method
	Lead				
	Zinc				
	Perfluorooctane sulfonate (PFOS)	µg/L		Annually: samples to be taken following the wet season (March to April)	Samples to be taken in accordance with the requirements specified in the PFAS NEMP, and AS/NZS 5667.11.1998
	Perfluorooctanoic acid (PFOA)				
	6:2 Fluorotelomer sulfonate (6:2 FtS)				
	8:2 Fluorotelomer sulfonate (8:2 FtS)				
	Perfluoroheptanoic acid (PFHpA)				
	Perfluorobutane sulfonate (PFBS)				
	Perfluorobutanoic acid (PFBA)				
	Perfluorohexanoic acid (PFHxA)				
	Perfluorohexane sulfonate (PFHxs)				
	Perfluoropentanoic acid (PFPeA)				

Note 1: In-field non-NATA accredited analysis permitted.

Note 2: SWL shall be determined prior to collection of other water samples.

## Quality assurance and quality control requirements

The Licence Holder must adhere to the following field quality assurance and quality control procedures as specified in Schedule B2 of the Assessment of Site Contamination NEPM and must include as a minimum:

- decontamination procedures for the cleaning of tools and sampling equipment before sampling and between samples;
- field instrument calibration for instruments used on site;
- blind replicate samples and rinsate blanks must be collected in the field and sent to the primary laboratory to determine the precision of the field sampling and laboratory analytical program;
- completed field monitoring sheets/ sampling logs for each sample collected, showing the time, location, initials of sampler, sampling method, field analysis results, duplicate type/location (if relevant), and site observations and weather conditions; and
- chain-of-custody documentation must be completed which details the following information: site identification; the sampler; nature of the sample; collection time and date; analyses to be performed; sample preservation method; departure time from site; dispatch courier(s); and arrival time at the laboratory.



## Monitoring locations



## Schedule 3: Landfill acceptance criteria for Special Waste Type 3

PFAS contaminated material must contain a lower concentration limit than the Class III Landfill acceptance criteria as outlined in Table 17 below.

**Table 17: Class III landfill acceptance criteria for Special Waste Type 3**

Landfill Type		Interim Landfill acceptance criteria <sup>1</sup>	
		PFOS + PFHxS	PFOA
Class III landfill	ASLP leachable concentration (µg/L)	0.7 µg/L	5.6 µg/L
	Total concentration (mg/kg)	50 mg/kg	50 mg/kg

<sup>1</sup>Concentrations must be less than both the relevant leachable concentration and the concentration limit.