Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W2858/2025/1
Works approval holder	Shire of Upper Gascoyne
Registered business address	4 Scott Street GASCOYNE JUNCTION WA 6705
DWER file number	INS-0002858
Duration	19/03/2025 to 19/03/2030
Date of issue	19 March 2025
Premises details	Gascoyne Junction Landfill Site Wansborough Road Gascoyne Junction Legal description - Portion of Reserve 52428, Lot 561 on Deposited Plan 72451 Shire of Upper Gascoyne

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed production capacity**
Category 61: Liquid waste facility: premises on which liquid waste produced on other premises (other than sewerage waste) is stored, reprocessed, treated or irrigated.	21,900 tonnes per annual period

This works approval is granted to the works approval holder, subject to the attached conditions, on 19 March 2025, by:

Abbie Crawford

Digitally signed by Abbie Crawford
Date: 2025.03.19 14:54:35 +08'00'

Abbie Crawford
Manager, Waste Industries

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

Works approval history

Date	Reference number	Summary of changes
19/03/2025	W2858/2025/1	Works approval granted.

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 critical containment infrastructure;

(b) in accordance with the corresponding design and construction / installation requirements; and

(c) at the corresponding infrastructure location

as set out in Table 1.

Table 1: Critical containment infrastructure design and construction requirements

	Infrastructure	Design and construction / installation requirements	Infrastructure location
1.	Evaporation pond	The evaporation pond must be designed and constructed in accordance with plans in Schedule 1: Maps including: (d) Must have an operational volume of 18,800 m^3 with a 1.5 m high embankment; (e) Must be constructed with a sump; (f) Site preparation and subgrade to be constructed as specified in Schedule 2: Minimum specification for excavation and HDPE geomembrane installation, Table 6; (g) Lined with a 2 mm HDPE smooth geomembrane to achieve ≤1 x 10^{-9} m/sec, as specified in Schedule 2: Minimum specification for excavation and HDPE geomembrane installation, Table ; and (h) Evaporation pond and associated pipework to be constructed as free of leaks and defects.	Schedule 1: Maps: Figure 2 Figure 3 and Figure 4

Compliance reporting

2. The works approval holder must within 30 calendar days of the Critical Containment Infrastructure identified by condition 1 being constructed:

(a) undertake an audit of their compliance with the requirements of condition 1; and

(b) prepare and submit to the CEO a Critical Containment Infrastructure Report on that compliance.

3. The Critical Containment Infrastructure Report required by condition 2 must include as a minimum the following:

(a) certification by a suitably qualified civil or geotechnical engineer (or equivalent) 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 showing each item of critical containment infrastructure or component thereof, as specified in condition 1;

(c) photographic evidence of the installation of the infrastructure;

(d) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person;

4. The Critical Containment Infrastructure Report required by Condition 2 must be accompanied by a Construction Quality Assurance Validation Report that:

(a) is written and certified by a suitably qualified civil or geotechnical engineer (or equivalent);

(b) assesses test results against the relevant minimum values, as specified in Schedule 2, Table 7;

(c) documents all repairs to subgrade and resulting from non-destructive weld testing;

(d) certifies that the constructed infrastructure is free of fault of defect, built to the design specification and fit for the intended purpose; and

(e) includes copies of drawings, inspections, monitoring, and testing results required by the corresponding specifications referenced in Schedule 2: Minimum specification for excavation and HDPE geomembrane installation.

Time limited operations phase

Commencement and duration

5. The works approval holder may only commence time limited operations for an item of critical containment infrastructure identified in condition 1 when at least 20 business days have passed after the Critical Containment Infrastructure Report for that item of infrastructure as required by condition 2 and the Construction Quality Assurance Validation Report required by condition 4 have been submitted to the CEO.

6. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 8:

(a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 6 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, if one is granted before the end of the period specified in condition 5(a).

Time limited operations requirements

7. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in condition 1 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 operation

	Infrastructure	Operational requirements
1.	Evaporation pond	(c) Must be maintained free from leaks, tears and defects; (d) Must be managed to prevent damage to and ensure the integrity of the HDPE liner; and (e) Maintain a minimum freeboard of 0.5 m at all times.

8. 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 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
Revere osmosis wastewater (brine)	Not more than 21,900 tonnes per annual period	Brine from the Shire's reverse osmosis plant only

Monitoring during time limited operations

9. The works approval holder must undertake the monitoring outlined in Table 4 during time limited operations.

Table 4: Monitoring of inputs

Input	Parameter	Unit	Averaging period	Frequency
Revere osmosis wastewater (brine) discharged to evaporation pond	Volumetric flow rate (cumulative)	Tonnes or m^3 per week	Monthly	Quarterly

Compliance reporting

10. The works approval holder must submit to the CEO a report on the time limited operations within 30 calendar days of the completion date of time limited operations or 30 calendar days before the expiration date of the works approval, whichever is the sooner.

11. The works approval holder must ensure the report required by condition 10 includes the following:

(a) a summary of monitoring results obtained during time limited operations under condition 9,

(b) a review of performance and compliance against the conditions of the works approval; and

(c) 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)

12. 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.

13. 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 condition 9; and

(d) complaints received under condition 12.

14. The books specified under condition 13 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 5 have the meanings defined.

Table 5: Definitions

Term	Definition
annual period	a 12 month period commencing from 1 January until 31 December of the same year.
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 *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 info@dwer.wa.gov.au
critical containment infrastructure	means the items of infrastructure listed in condition 1.
Critical Containment Infrastructure Report	means a report to satisfy the CEO that works of critical containment infrastructure have been constructed in accordance with the works approval.
Department	means the department established under section 35 of the *Public Sector Management Act 1994* 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.
EP Act	*Environmental Protection Act 1986* (WA).
EP Regulations	*Environmental Protection Regulations 1987* (WA).
HDPE	high density polyethylene
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 Schedule 1: Maps to this works approval.
prescribed premises	has the same meaning given to that term under the EP Act.
suitably qualified geotechnical engineer	means a person who: (e) holds a Bachelor of Engineering degree recognised by Engineers Australia; and (f) has a minimum of five years of experience working in a supervisory role of geotechnical engineering; and (g) is employed by an independent third party external to the Works Approval Holder's business;

Term	Definition
	or is otherwise approved in writing by the CEO to act in this capacity
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 (Figure 1).

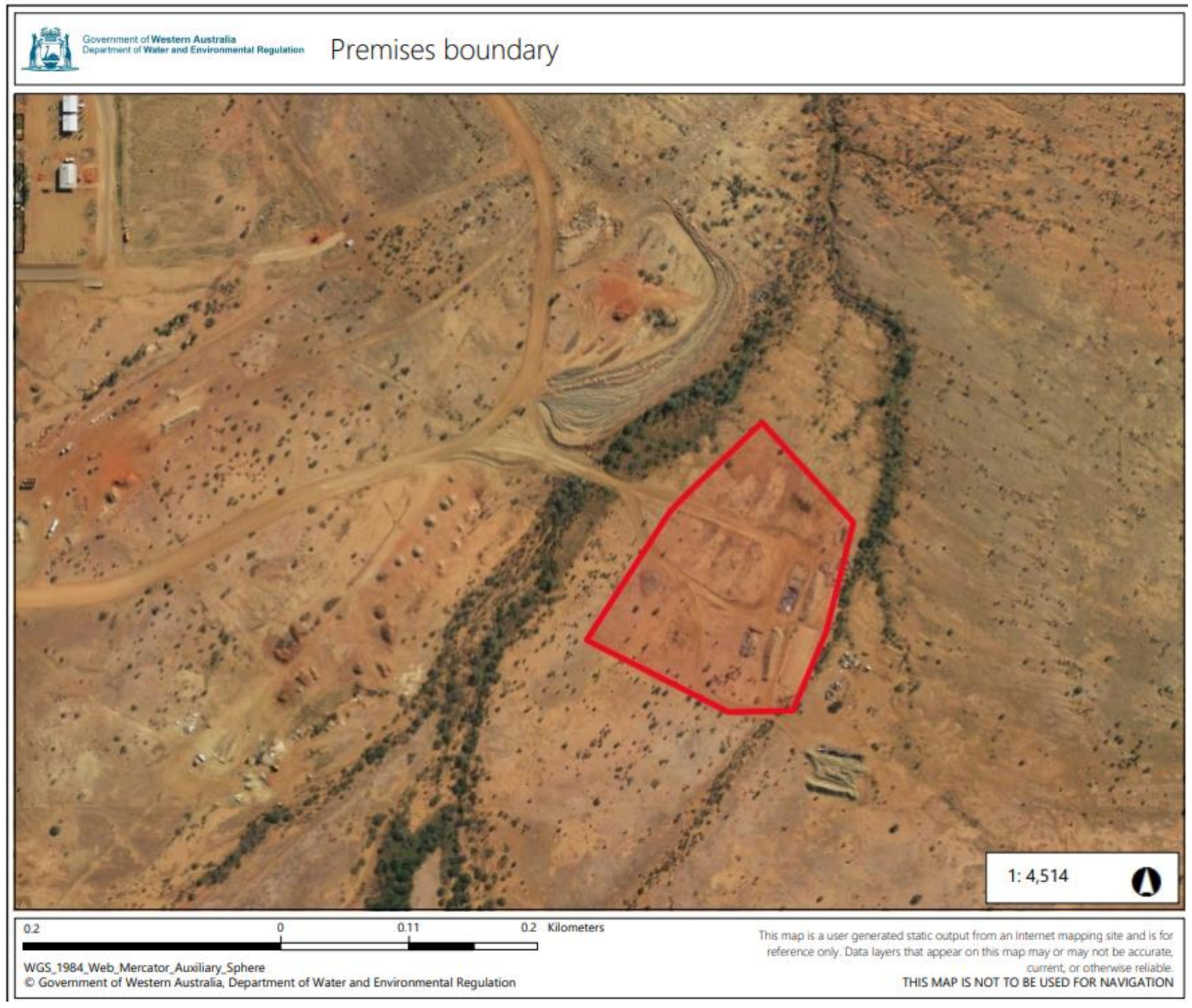
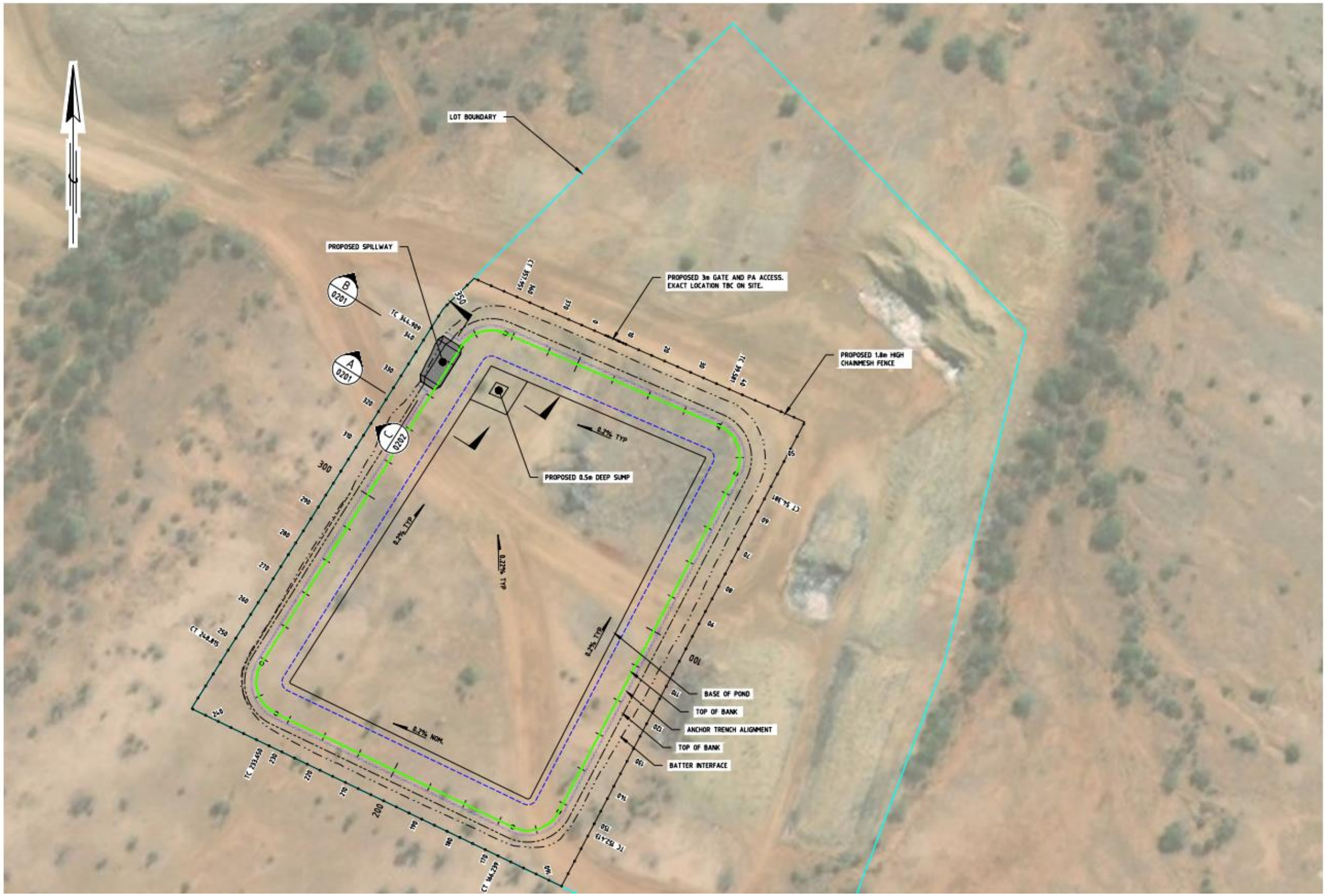


Figure 1: Map of the boundary of the prescribed premises



NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE OTHER DRAWINGS IN THIS SET AS LISTED ON DRAWING 11974-C1-DG-0001.
2. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
3. EMBANKMENTS AND FLOOR TO BE HDPE LINED (2mm THICKNESS).
4. BALLAST TO BE A MINIMUM OF 50kg/m.
5. ROCK PITCHING SHALL BE 150mm IN SIZE AND FREE OF SAND AND FINES.

LEGEND

- REFERENCE LINE
- CADASTRAL BOUNDARY
- PROPOSED FENCE
- BUND AND DRAIN INTERFACE
- BUND TOP - EXTERNAL
- V-DRAIN
- PROPOSED GATE
- ANCHOR TRENCH
- 150mm ROCK SPALDING

Figure 2: Pond specifications

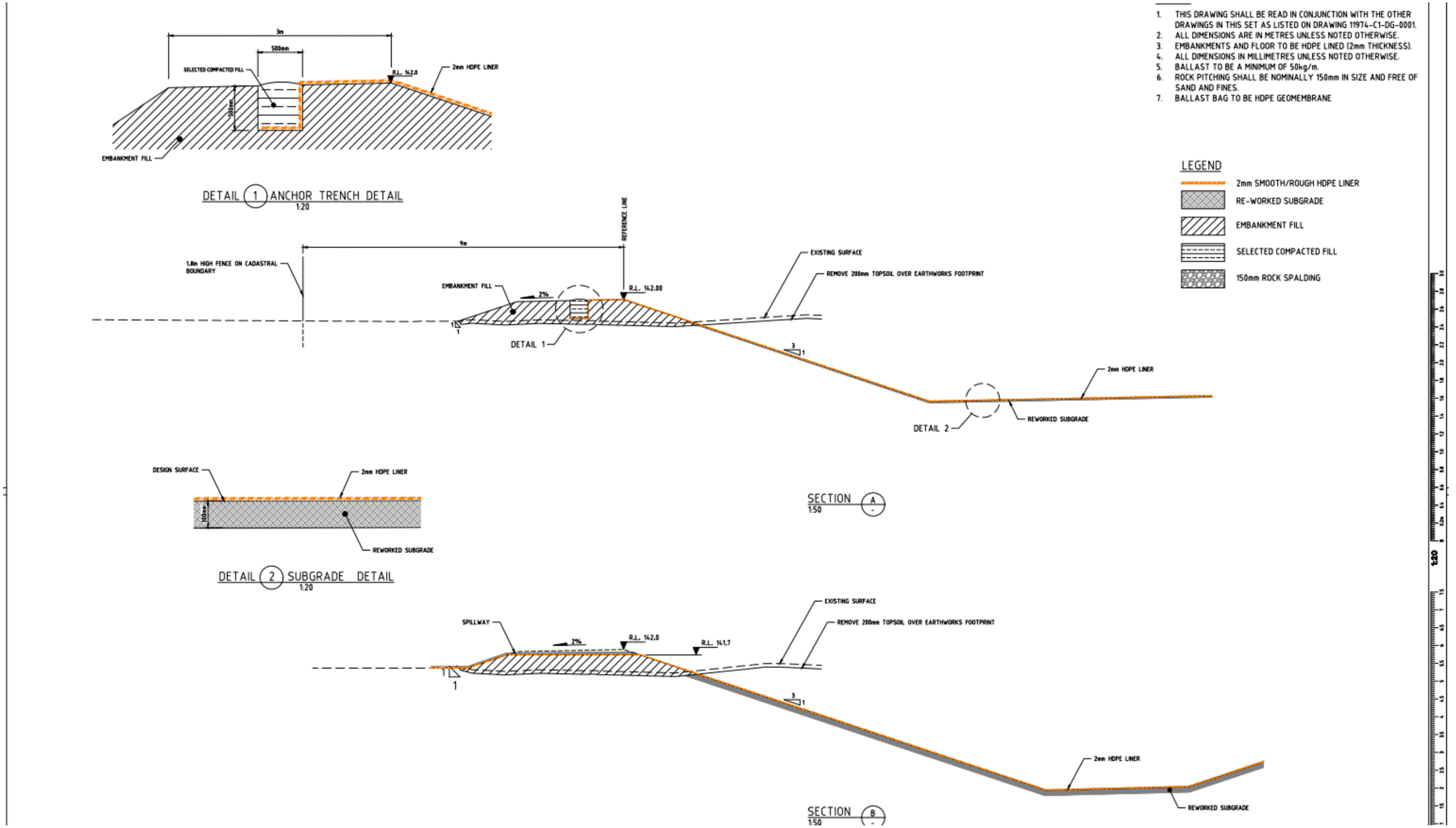


Figure 3: Pond section, embankment, subgrade and liner details

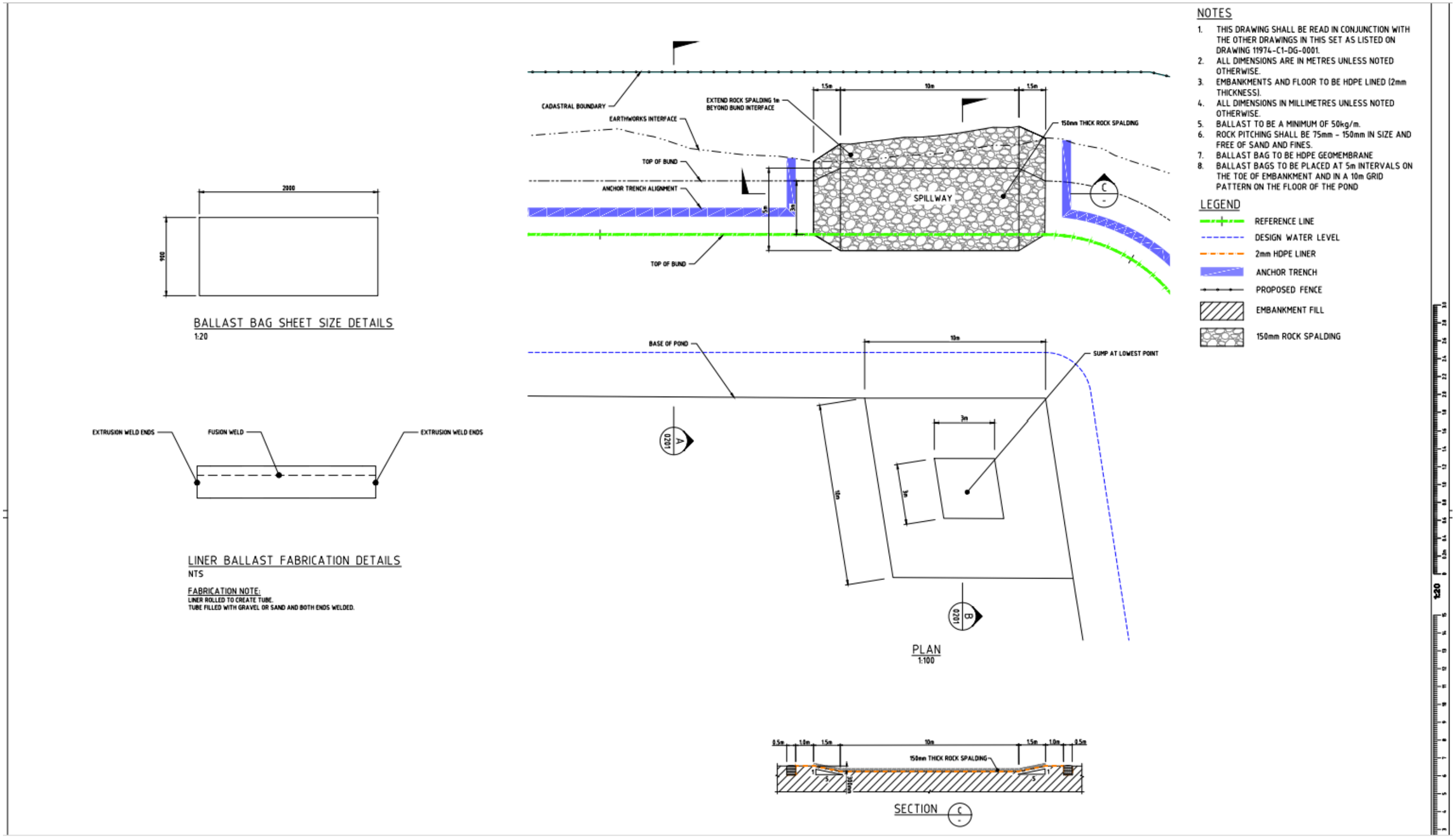


Figure 4: Sump, spillway and ballast details

Schedule 2: Minimum specification for excavation and HDPE geomembrane installation

The construction works and requirements described in the following tables are required to be completed in accordance with Condition 1.

Table 6: Pond Subgrade Construction Specifications

Infrastructure or Equipment	Requirements (design and construction)
Site Preparation and Subgrade construction	The following site preparation works must be undertaken: • Clearing and grubbing of entire pond footprint including embankments, bunds and base; • Excavation of all unsuitable materials to a minimum depth of 200mm from final surface level to form a suitable subgrade; • Site won fill must have less than 2% organic material by weight and be able to achieve a smooth, flat lining surface; • Site won fill must be moisture conditioned and compacted to Standard Maximum Dry Density (SMDD) of 95% and Optimum Moisture Content (OMC) of -2% to +2%; and • Proof roll entire footprint including pond floor and embankments.

Table 7: HDPE Liner Design, Construction and Quality Assurance Specifications

<table>
<tr><th></th><th>Parameter</th><th>Requirements (design and construction)</th></tr>
<tr><td>1</td><td>High Density Polyethylene liner</td><td>• To extend over the entire pond base and up the side embankments;
• Must be uniform and free of pin holes, blisters, blemishes, striations, bubbles, roughness, contaminants and permanently attached raw materials;
• Completely sealed and waterproof along all joins and seams with heat welded joints;
  ◦ All seams and joins made on site should be continuous;
  ◦ Panels of the liner should be overlapped by a minimum of 100mm, prior to heat welding; and
• Leak detection survey to be carried out following installation.</td></tr>
<tr><td>2</td><td>Quality Assurance and Quality Control</td><td>Construction and installation performance must be measured by the following specifications:
• Construction requirements (as specified by condition 1 and this table);
• Conformance testing – to show materials meet the following minimum requirements
<table>
<tr><th>Property</th><th>Units</th><th>Value</th><th>Test</th><th>Testing Frequency</th></tr>
<tr><td>Thickness (average)</td><td>mm</td><td>2</td><td>ASTM D5199</td><td rowspan="2">Per roll</td></tr>
<tr><td>Thickness (minimum)</td><td>mm</td><td>1.8</td><td>ASTM D5199</td></tr>
</table>
</td></tr>
</table>

	Parameter	Requirements (design and construction)					
		Density		g/cc	> 0.940	ASTM D1505	90,000 kg
		Tensile properties	Break strength	kN/m	53	ASTM D6693	One per batch
			Yield strength	kN/m	29	ASTM D6693	
			Yield elongation	%	12	ASTM D6693	
			Break elongation	%	700	ASTM D6693	
		Tear resistance		N	249	ASTM D1004	
		Puncture resistance		N	640	ASTM D4833	
		Carbon black content		%	2.0 – 3.0	ASTM D4218	
		Carbon black dispersion		Cat	9 in Categories 1 or 2, or 1 in Category 3	ASTM D5596	
		Destructive fusion weld testing on-site tests undertaken by Contractor, witnessed by CQA Consultant	Fusion/Wedge Weld - Shear strength	N/25 mm	700	ASTM D6392	Every 150m along weld
			Fusion/Wedge Weld - Peel strength		530		
			Extrusion Weld – Shear Strength		700		Every 150m along weld
			Extrusion Weld – Peel Strength		455		
		Non - destructive weld testing – tests undertaken by Contractor, witnessed by CQA Consultant	Air pressure test	-	pass/fail	ASTM D5820	All seams over full length
			Vacuum box test			ASTM D5641	