Government of Western Australia
Department of Water and Environmental Regulation

Amended Works Approval

Works approval number	W6450/2020/1
Works approval holder	Co-operative Bulk Handling Limited
Registered business address	Level 6, 240 St Georges Terrace, Perth WA 6000
DWER file number	DER2020/000458
Duration	26/08/2021 to 25/08/2024
Date of issue	26/08/2021
Date of amendment	22/09/2023
Premises details	Co-operative Bulk Handling Limited Part of Lot 108 on Deposited Plan 400167 Certificate of Title Volume 2953 Folio 177 As depicted in the premises map in Schedule 1.

Prescribed premises category description **(Schedule 1, *Environmental Protection Regulations 1987*)**	**Assessed production capacity**
Category 75: Chemical blending or mixing not causing discharge: premises on which chemicals or chemical products are mixed, blended or packaged in a manner that does not cause or is not likely to cause a discharge of waste to the environment.	Granular fertiliser: 200,000 tonnes per annum; Liquid UAN: 180,000 tonnes per annum

This amended works approval is granted to the works approval holder, subject to the attached conditions, on 22 September 2023, by:

Amine Fisher
Digitally signed by Amine Fisher
Date: 2023.09.22 12:09:16 +08'00'

Amine Fisher
A/MANAGER, PROCESS 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
26/08/2021	W6450/2020/1	Works approval granted.
11/01/2023	W6450/2020/1	Works approval holder amendment application – amendments to allow staged completion of works and compliance reporting.
15/03/2023	W6450/2020/1	Works approval holder amendment application – amendments to allow staged construction of granular storage facility and the UAN loading/unloading stations Addition of time limited operations period, and dust monitoring / management conditions.
22/09/2023	W6450/2020/1	Works approval holder amendment application – amendments to extend time limited operations and the deadline for installation of shed doors, and to alter the hardstand requirements for the liquid UAN truck loading/unloading stations.

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 for each stage of works:

(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,

as set out in Table 1.

Table 1: Design and construction / installation requirements

	Infrastructure	Stage of works	Design and construction / installation requirements	Infrastructure location
1.	One (1) dry fertiliser storage warehouse	Stage 2	• Maximum dimensions of 240 m x 85 m containing storage bays • Constructed from fabricated steel • Floor and lower containment walls constructed from concrete and cladding materials of walls and roof coasted with steel sheeting	As shown in Schedule 1: Maps Figure 3: Fertiliser storage facility site plan “solid storage warehouse”
		Stage 3	• Shed must be fully enclosed, with doors installed on the southern and northern sides opening only to accommodate entry and exit of trucks • Shed doors must be installed no later than 29 December 2023.	
2.	Two (2) above-ground Urea Ammonium Nitrate (UAN) storage tanks	Stage 1	• Maximum capacity of 16,000 tonnes each • Constructed with single walled carbon steel in accordance with American Petroleum Institute (API) 650 (Welded tanks for oil storage) • Must be resistant to corrosion and internally and externally coated with epoxy • Installed on secondary containment according to the secondary containment requirements in row 3	As shown in Schedule 1: Maps Figure 3: Fertiliser storage facility site plan “6”
3.	Secondary containment	Stage 1	• Impermeable concrete hardstand with impervious bunds to be designed to Australian Standard (AS) 1940 (Storage and Handling of Flammable and Combustible Liquids) to contain the greater of 25% of all tanks, or 110% of the largest tank • Maximum area of 8,020 m^2 • Minimum hydraulic conductivity of $1x10^{-9}$ m/s	As shown in Schedule 1: Maps Figure 3: Fertiliser storage facility site plan “7”

	Infrastructure	Stage of works	Design and construction / installation requirements	Infrastructure location
4.	UAN truck loading/ unloading stations	Stage 1	• Must include a weather protection awning. • Must have a trafficable portable containment bund, compatible for containment of UAN, oil and diesel that is made from heavy duty 1350gsm PVC with minimum dimensions of 30m by 4m and a minimum bund height of 0.1m. • The portable containment bund must be underlain with an anti-abrasion ground mat to protect against punctures.	As shown in Schedule 1: Maps Figure 3: Fertiliser storage facility site plan "8"
		Stage 4	• Must have a hardstand comprising of a compacted base with a minimum 7 mm primer seal beneath 50 mm thick AC14 asphalt paving that is sealed with a JetBloc® crystalline silica/BPA epoxy coating. • The hardstand must be graded in a manner that prevents runoff and directs potentially contaminated water runoff into drain/s which discharge into the evaporation pond. • The hardstand must be constructed no later than 30 September 2023.	
5.	Blending plant	Stage 2	• Located within the fertiliser storage warehouse. • The Blending Plant includes: - blender/mixer; - bucket elevator; - feeder conveyor. • The associated infrastructure related to the Blending Plant includes: - feeder hoppers; - overhead conveyor; and - truck loading tipper. • All travel paths of the fertiliser within the blending plant must be fully enclosed.	As shown in Schedule 1: Maps Figure 2: Map of the onshore component of the facility "Blender"
6.	Vehicle washdown bay	Stage 1	• Must be constructed to direct any potentially contaminated water to the evaporation pond and include: - concrete collection sump; - containment walls; and - automated sensor controls for start-up and shut-down	As shown in Schedule 1: Maps Figure 3: Fertiliser storage facility site plan "17"
7.	Evaporation pond	Stage 1	• Constructed with a minimum capacity of 3,000 m^3 excluding a minimum freeboard of 300 mm to be maintained at all times • Must have a minimum clearance of 2 m between the pond base and the highest groundwater level • Designed to contain all potentially contaminated stormwater	As shown in Schedule 1: Maps Figure 3: Fertiliser storage facility site plan "12"

	Infrastructure	Stage of works	Design and construction / installation requirements	Infrastructure location
			• Must be lined with a high density polyethylene (HDPE) liner installed in accordance with the requirements specified in Schedule 2 to achieve a maximum hydraulic conductivity (permeability) of $1x10^{-9}$ m/s across the base and perimeter of the evaporation pond	
8.	Ambient air quality monitoring stations	Stage 2	• Must be established prior to commencing time limited operations in accordance with Condition 4. • Must be capable of continuously measuring particles as PM_{10}. • Must be programmed to alert/alarm when ≥50 µg/m^3 Particles as PM_{10} is recorded.	Shown as "AQ1 and AQ2" in Schedule 1: Maps Figure 4

Compliance reporting

2. The works approval holder must within 60 calendar days of the infrastructure or equipment required by condition 1 in a stage of works being constructed and/or installed:

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

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

3. The Environmental Compliance Report required by condition 2, must include as a minimum the following:

(a) certification by a qualified professional engineer that the infrastructure or equipment or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements for that stage of works specified in condition 1;

(b) as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure for that stage of works 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.

Time limited operations phase

Commencement and duration

4. The works approval holder may only commence time limited operations for Stage 1, Stage 2, Stage 3 or Stage 4 infrastructure where:

(a) the respective Environmental Compliance Report required by condition 3 has been submitted by the works approval holder for the infrastructure in that Stage; and

(b) that infrastructure has been certified in accordance with the requirements of condition 3.

5. The works approval holder may conduct time limited operations for the infrastructure specified in condition 1:

(a) for a period not exceeding 350 calendar days from the day the works approval holder meets the requirements of condition 2 for that Stage; or

(b) until such time as the works approval holder meets the requirements of condition 2 for Stage 3 and 4 infrastructure,

whichever is sooner.

Time limited operations requirements

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

Table 2: Infrastructure and equipment requirements during time limited operations

	Site infrastructure and equipment	Operational requirement	Infrastructure location
1.	Dry fertiliser storage warehouse	• Throughput limited to 100,000 tonnes of granular fertiliser during time limited operations period • A water truck must be available for dust suppression during operations and must be operated as required to prevent any visible dust crossing the premises boundary. • A road sweeper must be operated on the premises at least daily, and more frequently if required, to prevent dust build up in both internal warehouse areas and external areas. • Vehicles must be blown down to remove loose fertiliser before leaving the shed.	As shown in Schedule 1: Maps Figure 3: Fertiliser storage facility site plan "solid storage warehouse"
2.	Ambient air quality monitoring stations	• Must be operated with an alert/alarm programmed when ≥50 µg/m^3 Particles as PM_{10} is recorded.	Shown as "AQ1 and AQ2" in Schedule 1: Maps Figure 4
3.	UAN truck loading/ unloading stations (stage 1 only)	• The portable containment bund must be visually inspected for punctures or damage prior to commencing loading or unloading. • The portable containment bund must be maintained in a fit for purpose condition free of punctures and damage. • Trucks must be parked entirely within the portable containment bund when loading or unloading of UAN is occurring. • All liquids captured within the portable containment bund must be transferred to the evaporation pond prior to trucks exiting the bund.	As shown in Schedule 1: Maps Figure 3: Fertiliser storage facility site plan "8"

Monitoring during time limited operations

7. The licence holder must monitor the air quality for concentrations of the parameter listed in Table 3:

(a) at the corresponding monitoring location;

(b) in the corresponding unit;

(c) at no less that the corresponding frequency; and

(d) for the corresponding averaging period;

as set out in Table 3.

Table 3: Monitoring of ambient concentrations during time limited operations

Parameter	Monitoring location	Unit	Frequency	Averaging period	Trigger value
Particles as PM_{10}	AQ1 as shown in Schedule 1 Figure 4	$\mu g/m^3$	Continuous	60 minutes	50 $\mu g/m^3$
	AQ2 as shown in Schedule 1 Figure 4				

8. The works approval holder must, in the event of a parameter in condition 7 Table 3 exceeding the corresponding trigger value specified in that table, undertake the management action(s) that correspond with the relevant parameter and monitoring location, within the corresponding timeframe as specified in Table 4.

Table 4: Management actions required in the event of trigger value exceedance

Monitoring location	Parameter	Management action	Timeframe
AQ1 and AQ2 as shown in Schedule 1 Figure 4	Particles as PM_{10}	• Conduct a site investigation to identify potential dust sources within the premises; • Apply any available and suitable dust suppression to identified dust sources	Within 60 minutes of a trigger value being exceeded
		• Cease all activities associated with the identified dust sources.	Within 120 minutes of a trigger value being exceeded, if the trigger value continues to be exceeded.

9. The works approval holder must continue actions specified in condition 8 for the duration of management trigger criteria being exceeded.

10. The works approval holder must ensure that no visible dust generated from activities on the premises crosses the boundary of the premises.

Records and reporting (general)

11. 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.

12. 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;

(c) monitoring programmes undertaken in accordance with condition 7;

(d) management actions taken in accordance with condition 8; and

(e) complaints received under condition 11.

13. The books specified under condition 12 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
AC14	means that the nominal maximum aggregate size in the asphalt mixture is 14 mm
API 650	refers to the American Petroleum Institute (API) 650 (Welded tanks for oil storage)
AS 1289.5.2.1	means the Australian Standard 1289.5.2.1:2017 *Methods of testing soils for engineering purposes – Soil compaction and density tests – Determination of the dry density / moisture content relation of a soil using modified compactive effort*, as amended from time to time.
AS 1289.5.4.2	means the Australian Standard 1289.5.4.2-2007 *Methods of testing soils for engineering purposes – Soil compaction and density tests – Compaction control test – Assignment of maximum dry density and optimum moisture content values*, as amended from time to time.
AS 3798	means the Australian Standard 3798-2007 *Guidelines on earthworks for commercial and residential developments, as amended from time to time.*
ASTM D638	means the ASTM international standard *Standard test method for tensile properties of plastics (Designation: ASTM D638-14)*, as amended from time to time.
ASTM D1238	means the ASTM international standard *Standard test method for melt flow rates of thermoplastics by extrusion plastometer (Designation: ASTM D1238-20)*, as amended from time to time.
ASTM D1505	means the ASTM international standard *Standard test method for density of plastics by the density – gradient technique (Designation: ASTM D1505-18)*, as amended from time to time.
ASTM D1603	means the ASTM international standard *Standard test method for carbon black content in olefin plastics (Designation: ASTM D1603-20)*, as amended from time to time.
ASTM D5321-D5321M-20	means the ASTM international standard *Standard test method for determining the shear strength of soil-geosynthetic and geosynthetic-geosynthetic interfaces by direct shear (Designation: ASTM D5321/D5321M-20)*, as amended from time to time.
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

Term	Definition
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V Division 3 of the EP Act.
Discharge	has the same meaning given to that term under the EP Act.
Emission	has the same meaning given to that term under the EP Act.
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure and equipment has been constructed or installed in accordance with the works approval.
EP Act	*Environmental Protection Act 1986* (WA).
EP Regulations	*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.
gsm	means grams per square metre
HDPE	high density polyethylene
Qualified professional engineer	means a person who holds a tertiary academic qualification in engineering and has a minimum of a minimum of three years of experience working in the area of civil/construction engineering
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.
PVC	means polyvinyl chloride
Stage of works	means the discrete items of infrastructure identified in Table 1 for Stage 1, Stage 2, Stage 3, and Stage 4
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.
UAN	urea ammonium nitrate
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 (red line) (Figure 1).

Figure 1: Prescribed premises boundary

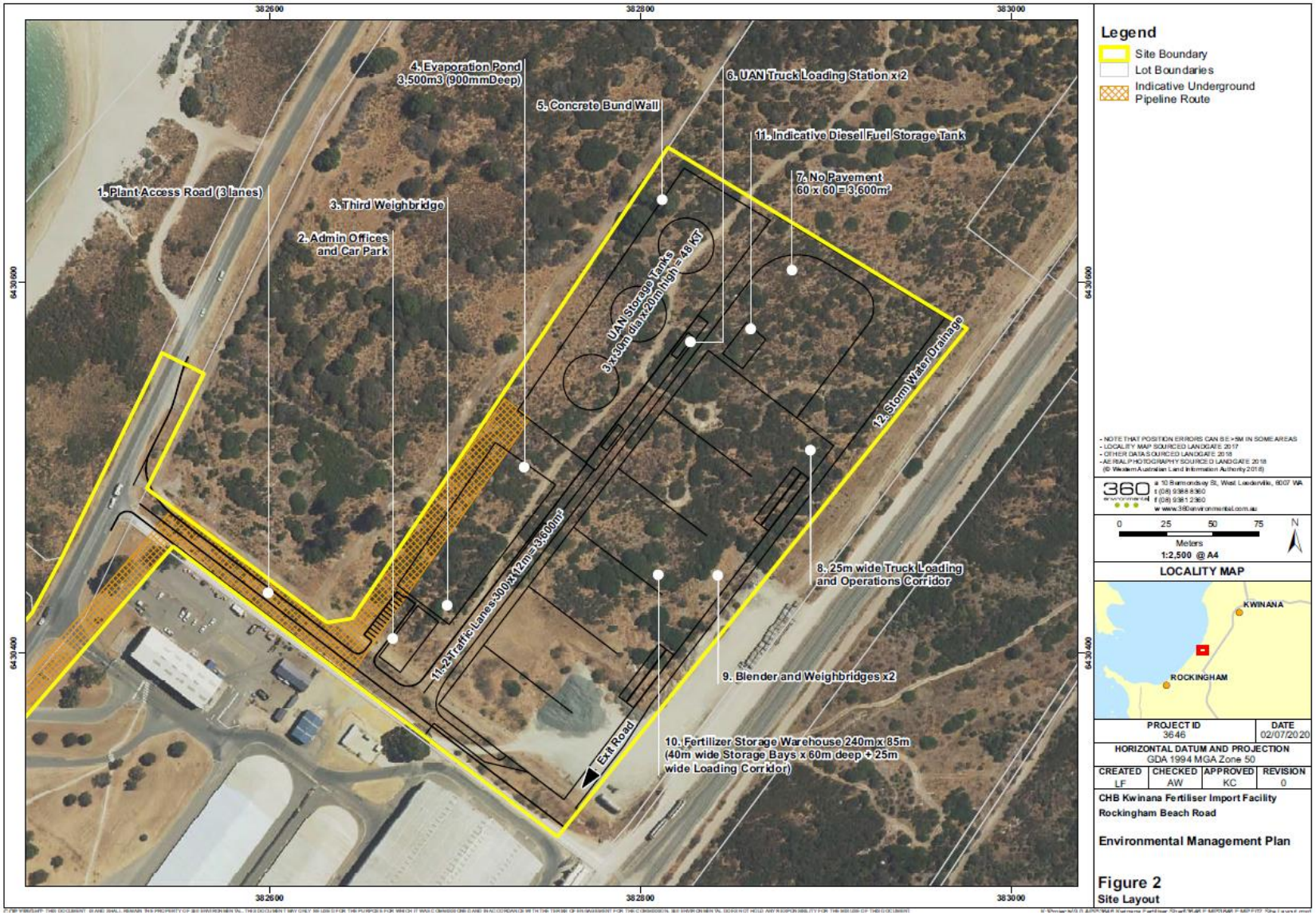

Figure 2: Map of the onshore component of the facility

Site plan

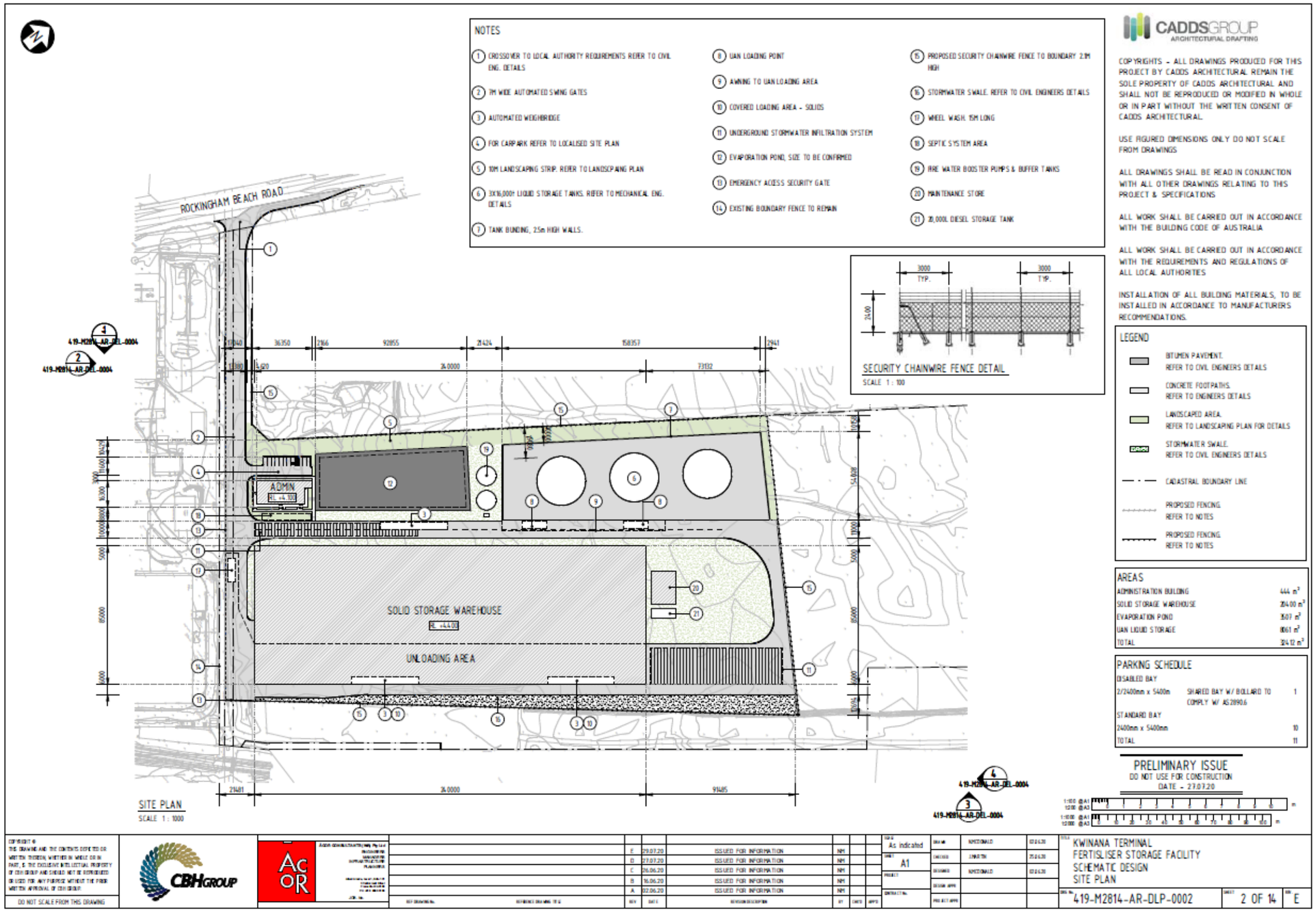

Figure 3: Fertiliser storage facility site plan

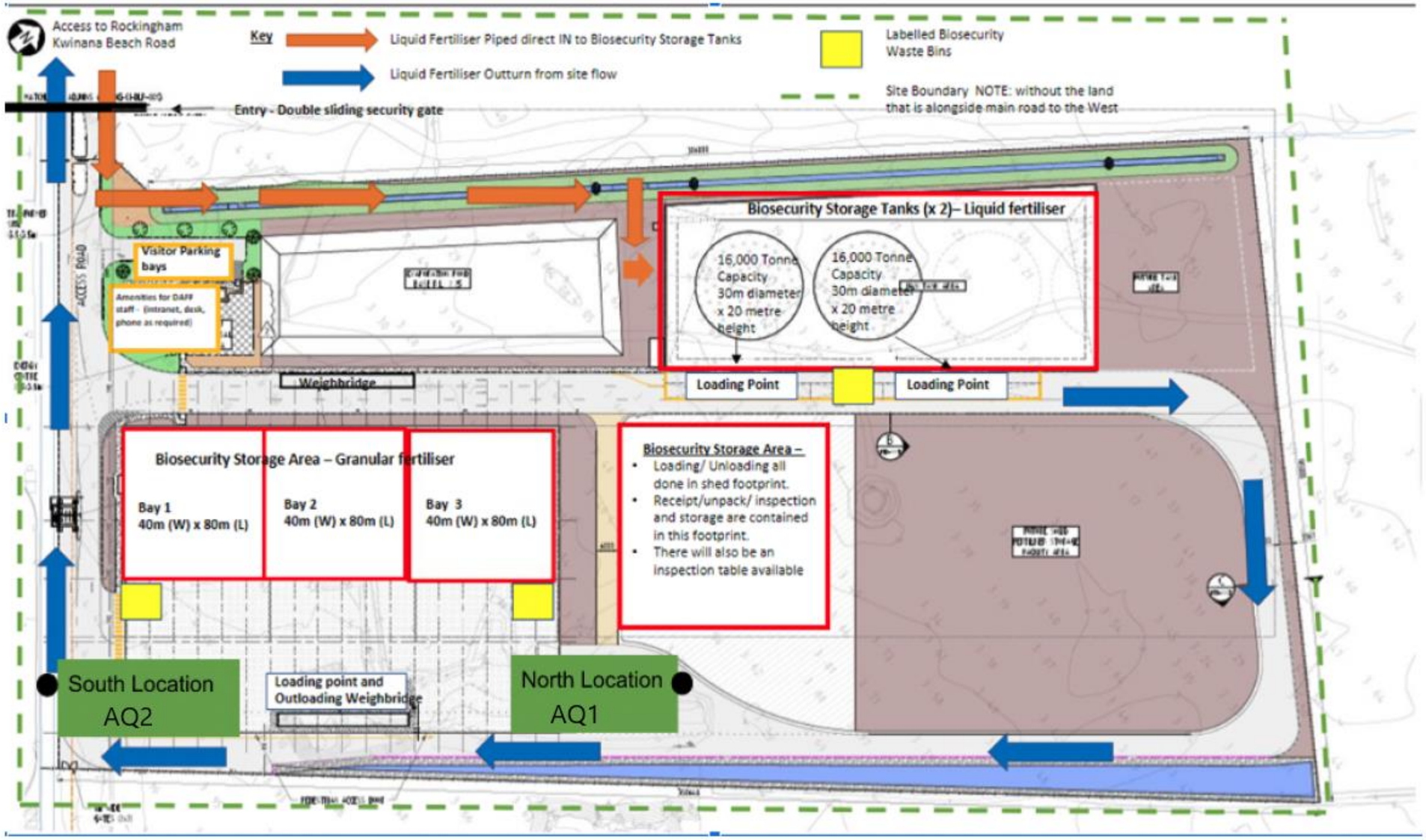

Figure 4: Site plan showing air quality monitor locations

Schedule 2: HDPE liner requirements

Compacted subgrade requirements

Compacted subgrade material

1. Soils used for the compacted subgrade layer must conform to a design specification for an effective water retaining structure. The soils must be free from plant roots and reactive, soluble and organic matter. The layer material must comprise of clay and must be moisture conditioned to meet the minimum criteria described in Table 6.

Table 6: Minimum criteria for compacted subgrade

Soil characteristic	Acceptability criterion	Testing frequency	Test method
Modified maximum dry density (MMDD)	>95%	Testing frequency for the compacted clay subgrade layer shall be whichever requires the most tests from the following: (a) 1 per 500 m^3; or (b) 1 per 2,500 m^2; or (c) 3 tests per lot (as defined in Section 1.2.8 of AS 3798-2007).	AS 1289.5.2.1:2017; and AS 1289.5.4.2 – 2007
Optimum moisture content (OMC)	±2%		

Compacted subgrade construction

2. The compacted subgrade layer must be installed in at least two layers of equal thickness to ensure adequate compaction is achieved and to minimise the risk of leakage.
3. The minimum thickness of the compacted soil layer must be 300 mm and construction tolerances must be within 50 mm.

Liner material

4. The high density polyethylene (HDPE) liner must meet the minimum criteria described in Table 7.

Table 7: HDPE liner properties

Liner characteristic	Test method
Minimum thickness of 1.5 mm (tolerance up to 5%) with heat welded joints	-
Specific gravity ≥0.94	ASTM D1505
Melt index of 0.05 g to 0.30 g in 10 minutes	ASTM D1238, condition E 190/2.16
Carbon black content of 2-3%	ASTM D1603
Minimum tensile strength at yield of 16,000 kN/m^2	-
Minimum tensile strength at break of 550 kN/m^2	ASTM D638, type IV 2
Minimum elongation at yield of 10%, and at break 300%	ASTM D638

Liner construction

5. The liner must be fabricated to form the shape of the excavation. All seams and joins made on site must be continuous. Panels of the liner must be overlapped by a minimum of 100 mm, prior to heat welding.
6. All seams and joins must be constructed and tested as watertight over their full length using a vacuum test unit or air pressure testing.
7. The HDPE liner shear resistance must be tested in accordance with ASTM D5321/D5321M-20.