

Development Consent

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

As delegate of the Minister for Planning under delegation executed on 14 September 2011, we, the Planning Assessment Commission of NSW (the Commission), approves the Development Application referred to in Schedule 1 subject to the conditions in Schedule 2.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts including economic and social 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.



Member of the Commission



Member of the Commission

Sydney

7 March 2016

SCHEDULE 1

Application No.:	SSD 5300
Applicant:	Bicorp Pty Ltd
Consent Authority:	Minister for Planning
Land:	Lot 10 DP 878167, 50 Wyllie Road, Kembla Grange
Development:	Increasing the capacity of the existing construction and demolition waste and commercial and industrial waste resource recovery facility

TABLE OF CONTENTS

SCHEDULE 2	1
PART A ADMINISTRATIVE CONDITIONS	1
OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT	1
TERMS OF CONSENT	1
STATUTORY REQUIREMENTS	1
BUILDING CODE OF AUSTRALIA	1
LIMITS OF CONSENT	1
STAGED SUBMISSION OF PLANS OR PROGRAMS	2
SURRENDER OF CONSENT	2
METEOROLOGICAL MONITORING	2
OPERATION OF PLANT AND EQUIPMENT	2
DEMOLITION	2
PROTECTION OF PUBLIC INFRASTRUCTURE	2
DISPUTE RESOLUTION	3
DEVELOPER CONTRIBUTIONS	3
PART B ENVIRONMENTAL PERFORMANCE CONDITIONS	4
WASTE MANAGEMENT	4
SOIL AND WATER	4
AIR QUALITY	5
NOISE AND VIBRATION	6
TRAFFIC AND ACCESS	7
HAZARD AND RISK	8
LANDSCAPING AND RIPARIAN ZONES	8
VISUAL AMENITY	9
HERITAGE	9
SECURITY	9
PART C ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING	10
ENVIRONMENTAL MANAGEMENT	10
REPORTING	11
INDEPENDENT ENVIRONMENTAL AUDIT	11
ACCESS TO INFORMATION	12
APPENDIX A – SITE PLANS AND DRAWINGS	13
APPENDIX B – MANAGEMENT AND MITIGATION MEASURES	14

DEFINITIONS

Act	<i>Environmental Planning and Assessment Act 1979</i>
Applicant	Bicorp Pty Ltd, or any other person or persons who rely on this consent to carry out the Development that is subject to this consent
Construction	The demolition of buildings or works, carrying out of works, including erection of buildings and other infrastructure covered by this consent
Council	Wollongong City Council
Day	The period from 7 a.m. to 6 p.m. on Mondays to Saturdays, and 8 a.m. to 6 p.m. on Sundays and public holidays
Department	Department of Planning and Environment
Development	The development that is approved by the development consent and as generally described in Schedule 1
DPI	Department of Primary Industries
EIS	Environmental Impact Statement titled, "Kembla Grange Resource Recovery Facility Environmental Impact Statement", dated 17 September 2014, and prepared by TCG Planning
ENM	Excavated Natural Material
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence under the <i>Protection of the Environment Operations Act 1997</i>
Feasible	Feasible relates to engineering considerations and what is practical to build
Heavy vehicle	Any vehicle with a gross vehicle mass of 5 tonnes or more
Incident	A set of circumstances that: <ul style="list-style-type: none"> • causes or threatens to cause material harm to the environment; and/or • breaches or exceeds the limits or performance measures/criteria in this consent
Minister	Minister for Planning
Mitigation	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
Morning Shoulder	The period from 6 a.m. to 7 a.m. on Mondays to Saturdays
OEH	Office of Environment and Heritage
Operation	The receipt or processing of waste
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Reasonable	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
Response to Submissions	Response to Submissions titled, "Kembla Grange Resource Recovery Facility Response to Submissions Report", dated 29 August 2015, including as amended by the following Addenda: letter from TCG Planning, dated 9 October 2015 and accompanying Vegetation Management Plan, Version 7, dated October 2015, prepared by Southern Habitat; Schedule of Gross Floor Area of Approved and Proposed Buildings", dated 23 October 2015; letter from TCG Planning, dated 13 November 2015; "Stage Plan", Drawing No. C39, Revision A, prepared by K.F. Williams and Associates Pty Ltd, dated 17 November 2015, prepared by TCG Planning; and letter from TCG Planning, dated 20 November 2015
Secretary	Secretary of the Department, or nominee
Site	The land referred to at Schedule 1
Stage 1	As shown on the Stage Plan, Drawing No. KF110816 Revision A, dated 17 November 2015, prepared by KF Williams and Associates Pty Ltd
VENM	Virgin Excavated Natural Material
Waste	As defined in the POEO Act

SCHEDULE 2

PART A ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

- A1. 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, operation or decommissioning of the development.

TERMS OF CONSENT

- A2. The Applicant shall carry out the Development in accordance with the:
- a) EIS;
 - b) Response to Submissions;
 - c) site layout plans and drawings (see Appendix A); and
 - d) Management and Mitigation Measures (see Appendix B).
- A3. If there is any inconsistency between the documents referred to above, 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.
- A4. The Applicant shall comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of:
- a) any reports, plans, strategies, programs or correspondence that are submitted in accordance with this consent; and
 - b) the implementation of any actions or measures contained in these reports, plans strategies, programs or correspondence.

STATUTORY REQUIREMENTS

- A5. The Applicant shall ensure that all licences, permits, and approvals/consents are obtained as required by law and maintained as required through the life of the Development. No condition of this consent removes the obligation for the Applicant to obtain, renew or comply with such licences, permits or approvals/consents.

LIMITS OF CONSENT

Waste limits

- A6. The Applicant shall not receive or process on the site more than 230,000 tonnes per calendar year of waste, subject to Condition A8.
- A7. Despite Condition A7, the Applicant shall not receive or process on the site more than 30,000 tonnes per calendar year of waste until:
- a) a Final Occupation Certificate has been issued for Stage 1 of the Development; and
 - b) the Secretary has approved the Operational Environmental Management Strategy for the Development (see Condition C3).
- A8. The Applicant shall store no more than 45,000 tonnes of waste on the site at any one time, including:
- a) no more than 2,500 m³ of organic waste on the site at any one time; and
 - b) no more than 500 m³ of the above limit on organic waste is to comprise compost product.

BUILDING CODE OF AUSTRALIA

- A9. The Applicant shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures are constructed in accordance with the relevant requirements of the *Building Code of Australia*.

STAGED SUBMISSION OF PLANS OR PROGRAMS

- A10. With the approval of the Secretary, the Applicant may:
- submit any strategy, plan or program required by this consent on a progressive basis; and/or
 - combine any strategy, plan or program required by this consent.
- A11. Until they are replaced by an equivalent strategy, plan or program approved under this consent, the Applicant shall continue to implement existing strategies, plans or programs for operations on site that have been approved by previous consents or approvals.

Note:

- If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages and the trigger for updating the strategy, plan or program.*
- There must be a clear relationship between the strategy, plan or programs that are to be combined.*

SURRENDER OF CONSENT

- A12. In order for the development of land to proceed in a coordinated and orderly manner and to avoid potential conflicts with this consent, the Applicant shall and in the manner prescribed by clause 97 of the EP&A Regulation, surrender the development consent issued by Wollongong City Council described in Table 1 within 14 days of the issue of a Construction Certificate for the Development.

Table 1 – Consent to be surrendered

Development Application No. DA-2009/1153, as modified	
Land description	Lot 10 DP 878167, 50 Wyllie Road, Kembla Grange NSW 2526
Development Description	Building material storage and recycling facility
Date	29 April 2010

METEOROLOGICAL MONITORING

- A13. Within 14 days of the issue of a Construction Certificate for the Development, the Applicant shall ensure that there is a suitable meteorological station on the site that complies with the requirements in the latest version of the *Approved Methods for Sampling of Air Pollutants in New South Wales*. The Applicant shall operate the meteorological station for the life of the Development.

OPERATION OF PLANT AND EQUIPMENT

- A14. The Applicant shall ensure that all plant and equipment used for the Development is:
- maintained in a proper and efficient condition; and
 - operated in a proper and efficient manner.

DEMOLITION

- A15. The Applicant shall ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601:2001: The Demolition of Structures*, or its latest version.

PROTECTION OF PUBLIC INFRASTRUCTURE

- A16. The Applicant shall:
- 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.

DISPUTE RESOLUTION

- A17. In the event of a dispute between the Applicant and a public authority, in relation to an applicable requirement in this consent or relevant matter relating to the Development, either party may refer the matter to the Secretary for resolution. The Secretary's determination of any such dispute shall be final and binding on the parties.

DEVELOPER CONTRIBUTIONS

- A18. Prior to the issue of a Construction Certificate for the Development, the Applicant shall pay Council \$163,255.35 in accordance with the West Dapto Section 94 Development Contributions Plan. The contribution amount shall be calculated at the time of payment.

Note: This contribution is subject to indexation to reflect quarterly variations in the Consumer Price Index All Group Index Number for Sydney, as published by the Australian Bureau of Statistics.

PART B ENVIRONMENTAL PERFORMANCE CONDITIONS

WASTE MANAGEMENT

- B1. The Applicant shall not cause, permit or allow any materials or waste generated outside the site to be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by an EPL.
- B2. The Applicant shall implement a Waste Monitoring Program for the Development within 14 days of the issue of a Construction Certificate for the Development. The program must:
- a) be prepared by a suitably qualified and experienced person(s);
 - b) include suitable provision to monitor and record the:
 - (i) quantity, type and source of waste received on site; and
 - (ii) quantity, type and quality of the outputs produced on site.
 - c) ensure that:
 - (i) all waste that is controlled under a tracking system has the appropriate documentation prior to acceptance at the site; and
 - (ii) staff receive adequate training in order to be able to recognise and handle any hazardous or other prohibited waste including asbestos.

SOIL AND WATER

Pollution of Waters

- B3. The Development shall comply with section 120 of the POEO Act, which prohibits the pollution of waters, except as expressly provided in an EPL.

Sewage Management

- B4. The Applicant shall obtain approval for the operation of an On-site Sewage Management System in accordance with section 68 of the *Local Government Act 1993*.

Water Management Plan

- B5. Prior to the commencement of construction of the Development, the Applicant shall prepare a Water Management Plan to the satisfaction of the Secretary. The plan must:
- a) be prepared by a suitably qualified and experienced person(s) in consultation with the EPA and DPI;
 - b) include a detailed site water balance;
 - c) include a mass soil balance;
 - d) include the details of:
 - (i) retaining walls and soil cut and fill;
 - (ii) expected groundwater interception and extraction;
 - (iii) all-weather access to the site;
 - (iv) clean water runoff areas that discharge without treatment (i.e. car parks and roofs);
 - (v) the Water Management System for the site (see Condition B7);
 - (vi) erosion and sediment controls (see Condition B8);
 - (vii) bunding (see Condition B9); and
 - (viii) water management, monitoring, testing and incident response arrangements.
- B6. The Applicant shall carry out the Development in accordance with the Water Management Plan approved by the Secretary (as revised and approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

Water Management System

- B7. The Applicant shall operate a Water Management System for the site. The system must:
- a) be designed by a suitably qualified and experienced person(s) in consultation with the EPA and Council;
 - b) control surface water so that it does not mix with waste on the site;
 - c) include surface water and leachate detention;
 - d) be consistent with the guidance in *Managing Urban Stormwater - Soils and Construction Vol. 1* (Landcom, 2004);
 - e) divert clean surface water around operational areas of the site;

- f) include water quality monitoring that can determine the performance of the water management system against any EPL discharge limits; and
- g) include water reuse based on a risk assessment of environment and human health impacts.

Erosion and Sediment Control

B8. The Applicant shall implement erosion and sediment control measures on-site in accordance with *Managing Urban Stormwater: Soils and Construction Vol. 1* (Landcom, 2004).

Bunding

B9. The Applicant shall store all chemicals, fuels and oils used on-site in appropriately banded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA's *Storing and Handling Liquids: Environmental Protection – Participant's Manual 2007*.

Imported Soil

B10. The Applicant shall:

- a) ensure that only VENM, or ENM, or other material approved in writing by the EPA is used as fill on the site;
- b) keep accurate records of the volume and type of fill to be used; and
- c) make these records available to the Department upon request.

AIR QUALITY

Odour

B11. The Applicant shall ensure the Development does not cause or permit the emission of any offensive odour (as defined under section 129 of the POEO Act).

Air Quality Management Plan

B12. Prior to the commencement of construction of the Development, the Applicant shall prepare an Air Quality Management Plan to the satisfaction of the Secretary. The plan must:

- a) be prepared by a suitably qualified and experienced person(s) in consultation with the EPA;
- b) describe the measures that would be implemented to ensure:
 - (i) all reasonable and feasible measures are employed to minimise air emissions, including details of water sprays for stockpiles, exposed areas and the dust suppression system for the crushing plant;
 - (ii) compliance with the relevant conditions of this consent;
 - (iii) contingency measures are deployed to minimise impacts should adverse air emissions occur or appear likely to occur;
- c) include well defined triggers for the deployment of construction and operational air quality measures;
- d) include well defined triggers for ceasing or partially ceasing operations on site during adverse air quality conditions; and
- e) include a protocol to determine the occurrence of an exceedance of any criteria in the EPL should an exceedance occur.

B13. The Applicant shall carry out the Development in accordance with the Air Quality Management Plan approved by the Secretary (as revised and approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

Air Emissions Mitigation

B14. The Applicant shall:

- a) operate the Development so that air emissions are minimised during all meteorological conditions; and
- b) implement best management practice, including all reasonable and feasible air and odour emissions mitigation measures to minimise emissions from the Development, including but not limited to:
 - (i) carrying out all composting on the site inside a fully enclosed building under negative atmospheric pressure;

- (ii) covering all finished compost or mulch that is stored outside a building with a suitable rain-proof cover;
- (iii) ensuring all paper, cardboard or plastic that is stored outside a building is within a compacted bale or covered enclosure;
- (iv) ensuring any stockpile of organic waste stored outside a building is 3 metres in height or less;
- (v) ensuring any stockpile of inorganic waste stored outside a building is 5 metres in height or less;
- (vi) storing no more than 2,500 m³ of organic matter outside a building at any one time, comprising of no more than:
 - 1,000m³ of unprocessed green waste;
 - 1,000m³ of mulches; and
 - 500m³ of compost;
- (vii) storing no more than 300 tonnes of firewood outside a building at any one time; and
- (viii) dust suppression through the use of chemical suppressants, water sprays/misters.

Construction emissions mitigation

B15. During construction, the Applicant shall ensure that:

- a) all vehicles on site do not exceed a speed of 30 kilometres per hour;
- b) all loaded construction vehicles entering or leaving the site have their loads covered; and
- c) all construction vehicles leaving the site are cleaned of dirt, sand and other materials before they leave the site, to avoid tracking the materials on public roads.

Air Quality and Odour Audit

B16. The Applicant shall carry out an Air Quality and Odour Audit of the Development no later than three months after the Secretary has approved the Operational Environmental Management Strategy (refer to Condition C3) for the Development. The audit must:

- a) be carried out by a suitably qualified and experienced expert whose appointment has been endorsed by the Secretary;
- b) audit the Development whilst it is in operation;
- c) include a summary of air and odour emission related complaints and any actions that were carried out to address the complaints;
- d) validate the Development against air quality and odour predictions in the EIS;
- e) review design and management practices of the Development against industry best practice for air emissions and odour management; and
- f) include an action plan that identifies and prioritises additional air and odour emission mitigation measures that may be necessary to reduce air emissions.

B17. The Applicant shall comply with any reasonable requirement(s) of the Secretary arising from the Department's assessment of the Air Quality and Odour Audit.

NOISE AND VIBRATION

Construction and operation hours

B18. The Applicant shall comply with the construction and operation hours in Table 2 unless otherwise agreed to in writing by the Secretary.

Table 2: Hours of Construction and Operation

Activity		Day	Hours
Construction		Monday – Friday	7 am to 6 pm
		Saturday	8 am to 1 pm
		Sunday & Public Holidays	Nil
Operation	Deliveries and operation of machinery	Monday – Saturday	7 am to 6 pm
		Sunday	8 am to 4 pm
		Public Holidays	Nil
	All other operational activities	Monday – Saturday	6 am to 6 pm
		Sunday	8 am to 4 pm
		Public Holidays	Nil

- B19. Despite Condition B18, the delivery of material to the site may occur at any time, if that delivery is required by police or other authorities; and/or of there is an on-site emergency that poses an immediate danger to personnel or equipment; and/or the operation or personnel or equipment are endangered. In such circumstances, prior notification shall be provided to the EPA and affected residents as soon as possible, or within a reasonable period in the case of emergency.

Noise criteria

- B20. The Applicant shall ensure that noise generated by the Development does not exceed the noise criteria in Table 3.

Table 3: Noise criteria (dB(A))

Location	Noise criteria (dB(A))		
	Day	Morning Shoulder	
	L _{Aeq} (15 minute)	L _{Aeq} (15 minute)	L _{Aeq} (1 minute)
The dwelling on Lot 11 DP 878167	35	35	45
Any dwelling in Farmborough Heights	37	37	47
Any dwelling in the vicinity of Kingston Town Drive	41	41	51

Noise compliance measurement

- B21. Noise generated by the Development is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the latest version of the *NSW Industrial Noise Policy*.

Vibration criteria

- B22. The Applicant shall ensure that vibration resulting from the Development does not exceed the continuous or impulsive vibration criteria in EPA's *Assessing Vibration: A Technical Guideline* (February 2006) at residential receivers.

Noise mitigation

- B23. The Applicant shall:
- implement best management practice, including all reasonable and feasible noise management and mitigation measures to prevent and minimise operational, low frequency and traffic noise generated by the Development;
 - minimise the noise impacts of the Development during adverse meteorological conditions;
 - 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
 - regularly assess noise monitoring data and relocate, modify and/or stop operations to ensure compliance with the noise criteria in this consent.

Noise monitoring

- B24. The Applicant shall carry out any noise monitoring required by the EPL.

TRAFFIC AND ACCESS

- B25. The Applicant shall ensure that:
- a total of 26 car parking spaces, including one disabled car parking space are provided;
 - site access, driveways and parking areas are constructed and maintained in accordance with the latest versions of *Australian Standards AS 2890.1*, *AS 2890.2*, *AS 2890.6* and *AS 1428.1*;
 - 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*;
 - the bridge is:
 - designed by a suitably qualified and experienced engineer in accordance with the current Australian Standards for bridge design;
 - a minimum of 300mm freeboard above the estimated 1% Annual Exceedance Probability flood level to the underside of the bridge deck; and

- (iii) provided with flood warning signage and flood depth indicators for traffic;
- e) the Development does not result in any vehicles parking or queuing on the public road network;
- f) all vehicles are wholly contained on site before being required to stop;
- g) all loading and unloading of heavy vehicles is carried out on-site;
- h) turning areas are kept clear of any obstacles, including parked cars, at all times;
- i) all heavy vehicles associated with the Development have their loads covered and do not track dirt onto public roads; and
- j) all vehicles enter and leave the site in a forward direction.

HAZARD AND RISK

Fire Management

B26. The Applicant shall:

- a) implement suitable measures to minimise the risk of fire on the site;
- b) extinguish any fires on the site promptly; and
- c) maintain adequate fire-fighting capacity on the site at all times.

Bushfire protection

B27. The Applicant shall:

- a) ensure that any new building is constructed in accordance with the latest version of *Australian Standard AS 3959* and *Planning for Bush Fire Protection 2006*;
- b) upgrade existing buildings to improve ember protection by enclosing all openings (excluding roof tile spaces) or covering openings with a non-corrosive metal screen mesh with a maximum aperture of 2 millimetres and fit external doors with draft excluders; and
- c) ensure landscaping of the Development, excluding the riparian corridor, complies with the principles in Appendix 5 of *Planning for Bush Fire Protection 2006*.

B28. From the commencement of construction, and in perpetuity, the Development shall be managed as an Inner Protection Area (IPA) as outlined in *Planning for Bush Fire Protection 2006* and *Standards for Asset Protection Zones*. The IPA shall include the area around the proposed workshop building for a distance of 20 metres to the north and east, but exclude the riparian corridor, which traverses the site.

LANDSCAPING AND RIPARIAN ZONES

Landscape Management Plan

B29. Prior to the commencement of construction of the Development, the Applicant shall prepare a Landscape Management Plan in consultation with the Office of Water, to the satisfaction of the Secretary. The plan must:

- a) be prepared by a suitably qualified and experienced person(s);
- b) detail the measures to be employed to address the requirements of Condition B30;
- c) describe and map the extent of the Riparian Zone for the un-named tributary on the site;
- d) be consistent with the Vegetation Management Plan, Version 7, dated October 2015, prepared by Southern Habitat;
- e) include:
 - (i) a schedule of proposed planting, including botanic and common names, expected mature height and staking requirements, numbers of plants and pot sizes;
 - (ii) the location of all proposed and existing overhead and underground service lines, with all service lines clear of the drip lines of existing and proposed trees;
 - (iii) the location of common taps and/or irrigation system in accordance with *Wollongong City Council Landscape Technical Policy No 98/4*;
 - (iv) the details of protection measures for existing vegetation to be retained; and
 - (v) a landscape maintenance program for the operational life of the facility.

B30. The Applicant shall carry out the Development in accordance with the Landscape Management Plan approved by the Secretary (as revised and approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

Landscaping

B31. The Applicant shall:

- a) ensure that all works are consistent with the Vegetation Management Plan, Version 7, dated October 2015, prepared by Southern Habitat;
- b) ensure that the *Ficus macrophylla* (Moreton Bay Fig) and *Streblus brunonianus* (Whalebone Tree) described in Drawing No.1442-LC01G, prepared by Ochre Landscape Architects dated 12 August 2015, are retained and protected during construction;
- c) install a permanent physical barrier at the landward extent of the riparian zone to prevent damage to the riparian zone;
- d) ensure that the riparian zone is landscaped with fully structured native vegetation that emulates the local vegetation community;
- e) ensure that washing of equipment or disposing of building materials, does not occur within the drip line of any tree nominated for retention;
- f) ensure that appropriate tree protection measures are employed for the entirety of the excavation and construction phases of the Development, including:
 - (i) 1.8 metre high cyclone chain mesh fence, with posts and portable concrete footings; and
 - (ii) mulching of tree protection zones with 75 millimetres of mulch; and
- g) install permeable surfaces (in accordance with the manufacturer's recommendations) for any proposed hard surface under the canopy of existing trees, with finished surface levels matching existing levels.

VISUAL AMENITY

Lighting

B32. All external lighting associated with the Development shall be mounted, screened, and directed in such a manner so as not to create a nuisance to the surrounding environment, properties and roadways. The lighting shall be the minimum level of illumination necessary and shall comply with Australian Standard AS4282 1997 – Control of the Obtrusive Effects of Outdoor Lighting.

Signage

B33. The Applicant shall install any new signage in consultation with Council.

Note: This condition does not apply to signage identified as exempt or complying development in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

HERITAGE

B34. The Applicant shall cease all works on site in the event that any Aboriginal cultural object(s) or human remains are uncovered. If human remains are uncovered, you must immediately stop work, not further disturb the remains and notify NSW Police. OEH and the Aboriginal community must be contacted if the remains are suspected to be of Aboriginal origin. If other Aboriginal objects are discovered, you must immediately stop work, not further disturb the objects and notify OEH by calling Environment Line on 131 555. Works must not resume in the designated area until the relevant written consent is received from NSW Police and/or OEH. Any Aboriginal objects discovered must be registered on the Aboriginal Heritage Management Information System (AHIMS), in accordance with section 89A of the *National Parks and Wildlife Act 1974*.

SECURITY

B35. The Applicant shall:

- a) install and maintain a perimeter fence and security gates on the site; and
- b) ensure that the security gates on site are locked whenever the site is unattended.

PART C ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Construction Environmental Management Plan

- C1. Prior to the commencement of construction of the Development, the Applicant shall prepare a Construction Environmental Management Plan to the satisfaction of the Secretary. The Plan must:
- a) be prepared by a suitably qualified and experienced person(s);
 - b) describe all activities to be undertaken on the site during construction, including a clear indication of construction stages;
 - c) identify the statutory approvals that apply to the Development;
 - d) outline all environmental management practices and procedures to be followed during construction (e.g. construction traffic management and construction noise and vibration management), including all reasonable and feasible mitigation measures to protect the amenity of the surrounding environment;
 - e) detail how the environmental performance of construction will be monitored, and what actions will be taken to address identified adverse environmental impacts;
 - f) describe the roles and responsibilities for all relevant employees involved in construction;
 - g) include arrangements for community consultation and complaints handling procedures during construction; and
 - h) consolidate the construction related parts of any management plans and monitoring programs required in the conditions of this consent.
- C2. The Applicant shall carry out the Development in accordance with the Construction Environmental Management Plan approved by the Secretary (as revised approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

Operational Environmental Management Strategy

- C3. The Applicant shall prepare an Operational Environmental Management Strategy for the Development to the satisfaction of the Secretary. This strategy must:
- a) be prepared by a suitably qualified and experienced person(s);
 - b) provide a strategic framework for environmental management of the Development;
 - c) identify the statutory approvals that apply to the Development;
 - d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the Development;
 - e) describe in general how the environmental performance of the Development would be monitored and managed; and
 - f) describe the procedures that would be implemented to:
 - (i) keep the local community and relevant agencies informed about the operation and environmental performance of the Development;
 - (ii) receive, handle, respond to, and record complaints;
 - (iii) resolve any disputes that may arise;
 - (iv) respond to any non-compliance; and
 - (v) respond to emergencies.
- C4. The Applicant shall carry out the Development in accordance with the Operational Environmental Management Strategy approved by the Secretary (as revised approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

Management Plan Requirements

- C5. The Applicant shall ensure that the environmental management plans/strategies required under this consent are prepared in accordance with any relevant guidelines and include:
- a) detailed baseline data;
 - b) a description of:
 - (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - (ii) any relevant limits or performance measures/criteria;

- (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the Development or any management measures;
 - (iv) the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
 - c) a program to monitor and report on the:
 - (i) impacts and environmental performance of the Development;
 - (ii) effectiveness of any management measures;
 - (iii) a contingency plan to manage any unpredicted impacts and their consequences;
 - (iv) a program to investigate and implement ways to improve the environmental performance of the Development over time;
 - d) a protocol for managing and reporting any:
 - (i) incidents;
 - (ii) complaints;
 - (iii) non-compliances with statutory requirements; and
 - (iv) exceedances of the impact assessment criteria and/or performance criteria; and
 - (v) a protocol for periodic review of the plan.
- C6. The Secretary may waive some of the requirements in Condition C5 if they are unnecessary or unwarranted for particular management plans/strategies.

REPORTING

Incident Reporting

- C7. The Applicant shall notify, at the earliest opportunity, the Secretary and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the Development, the Applicant shall notify the Secretary and any other relevant agencies as soon as practicable after the Applicant becomes aware of the incident. Within 7 days of the date of the incident, the Applicant shall provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

Regular Reporting

- C8. The Applicant shall provide regular reporting on the environmental performance of the Development on a website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

INDEPENDENT ENVIRONMENTAL AUDIT

- C9. Within 1 year of the Secretary's approval of the Operational Environmental Management Strategy for the Development, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the Development. This audit must:
- a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
 - b) led by a suitably qualified auditor, and include experts in fields specified by the Secretary;
 - c) include consultation with the relevant agencies;
 - d) assess the environmental performance of the Development and assess whether it is complying with the requirements in this consent, and any other relevant approvals and relevant EPL/s (including any assessment, plan or program required under the approvals);
 - e) review the adequacy of any approved strategy, plan or program required under the abovementioned consents; and
 - f) recommend measures or actions to improve the environmental performance of the Development, and/or any strategy, plan or program required under the consents.
- C10. Within 6 weeks of commissioning this audit, or as otherwise agreed by the Secretary, the Applicant shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.

Annual Review

- C11. By the end of March each year or as otherwise agreed with the Secretary, the Applicant shall review the environmental performance of the Development. This review must:
- a) describe the Development that was carried out in the previous calendar year, and the Development that is proposed to be carried out over current calendar year;
 - b) include a comprehensive review of the monitoring results and complaints records of the Development over the last calendar year, which includes a comparison of the results against the:
 - (i) the relevant statutory requirements, limits or performance measures/criteria;
 - (ii) requirements of any plan or program required under this consent;
 - (iii) the monitoring results of previous years; and
 - (iv) the relevant predictions in the EIS;
 - c) identify any non-compliance over the last calendar year, and describe what actions were (or are being) taken to ensure compliance;
 - d) identify any trends in the monitoring data over the life of the Development;
 - e) identify any discrepancies between the predicted and actual impacts of the Development, and analyse the potential cause of any significant discrepancies; and
 - f) describe what measures have or will be implemented in the current calendar year to improve the environmental performance of the Development.

Revision of Strategies, Plans and Programs

- C12. Within 3 months of the submission of an:
- a) annual review under Condition C11 above;
 - b) incident report under Condition C7 above;
 - c) audit under Condition C9 above; or
 - d) any modification to this consent,

the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this consent.

Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the Development.

- C13. The Applicant shall ensure that the operation of the Development is undertaken in accordance with all relevant updated and/or amended strategies, management plans and programs approved by the Secretary (or as revised and approved by the Secretary), unless otherwise agreed by the Secretary.

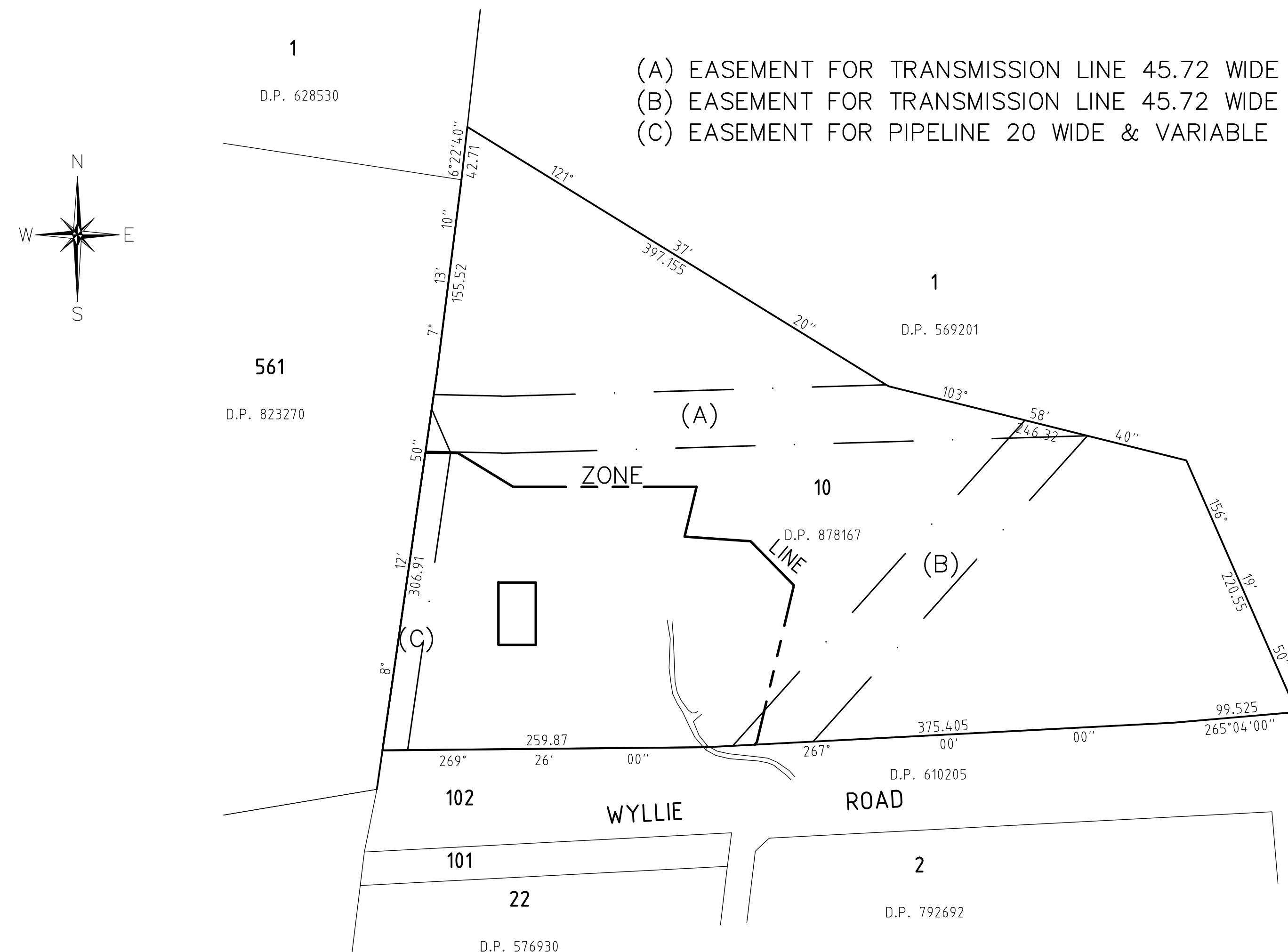
ACCESS TO INFORMATION

- C14. The Applicant shall make copies of the following publicly available on its website:
- a) the documents referred to in Condition A2;
 - b) all current statutory approvals for the Development;
 - c) all approved strategies, plans and programs required under the conditions of this consent;
 - d) a comprehensive summary of the monitoring results of the Development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
 - e) a complaints register, updated on a monthly basis;
 - f) the annual reviews of the Development;
 - g) any independent environmental audit of the Development, and the Applicant's response to the recommendations in any audit; and
 - h) any other matter required by the Secretary; and
 - i) keep this information up to date.

APPENDIX A – SITE PLANS AND DRAWINGS

PROPOSED INDUSTRIAL DEVELOPMENT

WYLLIE ROAD, KEMBLA GRANGE

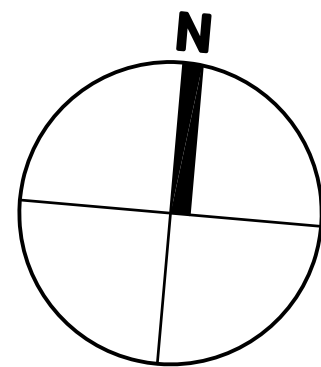


INDEX OF SHEETS

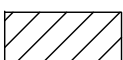

C10A	COVER SHEET
C10	OVERALL PLAN
C11	SITE SECTIONS
C12	POND DETAILS
C13	SOIL WATER MANAGEMENT PLAN
C14	SOIL AND WATER MANAGEMENT DETAILS
C15	SURFACES PLAN
C16	OSD BASIN B
C17	SHREDDING AREA DETAIL
C18	SWEPT PATH AND CARPARKING DETAIL
C19	EXISTING SITE PLAN—SURVEY DATED SEPT 2012
C20–C26	NOT IN THIS SET OF DRAWINGS
C27	PROPOSED LAYOUT
C28	CUT AND FILL PLAN
C29	SITE PLAN – USAGE AREAS
C30	SITE PLAN – PROPOSED LAYOUT – PMF FLOOD LINES
C31	RAINWATER HARVESTING PLAN
C32	LEACHATE CONTROL PLAN
C33	SITE PLAN – PROPOSED LAYOUT – Q100 FLOOD LINES

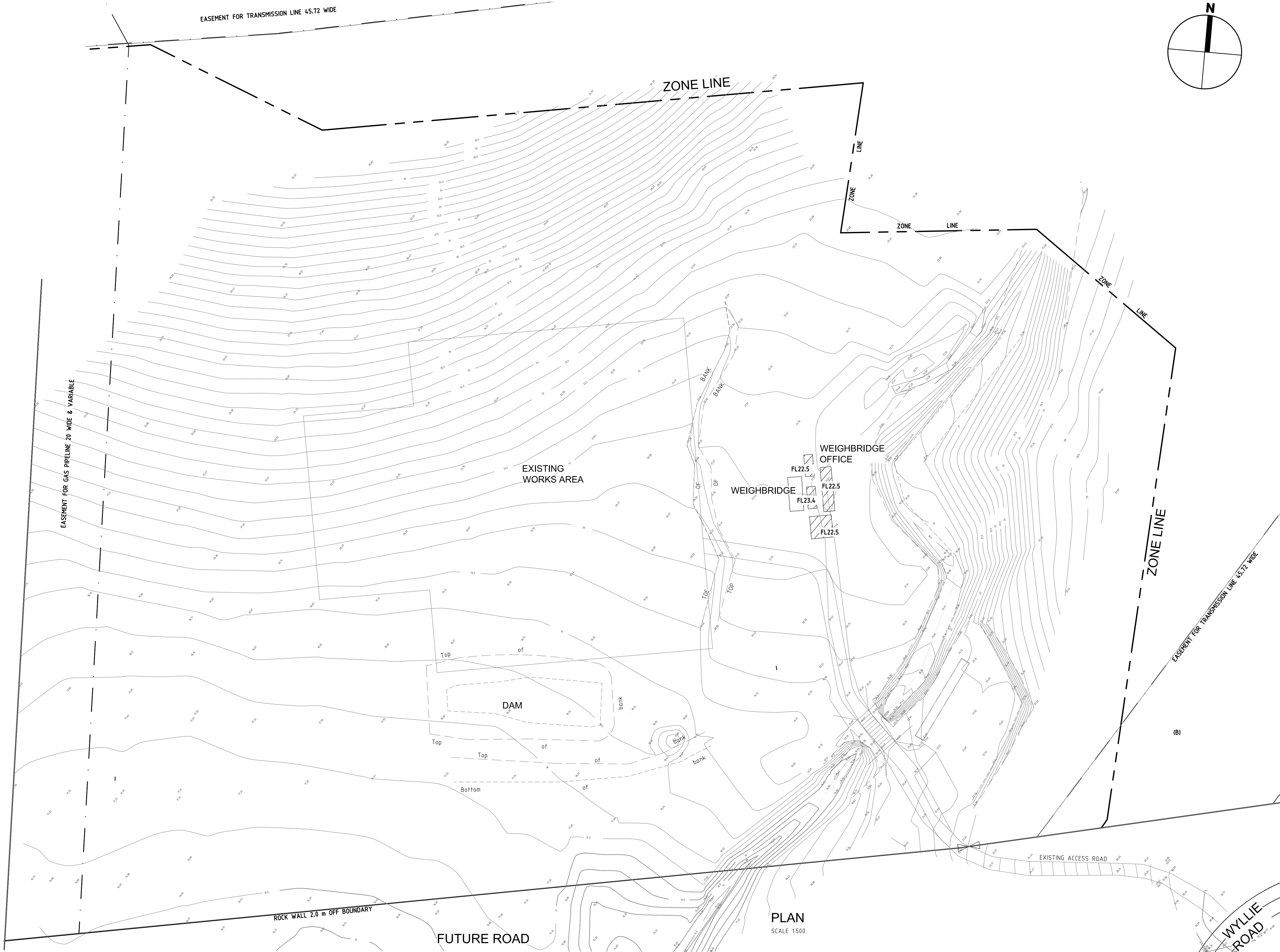
NOTE:
DRAWINGS C19–C32 (EXCLUDING C20–C26) HAVE BEEN ADDED TO THE DOCUMENTATION AT THE REQUEST OF THE DEPARTMENT OF PLANNING

DO NOT SCALE



LEGEND

-  DENOTES EXISTING BUILDING
-  DENOTES EXISTING CONTOURS



A	EXISTING WORK AREA ADDED	20-03-2014	A.P.	W.M.
Revision	Amendment or reason for issue	Issue date	Drawn by	Authorised



K.F. Williams & Associates Pty Ltd
28 Auburn Street
Wollongong NSW 2500
A.C.N 008 664 417
Project Management, Surveying,
Civil, Structural, Water & Sewer

p (02) 4228 7044
f (02) 4226 2004
e mail@kfw.net.au
www.kfw.net.au

Surveyor DENNIS SMITH	Date FEB 2014
Date of Survey	Drawn A PROUDLOVE
Height Datum AHD	Designed M.I.E.Aust. C.P.Eng
Origin	Checked
Horiz. Datum	Approved

Drawing Title PROPOSED INDUSTRIAL DEVELOPMENT LOT 10 DP 878167 WYLLIE ROAD, KEMBLA GRANGE EXISTING SITE PLAN	
Scale 1:500 @ A1 1:1000 @ A3	Drawing Status ISSUED FOR DA APPROVAL

Project No. KF110816	
Drawing No. C19	
Sheet 10 Of 17	Revision A

FILENAME: X:\KF110816 Civil\Drawings\DA\KF110816 DA.dwg
PLOTED BY: - proudlove

DRAINAGE NOTES

1. RAINWATER TANKS TO HAVE FIRST FLUSH BYPASS SYSTEM
2. 2 x 100,000 LITRE TANKS WILL PROVIDE APPROXIMATELY 82% OF DAILY DEMAND OF 500 LITRES/DAY
3. PRIOR TO COMMENCING CONSTRUCTION WORK, THE OWNER/CONTRACTOR SHALL ENGAGE A REGISTERED SURVEYOR TO ACCURATELY DELINEATE THE GAS PIPELINE BOUNDARY. IN ORDER TO PREVENT CONSTRUCTION PLANT FROM ENCRANCHING ONTO THE GAS PIPELINE EASEMENT, THE OWNER/CONTRACTOR SHALL INSTALL A HIGH VISIBILITY ORANGE PARA-WEB FENCING OR 1.8M HIGH CHAINWIRE FENCE TO CLEARLY DELINEATE THE LIMIT OF WORK. THE FENCE SHALL NOT ENCRANCH UPON THE GAS PIPELINE EASEMENT AND SHALL BE INSTALLED 0.15 M OFF THE EASEMENT BOUNDARY.
4. WATER QUALITY/RECYCLING POND EMBANKMENT IS TO BE COMPACTED TO 100% MOD COMPACTION UNDER LEVEL 2 GEOTECHNICAL CONTROL
5. DUST CONTROL TO BE ACHIEVED USING WATER CART. DEMAND ESTIMATED AT 40,000 L/DAY
6. LEACHATE COLLECTION TANKS PUMPED OUT BY SERVICE TANKER.
7. BYPASS CONTROL PIT TO DIVERT 220 L/sec TO WATER QUALITY POND. DISCHARGE EXCEEDING 230 L/sec TO DRAIN DIRECT TO DETENTION BASIN.
8. DETENTION BASIN TO HAVE 1953m³ STORAGE WITH 675mm DIA PIPE OUTLET. WEIR RL @ APPROX. 18.85m.
9. WATER QUALITY/RECYCLING POND TO HAVE PERMANENT VOLUME OF 3428 m³ WITH 673 m³ EXTENDED STORAGE. OVERFLOW PIPE TO BE 100mm DIA PIPE. OVERFLOW PIPE TO DISCHARGE TO DETENTION BASIN.
10. SHREDDING RUNOFF POND. SHREDDING RUNOFF POND TO HAVE VOLUME OF 781m³. OVERFLOW PIPE TO BE DISCHARGED TO WATER QUALITY POND. OVERFLOW PIPE TO BE 100mm DIA.
11. OSD BASIN B TO HAVE VOLUME OF 235m³. OUTLET TO BE 500m DIA ORIFICE OVER 600Ø PIPE. WEIR RL @ APPROX. 20.35m
12. NO STORAGE OF BUOYANT MATERIAL IN PMF INUNDATION AREA. MINIMUM CRUSHED AGGREGATE SIZE IN PMF INUNDATION AREA TO BE 75mm

LEGEND

- DENOTES PROPOSED BUILDING
- DENOTES EXISTING CONTOURS
- DENOTES PROPOSED SURFACE LEVELS
- DENOTES PROPOSED BATTER (1 IN 2) TO BE LANDSCAPED
- DENOTES PROPOSED LANDSCAPING/BATTER PROTECTION
- DENOTES 10m BUFFER LINE FROM TOP BANK
- DENOTES 1% AEP FLOOD LIMIT
- DENOTES SUBSOIL DRAINAGE
- DENOTES CATCH DRAIN
- DENOTES DIRECTION OF TRAFFIC FLOW
- DENOTES STORMWATER FLOW
- DENOTES HUMCEPTOR DOWNSTREAM DEFENDER
- DENOTES BOLLARD & SIGNAGE
- DENOTES STORMWATER PITS AND PIPES
- DENOTES RESTRICTED STOCKPILING AREA



SIGN - ARR-104

CONTAINER BINS FOR VARIOUS BUILDING AND LANDSCAPE SUPPLY. PRODUCTS INCLUDING SAND, SLIS, PINE BARK MULCH, METAL. ENGINEERED MATERIALS, CEMENT (NON WASTE PRODUCTS)

CONSTRUCT TABLE DRAIN. TABLE DRAINS TO BE DIRECTED TO WATER QUALITY/RECYCLING POND

INSTALL BOLLARDS AT 4.5m SPACING TO DELINEATE GAS EASEMENT. BOLLARDS TO BE INSTALLED AS SHOWN ON C1. INSTALL ARR-104 SIGN AT 10m INTERVALS

M	EMERGENCY ACCESS RAMP ADDED	16-06-2014	B.P.	W.M.
L	SEAL FROM ENTRY TO WEIGHBRIDGE	30-06-2014	W.M.	W.M.
K	AMENDED TO DEPT OF PLANNING AND COUNCIL COMMENTS	10-06-2014	A.P.	W.M.
J	AMENDED TO DEPT OF PLANNING COMMENTS	26-02-2014	A.P.	W.M.
I	CARPARKING ADDED	18-10-2013	B.P.	W.M.
H	FILL / LANDSCAPE MOUND AMENDED	09-10-2013	B.P.	W.M.
G	AMENDMENTS AS PER COMMENTS 1-08-2013 AND LANDSCAPE ARCHITECT 08-08-2013	8-08-2013	B.P.	W.M.
F	AMENDED AS PER COMMENTS	25-07-2013	B.P.	W.M.
E	TRUCK PARKIN, STORMWATER FLOW AND NOTES ADDED	09-04-2013	B.P.	W.M.
D	TPZ AMENDED AS PER ARBORIST REQUIREMENTS, OFFICE MOVED TO THE SOUTH	18-12-2012	A.P.	W.M.
C	TREES ADDED FROM LANDSCAPE DWGS, BLDGS RELOCATED OUT OF RIPARIAN AND FIG TREE	13-12-2012	A.P.	W.M.
B	SIX CAR SPACES ADDED	06-12-2012	A.P.	W.M.
A	AMENDED AT CLIENTS REQUEST	07-11-2012	A.P.	W.M.
Revision	Amendment or reason for issue	Issue date	Drawn by	Authorised



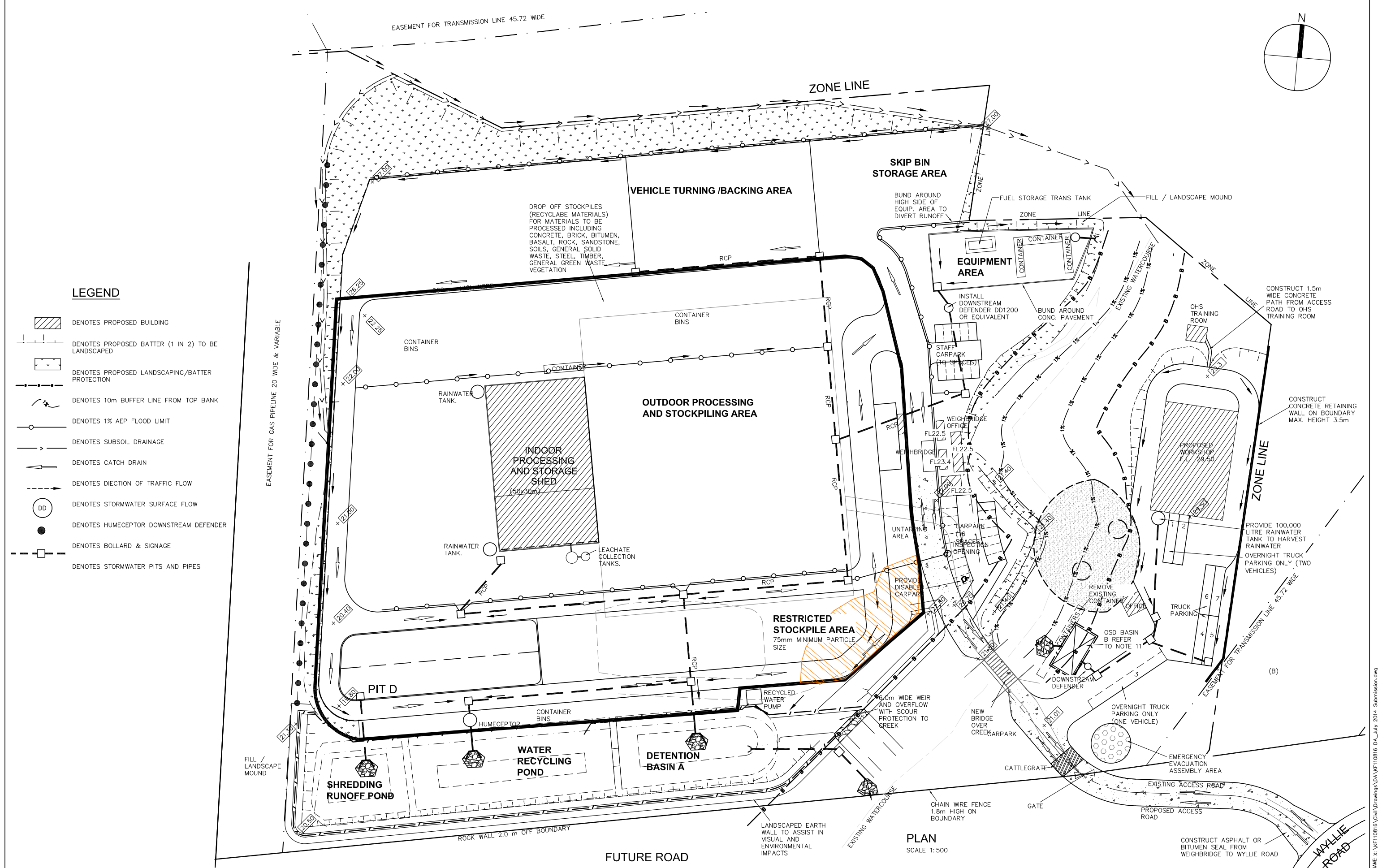
K.F. Williams & Associates Pty Ltd
28 Auburn Street
Wollongong NSW 2500
A.C.N 008 664 417
Project Management, Surveying,
Civil, Structural, Water & Sewer

p (02) 4228 7044
f (02) 4226 2004
e mail@kfv.net.au
www.kfw.net.au

Surveyor	DENNIS SMITH	Date	MAY 2012
Date of Survey		Drawn	A PROUDLOVE
Height Datum	AHD	Designed	M.J.E.Aust. C.P.Eng
Origin		Checked	
Hortz, Datum		Approved	

Drawing Title	PROPOSED INDUSTRIAL DEVELOPMENT LOT 10 DP 878167 WYLLIE ROAD, KEMBLA GRANGE SITE PLAN		
Scale	1:500 @ A1 1:1000 @ A3	Drawing Status	ISSUED FOR DA APPROVAL

Project No.	
KF110816	
Drawing No.	
C10	
Sheet	Revision
1 Of 17	M



B	STORAGE BINS AND NOTES DELETED FOR CLARITY, RESTRICTED STOCKPILE AREA ADDED	9 JULY 14	WM	WM	
A	PATH TO OHS TRAINING ROOM ADDED	10-06-2014	A.P.	W.M.	
Revision	Amendment or reason for issue	Issue date	Drawn by	Authorised	



K.F. Williams & Associates Pty Ltd
28 Auburn Street
Wollongong NSW 2500
A.C.N 008 664 417
Project Management, Surveying,
Civil, Structural, Water & Sewer

p (02) 4228 7044
f (02) 4226 2004
e mail@kfw.net.au
www.kfw.net.au

Surveyor	DENNIS SMITH	Date	FEB 2014
Date of Survey		Drawn	A PROUDLOVE
Height Datum	AHD	Designed	M.J.E.Aust. C.P.Eng
Origin		Checked	
Horiz. Datum		Approved	

Drawing Title	PROPOSED INDUSTRIAL DEVELOPMENT LOT 10 DP 878167 WYLLIE ROAD, KEMBLA GRANGE SITE PLAN - PROPOSED LAYOUT
Scale	1:500 @ A1 1:1000 @ A3
Drawing Status	ISSUED FOR DA APPROVAL

Project No.	KF110816
Drawing No.	C27
Sheet	11 Of 17
Revision	B

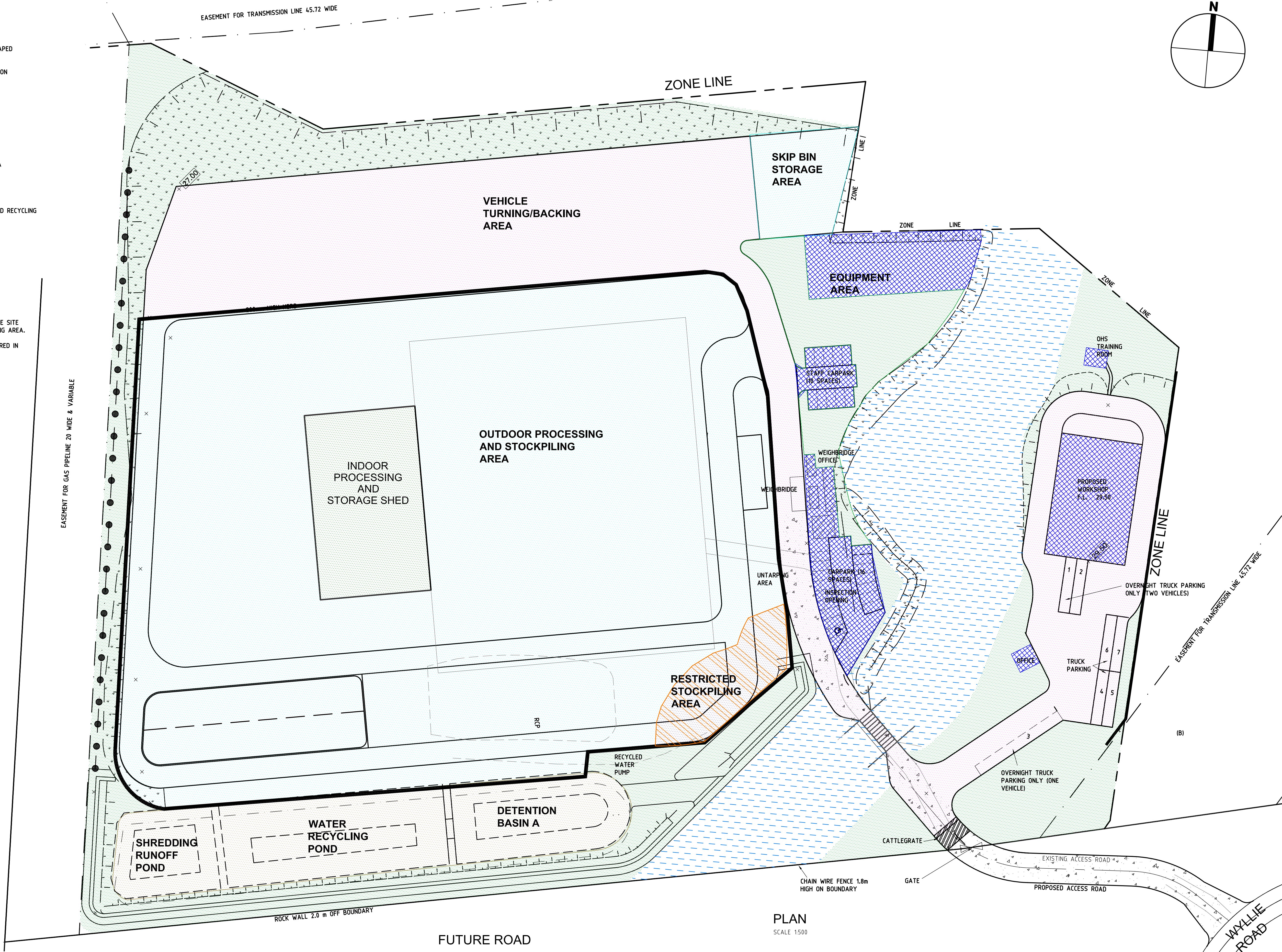
LEGEND

- DENOTES PROPOSED BATTER (1 IN 2) TO BE LANDSCAPED
- DENOTES PROPOSED LANDSCAPING/BATTER PROTECTION
- DENOTES RIPARIAN CORRIDOR
- DENOTES GRASSED/LANDSCAPED AREA
- DENOTES ACCESS AND MANOEUVRING AREAS
- DENOTES GENERAL PROCESSING AND STOCKPILE AREA
- DENOTES PROCESSING AND STORAGE (INDOOR SHED)
- DENOTES OSD STORAGE BASIN, RUNOFF STORAGE AND RECYCLING
- DENOTES RESTRICTED STOCKPILING AREAS
- DENOTES ADMINISTRATION AND MAINTENANCE AREAS
- DENOTES PROPOSED ROAD UPGRADING

- NOTES:
1.

MATERIALS WHICH ARE LIABLE TO BE BUOYANT AND WASHED OFF THE SITE DURING A PMF SHALL NOT BE STORED IN THE RESTRICTED STOCKPILING AREA.
2.

ONLY NON-BUOYANT DURABLE AND DENSE MATERIALS SHALL BE STORED IN THE RESTRICTED STORAGE AREA



A	AREAS AMENDED, BINS DELETED	02-07-2014	A.P.	W.M.
Revision	Amendment or reason for issue	Issue date	Drawn by	Authorised




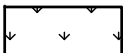

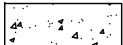

K.F. Williams & Associates Pty Ltd
28 Auburn Street
Wollongong NSW 2500
A.C.N 008 664 417
Project Management, Surveying,
Civil, Structural, Water & Sewer

p (02) 4228 7044
f (02) 4226 2004
e mail@kfw.net.au
www.kfw.net.au

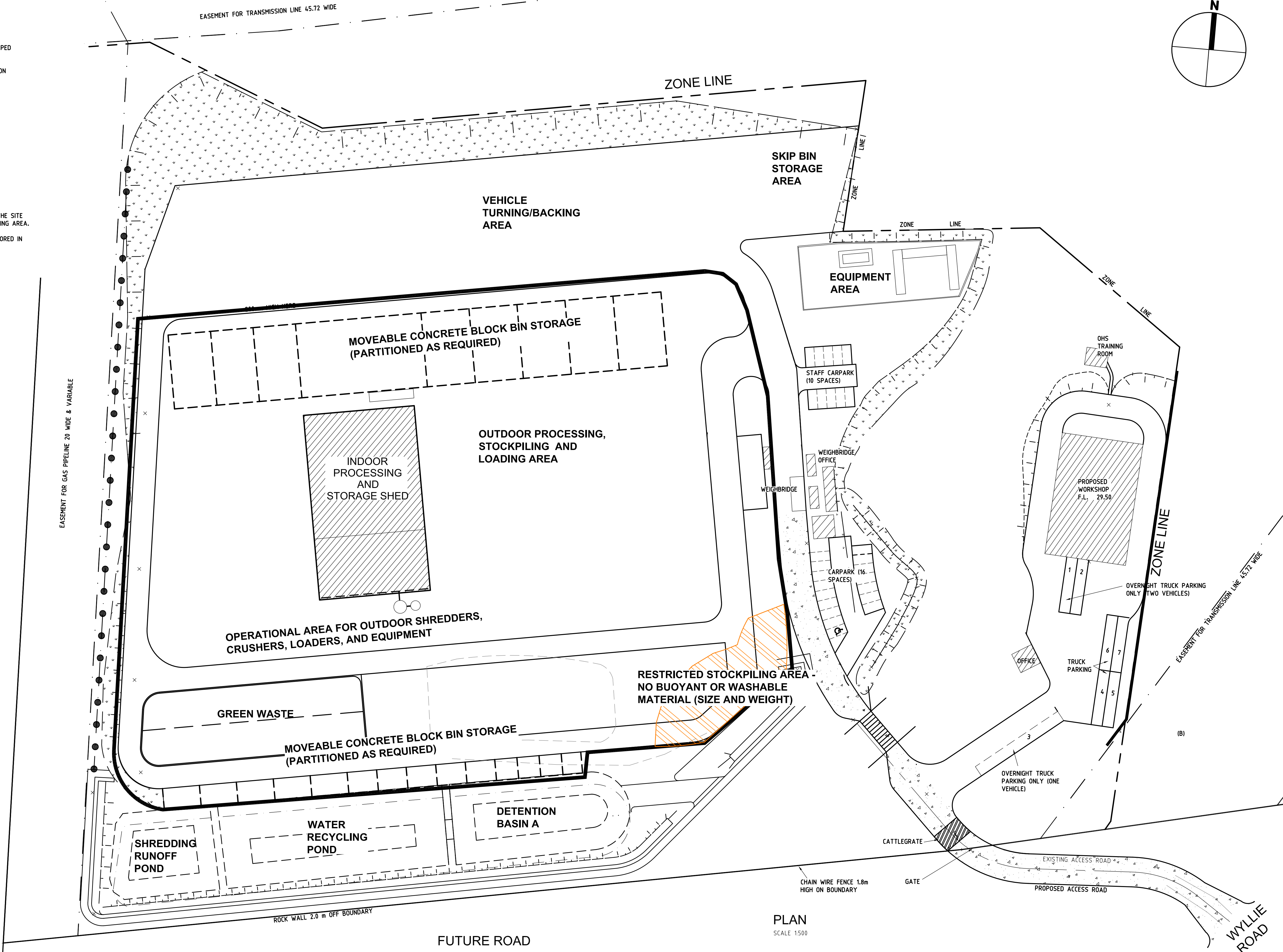
Surveyor	DENNIS SMITH	Date	FEB 2014
Date of Survey	Drawn	A PROUDLOVE	
Height Datum	AHD	Designed	M.I.E.Aust. C.P.Eng
Origin	Checked		
Horiz. Datum	Approved		

Drawing Title		Project No.	
PROPOSED INDUSTRIAL DEVELOPMENT		KF110816	
LOT 10 DP 878167		Drawing No.	
WYLLIE ROAD, KEMBLA GRANGE		C29	
SITE PLAN - USAGE AREAS		Sheet	Revision
Scale 1:500 @ A1 1:1000 @ A3		13 Of 17	A
Drawing Status		ISSUED FOR DA APPROVAL	

LEGEND

-  DENOTES PROPOSED BATTER (1 IN 2) TO BE LANDSCAPED
-  DENOTES PROPOSED LANDSCAPING/BATTER PROTECTION
-  DENOTES RIPARIAN CORRIDOR
-  DENOTES PROPOSED ROAD UPGRADING
-  DENOTES PROPOSED RESTRICTED STOCKPILING AREA

- NOTES:
1. MATERIALS WHICH ARE LIABLE TO BE BUOYANT AND WASHED OFF THE SITE DURING A PMF SHALL NOT BE STORED IN THE RESTRICTED STOCKPILING AREA.
2. ONLY NON-BUOYANT DURABLE AND DENSE MATERIALS SHALL BE STORED IN THE RESTRICTED STORAGE AREA



PLAN

SCALE 1:500

Revision	Amendment or reason for issue	Issue date	Drawn by	Authorised




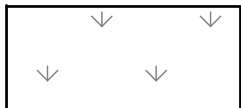
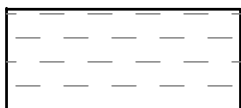
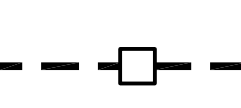
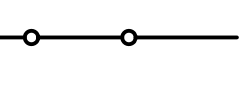
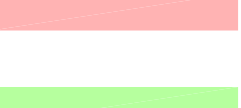
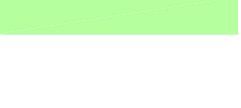
K.F. Williams & Associates Pty Ltd
28 Auburn Street
Wollongong NSW 2500
A.C.N 008 664 417
Project Management, Surveying,
Civil, Structural, Water & Sewer

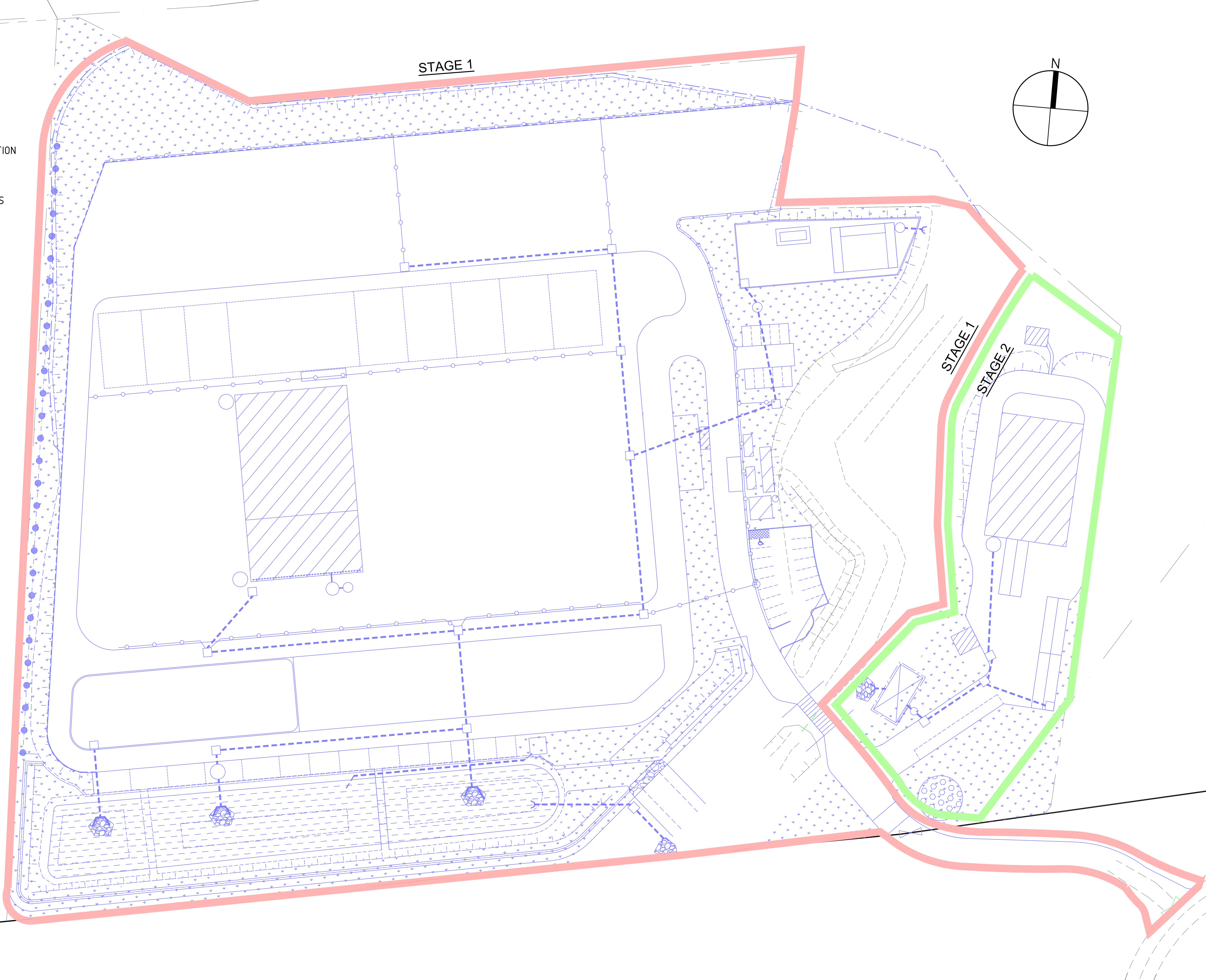
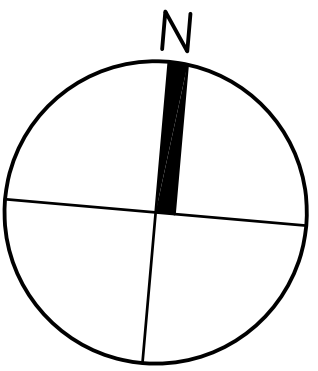
p (02) 4228 7044
f (02) 4226 2004
e mail@kfw.net.au
www.kfw.net.au

Surveyor DENNIS SMITH	Date FEB 2014
Date of Survey	Drawn A PROUDLOVE
Height Datum AHD	Designed M.I.E.Aust. C.P.Eng
Origin	Checked
Horiz. Datum	Approved

Drawing Title PROPOSED INDUSTRIAL DEVELOPMENT LOT 10 DP 878167 WYLLIE ROAD, KEMBLA GRANGE OPERATIONAL PLAN- LAYOUT VERSION 1		Project No. KF110816	
Scale 1:500 @ A1 1:1000 @ A3		Drawing No. C34	
Drawing Status ISSUED FOR DA APPROVAL		Sheet 18 Of 18	Revision

LEGEND

-  DENOTES BUILDING
-  DENOTES GRASSED AND LANDSCAPED AREAS
-  DENOTES WATER QUALITY AND DETENTION PONDS
-  DENOTES STORMWATER PIPES AND PITS
-  DENOTES SUB SOIL DRAIN
-  DENOTES STAGE 1 LIMITS
-  DENOTES STAGE 2 LIMITS



A	STAGE 1 EXTENDED TO MEET STAGE 2	17-11-2015	A.P.	W.M.
Revision	Amendment or reason for issue	Issue date	Drawn by	Authorised



K.F. Williams & Associates Pty Ltd
28 Auburn Street
Wollongong NSW 2500
A.C.N 008 664 417
Project Management, Surveying,
Civil, Structural, Water & Sewer

p (02) 4228 7044
f (02) 4226 2004
e mail@kfw.net.au
www.kfw.net.au

Surveyor DENNIS SMITH	Date NOV 2015	Drawing Title <div>PROPOSED INDUSTRIAL DEVELOPMENT LOT 10 DP 878167, WYLLIE ROAD, KEMBLA GRANGE HISTORICAL AND PROPOSED DEVELOPMENT STAGE PLAN</div>			Project No. KF110816	
Date of Survey	Drawn A PROUDLOVE				Drawing No. C39	
Height Datum AHD	Designed W Mullany M.I.E.Aust. C.P.Eng				Sheet 1 Of 1	Revision A
Origin	Checked				Drawing Status ISSUED FOR DA APPROVAL	
Horiz. Datum	Approved	Scale 1:1500@ A1 1:3000@ A3				

CARPARK PLANTING		
CODE	BOTANIC NAME	No POT SIZE
TREES		
MQ	Metaleuca quinquenervia	12 200mm
UNDERSTOREY GRASSES		
DC	Dianella caerulea	71 75mm tubestock
LL	Lomandra longifolia	71 75mm tubestock

BOUNDARY PLANTING		
CODE	BOTANIC NAME	No POT SIZE
TREES		
EP	Eucalyptus paniculata	15 75mm tubestock
ET	Eucalyptus tereticornis	13 75mm tubestock
ES	Eucalyptus saligna	10 75mm tubestock
CT	Allocasuarina torulosa	10 75mm tubestock
MQ	Metaleuca quinquenervia	10 75mm tubestock
SHRUBS		
AB	Acacia binervata	23 75mm tubestock
CA	Cassia australis	23 75mm tubestock
RV	Rapanea variabilis	31 75mm tubestock
SB	Sinibolus brunneianus	31 75mm tubestock
TT	Trema tomentosum	23 75mm tubestock
MLS	Metaleuca linearifolia 'Snowstorm'	23 75mm tubestock
MA	Metaleuca amabilis	31 75mm tubestock

ZONE 2 SPECIES (Hydromulch)			Application Rate/ha
Pioneering Grass Seed			
Japanes Millet (September to March)	Japanes Millet (September to March)		60kg/ha
Rye Corn (April to August)	Rye Corn (April to August)		60kg/ha
Trees, Shrubs and Ground Covers			
Acacia binervata	Two-veined Hickory		2kg/ ha
Acacia longifolia	Golden Wattle		2kg/ ha
Allocasuarina littoralis	Black She-oak		0.25kg/ ha
Baekea virgata	Twiggy Myrtle		0.1kg/ ha
Banksia spinulosa	Hairpin Banksia		0.1kg/ ha
Bursaria spinosa	Christmas Bush		0.1kg/ ha
Eucalyptus pillularis	Blackbutt		0.1kg/ ha
Eucalyptus amplifolia	Cabbage Gum		0.1kg/ ha
Hardenbergia violacea	Native Sarsaparilla		1.5kg/ ha
Indigofera australis	Australian Indigo		0.5kg/ ha
Lomandra longifolia	Sprly Headed Mat Rush		1kg/ ha
Kunzea ambigua	White Kunzea		0.2kg/ ha
Oxylobium liddellum	Native Holly		0.1kg/ ha
Pittosporum revolutum	Yellow Pittosporum		0.1kg/ ha
Pultanea villosa	Hairy Bush Pea		0.1kg/ ha
Plinella linifolia	Slender Riceflower		0.1kg/ ha
Syncarpia glomulifera	Turpentine		0.1kg/ ha
Themeda australis	Kangaroo Grass		2kg/ ha
Zieria smithii	Sandfly bush		0.1kg/ ha
Wood Fibre mulch			2 tonne/ ha
Dynamic Lifter Fertilizer			250kg/ ha
Envirotrak Blinder			60kg/ ha

CORE RIPARIAN ZONE EXTENDING 10M EITHER SIDE OF THE CREEK.
PLANT SYMBOLS ARE INDICATIVE ONLY - REFER TO THE VEGETATION MANAGEMENT PLAN PREPARED BY SOUTHERN HABITAT FOR MORE DETAILED INFORMATION

ISSUE: Amended Development Application 12.08.15
ISSUE: Amended Development Application 08.05.15
ISSUE: Amended Development Application 11.09.14
ISSUE: Amended Development Application 07.07.14
ISSUE: Amended Development Application 10.04.14
ISSUE: Amended Development Application 19.04.13
ISSUE: Development Application 14.12.12
REV G: Delete riparian offset planting and APZ 11.08.15
REV F: Amend plan notes in processing area, shift southern planting into site (drafting error) 08.05.15
REV E: Add carpark planting 11.09.14
REV D: Addition of access road note, amend notes 07.07.14
REV C: Amend plant species, bank, OSD 28.03.14
REV B: Amend southern boundary, northern bank, eastern area, add detention basin 8.8.13
REV.A: Amend riparian zone due to APZ requirements 19.04.1



ochre landscape architects

PO Box 395 Wollongong NSW 2520
Level 1, 126 Crown Street
Wollongong NSW 2500
Tel. 02 4227 6427 Fax. 02 4227 6876
Email: design@ochre.net.au

PROJECT

Proposed Recycling Cushing Area
Part Lot 10 D.P. 878167 Wylie Road
KEMBLA GRANGE

DRAWING TITLE

Landscape Plan

CLIENT

Bicorp Pty Ltd

DRAWING NO.

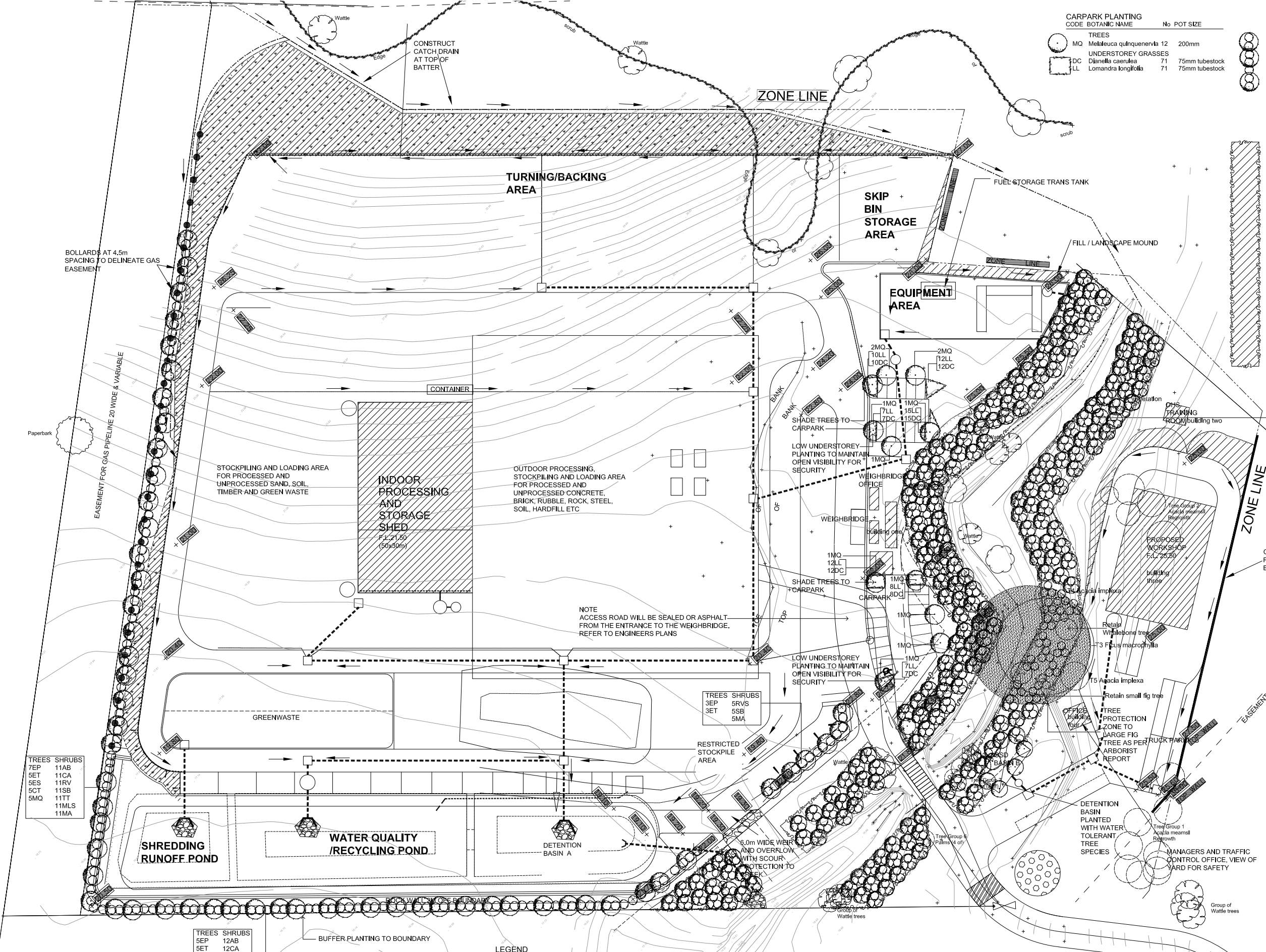
1442-LC01G

SHEET 1 OF 2

SCALE: 1:500 @ A1, 1:1000 @ A3

CHECKED: TW


ORIGINAL PLAN PREPARATION DATE: 10.12.12
(Refer above for plan revision dates and issue dates)




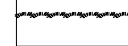
TREES	SHRUBS
7EP	11AB
5ET	11CA
5ES	11RV
5CT	11SB
5MQ	11TT
	11MLS
	11MA


TREES	SHRUBS
5EP	12AB
5ET	12CA
5ES	15RV
5CT	12SB
5MQ	12TT
	12MLS
	12MA

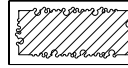
LEGEND

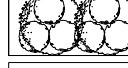
 Existing trees to be retained

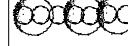
 Existing trees to be removed

 Edge of Vegetation

 Strip grass and place under proposed fill material for mounds. Strip topsoil and stockpile.

 Spread topsoil over prepared ground and embankments from stockpile and hydromulch. Refer to Zone 2 Species List

 Proposed tree and shrub planting within riparian zone. As per 1157-LC01 (approved)

 Proposed tree and shrub buffer planting to boundaries Refer to plant schedule

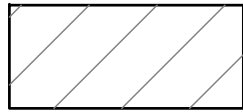
NOTE
REFERENCE SHOULD BE MADE TO THE VMP PREPARED BY SOUTHERN HABITAT FOR DETAILED INFORMATION ON THE INSTALLATION OF THE RIPARIAN CORRIDOR

NOTE
REFER TO DRAWING 1442-LC02 FOR DETAILS ON PLANTING, FENCING, SPECIFICATION AND MAINTENANCE OF GENERAL PLANTING AREAS (OTHER THAN THE RIPARIAN ZONE)

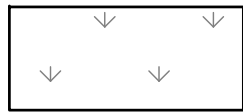
NOTE
REFER TO ARBORISTS REPORT FOR DETAILED INFORMATION ON THE EXISTING FIG TREE AND ASSOCIATED TREES

- TREE PROTECTION
- FENCING: Where existing trees are to be retained, install tree protection fencing as detailed prior to any construction works commencing on site. Protection fencing shall remain until all works have been completed and shall be maintained throughout the construction works to prevent any access within the tree protection area. The area within the protective fencing shall be kept clear of all building materials and machinery. No washing of equipment or the disposal of cement slurry shall occur within the drip line of trees to be retained on the site or adjacent properties. Site offices shall be located outside the canopy of any existing trees to be retained
 - MULCHING: Tree protection zones shall be mulched with a minimum 75mm thick, 100% recycled hardwood chip or leaf litter mulch
 - IRRIGATION: Tree protection Zones shall be regularly watered

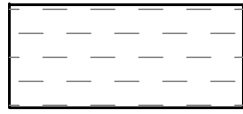
LEGEND



DENOTES BUILDING



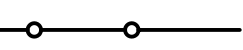
DENOTES GRASSED AND LANDSCAPED AREAS



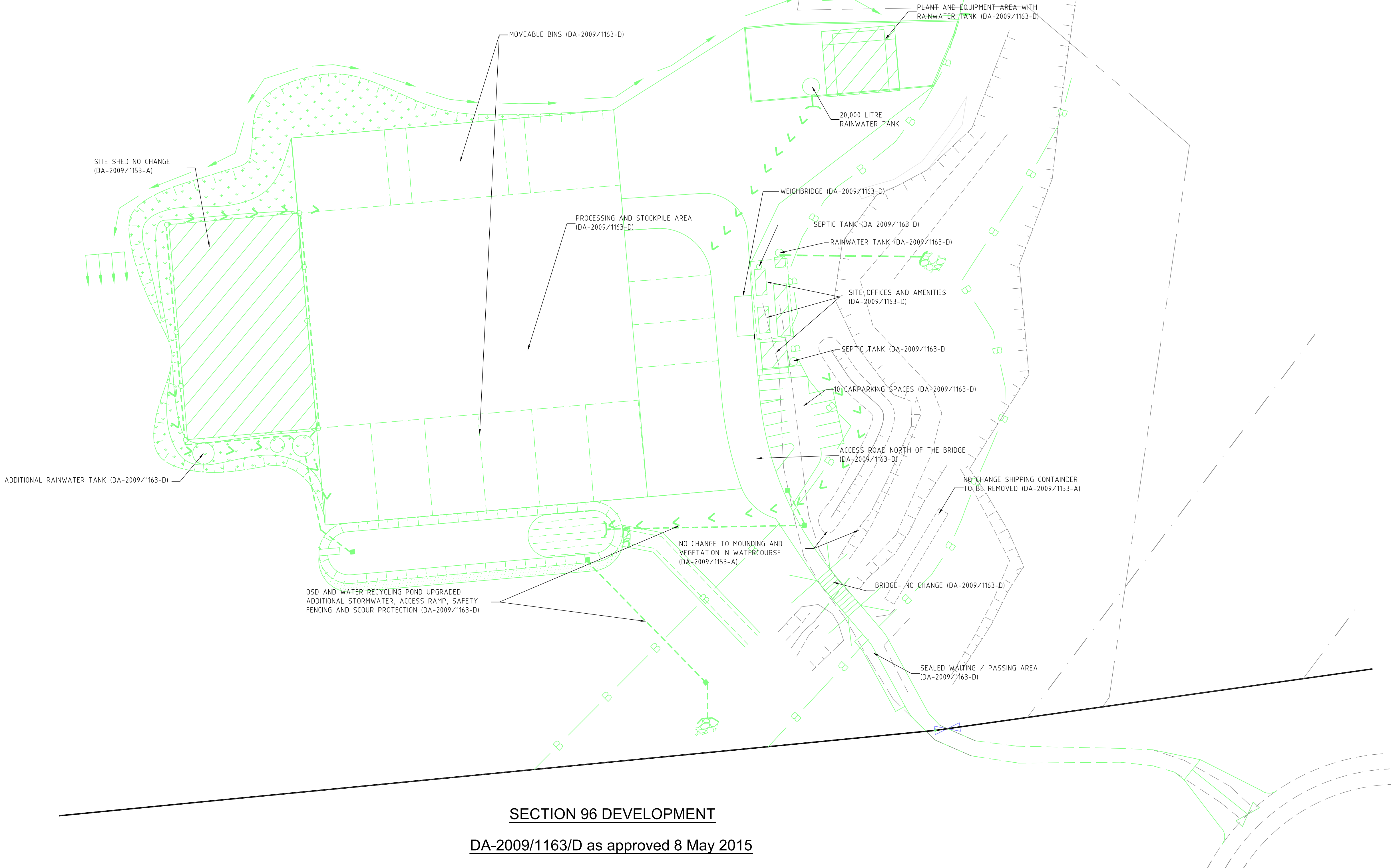
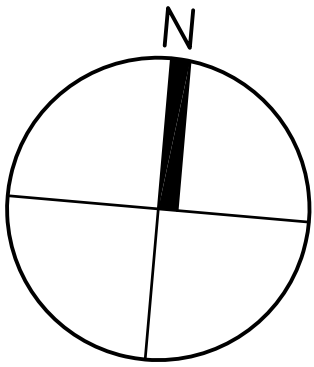
DENOTES WATER QUALITY AND DETENTION PONDS



DENOTES STORMWATER PIPES AND PITS



DENOTES SUB SOIL DRAIN



SECTION 96 DEVELOPMENT

DA-2009/1163/D as approved 8 May 2015

B	AMENDED VOLUME ON TANK IN EQUIPMENT AREA	11-08-2015	A.P.	W.M.
A	10,000 LITRE TANK ADDED	31-07-2015	A.P.	W.M.
Revision	Amendment or reason for issue	Issue date	Drawn by	Authorised



K.F. Williams & Associates Pty Ltd
28 Auburn Street
Wollongong NSW 2500
A.C.N 008 664 417
Project Management, Surveying,
Civil, Structural, Water & Sewer

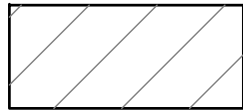
p (02) 4228 7044
f (02) 4226 2004
e mail@kfw.net.au
www.kfw.net.au

Surveyor	DENNIS SMITH	Date	APRIL 2015
Date of Survey	Drawn	A PROUDLOVE	
Height Datum	AHD	Designed	M.I.E.Aust. C.P.Eng
Origin		Checked	
Horiz. Datum		Approved	

Drawing Title		PROPOSED INDUSTRIAL DEVELOPMENT LOT 10 DP 878167, WYLLIE ROAD, KEMBLA GRANGE HISTORICAL AND PROPOSED DEVELOPMENT SEPARATE DEVELOPMENT PLANS (SECT 96)	
Scale	1:500 @ A1 1:1,000 @ A3	Drawing Status	ISSUED FOR DA APPROVAL

Project No.	
KF110816	
Drawing No.	
C37	
Sheet	Revision
3 Of 4	B

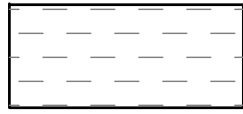
LEGEND



DENOTES BUILDING



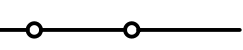
DENOTES GRASSED AND LANDSCAPED AREAS



DENOTES WATER QUALITY AND DETENTION PONDS

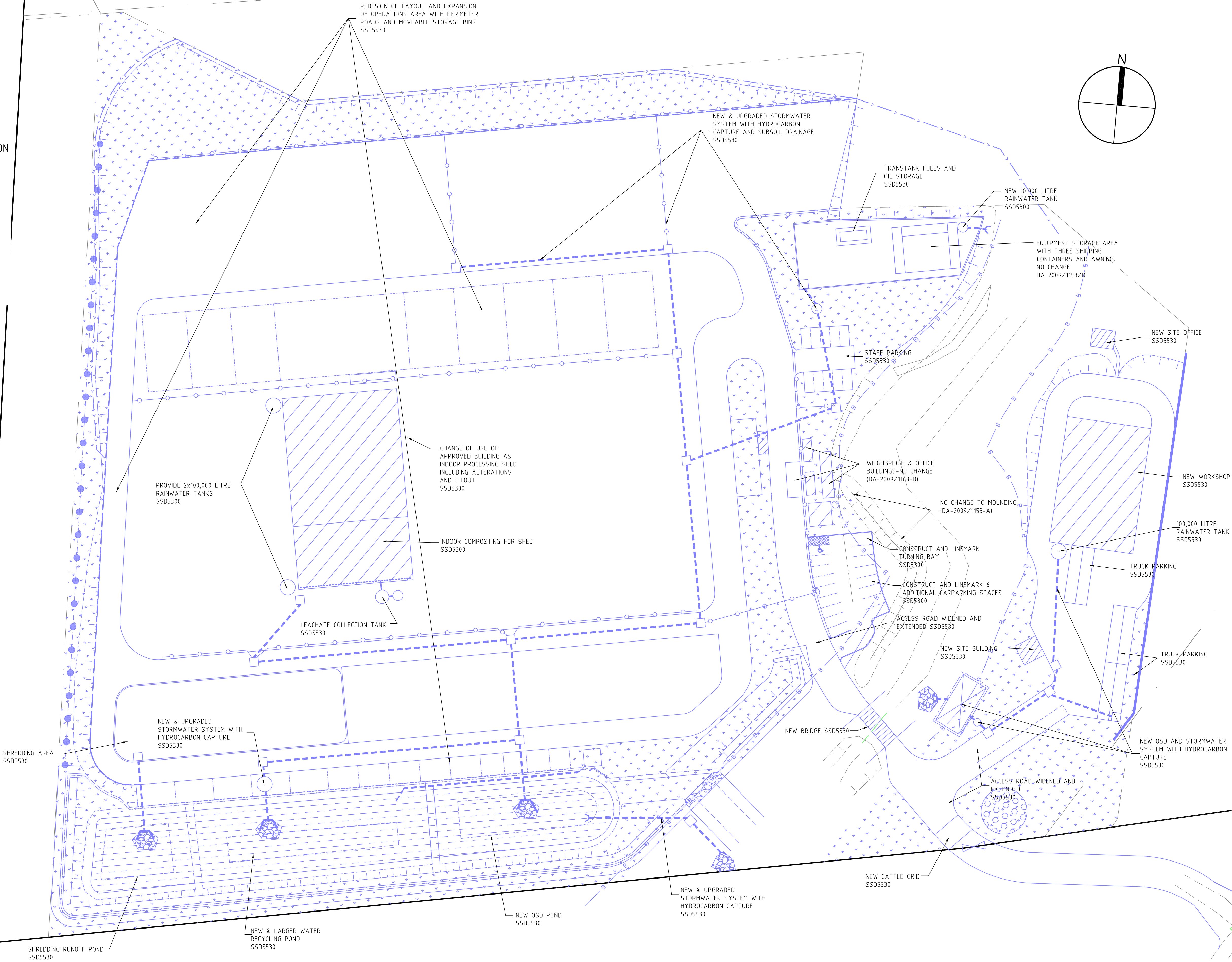
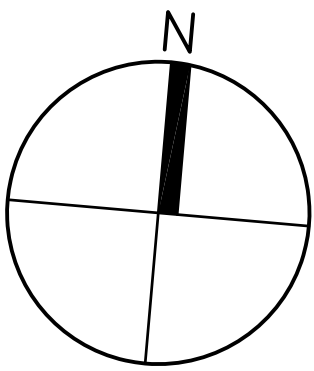


DENOTES STORMWATER PIPES AND PITS



DENOTES SUB SOIL DRAIN

DO NOT SCALE



PROPOSED STATE SIGNIFICANT DEVELOPMENT

C	AMENDED NOTES ON RAINWATER TANK IN EQUIPMENT AREA & TANK SOUTH OF WORKSHOP	11-08-2015	A.P.	W.M.
B	NOTES ADDED FOR DAPE	31-07-2015	A.P.	W.M.
A	PARKING AREA AMENDED-NEW LAYOUT	19-05-2015	A.P.	W.M.
Revision	Amendment or reason for issue	Issue date	Drawn by	Authorised



K.F. Williams & Associates Pty Ltd
28 Auburn Street
Wollongong NSW 2500
A.C.N 008 664 417
Project Management, Surveying,
Civil, Structural, Water & Sewer

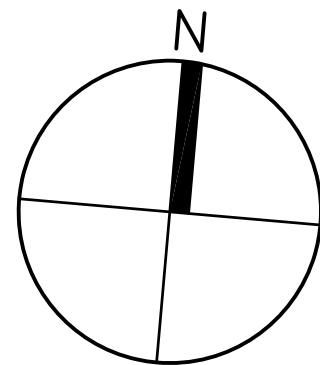
p (02) 4228 7044
f (02) 4226 2004
e mail@kfw.net.au
www.kfw.net.au

Surveyor	DENNIS SMITH	Date	APRIL 2015
Date of Survey		Drawn	A PROUDLOVE
Height Datum	AHD	Designed	M.I.E.Aust. C.P.Eng
Origin		Checked	
Horiz. Datum		Approved	

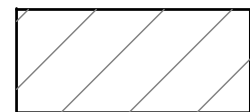
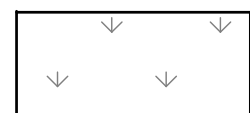
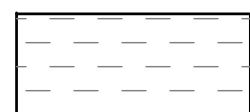
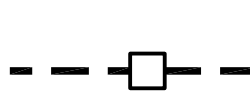
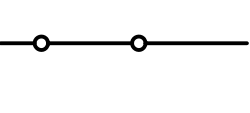



Drawing Title	PROPOSED INDUSTRIAL DEVELOPMENT LOT 10 DP 878167, WYLLIE ROAD, KEMBLA GRANGE HISTORICAL AND PROPOSED DEVELOPMENT SEPARATE DEVELOPMENT PLANS (SSD 5300)		
Scale	1:1500@ A1 1:3000@ A3	Drawing Status	ISSUED FOR DA APPROVAL

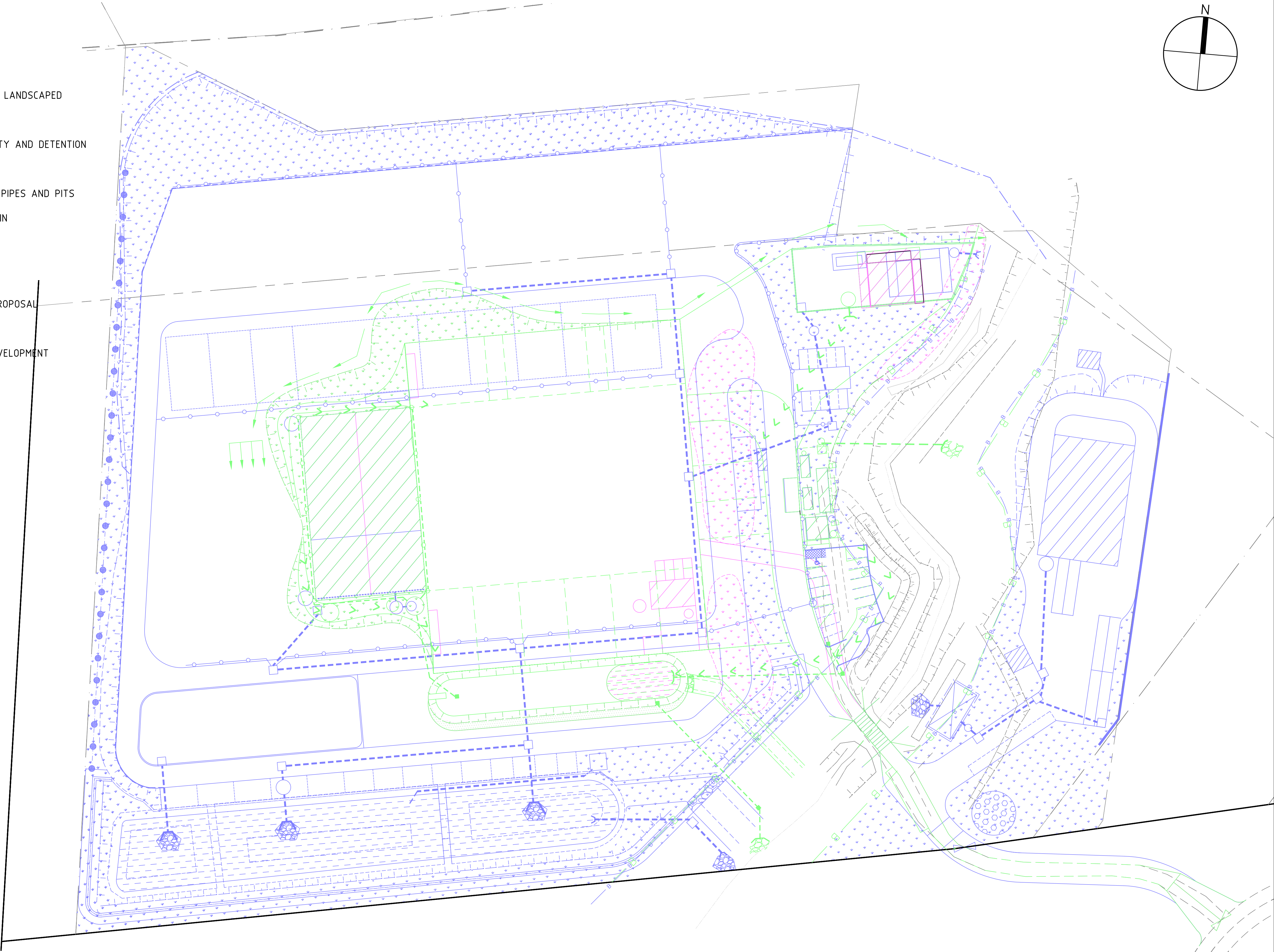
Project No.	KF110816		
Drawing No.	C38		
Sheet	4 Of 4	Revision	C

FILENAME: X:\KF110816\CivilDrawings\15_04_15_015\KF110816_C38_C38_REV_C.dwg PLOTTED BY: s. proudlove



LEGEND

-  DENOTES BUILDING
-  DENOTES GRASSED AND LANDSCAPED AREAS
-  DENOTES WATER QUALITY AND DETENTION PONDS
-  DENOTES STORMWATER PIPES AND PITS
-  DENOTES SUB SOIL DRAIN
-  DENOTES EXISTING
-  DENOTES SECTION 96 PROPOSAL
-  DENOTES PROPOSED DEVELOPMENT



A	UPDATED IN LINE WITH REVISIONS TO C37 AND C38	11-08-2015	A.P.	W.M.
Revision	Amendment or reason for issue	Issue date	Drawn by	Authorised



K.F. Williams & Associates Pty Ltd
28 Auburn Street
Wollongong NSW 2500
A.C.N 008 664 417
Project Management, Surveying,
Civil, Structural, Water & Sewer

p (02) 4228 7044
f (02) 4226 2004
e mail@kfw.net.au
www.kfw.net.au

Surveyor DENNIS SMITH	Date APRIL 2015
Date of Survey	Drawn A PROUDLOVE
Height Datum AHD	Designed M.I.E.Aust. C.P.Eng
Origin	Checked
Horiz. Datum	Approved

Drawing Title PROPOSED INDUSTRIAL DEVELOPMENT LOT 10 DP 878167, WYLLIE ROAD, KEMBLA GRANGE HISTORICAL AND PROPOSED DEVELOPMENT COMPILATION PLAN	
Scale 1:500 @ A1 1:1000 @ A3	Drawing Status ISSUED FOR DA APPROVAL

Project No. KF110816	
Drawing No. C35	
Sheet 1 Of 4	Revision A

APPENDIX B – MANAGEMENT AND MITIGATION MEASURES

4 Revised Statement of Commitments

The following revised Statement of Commitments amends the Statement which was submitted to the Department of Planning and Environment in May 2015 and has been prepared in response to the outcomes of additional investigations which have now been undertaken. Bicorp commit to the undertaking of the following:

4.1 Geotechnical Design Solutions, Works and Investigations

The following recommendations to address geotechnical constraints will be implemented by Bicorp:

- 1) Additional site investigations (confirmatory holes and pits) will be undertaken, if required by the supervising geotechnical consultant at critical locations (eg on steeply sloping ground) to ensure that the local and regional stability are assessed with respect to the proposed engineering elements and design performances.
- 2) As part of site preparation prior to construction works, all vegetation, topsoil and any uncontrolled fill will be removed.
- 3) All footings will be found on same bearing stratum.
- 4) The base of all footing excavations will be inspected by a qualified geotechnical engineer to ensure footing will found in competent materials as designed.
- 5) Should variation in descriptions in soil types, colour or depths be discovered during construction, a geotechnical engineer will be notified so that the potential influence on the footing as it may be affect surrounding engineering elements may be assessed.
- 6) During design consideration will be given to the CSIRO sheet BFT-18 '*foundation maintenance and footing performance*'.
- 7) Temporary surface protection against erosion will be provided in accordance with the requirements of the supervising geotechnical engineer.
- 8) In the long term, the excavation faces will be retained by engineered retaining structure in particularly along the eastern hilly section of the site. These structures will be designed to withstand the applied lateral pressures of the soil/rock layers, the existing surcharges in their zone of influence; including existing structures, and construction related activities, and also hydrostatic pressures (if it is appropriate).
- 9) The final pavement thickness shall be determined from geotechnical testing to establish the subgrade CBR.
 - Pavement shall be designed generally in accordance with Section D2 'pavement design' of the Wollongong Subdivision Code 2008.
 - Pavement shall be constructed generally in accordance with Section C242.27 'Flexible Pavement' of the Wollongong Subdivision Code 2008. Pavement thickness shall be nominally as follows:
 - o Base course 150mm layer of DGB20 compacted to 98% of modified compaction .
 - o Sub base course shall be not less than 150mm thickness of DGS40 compacted to 95% modified compaction.
 - Pavement seal shall be either two coat hot bitumen seal (14/7) or 40mm thickness of AC14.
 - If CBR values warrant a thicker sub-grade of DGS40 shall be placed in layers of compacted thickness of not less than 100mm and not exceeding 200mm thickness (refer C242.27).

4.2 Groundwater

The following will be implemented by Bicorp in relation to groundwater monitoring and reporting:

- 1) Groundwater presence or levels will be confirmed if construction is undertaken during or following adverse weather or if a significant time period elapses between this investigation and construction. The Office of Water will be notified prior to any works occurring that are likely to intercept or extract groundwater and an estimate of the likely take of groundwater will be provided to the Office of Water to assess the need for an authorisation.
- 2) Quarterly Testing of the groundwater on the site will be undertaken to identify any future trends and characterise the groundwater within the local area. Monitoring will commence at least three months prior to construction commencing and the results of the groundwater monitoring programme will be provided to the Office of Water.
- 3) Development of a Soil and Water Management Plan to minimise the amount of surface runoff and potential migration of contamination.
- 4) Engineering of the development working platform to minimise the infiltration of any contaminants into the underlying soils.

4.3 Hazards

The following measures will be implemented by Bicorp to address hazards associated with transport, construction, on site storage of fuels/hydrocarbons, and site operation in relation to dust, bushfire and theft:

- 1) Preparation of an Emergency Management/Response Plan.
- 2) Preparation of an Environmental Management Plan.
- 3) Preparation of a Work Health and Safety Plan.
- 4) Preparation of a Hazardous Material Management Plan.
- 5) Appropriate induction and training of personnel and the implementation of operator training.
- 6) The purchase of spill response equipment and the implementation of spill response training.
- 7) Emergency services (police, fire brigade) will be contacted when required.
- 8) The implementation of site security to limit public access, as required.
- 9) Procurement of fire fighting equipment adequate for the level of risk and regular maintenance and testing of such equipment.
- 10) Preparation of a Bushfire Management Plan.
- 11) Regular maintenance inspections of equipment.
- 12) The preparation of a Traffic Management Plan.
- 13) Implementation of procedures to ensure that handling and storage of flammable and combustible liquids is in accordance with Australian Standards.
- 14) Storage and handling of all substances, including waste, under conditions that minimise the risk of fire, explosion or toxic emissions, with implementation of specific measures that address the use of solvent-extraction reagents.
- 15) Implementation of specific procedures for high risk tasks.
- 16) Appropriate induction and training of personnel in emergency response (internal and external) procedures.

- 17) Ongoing communication with agencies such as Rural Fire Services and monitoring of risk levels in relation to fire danger ratings.
- 18) Vacuuming and sweeping of site, as required.
- 19) Procurement of spill and water cart equipment adequate for the level of risk identified for the project and regularly maintained and tested to ensure good working order.
- 20) If a major failure of air quality management systems occurs, processing will cease at the facility until the management system is repaired and operational.

4.4 Biodiversity

Bicorp commit to the implementation of the following biodiversity protection measures:

- 1) Retention of remnant intact native vegetation / endangered ecological communities.
- 2) Erection of a standard three strand wire fence around the extent of the Illawarra Subtropical Rainforest located within the area of workings to indicate and protect this particular remnant. A buffer zone of 5m will apply within this fencing.
- 3) Retention of identified hollow bearing trees.
- 4) Retention of a 10m wide vegetated riparian corridor to protect aquatic habitats.
- 5) Retention of identified hollow bearing tree.
- 6) Revegetation of disturbed batters and landscape areas with native flora species.
- 7) Undertaking of weed management in accordance with the requirements of the Noxious Weeds Act (1993).
- 8) Removal of vegetative matter from earth moving machinery prior to entering and leaving the site.
- 9) Undertaking of weed management of the vegetated riparian buffer area in accordance with the Vegetation Management Plan prepared by Southern Habitat (Version 6, dated August 2015).
- 10) Rapid revegetation and/or stabilisation of disturbed areas.
- 11) Remove windblown rubbish.

4.5 Vegetation

- 1) The following will be implemented by Bicorp to protect the Moreton Bay Fig on the site:
 - Retention of a reserve as shown on the Landscape Plan dated August 2015.
 - Removal of the Hickory Wattles 4 & 5 (simply by cutting out with a chainsaw, not heavy machinery) which will disrupt the Fig's roots.
 - Removal of the Lantana infestation.
 - Retention of the small Whalebone Tree east of the Fig, and the young Moreton Bay Fig about 7m south - west of the Fig.
 - Secure quarantining of the Fig's reserve on the works (i.e. east) side with a steel picket and ribbon fence (known as a Tree Protection Zone/TPZ exclusion fence).
 - No works (apart from Lantana & Hickory removal) to be undertaken within this zone.
- 2) The Restoration Plan of Action, as contained in the Vegetation Management Plan, updated by Southern Habitat in August 2015 will be implemented.
- 3) A two (2) year maintenance programme will commence following completion of primary weed control and revegetation throughout the riparian corridor. Following this maintenance period and final report, the ongoing maintenance shall continue for the operational life of the facility. The maintenance will require the compilation and submission of an annual report to NSW Office of Water

and must be prepared by a suitably qualified person/organisation. The annual report must include but is not limited to site conditions including:

- Weed cover percentage
- Native cover percentage
- Identification and determination of actions to remedy any issues pertaining to the ongoing maintenance of the riparian vegetation for the 12 months following the report.

4.6 Bushfire

The following bushfire mitigation and protection recommendations will be adhered to by Bicorp:

- 1) The stockpiling and loading area for green waste and timber is to be confined to the western and south-western sides of the 'Indoor Processing & Storage Shed' over 100 m from the riparian area or within the Indoor Processing & Storage Shed.
- 2) The development will be serviced by a static water supply to meet the PBP requirement for a minimum amount of 20,000 litres for fire fighting purposes.. The water supply will be visible and readily accessible to fire fighting vehicles and a suitable connection for Rural Fire Service purposes will be made available (65 mm Storz fitting). The supply will be accessible to within 3 m by fire fighting appliances

4.7 Acoustic Measures

The following general noise mitigation measures will be implemented by Bicorp to mitigate construction noise impacts:

- 1) All engine covers will be kept closed while equipment is operating.
- 2) As far as possible, materials dropping heights into or out of trucks will be minimised.
- 3) Vehicles will be kept properly serviced and fitted with appropriate mufflers. The use of exhaust brakes will be eliminated, where practicable.
- 4) Machines found to produce excessive noise compared to industry best practice will be removed from the site or stood down until repairs or modifications can be made.
- 5) All equipment will be selected to minimise noise emissions. Equipment will be fitted with appropriate silencers and be in good working order. Machines found to produce excessive noise compared to normal industry expectations will be removed from the site or stood down until repairs or modifications can be made.
- 6) The constructor will provide a phone number at the site entrance detailing the site contact so that noise complaints can be received and addressed in a timely manner.
- 7) Upon receipt of a noise complaint, monitoring will be undertaken and reported as soon as possible. If exceedances are detected, the situation will be reviewed in order to identify means to attempt to reduce the impact to acceptable levels.
- 8) All site workers will be sensitised to the potential for noise impacts on local residents and encouraged to take practical and reasonable measures to minimise the impact during the course of their activities. This will include:
 - Avoid the use of loud radios.
 - Avoid shouting and slamming doors.
 - Where practical, machines will be operated at low speed or power and switched off when not being used rather than left idling for prolonged periods.

- Keep truck drivers informed of designated vehicle routes, parking locations and delivery hours.
 - Minimise reversing.
 - Avoid dropping materials from height and avoid metal to metal contact on material.
 - All engine covers would be kept closed while equipment is operating.
- 9) When the expanded facility is operational compliance noise monitoring will be undertaken at that time to determine the noise contribution of all significant site equipment and machinery and the impact on nearby receivers.
 - 10) Upon receipt of a valid noise complaint, monitoring would be undertaken and reported as soon as possible. If exceedances were detected, the situation would be reviewed in order to identify means to attempt to reduce the impact to acceptable levels.
 - 11) Where possible, avoid the use of noisy equipment such as the crusher and screen during the night time period (6am-7am) when the site is operational.

4.8 Environmental and Amenity Impacts

The following flood mitigation and water quality measures will be implemented by Bicorp:

- 1) Up to three 100,000L rainwater tanks in addition to a permanent pool to provide for dust suppression.
- 2) Use of recycled crushed concrete in road pavements and hardstand areas to promote infiltration and reduce the volume of surface runoff.
- 3) Provision of two OSD basins, one on either side of the watercourse.
- 4) Capture of hydrocarbons, including two Rocla downstream defenders to capture hydrocarbons in oil and grease from runoff. A Humeceptor is also to be installed upstream.
- 5) Implementation of a Operation and Maintenance Plan for WSUD in regard to weekly and monthly inspection and maintenance, as well as after every rainfall event >25mm, in addition to six monthly inspections and maintenance.

4.9 Dust and Odour Management

The following general dust mitigation will be implemented by Bicorp:

- 1) Material will be watered prior to it being loaded for haulage, where appropriate.
- 2) Watering of truck turn around and reversing areas will be undertaken with at least 2L/m²/hr as required to control dust emissions. Any other areas that are visible sources of dust will be appropriately watered until dust impact is no longer an issue.
- 3) Chemical Dust suppressant spraying will be undertaken on the unsealed access road from the site office into the site. This will be undertaken as per the supplier's requirements. Additional dust suppression will be applied if dust from the road is visibly observed to be leaving the site boundary.
- 4) A dust suppression system will be installed and operated for the crushing plant. The system will be operated as per manufacturers' specification and used whenever dust from the crusher has the potential to be transported offsite in the direction of sensitive receptors.
- 5) The size of storage piles will be minimised where possible.
- 6) Cleared areas of land will be limited and cleared only when necessary to reduce fugitive dust emissions.
- 7) On site traffic will be controlled by designating specific routes for haulage and access and limiting vehicle speeds to below 25 km/hr.

- 8) All trucks hauling material should be covered before exiting the site and should maintain a reasonable amount of vertical space between the top of the load and top of the trailer.
- 9) Material spillage on sealed roads will be cleaned up as soon as practicable.
- 10) A rumble-strip at the interface of the sealed road and the unsealed access road will be provided.
- 11) Excavating operations conducted in areas of low moisture content material will be suspended during high wind speed events or water sprays will be used.

The following odour mitigation measures will be implemented by Bicorp:

- 12) Design and installation of an appropriate building ventilation system at negative pressure at all times during operation.
- 13) A site odour management plan be developed prior to commissioning the facility with the increased capacity.
- 14) On site storage times of organic material will be minimised prior to processing.
- 15) If the chosen composting process allows, the matured compost stockpiles will be covered to reduce the ingress of water and reduce odour.
- 16) If the leachate pond is a significant source of odour Bicorp will investigate the use of aerators to minimise odour, enhance biological degradation and encourage evaporation.
- 17) Validation sampling of odour from any key odour discharge points will be undertaken after commissioning.
- 18) Annual odour sampling of the building ventilation stack will be undertaken.
- 19) If required (as demonstrated by annual odour sampling), all air will be treated in an odour control system prior to discharge.

4.10 Energy Efficiency

The following recommendations pertaining to energy efficiency will be implemented by Bicorp:

- 1) Diesel will be used in the on site generator during construction and operation to provide all power to the site.
- 2) Diesel will be used in on site vehicles.
- 3) Diesel will be used in the transport of construction materials, operation raw materials and waste to the site and to transport site outputs to end- use/disposal location, where such machinery is operated by Bicorp.
- 4) Implement energy metering and monitoring
- 5) Employ efficient lighting and lighting control technologies (timers and light level sensors)
- 6) Utilise energy efficient appliances and office equipment.

4.11 Waste Management

The following will be adhered to by Bicorp in relation to the acceptance, processing, storage and disposal of waste:

- 1) The proposed development will operate at a maximum capacity of 230,000 tonnes of waste per annum;
- 2) The facility will have a maximum storage capacity of 45,000 tonnes of waste at any one time;
- 3) The facility will have a processing capacity of up to 871 tonnes per day;

- 4) The facility will process up to 30,000 tonnes of non putrescible organics per annum (of which 6,300 tonnes per annum will be composted and 23,700 tonnes per annum will be mulched or sold as firewood);
- 5) The facility will store no more than 2500m³ of organic matter on the site at any time (which includes timber , tree stumps etc). Of the 2500m³ of organics, no more than 500m³ tonnes of this will comprise compost.

4.12 Heritage Conservation

If impacts are proposed outside the current development footprint in conjunction with a future development application in areas of low-moderate Aboriginal archaeological potential, further investigations will be undertaken at that time.