Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W6856/2023/1
Works approval holder	BHP Billiton Nickel West Pty Ltd
ACN	004 184 598
Registered business address	125 St George's Terrace PERTH WA 6000
DWER file number	DWERVT13704~2
Duration	7/05/2024 to 7/05/2029
Date of issue	7/05/2024
Date of amendment	30/05/2024
Premises details	Nickel West Leinster Nickel Operations – TSF3 Cell G and TSF3 Cell F Legal description - Mining Tenements ML255SA As specified in Schedule 1

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed design capacity**
Category 5: Processing or beneficiation of metallic or non-metallic ore.	3,6000,000 tonnes per annual period

This amended works approval is granted to the works approval holder, subject to the attached conditions on 30 May 2024 by:

Christine Pustkuchen
Digitally signed by Christine Pustkuchen
Date: 2024.05.30 12:57:00 +08'00'

Manager, Resource Industries
REGULATORY SERVICES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Works approval history

Date	Reference number	Summary of changes
7/05/2024	W6856/2023/1	Works approval granted
30/05/2024	W6856/2023/1	DWER initiated amendment to correct the due date for submission of reports required by condition 2 and condition 5. This was missed at time of granting the original works approval (changes were agreed to but not updated).

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

Critical Containment Infrastructure (CCI)

1. The works approval holder must:

(a) construct the critical containment infrastructure;

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

(c) at the corresponding infrastructure location

as set out in Table 1.

Table 1: Critical containment infrastructure design and construction requirements

Item	Infrastructure	Design and construction requirements	Infrastructure location
1	Tailings Storage Facility (TSF) 3 Cell G Stage 1A and Stage 1B	(a) Constructed within Mining Tenement ML255SA as depicted in Figure 2 of Schedule 1. (b) Stage 1A constructed to a height of RL 10,511 m (c) Stage 1B constructed to a height of RL 10,515 m. (d) Designed to provide a minimum 0.5 m total freeboard (including an allowance for the 1:100 year AEP 72 hour period) above the normal operating pond. (e) The starter embankment of Stage 1A and 1B must be formed of compacted oxide.. (f) A cut-off key is to be formed below Stage 1A embankment down to caprock. (g) Starter embankments, including cut-off trench and toe drains must be constructed as specified in Figures 3 and 4 of Schedule 1.	As depicted in Figure 2 of, Schedule 1.
	TSF 3 Cell G Stage 1A and Stage 1B Underdrainage system	(h) Underdrainage system must be constructed as specified in Figures 4 and 5 of Schedule 1. (i) Underdrainage to be installed below the expected pond extent for Cell G (j) The underdrainage system must be comprised of the following infrastructure: i. Equipped with 100 mm diameter Class 400 perforated PE19 ‘Draincoil’ collector pipe (or equivalent). ii. Unperforated outlet pipes to	As depicted in Figures 4 and 5 of Schedule 1.

Item	Infrastructure	Design and construction requirements	Infrastructure location
		discharging into collection sumps. iii. Perforated drainage pipes installed within filter zones. The filter zones to comprise of filter graded sand 'fingers', covered with gravel for erosion protection. iv. The drainage pipes to be installed in excavated trenches within the sand fingers. v. Pipe network to connect to underdrainage HDPE discharge pipes, which are routed to the Return Water Pond.	
	TSF 3 Cell G Stage 1A and Stage 1B Decant system	(k) Decant system to be constructed as specified in Figure 7 of Schedule 1.	As depicted in Figure 7 of Schedule 1.
	TSF 3 Cell G (Stage 1B) Monitoring infrastructure	(l) At least 4 Vibrating wire piezometers to be installed with a minimum of one per wall. during construction of Stage 1B.	Not applicable
	Return water pond	(m) To be lined with a 2mm thick high-density polyethylene (HDPE) geomembrane (n) To be constructed to the dimensions of 80m x 40m x 3m deep (o) To be constructed as specified in Figure 6 of Schedule 1	As depicted in Figure 4 and Figure 9, Schedule 1
	Pipelines carrying tailings and decant return water	(p) Tailings delivery and decant return pipelines to be equipped with real-time 24/7 telemetry monitoring with the purpose of monitoring for pipeline failure. (q) Following construction and prior to time limited operations: i. Pipelines must be leak tested; and ii. All flow meters and pressure meters to be calibrated	As depicted in Figure 8 of Schedule 1

2. The works approval holder must within 60 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 and experienced engineer that each item of critical containment infrastructure or component thereof, as specified in condition 1, has been built and installed in accordance with the requirements specified in condition 1;

(b) as constructed plans and a detailed site plan showing the location and dimensions for each item of critical containment infrastructure or component thereof, as specified in condition 1;

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

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

Non-Critical Containment Infrastructure and equipment

4. The works approval holder must:

(a) construct the infrastructure;

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

(c) at the corresponding infrastructure location;

as set out in Table 2.

Table 2: Design and construction requirements

item	Infrastructure	Design and construction requirements	Infrastructure location
1.	TSF 3 Cell G Embankment lift 1	(a) Embankments constructed to a height of RL 10517.5 m. (b) To be constructed of compacted tailings (c) Oxide capping to be applied to the downstream slope of the embankments, to protect the tailings embankments against erosion and to act as a capping layer to prevent oxidation of the exposed tailings surfaces. (d) Embankment design to provide a minimum 0.5 metre total freeboard (including an allowance for the 1:100 year AEP 72 hour period) above the normal operating pond. (e) Embankment lift 1 to be constructed as specified in Figure 3 of Schedule 1.	As indicated in Figure 2, Schedule 1.
2.	TSF 3 Cell F Stage 2 tie-in works and embankment lift 1	(a) Decant pipelines and under drainage outlet pipes and gravity outfall pipes to be extended to the new Return Water Pond. (b) Stage 2 to be constructed with oxide mine waste for the tie-in to the TSF 3AB buttress and with compacted tailings as construction material for the upstream raise of the Cell F	As indicated in Figure 2, Schedule 1.

item	Infrastructure	Design and construction requirements	Infrastructure location
		Stage 1B embankment, to crest elevation RL 10522.5 m. (c) Oxide capping to be applied to the downstream slope of the embankments, to protect the tailings embankments against erosion and to act as a capping layer to prevent oxidation of the exposed tailings surfaces. (d) Embankment design to provide a minimum 0.5 metre total freeboard (including an allowance for the 1:100 year AEP 72 hour period) above the normal operating pond. (e) Stage 2 to be constructed as specified in Figures 10 and 11 of Schedule 1.	
3.	TSF 3 Cell F Embankment lift 2	(a) Embankment to be constructed to a height of RL 10525.0 m (b) To be constructed of compacted tailings. (c) Oxide capping to be applied to the downstream slope of the embankments, to protect the tailings embankments against erosion and to act as a capping layer to prevent oxidation of the exposed tailings surfaces. (d) Embankment design to provide a minimum 0.5 metre total freeboard (including an allowance for the 1:100 year AEP 72 hour period) above the normal operating pond. (e) Embankment lift 2 to be constructed as specified in Figure 10 of Schedule 1	As indicated in Figure 2, Schedule 1.
4.	TSF 3 Cell F Embankment lift 3	(a) Embankment to be constructed to a height of RL 10527.5 m (b) To be constructed of compacted tailings. (c) Oxide capping to be applied to the downstream slope of the embankments, to protect the tailings embankments against erosion and to act as a capping layer to prevent oxidation of the exposed tailings surfaces. (d) Embankment design to provide a minimum 0.5 metre total freeboard (including an allowance for the 1:100 year AEP 72 hour period)	As indicated in Figure 2, Schedule 1.

item	Infrastructure	Design and construction requirements	Infrastructure location
		above the normal operating pond. (e) Embankment lift 3 to be constructed as specified in Figure 10 of Schedule 1	

Non -Critical Containment Infrastructure Compliance reporting

5. The works approval holder must within 90 calendar days of an item of infrastructure required by condition 4 constructed:

(a) undertake an audit of their compliance with the requirements of condition 4; and

(b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.

6. The Environmental Compliance Report required by condition 5, must include as a minimum the following:

(a) certification by a suitably qualified and experienced Engineer that the items of infrastructure or component(s) thereof, as specified in condition 4 have been constructed in accordance with the relevant requirements specified in condition 4;

(b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in 4; and

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

Time limited operations phase

Commencement and duration

7. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 1:

(a) where the CEO has notified the works approval holder that the Critical Containment infrastructure Report for that item of infrastructure as required by condition 2 meets the requirements of that condition; or

(b) where at least 40 business days has passed after the Critical Containment Infrastructure Report for that item of infrastructure as required by condition 2 has been submitted to the CEO.

8. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 4 where the Environmental Compliance Report as required by condition 5 has been submitted by the works approval holder for that item of infrastructure.

9. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 1 and condition 4 (as applicable):

(a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 7 or 8 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 9(a).

Operational requirements

10. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 3 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirements set out in Table 3.

Table 3: Infrastructure operating requirements during time limited operations

	Site infrastructure	**Operational requirements**	**Infrastructure location**
1.	TSF 3 Cell F Stage 2 (includes Embankment lift 1) and Embankment Lift 2 and Embankment Lift 3	(a) Total minimum freeboard of 0.5meters (including an allowance for the 1:100 year AEP 72 hour period) above the normal operating pond to be maintained. (b) Visual inspections daily and following significant rainfall events to check: (i) Freeboard capacity (ii) Location and size of decant pond (in hectares and expressed as a total percentage of the surface area of the TSF) (iii) Change in seepage conditions or sudden change in water level; and (iv) Signs of erosion	As depicted in Figure 2, Schedule 1
2.	TSF 3 Cell G Stage 1A and Stage 1B and Embankment Lift 1	(a) Total minimum freeboard of 0.5meters (including an allowance for the 1:100 year AEP 72 hour period) above the normal operating pond to be maintained. (b) Visual inspections daily and following significant rainfall events to check: (i) Freeboard capacity (ii) Location and size of decant pond (in hectares and expressed as a total percentage of the surface area of the TSF) (iii) Change in seepage conditions or sudden change in water level; and (iv) Signs of erosion	As depicted in Figure 2 Schedule 1.
3.	Tailings and return water pipelines	(a) Visual inspections daily when in operation to check the integrity of the pipelines, bunding and catch pits (sumps). (b) Weekly inspections to check the integrity of flow meters, leak detection telemetry, pressure sensors system and automatic shut-off system when pipelines in operation.	Not depicted
4.	Return Water Pond	(a) A minimum operating freeboard of 500mm to be maintained. (b) Visual inspection daily to check freeboard capacity.	Figure 4, Schedule 1.

Groundwater monitoring during time limited operations

11. The works approval holder must conduct a groundwater monitoring program, in accordance with the requirements specified in Table 4 and record results of all monitoring activity conducted under that program.

Table 4: Monitoring of groundwater surrounding TSF 3 Cells F and G.

Monitoring bore location	Parameter	Unit	Limit[4]	Frequency	Method
TSF 3 Cells F andG MB70, MB71, MB72, MB73, MB74[1], MB75 and MB76 As depicted in Figure 11 in Schedule 1	Standing water level[2]	mbgl	4	▪ A single sampling event prior to the deposition of tailings into the TSF3 Cell G. ▪ Quarterly[3] during time limited operations.	Spot sample, in accordance with AS/NZS 5667.11.
	Electrical conductivity (EC)	µcm/S	-		
	Total dissolved solids (TDS)	mg/L			
	Nickel (Ni)[2]				

Note 1: Recovery bore.
Note 2: In-field non-NATA accredited analysis permitted.
Note 3: Quarterly monitoring is undertaken at least 45 calendar days apart.
Note 4: limit only applies to MB70

12. 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 11.

13. 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 in Schedule 2.

Time limited operations - compliance reporting

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

15. The works approval holder must ensure the report required by condition 14 includes the following;

(a) a summary of the time limited operations, including timeframes;

(b) a summary of the environmental performance of all infrastructure as constructed, which includes records detailing the:

(i) volume of tailings deposited into TSF3 Cell F and Cell G;

(ii) tailings density; and,

(iii) inspection results obtained in accordance with condition 10

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

(d) where the 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)

16. 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.

17. 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 and 4,

(b) any maintenance of infrastructure that is performed in the course of complying with condition 10

(c) monitoring programmes undertaken in accordance with condition 11; and

(d) complaints received under condition 16.

18. The books specified under condition 17 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 Table 5 have the meanings defined.

Table 5: Definitions

Term	Definition
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, table 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.
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	*Environmental Protection Act 1986* (WA).
EP Regulations	*Environmental Protection Regulations 1987* (WA).
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.
RL	Reduced level, the height referenced is Local Mine Datum.
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.
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

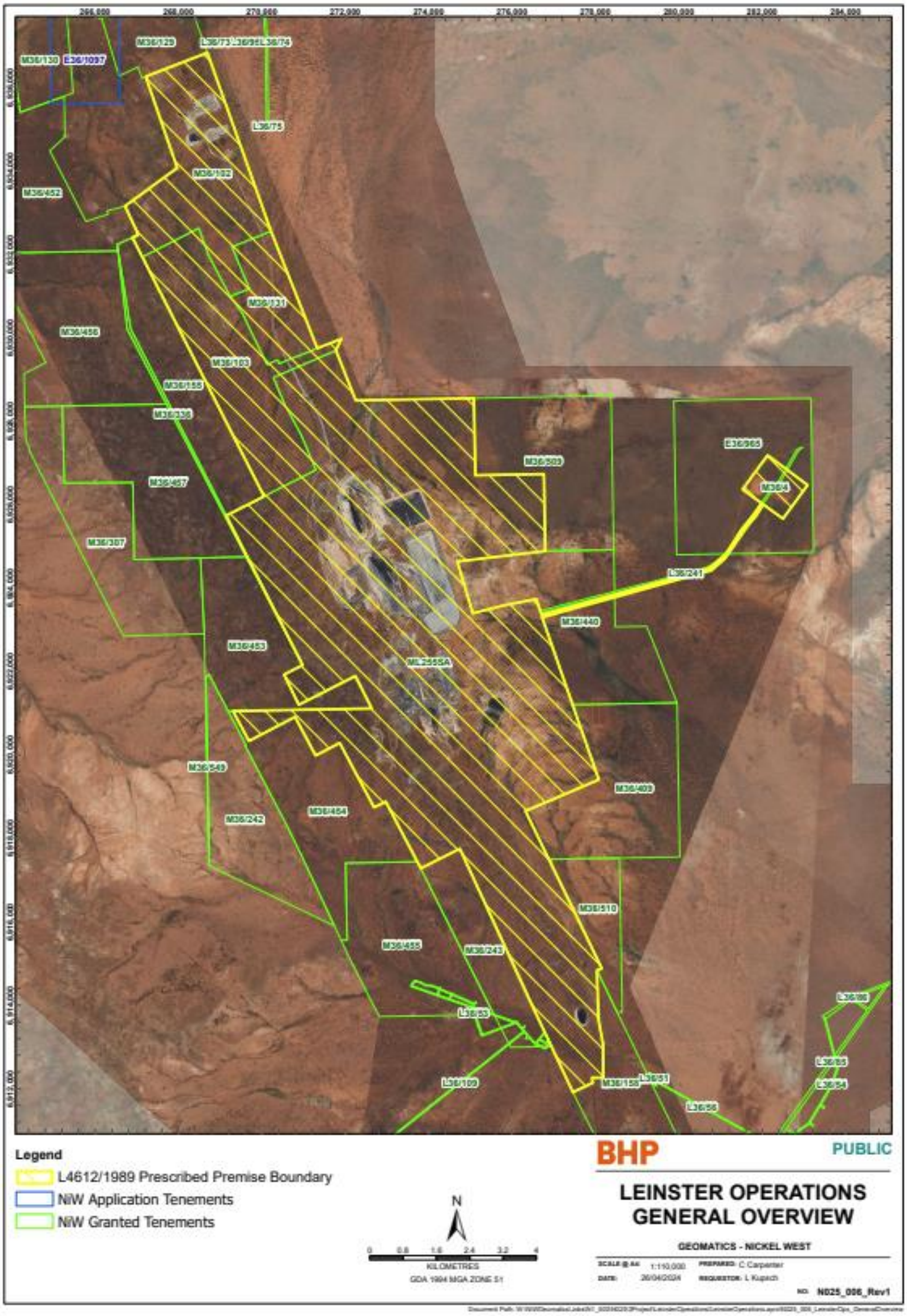

Figure 1: Map of the boundary of the prescribed premises

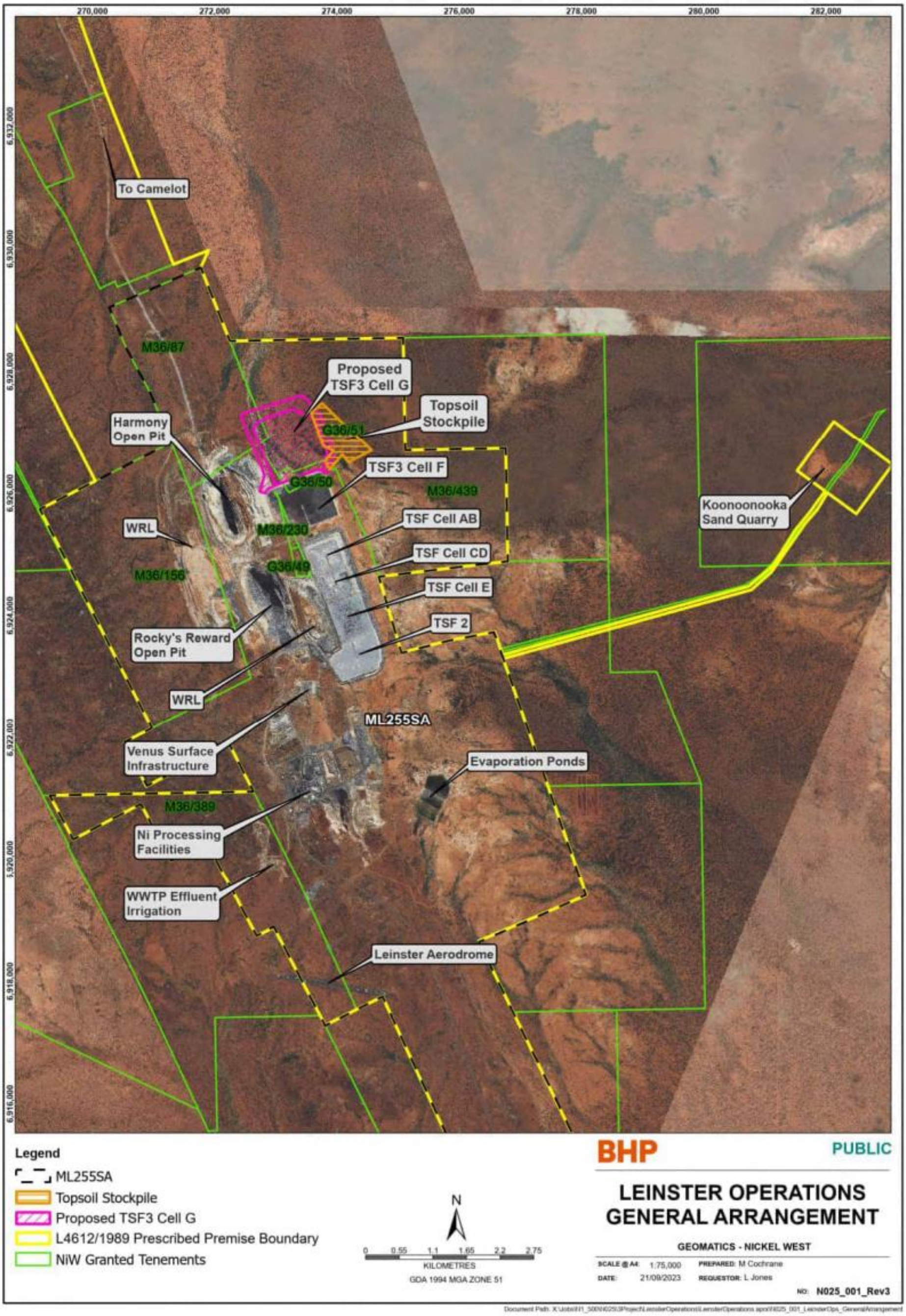

Figure 2: General site layout of the Nickel West Leinster Nickel Operation

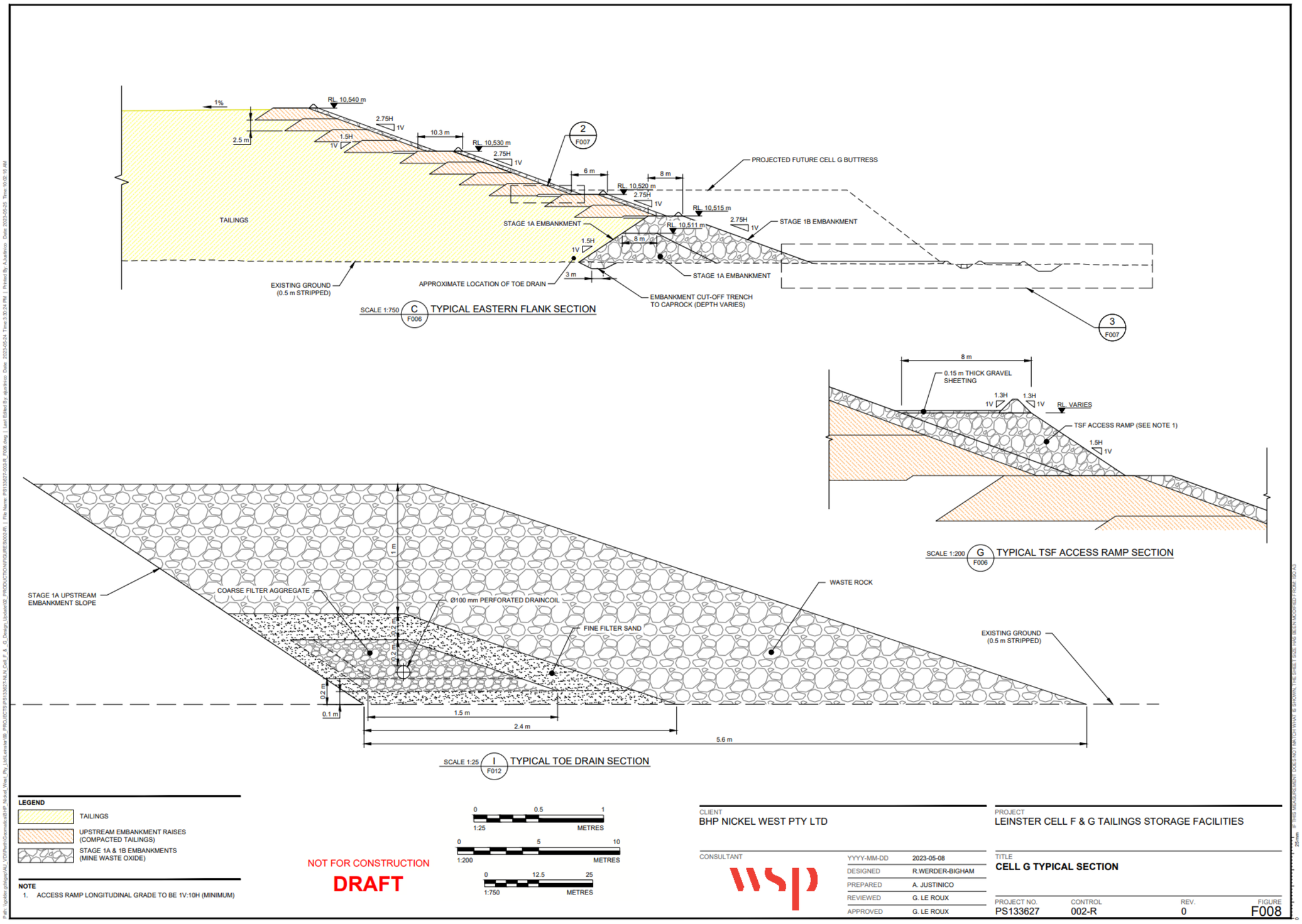

Figure 3: Cell 3G embankment cross section.

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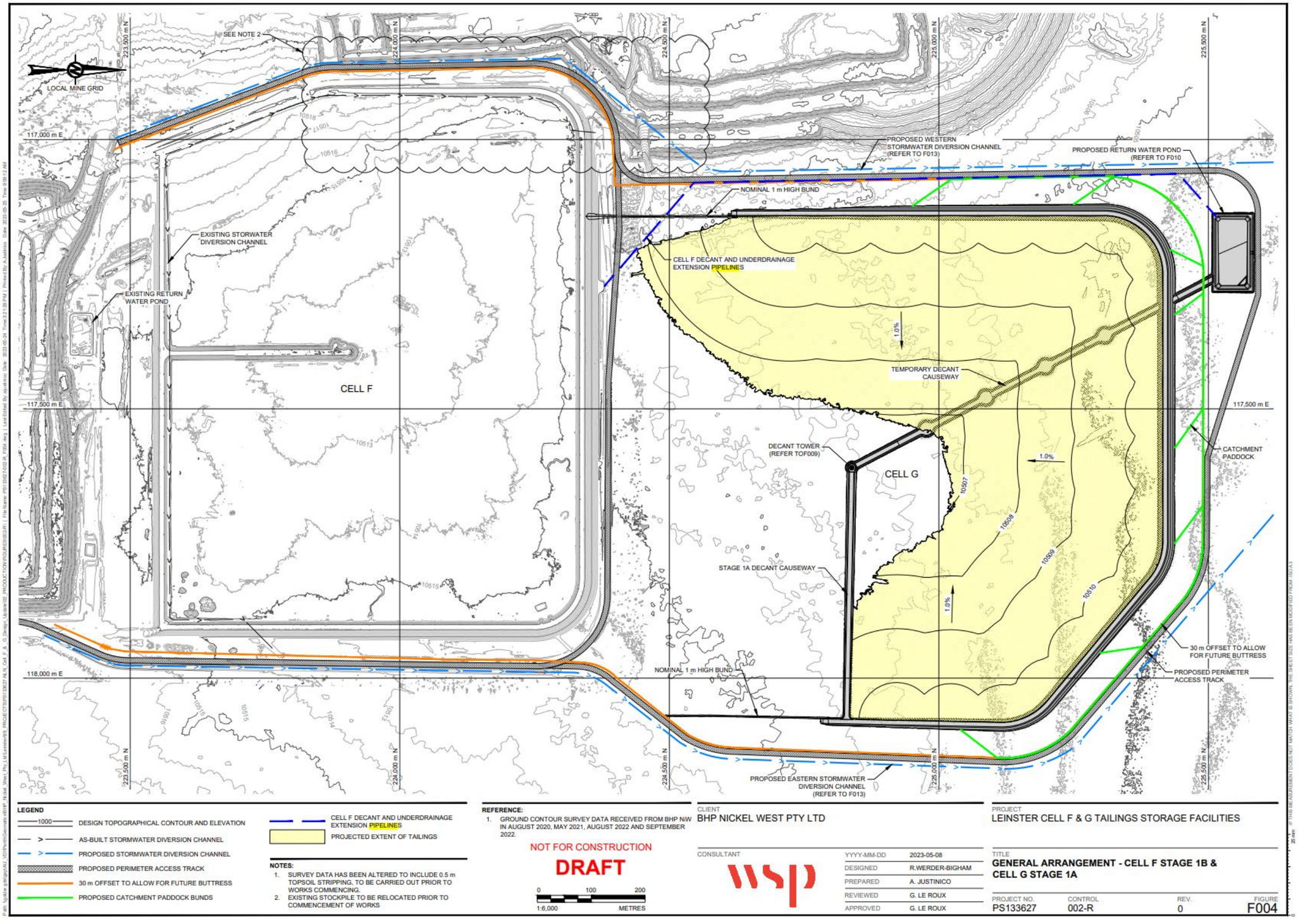

Figure 4: Tailings Storage Facilities Cell 3F (Stage 1B) and Cell 3G (Stage 1A) and Return Water Pond general layout.

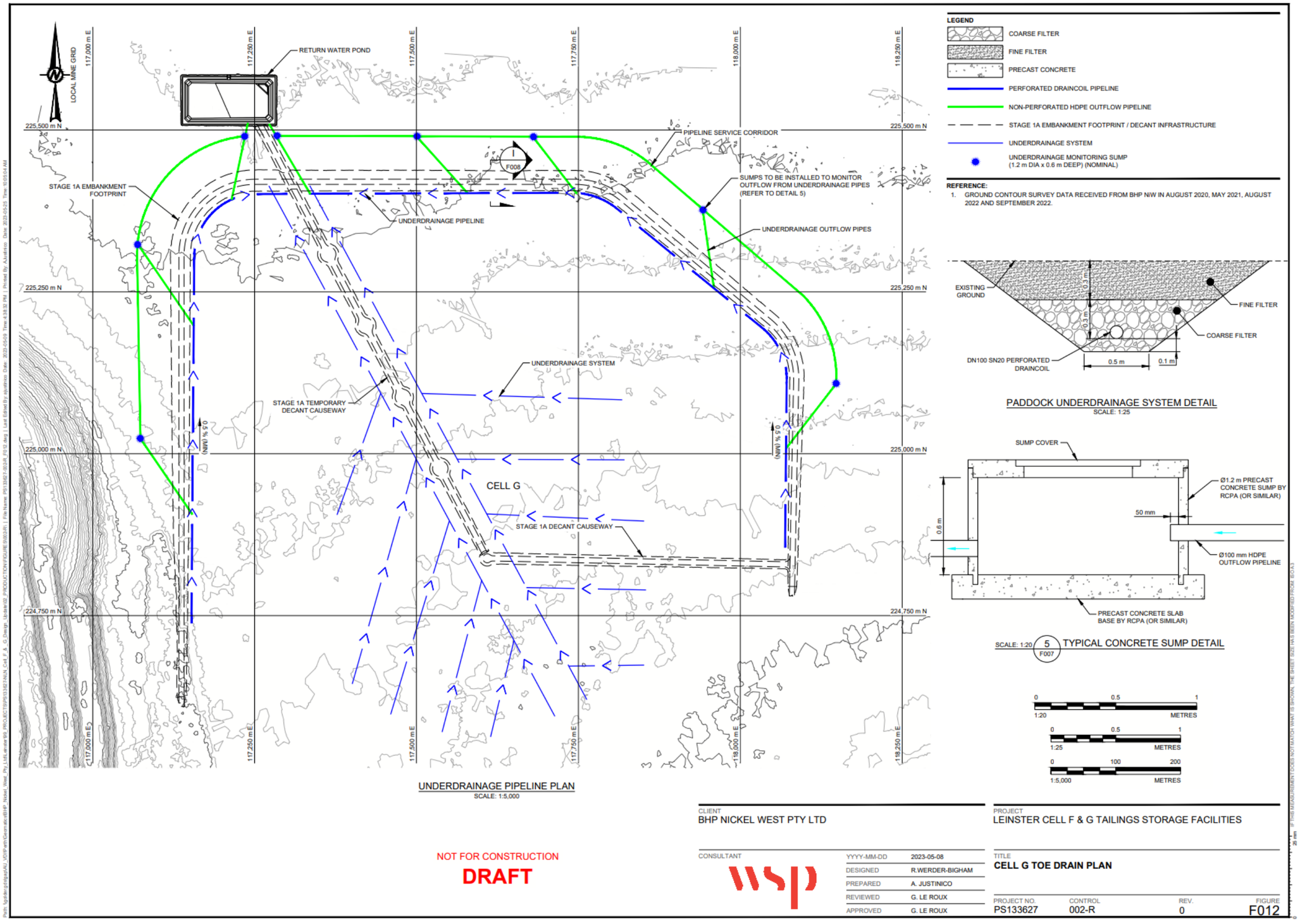

Figure 5: Cell G underdrainage and toe drain plan.

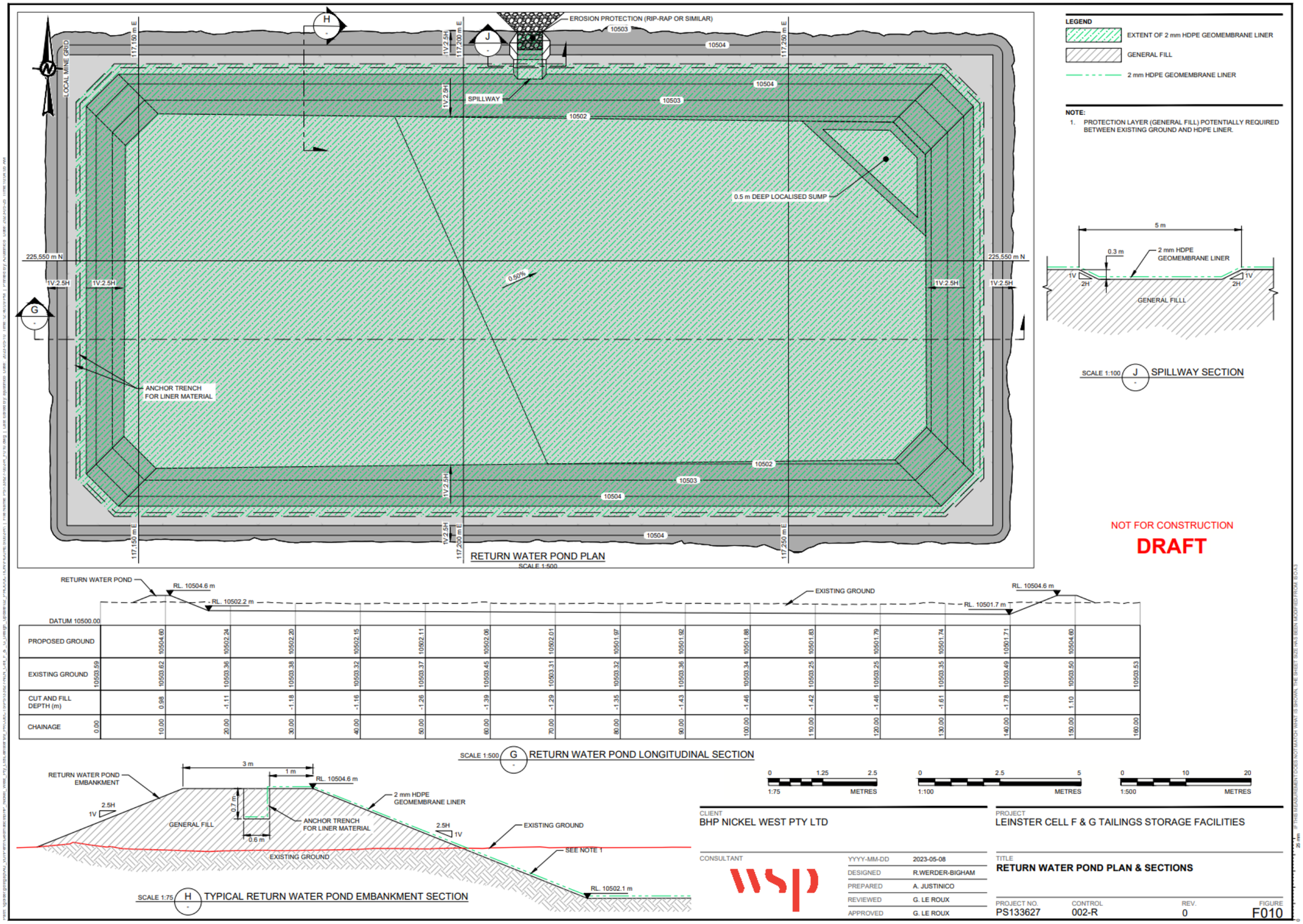

Figure 6: Return Water Pond

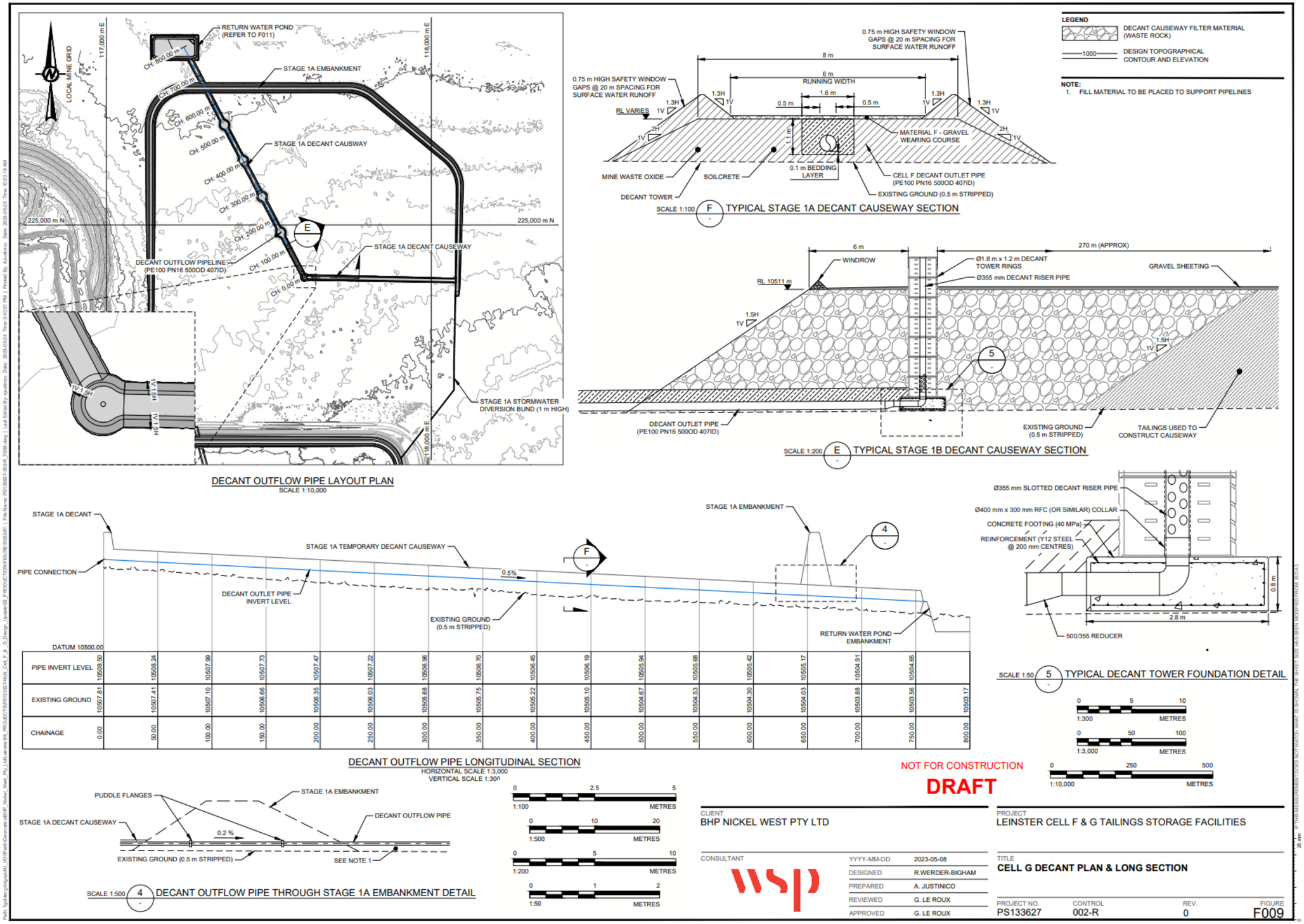

Figure 7: Cell G Decant design.

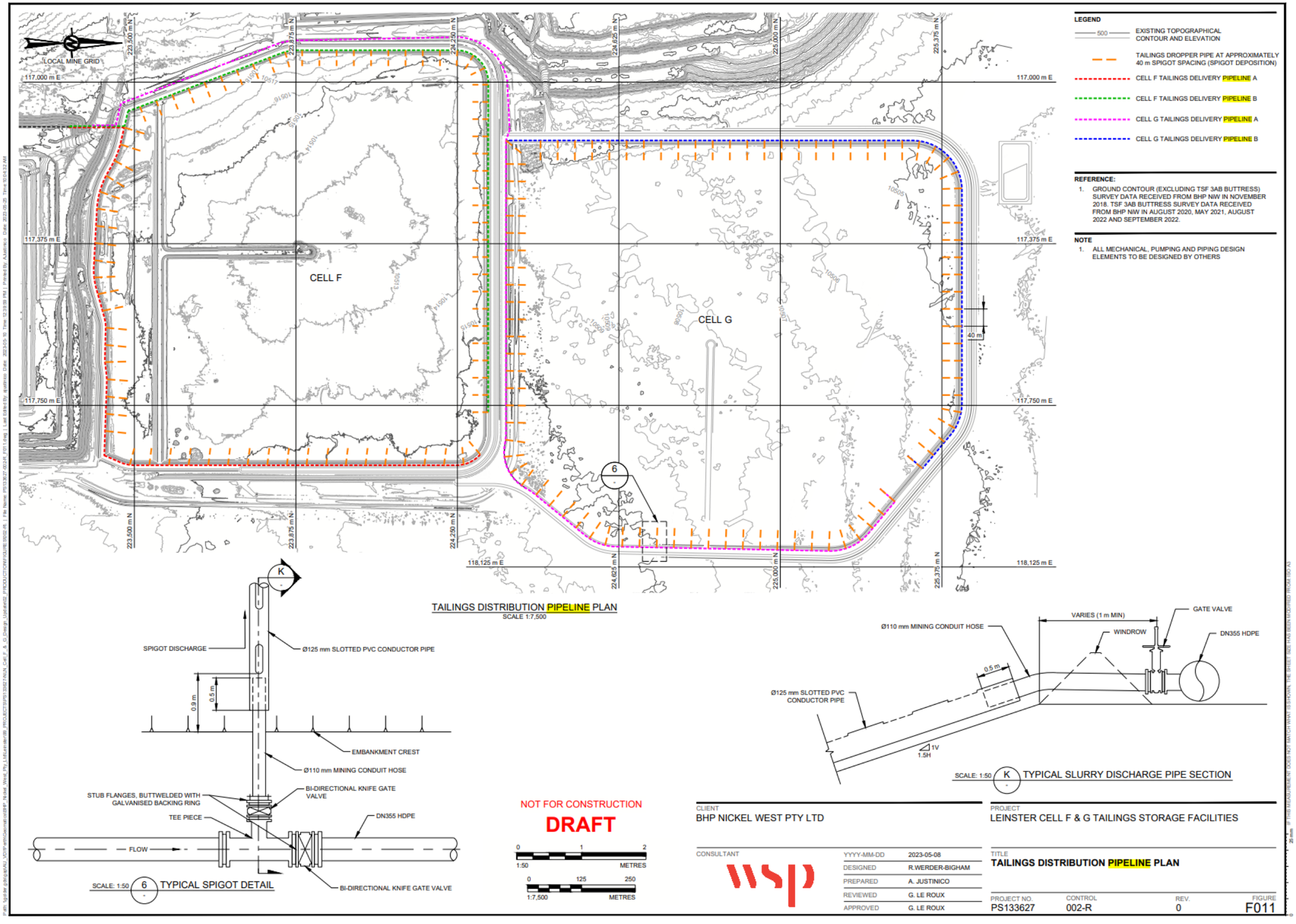

Figure 8: Tailings pipeline delivery plan

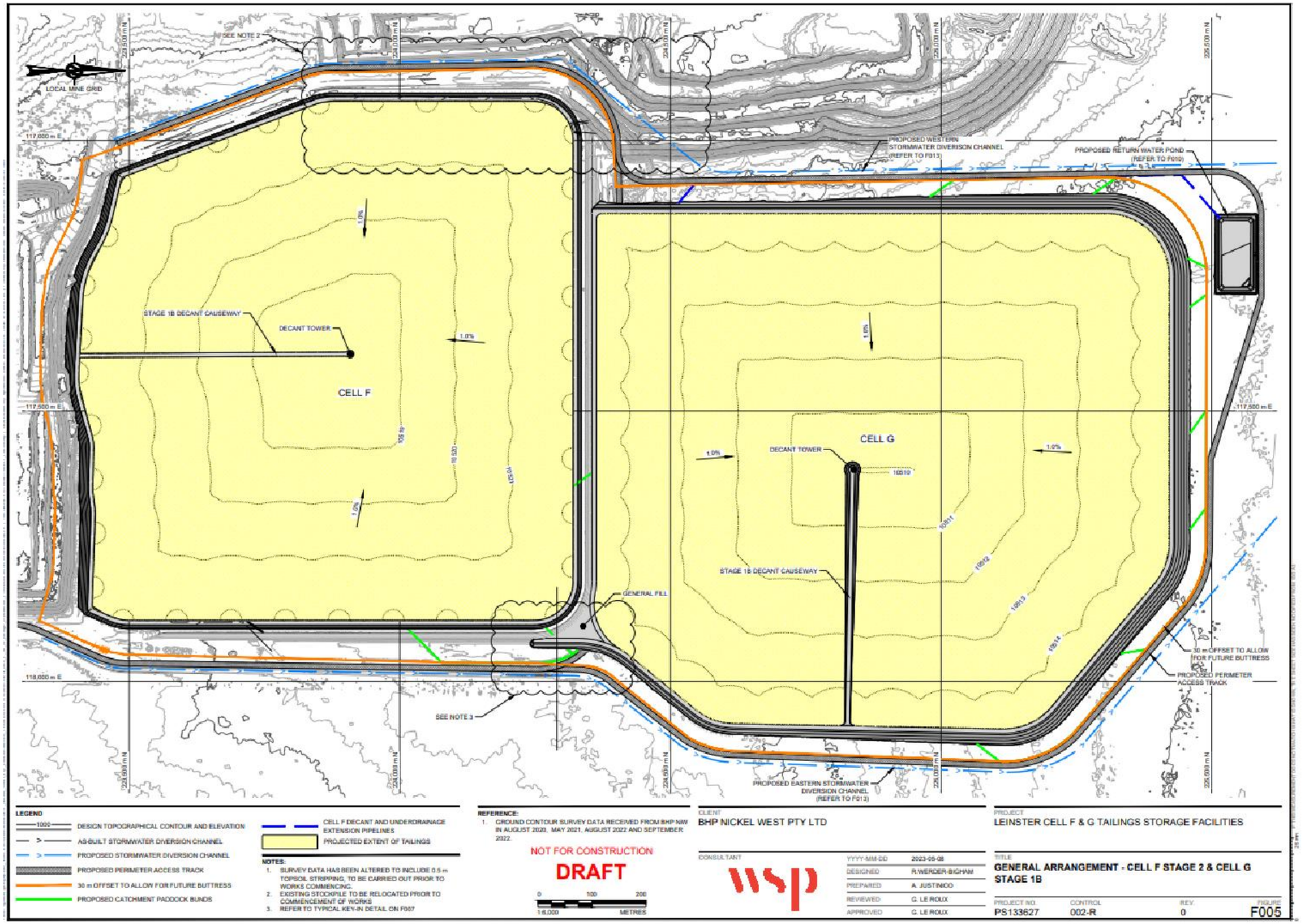

Figure 9: Tailings Storage Facilities Cell 3F (Stage 2) and Cell 3G (Stage 1B) and Return Water Pond general layout.

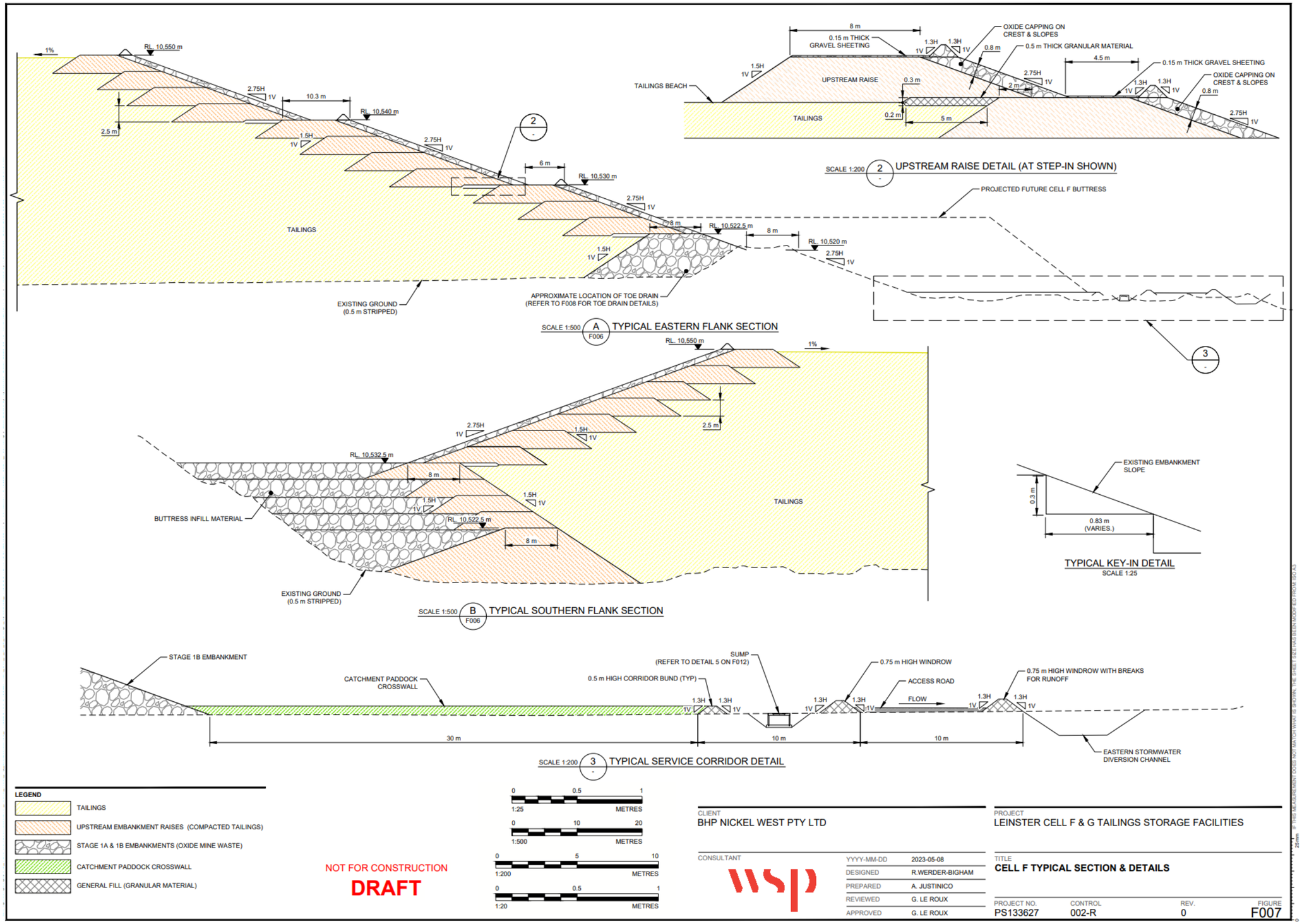

Figure 10: Cell 3F embankment cross section.

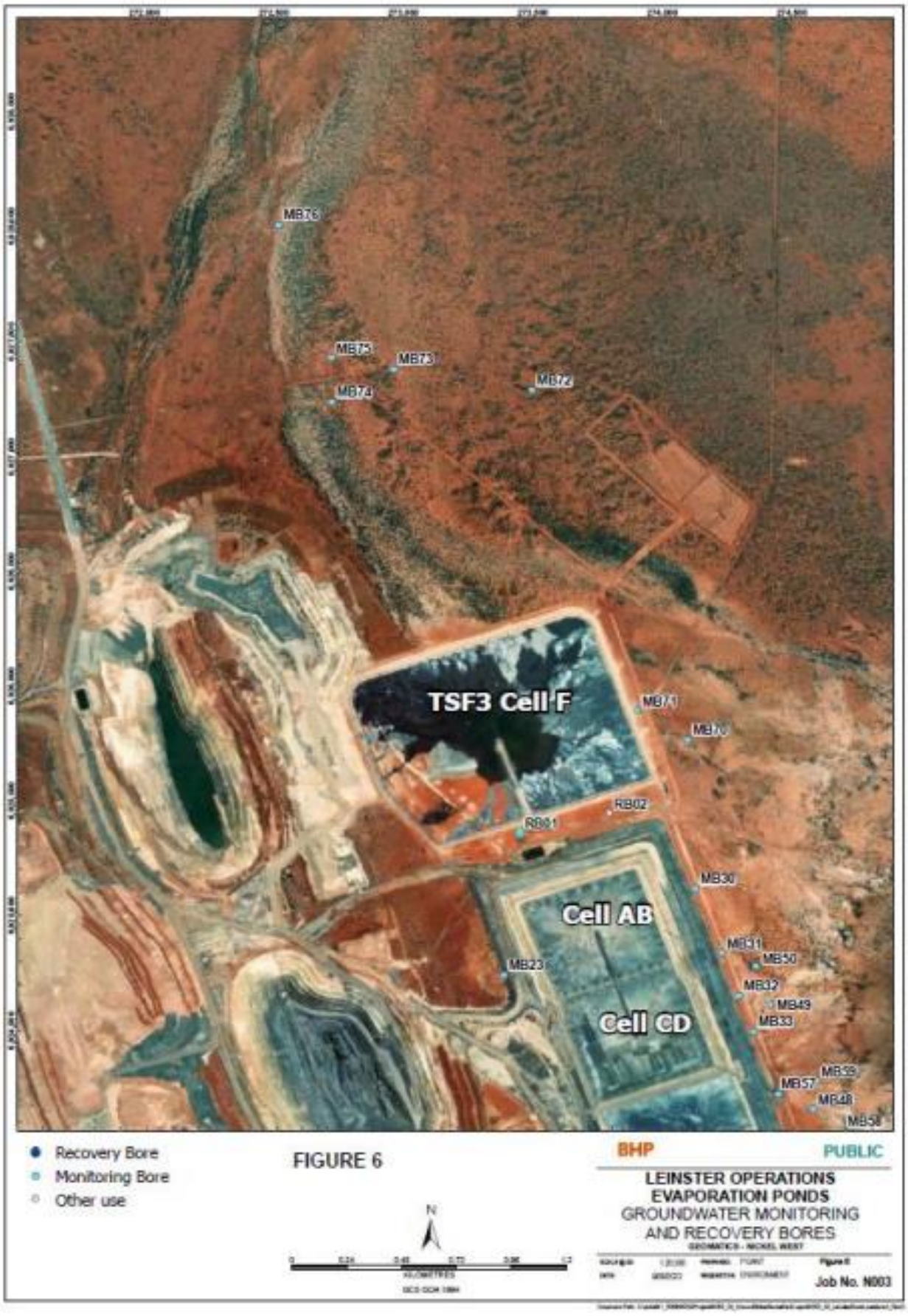

Figure 11: Location of monitoring bores surrounding Cell F and Cell G

Schedule 2: Groundwater monitoring quality assurance and quality control

The works approval 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.