



Works Approval

Works approval number	W6510/2021/1
Works approval holder	Blue Phoenix Western Australia Pty Ltd
ACN	641 506 318
Registered business address	9 Watts Road SHOALWATER WA 6169
DWER file number	DER2021/000046
Duration	25/05/2021 to 24/05/2026
Date of issue	25/05/2021
Date of amendment	18/01/2024
Premises details	Hope Valley IBA Facility 67 Investigator Drive HOPE VALLEY WA 6165 Legal description - Lot 1074 on Deposited Plan 420130 Certificate of Title Volume 4001 Folio 816 As defined by the premises map-in Schedule 1

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed production capacity
Category 62: Solid waste depot: premises on which waste is stored, or sorted, pending final disposal or re-use.	110,000 tonnes per annual period

This works approval is granted to the works approval holder, subject to the attached conditions, on 18 January 2024, by:

Grace Campbell
A/MANAGER WASTE 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
25/05/2021	W6510/2021/1	Works approval granted.
13/08/2022	W6510/2021/1	DWER initiated amendment for the addition of ambient air monitoring conditions following an Appeal Determination.
18/01/2024	W6510/2021/1	Amendment to update air monitoring requirements.

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/installation requirements; and
 - (c) at the corresponding infrastructure location; and
 - (d) within the corresponding timeframe,
 as set out in Table 1.

Table 1: Design and construction/installation requirements

	Infrastructure	Design and construction/installation requirements	Infrastructure location
1.	Process plant	<ul style="list-style-type: none"> • Transfer points are to be enclosed and equipped with point-source dust extraction systems with ventilation air ducted to reverse pulse filter systems; • Conveyors and screens to be enclosed; • Conveyor belts to be equipped with belt cleaners; • The screens, crusher, trommel and ballistic separator are to be enclosed in individual housing; and • Positive air ventilation system to be installed to the enclosed plant equipment and covered conveyors with the collected ventilation air discharged through a high efficiency reverse pulse bag filtration system. 	Process plant as depicted in Figure 2 in Schedule 1.
2.	IBAA and IBA storage locations	<ul style="list-style-type: none"> • Separate windrows surrounded by 3.5 m high concrete panels topped by windshields; and • To contain a separate and identified quarantine bunker to store material that does not meet acceptance specifications. 	IBAA Store and Raw IBA Storage as depicted in Figure 2 in Schedule 1.
3.	Fixed water cannon dust suppression system	Capable of wetting all material stored on-site.	Within the premises boundary, as depicted in Figure 3, Schedule 1

	Infrastructure	Design and construction/installation requirements	Infrastructure location
4.	Hardstand yard area	Constructed of concrete/asphalt and capable of capturing all water that has been in contact with IBA/IBAA and directing it to the drainage treatment system.	Within the premises boundary
5.	Stormwater drainage system	<p>To consist of:</p> <ul style="list-style-type: none"> An initial wedge pit to trap and retain the bulk of solids; A two-stage tank to allow fine suspended particulate to settle out; Two above ground 170 kL stormwater storage tanks; A HDPE lined retention pond of 90 m³ capacity which captures water in larger storm events; An unlined vegetated infiltration pond which receives water overflowing from the lined detention pond only in larger storm events (greater than 1:100 year ARI); and On-site swales and infiltration basins capable of capturing clean stormwater and directing it away from waste storage and treatment areas. 	Stormwater Storage Tanks, Lined Detention Basin and Unlined Infiltration Basin as depicted in Figure 2 in Schedule 1.
6.	Particulate dust monitors	<p>To consist of:</p> <ul style="list-style-type: none"> One high-volume sampler with size selective inlet to measure PM₁₀ particulate matter and dust composition for particulate metals, installed and operated as per AS/NZS 3580.9.6. Two continuous dust monitors to measure PM₁₀ and TSP concurrently. <p>Particulate dust monitors must be:</p> <ul style="list-style-type: none"> Installed with a 120 degree clear sky angle in the direction of dust sources; and Located >1 m from walls and solid structures to allow sufficient airflow around sampling inlets. 	<p>Installed in the location as depicted in Figure 4 in Schedule 1;</p> <p>High-volume sampler to be installed adjacent to the eastern premises boundary fence at least 1 m above the limestone wall;</p> <p>Continuous dust monitor 1 to be co-located with the high-volume sampler. A separation distance of 2 m is required between dust monitors; and</p> <p>Continuous dust monitor 2 to be located on the western prescribed premises boundary, south of the water tanks and, if practicable, south of the truck access route.</p>

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 and ready for commissioning:
 - (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 suitable qualified civil engineer 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.

Environmental commissioning phase

Commencement and duration

4. The works approval holder may only commence environmental commissioning of the infrastructure listed in condition 1 once the Environmental Compliance Report has been submitted for that item of infrastructure in accordance with condition 2 of this works approval.
5. The works approval holder may carry out environmental commissioning for a period of 60 days.
6. The works approval holder must ensure that infrastructure and equipment listed in condition 1 is maintained and operated in good working order, in accordance with manufacturers specifications during environmental commissioning.

Environmental commissioning report

7. The works approval holder must submit to the CEO an Environmental Commissioning Report within 30 calendar days of the completion date of environmental commissioning for infrastructure items 1, 3 and 6 specified in Table 1.
8. The works approval holder must ensure the Environmental Commissioning Report required by condition 7 of this works approval includes the following:
 - (a) a summary of the environmental commissioning activities undertaken, including timeframes and amount of material processed;
 - (b) a summary of the environmental performance of each item of infrastructure or equipment as constructed or installed;
 - (c) a review of the works approval holder's performance and compliance against the conditions of this works approval; and
 - (d) where they have not been met, measures proposed to meet the manufacturer's design specifications and the conditions of this works approval, together with timeframes for implementing the proposed measures.

Time limited operations phase

Commencement and duration

9. The works approval holder may only commence time limited operations for all items of infrastructure identified in condition 1 where the Environmental Commissioning Report required by condition 7 has been submitted by the works approval holder.
10. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 1:
 - (a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 9 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 10(a).
11. The works approval holder must ensure that infrastructure and equipment listed in condition 1 is maintained and operated in good working order, in accordance with manufacturers specifications during time limited operations.

Compliance reporting

12. 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.
13. The works approval holder must ensure the report required by condition 12 includes the following:
 - (a) a summary of the time limited operations, including timeframes and amount of material processed;
 - (b) a summary of the environmental performance of all infrastructure as constructed or installed;
 - (c) a review of performance and compliance against the conditions of the works approval and the Environmental Commissioning Report; and
 - (d) 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.

Operational controls

Waste acceptance

14. The works approval holder must only accept onto the premises;
 - (a) waste types as listed in Table 2;
 - (b) at a rate that does not exceed the volume listed in Table 2;
 - (c) during periods of commissioning as specified in condition 4; and
 - (d) during time limited operations as specified in condition 9.

Table 2: Authorised waste types

Waste types	Specifications	Volume (tonnes/annum)
Incinerator Bottom Ash	<ul style="list-style-type: none"> Limited to raw IBA material sourced from an energy from waste facility (EfW) that treats waste to at least 850°C for minimum of 2 seconds; and Must be received in a damp state. 	60,000

15. The works approval holder must monitor and record the total tonnage of each load of waste accepted at, and removed from, the premises.
16. The works approval holder must ensure that any waste that does not meet the waste acceptance criteria set out in condition 14 is removed from the premises by the delivery vehicle or, where that is not possible, stored in a quarantined storage area or container and removed to an appropriately authorised facility as soon as practicable.
17. The works approval holder must ensure that wastes accepted onto and stored at the premises are only subjected to the processes set out in Table 3 and in accordance with any limits described in that table.

Table 3: Waste processing

Waste types	Process	Process limits
Incinerator Bottom Ash	Acceptance and storage	<ul style="list-style-type: none"> A maximum of 2,000 tonnes to be stored at any one time; Must be stored within the designated IBAA Store and Raw IBA Storage as depicted in Figure 2 in Schedule 1; and Must be wetted down and managed such that a crust forms on each stockpile.

Waste characterisation

18. Within 30 days of the commencement of waste acceptance, the works approval holder must obtain a minimum of three representative samples of the waste type listed in Table 2 of condition 14, and undertake appropriate testing to characterise the waste type including but not limited to the following characteristics;
- particle size distribution;
 - organic compounds;
 - metals;
 - salts;
 - dioxins and furans; and
 - waste classification in accordance with the *Landfill Waste Classification Waste Definitions 1996 (as amended 2019)* (DWER 2019).

19. The works approval holder must prepare and submit to the CEO a report prepared pursuant to condition 18 within 60 days of the commencement of waste acceptance, which includes but is not limited to;
- a description of the methods used for determining the characteristics specified in condition 18;
 - details and results of testing and investigations carried out; and
 - a comparison of the data obtained from the waste type in Table 2 of condition 14 compared to the representative samples provided in the works approval application documentation.

Dust controls and monitoring

20. The works approval holder must conduct ambient air monitoring;
- for five (5) working days prior to the commencement of commissioning as specified in condition 4;
 - during commissioning as specified in condition 4; and
 - during time limited operations as specified in condition 9;
- for concentrations of the identified parameters in accordance with Table 4.

Table 4: Monitoring of ambient air concentrations

Location	Parameter	Unit	Frequency	Averaging period	Method	Trigger value
In the locations specified in Figure 4 of Schedule 1.	Particulate matter	PM ₁₀ (µg/m ³)	24 hours every 6 days	24 hours - midnight to midnight	AS/NZS 3580.9.6	N/A
	Particulate metals ¹ (filter analysis)	Particulate metals (ng/m ³)			AS/NZS 3580.9.15	N/A
	Particulate Matter	PM ₁₀ (µg/m ³)	Continuous monitoring	1-hour average	None Specified	200 µg/m ³
	Total suspended particulates (<50 EAD)	µg/m ³	Continuous monitoring	24 hours	None Specified	N/A

Note 1: Analysis to be performed by a NATA accredited laboratory

21. The works approval holder must record the results of all monitoring activity required by condition 20.

- 22.** In the event that the trigger value specified in Table 4 for that parameter is exceeded, the works approval holder must;
- operate the fixed water cannon dust suppression system;
 - undertake an investigation to identify the source of the Trigger value exceedance; and
 - if identified to be caused from activities at the premises, implement immediate dust abatement measures which may include but are not limited to ceasing or changing processing activities;
- for the duration that the trigger value is exceeded.
- 23.** The works approval holder must obtain and retain meteorological conditions from the Kwinana Industry Council weather station located 400 metres south of the premises during commissioning and time limited operations in accordance with the requirements specified in in **Table 5** and record the results of all such monitoring.

Table 5: Monitoring of ambient meteorological conditions

Parameter	Unit	Frequency	Averaging period
Wind speed	m/s	Continuous	1-hour average
Wind direction	degrees		
Temperature	° Celsius	Continuous	1-hour average
Rainfall	mm	Continuous	1-hour average

- 24.** The works approval holder must ensure that all monitoring equipment used to comply with conditions 20 and 23 is operated and calibrated in accordance with the manufacturer's specifications, and is maintained to provide valid data for:
- greater than 90% of the measurement intervals in every calendar month, and
 - greater than 95% of the measurement intervals over any 12 consecutive calendar months.

Stormwater controls and monitoring

- 25.** The works approval holder must take all reasonable and practicable measures to prevent stormwater run-off becoming contaminated by the activities and operations undertaken at the premises.
- 26.** The works approval holder must monitor stormwater emissions during commissioning and time limited operations in accordance with the requirements specified in Table 6 and record the results of all such monitoring.

Table 6: Stormwater emissions monitoring

Monitoring location	Parameter	Frequency	Averaging period	Unit	Method
Lined detention basin as depicted in Figure 2 in Schedule 1	pH ¹	at least once following each discharge	Spot sample	pH units	AS/NZS 5667.1 and AS/NZS 5667.4
	TDS			mg/L	
	TSS			mg/L	
	Total alkalinity			mg/L	
	Lead Nickel Copper Zinc Cadmium Arsenic Chromium (VI) Mercury			mg/L	
	Total Nitrogen			mg/L	
	COD			mg/L	
	BOD ₅			mg/L	

Note 1: In field non-NATA accredited analysis permitted

- 27.** The works approval holder must ensure that for all non-continuous sampling undertaken pursuant to condition 26, analysis is undertaken by a holder of a current accreditation from the National Association of Testing Authorities (NATA) for the methods of sampling and analysis relevant to the corresponding relevant parameter, unless specified otherwise in Table 6.

Noise validation during time limited operations

- 28.** Within 30 days of the commencement of time limited operations, the works approval holder must retain the services of a person qualified and experienced in the area of environmental noise assessment and who by their qualifications and experience is eligible to hold membership of the Australian Acoustical Society or the Australian Association of Acoustical Consultants to:
- investigate the nature and extent of noise emissions from the premises;
 - assess in accordance with the methodology required in the *Environmental Protection (Noise) Regulations 1997*, the compliance of the noise emissions from the primary activities, against the relevant assigned levels specified in those Regulations; and
 - compile and submit to the works approval holder within 3 months of the commencement of time limited operations a report in accordance with condition 29.

- 29.** The works approval must ensure that the report prepared pursuant to condition 28 is to include:
- (a) a description of the methods used for monitoring and/or modelling of noise emissions from the premises;
 - (b) details and the results of the investigation undertaken pursuant to condition 28;
 - (c) details and results of the assessment of the noise emissions from the premises, against the relevant assigned levels in the *Environmental Protection (Noise) Regulations 1997* undertaken pursuant to condition 28; and
 - (d) an assessment of noise levels against the most recent previous noise assessment.
- 30.** The works approval holder must submit to the CEO the report prepared pursuant to condition 29 within 14 days of receiving it.
- 31.** Where an assessment pursuant to condition 28(b) indicates that noise emissions do not comply with the relevant assigned levels in the *Environmental Protection (Noise) Regulations 1997*, the works approval holder must:
- (a) within 60 days of receiving an assessment report pursuant to condition 28(c), prepare a plan to ensure the undertaking of the prescribed activity will no longer lead to any contravention of the *Environmental Protection (Noise) Regulations 1997*; and
 - (b) provide to the CEO a copy of the plan prepared pursuant to condition 31(a) within 30 days of its preparation.

Records and reporting (general)

- 32.** 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.
- 33.** 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 1, 6 and 11;
 - (c) monitoring results required by conditions 14, 20, 23 and 26; and
 - (d) complaints received under condition 32.

- 34.** The books specified under condition 33 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 7 have the meanings defined.

Table 7: Definitions

Term	Definition
annual period	a 12 month period commencing from 1 July until 30 June of the immediately following year.
AS/NZS 3580.9.6	means the Australian Standard AS/NZS 3580.9.6: 2015 <i>Methods for sampling and analysis of ambient air - Determination of suspended particulate matter – PM₁₀ high volume sampler with size selective inlet – Gravimetric method</i>
AS/NZS 3580.9.15	means the Australian Standard AS/NZS 3580.9.15:2014 <i>Methods for sampling and analysis of ambient air - Determination of suspended particulate matter – Particulate metals high or low volume sampler gravimetric collection – Inductively coupled plasma (ICP) spectrometric method</i>
AS/NZS 3580.10.1	means the Australian Standard AS/NZS 3580.10.1:2003 (R2014) <i>Methods for sampling and analysis of ambient air - Determination of particulate matter - Deposited matter - Gravimetric method</i>
AS/NZS 3580.14	means the Australian Standard AS/NZS 3580.14:2014 <i>Methods for sampling and analysis of ambient air - Meteorological monitoring for ambient air quality monitoring applications</i>
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1:1998 (R2016) <i>Water quality - Sampling - Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples</i>
AS/NZS 5667.4	means the Australian Standard AS/NZS 5667.4:1998 (R2016) <i>Water quality - Sampling - Guidance on sampling from lakes, natural and man-made</i>
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
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.

Term	Definition
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 commissioning	means the sequence of activities to be undertaken to test equipment integrity and operation, or to determine the environmental performance, of equipment and infrastructure to establish or test a steady state operation and confirm design specifications.
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 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>
EAD	means the diameter of a spherical particle of a density of 1000 kilograms per cubic metre which exhibits the same aerodynamic behaviour as the first-mentioned particle
IBA	Incinerator bottom ash (raw input).
IBAA	Incinerator bottom ash aggregate (processed material).
NATA	National Association of Testing Authorities.
ng/m ³	nanograms per cubic metre
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.
suitably qualified civil engineer	means a person who: <ul style="list-style-type: none"> (a) holds a relevant tertiary academic qualification; and (b) has a minimum of three years of experience working in the field of 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.
Total suspended	means inert particles each having an equivalent aerodynamic

Term	Definition
particulates (TSP)	diameter of less than 50 micrometres
$\mu\text{g}/\text{m}^3$	means the concentration of that waste in micrograms per cubic metre of dry air at 0 degrees Celsius and one atmosphere pressure
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). Premises boundary is demarcated in **pink**.

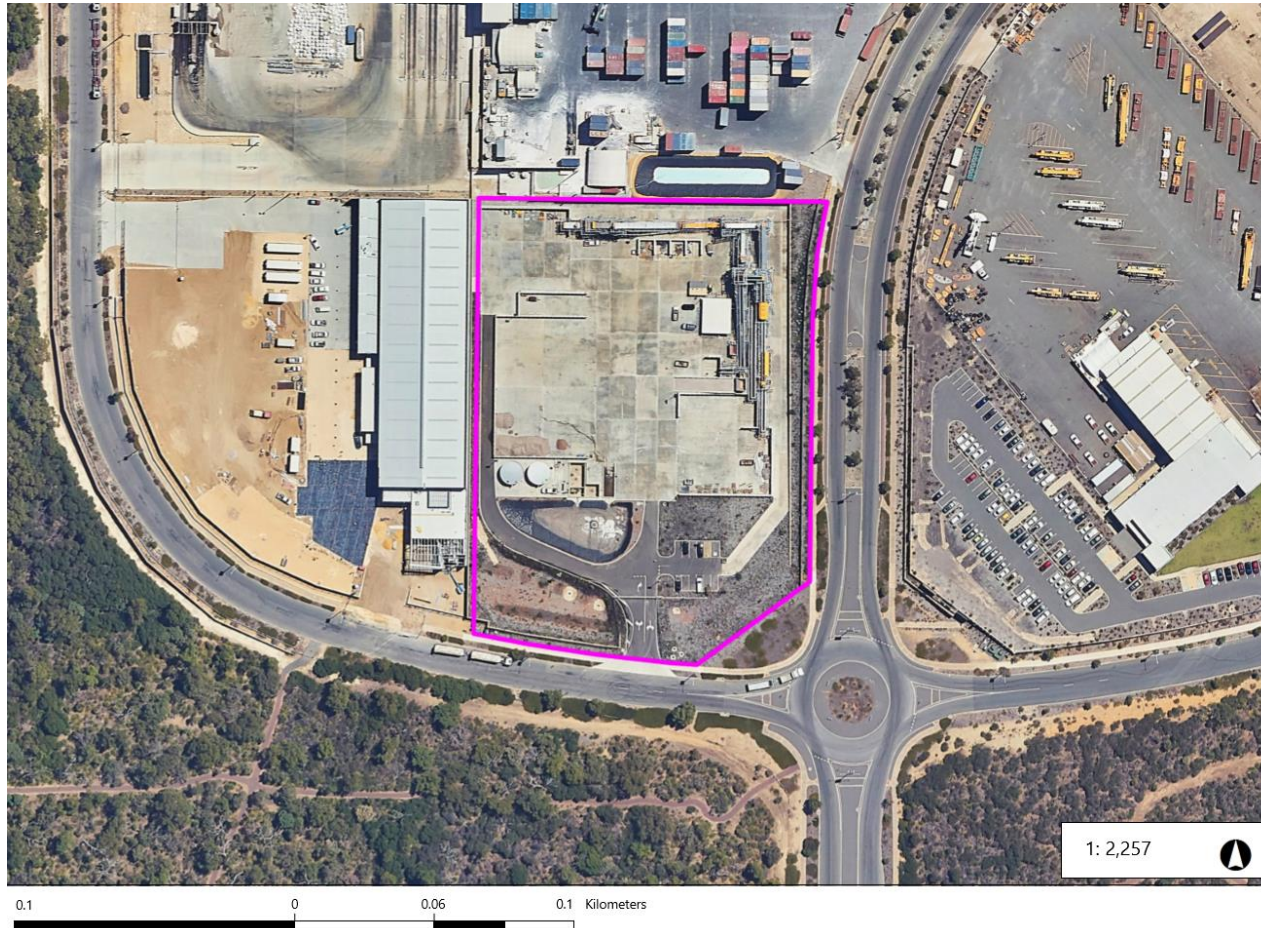


Figure 1: Map of the boundary of the prescribed premises

W6510/2021/1 (Amended January 2024)
IR-T05 Works approval template (v6.0) (September 2022)

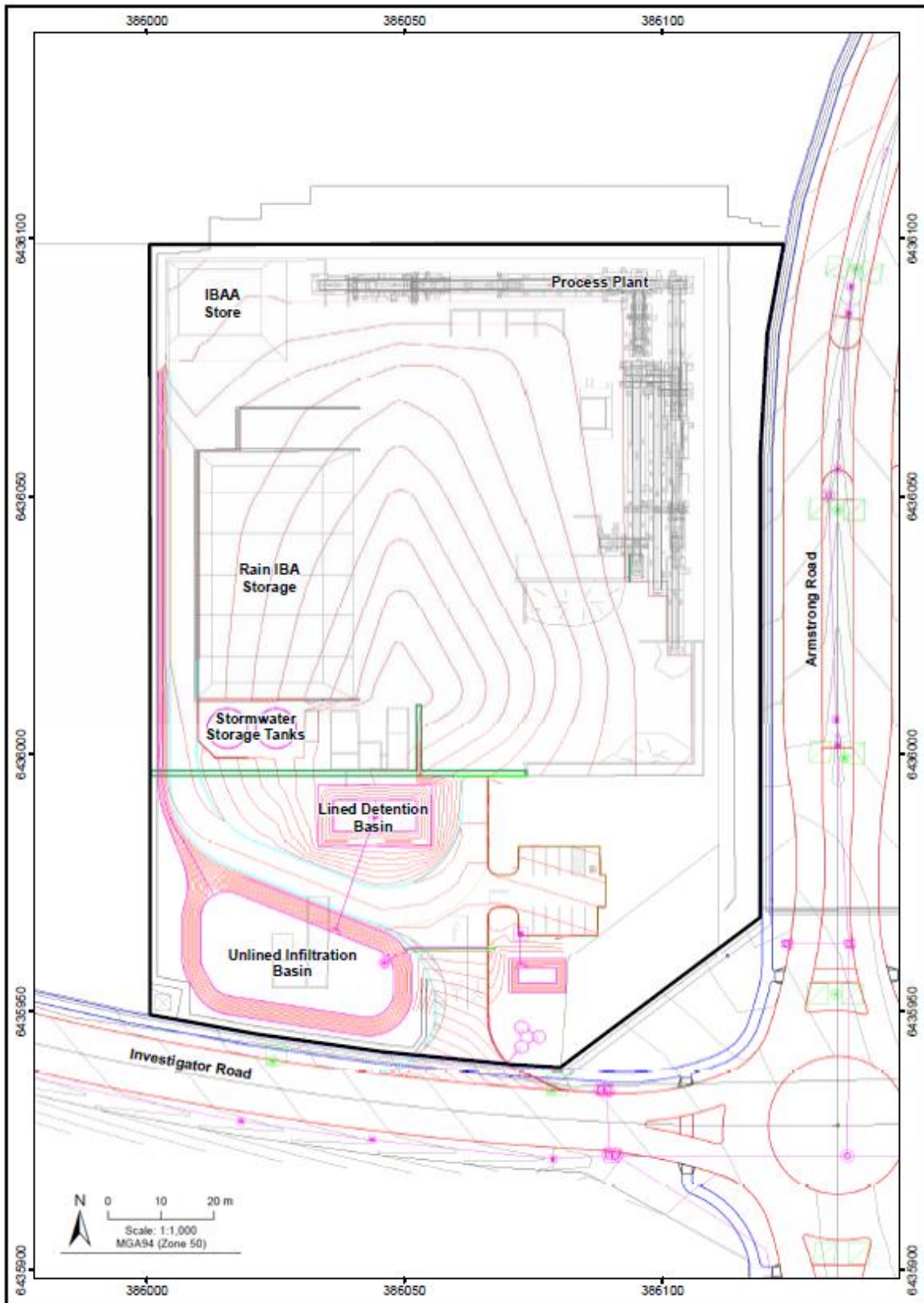


Figure 2: Premises site map showing location of infrastructure and elevation (contour lines demarcated in red)

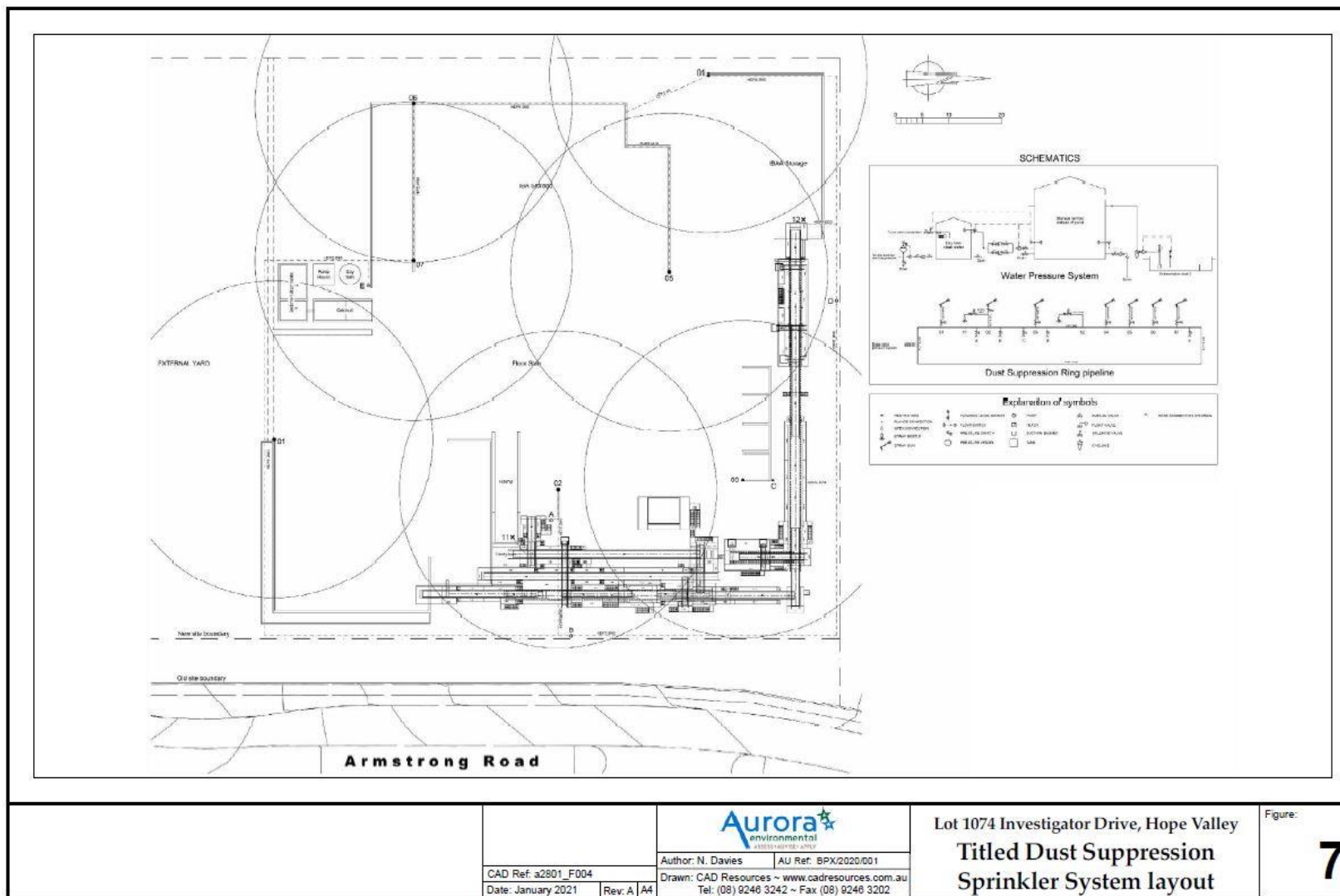


Figure 3: Site plan with dust suppression/sprinkler layout

W6510/2021/1 (Amended January 2024)
IR-T05 Works approval template (v6.0) (September 2022)

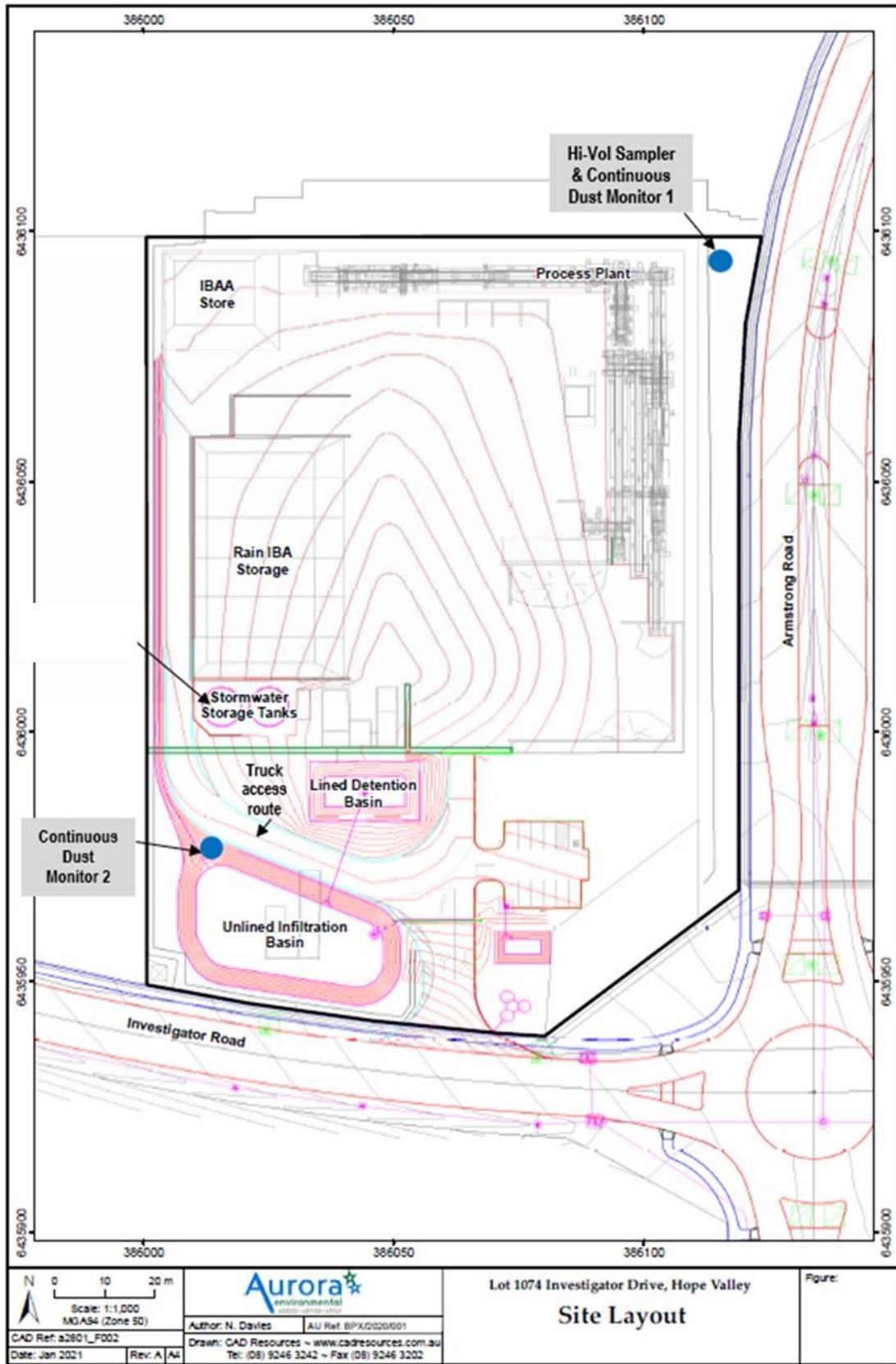


Figure 4: Site plan with air quality monitoring locations