



Works approval number W6352/2020/1

Works approval holder City of Karratha

Registered business address Welcome Road
KARRATHA WA 6714

DWER file number DER2013/000622-1~3

Duration 30/06/2020 to 29/06/2025

Date of issue 30/06/2020

Premises details 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
Crown Reserve 32987 and 33135

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed production / design capacity
Category 67A: Compost manufacturing and soil blending	5 000 tonnes per annual period

This works approval is granted to the works approval holder, subject to the attached conditions, on 30 June 2020, by:

Melissa Chamberlain
A/MANAGER WASTE INDUSTRIES
REGULATORY SERVICES

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

Interpretation

In this works approval:

- (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 works approval:
 - (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 works approval requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this works approval.

Works approval conditions

The works approval holder must ensure that the following conditions are complied with:

Construction phase

Infrastructure and equipment

1. The Works Approval Holder must:
 - (a) construct and/or install the infrastructure and/or equipment;
 - (b) in accordance with the corresponding design and construction requirements; and
 - (c) at the corresponding infrastructure locations as set out in Table 1.

Table 1: Design and construction / installation requirements

	Infrastructure / equipment	Design and construction / installation requirements	Infrastructure location
1.	Floor of operational area of facility	Constructed of compacted in-situ soils to achieve a permeability of no greater than 5.58^{-7} m/s Constructed to achieve a drainage gradient of 1:100 sloping from the south to the north of the Premises	As specified in Figure 2 of Schedule 1
2.	Bund walls	Constructed of compacted in-situ soils to achieve a slope of the embankment of 1V:3H Constructed with a minimum base dimension of 2 m and a minimum height of 0.7m on the southern boundary of the facility Constructed with a minimum base dimension of 3 m and a minimum height of 1.2 m on the northern boundary of the facility	
3.	Drainage ditches	Constructed of compacted in-situ soils to achieve a permeability of no greater than 5.58^{-7} m/s	
4.	Sump pit	Constructed of high density polyethylene (HDPE) with a capacity of 7 kL	
5.	Groundwater monitoring well	To constructed as per the specifications in Figure 3 of Schedule 2.	To be located at the approximate half way point of the northern boundary of the composting facility. To be located a distance of at least 10 metres from the composting facility

	Infrastructure / equipment	Design and construction / installation requirements	Infrastructure location
			boundary.
6.	Silt Trap	To be constructed with a capacity of 5 kL	N/A
7.	Shredder	Hammer shredder VB DK or similar	To be brought to the operational area of the composting facility as required
8.	Water cart	Capable of maintaining operational areas in a damp state.	
9.	Portable submersible pump and IBCs	Capable of pumping leachate from the sump pit and transporting leachate to evaporation pond 7 at the north of the Premises for disposal.	

Compliance reporting

2. The Works Approval Holder must within 30 calendar days of an item of infrastructure or equipment required by condition 1 being constructed and/or installed:
 - (a) undertake an audit of their compliance with the requirements of condition 1; and
 - (b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.
3. The Environmental Compliance Report required by condition 2, must include as a minimum the following:
 - (a) certification by a suitably qualified person that the items of infrastructure or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1;
 - (b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1; and
 - (c) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.

Dust emission controls

4. The Works Approval Holder must ensure that no visible dust generated from the construction and/or installation of infrastructure and/or equipment specified in Condition 1 crosses the boundary of the Premises.

Time limited operations phase

Commencement and duration

5. The Works Approval Holder may only commence time limited operations for an item of infrastructure identified in condition 7 where the Environmental Compliance Report as required by condition 2(b) has been submitted by the Works Approval holder for that item of infrastructure.
6. The Works Approval Holder may conduct time limited operations for an item of

infrastructure specified in condition 7 (as applicable):

- (a) for a period not exceeding 180 calendar days from the day the Works Approval holder meets the requirements of condition 5 for that item of infrastructure; or
 - (b) until such time as a licence for that item of infrastructure is granted in accordance with Part V of the *Environmental Protection Act 1986*;
- whichever is sooner.

Time limited operations requirements and emission limits

7. During time limited operations, the Works Approval holder must ensure that the premises infrastructure and equipment listed in Table 2 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 2.

Table 2: Infrastructure and equipment requirements during time limited operations

	Site infrastructure and equipment	Operational requirement	Infrastructure location
1.	Operational area of the composting facility	Used for the: <ul style="list-style-type: none"> • Receival of food organics • Receival and shredding of uncontaminated garden organics • Blending of FOGO wastes to composting windrows • Composting of FOGO wastes Acceptance of FOGO wastes for composting must not occur until the submission of the baseline groundwater monitoring assessment specified in Condition 11.	As specified in Figure 2 of Schedule 1
2.	Bund walls	To be maintained in good working order	
3.	Drainage ditches	To be maintained free of debris and accumulated sediment	
4.	Sump pit		
5.	Groundwater monitoring well	To be maintained in good working order	
6.	Silt Trap		
7.	Shredder	To be used for the shredding of uncontaminated garden organic waste prior to composting No food organics are to pass through the shredder To only be used during Premises time limited operations phase in accordance with condition 6	To be brought to the operation area of the compost facility as required
8.	Water cart	To be used to maintain the moisture level in the composting windrows	

	Site infrastructure and equipment	Operational requirement	Infrastructure location
		between 45 and 65 percent To be used to suppress the emission of fugitive dust where required	
9.	Portable submersible pump and IBC's	To be used to transport accumulated leachate from the sump pit to evaporation pond 7 where required	

Waste acceptance

8. The Works Approval 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 set out in Table 3.

Table 3: Types of waste authorised to be accepted onto the premises

Waste type	Rate at which waste is received	Acceptance specification
Food organics (FO)	Combined total up to 2,500 tonnes	Accepted from temporary accommodation villages in the Karratha area only Only accepted during the time limited operations in accordance with Condition 6.
Garden organics (GO)		Accepted from residential and commercial properties only Only accepted during the time limited operations in accordance with Condition 6.

9. The Works Approval Holder must visually inspect all waste on arrival at the Premises and again before it enters any stockpile or treatment process to ensure that it complies with the waste acceptance criteria in Table 3.
10. The Works Approval Holder must ensure that where waste does not meet the waste acceptance criteria set out in Table 3, it is disposed of within Cells 1 and 2 at the Premises or, where that is not possible, stored in a rejected waste storage area or container and removed to an appropriately authorised facility as soon as practicable.
11. Prior to the acceptance for Food organics and Garden organics, the Licence Holder must submit to the CEO a baseline groundwater monitoring assessment for a single groundwater monitoring event undertaken at locations specified in Column 1, for the parameters specified in Column 2, reported in the units specified in Column 3, using the averaging period specified in Column 4 and using the methods specified in Column 6 of Table 10, Schedule 2.

Waste processing specifications

12. The Works Approval Holder shall ensure that wastes accepted onto the Premises are only subject to the corresponding processes which meet the corresponding process

limits set out in Table 4.

Table 4: Waste Processing

Waste type	Process	Process limits
Food organics and garden organics (FOGO)	Receipt, handling and storage prior to composting	<ul style="list-style-type: none"> • Large items of garden organics may be shredded • Food organics must be incorporated into a receive bed of shredded garden organics of a minimum of 300 mm thick, within 2 hours of arriving at the Premises
	Treatment by composting and pasteurisation	<ul style="list-style-type: none"> • Waste must only be composted on the compost facility as specified in Row 1 of Table 1; • Windrows must be turned regularly to ensure aerobic conditions are maintained; • Windrows must not exceed a ratio of FO to GO of 1:4 within composting windrows • The core temperature of the composting windrows must be maintained between 55°C and 65°C for a period of at least 3 consecutive days; • Moisture level in the composting windrows must be maintained between 45 and 65 percent; • Oxygen content in the composting windrows must be maintained above 10%; • Composting windrows must not exceed 3 m in height and 30 m in length; • Composting windrows must have a separation distance of at least 4 m between windrows; • Composting windrows must be located as specified in Schedule 1; • Composting leachate is collected within the sump pit specified in Row 4 of Table 1 and removed to evaporation pond 7 for disposal via transportation in IBC's, when half of the volume of the sump pit capacity of leachate has accumulated; • The leachate sump pit specified in Row 4 of Table 1 is maintained free of debris and accumulated sediment; • The silt trap specified in Row 6 of Table 1 is cleaned as required by visual inspection silt.
	Final composting product storage and removal from the Premises	Storage shall be undertaken on the composting facility specified in Row 1 of Table 1

13. Any non-conforming waste recovered during processing must be disposed of within Cells 1 and 2 at the Premises or, where that is not possible, stored in a rejected waste storage area or container and removed to an appropriately authorised facility as soon as practicable.
14. The Works Approval holder shall 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 appropriately contained.
15. The Works Approval holder must ensure that no visible dust generated from Premises operations crosses the boundary of the Premises.
16. The Works Approval holder must ensure that no waste resulting from composting operations is burnt on the Premises.

Monitoring during time limited operations

17. The Works Approval Holder must undertake monitoring according to the specifications in Table 5.

Table 5: Process monitoring

Monitoring point	Process description	Parameter	Units	Frequency	Method
Compost piles	Composting	Temperature	°C	Daily	None specified
		Moisture content	%	Weekly	
		Oxygen content	%	Weekly	
Composting products	On completion of composting and before movement off the Premises for sale or distribution	Quantity produced ¹	tonnes	Continuous	As specified in AS 4454
		Arsenic	mg/kg	Each batch, at a minimum rate of one composite sample per 500 tonnes Each composite sample is made up of 12 subsamples	
		Cadmium			
		Boron			
		Chromium			
		Copper			
		Lead			
		Mercury			
		Nickel			
		Selenium			
		Zinc			

		DDT/DDD/DDE			
		Aldrin			
		Dieldrin			
		Chlordane			
		Heptachlor			
		HCB			
		Lindane			
		BHC			
		PCBs			
		Glass, metal and rigid plastics ²	% w/w dry matter		
		Plastics – light, flexible or film ²			
		Salmonella spp	MPN/g		
		Faecal coliforms			

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

Note 2: non- NATA accredited analysis permitted. Method must comply with Appendix I in AS 4454.

19. The Works Approval Holder must ensure that products are classified according to the product specification and end use(s) as determined by the physical and chemical quality specifications required by AS 4454 prior to sale or distribution to customers.
20. The Works Approval Holder must conduct a groundwater monitoring programme in accordance with the requirements specified in Schedule 2 and record the results of all monitoring activity conducted under that programme.
21. The Works Approval Holder must adhere to the field quality assurance and quality control procedures specified in Schedule 2 for the monitoring required by condition 19.
22. All sample analysis must be undertaken by laboratories with current accreditation from the National Association of Testing Authorities (NATA) for the relevant parameters, unless otherwise specified.
23. The Works Approval Holder must record the total amount of waste accepted onto the Premises, for each waste type listed in Table 6, in the corresponding unit, and for each corresponding time period, as set out in Table 6.

Table 6: Waste accepted onto the Premises

Waste type	Unit	Time period
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Food organics	Tonnes	Each load arriving at the Premises
Garden organics		

24. The Works Approval Holder must record the total amount of waste removed from the Premises, for each waste type listed in Table 7, in the corresponding unit, and for each corresponding time period, as set out in Table 7.

Table 7: Waste removed from the Premises

Waste type	Unit	Time period
Waste types as defined in the Landfill Definitions	Tonnes	Each load leaving or rejected from the Premises

25. The Works Approval Holder must record the total amount of product removed from the Premises, for each product type listed in Table 8, in the corresponding unit, and for each corresponding time period, as set out in Table 8.

Table 8: Product removed from the Premises

Waste type	Unit	Time period
Composting products	Tonnes	Each load leaving the Premises

Compliance reporting

26. The Works Approval Holder must submit to the CEO a report on the time limited operations within 60 calendar days of the completion date of time limited operations or 60 calendar days before the expiration date of the works approval, whichever is the sooner.
27. The Works Approval Holder must ensure the report required by condition 25 includes the following:
- a summary of the time limited operations, including timeframes and amount of FOGO wastes processed;
 - a summary of process monitoring results obtained during time limited operations under condition 17;
 - a summary of groundwater monitoring results obtained during time limited operations under condition 19;
 - a summary of the monitoring of waste accepted to the Premises during time limited operations under condition 22;
 - a summary of the monitoring of waste and product removed from the Premises during time limited operations under conditions 23 and 24;
 - a summary of the environmental performance of all infrastructure as constructed or installed (as applicable), which includes records detailing the effectiveness of bund walls, drainage ditches and sump pit in directing and containing emissions of stormwater and/or leachate;
 - a review of performance and compliance against the conditions of the works approval; and
 - where the manufacturer's design specifications and the conditions of this works approval have not been met, what measures will the Works Approval holder

take to meet them, and what timeframes will be required to implement those measures.

Records and reporting (general)

- 28.** The works approval holder must record the following information in relation to complaints received by the works approval 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 works approval holder to investigate or respond to any complaint.
- 29.** The works approval holder must maintain accurate and auditable books including the following records, information, reports, and data required by this works approval:
- (a) the works conducted in accordance with condition 1;
 - (b) any maintenance of infrastructure that is performed in the course of complying with condition 7;
 - (c) monitoring programmes undertaken in accordance with conditions 17, 19, 22, 23 and 24; and
 - (d) complaints received under condition 27.
- 30.** The books specified under condition 28 must:
- (a) be legible;
 - (b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;
 - (c) be retained by the works approval holder for the duration of the works approval; and
 - (d) be available to be produced to an inspector or the CEO as required.

Definitions

In this works approval, the terms in 9 have the meanings defined.

Table 9: Definitions

Term	Definition
annual period	means a 12 month period commencing from 1 January until 31 December of the immediately following year.
AS 4454	means the Australian Standard AS 4454 Compost, soil conditioners and mulches.
AS/NZS 5667.11	means the current version of Australian Standard AS/NZS 5667.11 Water Quality – Sampling – Guidance on sampling of groundwaters
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 info@dwer.wa.gov.au
Composting products	means organic products having undergone pasteurisation and fitting a classification as defined in AS 4454
Damp	means material is moist to the touch
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.
discharge	has the same meaning given to that term under the EP Act.
emission	has the same meaning given to that term under the EP Act.
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure and/or equipment has been constructed and/or installed in accordance with the works approval.
EP Act	<i>Environmental Protection Act 1986 (WA)</i> .
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i> .
FOGO	means Food organics and Garden organics
Food organics	means food waste sourced from temporary accommodation

Term	Definition
	villages in the Karratha area for the purpose of incorporation into composting windrows
Garden organics	means waste arising from untreated flora for the purpose of incorporation into composting windrows
Premises	the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map (Figure 1) in Schedule 1 to this works approval.
prescribed premises	has the same meaning given to that term under the EP Act.
product	refers to FOGO materials which have undergone processing or composting to create a usable recycled product and which conforms with the specifications of this Works Approval.
suitably qualified person	means a person who demonstrates competency in civil engineering
time limited operations	refers to the operation of the infrastructure and equipment identified under this works approval that is authorised for that purpose, subject to the relevant conditions.
waste	has the same meaning given to that term under the EP Act.
works approval	refers to this document, which evidences the grant of the works approval by the CEO under section 54 of the EP Act, subject to the conditions.
Works Approval Holder	refers to the occupier of the premises being the person to whom this works approval has been granted, as specified at the front of this works approval.

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the map below (**Error! Reference source not found.**)

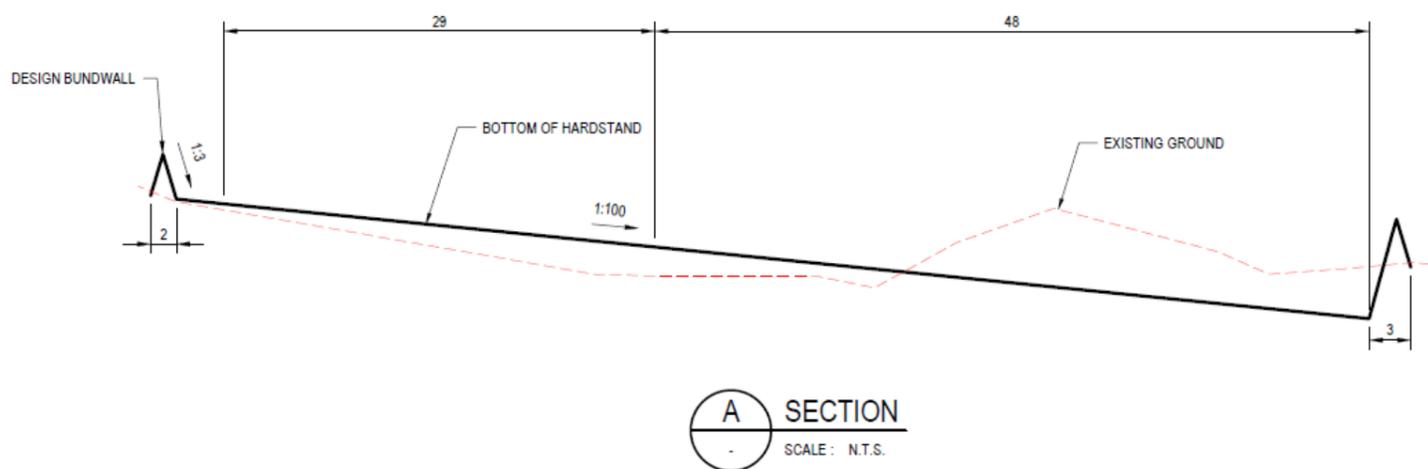
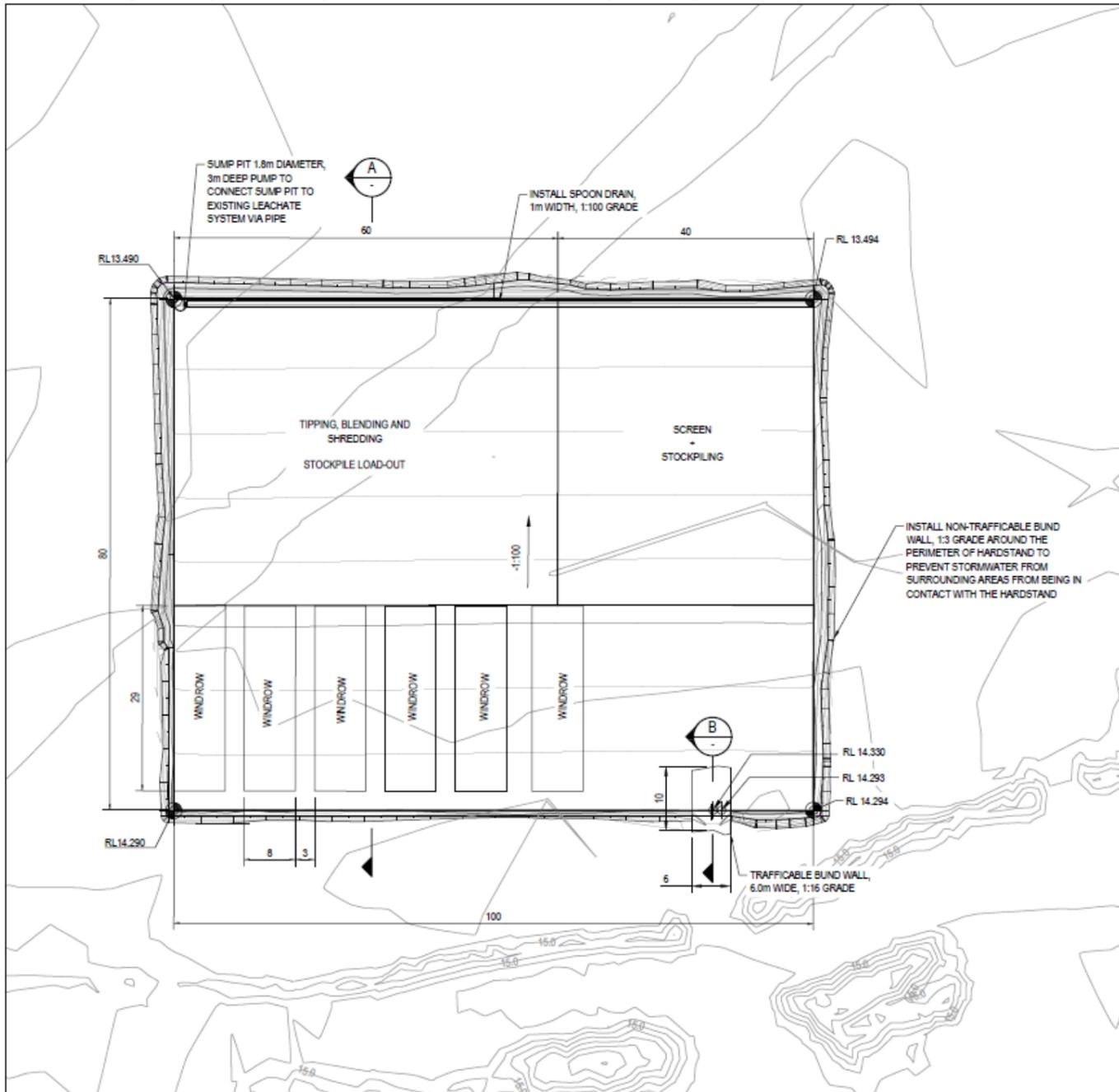


Figure 2: Overview of organics recovery facility

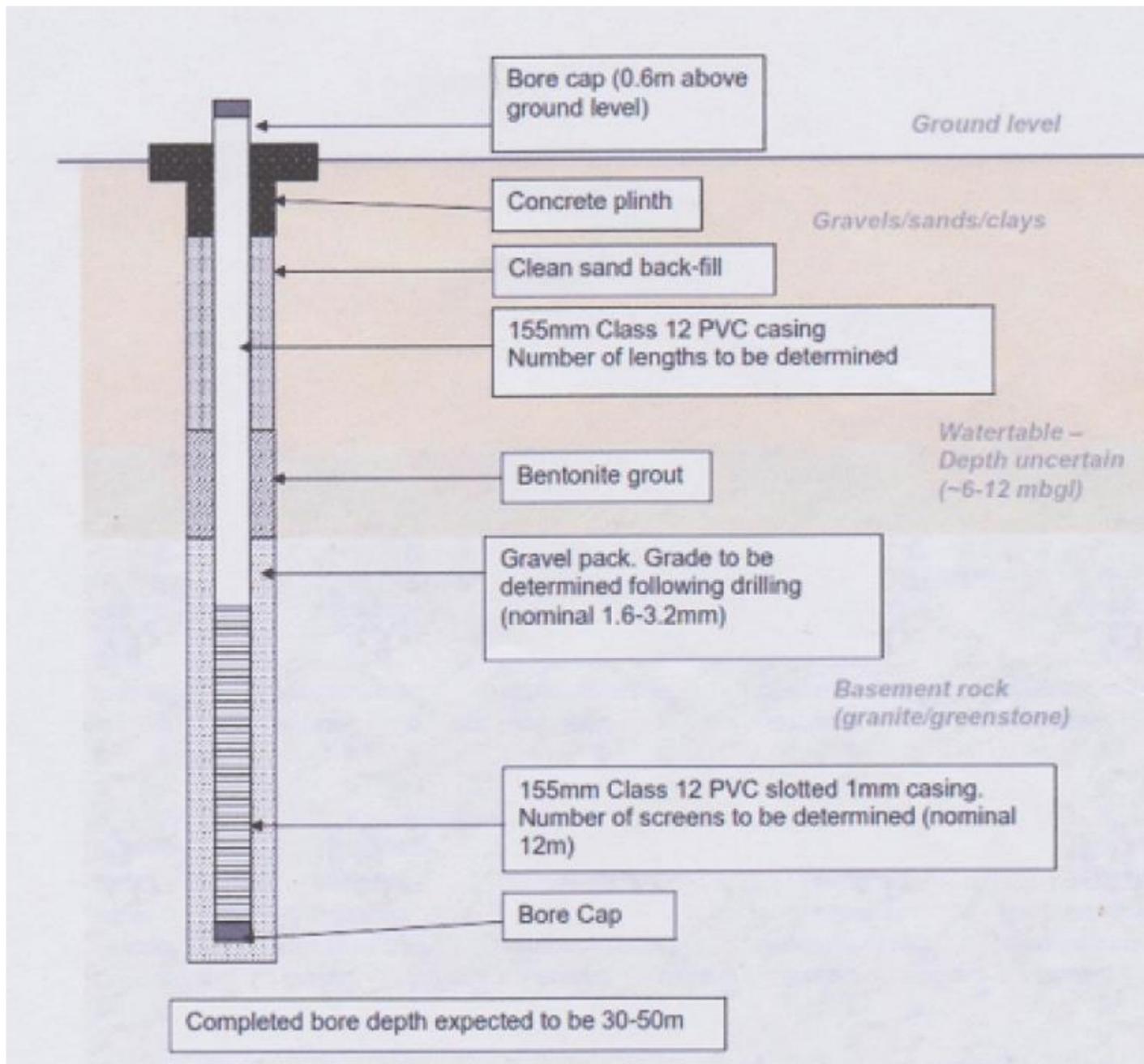


Figure 3: Groundwater Monitoring bore specifications

Schedule 2: Monitoring

Groundwater monitoring

The licence holder must monitor groundwater for concentrations of the identified parameters during time limited operations in accordance with Table 10.

Table 10: Groundwater monitoring of ambient concentrations

Monitoring well location	Parameter	Unit	Frequency	Averaging period	Method
As indicated in Figure 2 of Schedule 1	pH ¹	pH units	Two separate monitoring events, undertaken at least 80 days apart	Spot sample	AS/NZS 5667.11
	Electrical conductivity	µS/cm			
	Standing water level (SWL) ²	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					
Lead					
Zinc					

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

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:

- (a) decontamination procedures for the cleaning of tools and sampling equipment before sampling and between samples;
- (b) field instrument calibration for instruments used on site;
- (c) 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;
- (d) completed field monitoring sheets / sampling logs for each sample collected, showing:
 - (i) time of collection;
 - (ii) location of collection;
 - (iii) initials of sampler;
 - (iv) sampling method;
 - (v) field analysis results;
 - (vi) duplicate type / location (if relevant); and
 - (vii) site observations and weather conditions, and
- (e) chain-of-custody documentation must be completed which details the following information:
 - (i) site identification;
 - (ii) the sampler;
 - (iii) nature of the sample;
 - (iv) collection time and date;
 - (v) analyses to be performed;
 - (vi) sample preservation method;
 - (vii) departure time from site;
 - (viii) dispatch courier(s); and
 - (ix) arrival time at the laboratory.