Development Consent

Section 89E of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning and Infrastructure under delegation executed on 27 February 2013, I approve the development application referred to in Schedule 1, subject to the Conditions in Schedules 2 to 4.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.

Chris Wilson
Executive Director
Development Assessment Systems and Approvals

Sydney 13 June 2013

SCHEDULE 1

Application Number:	SSD-5119
Applicant:	Crawfords Freightlines Pty Ltd
Approval Authority:	Minister for Planning and Infrastructure
Land:	158 Old Maitland Road, Sandgate (Lot 12 DP 625053)
Development:	Crawfords Ammonium Nitrate Storage and Distribution Facility

TABLE OF CONTENTS

DEFINITIONS **1**

ADMINISTRATIVE CONDITIONS **2**

Obligation to Minimise Harm to the Environment 2
Terms of Approval 2
Limits of Consent 2
Lapsing on Consent 2
Management Plans/Monitoring Programs 2
Structural Adequacy 3
Protection of Public Infrastructure 3
Operation of Plant and Equipment 3
Staged Submission of Plans or Programs 3
Development Contributions 3

SPECIFIC ENVIRONMENTAL CONDITIONS **4**

General 4
Hazards and Risk 4
Soil and Water 5
Noise and Vibration 8
Air Quality 9
Traffic 10
Waste 11
Heritage 12
Visual Impact 12
Energy and Water Efficiency 12
Security 12
Fire Management 13

ENVIRONMENTAL MANAGEMENT REPORTING & AUDITING **14**

Environmental Managemet 14
Environmental Reporting and Auditing 14

APPENDIX A: MANAGEMENT AND MITIGATION MEASURES **16**
APPENDIX B: SITE PLAN **25**
APPENDIX C: NOISE RECEVIER LOCATIONS **26**
APPENDIX D: OFF-SITE RESTRICTED ACCESS AREA MAP **27**

DEFINITIONS

Applicant	Crawfords Freightlines Pty Ltd
AN	Ammonium Nitrate
ANZECC Guidelines	*Australian and New Zealand Guidelines for Freshwater and Marine Water Quality (Australian Government 2000)*
AS	Australian Standard
BCA	Building Code of Australia
Construction	The demolition of buildings or works, carrying out of works, including bulk earthworks and erection of buildings and other infrastructure covered by this consent
Council	The Council of the City of Newcastle
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
DCP	*Newcastle Development Control Plan 2012*
Development	The development as described in the EIS and RTS
Department	Department of Planning and Infrastructure
Director-General	Director-General of the Department of Planning and Infrastructure, or his nominee
EIS	The Environmental Impact Statement titled *'Ammonium Nitrate Storage and Distribution Facility'* and accompanying appendices, prepared by Environmental Resources Management Australia and dated December 2012
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPA	Environment Protection Authority
EPL	Environmental Protection Licence
Evening	The period from 6pm to 10pm
Facility	The development as described in the EIS
Flood Proof	Meaning the structural integrity of a structure cannot be compromised by loads caused by flood waters and is unable to inundated by flood water, up to a specified maximum flood event limit
FRNSW	Fire and Rescue NSW
Major Flood Event	Any flood event that is rarer than, and including, a 5% Annual Exceedance Probability flood event
Management and Mitigation Measures	The Applicant's Management and Mitigation Measures (Appendix A)
Minister	Minister for Planning and Infrastructure, or delegate
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
OC	Occupational Certificate
Off-Site Restricted Access Area	The Off-Site Restricted Access Area as shown in blue in Appendix D of this consent and referred to in Conditions 5 and 6 of Schedule 2 of this consent.
Operation	The development as described in the EIS for the storage and distribution of more than 2,000 tonnes of ammonium nitrate at the site and associated works and infrastructure.
POEO Act	*Protection of the Environment Operations Act 1997*
Project	Has the same meaning as development (see above)
Reasonable and Feasible	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements. Feasible relates to engineering considerations and what is practical to build.
RMS	Roads and Maritime Services
RTS	The Response to Submissions titled *'Ammonium Nitrate Storage and Distribution Facility'* and accompanying appendices, prepared by Environmental Resources Management Australia and dated April 2013
Site	The land referred to in Schedule 1
WorkCover	WorkCover NSW

SCHEDULE 2
ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. The Applicant shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction and/or operation of the development.

TERMS OF APPROVAL

2. The Applicant shall carry out the development generally in accordance with the:
   (a) EIS;
   (b) RTS;
   (c) Management and Mitigation Measures (see Appendix A);
   (d) Site Plans (Appendix B) and Drawings in the EIS; and
   (e) conditions of this consent.

3. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.

4. The Applicant shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:
   (a) any audits, reports, plans, programs, strategies, studies or correspondence that are submitted in accordance with this consent; and
   (b) the implementation of any actions or measures contained in these audits, reports, plans, programs, strategies, studies or correspondence submitted by the Applicant.

LIMITS OF CONSENT

5. Prior to the commencement of the Operation, the Applicant must, to the satisfaction of the Director-General, demonstrate that suitable arrangements are in place to prohibit public access to the Off-Site Restricted Access Area as labelled and illustrated in Appendix D of this consent. As part of demonstrating the suitable arrangements for the Off-Site Restricted Access Area are in place, the Applicant must prepare and implement an Off-Site Restricted Access Area Strategy. This Strategy must be approved by the Director-General prior to the commencement of the Operation and shall:
   - provide details of the works proposed to prohibit public access, such as secure fencing and signage;
   - provide evidence that each landowner within the Off-Site Restricted Access Area has been consulted and agrees with the proposed measures, including Council and the lessee of Part Lot 33 DP 1118637 (i.e. the Sandgate Golf Practice Centre or its successors); and
   - investigate and detail options to purchase or secure land on a long-term basis within the Off-Site Restricted Access Area in perpetuity.

6. The Applicant must also obtain the written approval of the Director-General of the Off-Site Restricted Access Area Strategy referred to in Condition 5 above:
   (a) every 12 months from the Director-General's approval of Condition 5 above (i.e. the yearly anniversary); and
   (b) at any time any arrangement established under Condition 5 above changes or is modified.

7. In any case, the Applicant shall not store more than 13,500 tonnes of AN on the site at any one time, comprising the storage of a maximum of up to:
   - 4,500 tonnes of AN in Shed A;
   - 4,500 tonnes of AN in Shed B;
   - 4,000 tonnes of AN in Shed C; and
   - 500 tonnes of AN in shipping containers in the outdoor compound of Shed C.

LAPSING OF CONSENT

8. This consent will lapse five (5) years from the date of consent unless the works associated with the development have physically commenced.

MANAGEMENT PLANS AND MONITORING PROGRAMS

9. With the approval of the Director-General, the Applicant may:
   (a) submit any management plan or monitoring program required by this consent on a progressive basis; and

(b) combine any management plan or program required by this consent with any similar management plan or program that have been approved under previous consents or approvals.

STRUCTURAL ADEQUACY

10. The Applicant shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, on the site are constructed in accordance with the relevant requirements of the BCA.

Notes:

- *Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.*
- *Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.*

PROTECTION OF PUBLIC INFRASTRUCTURE

11. The Applicant shall:
    (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and
    (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

OPERATION OF PLANT AND EQUIPMENT

12. The Applicant shall ensure that all plant and equipment used for the development is:
    (a) maintained in a proper and efficient condition; and
    (b) operated in a proper and efficient manner.

STAGED SUBMISSION OF PLANS OR PROGRAMS

13. With the approval of the Director-General, the Applicant may submit any plan or program required under this consent on a progressive basis.

DEVELOPMENT CONTRIBUTIONS

14. Prior to the commencement of operation, the Applicant shall pay to Council a development contribution to a maximum amount of $6,000 determined in accordance with Council's *Section 94A Development Contributions Plan 2009,* updated 22 April 2013, in consultation with Council, and to the satisfaction of the Director-General.

Note: The amount of contribution payable under this condition has been calculated on the basis of the current rate as at the date of consent and is based on the most recent quarterly Consumer Price Index (CPI) release made available by the Australian Bureau of Statistics (ABS). The CPI index rate is expected to rise at regular intervals and therefore the actual contribution payable is indexed and should be recalculated at the CPI rate applicable on the day of payment.

SCHEDULE 3
SPECIFIC ENVIRONMENTAL CONDITIONS

GENERAL

1. The Applicant shall comply with the requirements of the EPA set out in any EPL issued for the development.

HAZARDS AND RISK

General

2. The Applicant shall ensure that the development complies with the requirements of the latest version of *AS 4326*. Measures to inspect and maintain the site to ensure compliance with the latest version of *AS 4326* must be documented in Operational Environmental Management Plan for the development (see Condition 2 in Schedule 4 of this consent).

3. The Applicant shall maintain the appropriate ammonium stack separation distance, as recommended by SAFEX *International Good Practice Guide: Storage of Solid Technical Grade Ammonium Nitrate* or better, to prevent involvement of more than half the storage capacity of each storage building in an explosion, except for a short period of time when the storage is at maximum capacity

Pre-construction

4. At least one month prior to the commencement of construction of the proposed project (except for construction of those preliminary works that are outside the scope of the hazard studies), or within such further period as the Director-General may agree, the Applicant shall prepare and submit for the approval of the Director-General the studies set out under subsections (a) to (c) (the pre-construction studies) of this Condition. Construction, other than of preliminary works, shall not commence until approval has been given by the Director-General and, with respect to the Fire Safety Study, approval has also been given by Fire and Rescue NSW.
   (a) CONSTRUCTION SAFETY STUDY
   A Construction Safety Study, consistent with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 7, 'Construction Safety'*. For projects in which the construction period exceeds six (6) months, the commissioning portion of the Construction Safety Study may be submitted two months prior to the commencement of commissioning.
   (b) FIRE SAFETY STUDY
   A Fire Safety Study for the proposed project. This study shall cover the relevant aspects of the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 2, 'Fire Safety Study Guidelines'* and the New South Wales Government's *'Best Practice Guidelines for Contaminated Water Retention and Treatment Systems'*. The study shall also be submitted for approval to Fire and Rescue NSW.
   (c) FINAL HAZARD ANALYSIS
   A Final Hazard Analysis of the proposed project, consistent with the Department of Planning's Hazardous *Industry Planning Advisory Paper No. 6, 'Hazard Analysis'*. The FHA shall:
   - address all relevant findings and recommendations from all official investigation report/s (if available) on the accident at West, Texas (USA) in April 2013;
   - re-evaluate and confirm all relevant data and assumptions from the Preliminary Hazard Analysis; and
   - re-evaluate and confirm all control measures proposed for the prevention and mitigation of incidents, particularly those controls relevant to ammonium nitrate.

Pre-commissioning

5. The Applicant shall develop and implement the plans and systems set out under subsections (a) to (c) of this Condition. No later than two months prior to the commencement of commissioning of the proposed project, or within such further period as the Director-General may agree, the Applicant shall submit, for the approval of the Director-General, documentation describing those plans and systems. Commissioning shall not commence until approval has been given by the Director-General.
   (a) TRANSPORT OF HAZARDOUS MATERIALS
   Arrangements covering the transport of hazardous materials including details of routes to be used for the movement of vehicles carrying hazardous materials to or from the proposed development. The routes shall be selected in accordance with the Department of Planning' draft 'Route Selection' guidelines. Suitable routes identified in the study shall be used except where departures are necessary for local deliveries or emergencies.
   (b) EMERGENCY PLAN
   A comprehensive Emergency Plan and detailed emergency procedures for the proposed project. This plan shall include consideration of the safety of all people outside of the project who may be at risk from the project, including the assets and employees of Scafflink or its successors. The plan shall be consistent with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 1, 'Emergency Planning'*.

(c) SAFETY MANAGEMENT SYSTEM

A document setting out a comprehensive Safety Management System, covering all on-site operations and associated transport activities involving hazardous materials. The document shall clearly specify all safety related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to the procedures. Records shall be kept on-site and shall be available for inspection by the Director-General upon request. The Safety Management System shall be consistent with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 9, 'Safety Management'.*

Pre-startup

6. PRE-STARTUP COMPLIANCE REPORT

One month prior to the commencement of operation of the project, the Applicant shall submit to the Director-General, a report detailing compliance with Conditions 4 and 5 of this Schedule, including:

(a) dates of study/plan/system submission, approval, commencement of construction and commissioning;
(b) actions taken or proposed, to implement the recommendations and safety-related control measures in the studies/plans/systems; and
(c) responses to each requirement imposed by the Director-General under Condition 10 of this Schedule.

Post-startup

7. POST-STARTUP COMPLIANCE REPORT

Three months after the commencement of operation of the project, the Applicant shall submit to the Director-General, a report verifying that:

(a) the transport routes specified under Condition 5(a) are being followed;
(b) the Emergency Plan required under Condition 5(b) is effectively in place and that at least one emergency exercise has been conducted; and
(c) the Safety Management System required under Condition 5(c) has been fully implemented and that records required by the system are being kept.

Ongoing

8. HAZARD AUDIT

Twelve months after the commencement of operations of the proposed project and every two years thereafter, or at such intervals as the Director-General may agree, the Applicant shall carry out a comprehensive Hazard Audit of the proposed project and within one month of each audit submit a report to the Director-General for approval.

The audits shall be carried out at the Applicant's expense by a qualified person or team, independent of the project, approved by the Director-General prior to commencement of each audit. Hazard Audits shall be consistent with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 5, 'Hazard Audit Guidelines'* (HIPAP No. 5).

The audit reports shall, in addition to the requirements provided in HIPAP No. 5:

- address all relevant findings and recommendations from all official investigation report/s (if available) on the accident at West, Texas (USA) in April 2013, and make recommendations if necessary; and
- Report on the findings of the audit in relation to compliance with the current version of AS 4326 - the Storage and handling of oxidizing materials and the relevant provisions of the current version of the SAFEX International *Good Practice Guide: Storage of Solid Technical Grade Ammonium Nitrate*,

The audit report must be accompanied by a program for the implementation of all recommendations made in the audit report. If the Applicant intends to defer the implementation of a recommendation, reasons must be documented.

On-site Risks

9. The Applicant shall ensure that the Construction Safety Study (see Condition 4(a) of this Schedule), the Final Hazard Analysis (see Condition 4(c) of this Schedule), Safety Management System (see Condition 5(c) of this Schedule) and the Emergency Plan (see Condition 5(b) of this Schedule) for the site include an assessment and evaluation of all hazards that could contribute to both on site and off-site risks to the satisfaction of WorkCover NSW. All maps showing the risk contours for on site and off-site risks shall be included in each of the aforementioned documents.

10. FURTHER REQUIREMENTS
    The Applicant shall comply with all reasonable requirements of the Director-General in respect of the implementation of any measures arising from the reports submitted in respect of Conditions 4 to 9 of this Schedule inclusive, within such time as the Director-General may agree.

SOIL AND WATER

Surface Water Discharge Limits

11. The Applicant shall ensure that all licensed surface water discharges from the site comply with the discharge limits (volume and quality) set for the development in any EPL or relevant provisions of the POEO Act.

Bunding

12. The Applicant shall store all chemicals, fuels and oils used on-site in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA's *Storing and Handling Liquids: Environmental Protection – Participants Handbook*.

Erosion and Sediment Control

13. During the construction of the development, the Applicant shall implement suitable erosion and sediment control measures on site, in accordance with the relevant requirements in the latest version of the EPA's *Managing Urban Stormwater: Soils and Construction* guideline.

Contamination Management

14. Prior to operation, the Applicant must, to the satisfaction of the Director-General, seal all AN:
    (a) storage areas on the site with impermeable hardstand concrete; and
    (b) trafficable areas (including internal roads) on the site with impermeable bitumen,

    Other impermeable materials shall be used to seal these areas if approved by the Director-General. Measures to inspect and maintain all sealed areas of the site for the life of the development must be documented in Operational Environmental Management Plan for the development (see Condition 2 in Schedule 4 of this consent).

    Note: The intent of this condition is to minimise the potential for AN contamination of soil and water and dust generation from vehicles.

15. The Applicant shall prepare and implement a Contamination Management Plan for the development to the satisfaction of the Director-General. This Plan must:
    (a) be prepared by a suitably qualified and experienced expert in consultation with the EPA and NOW;
    (b) be approved by the Director-General prior to the commencement of construction;
    (c) detail the protocols to be put in place and followed in the event that contaminated soil (including Acid Sulphate Soils) or water is encountered during construction;
    (d) be prepared in accordance with the relevant best practice industry guidelines such as the *NSW State Government's Acid Sulphate Soils Manual* (ASSMAC 1998);
    (e) detail how excavated soil will be tested for contamination, handled and stockpiled;
    (f) detail the measures that will be employed to prevent erosion and sedimentation of contaminated soil and suppress odour; and
    (g) outline how contaminated soil and water will be disposed of off-site at a licensed facility.

Flood Design and Structural Certification

16. The Applicant must ensure that all structures on site (excluding shipping containers) that are used to store AN are flood proof up to the 1% Annual Exceedance Probability plus 500mm freeboard depth design flood event and are maintained in this manner for the life of the development.

    Note: Flood levels shall be determined considering the effects of climate change.

17. Prior to the commencement of operation, and annually thereafter, the Applicant must obtain structural certification from a suitably qualified engineer that all structures on site (excluding shipping containers) that are used to store AN are flood proof up to the 1% Annual Exceedance Probability plus 500mm freeboard depth design flood event. A copy of these structural certification documents must be included in the Flood Risk Management and Response Plan (see Condition 21 in Schedule 3 of this consent) and Operational Environmental Management Plan (see Condition 2 in Schedule 4 of this consent) for the development.

    Note: Flood levels shall be determined considering the effects of climate change.

Flood Management

18. The Applicant must ensure that any shipping containers that are used to store AN on site are unloaded to the AN storage sheds (A, B or C) as soon as practicable once they arrive on site.

19. The Applicant must ensure that no AN is left inside a shipping container during a major flood event and that all AN is contained within the AN storage sheds (A, B or C) during a major flood event.

20. The Applicant must ensure that all flood emergency response equipment is able to withstand floodwaters up to and including the 1% AEP plus 500mm freeboard depth flood event.

    Note: Flood levels shall be determined considering the effects of climate change.

21. The Applicant must prepare and implement a Flood Risk Management and Response Plan for the development to the satisfaction of the Director-General. The Plan must:
    (a) be prepared by a suitably qualified and experienced expert in consultation with Council and OEH;
    (b) be approved by the Director-General prior to the commencement of operations;
    (c) be prepared in accordance with Council's *Newcastle City-wide Floodplain Risk Management Study and Plan 2012* and the *NSW Floodplain Development Manual*;
    (d) include a copy of the structural certification documents required in relation to flood proofing by Condition 17 of this Schedule;
    (e) identify the procedures that would be implemented to ensure compliance with Conditions 18 to 20 of this Schedule;
    (f) identify the procedures that would be implemented to ensure that employees are given sufficient warning regarding an impending flood event;
    (g) identify the procedures to be followed and contingency actions to be implemented in the event that the site is inundated during a flood event to protect:
        - the integrity of structures on site that are used to store ammonium nitrate to prevent release of ammonium nitrate into floodwaters and the local environment;
        - human safety;
    (h) identify emergency evacuation routes, flood warning alarms, and evacuation procedures; and
    (i) include a staff training program to be implemented to ensure existing and future employees are well trained and drilled in executing the flood emergency response procedures detailed within this plan.

Water Management

22. The Applicant shall prepare and implement a Water Management Plan for the development to the satisfaction of the Director-General. This plan must:
    (a) be prepared in consultation with Council, OEH and NOW by a suitably qualified and experienced expert;
    (b) be approved by the Director-General prior to the commencement of construction;
    (c) include final details of water use, management and license requirements for the development;
    (d) include a Stormwater Management Plan that demonstrates how the requirements of Condition 23 of this Schedule have been addressed; and
    (e) include a Surfacewater and Groundwater Monitoring and Mitigation Plan that includes:
        - a methodology to be followed to establish baseline data on surface and groundwater quality and groundwater levels;
        - a program to monitor surface water flows and quality, and ecosystem health immediately downstream of the site;
        - a program to monitor groundwater levels and quality beneath the site and groundwater dependent ecosystems;
        - surface and groundwater impact assessment criteria including trigger levels for investigating adverse impacts and implementing mitigation measures;
        - protocols for investigation and implementing mitigation measures for identified exceedances of the surface and/or groundwater impact assessment criteria; and
        - a schedule of improvements to be implemented to the stormwater management and collection system at the site in the event that exceedances of the surface and/or groundwater impact assessment criteria are identified or contaminated water is found to be leaving the site.

23. The Stormwater Management Plan must:
    (a) include final detailed design specifications for the stormwater management and collection system;
    (b) ensure that the stormwater management and collection system is designed and installed generally in accordance with the conceptual design in the EIS/RTS, applicable Australian Standards and industry standard best practice guidelines;
    (c) detail how stormwater runoff from the site would be conveyed;
    (d) detail how (and ensure that) stormwater run off from the site would be restricted to pre-development rates or less;
    (e) ensure that no additional stormwater run off from the site would flow into the adjacent rail corridor;

(f) ensure that stormwater discharged off-site meets the pollutant load reduction targets outlined in Section 7.06 of Council's DCP and the water quality performance indicators outlined in Table 3.3.2 of the ANZECC Guidelines; and
(g) describe the measures that would be implemented to maintain stormwater infrastructure for the life of the development.

NOISE AND VIBRATION

Noise Limits

24. The Applicant shall ensure that the noise generated by the operations on-site does not exceed the limits in Table 1 at any private residential receiver.

Table 1: Noise impact assessment criteria dB(A)

Location	Day	Evening	Night	
	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{A1\ (1\ minute)}$
R1 Residence on Blanch Street	39	39	39	54
R3 Residence on Astra Street	42	42	42	54
R4 Residence on Wallsend Road	42	42	42	55
R5 Residence on Wallsend Road	42	42	42	54
R6 Residence on eastern side of Pacific Highway	60	57	54	54
R7 Residence on western side of Pacific Highway	60	57	54	54
R8 St Joseph's Aged Care Complex	43	40	39	54

Notes:
- *To identify a residential receiver location, refer to Appendix C of this consent and Appendix I of the EIS;*
- *Noise generated by the development is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy; and*
- *To avoid doubt, the responsibility for noise generated by trains off-site in the corridor of the Main Northern Railway Line lies with the owner and/or lessee of that corridor.*

Operating Hours

25. The Applicant shall comply with the operating hours in Table 2 for the site, unless otherwise agreed in writing by the Director-General.

Table 2: Operating Hours

Activity	Day	Hours
Construction	Monday - Friday	7.00am – 6.00pm
	Saturdays	8.00am – 1.00pm
	Sundays and Public Holidays	Nil
Operations	Monday - Sunday	6.00 am to 10.00 pm
	Public Holidays	Nil

Operating Conditions

26. The Applicant shall:
    (a) implement best management practice, including all reasonable and feasible measures to prevent and minimise noise and vibration during construction and operation of the development (including low frequency noise and traffic noise);
    (b) minimise the noise impacts of the development during adverse meteorological conditions when noise criteria do not apply;
    (c) maintain the effectiveness of any noise suppression equipment on plant at all times and ensure defective plant is not used operationally until fully repaired; and
    (d) regularly assess noise monitoring data and relocate, modify and/or stop operations to ensure compliance with the relevant conditions of this consent.

Noise Management

27. The Applicant shall prepare and implement a Noise and Vibration Management Plan for the development in consultation with the EPA and to the satisfaction of the Director-General. The plan must:
    (a) be prepared and implemented by a suitably qualified and experienced expert;
    (b) be approved by the Director-General prior to the commencement of operations;
    (c) describe the measures that will be implemented to minimise noise and vibration from the operation of the development and ensure:
        - best management practice is being employed on site;
        - traffic noise is effectively managed;
        - the noise impacts of the development are minimised during any meteorological conditions when the noise criteria in this consent do not apply; and
        - compliance with the relevant conditions of this consent.
    (d) describe the noise management system;
    (e) includes a noise monitoring program that:
        - is capable of evaluating the performance of the development;
        - includes a protocol for determining exceedances of the relevant conditions of this consent and responding to complaints;
        - adequately supports the noise management system;
        - evaluates and reports on the effectiveness of the noise management system; and
        - includes a protocol for the implementation of further mitigation in consultation with the EPA in the event that the development is found not to be complying the conditions of this consent.

Noise Validation

28. Within 2 months of the commencement of operations, the Applicant shall undertake Noise Compliance Monitoring. The Monitoring shall:
    (a) be undertaken by a suitably qualified and experienced expert in consultation with the EPA;
    (b) be submitted as a report to the EPA and the Department within 2 weeks of its completion;
    (c) be undertaken to present worst-case noise operations during a period of combined truck and rail operations as described in Annexure I of the EIS;
    (d) include noise monitoring undertaken at day, evening and night (including shoulder periods), as defined in the EPA's Industrial Noise Policy, over 3 consecutive operating days for a minimum of:
        - 1.5 hours during the day;
        - 30 minutes during the evening; and
        - 1 hour at night.
    (e) compare the noise monitoring results against the noise modelling predictions (including that for shoulder periods) in the EIS;
    (f) identify whether the project is complying with the development noise limits specified in Condition 24 of this Schedule; and
    (g) outline the mitigation measures to be implemented if exceedences of the development noise limits (Condition 24) or the noise modelling predictions in the EIS are identified, to the satisfaction of the Director-General.

AIR QUALITY

Odour

29. The Applicant shall ensure the development does not cause or permit the emission of any offensive odour (as defined by the POEO Act).

Dust Criteria

30. The Proponent shall ensure that dust generated by the development does not exceed the criteria listed in Tables 3 to 5 at any private residential receiver, or on more than 25 percent of any privately owned land surrounding the site.

Table 3: Long term criteria for particulate matter

Pollutant	Averaging period	[d]Criterion
Total suspended particulate (TSP) matter	Annual	[a]90 µg/m^3
Particulate matter < 10 µm (PM_{10})	Annual	[a]30 µg/m^3

Table 4: Short term criterion for particulate matter

Pollutant	Averaging period	[d] Criterion
Particulate matter < 10 µm (PM_{10})	24 hour	[a] 50 µg/m^3

Table 5: Long term criteria for deposited dust

Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total[1] deposited dust level
[c]Deposited dust	Annual	[b]2 g/m^2/month	[a]4 g/m^2/month

Notes for Tables 3 -5:

- *[a]Total impact (i.e. incremental increase in concentrations due to the Development plus background concentrations due to other sources);*
- *[b] Incremental impact (i.e. incremental increase in concentrations due to the Development on its own);*
- *[c] Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method*; *and*
- *[d] Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents or any other activity agreed to by the Director-General in consultation with the EPA.*

Dust Minimisation

31. The Applicant shall ensure that:
    (a) all vehicles on site do not exceed a speed limit of 20 kilometres per hour;
    (b) all loaded vehicles entering or leaving the site have their loads covered; and
    (c) all loaded vehicles leaving the site are cleaned of dirt, sand and other materials before they leave the site, to avoid tracking these materials on public roads.

Operating Conditions

32. The Applicant shall:
    (a) implement best management practice, including all reasonable and feasible dust and odour mitigation measures to prevent and minimise dust emissions from construction and operation of the development;
    (b) prevent and minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events;
    (c) regularly assess air quality monitoring data and relocate, modify, and/or stop operations to ensure compliance with the relevant conditions of this consent; and
    (d) minimise surface disturbance of the site, other than as permitted under this consent.

Greenhouse Gas

33. The Applicant shall implement all reasonable and feasible measures to minimise:
    (a) energy use on site; and
    (b) greenhouse gas emissions produced on-site, to the satisfaction of the Director-General.

Air Quality Management

34. The Applicant shall prepare and implement an Air Quality Management Plan for development in consultation with Council and the EPA. The plan must:
    (a) be prepared and implemented by a suitably qualified and experienced expert;
    (b) be approved by the Director-General prior to the commencement of operation;
    (c) describe the measures that will be implemented to ensure:
        - best management practice is employed;
        - generation of dust from AN handling and internal vehicles movements on site is minimised as far as reasonably practicable;
        - the air quality impacts (in particular dust and odour) from operations are minimised during adverse meteorological conditions and extraordinary events; and
        - compliance with the relevant conditions of this consent.
    (d) describes the air quality management system; and
    (e) includes an air quality monitoring program that:
        - is capable of evaluating the performance of the development;
        - includes a protocol for determining any exceedances of the relevant conditions of consent and responding to complaints;
        - adequately supports the air quality management system;
        - evaluates and reports on the effectiveness of the air quality management system; and
        - includes a protocol for the implementation of further mitigation in consultation with the EPA and Council in the event that the development is found not to be complying the conditions of this consent.

TRAFFIC

Bicycle Enclosure

35. The Applicant shall provide a secure bicycle enclosure for at least 3 bicycles on site to encourage the use of sustainable transport to and from work.

Rail Traffic

36. The Applicant shall ensure that 1 train (2 movements) in total (with a maximum of 40 carriages at 76 tonnes per carriage) is permitted to ingress and egress from the site in any 24 hour period.

Rail Traffic Management

37. The Applicant shall prepare and implement a Rail Transport Code of Conduct for the development to the satisfaction of the Director-General. This Plan must:
    (a) be prepared in consultation with ARTC by a suitably qualified and experienced expert;
    (b) be approved by the Director-General prior to the commencement of operation;
    (c) detail operational rail traffic management measures including driver code of conduct, locomotive arrival and departure procedures (e.g. reduced locomotive speed);
    (d) outline measures to minimise rail traffic noise;
    (e) detail procedures to ensure trains do not queue on the public rail or road network; and
    (f) detail measures to minimise rail traffic related conflicts with existing rail operations.

Road Traffic

Operating Conditions

38. The Applicant shall ensure that:
    (a) internal roads, driveways and parking (including grades, turn paths, sight distance requirements, aisle widths, aisle lengths and parking bay dimensions) associated with the development are constructed and maintained in accordance with the latest versions of *AS 2890.1* and *AS 2890.2*;
    (b) the swept path of the longest vehicle entering and exiting the subject site, as well as manoeuvrability through the site, is in accordance with *AUSTROADS – Guide to Road Design*;
    (c) the development does not result in any vehicles queuing on the public road network;
    (d) heavy vehicles and bins associated with the development do not park or stand on local roads or footpaths in the vicinity of the site;
    (e) all vehicles are wholly contained on site before being required to stop;
    (f) all loading and unloading of materials is carried out on site; and
    (g) the proposed turning areas in the car park are kept clear of any obstacles, including parked cars, at all times.

Road Traffic Management

39. The Applicant shall prepare and implement a Traffic Management Plan for the development, to the satisfaction of the Director-General. The plan must:
    (a) be prepared in consultation with Council and RMS by a suitably qualified and experienced expert;
    (b) be approved by the Director-General prior to commencement of operation;
    (c) include a plan showing the designated haulage route/s to be used by heavy vehicles during operation;
    (d) include a heavy vehicle driver code of conduct;
    (e) describe the measures that will be implemented to ensure:
        - the nominated haulage route/s in used;
        - conflicts with other road users are minimised;
        - haulage is minimised or routes altered to avoid impact on the local traffic network;
        - drivers adhere to the code of conduct;
        - compliance with the relevant conditions of this consent; and
    (f) include a program to monitor the effectiveness of these measures.

WASTE

Classification

40. The Applicant shall ensure that any waste generated on the site during construction is classified in accordance with the EPA's *Waste Classification Guidelines* and disposed of to a facility that may lawfully accept the waste.

Asbestos Handling

41. The Applicant shall ensure that any asbestos encountered during construction is handled and disposed of by appropriately qualified and licensed contractors in accordance with the relevant guidelines, the *Work health and Safety Regulation 2011* and in consultation with WorkCover.

Asbestos Management

42. Upon the commencement of construction, the Applicant shall implement the Asbestos Management Plan in Annexure C of the EIS including all recommendations of this plan.

Waste Management

43. The Applicant shall prepare and implement a Waste Management Plan for the development to the satisfaction of the Director-General. This Plan shall:
    (a) be prepared in consultation with the EPA by a suitably qualified and experienced expert;
    (b) be approved by the Director-General prior to the commencement of construction;
    (c) detail the type and quantity of waste to be generated by the construction and operational phases of the development;
    (d) detail the materials to be reused or recycled, either on or off site;
    (e) detail the procedures for handling, storage, collection of recycling and disposal of waste in accordance with the best practice industry standards and guidelines; and
    (f) detail the measures to ensure that waste (particularly liquid waste) is not released into the local environment.

HERITAGE

44. The Applicant shall conduct heritage education inductions for all construction personnel at the site (including procedures for keeping records of inductions) including site identification, protection and conservation of Aboriginal and historic heritage. Inductions must be developed in consultation with suitable representatives of the local Aboriginal community such as registered Aboriginal parties and inductions records must be kept and made available to the Director-General upon request.

45. The Applicant shall cease all works on site in the event that any Aboriginal cultural object(s) or human remains are uncovered onsite. In the event that an Aboriginal cultural object(s) is uncovered, a suitably qualified and experienced archaeologist, suitable representatives of the local Aboriginal community such as registered Aboriginal parties and the OEH must be contacted to determine the significance of the object(s). In addition, in the event that human remains are uncovered onsite, NSW Police are to be notified. Works shall not resume in the designated area until consent in writing from the NSW Police and/or the OEH has been obtained.

VISUAL IMPACT

Lighting

46. The Applicant shall ensure that the lighting associated with the development:
    (a) complies with the latest version of *AS 4282(INT) - Control of Obtrusive Effects of Outdoor Lighting*; and
    (b) is mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network.

Signage

47. The Applicant shall not install any advertising signs on site without the written approval of the Director-General.

ENERGY AND WATER EFFICIENCY

48. The Applicant shall implement all energy and water efficiency measures outlined in the EIS and regularly review opportunities to implement further efficiency measures.

SECURITY

49. The Applicant shall:
    (a) install and maintain a perimeter fence and security gates on the site;
    (b) ensure that all buildings on-site that contain dangerous goods are locked whenever they are unattended;
    (c) ensure that the security gates on-site are locked whenever the site is unattended; and
    (d) ensure that a suitably qualified and experienced person (or persons) is employed to keep the site secure 24 hours, 7 days a week (i.e. a security guard/s).

FIRE MANAGEMENT

50. The Applicant shall:
    (a) implement suitable measures to minimise the risk of fire on-site;
    (b) extinguish any fires on-site promptly; and
    (c) maintain adequate fire-fighting capacity on-site.

SCHEDULE 4
ENVIRONMENTAL MANAGEMENT REPORTING & AUDITING

ENVIRONMENTAL MANAGEMENT

Construction Environmental Management Plan

1. The Applicant shall prepare and implement a Construction Environmental Management Plan for the development to the satisfaction of the Director-General. The Plan must:
   (a) be prepared by a suitably qualified and experienced person;
   (b) be approved by the Director-General prior to the commencement of construction;
   (c) identify the statutory approvals that apply to the development;
   (d) consolidate all relevant management plans and monitoring programs required in the conditions of this consent and committed to in the EIS;
   (e) outline all environmental management practices and procedures to be followed during construction and demolition works associated with the development;
   (f) describe all activities to be undertaken on the site during construction of the development, including a clear indication of construction stages;
   (g) detail how the environmental performance of the construction works will be monitored, and what actions will be taken to address identified adverse environmental impacts;
   (h) describe of the roles and responsibilities for all relevant employees involved in construction and demolition works associated with the development; and
   (i) include arrangements for community consultation and complaints handling procedures during construction and demolition.

Operational Environmental Management Plan

2. The Applicant shall prepare and implement an Environmental Management Plan for the development to the satisfaction of the Director-General. This Plan must:
   (a) be prepared by a suitably qualified and experienced person;
   (b) be approved by the Director-General prior to the commencement of operation;
   (c) provide the strategic context for environmental management of the development;
   (d) identify the statutory requirements that apply to the development;
   (e) consolidate all relevant management plans and monitoring programs required in the conditions of this consent and committed to in the EIS;
   (f) outline the arrangements to ensure compliance with conditions of this consent for the life of the development, in particular Conditions 2, 3, 14 and 17 in Schedule 3;
   (g) include a review of current site environmental management practices;
   (h) based on the review required under subsection (g) of this condition, include a schedule of actions with timeframes to be implemented to improve site environmental management practices, in particular measures to improve handling of AN to minimise spillages;
   (i) include final details of how the environmental performance of the development would be managed and monitored;
   (j) describe the procedures that would be implemented to:
      - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
      - receive, handle, respond to, and record complaints;
      - resolve any disputes that may arise during the course of the development;
      - respond to any non-compliance;
      - manage cumulative impacts;
      - respond to emergencies; and
   (k) describe the role, responsibility, authority, and accountability of all the key personnel involved in environmental management of the development.

ENVIRONMENTAL REPORTING & AUDITING

Incident

3. Upon detecting an exceedance of the limits/performance criteria in this consent or the occurrence of an incident that causes (or may cause) material harm to the environment, the Applicant shall immediately (or as soon as practical thereafter) notify the Department and other relevant agencies of the exceedance/incident. Within 7 days of the date of the incident, the Applicant shall provide the Director-General and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

Independent Environmental Audit

4. Within one (1) year of the commencement of operations of the development, and every three (3) years thereafter, or as otherwise agreed by the Director-General, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
   (a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;
   (b) include consultation with the relevant agencies;
   (c) assess the environmental performance of the development and assess whether it is complying with the relevant requirements in this consent and any relevant EPL (including any plan or program required under these consents);
   (d) review the adequacy of any plans or programs required under these consents; and, if appropriate;
   (e) recommend measures or actions to improve the environmental performance of the development, and/or any plan or program required under these consents.

   Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Director-General.

5. Within 6 weeks of completing any Independent Environmental Audit, or as otherwise agreed by the Director-General, the Applicant shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.

APPENDIX A – MANAGEMENT AND MITIGATION MEASURES

Item	Management and/or Mitigation Measure	Implementation C - Construction O - Operation
	General	
A1	Crawfords would implement all practical measures to avoid, or minimise any impacts to the environment that may arise from the operation of the proposal.	C,O
A2	Should the proposal be granted development consent, Crawfords would make a separate application to the NSW EPA for an EPL prior to the operation of the proposal.	C
A3	Crawfords employees and contractors would undergo an updated training/induction program in accordance with the CEMP, OEMP, Safety Management System (SMS) and other training commitments as required by any consent conditions. All personnel involved in site and transportation operations will be made aware of their environmental obligations and the need to comply with conditions of consent.	C,O
A4	Crawfords would continue the appointment of an Environment and Community Management Representative to ensure the implementation of all environmental management measures. The representative would ensure that all measures are being effectively carried out in accordance with the CEMP, OEMP, SMS and all environmental approval and legislative requirements.	C, O
	Hazard and Risk	
B1	The OEMP should incorporate the development of the SMS in accordance with HIPAP No.9 (DoP, 2011b) incorporating the following framework: • management of the SMS; • hazard identification and risk assessment; • standard operating procedures; • process safety information; • contractor management; • pre-commissioning reviews; • equipment integrity; • safe work practices; • management of change; • incident reporting and investigation; • employee selection, training and education; • procurement; • emergency planning (*site emergency plan);* • security; • auditing; • drug and alcohol testing; and • rail work fatigue management.	C,O
B2	An inspection, testing and preventative maintenance program would be developed, implemented and maintained as part of the OEMP/SMS to ensure the reliability and availability of key safety equipment.	I,O
B3	An inspection, testing and preventative maintenance program would be	C,O

	developed, implemented and maintained to ensure that all company owned and contracted mechanical equipment, including fleet vehicles, are maintained in accordance with Australian Standards and the SMS.	
B3	Measures for the storage, handling and transportation of AN would be implemented in accordance with ISO 31000 and AS4326 (2008) to reduce the likelihood of an explosion due to fire, contamination or high energy impact. These measures are to be incorporated into the site SMS.	C,O
B4	All 'route plan and risk assessments' shall be included in the OEMP/SMS. A review of all 'route plan and risk assessments' shall be undertaken every six months.	C,O
B5	The current Site Emergency Plan (SEP) shall be reviewed and developed in accordance with HIPAP No.1 (DoP, 2011a) and incorporated into the CEMP and OEMP.	C,O
B6	The SEP should make provision for the following emergency events; • heat radiation; • fire; • fume emission; • explosion; • flood; • release of contaminants; • major transport incident; • malicious act; • communicated threat; and • any combination of the above factors.	C,O
B7	The following site specific flood mitigation measures shall be incorporated into the SEP. In advance of any flood warning received from the BoM for a 2% or 1% AEP flood event, Crawfords would employ the following measures to minimise the risk of flood waters entering product stores: • advise stakeholders and customers in the 48 hours leading up to a 2% AEP flood event that no additional product will be received or stored on site; • each AN store shall have as a component of the emergency response equipment a supply of 250 micron four metre wide polythene construction membrane sufficient to encase the entire internal perimeter of the stores leaving no gaps and allowing two metre overlap at joins; • in response to a 1% AEP flood event, the AN stacks shall be reconfigured by placing the outer rows of flexible IBCs against store walls. Stacks shall also be reconfigured to remove segregation gaps between stacks and ensure no voids between individual flexible IBCs or bag stacks and walls. Reconfiguration of AN stacks would incorporate the movement of any product stored in containers into the reconfigured warehouses. The doors of any empty containers would be opened allowing them to fill with water thereby eliminating their ability to float should they become submerged. • during the repositioning of the flexible IBCs, the 250 micron polythene membrane shall be placed against the store walls allowing one metre of membrane under the outer row of bags and three metres of membrane in vertical contact with the internal surface of store walls; • supply of pre filled sandbags sufficient to construct 2m x 8m x 1m high internal seepage dam and additional supply of 250 micron four metre wide polythene construction membrane sufficient to line the seepage dam; • in response to a 1% AEP flood event, pedestrian access doors shall be sandbagged and polythene sheeted externally, and internal seepage dams shall be constructed adjacent to each vehicular access door to eliminate flood water ingress; • flooding emergency events shall be reported in accordance with the Site Emergency Plan; and • termination of a flooding emergency will be undertaken in accordance with the Site Emergency Plan.	C,O

B8	The following site specific fire mitigation measures shall be incorporated into the SEP: • check hydrants are available and in working order; • ensure hoses and hose reels are not perished and fittings are tight and in good order; • ensure the access road is in good condition with trees not forming an obstacle during smoky conditions; • ensure perimeter roads are free of obstacles to provide access for fire fighting appliances and personnel; • check roof lines for dislodged roofing materials; • ensure screens on windows and doors are in good condition without breaks or holes in fly screen material and frames are well fitted into sills and window frames; • ensure that where fitted drenching or spray systems are regularly tested before the commencement of the fire season; • ensure combustible materials are located down slope and well away from the buildings; • combustible materials are to be located well away from buildings that store AN. The Hazard Analysis for the site (HSE 2012) prescribes that stores will be kept clear of vegetation and any other combustible materials for a distance of a least 5 m around the external perimeter of the store; and the Hazard Analysis for the site (HSE 2012) prescribes that vehicles powered by internal combustion engines operated within the stores should be diesel-powered, fitted with a battery isolation switch and insulated cover over the battery, and be fitted with a spark arrestor and dry-powder extinguisher. Vehicles should be kept outside the store when not in use, be started outside the store and be garaged at least 10 m from the store.	C,O
B9	The current Site Security Plan shall be reviewed and incorporated into the CEMP and OEMP.	C,O
B10	The following engineering modifications to the storage sheds will be undertaken for flood proofing purposes: • retrofitting precast concrete doors to the two openings at the front of Sheds A and B as a flood emergency response; • application of an impervious sealant to the walls of Sheds A and B that protects against ingress of water in a 1% AEP event level plus 500mm freeboard; • sealing of the concrete floor expansion joints/voids within Sheds A and B with impervious epoxy resin to reduce the potential surface/groundwater product exposure pathway; and • within Shed C, fitting of cast concrete panels between and secured to the building columns, and sealing of joints using the impervious sealant product that is to be used to seal the timber panels of Sheds A and B.	C
B11	Engineering certification of the structural integrity of the sheds under a flood event (2% and 1% AEP) will be undertaken by Crawfords prior to building modification works to ensure proposed flood mitigation measures are adequate. Any relevant recommendations as a result of the engineering assessment will be implemented, as required, to ensure shed structural stability.	C
B12	The Proponent shall put in place measures to ensure that public access to the area on the western side of the Main Northern Rail Corridor affected by the $10x10^{-6}$ Individual Fatality Risk Contour as outlined in the Hazard Analysis is restricted.	O
	Soil and Groundwater	
C1	The CEMP shall include the following controls with regard to the control of sedimentation and contaminants: • works will not take place during heavy rainfall; • undertake stripping of soil, immediately before starting bulk earthworks;	C

	• suitable areas for any temporary stockpiling of excavated soil and debris (on flat ground) will be clearly identified and delineated before the commencement of works;	
	• ensure stockpiles are:	
	• stabilised if they are to be in place for more than 10 days;	
	• protected from run-on water by installing water diversion structures; and	
	• installed with sediment filters immediately downslope to protect other lands and waterways from; and	
	• all erosion, sediment control and runoff diversion measures will be established before any excavation begins. These will be left in place throughout works execution and beyond works completion until all surfaces have been fully restored and stabilised.	
C2	Maintenance and checking of proposed erosion and sedimentation controls would be undertaken on a monthly basis and records kept and provided upon request.	C,O
C3	Sediment would be cleared from behind barriers on a regular basis and all controls would be managed in order to work effectively at all times, that is, sedimentation controls would be less than 50% full at all times.	C,O
C4	Any material transported onto pavement surfaces would be swept and removed at the end of each working day.	C,O
C5	Hardstand material as proposed would be implemented on all trafficable areas to minimise erosion and the tracking of soil and particulates onto pavement surfaces.	C,O
C6	Given PASS were identified on site, further analysis and management of soils at the site may be required if excavation of natural estuarine sediments is to occur. If ASS are encountered during construction, an ASS management plan would be prepared in accordance with the ASS Manual *(ASS Management Advisory Committee 1998).*	C,O
C7	Implementation of groundwater management plan within the construction and operations environmental management plans to manage potential risks associated with potential acid sulphate soils (PASS) and elevated concentrations of ammonia, nitrogen, PAHs and metals as reported in *Targeted Phase II Environmental Site Assessment, Lot 12 Old Maitland Road Sandgate* (ERM, 2012);	C,O
C8	Prior to the commencement of activities on site, the site should be notified under Section 60 of the CLM Act 1999.	C
	Groundwater	
D1	A Groundwater Management Plan (GWMP) will be developed and included within the OEMP to assess the effectivenes of improvements in management of AN on site. This plan will identify appropriate sampling techniques, locations and provide baseline data.	O
D2	A groundwater monitoring programme will form part of the GWMP to assess ammonia and nitrogen concentrations and the measurable effects of improvements in the management of ammonium nitrate on the site. Monitoring parameters would include ammonium, total oxidised nitrogen, pH, and select dissolved elements.	O
	Surface water and waste water	
E1	A surface water management plan (SWMP) would be developed as part of the CEMP and OEMP to manage stormwater runoff. This plan would be developed in accordance with 'The Blue Book' *Managing Urban Stormwater – Soils and Construction Volume 1 and 2* (Landcom, 2004). The plan would outline:	C,O
	• measures to manage soils in line with the Soil and Erosion Management Plan;	
	• provision of permanent on-site water storage to the volume of 320 m^3, and	
	• measures to prevent the movement of contaminated run off.	

	The SWMP will incorporate a surface water monitoring program for monitoring of surface water quality and ecosystem health in the aquatic receiving environments to the east of the site. The program will incorporate bi-annual surface water monitoring at the site to assess ammonia and nitrogen concentrations and the effects of improvement on the management of ammonium nitrate on the site. The surface water monitoring programme will assess as a minimum in-situ water quality measurements (temperature, salinity, dissolved oxygen, turbidity, pH and oxidation-reduction potential) with laboratory analysis reporting on Ammonia, Total Oxidised Nitrogen (nitrite and nitrate), TSS, total phosphorus and chlorophyll-a levels. The program will include baseline water quality sampling from the existing stormwater outlet to confirm typical runoff quality prior to application of proposed stormwater treatment measures and to assist in the development of trigger values/targeted concentrations based on these observed values and review of data for other industrial sites in the local area. Sampling will be undertaken at the three main stormwater outlets /drainage pits near the site boundary and the inlet to Treatment Zone 1 basin. Typical spatio-temporal dimensions would include: - Four sampling events annually at each outlet/drainage pit near the boundary; - Sampling only to occur during rainfall events. Samples to be tested in NATA lab for nitrogen species (NOx, NH4, + NH3, TKN, TN), TP, TSS, heavy metals. Insitu testing for pH, temp, EC, turbidity, DO; - Annual inspection of stormwater management structures to check operational aspects and assess need for any maintenance, and of vegetated basins to specifically check vegetation growth, replant dead specimens, bare patches, identify need to harvest and replant, check measures draining appropriately and media not blocked.	
E2	Fire water management would ensure that, in the event of a fire on site, there is no loss of containment off the site of potentially contaminated water.	O
E3	The OEMP will detail hydrocarbon spill procedures and ensure that servicing of plant, equipment and vehicles is appropriately managed.	O
	Flora and Fauna (Ecology)	
F1	A Flora and Fauna Management Plan (FFMP) would be developed and incorporated as part of the CEMP and OEMP. The FFMP should include: • avoidance of the use of biocides and implementing erosion and sediment controls; • rehabilitation/landscaping works to incorporate native flora species that have the potential to provide foraging resources for native fauna species; • educate site personnel as to the appearance and location of native threatened and pest species. All sightings (location, time, date and description) of native threatened species shall be recorded; and • lighting shall be redirected to reduce unnecessary light spill that may have potential to impact nocturnal fauna.	C,O
	Air Quality	
G1	Regular use of a road sweeper over the sealed surface to remove the build-up of any particulate matter.	C,O
G2	Continued use of the screw auger when transferring AN from flexible IBCs into bulk trucks which limits the amount of emissions generated.	O
G3	Continued use of sealed off areas on site to limit the generation of emissions.	O
G4	The efficiency of all upgraded mobile and fixed equipment be considered during procurement for fuel-powered equipment.	O
G5	Investigate opportunities for low emission transportation of AN (ie utilise transport trucks that use biodiesel as opposed to regular diesel).	O
G6	Investigate opportunities for using increased quantities of biodiesel in on site	O

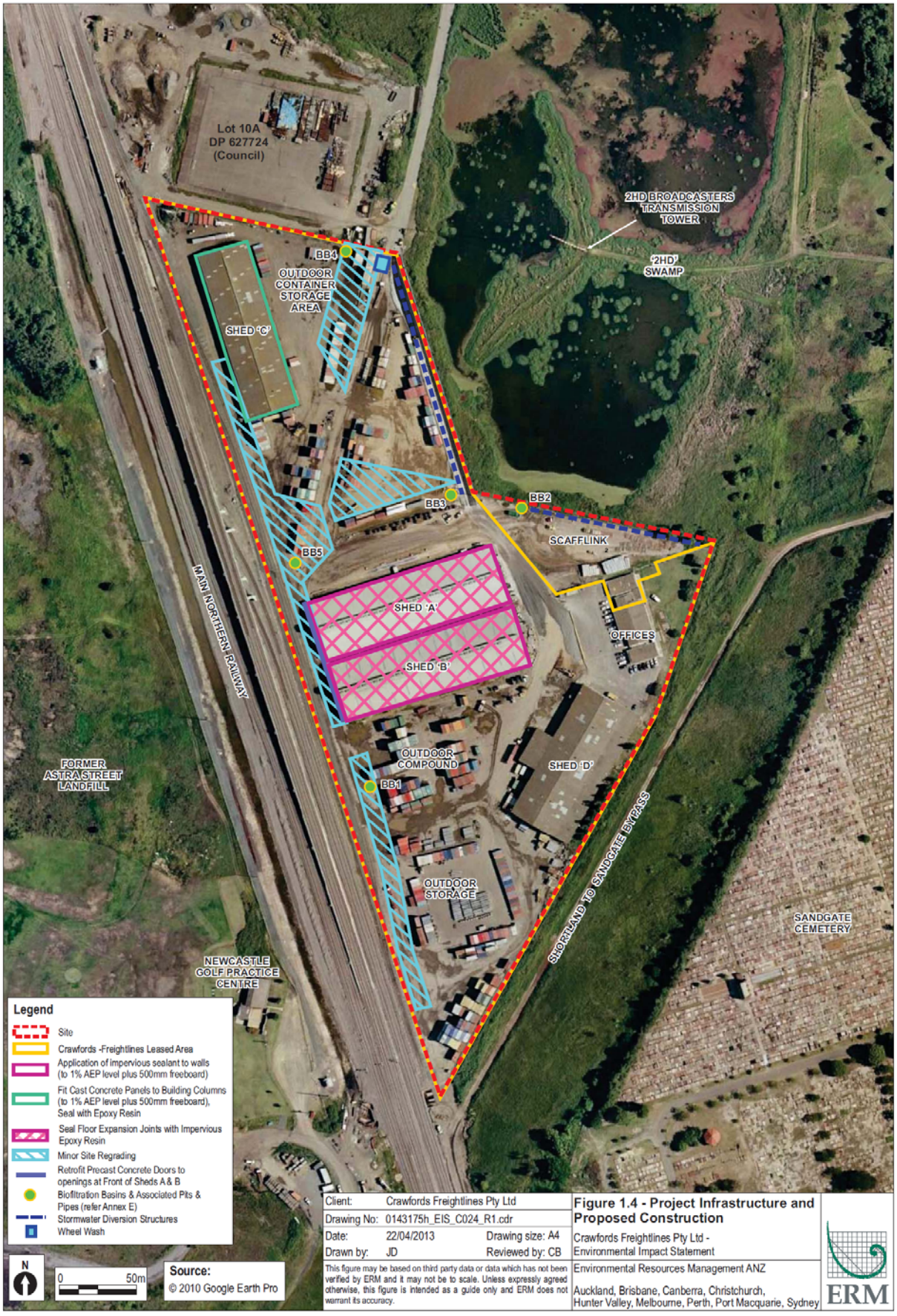
	plant.	
G7	Select vehicle size for purchase based on task ie larger vehicles generally have a lower emissions intensity than smaller vehicles.	O
G8	Site management to ensure that equipment is maintained to retain energy efficiency.	C,O
G9	Site management to check current vehicle fleet and consider the installation of aerodynamic features to reduce fuel consumption.	O
G10	Minimise running of empty trucks where possible ie look at back loading vehicles.	O
G11	Optimise freight loads so that all trucks are full.	O
G12	Reduce packaging and packaging weight to maximise use of productive space and minimise waste ie bulk product in place of flexible IBCs.	O
G13	Incorporation of a driver behaviour education program on fuel and energy efficiency which identifies: • slow acceleration to the average driving speed; • selection of route to optimise driving at speeds that optimise fuel efficiency; • driving at speeds that avoid the need for heavy braking; • leaving adequate distance between vehicles to avoid the need for heavy braking; • using roads at times of least congestion to prevent idling time and stop/start driving; and • minimise idling loses by turning vehicles off when not driving. Cab comfort can be maintained through the use of generators allowing engines to be switched off. •	O
	Greenhouse Gas	
H1	Energy audits will be held when practicable to ensure that the site is using current practice techniques to minimise energy use and is operating at optimum energy levels; and	O
H2	Investigate opportunities for purchasing part or all of electricity consumption from renewable sources.	O
	Noise and Vibration	
I1	In principle noise management measures during construction works include: • application of all feasible and reasonable work practices to meet the noise affected level; and • inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details.	C
I2	Good practice construction noise management measures which, subject to actual construction work requirements, may be investigated include: • works should adhere to the standard construction hours of work, with no out of hours works to be undertaken; • ensure site managers periodically check the site and nearby residences and other sensitive land uses for noise problems so that solutions can be quickly applied; • regularly instruct workers and contractors (such as toolbox talks) to use equipment in ways to minimise noise. Site workers are to be made aware of the potential noise impacts and are to be encouraged to take practical and reasonable measures to minimise disturbance; • keep truck drivers informed of designated vehicle routes, parking locations, acceptable delivery hours or other relevant practices (for example, minimising the use of engine brakes, and no extended periods of engine idling);	C

	• equipment should be selected to minimise noise emissions, where feasible and reasonable;	
	• equipment and plant should be properly maintained to ensure normal operating performance and minimise noise emissions;	
	• equipment and plant found to produce excessive noise compared to normal industry expectations should be removed from the site or stood down until repairs or modifications can be made;	
	• noise emissions from reversing alarms should be minimised, although use of such alarms should still be satisfactory to achieve occupational health and safety requirements; and	
	• consideration for the placement of possible noise sources should be taken into consideration and clustering of noisy plant items avoided. Static plant, for example generators, concrete mixers etc, will be placed as far as it is practicable from potential noise sensitive areas.	
	A Construction Noise Management Plan will be incorporated into the CEMP to expand on the construction noise management measures above and to address the specific construction works proposed.	
I3	The following noise management measures will be incorporated into the OEMP during the evening and morning shoulder period:	O
	• heavy vehicle drivers to be instructed to quietly enter and exit the site and should be instructed to limit extended periods of vehicle idling time. Where vehicle idling is unavoidable ERM recommends that Crawford's utilise on site structures (eg buildings or shipping containers etc) to obstruct noise sources from the nearest sensitive receptor location, where practical;	
	• the use of mobile plant motion alarms should be limited. Plant and equipment usage on site should be optimised during these periods to maximise forward motion, which will reduce motion alarms that typically sound in reverse. Where this is not achievable, visible alarms (ie flashing lights instead of audible alarms) or installation of "squashed duck" type alarms which are known to be less intrusive than standard alarms; and	
	• the use of large forklifts (ie 36T) should be limited. Where large forklift usage is required, the operators should be instructed to operate the equipment following normal good operational practices.	
	Waste Management	
J1	A Waste Management Plan (WMP) will be prepared for the site as part of the CEMP and OEMP. This would be developed prior to the commencement of construction activities and would include:	C,O
	• identification of requirements for waste avoidance, reduction, reuse and recycling;	
	• procedures for meeting legislative requirements;	
	• where possible, waste suitable for reuse or recycling would be treated in accordance with the NSW Government's Waste Reduction and Purchasing Policy;	
	• procedures for obtaining the required approvals for the management of waste;	
	• stockpile location and management;	
	• clear labelling of stockpiles;	
	• procedures to minimise waste movements around site;	
	• measures to minimise leaching of stockpiles;	
	• procedures for waste AN to be recovered as soon as possible following a spill using clean brooms and shovels. To avoid possible contamination use of clean up equipment would be restricted to AN stores only;	
	• procedures for the removal of spilt AN. Flushing with water would not be permitted;	
	• AN waste contaminated with organic substances shall be treated as Class 1 Explosive, removed from the AN store and managed accordingly;	

	• waste should be seen as hazardous if the content of waste is unknown;	
	• all sampling and classification results for the life of the project to demonstrate compliance with the EPA Waste classification guidelines will be retained;	
	• the site will be maintained and kept free of rubbish and cleaned up at the end of each working day; and	
	• any noxious plant species removed from the site would be bagged and disposed of at a licensed landfill.	
J2	The Asbestos Management Plan (ERM, 2012b) (refer to *Annex C*) which has been prepared for the site and identifies procedures and practices to be implemented for the safe management of asbestos on the site shall be appended to the WMP.	O
J3	A licenced waste management contractor would be used to remove waste from the site for reuse, recycling or disposal.	C,O
	Traffic and Transport	
K1	The current Traffic Management Plan (TMP) will be reviewed and updated as part of the OEMP. The TMP would outline:	O
	• Hours of permitted vehicle activity;	
	• Designated routes for traffic and defined access points to the site;	
	• when practical, maximise loads to reduce truck movements;	
	• if practical, minimise transport movements during the identified peak periods;	
	• designated areas within the site for truck turning movement, parking, loading and unloading to allow heavy vehicles to enter and leave the site in a forward direction;	
	• procedures and/or principles for vehicle speed limits and the safe operation of vehicles; and	
	• guidelines that will ensure drivers obey all road rules.	
	Heritage	
L1	The following measures will be undertaken to reduce potential impacts to indigenous heritage:	C,O
	• all construction personnel working on site would receive training in their responsibilities under the National Parks and Wildlife Act 1974. Records of training undertaken, including names of staff / contractors and date of training will be kept by Crawfords for the duration of the project. Where practicable, training will be developed and implemented in consultation with representatives of the local Aboriginal community;	
	• in the event that surface disturbance identifies a new Aboriginal object, all works must halt in the immediate area to prevent any further impacts to the object(s). A suitably qualified archaeological specialist and representative of the local Aboriginal community must be contacted to determine the nature, extent and significance of the object(s). The site is to be registered in AHIMS (managed by OEH) and the management outcome for the site included in the information provided to AHMS. Crawfords will consult with representatives of the local Aboriginal community and the archaeological specialist to develop and implement management strategies for all objects / sites. If impacts are unavoidable, mitigation measures are to be undertaken in accordance with the heritage component of the Construction Management Plan. All sites impacted must have an Aboriginal Site Impact Recording form completed and submitted to the AHIMS registrar within three (3) months of completion of these works;.	

	• in the unlikely event that following surface disturbance human remains are located within the project area, all works in the immediate area are to halt to prevent any further impacts to the remains. The NSW Police are to be contacted immediately. No action is to be taken until the NSW Police provide written notification. If the skeletal remains are identified as Aboriginal, Crawford's will contact OEH's Environment Line on 131 555 and representatives of the local Aboriginal community. No works will continue until OEH provides written notification; and	
	• the Aboriginal cultural heritage management measures identified above are to be detailed in the Construction Environmental Management Plan and Operational Environmental Management Plan, as relevant.	
L2	In the event European heritage items currently unidentified are uncovered as a result of the operations, all works will cease immediately until the item has been inspected by a qualified archaeologist and recommendations relating to the management of the item are made.	C,O
	Visual and Landscape	
M1	Night time operations are directly limited to deliveries of AN to the site only.	C,O
M2	Lighting should avoid the direct line of sight toward residences beyond the site.	C,O
M3	The use of floodlighting is to be minimised.	C,O
M4	Lighting would be focused only onto work areas during operation.	C,O

APPENDIX B – SITE PLAN



APPENDIX C – NOISE RECEIVER LOCATIONS

APPENDIX D – OFF-SITE RESTRICTED ACCESS AREA MAP