Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works Approval Number	W6195/2018/1
Works Approval Holder	Egan Street Rothsay Pty Ltd
ACN	151 137 450
Registered business address	Suite 8, 77 Mill Point Road SOUTH PERTH WA 6151
File Number	DER2018/001576
Duration	18/11/2019 to 17/11/2022
Date of amendment	24/07/2020
Prescribed Premises	Category 6 – Mine dewatering Category 64 – Class II or III putrescible landfill site Category 85 – Sewage facility
Premises	Rothsay Gold Project Mining Tenements M59/39 and M59/40 PERENJORI WA 6620

This amended Works Approval is granted to the Works Approval Holder, subject to the following conditions, on 24 July 2020, by:

Alana Kidd
Digitally signed by Alana Kidd
Date: 2020.07.24 08:42:46 +08'00'

ALANA KIDD
MANAGER, RESOURCE INDUSTRIES

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

Explanatory notes

These explanatory notes do not form part of this Works Approval.

Defined terms

Definition of terms used in this Works Approval can be found at the start of this Works Approval. Terms which are defined have the first letter of each word capitalised throughout this Works Approval.

Department of Water and Environmental Regulation

The Department of Water and Environmental Regulation (DWER) is 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 *Environmental Protection Act 1986* (WA) (EP Act). The Department also monitors and audits compliance with licences and Works Approvals, takes enforcement action and develops and implements licensing and industry regulation policy.

Works Approval

Section 52 of the EP Act provides that an occupier of any premises commits an offence if any work is undertaken on, or in relation to, the premises which causes the premises to become, or to become capable of being, Prescribed Premises, except in accordance with a Works Approval.

Section 56 of the EP Act provides that an occupier of Prescribed Premises commits an offence if Emissions are caused or increased or permitted to be caused or increased, or Waste, noise, odour or electromagnetic radiation is altered or permitted to be altered from Prescribed Premises, except in accordance with a Works Approval or licence.

Categories of Prescribed Premises are defined in Schedule 1 of the *Environment Protection Regulations 1987* (WA) (EP Regulations).

This Works Approval does not authorise any activity which may be a breach of the requirements of another statutory authority including, but not limited to, the following:

- conditions imposed by the Minister for Environment under Part IV of the EP Act;
- conditions imposed by DWER for the clearing of native vegetation under Part V, Division 2 of the EP Act;
- any requirements under the *Waste Avoidance and Resource Recovery Act 2007;*
- any requirements under the *Environmental Protection (Controlled Waste) Regulations 2004*; and
- any other requirements specified through State legislation.

It is the responsibility of the Works Approval Holder to ensure that any action or activity referred to in this Works Approval is permitted by, and is carried out in compliance with, statutory requirements.

The Works Approval Holder must comply with the Works Approval. Contravening a Works Approval Condition is an offence under s.55 of the EP Act.

Responsibilities of Works Approval Holder

Separate to the requirements of this Works Approval, general obligations of Works Approval Holders are set out in the EP Act and the regulations made under the EP Act. For example, the Works Approval Holder must comply with the following provisions of the EP Act:

- the duties of an occupier under s.61; and

- restrictions on making certain changes to Prescribed Premises unless the changes are in accordance with a Works Approval, Licence, closure notice or environmental protection notice (s.53).

Strict penalties apply for offences under the EP Act.

Reporting of incidents

The Works Approval Holder has a duty to report to the Department all Discharges of Waste that have caused or are likely to cause Pollution, Material Environmental Harm or Serious Environmental Harm, in accordance with s.72 of the EP Act.

Offences and defences

The EP Act and its regulations set out a number of offences including:

- Offence of emitting an Unreasonable Emission from any Premises under s.49.
- Offence of causing Pollution under s.49.
- Offence of dumping Waste under s.49A.
- Offence of discharging Waste in circumstances likely to cause Pollution under s.50.
- Offence of causing Serious Environmental Harm (s.50A) or Material Environmental Harm (s.50B).
- Offence of causing Emissions which do not comply with prescribed standards (s.51).
- Offences relating to Emissions or Discharges under regulations prescribed under the EP Act, including materials discharged under the *Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA).*
- Offences relating to noise under the *Environmental Protection (Noise) Regulations 1997 (WA).*

Section 53 of the EP Act provides that a Works Approval Holder commits an offence if Emissions are caused, or altered, from a Prescribed Premises unless done in accordance with a Works Approval, Licence or the requirements of a closure notice or an environmental protection notice.

Defences to certain offences may be available to a Works Approval Holder and these are set out in the EP Act. Section 74A(b)(iii) provides that it is a defence to an offence for causing Pollution, in respect of an Emission, or for causing Serious Environmental Harm or Material Environmental Harm, or for discharging or abandoning Waste in water to which the public has access, if the Works Approval Holder can prove that an Emission or Discharge occurred in accordance with a Works Approval.

This Works Approval specifies the Emissions and Discharges, and the limits and Conditions which must be satisfied in respect of specified Emissions and Discharges, in order for the defence to offence provision to be available.

Authorised Emissions and Discharges

The specified and general Emissions and Discharges from the Works authorised through this Works Approval are authorised to be conducted in accordance with the Conditions of this Works Approval.

Amendment of Works Approval

The Works Approval Holder can apply to amend the Conditions of this Works Approval under s.59 of the EP Act. An application form for this purpose is available from DWER.

The CEO may also amend the Conditions of this Works Approval at any time on the initiative

of the CEO without an application being made.

Duration of Works Approval

The Works Approval will remain in force for the duration set out on the first page of this Works Approval or until it is surrendered, suspended or revoked in accordance with s.59A of the EP Act.

Suspension or revocation

The CEO may suspend or revoke this Works Approval in accordance with s.59A of the EP Act.

Definitions and interpretation

Definitions

In this Works Approval, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples*
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters*
Averaging period	means the time over which a limit 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 *Environmental Protection Act 1986* Locked Bag 10 JOONDALUP DC WA 6919 info@dwer.wa.gov.au
CN	Cyanide
CN_{WAD}	Weak Acid Dissociable Cyanide
Commission or Commissioning	means the process of operation and testing that verifies the Works and all relevant systems, plant, machinery and equipment associated with the infrastructure have been installed and are performing in accordance with Table 2 and 3.
Condition	means a condition to which this Works Approval is subject under s.62 of the EP Act.
critical containment infrastructure	means the infrastructure critical to operations as listed in Table 3.
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.
Department Request	means a request for Books or other sources of information to be produced, made by an Inspector or the CEO to the Works Approval Holder in writing and sent to the Works Approval's address for notifications, as described at the front of this Works Approval, in relation to: (a) compliance with the EP Act or this Works Approval; (b) the Books or other sources of information maintained in accordance with this Works Approval; or (c) the Books or other sources of information relating to Emissions from the Premises.
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	means a period of time to allow for stabilisation and optimisation of the process following input of raw materials under operation conditions (including emissions)

commissioning	on the Works Approval for the limited period of operations requested.
Environmental Commissioning Report	means a report on any commissioning activities that have taken place and a demonstration that they have concluded, with focus on emissions and discharges, waste containment and other environmental factors.
Environmental Compliance Report	means a report to satisfy the CEO that Works have been constructed in accordance with the Works Approval.
Environmental Harm	has the same meaning given to that term under the EP Act.
EP Act	means the *Environmental Protection Act 1986* (WA).
EP Regulations	means the *Environmental Protection Regulations 1987* (WA).
Freeboard	means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point
HDPE	High Density Polyethylene
Implementation Agreement or Decision	has the same meaning given to that term under the EP Act.
Inspector	means an inspector appointed by the CEO in accordance with s.88 of the EP Act.
material defect	means a defect in any item, whether tangible or intangible, that substantially prevents the item from operating or functioning as designed or according to its specifications
Material Environmental Harm	has the same meaning given to that term under the EP Act.
NATA	means the National Association of Testing Authorities, Australia
NATA accredited	means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis
NEPM	National Environment Protection Measure
Operation or operating	means the acceptance of reagents (limestone, quicklime, cyanide, hydrochloric acid and caustic) to the Premises and the introduction of ore feed material to the dry and wet processing circuits for the production of gold
Pollution	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Works Approval applies, as specified at the front of this Works Approval and as shown on the map in Schedule 1 to this Works Approval.
Prescribed Premises	has the same meaning given to that term under the EP Act.
professional engineer	means a person who holds a Bachelor of Engineering and has demonstrated experience working in the relevant discipline
Reportable Event	means an exceedance above the limit specified in Column 2 of Table 10, in Schedule 4.
RL m	Recurrence Level metres
Serious Environmental Harm	has the same meaning given to that term under the EP Act.
Simple 5-scale system	means a plant visual health rating (simple 5-scale system) and accompanying photograph on the randomly selected plants: 0 = dead, 1 = near death, 2 = below average, 3 = average, 4 = above average.
time limited operations	refers to the limited operation of the primary activities described in Schedule 4 of this Works Approval, at locations shown in Schedule 1 of this Works Approval, subject to the conditions, whilst a licence application is being assessed.

TSF	Tailings Storage Facility
Unreasonable Emission	has the same meaning given to that term under the EP Act.
USEPA	United States Environmental Protection Agency
WAD CN	Weak acid dissociable cyanide
Waste	has the same meaning given to that term under the EP Act.
Works	refers to the Works described in Schedule 3, at the locations shown in Schedule 1 of this Works Approval to be carried out at the Premises, subject to the Conditions.
Works Approval	refers to this document, which evidences the grant of the Works Approval by the CEO under s.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.

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.

Conditions

Construction

1. The Works Approval Holder must construct and/or install the infrastructure listed in Table 2, in accordance to the requirements set out in Table 2.

Table 2: Infrastructure and equipment requirements table

Infrastructure/ Equipment	Requirements (design, construction, commissioning and operations)	Infrastructure location
Waste water treatment plant	• WWTP to consist of an active biological treatment process utilising a Submerged Aerated Filter (SAF); • Designed to treat up to 25 m^3/day of wastewater generated at the accommodation camp and office/crib ablutions; • Designed to achieve the following wastewater outputs: - Total Nitrogen <36 mg/L - Total Phosphorus <9 mg/L - Total Suspended Solids (TSS) <30 mg/L - Chlorine Residual 0.2-2.0 mg/L - pH 6.5 – 8.5 - E.Coli <1,000 cfu/100ml • Treated effluent from the SAF to be discharged to land via a surface irrigation spray field; • The spray field to consist of four sprinkler areas within a designated fenced compound which has a combined minimum surface area of 0.81 ha;	Schedule 1: Maps, Premises map
Mine dewatering	• Mine dewatering pumps to be situated in water at a depth that does not agitate sediment particles within the mine shaft. • Flow meters installed to monitor volumes discharged. • Discharge to the TSF at the Water Discharge Point Temporary discharge to drainage line: • Total volume discharged 233,000 m^3 • Spillway to minimise sediment mobilisation down the drainage line. • A holding dam will be constructed immediately downstream of the spillway and will partially settle out the sediment. • A continuous flow will be maintained through a set diameter pipe.	Schedule 2: Site Plans, Site Plan 4: Drainage Line Photo Locations
Class II putrescible landfill at the Woodley's North and South Pits	• Landfill located more than 100 m away from any marked ephemeral drainage line. • Landfill located greater than 3 metres of the highest level of the water table aquifer at the Premises. • Separate industrial and putrescible waste trenches.	Schedule 1: Maps, Premises map

2. The Works Approval Holder must construct and/or install the Critical Containment Infrastructure listed in Table 3, in accordance with the requirements set out in Table 3.

Table 3: Critical Containment Infrastructure design and construction requirements / installation requirements.

Critical Containment Infrastructure	Design and construction requirement / installation requirement	Infrastructure location
TSF Operational Pond	• Minor earth works to the existing embankment walls to flatten out, construct bunds and spillway. • Flow meters installed to monitor volumes discharged to the Water Discharge Point, to the evaporator, to the evaporation/infiltration pond, to the header tank for use underground and to the standpipe for water cart use. • Placement of waste rock wearing course at the Water Discharge Point. • In consultation with a suitably qualified professional hydrogeologist, by the 31 October 2020: ➢ Install a shallow groundwater monitoring bore located downgradient of the TSF Operational Pond to monitor for any lateral seepage; and ➢ Develop and submit to the CEO a program for monitoring the shallow groundwater monitoring bore. The program shall include standing water level trigger values with subsequent management actions. • Operational pond located within the footprint of the existing TSF. • Operational Pond excavated to a maximum depth of 3 m (Base of pond 357.00 m RL); • Excavated material from the Operational Pond placed within the footprint of the TSF. • Constructed so the maximum water extent contained within the Operational Pond does not exceed 360.35 m RL. • Operational Pond designed to hold a maximum of 22,288 m^3. • Collect at least 5 samples of tailings material from different parts of the excavated Operational Pond walls and subject the samples to the following tests: ➢ The Emerson dispersion test (Australian Standard 1289.3.8.1 – 1997); ➢ Pinhole tests for assessing the risk of tunnel erosion (Australian Standard 1289.3.8.3 – 1997); and ➢ Column tests for assessing the risk of tunnel erosion using the methodologies outlined in Vacher, V.A., Loch, R.J. and Raine, S.R., 2004. *Identification and Management of Dispersive Mine Spoils.* Australian Centre for Mining Environmental Research (ACMER). • Provide to the CEO within 14 days, a copy of the results from the above tests conducted on the tailings material; • Embankment staging: Lift 1 embankment crest level of RL366.5m; • Access causeway leading from a natural ridge to a concrete decant tower located at the centre of the causeway; • An access causeway of varying length off a natural ridge constructed from Zone D material	Schedule 1: Maps, Premises map Schedule 2: Site Plans, Site Plan 1: TSF general arrangement Schedule 2: Site Plans, Site Plan 2: TSF Operational Pond, Spillway and Decant Tower details Schedule 2: Site Plans, Site Plan 3: Evaporation/infiltration pond Schedule 2: Site Plans, Site Plan 5 TSF monitoring bore locations

Critical Containment Infrastructure	Design and construction requirement / installation requirement	Infrastructure location
	(general fill) for the causeway and Zone G material (clean rockfill) surrounding the tower with a wearing coarse placed on the crest; • A concrete decant tower located at the centre of the causeway and consisting of a 1.2 m diameter slotted concrete pipe installed on a concrete footing; • Two submersible pumps with float control switches mounted on a lifting hoist within the tower and associated electrical infrastructure located on natural ground. Pumps automated to reclaim water from the TSF. • Discharge HDPE water pipelines running to the east evaporation/infiltration pond, evaporator placed on the main embankment, header storage tank for underground use and standpipe for water cart use. • Pipelines located outside of the TSF perimeter are positioned within a bunded corridor with sufficient capacity to ensure all liquors are captured within the trench. • Flow meters installed on pipelines. • Mechanical evaporator system: • 1 x 400/200 Minetek mechanical evaporator capable of pumping 25 l/sec; • Five groundwater monitoring bores: ➢ TSF BH-01A, 488,339E, 6,760,566N; ➢ TSF BH-02, 488,444E, 6,760,671N; ➢ TSF BH-05, 488,060E, 6,760,616N; ➢ TSF BH-06, 488,384E, 6,760,966N; ➢ TSF BH-07, 487,911E, 6,761,002N; • One piezometer: ➢ PZ-01, 488,358E, 6,760,729N.	
Evaporation/Infiltration Pond	Evaporation/Infiltration Pond: • HDPE pipelines contained within an earthen bund. • Evaporation/Infiltration Pond storage capacity 21,580m^3. • Surface area and volume with embankments: ➢ RL346.50m, surface area 6,730m^2, volume 5,690m^3 (depicted in purple shading in Site Plan 3); and ➢ RL348.50m, surface area 13,640m^2, volume 21,580m^3 (depicted in blue shading in Site Plan 3). • A diversion bund has been included in the design to direct overland sheet flow from significant storm events away from the Evaporation/Infiltration Pond. A spillway has also been included in the design for the release of diluted pond water into a nearby drainage channel. • Groundwater monitoring bores: ➢ Pond BH-01, 488,951E, 6,761,412N; ➢ Pond BH-02, 488,966E, 6,761,141N and ➢ Pond BH-04	Schedule 1: Maps, Premises map Schedule 2: Site Plans, Site Plan 3: Evaporation/Infiltration Pond Schedule 2: Site Plans, Site Plan 6 evaporation/infiltration pond monitoring bore locations

3. Subject to Conditions 1 and 2, within 60 days of the completion of the Works specified in Tables 2 and 3, the Works Approval Holder must provide to the CEO an Environmental Compliance Report certified by a suitably qualified professional

engineer that:

(a) lists and describes the completed works and any associated items of infrastructure and equipment listed in Tables 2 and 3;

(b) certifies whether or not each item of infrastructure or component of infrastructure specified in Tables 2 and 3 has been constructed with no material defects and to the requirements specified in Tables 2 and 3;

(c) contains 'as constructed' plans for each item of infrastructure or component of infrastructure specified in Tables 2 and 3; and

(d) is signed by a person authorised by the works approval holder and contains the printed name and position of that person within the company.

4. Subject to condition 3, where an item of infrastructure or component of infrastructure has been certified as not being constructed, or does not comply with the corresponding requirements, or contains material defects, the works approval holder must:

(a) correct the non-compliant or defective works, prior to re-certifying in accordance with condition 3(b); or

(b) provide to the CEO a description of, and explanation for, any departures from the requirements specified in Tables 2 and 3 that do not require rectification and do not constitute a material defect along with the report required by condition 3.

Commissioning

5. The Works Approval Holder may only commence environmental commissioning of the infrastructure listed in Table 2 and Table 3 once the Environmental Compliance Report has been submitted in accordance with condition 3 of this Works Approval.

6. The Works Approval Holder may only conduct environmental commissioning of the infrastructure listed in Table 2 and Table 3, in accordance with the requirements set out in Table 4.

Table 4. Environmental commissioning requirements

Infrastructure	Authorised commissioning duration	Commissioning requirements
TSF Operational Pond	For a period not exceeding 30 calendar days	Subject to completing the requirements of condition 17 and 18
Evaporation/Infiltration Pond	For a period not exceeding 30 days	Subject to completing the requirements of condition 5, 16, 17 and 18
WWTP	For a period not exceeding 90 days	No more than 25m^3 of treated effluent discharged to the irrigation spray field

7. The Works Approval Holder must submit to the CEO an Environmental Commissioning Report within 60 calendar days of the completion date of environmental commissioning.

8. The Works Approval Holder must ensure the Environmental Commissioning Report required by condition 7 of this Works Approval includes at minimum the following:

(a) a summary of the commissioning activities undertaken, including timeframes;

(b) a summary of groundwater monitoring required under Condition 15, Table 6;

(c) a summary of the environmental performance of all plant and equipment as installed, which at minimum includes records detailing the:

(i) commissioning of the infrastructure; and

(ii) testing the infrastructure.

(d) a review of performance against the Works Approval; and

(e) where they have not been met, measures proposed to meet the manufacturer's design specification and conditions of this Works Approval, together with timescales for implementing the proposed measures.

Time limited operations

9. The Works Approval Holder may only commence time limited operations where:

(a) the Environmental Compliance Report required by condition 3 of this Works Approval has been submitted by the Works Approval Holder; and

(b) the Environmental Commissioning Report required by condition 7 of this Works Approval has been submitted by the Works Approval Holder.

10. The Works Approval Holder may conduct time limited operations for a period not exceeding 180 calendar days from the day the Works Approval Holder meets the requirements of condition 9 of this Works Approval.

11. 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.

12. The Works Approval Holder must ensure the report required by condition 11 of this Works Approval includes at minimum the following:

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

(b) a summary of groundwater monitoring required under condition 15 and 17;

(c) a summary of the environmental performance of all plant and equipment as installed, which at minimum includes records detailing the:

(i) TSF Operational Pond water balance;
(ii) Volume of mine dewater water discharged to the Temporary discharge drainage line;
(iii) Vegetation monitoring conducted in line with the Vegetation Monitoring Operating Procedure (Egan Street Rothsay Pty Ltd, January 2020);
(iv) Volume of mine dewatering water discharged to the Evaporation/Infiltration Pond; and
(v) Volume of waste types disposed of to the landfill;

(d) a review of performance against the Works Approval; and

(e) where they have not been met, the measures proposed to meet the manufacturer's design specification and conditions of this Works Approval, together with timescales for implementing the proposed measures.

Emissions

13. The Works Approval Holder must not cause any Emissions from the Works authorised through this Works Approval except for specified Emissions and general Emissions described in Column 1 of Table 5, subject to the exclusions, limitations or requirements specified in Column 2, of Table 5.

Table 5: Authorised Emissions table

Column 1	Column 2
Emission type	**Exclusions/Limitations/Requirements**
Specified Emissions	
Discharge of mine dewatering water to the TSF Operational Pond	Subject to compliance with Conditions 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21 and 22
Mine dewatering water temporary discharge to the drainage line	Subject to compliance with Conditions 1, 3, 4, 5, 7, 8, 9, 10, 11, 12, 14, 15, 16, 19, 20, 21 and 22
Mine dewatering water to the Evaporation/Infiltration pond	Subject to compliance with Conditions 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21 and 22
Discharge of treated wastewater to the irrigation spray field	Subject to compliance with Conditions 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 21 and 22
General Emissions (excluding Specified Emissions)	
Emissions which arise from undertaking the Works set out in Schedule 3.	Emissions excluded from General Emissions are: • Unreasonable Emissions; or • Emissions that result in, or are likely to result in, Pollution, Material Environmental Harm or Serious Environmental Harm; or • Discharges of Waste in circumstances likely to cause Pollution; or • Emissions that result, or are likely to result in, the Discharge or abandonment of Waste in water to which the public has access; or • Emissions or Discharges which do not comply with an Approved Policy; or • Emissions or Discharges which do not comply with prescribed standard; or • Emissions or Discharges which do not comply with the conditions in an Implementation Agreement or Decision; or • Emissions or Discharges the subject of offences under regulations prescribed under the EP Act, including materials discharged under the Environmental P*rotection (Unauthorised Discharges) Regulations 2004*.

Specified Actions

Monitoring requirements

14. The Works Approval Holder must ensure that:

(a) monitoring is undertaken in each monthly period such that there are at least 15 days in between the days on which samples are taken in successive months;

(b) monitoring is undertaken in each quarterly period such that there are at least 45 days in between the days on which samples are taken in successive quarters; and

(c) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured unless indicated otherwise in the relevant table.

15. The Works Approval Holder must monitor emissions:

(a) at the corresponding monitoring location described in Column 1;

(b) for the corresponding parameter described in Column 2;

(c) in the corresponding unit described in Column 3;

(d) for the corresponding averaging period described in Column 4;

(e) at no less than the corresponding frequency described in Column 5;

(f) using the corresponding method described in Column 6; and

(g) compare to the ANZECC/ARMCANZ Livestock drinking water guidelines,

as set out in Table 6.

Table 6: Groundwater monitoring

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Location	**Parameter**	**Unit**	**Averaging Period**	**Frequency**	**Method**
British Queen Shaft (mine dewatering water) RYMP1 Camp Bore RYMP2 Camp Bore RYMP3 Mine Bore RYMP4 Mine Bore	pH	pH units	Spot sample	At least once 3 months prior to the commencement of commissioning and quarterly thereafter During the temporary mine dewatering discharge to drainage line, this monitoring should occur at the end of the second month (half way through discharge campaign)	AS/NZS 5667.1 AS/NZS 5667.11
	Electrical Conductivity, EC	µg/S			
	Total Dissolved Solids, TDS	mg/L			
	Sulfate, SO_4				
	Ammonia, NH_3				
	Nitrite, NO_2				
	Nitrite + Nitrate, NO_3				
	Total Kjeldahl Nitrogen, N				
	Total Nitrogen, TN				
	Total Phosphorus, TP				
	Reactive Phosphorus, P				
	Total CN				
	WAD CN				
	Aluminium, Al				

	Arsenic, As				
	Boron, B				
	Barium, Ba				
	Beryllium, Be				
	Cadmium, Cd				
	Calcium, Ca				
	Chloride, Cl				
	Chromium, Cr				
	Cobalt, Co				
	Copper, Cu				
	Fluoride, F				
	Iron, Fe				
	Lead, Pb				
	Magnesium, Mg				
	Manganese, Mn				
	Mercury, Hg				
	Molybdenum, Mo				
	Nickel, Ni				
	Selenium, Se				
	Strontium, Sr				
	Uranium, U				
	Vanadium, V				
	Zinc, Zn				

ND: not determined, insufficient background data to calculate.
NST: not sufficiently toxic.

16. The Works Approval Holder must provide to the CEO the results obtained in Condition 15 within 30 days of the receiving the results from the laboratory and compare the British Queen Shaft monitoring results to the site's baseline data and ANZECC Livestock drinking water quality.

Groundwater monitoring programme

17. The Works Approval Holder shall, at least 30 days prior to construction commencing, construct the following monitoring bores within a 20 m radius of the specified coordinates:

    (a) Eight groundwater monitoring bores:
        i. TSF BH-01A, 488,339E, 6,760,566N;
        ii. TSF BH-02, 488,444E, 6,760,671N;
        iii. TSF BH-05, 488,060E, 6,760,616N;
        iv. TSF BH-06, 488,384E, 6,760,966N;
        v. TSF BH-07, 487,911E, 6,761,002N;
        vi. Pond BH-01, 488,951E, 6,761,412N;
        vii. Pond BH-02, 488,966E, 6,761,141N; and
        viii. Pond BH-04

    (b) One piezometer:
        i. PZ-01, 488,358E, 6,760,729N;

    (c) establish, develop and sample bores in accordance with Section 8.2 of the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPM, 1999).

    (d) Conduct baseline sampling as soon as practicable in accordance with Section 8.2.3.5 of the National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPM, 1999):
        i. for the corresponding parameter described in Column 2, including standing water in metres below ground level;
        ii. in the corresponding unit described in Column 3;
        iii. for the corresponding averaging period described in Column 4;
        iv. at the corresponding frequency described in Column 5;
        v. using the corresponding method described in Column 6; and
        vi. compare to the ANZECC/ARMCANZ Livestock drinking water guidelines,as set out in Table 8.

18. The Works Approval Holder shall, at least 60 days prior to construction commencing, submit a report to the CEO providing all bore logs and all water quality data obtained from the eight bores listed in Condition 17. The report shall include an updated water bore location map for the entire Premises.

Inspections

19. The Works Approval Holder must conduct visual inspections of the infrastructure specified in Column 1 of Table 7:

    (a) of the type described in Column 2; and

    (b) at the corresponding frequency described in Column 3;

    set out in Table 7.

Table 7: Inspections of infrastructure

Column 1	Column 2	Column 3
Infrastructure (refer to Schedule 1 Premises Plan)	**Type of inspection**	**Frequency**
Dewatering delivery pipelines	To confirm integrity	Twice daily
Decant water pipelines		
Tailings storage facility operational pond embankment freeboard	To confirm required freeboard capacity is available	Daily

20. The Works Approval Holder must record the results of all monitoring activity required by Condition 19.

Record-keeping

21. The Works Approval Holder must maintain accurate Books including information, reports and data in relation to the Works and the Books must:

    (a) be legible;

    (b) if amended, be amended in such a ways that the original and subsequent amendments remain legible or are capable of retrieval;

    (c) be retained for at least 3 years from the date the Books were made;

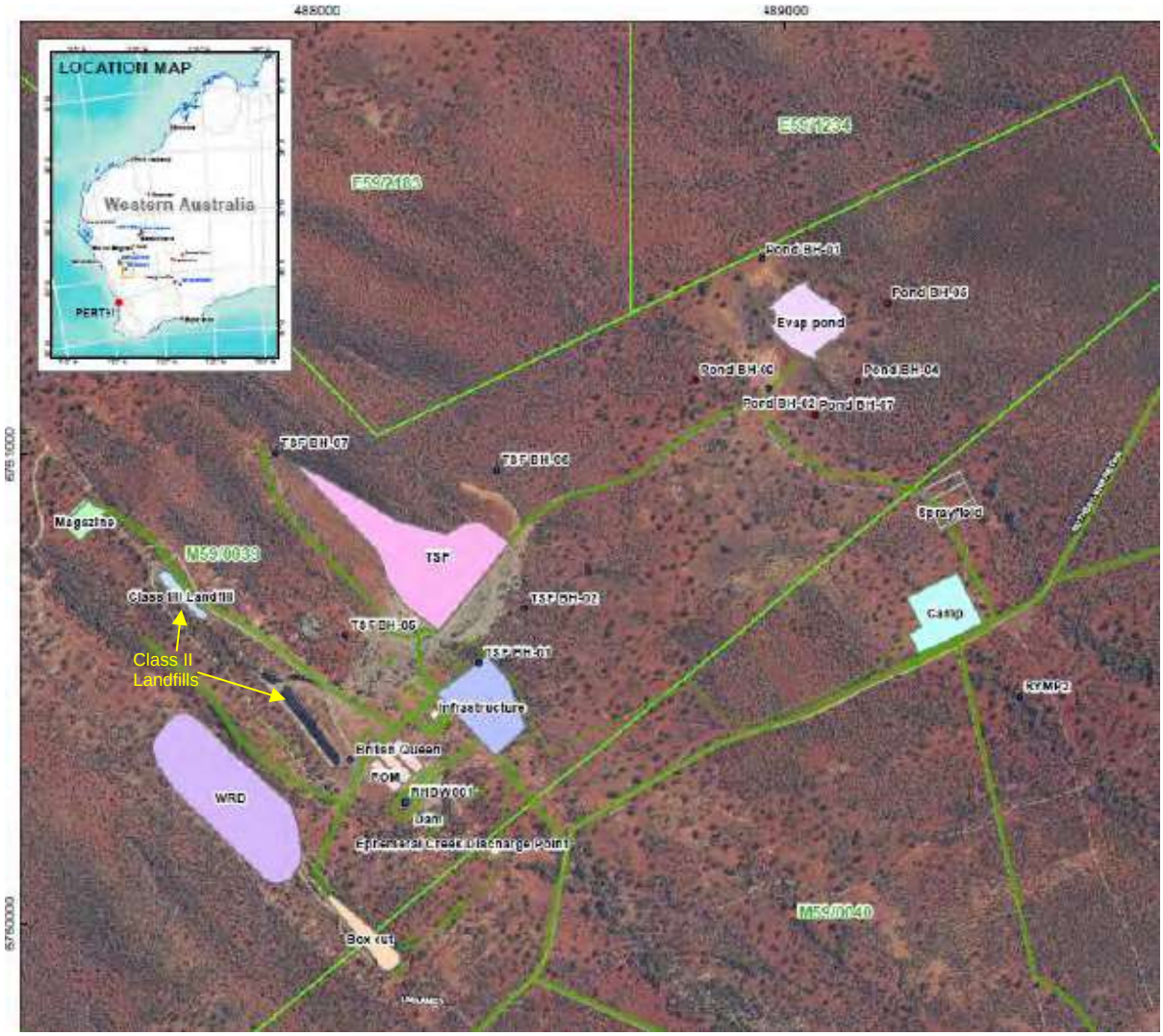
    (d) be available to be produced to an Inspector or the CEO.

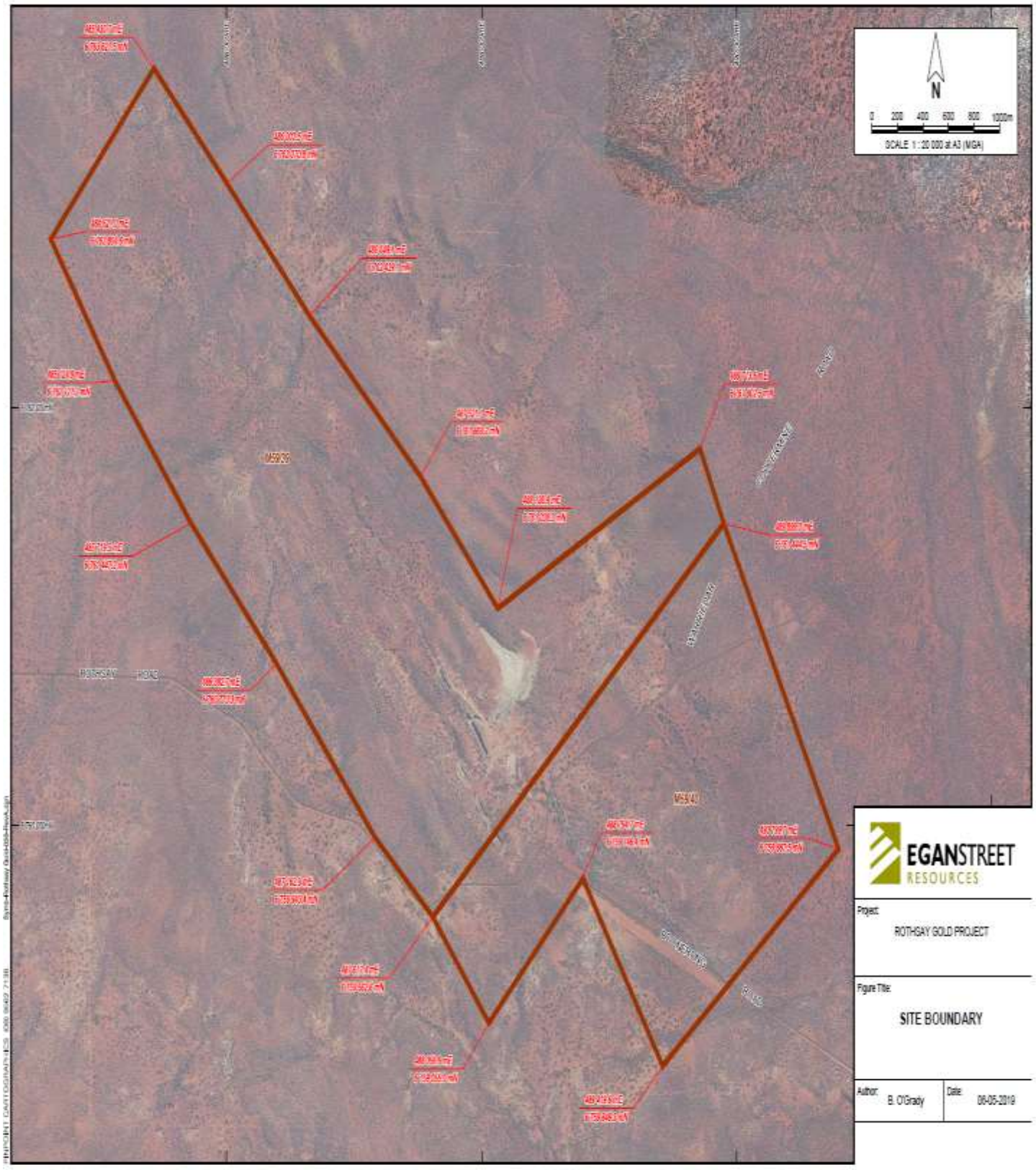
22. The Works Approval Holder must comply with a Department Request within 14 days from the date of the Department Request or such other period as agreed to by the Inspector or the CEO.

Schedule 1: Maps

Premises map

The Premises are shown in the maps below. The Prescribed Premises Boundary is shown in orange and follows the perimeter of the Mining Leases M59/39 and M59/40.




N
0 200 400 600 800 1000m
SCALE 1 : 20 000 at A3 (MGA)
EGANSTREET
RESOURCES
Project:
ROTHSAY GOLD PROJECT
Figure Title:
SITE BOUNDARY
Author:
B. O'Grady
Date:
06-05-2019

Premises boundary

The Premises boundary is defined by the coordinates in Table 8.

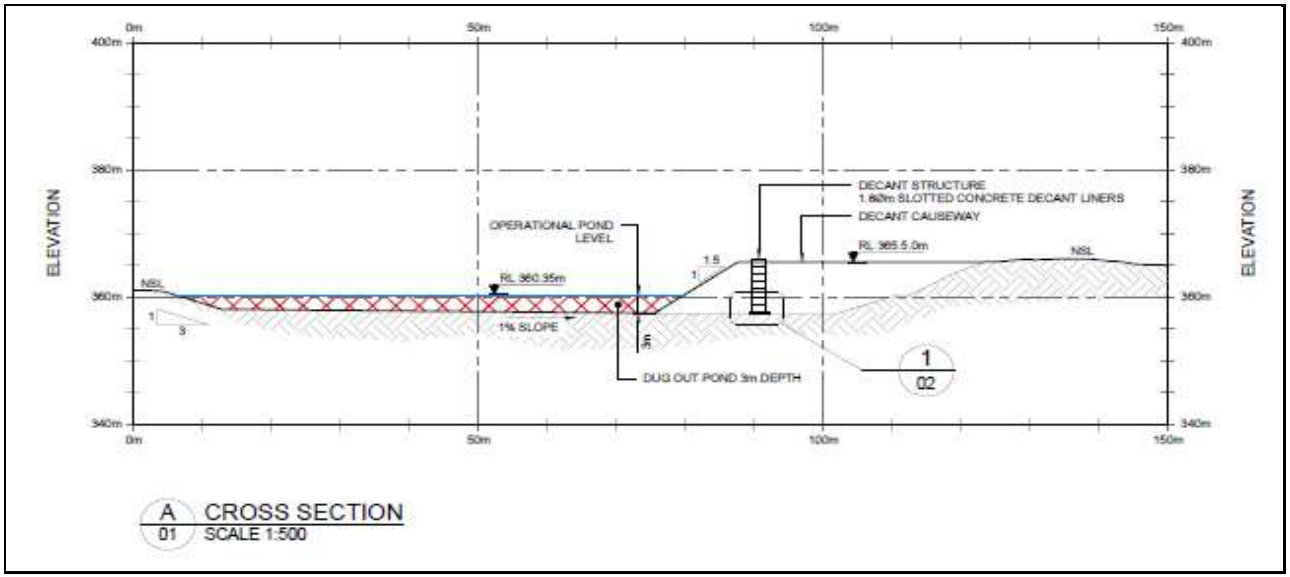
Table 8: Premises boundary coordinates

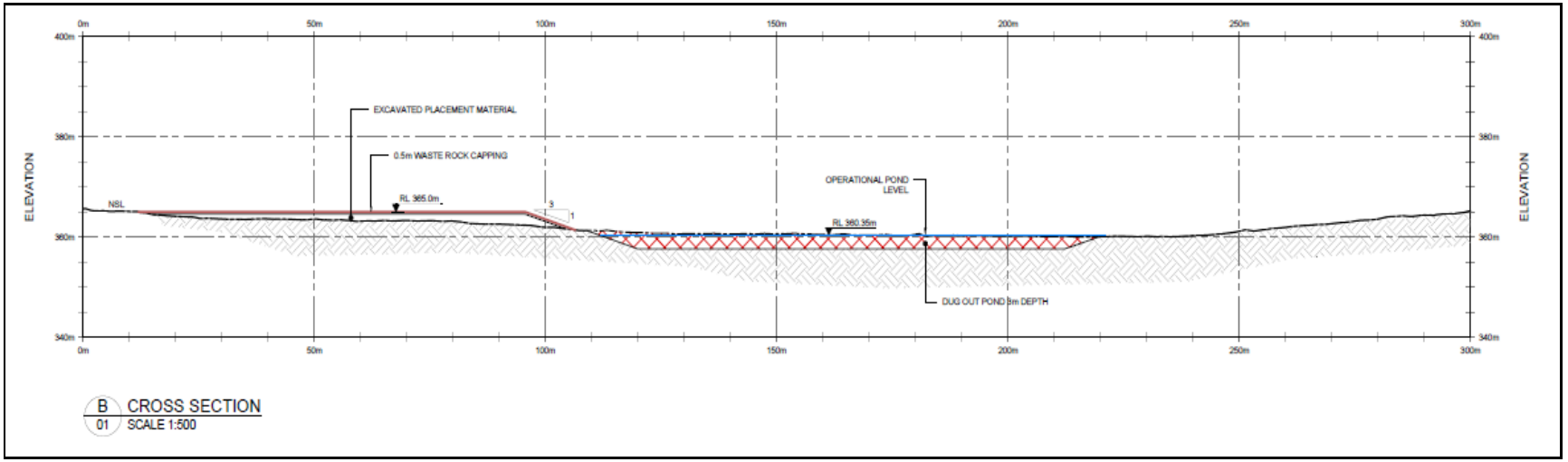
Easting	Northing
485430.7	6763621.5
486003.5	6763070.8
486649.1	6762439.1
487521.1	6761669.2
488126.9	6761038.3
489713.6	6761802.5
489899	6761444.5
490799.7	6759887.5
489419.6	6758849.3
488794.7	6759746.4
488056.6	6759055
487617.4	6759562.6
487162.9	6759943.4
486392.7	6760773.3
485719.5	6761447.2
485124.9	6762127.2
484621	6762804.6

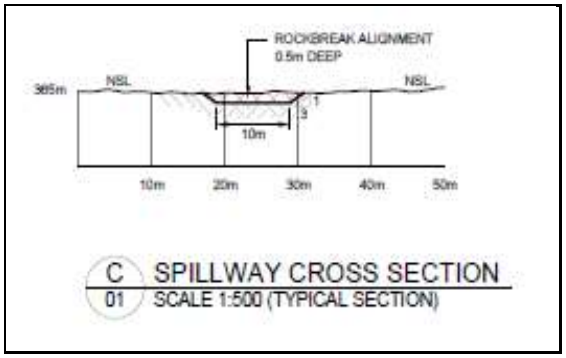
Schedule 2: Site Plans

Site Plan 1: TSF general arrangement

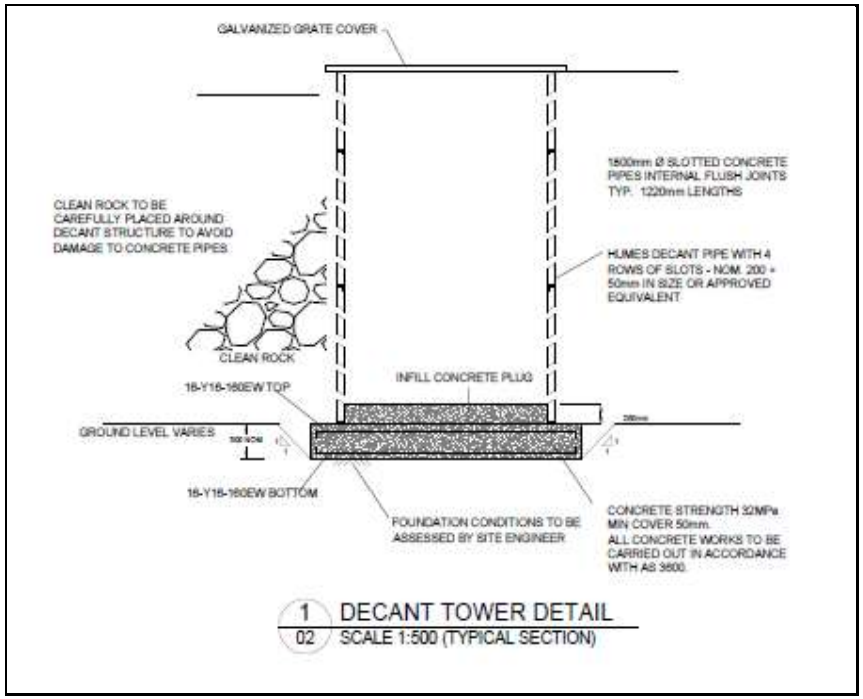
Site Plan 2: TSF Operational Pond, Spillway and Decant Tower details







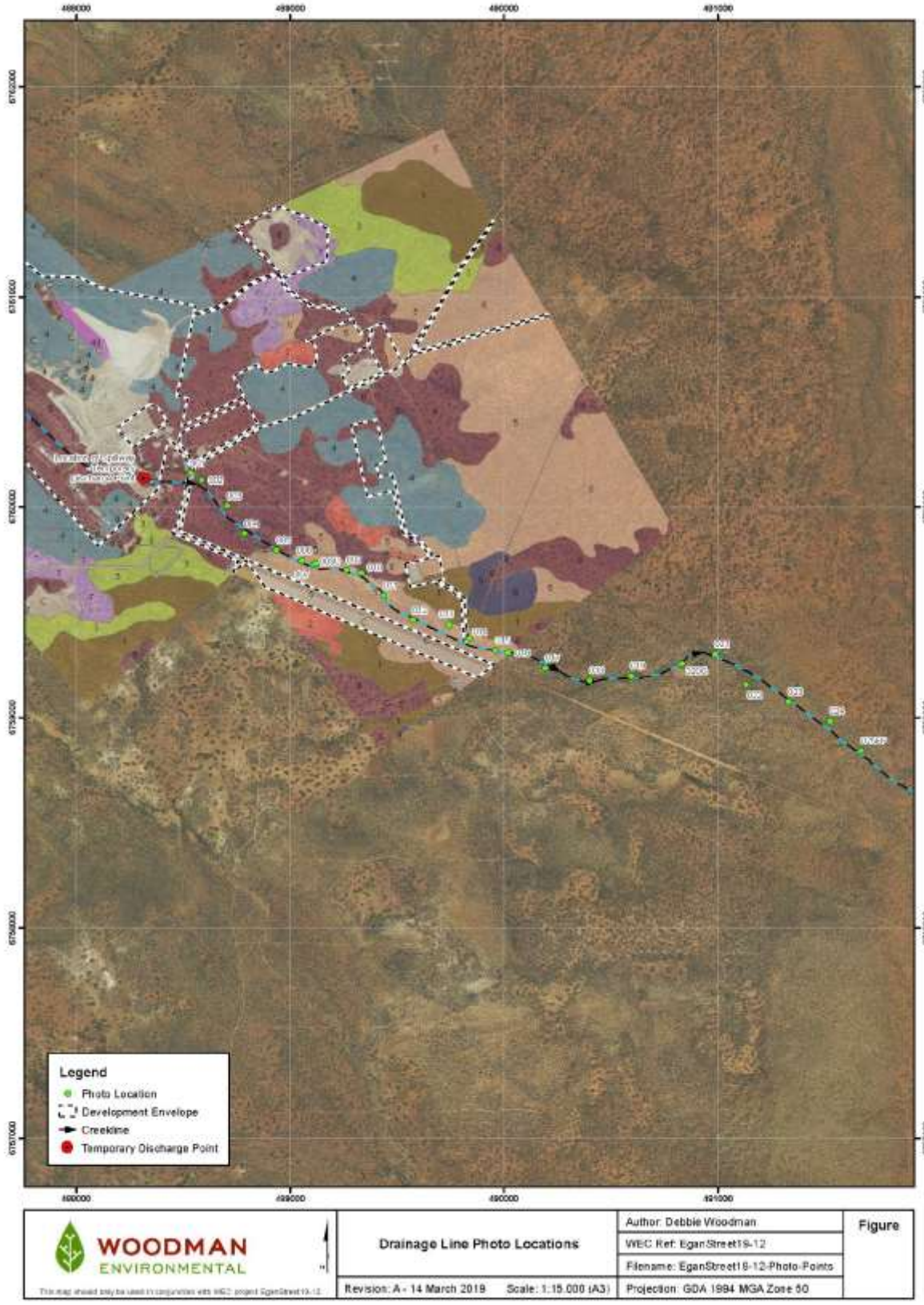
C 01 SPILLWAY CROSS SECTION
SCALE 1:500 (TYPICAL SECTION)



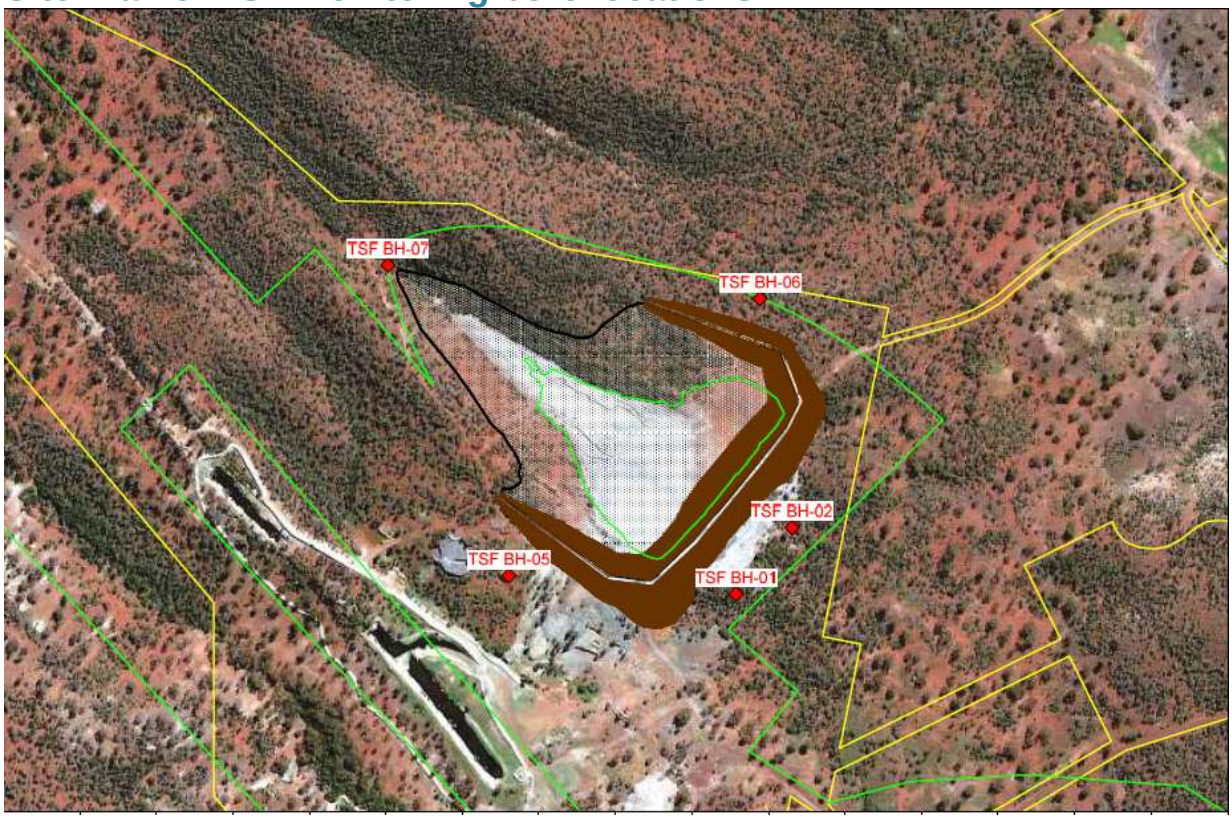
1 02 DECANT TOWER DETAIL
SCALE 1:500 (TYPICAL SECTION)

Site Plan 3: Evaporation/Infiltration Pond

Site Plan 4: Drainage Line Photo Locations



Site Plan 5: TSF Monitoring bore locations



Site Plan 6: Evaporation/infiltration pond monitoring bores locations

Schedule 3: Works

At the time of assessment, Emissions and Discharges from the Works listed in Table 9 were considered in the determination of the risk and related Conditions for the Works Approval.

Table 9: Authorised Works

Works	Specifications/Drawings
Mine dewatering bore pump installed within the British Queen Shaft and RYDW and transfer pipelines and pumps to discharge location	Schedule 1: Premises map
Ephemeral drainage line for temporary discharge	Schedule 2: Site Plan 4 Drainage Line Photo Locations
Mine dewatering Evaporation/Infiltration Pond	Schedule 1: Premises map Schedule 2: Site Plan 3
Mine dewatering TSF Operational Pond	Schedule 1: Premises map Schedule 2: Site Plan 1: TSF general arrangement Schedule 2: Site Plan 2: TSF Operational Pond, Spillway and Decant Tower details
Inert / putrescible landfill	Schedule 1: Premises map
Waste Water Treatment Plant	Schedule 1: Premises map

Site layout

The infrastructure and equipment are set out on the Premises in accordance with the site layout specified on the Premises map in Schedule 1.

Schedule 4: Primary Activities

At the time of the assessment, emissions and discharges from the following Primary Activities were considered in the determination of the risk and related conditions for the Premises. Primary activities are listed in Table 10.

Table 10: Primary Activities

Primary Activity	Premises production or design capacity
Category 6: Mine dewatering	233,000 tonnes over a four month period (temporary discharge to drainage line) 499,000 tonnes per annum (permanent discharge to Evaporation/Infiltration Pond and storage pond at the TSF) following the temporary discharge to drainage line
Category 64: Class II or III putrescible landfill site	500 tonnes per annum
Category 85: Sewage facility	25 m^3 per day