



J A C K S O N
ENVIRONMENT AND PLANNING
STRATEGY | INFRASTRUCTURE | COMPLIANCE | PROCUREMENT



Section 96 Modification to Development Consent – SSD 5300 Kembla Grange Resource Recovery Facility Upgrade

Jackson Environment and Planning Pty Ltd
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1. Executive Summary

Wollongong Recycling & Building Supplies Pty Ltd (WRBS) has been operating a successful EPA licensed (EPL 20601) resource recovery facility at 50 Wyllie Rd, Kembla Grange since 2013. The facility receives 30,000 tonnes per year of building and demolition wastes for recycling as value added materials. Materials are delivered by a customer base which includes waste collection services, building and construction, small and medium sized businesses and trades. The site is leased from Bicorp Pty Ltd.

On 7 March 2016, State Significant Development SSD5300 was approved by the Planning Assessment Commission to enable an expansion to the Kembla Grange Resource Recovery Facility. The site currently supplies important recycling services for householders, builders and developers in the Wollongong Region, and is making an important contribution to helping the NSW Government meet its recycling target of 80% for construction and demolition waste by 2021.

Currently, construction works are underway to upgrade the site as per the consent conditions in SSD5300. However, a minor change to the facility design is being considered to improve operational efficiency of the site, under a s96(1A) modification under the *Environmental Planning and Assessment Act 1979*.

The proposed modification to consent SSD5300 involves the installation of a larger demountable weighbridge office to service the new inbound weighbridge and the existing outbound weighbridge, and a slight realignment of the new weighbridge to be in line with the existing weighbridge. In the original design, a small weighbridge management office was to be installed adjacent to the new weighbridge, which would only service inbound vehicles. The proposed development will improve vehicle movement efficiency by ensuring that all weighbridge management occurs within a single office between the weighbridges.

This modification to the development consent will involve:

- Relocation of the new second weighbridge to the west by 4m and to the south by 9m to accommodate the larger weighbridge office (with a footprint of 36 m²) and be in alignment with the existing weighbridge;
- Minor widening of the access carriageway to the inbound weighbridge and the outbound weighbridge (area increase of 321 m²);
- Rainwater from the roof of the weighbridge office will be directed to an on-site 500L rainwater harvesting tank for operational water use on the site;
- Overflow from the rainwater harvesting tank to be connected to the existing stormwater management system on the site.

To evaluate the impacts of the proposed modifications to the site, an assessment of stormwater runoff volume, stormwater quality, capacity of the drainage and stormwater detention system, and vehicle turning paths was assessed. The study found that the proposed modification to the site design will have negligible impact on stormwater runoff volumes, stormwater quality, stormwater detention or vehicle movements on the site.

The proposed modification to the development is outlined in this report. The estimated Capital Improvement Value of the modification is \$34,420 (ex. GST). Approval is sought to modify development consent SSD5300 to carry out the proposed modifications.

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1. Introduction

Wollongong Recycling & Building Supplies Pty Ltd (WRBS) has been operating a successful EPA licensed (EPL 20601) resource recovery facility at 50 Wyllie Rd, Kembla Grange since 2013. It was originally approved under Development Consent DA2009/1153 from Wollongong City Council. The site is leased from Bicorp Pty Ltd.

Currently, the facility receives 30,000 tonnes per year of building and demolition wastes for recycling as value added materials. Materials are delivered by a customer base which includes waste collection services, building and construction, small and medium sized businesses and trades.

WRBS is achieving an 85% recovery rate from processing incoming materials that include concrete, asphalt, tiles, timber, masonry, clay, soils and garden organics. Mobile plant, including excavators and front end loaders, are used to remove contaminants and separate incoming building and construction wastes for containment in storage bunkers prior to processing.

The facility is currently approved to accept up to 29,999 tonnes of waste per annum and is currently in the process of expanding its operations to allow it to process up to 230,000 of C&D waste tonnes per annum. This development has been approved by the NSW Department of Planning and Environment as a State Significant Development (SSD 5300) on 7 March 2016 (Appendix 1).

As part of the facility's expansion, an integrated Materials Recovery Facility will be built within the existing warehouse building on the site to receive and sort construction and demolition and commercial and industrial materials for recycling. An indoor composting plant is also being built in a separate section of the building as per the development consent.

1.1. Overview of the approved State Significant Development

On 7 March 2016, State Significant Development SSD5300 was approved by the Planning Assessment Commission to enable an expansion to the Kembla Grange Resource Recovery Facility. The site currently supplies important recycling services for householders, builders and developers in the Wollongong Region, and is making an important contribution to helping the NSW Government meet its recycling target of 80% for construction and demolition waste by 2021¹.

Due to increasing demand for recycling services for building waste and commercial and industrial waste from businesses, an expansion to the existing Resource Recovery Facility has been approved.

The development consent has provided approval for the development, as follows:

- Increasing the processing capacity of the facility from 30,000 tonnes per year to 230,000 tonnes per year;
- Providing recycling services for building and demolition waste, including brick, concrete, soils, timber, general/solid waste, and non putrescible organic waste;
- Construction of a new building material storage, waste storage, and processing/stockpiling areas;
- Use of ancillary infrastructure including plant and equipment such as crushers, screens and front-end loaders;
- Construction of a Materials Recycling Facility and Indoor Composting Plant;
- Redesign and expansion of the footprint of storage areas on site, thereby providing a more functional operational arrangement;
- Upgraded stormwater management system;

¹ NSW EPA (2014). NSW Waste Avoidance and Resource Recovery Strategy: 2014 – 2021. Published by the NSW EPA. Internet publication: <http://www.epa.nsw.gov.au/wastestrategy/warr.htm>

- Provision of buildings on the site including office/amenities, OHS training room and workshop;
- New weighbridge;
- Provision of additional and/or relocated car parking spaces;
- Provision of a truck parking area, skip bin storage area and an additional equipment storage area.

1.2 The proposed modification

Currently, construction works are underway to upgrade the site as per the consent conditions in SSD5300. However, a minor change to the facility design is being considered to improve operational efficiency of the site, under a s96(1A) modification under the *Environmental Planning and Assessment Act 1979*.

The proposed modification to consent SSD5300 involves the installation of a larger demountable weighbridge office to service the new inbound weighbridge and the existing outbound weighbridge, and a slight realignment of the new weighbridge to be in line with the existing weighbridge. In the original design, a small weighbridge management office was to be installed adjacent to the new weighbridge, which would only service inbound vehicles. The proposed development will improve vehicle movement efficiency by ensuring that all weighbridge management occurs within a single office between the weighbridges.

This modification to the development consent will involve:

- Relocation of the new second weighbridge to the west by 4m and to the south by 9m to accommodate the larger weighbridge office (with a footprint of 36 m²) and be in alignment with the existing weighbridge;
- Minor widening of the access carriageway to the inbound weighbridge and the outbound weighbridge (area increase of 321 m²);
- Rainwater from the roof of the weighbridge office will be directed to an on-site 500L rainwater harvesting tank for operational water use on the site; and
- Overflow from the rainwater harvesting tank to be connected to the existing stormwater management system on the site.

1.2 Departmental advice on the planning and assessment pathway for the modification

Written advice from Mr Kelly McNicol, Team Leader, Industry Assessments in the NSW Department of Planning and Environment on the requirements for the modification to the development consent is given in Appendix 2.

Given that the proposed site modification is minor, the Department has advised that it would be appropriate for the proponent, Wollongong Recycling & Building Supplies Pty Ltd to seek a s96(1A) development modification under the *Environmental Planning and Assessment Act 1979*. The Department advised that the application for modification to the consent should contain the following details:

- Name and address of applicant;
- Description of current approved development;
- Address of site;
- Landowner consent;
- Description of proposed modification to the development consent;
- Short statement outlining:
 - o Minor nature of proposed changes
 - o Description of expected impacts from the modification
 - o The capacity of the stormwater management system to cater for the increase in roof / hardstand area

- o Amended turning path diagrams depicting the movement of the largest size vehicles through the amended areas of the site
- o Floor plans and elevations of the proposed weighbridge office
- o Amended design plans for the development
- A Capital Improvement Value (CIV) estimate for the development.
- A statement outlining that the proposed change to the consent will result in the original consent being substantially the same.

2. S96 Planning Application

2.1 Name and address of applicant

The name of the applicant is Mr Adam Blackwell, Director, Bicorp Pty Ltd.

2.2 Address of site

The address of the site is 50 Wyllie Rd, Kembla Grange NSW 2526. The site is located on Lot 10, DP 878167.

2.3 Description of current approved development

On 7 March 2016, development consent under Section 98E of the *Environmental Planning and Assessment Act 1979* was provided by the Planning Assessment Commission of NSW, as a delegate of the Minister of Planning for 'Increasing the capacity of the existing construction and demolition waste and commercial and industrial waste resource recovery facility'. The development consent (SSD5300) is provided in Appendix 1.

Stage 1 of the approved development under SSD5300 involves developing the western part of the facility, as follows:

- Construction of soil and waste management measures and new drainage works associated with expansion of the operational area, including installation of batter catch drains; construction of retaining walls; stripping topsoil and bulk earthworks associated with cut and fill activities to expand the operational pad;
- Installation of new weighbridge;
- Installation of stormwater pits, pipes, leachate tanks, alarm system, Humeceptors and resspreading of topsoil;
- Shaping and trimming of stormwater treatment ponds;
- Construction of the greenwaste shredding pavement area;
- Complete landscaping associated with the project;
- Resspreading of topsoil
- Complete access roads and sealing with asphalt;
- Construction of additional car parking areas,
- Construct kerbs and table drains;
- Install bollards to gas easement boundary;
- Install biofilters and walls inside composting shed; and
- Install crushed concrete pavement to operational area.

It is noted that following the approval of management plans required under Conditions B5, B6, B7, B12, B13, B29, B30, C1, C2 and C3 of the development consent by the Department of Planning and Environment on 19 August 2016, construction works for Stage 1 commenced on the site in accordance with the approved construction plans and the Construction Environment Management Plan.

It is also noted that the site's Environment Protection Licence was successfully varied to enable scheduled development activities to be performed on the site. The NSW EPA issued the varied licence (EPL 20601) on 20 September 2016.

It is expected that construction works for Stage 1 will be completed by the end of February 2017.

2.4 Landowner consent

Please refer to the landowner consent from Bicorp Pty Ltd in Appendix 3.

2.5 Description of proposed modification to the development consent

The modification sought to development consent SSD5300 involves approval for a minor change in configuration of the inbound and outbound weighbridges, and the installation of a larger demountable weighbridge office between the weighbridges at the entry to the site.

Currently, one weighbridge currently exists on site adjacent to the site office, being the principal entry point into the Resource Recovery Facility. SSD5300 provides development consent for a second weighbridge adjacent to the existing weighbridge, including a small weighbridge office that would only service the new second weighbridge for inbound vehicles. The twin weighbridges as approved in SSD5300 will provide a dedicated lane for inbound vehicles to the site and similarly for outbound vehicles from the site (refer to Site Plan, C10 in SSD5300, Appendix 1).

In the original design, weighbridge management for the new inbound weighbridge was to be performed from a new small weighbridge office installed immediately adjacent to the weighbridge (refer to Site Plan, C10 in SSD5300, Appendix 1). However, to improve the efficiency of vehicle monitoring and movements in and out of the facility, it is proposed that one larger weighbridge office between the inbound and outbound weighbridges be installed to improve efficiency and vehicle flow in and out of the facility.

This modification to the development consent will involve:

- Relocation of the new second weighbridge to the west by 4m and to the south by 9m to accommodate the larger weighbridge office (with a footprint of 36 m²) and be in alignment with the existing weighbridge;
- Minor widening of the access carriageway to the inbound weighbridge and the outbound weighbridge (area increase of 321 m²);
- Rainwater from the roof of the weighbridge office will be directed to an on-site 500L rainwater harvesting tank for operational water use on the site; and
- Overflow from the rainwater harvesting tank to be connected to the existing stormwater management system on the site.

To carry out the proposed modifications, the following construction activities will need to occur:

- Provide pier footings on which to place the prefabricated weighbridge office;
- Local widening and minor realignment of the access carriageway;
- Installation of the approved second weighbridge 4 m to the west and 9 m to the south to be in alignment with the existing 9 m weighbridge on the site;
- Installation of sub-soil drainage in order to prevent ponding of local runoff beneath the prefabricated weighbridge office (slotted pipe with filter sock), and connection to the stormwater line;
- Installation of a 500 L rainwater tank to collect weighbridge office roof water;
- Installation of a 150mm diameter uPVC pipe to convey rainwater tank overflow to the stormwater system.

2.6 Environmental assessment of the proposed modification

A review of the environment issues of the proposed modification as described in Section 2.5 is provided below.

2.6.1 Description of expected impacts from the modification

Water management

The key environmental consideration in placement of the larger weighbridge office between the inbound and outbound weighbridges is an increase in stormwater runoff from the increase in pavement of the carriageway (recycled crushed concrete pavement) and the roof of the weighbridge office.

An assessment of the impacts on water has been conducted by Wal Mullany, KF Williams and Associates Pty Ltd. A written report has been prepared to evaluate the impacts on water management on this site has been prepared and is given in Appendix 4. The report has considered the findings from the original water impact assessment studies done to support the Environmental Impact Statement:

- Site Water Balance (KFW 5 May 2016); and
- WSUD and Flood Analysis Report (KFW June 2014).

KF Williams and Associates Pty Ltd found that the proposed site works involved are of a very minor nature and will have the following effects:

- Increase in impervious area of 36m² due to the prefabricated weighbridge office (100% impervious);
- Increase in access carriageway of 321m² (recycled crushed concrete 80% impervious); and
- The total increase in impervious area will therefore be 293m². This represents an increase in the overall site impervious area of 0.85%.

An update to the stormwater model DRAINS to include the increase in impervious areas found:

- No increase in discharge from the detention basin. Site discharge remains at 0.359 m³/s with 0.007 m³/s weir flow for a 100 year ARI storm burst. The additional 0.003 m³/s (Pit 1G) from the weighbridge office area to the detention basin has no effect on site discharge; and
- The proposed larger weighbridge office and associated site works will not increase the peak runoff from the site.

An update to the MUSIC model has been made to assess impacts of pollutant loads and water balance of the site. The model updates by KF Williams and Associates Pty Ltd found that:

- The increase in impervious area and the new 500L water storage tank for rainwater from the weighbridge office will have no perceptible impact on pollutant load from the site;
- Water reuse demand from the permanent pool will be reduced slightly (75.1% to 74.8%), due to the weighbridge rainwater tank intercepting runoff which would have been captured by the permanent pool;
- The small (500 L) rainwater tank will provide addition water for operational purposes, and will mitigate the increase in runoff; and
- Overall, the impact of the larger weighbridge office and associated site works are insignificant and imperceptible.

Vehicle turning paths

An analysis of the impacts of the minor widening of the inbound and outbound carriageway associated with the approaches to the weighbridges has been performed to assess any impacts on vehicle turning paths on the site. An update to Plan C305 as approved at the Construction Certificate Approval stage has been done. This is given in Appendix 5, together with an update to all remaining plans finalised for the Construction Certificate approval.

An assessment of vehicle turning paths for the minor widening of the inbound and outbound carriageway for the largest articulated heavy vehicle to enter the site (articulated vehicle length of 19.5m) suggested that the modification to the design will have no impact on the ability of vehicles to safely enter, manoeuvre and exit the site.

2.7 Amended plans

2.7.1 Construction plans (including floor and elevation plans) for the development

The construction plans for the development are given in Appendix 5, with proposed modifications shown in colour. All plans have been updated as required to indicate the widening of the inbound and outbound carriageway to the weighbridges, the larger weighbridge office, positioning of the new second weighbridge and the revised turning paths for vehicles entering and leaving the site. Note that a new plan for the proposed weighbridge office, including floor, front and end elevations is given in Plan C320.

Plans provided include:

- Site Plan (C301);
- Cut and Fill Plan (C302);
- Pavement Plan (C303);
- Turning Sweep Paths (C305);
- Site Plan – Usage Areas (C308);
- Leachate Control Plan (C310);
- Rainwater Harvesting Plan (C311);
- Stormwater Drainage Plan (C313);
- Soil and Water Management Plan (C318); and
- Proposed weighbridge, including floor plans, front and end elevations (C320).

2.7.2 Minor nature of proposed changes and consistency with the original consent

Given the minor nature of the proposed site modifications to accommodate a larger weighbridge office, relocation of the new second weighbridge and a small increase in the area of the carriageway, it is considered that the modifications are consistent with the original development consent (SSD5300).

Furthermore, as the environmental impacts from the change to the site are considered to be negligible, it is considered appropriate that development approval be considered under Section 96(1A)(b) of the *Environmental Planning and Assessment Act 1979*.

2.7.3 Capital improvement value of the modification to the development

An assessment of the capital improvement value of the development has been prepared by the proponent, as the expected cost of the development is less than \$100,000². An overview of the capital improvement value is provided

² NSW Department of Planning and Infrastructure (2013). Planning Circular PS13-002 – Calculating the Genuine Estimated Cost of Development. Internet publication: <http://www.planning.nsw.gov.au/Policy-and-Legislation/~media/DA2EB3DCF96540B68557B924F9C628DF.ashx>

in Table 2.1. The total cost and likely capital improvement value of the proposed modification to the development is \$34,420 (ex. GST).

Table 2.1. Expected cost of the modification to the development made by the applicant (capital improvement value).

Capital item	Cost (ex. GST)	Methodology
Portable weighbridge office (36 m ²)	\$20,000	Market value of the weighbridge office
Piers and installation of weighbridge office	\$3,000	Budget allowed by applicant for concrete block piers as footings for the building
Electrical connection and plumbing supply into weighbridge office	\$2,500	Installation of water supply and plumbing into the building for wastewater
Tank supply for the weighbridge office	\$1,500	Budget allowed for purchase and installation of a 500 L water tank and associated plumbing from roofline of weighbridge office, including installation
Civil works and pavement associated with widening of the access roads to and from the weighbridges	\$6,420	Increase in access carriageway of 321m ² with pavement constructed of recycled crushed concrete @ \$20/m ²
Additional drainage works and connection to stormwater pit	\$1,000	Budget allowed for additional works in connection to stormwater pit 1G
TOTAL CAPITAL IMPROVEMENT VALUE	\$34,420	

2.8 Updates to management plans

Under Condition C12 of the development consent SSD5300, an update to the approved management plans will be required following the modification to the consent. Pending approval of the application for modification to the development consent, updated management plans will be provided for:

- Water Management Plan (Condition B5 of consent);
- Construction Environmental Management Plan (Condition C1 of consent); and
- Landscape Management Plan (Condition B29 of consent).

These updated plans will be submitted to the Department for approval within 3 months of submission of the application for modification to the development consent, to meet the requirements of Condition C12 of the development consent.

3 Conclusions

Wollongong Recycling & Building Supplies Pty Ltd (WRBS) has been operating a successful EPA licensed (EPL 20601) resource recovery facility at 50 Wyllie Rd, Kembla Grange since 2013. Currently, the facility receives 30,000 tonnes per year of building and demolition wastes for recycling as value added materials. Materials are delivered by a customer base which includes waste collection services, building and construction, small and medium sized businesses and trades. The site is leased from Bicorp Pty Ltd.

On 7 March 2016, State Significant Development SSD5300 was approved by the Planning Assessment Commission to enable an expansion to the Kembla Grange Resource Recovery Facility. The site currently supplies important recycling services for householders, builders and developers in the Wollongong Region, and is making an important contribution to helping the NSW Government meets its recycling target of 80% for construction and demolition waste by 2021.

Currently, construction works are underway to upgrade the site as per the consent conditions in SSD5300. However, a minor change to the facility design is being considered to improve operational efficiency of the site, under a s96(1A) modification under the *Environmental Planning and Assessment Act 1979*.

The proposed modification to consent SSD5300 involves the installation of a larger demountable weighbridge office to service the new inbound weighbridge and the existing outbound weighbridge, and a slight realignment of the new weighbridge to be in line with the existing weighbridge. In the original design, a small weighbridge management office was to be installed adjacent to the new weighbridge, which would only service inbound vehicles. The proposed development will improve vehicle movement efficiency by ensuring that all weighbridge management occurs within a single office between the weighbridges.

This modification to the development consent will involve:

- Relocation of the new second weighbridge to the west by 4m and to the south by 9m to accommodate the larger weighbridge office (with a footprint of 36 m²) and be in alignment with the existing weighbridge;
- Minor widening of the access carriageway to the inbound weighbridge and the outbound weighbridge (area increase of 321 m²);
- Rainwater from the roof of the weighbridge office will be directed to an on-site 500 L rainwater harvesting tank for operational water use on the site; and
- Overflow from the rainwater harvesting tank to be connected to the existing stormwater management system on the site.

As part of this planning application, impacts on stormwater runoff volume, stormwater quality, capacity of the drainage and stormwater detention system, and vehicle turning paths has been assessed. The study found that the proposed modification to the site design will have negligible impact on stormwater runoff volumes, stormwater quality, stormwater detention or vehicle movements on the site.

The proposed modification to the development is outlined in this report. The estimated Capital Improvement Value of the modification is \$34,420 (ex. GST). Approval is sought to modify development consent SSD5300 to carry out the proposed modifications.

Appendix

Appendix 1: SSD5300 Development Consent

Appendix 2: Departmental advice on the planning and assessment pathway for the modification

From: Kelly McNicol
To: [Mark Jackson](#)
Subject: RE: Proposed modification to consent - SSD5300 - Upgrades to the Kembla Grange Resource Recovery Facility
Date: Monday, 16 January 2017 3:13:11 PM
Attachments: [image003.png](#)
[image005.png](#)

Hi Mark,

Thanks for the email. I gave you a call at your office a few minutes ago, but thought I would also follow up with an email as well. It appears the proposed amendments could be facilitated through a Section 96(1A) modification. As well as the requirements you have noted in the email below the following should also be considered in any application submitted:

- The capacity of the stormwater management system to cater for the increase in roof / hardstand area:
- Amended turning path diagrams depicting the movement of the largest size vehicles through the amended areas of the site.
- Floor plans and elevations of the proposed weighbridge office.
- A revised CIV for the development.

It would be helpful to discuss the proposed modification over the phone as well.

Regards,

Kelly McNicol

Team Leader

Industry Assessments

Department of Planning & Environment
| GPO Box 39, SYDNEY NSW 2001 | T 02 9274 6236

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Please consider the environment before printing this email.



From: Mark Jackson [mailto:mark@jacksonenvironment.com.au]
Sent: Monday, 16 January 2017 1:48 PM
To: Kelly McNicol <Kelly.McNicol@planning.nsw.gov.au>
Cc: 'Adam Blackwell' <adam@wollongongrecycling.com.au>
Subject: Proposed modification to consent - SSD5300 - Upgrades to the Kembla Grange Resource Recovery Facility

Dear Kelly,

I trust you had a good break over the Christmas and New Year period, and all the best for 2017. Just left you a phone message. As you are aware, my firm has been assisting Wollongong Recycling & Building Supplies Pty Ltd with regard to planning and EPA approvals for their State Significant Development (SSD5300) – Upgrade to the Kembla Grange Resource Recovery Facility. On 19 August 2016, management plans for the development were approved by DPE as part of the Consent Conditions, and construction is currently underway.

During the construction process, a minor change to the facility design is being considered to improve operational efficiency of the site, under a possible s96 application. I understand Susan is away until 7 Feb (who has managed SSD5300), so your advice would be appreciated:

Weighbridge office

- Insert a demountable weighbridge office between the existing inbound weighbridge and the new approved outbound weighbridge (see amended Plans C320 / C301).
- In the original design, weighbridge management was to be performed from the existing portable office structure, though a small relocation of the new second weighbridge to the west would be required to provide a clearance of 4m to accommodate the new office.
- Minor widening of the access road to the weighbridge and off the weighbridge would be required, and a small decrease in the width of the grassed area between the weighbridge and the internal access road around the perimeter of the operational area.
- Rainwater from the roof of the weighbridge office would be directed to the stormwater line on the edge of the operational area.
- Runoff into stormwater from the roof of the weighbridge office will not increase overall stormwater flows from the site.

Given the following considerations, we would expect that a s96 development modification may be appropriate as:

- Proposed design changes are minor
- Design changes will not change or increase the environmental impacts of the development
- The modification relates to substantially the same development as was originally approved.

We also assume that under s115 of the EP&A Reg 2000, the following information will be required to support the s96 application:

- Name and address of applicant
- Description of current approved development
- Address of site
- Landowner consent
- Description of proposed modification to the development consent
- A short statement outlining:
 - Minor nature of proposed changes
 - Description of expected impacts from the modification
 - That the proposed change to the consent will result in the original consent being substantially the same

Amended design plans for the development

Can you please advise if you will require any further information to support the application, to help expedite the process.

Please call me or Mr Adam Blackwell, Director, Wollongong Recycling and Building Supplies P/L on 0438 520 742 should you require any additional information.

Kind regards,
Mark

Dr Mark Jackson B.Sc. (Hons), PhD, Grad. Cert. Mgmt., Exec. Masters Public Admin. (USYD)
Director
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Skype: mjjackson_88



From: Susan Fox [<mailto:Susan.Fox@planning.nsw.gov.au>]
Sent: Friday, 19 August 2016 2:09 PM
To: Mark Jackson <mark@jacksonenvironment.com.au>
Cc: 'Adam Blackwell' <Adam@wollongongrecycling.com.au>
Subject: Approval of Stage 1 Management Plans SSD5300 - Kembla Grange Resource Recovery Facility
Importance: High

Good afternoon Mark,

Please find attached a letter approving Stage 1 Management Plans for Kembla Grange Resource Recovery Facility (SSD 5300).

If you have any questions regarding this matter, please do not hesitate to call or ring.

Regards

Susan Fox

Susan Fox | Senior Planning Officer
Industry Assessments | Department of Planning and Environment

Appendix 3: Landowner consent

Bicorp Pty Ltd

ABN: 45 793 764 279

02 February 2017

Industry Assessments Team
NSW Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

Dear Sir/Madam,

Landowner consent for s96 Development Modification to SSD5300 for 50 Wyllie Rd, Kembla Grange (Lot 10, DP 878167)

I would like to confirm that Bicorp Pty Ltd is the owner of the site, 50 Wyllie Rd, Kembla Grange that is currently occupied by Wollongong Recycling & Building Supplies Pty Ltd. The site has development consent as a State Significant Development SSD5300 as a Resource Recovery Facility for building materials and commercial waste materials. The site is also licensed by the NSW Environment Protection Authority (EPL 20601).

We are seeking to apply for a modification to the development consent under SSD5300 to install a weighbridge office between the inbound and outbound weighbridge on the site, to improve vehicle movement efficiency.

This letter confirms that Bicorp Pty Ltd, as the owner of the property, is supportive of the proposed development.

Should you require any further information, please do not hesitate to contact me.

Your sincerely,

A handwritten signature in black ink, appearing to read 'A Blackwell', written over a light blue horizontal line.

Adam Blackwell
Director
Bicorp Pty Ltd

T: 0438 520 742

Appendix 4: Updates to Water Impact Studies by KF Williams & Associates Pty Ltd

25 January 2017

KF110816- C014

Dr Mark Jackson
Jackson Environment & Planning
119 Willoughby Road
CROWS NEST 2065

Dear Mark,

Re SSD 5300 Resource Recovery Facility, 30 Wyllie Road, Kembla Grange

I understand that an application to modify SSD5300 is being prepared. The purpose of the application is to install a weighbridge office in order to increase the efficiency and safety of weighbridge operations.

Information provided by Mr Adam Blackwell indicates that the weighbridge office will be a prefabricated site shed with dimensions 12.0L x 3.0W x 2.99H. Roof area is 36m².

The site works necessary to install the weighbridge office include:

- Providing pier footings on which to place the prefabricated building.
- Local widening and minor realignment of the access carriageway.
- Installation of sub-soil drainage in order to prevent ponding of local runoff beneath the prefabricated building.
- Installation of a 500 litre rainwater tank to collect weighbridge office roof water.
- Installation of a 150mm dia uPVC pipe to convey rainwater tank overflow to the stormwater system.

The site works involved are of a very minor nature and will have the following effects:

- Increase in impervious area of 36m² due to the prefabricated shed (100% impervious)
- Increase in access carriageway of 321m² (recycled crushed concrete 80% impervious)

The total increase in impervious area will therefore be 293m². This represents an overall increase in the overall site impervious area of 0.85%.

I have reviewed the following documents prepared to support the application under SSD5300:

- a. Site Water Balance (KFW 5 May 2016)
- b. WSUD and Flood Analysis Report (KFW June 2014)

The stormwater model DRAINS was modified to include the additional impervious area draining to pit 1G.

As stated above, the overall increase in impervious area is insignificant.

Reference to Attachment #1 indicates the following:

- o Peak local runoff at pit 1G increases in from 0.153 m³/s to 0.155 m³/s during a 100yr ARI storm burst.

- o No increase in discharge from the detention basin. Site discharge remains at 0.359 m³/s with 0.007m³/s weir flow for a 100 year ARI storm burst. The additional 0.002m³/s from Pit 1G is routed through the detention basin and has no effect of site discharge.
- o The proposed weighbridge office and associated site works will not increase the peak runoff from the site.

The MUSIC model was modified to account for the additional impervious area and 500 litre rainwater tank associated with the new weighbridge office.

The modification to the MUSIC[#] model was as follows:

- Operational area reduced by 36m² (weighbridge office)
- Operational area reduced by 36m² and impervious increased by 1% (additional recycled concrete pavement)
- New source node for the weighbridge office with a new treatment node (500 litre rainwater tank)

Reference to Attachment #2 indicates the following

- ❖ Table A2.1 shows that there is no perceptible increase residual pollutant load.
- ❖ Table A2.2 shows that water reuse demand met from the permanent pool is largely unaffected. The apparent reduction (ie 75.1% to 74.8%) is due to the weighbridge rainwater tank intercepting runoff which would have otherwise been captured by the permanent pool.
- ❖ Table A2.3 shows that the installation of a 500 litre rainwater tank will provide a small but additional source of water for site operations and mitigate the increase in runoff volume.

It can be reasonably concluded without further modelling that the impact of the weighbridge office and associated site works is insignificant and imperceptible.

Yours faithfully,

K F WILLIAMS & ASSOCIATES PTY LTD



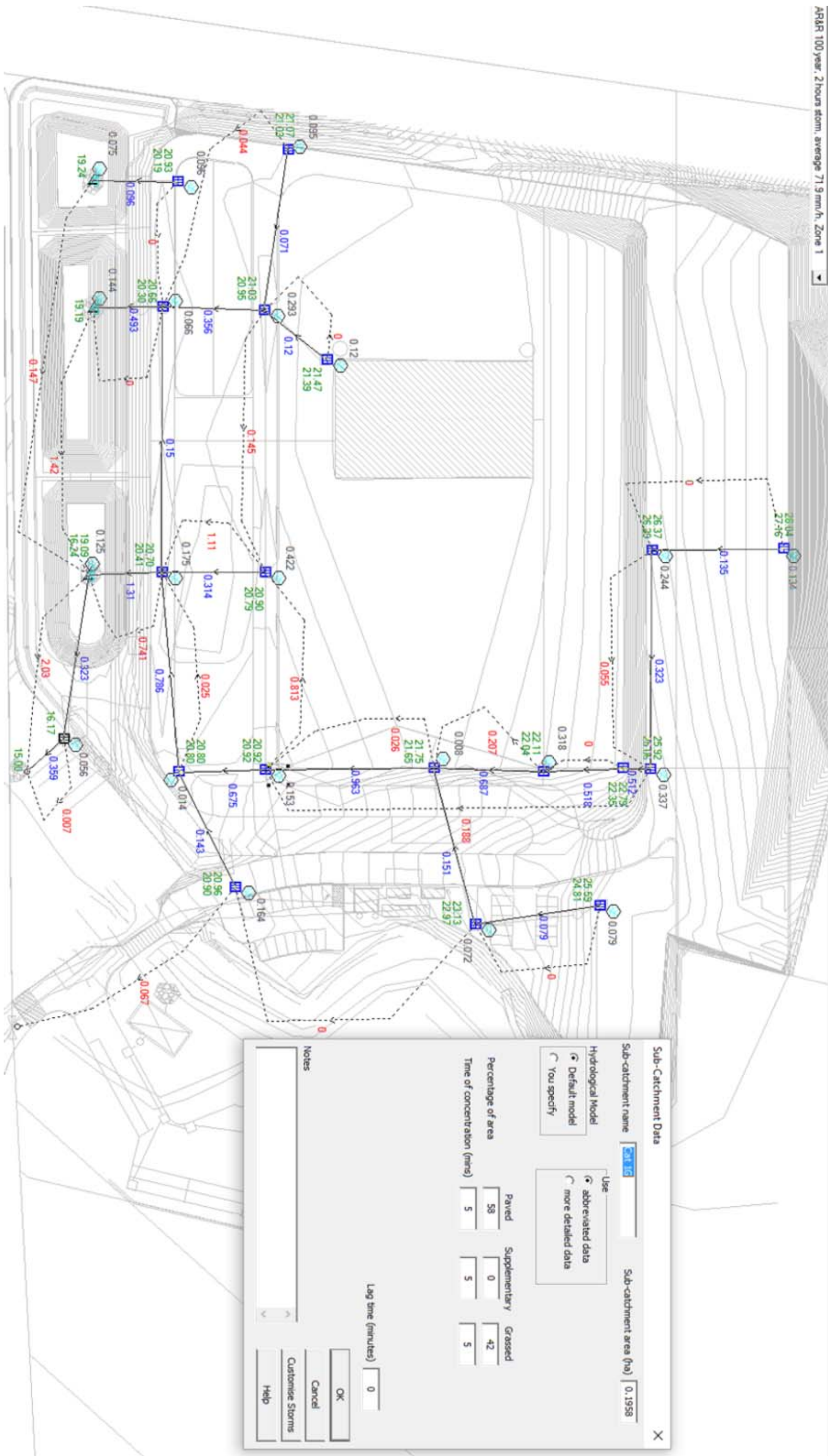
Wal Mullany

BE, Grad Dip LGE, ME(Hons), MIE Aust, CPEng, NER

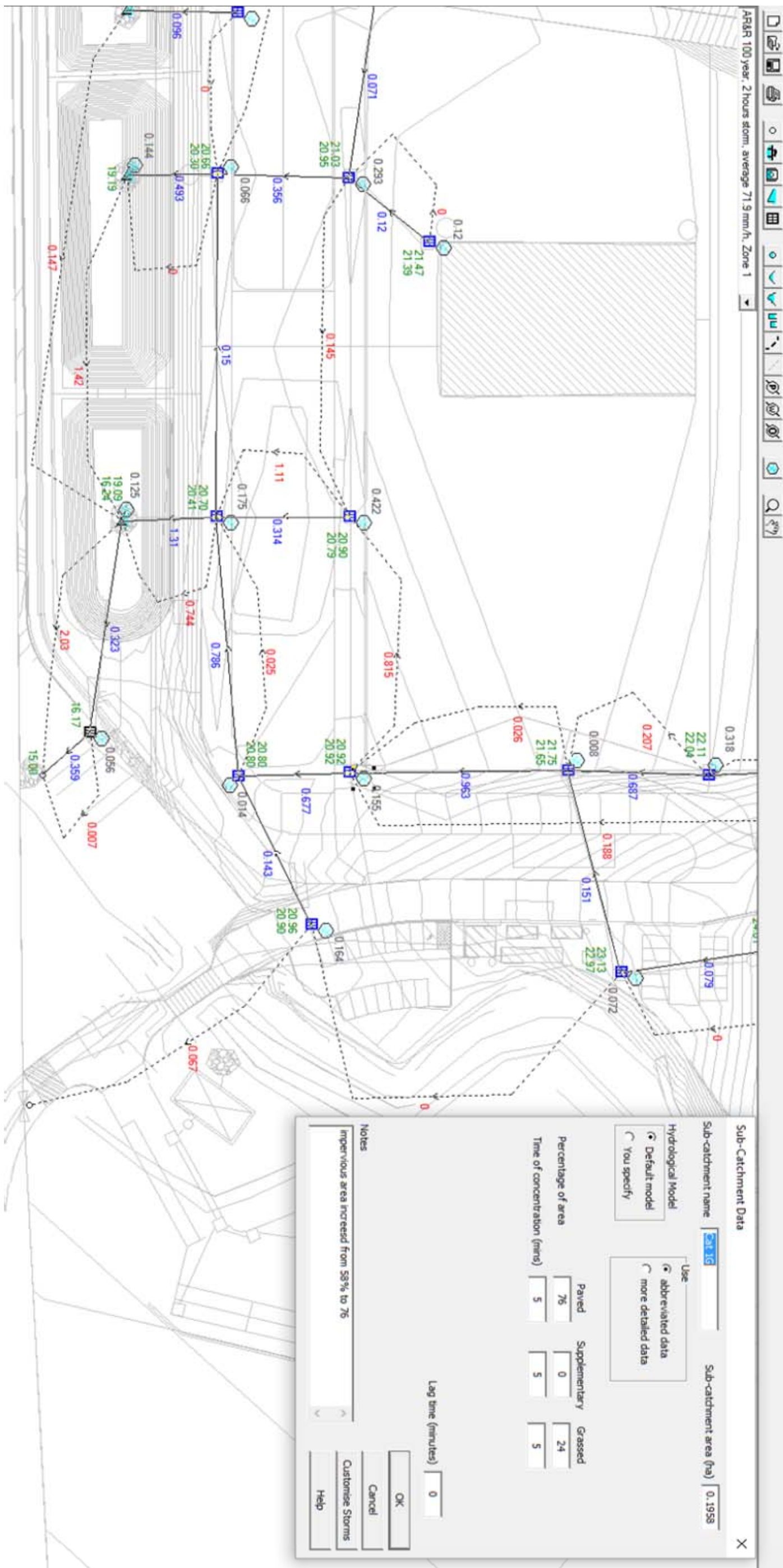
Attachments:

Attachment #1: Modified DRAINS stormwater model output

Attachment #2: Modified MUSIC model output



DRAINS Model
100yr ARI as Approved



DRAINS Model
100yr ARI with new Weighbridge Office

A2.1 Treatment Train Effectiveness

Table 4.6.1
Treatment Train Effectiveness

Treatment Train Effectiveness - Receiving Node			
	Sources	Residual Load	% Reduction
Flow (ML/yr)	32.4	18.8	42.1
Total Suspended Solids (kg/yr)	5270	393	92.5
Total Phosphorus (kg/yr)	8.98	2.54	71.7
Total Nitrogen (kg/yr)	45.4	24	47
Gross Pollutants (kg/yr)	780	0	100

Table 4.6.1 extracted from WSUD Report

Table A2.1
Extracted from modified MUSIC[#] Model

Treatment Train Effectiveness - Junction			
	Sources	Residual Load	% Reduction
Flow (ML/yr)	32.5	18.9	42
Total Suspended Solids (kg/yr)	5300	396	92.5
Total Phosphorus (kg/yr)	9.01	2.56	71.6
Total Nitrogen (kg/yr)	45.6	24.2	47
Gross Pollutants (kg/yr)	783	0	100

Table 4.6.4
Water Balance Permanent Pool

	Flow (ML/yr)	TSS (kg/yr)	TP (kg/yr)	TN (kg/yr)	GP (kg/yr)
Flow In	28.7	972.2	5.9	29.2	694.4
ET Loss	1.3	0.0	0.0	0.0	0.0
Infiltration Loss	0.0	0.0	0.0	0.0	0.0
Low Flow Bypass Out	0.0	0.0	0.0	0.0	0.0
High Flow Bypass Out	0.0	0.0	0.0	0.0	0.0
Pipe Out	6.6	133.6	0.9	8.6	0.0
Weir Out	9.5	214.1	1.4	11.6	0.0
Transfer Function Out	0.0	0.0	0.0	0.0	0.0
Reuse Supplied	10.8	223.2	1.5	16.1	0.0
Reuse Requested	14.4	0.0	0.0	0.0	0.0
% Reuse Demand Met	75.1	0.0	0.0	0.0	0.0
% Load Reduction	43.9	64.2	61.6	31.1	100.0

Decimal Places: 1

Table 4.6.4 extracted from WSUD Report

Table A2.2
Permanent Pool Water Balance
Extracted from Modified MUSIC# Model

	Flow (ML/yr)	TSS (kg/yr)	TP (kg/yr)	TN (kg/yr)	GP (kg/yr)
Flow In	27.5	931.8	5.6	28.0	665.3
ET Loss	1.3	0.0	0.0	0.0	0.0
Infiltration Loss	0.0	0.0	0.0	0.0	0.0
Low Flow Bypass Out	0.0	0.0	0.0	0.0	0.0
High Flow Bypass Out	0.0	0.0	0.0	0.0	0.0
Pipe Out	6.2	127.1	0.8	8.2	0.0
Weir Out	8.7	195.5	1.3	10.6	0.0
Transfer Function Out	0.0	0.0	0.0	0.0	0.0
Reuse Supplied	10.8	225.6	1.5	15.6	0.0
Reuse Requested	14.4	0.0	0.0	0.0	0.0
% Reuse Demand Met	74.8	0.0	0.0	0.0	0.0
% Load Reduction	45.6	65.4	62.8	33.0	100.0

Decimal Places: 1

Table

Table A2.3
Weighbridge Rainwater Tank Water Balance
Extracted from Modified MUSIC# Model

Node Water Balance - Weighbridge RWT					
	Flow (ML/yr)	TSS (kg/yr)	TP (kg/yr)	TN (kg/yr)	GP (kg/yr)
Flow In	0.0	4.9	0.0	0.0	0.7
ET Loss	0.0	0.0	0.0	0.0	0.0
Infiltration Loss	0.0	0.0	0.0	0.0	0.0
Low Flow Bypass Out	0.0	0.0	0.0	0.0	0.0
High Flow Bypass Out	0.0	0.0	0.0	0.0	0.0
Pipe Out	0.0	1.5	0.0	0.0	0.0
Weir Out	0.0	0.0	0.0	0.0	0.0
Transfer Function Out	0.0	0.0	0.0	0.0	0.0
Reuse Supplied	0.0	0.4	0.0	0.0	0.0
Reuse Requested	0.1	0.0	0.0	0.0	0.0
% Reuse Demand Met	15.9	0.0	0.0	0.0	0.0
% Load Reduction	50.1	69.0	60.0	50.4	100.0

Decimal Places



Appendix 5: Turning path analysis and updates to all CC approved plans

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/RECUTCLING 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. NO STORAGE OF BUOYANT MATERIAL IN PMF INUNDATION AREA. MINIMUM CRUSHED AGGREGATE SIZE IN PMF INUNDATION AREA TO BE 75mm
12. GREEN WASTE TO BE COVERED BY TARPULIN TO PREVENT INFILTRATION OF RAINWATER WHEN STOCKPILE TO BE IN PLACE LONGER THAN 21 DAYS.
13. SEPTIC TANK SERVICING OFFICE COMPLEX SHALL BE SERVICED/PUMPED OUT WEEKLY UNDER SERVICE CONTRACT

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 STAGE 1 LIMITS
- DENOTES FUTURE STAGE LIMITS
- DENOTES PROPOSED SUB SOIL LINE



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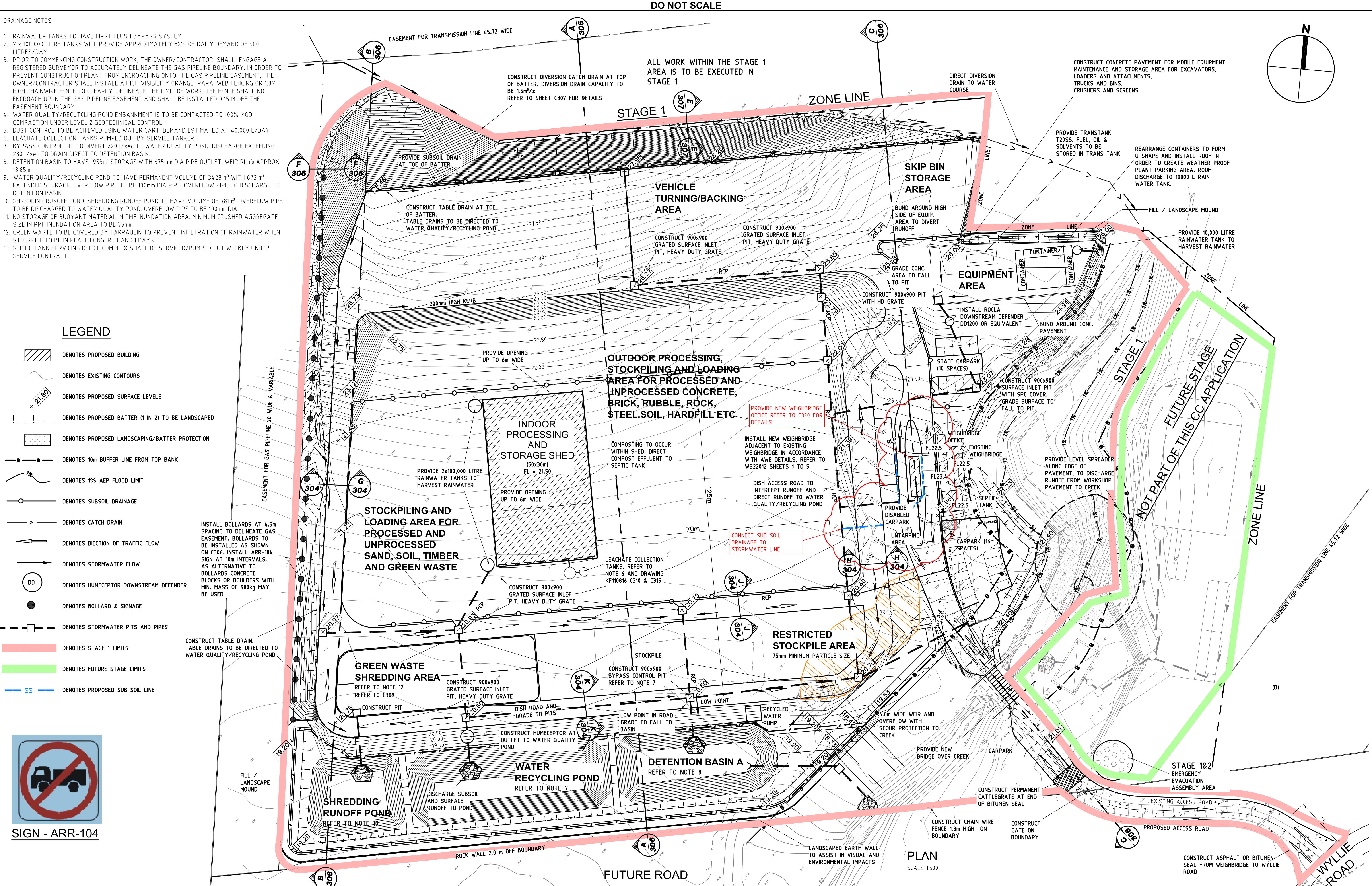
Revision	Amendment or reason for issue	Issue date	Drawn by	Authorised
A	WEIGHBRIDGE LOCATION AMENDED	13.01.2017	B.M	W.M



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Civil, Structural, Water & Sewer

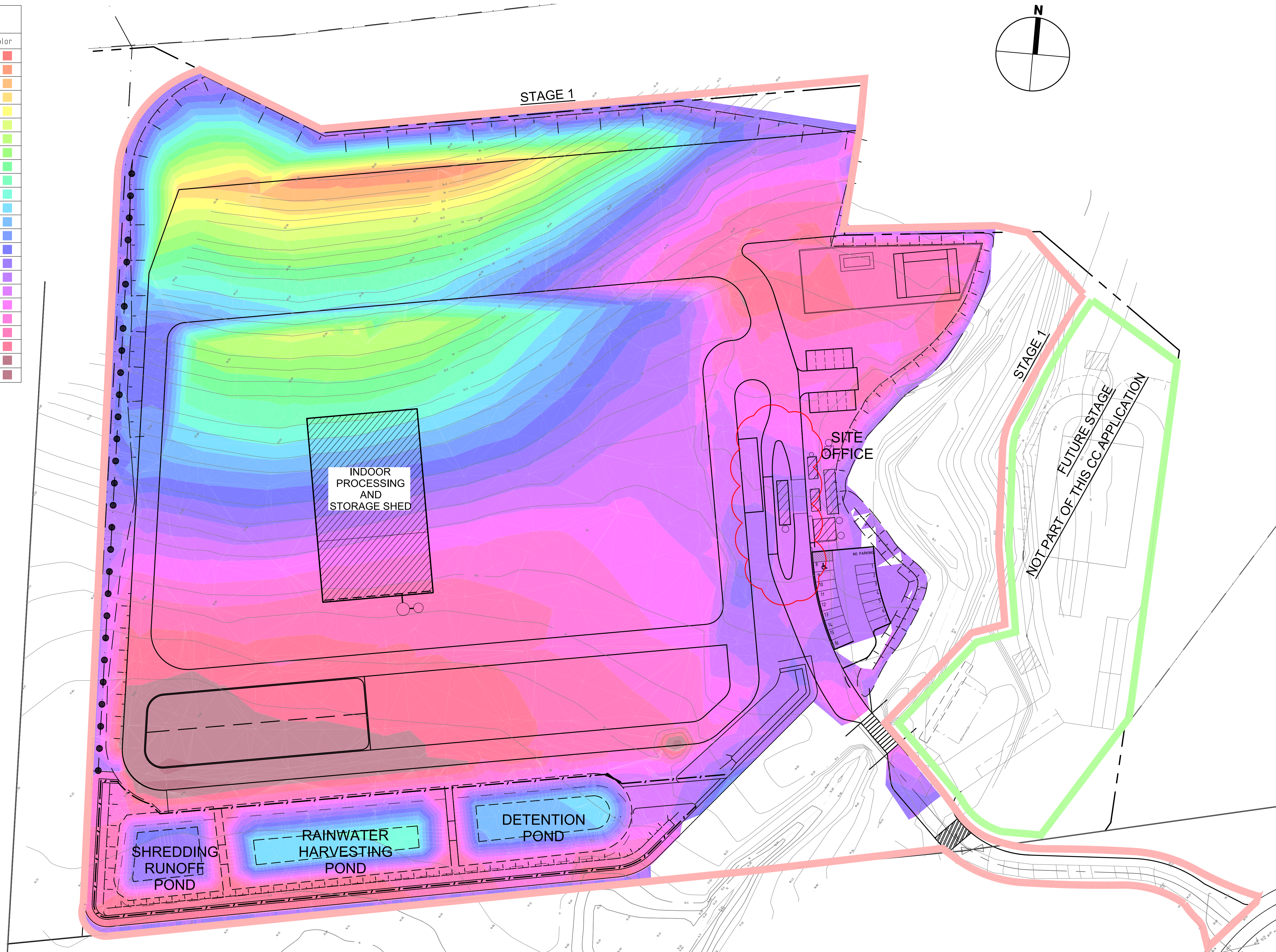
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www.kfw.net.au

Surveyor DENNIS SMITH	Date APRIL 2016	Drawing Title PROPOSED INDUSTRIAL DEVELOPMENT LOT 10 DP 878167 WYLLIE ROAD, KEMBLA GRANGE SITE PLAN		Project No. KF110816	
Date of Survey	Drawn B.MIDDLETON				
Height Datum AHD	Designed W.MULLANY	Drawing Status ISSUED FOR CC APPROVAL		Sheet 2 Of 20	
Origin Checked	Approved				
Horiz. Datum	Scale 1:500 @ A1 1:10000 @ A3			Revision A	



Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	-7.733	-7.500	
2	-7.500	-7.000	
3	-7.000	-6.500	
4	-6.500	-6.000	
5	-6.000	-5.500	
6	-5.500	-5.000	
7	-5.000	-4.500	
8	-4.500	-4.000	
9	-4.000	-3.500	
10	-3.500	-3.000	
11	-3.000	-2.500	
12	-2.500	-2.000	
13	-2.000	-1.500	
14	-1.500	-1.000	
15	-1.000	-0.500	
16	-0.500	0.000	
17	0.000	0.500	
18	0.500	1.000	
19	1.000	1.500	
20	1.500	2.000	
21	2.000	2.500	
22	2.500	3.000	
23	3.000	3.500	
24	3.500	3.922	

TOTAL FILL = 43191m³



A	WEIGHBRIDGE LOCATION AMENDED	24.01.2017	B.M	W.M
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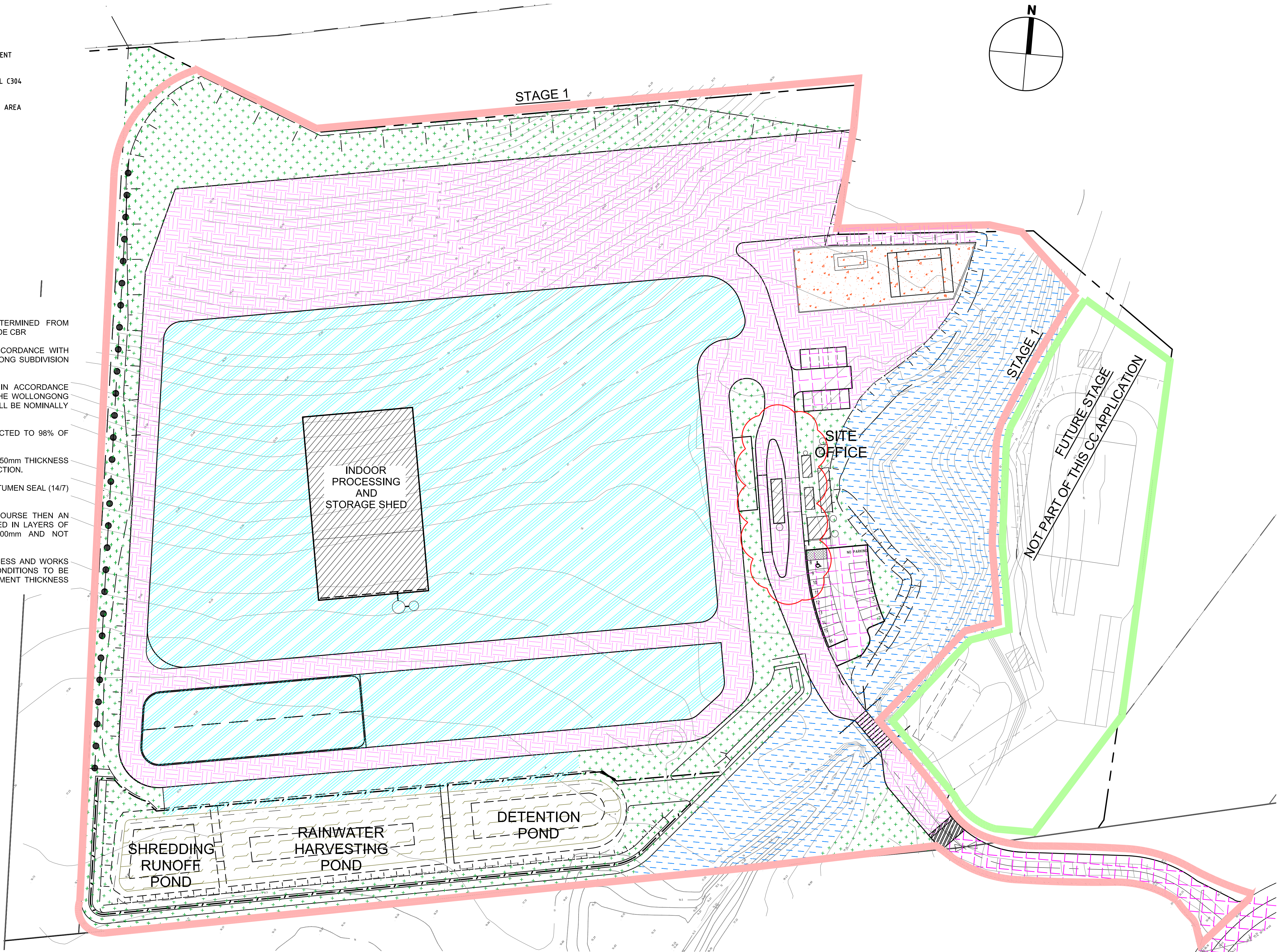
Surveyor DENNIS SMITH	Date APRIL 2016	Drawing Title PROPOSED INDUSTRIAL DEVELOPMENT LOT 10 DP 878167 WYLLIE ROAD, KEMBLA GRANGE CUT AND FILL PLAN		Project No. KF11081	
Date of Survey	Drawn B.MIDDLETON			Drawing No. C302	
Height Datum AHD	Designed W.MULLANY SEE CONT'D; SEE (MELBORN) MBE AND C/ENG REF				
Origin	Checked				
Horiz. Datum	Approved	Scale 1:500 @ A1 1:1000 @ A3	Drawing Status ISSUED FOR C.C APPROVAL	Sheet 3 Of 20	Revision A

LEGEND:

-  DENOTES CONCRETE SLAB
-  DENOTES RECYCLED CRUSHED CONCRETE PAVEMENT ACCESS 400mm THICK REFER TO DETAIL C304
-  DENOTES BITUMEN SEAL AC40 REFER TO DETAIL C304
-  DENOTES RECYCLED CRUSHED CONCRETE WORKS AREA 400mm THICK REFER TO DETAIL C304
-  DENOTES GRASS AREA
-  DENOTES RIPARIAN AREA
-  DENOTES PONDS
-  DENOTES STAGE 1 LIMITS
-  DENOTES FUTURE STAGE LIMITS

PAVEMENT NOTES

- 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 PAVEMENTS' OF THE WOLLONGONG SUBDIVISION CODE 2008. PAVEMENT THICKNESS SHALL BE NOMINALLY AS FOLLOWS:
 - BASE COURSE 150mm LAYER OF DGB20 COMPACTED TO 98% OF MODIFIED COMPACTION
 - 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-BASE COURSE THEN AN ADDITIONAL THICKNESS OF DGS40 SHALL BE PLACED IN LAYERS OF COMPACTED THICKNESS OF NOT LESS THAN 100mm AND NOT EXCEEDING 200mm THICKNESS (refer C242.27).
- NOMINAL CRUSHED CONCRETE PAVEMENT FOR ACCESS AND WORKS AREA SHALL BE MIN. 400mm THICK. SUBGRADE CONDITIONS TO BE CONFIRMED BY GEOTECHNICAL TESTING AND PAVEMENT THICKNESS ADJUSTED ACCORDINGLY



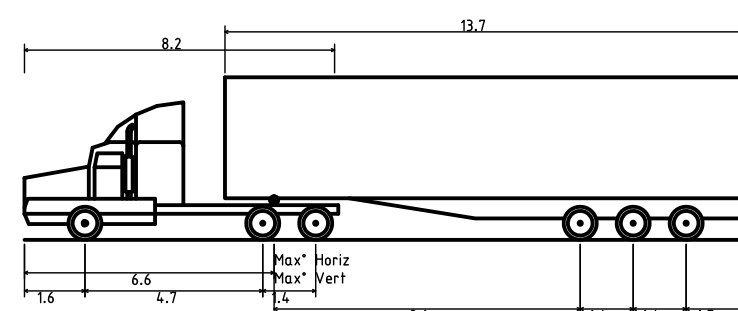
A	WEIGHBRIDGE AMENDED	13.01.2017	B.M	W.M
Revision	Amendment or reason for issue	Issue date	Drawn by	Authorised



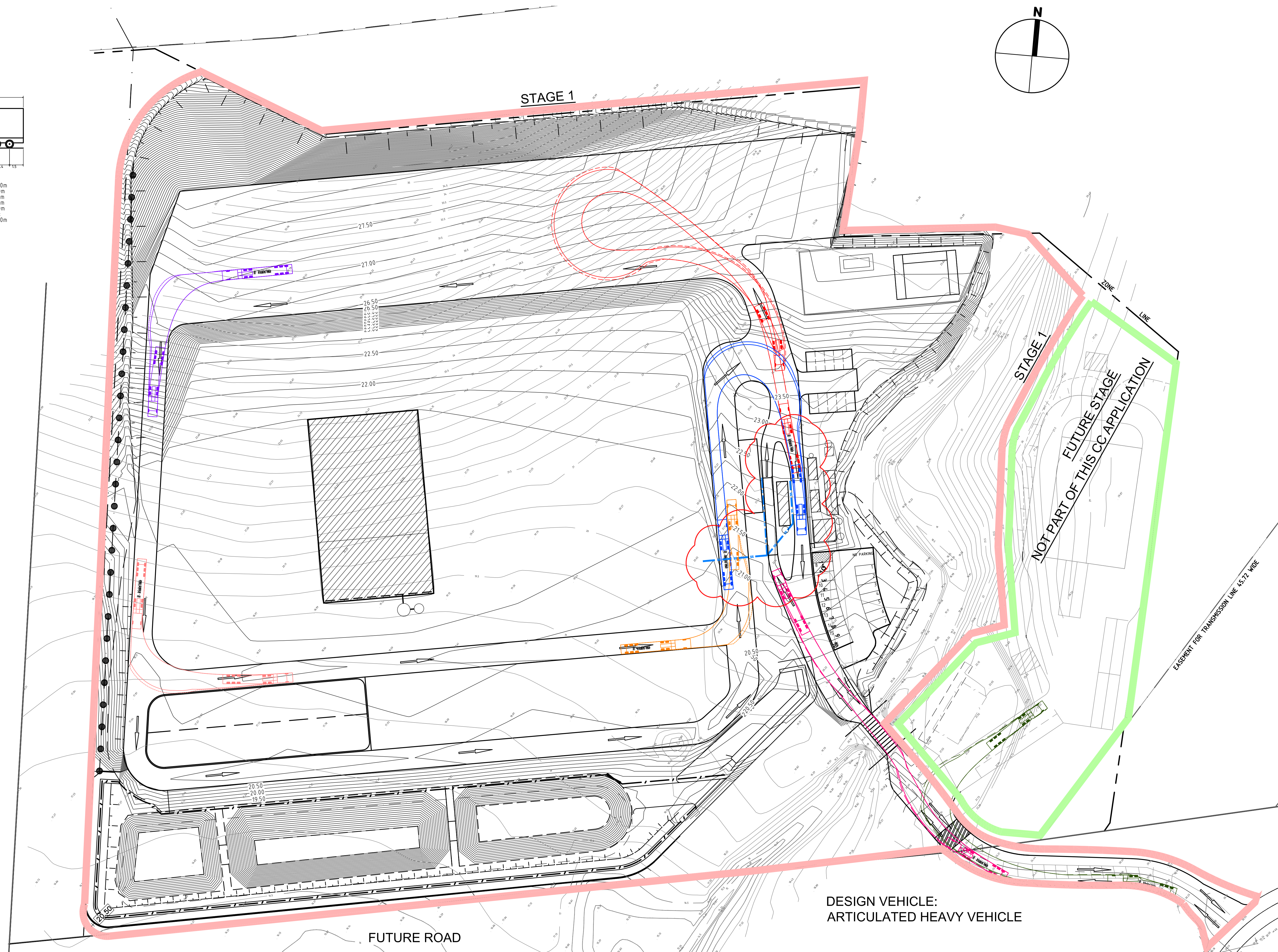
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Surveyor DENNIS SMITH	Date APRIL 2016	Drawing Title PROPOSED INDUSTRIAL DEVELOPMENT LOT 10 DP 878167 WYLLIE ROAD, KEMBLA GRANGE PAVEMENT PLAN		Project No. KF110816		
Date of Survey	Drawn B.MIDDLETON			Drawing No. C303		
Height Datum AHD	Designed W.MULLANY RE GRAD DB L&L (ME) (H&M) ME (A&M) CP (ENG) NP (SR)			Sheet 4 Of 20		Revision A
Origin	Checked					
Horiz. Datum	Approved	Scale 1:500 @ A1 1:1000@ A3	Drawing Status ISSUED FOR C.C APPROVAL			



AV - Articulated Vehicle	
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



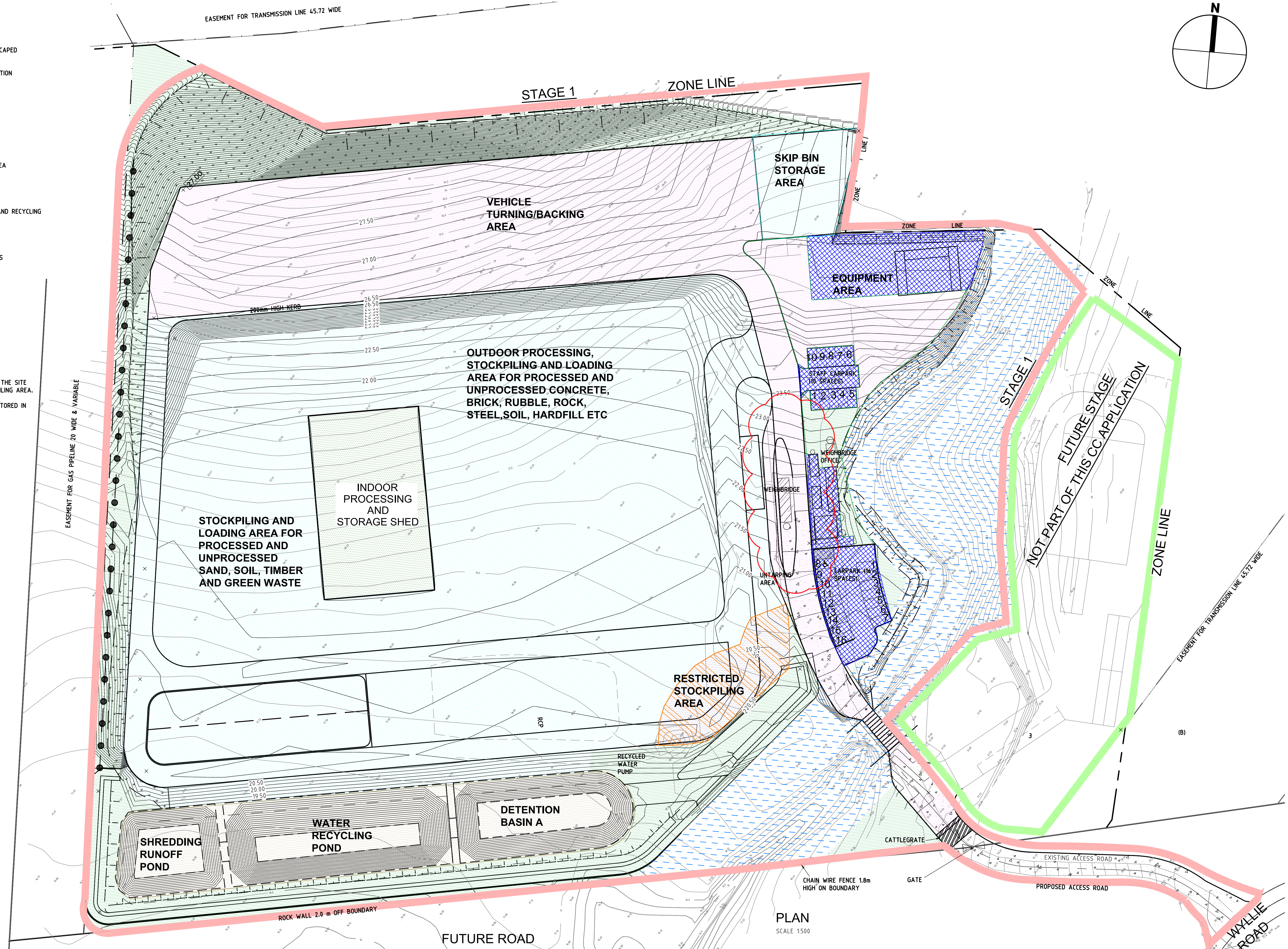
DESIGN VEHICLE:
ARTICULATED HEAVY VEHICLE

[illegible]

	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
	DENOTES STAGE 1 LIMITS
	DENOTES FUTURE STAGE LIMITS

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	WEIGHBRIDGE LOCATION AMENDED	24.01.2017	B.M	W.M
Revision	Amendment or reason for issue	Issue date	Drawn by	Authorised



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Surveyor DENNIS SMITH	Date APRIL 2016	Drawing Title PROPOSED INDUSTRIAL DEVELOPMENT LOT 10 DP 878167 WYLLIE ROAD, KEMBLA GRANGE SITE PLAN - USAGE AREAS		Project No. KF110816
Date of Survey	Drawn B.MIDDLETON			Drawing No. C308
Height Datum AHD	Designed W.MULLANY RE: Grad (GL, LGE, MEDIAN) MEASD CHENG REFID			
Origin	Checked			
Horiz. Datum	Approved	Scale 1:500 @ A1 1:1000 @ A3	Drawing Status ISSUED FOR CC APPROVAL	Sheet 9 Of 20 Revision A

1. Working surfaces
EPA Goal
To ensure storage areas, active composting surfaces, and associated access roads are constructed to prevent the pollution by leachate of subsoil, groundwater and surface water bodies and to allow all-weather vehicular access to any part of the processing site that needs to be reached by vehicles.

The green waste shredding area will have an impervious concrete or asphalt concrete layer to prevent infiltration from the shredding surface.

Composting and storage will be undertaken in a weatherproof shed which will have a concrete floor.

EPA Goal
To prevent the pollution by leachate of subsoil, groundwater and surface water bodies over the period of time that raw organics or products remain on the premises, beyond the closure of the facility, and until the premises has ceased to pose potential environmental threats.

The green waste shredding area has an impervious layer to prevent infiltration from the shredding surface. The impervious layer will be concrete or asphalt cement (AC) pad of a thickness of at least 100 mm is to be constructed

A 100mm concrete or AC layer will withstand the loads from all machines, vehicles and equipment that are required to operate the facility.

EPA Goal
To ensure that leachate is collected efficiently at the composting and related processing facility for further management, thereby avoiding water pollution and/or odour problems.

The composting process will occur under cover in a weather-proof building and will produce no or at worst a small volume of leachate.

The compost process leachate collection system will consist of the following:

- The secondary tank will be connected to the primary tank at the level where the primary tank is at 4,000 litre storage (80%) capacity.

4. Leachate storage system
Goal
To ensure that leachate is stored efficiently at the composting and related processing facility for further management, thereby avoiding water pollution and/or odour problems.

Goal
To ensure that leachate is stored efficiently at the composting and related processing facility for further management, thereby avoiding water pollution and/or odour problems.

The compost process leachate collection and storage system will consist of the following:

- The secondary tank will be connected to the primary tank at the level where the primary tank is at 4,000 litre storage (80%) capacity.

- | | | | |
|--|--|--|--|
| | | | |
|--|--|--|--|

A weekly inspection of the level in the leachate storage tank is to be performed.

It is noted that above ground tanks are preferred, however underground tanks are proposed in this case because the composting area is within a weather proof shed which will mean that the generation of leachate will be nil or very small.

The composting process will be undertaken in a weatherproof shed. There will therefore be no need to make provision for rainwater inflow to the leachate storage system. It is noted that rainwater from the weatherproof shed will be harvested for use on site for dust suppression.

Goal
To avoid the generation of excessive leachate and to prevent any sediment or pollutants from being carried off the premises.

The surface water controls must at least meet the following requirements:

For composting and storage; prevention of surface water mixing with organics will be achieved by undertaking the composting process within a weatherproof building. The building will effectively prevent surface water mixing with the composting material.

For green waste shredding;
prevention of surface water mixing with organics will be achieved by:

- the internal road and stormwater system is designed to collect and divert surface water away from the green waste shredding area. The internal road has a central V drain in order to ensure that surface water runs away from the shredding area.

For composting; contamination of runoff will be prevented by undertaking the composting process and storage within a weatherproof building. The building will effectively prevent surface water mixing with the composting material.

For green waste shredding handling;
treatment of runoff from the shredding area will be achieved by:

- the internal road and stormwater system is designed to collect and divert surface water away from the green waste shredding area. The internal road has a central dish-drain in order to ensure that surface water runs away from the shredding area.

For composting; management of surface water generated from the design of a 1-in-10 year, 24-hour-period storm event will not be required because the composting operations are within a weatherproof building. The building will effectively prevent surface water mixing with the composting material.

For green waste shredding; management of surface water generated from the design of a 1-in-10 year, 24-hour-period storm event will be achieved by minimising the area of green waste exposed to rainfall and ensuring the shredding pond has sufficient volume. As runoff will not be heavily loaded with organic matter, water retained in the green waste shredding pond may be used as a supplementary supply for dust suppression on site.

The internal road and stormwater system is designed to collect and divert surface water away from the green waste shredding area. The internal road has a central V drain in order to ensure that surface water runs away from the shredding area.

	DENOTES PROPOSED BUILDING
	DENOTES EXISTING CONTOURS
	DENOTES PROPOSED SURFACE LEVELS
	DENOTES HUMCEPTOR DOWNSTREAM DEFENDER
	COMPOSTING AND STORAGE SHED, CONCRETE FLOOR, DRAIN TO UNDERGROUND LEACHATE COLLECTION TANKS
	GREEN WASTE SHREDDING AREA, CONCRETE OR ASPHALT SURFACE, REFER TO DRAWING KF110816/C17
	DETENTION POND
	DENOTES STORMWATER PITS AND PIPES
	DENOTES STAGE 1 LIMITS
	DENOTES FUTURE STAGE LIMITS



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Surveyor DENNIS SMITH	Date APRIL 2016	Drawing Title PROPOSED INDUSTRIAL DEVELOPMENT LOT 10 DP 878167 WYLLIE ROAD, KEMBLA GRANGE LEACHATE CONTROL PLAN			Project No. KF110816	
Date of Survey	Drawn B.MIDDLETON				Drawing No. C310	
Height Datum AHD	Designed W.MULLANY BE GRAD DE/LOE MEASUREMENT OPENING INFO				Sheet 11 Of 20	Revision
Origin	Checked					
Horiz. Datum	Approved	Scale 1:500 @ A1 1:1000 @ A3	Drawing Status ISSUED FOR CC APPROVAL			

LEGEND

- DENOTES EXISTING CONTOURS
 DENOTES PROPOSED SURFACE LEVELS
 DENOTES STORMWATER SURFACE FLOW/DIRECTION OF DRAINS
 DENOTES HUMECEPTOR DOWNSTREAM DEFENDER
 ROOF AREAS TO RAINWATER TANKS
 SURFACE AREA RUNOFF TO WATER QUALITY POND THROUGH HUMECEPTOR
 DETENTION POND-DOES NOT RETAIN WATER
 DENOTES STORMWATER PITS AND PIPES WITH DIRECTION OF FLOW
 DENOTES STAGE 1 LIMIT
 DENOTES STAGE 2 LIMIT

RAINWATER HARVESTING TANKS

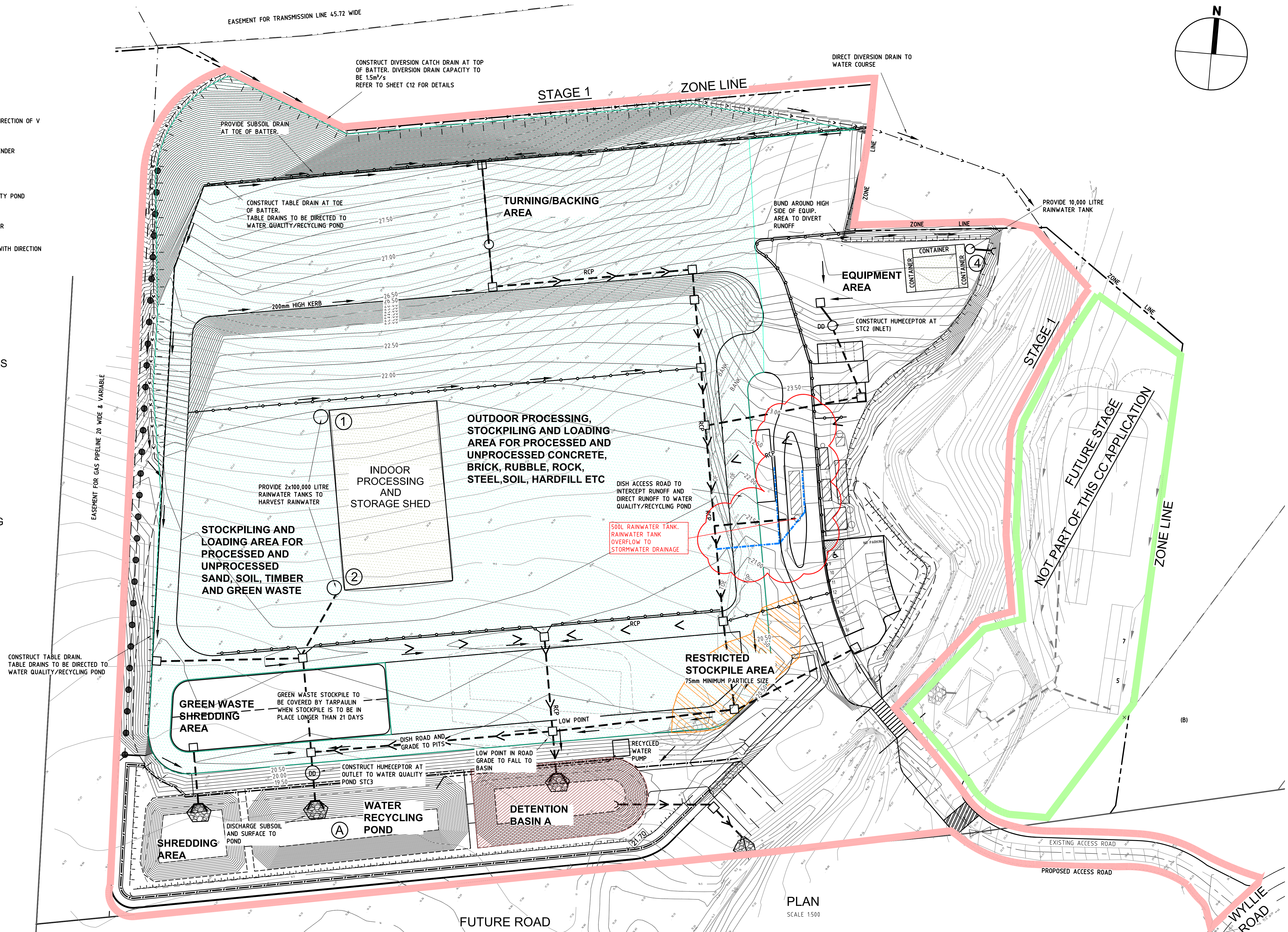
TANK	LOCATION	VOLUME m ³
1	INDOOR SHED	100
2	INDOOR SHED	100
3	WORKSHOP	100
4	EQUIPMENT AREA	10
TOTAL		310m ³

SURFACE RUNOFF HARVESTING

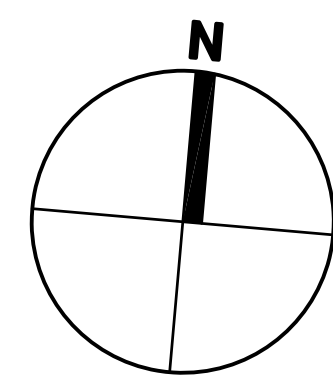
POND A	3428m ³
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TOTAL RAINWATER HARVEST

POND A + TANKS	3738m ³
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PLAN
SCALE 1:500



Revision	Amendment or reason for issue	Issue date	Drawn by	Authorised
A	WEIGHBRIDGE LOCATION AMENDED	24.01.2016	B.M	W.M

Surveyor DENNIS SMITH	Date MAY 2016	Drawing Title PROPOSED INDUSTRIAL DEVELOPMENT LOT 10 DP 878167 WYLLIE ROAD, KEMBLA GRANGE RAINWATER HARVESTING PLAN			Project No. KF110816	
Date of Survey	Drawn B.MIDDLETON				Drawing No. C311	
Height Datum AHD	Designed W.MULLANY REG. CIVIL (SA. LGA. LGE. MECHANS. MEASUREMENTS) ENGINEER				Drawing Status ISSUED FOR CC APPROVAL	
Origin	Checked					
Horiz. Datum	Approved	Scale 1:500 @ A1 1:1000 @ A3	Sheet 12 Of 20			Revision A

	DENOTES EXISTING CONTOURS
	DENOTES PROPOSED SURFACE LEVELS
	DENOTES STORMWATER SURFACE FLOW/DIRECTION OF V DRAINS
	DENOTES HUMCEPTOR
	DENOTES STORMWATER PITS AND PIPES WITH DIRECTION OF FLOW
	DENOTES SUBSOIL DRAINAGE

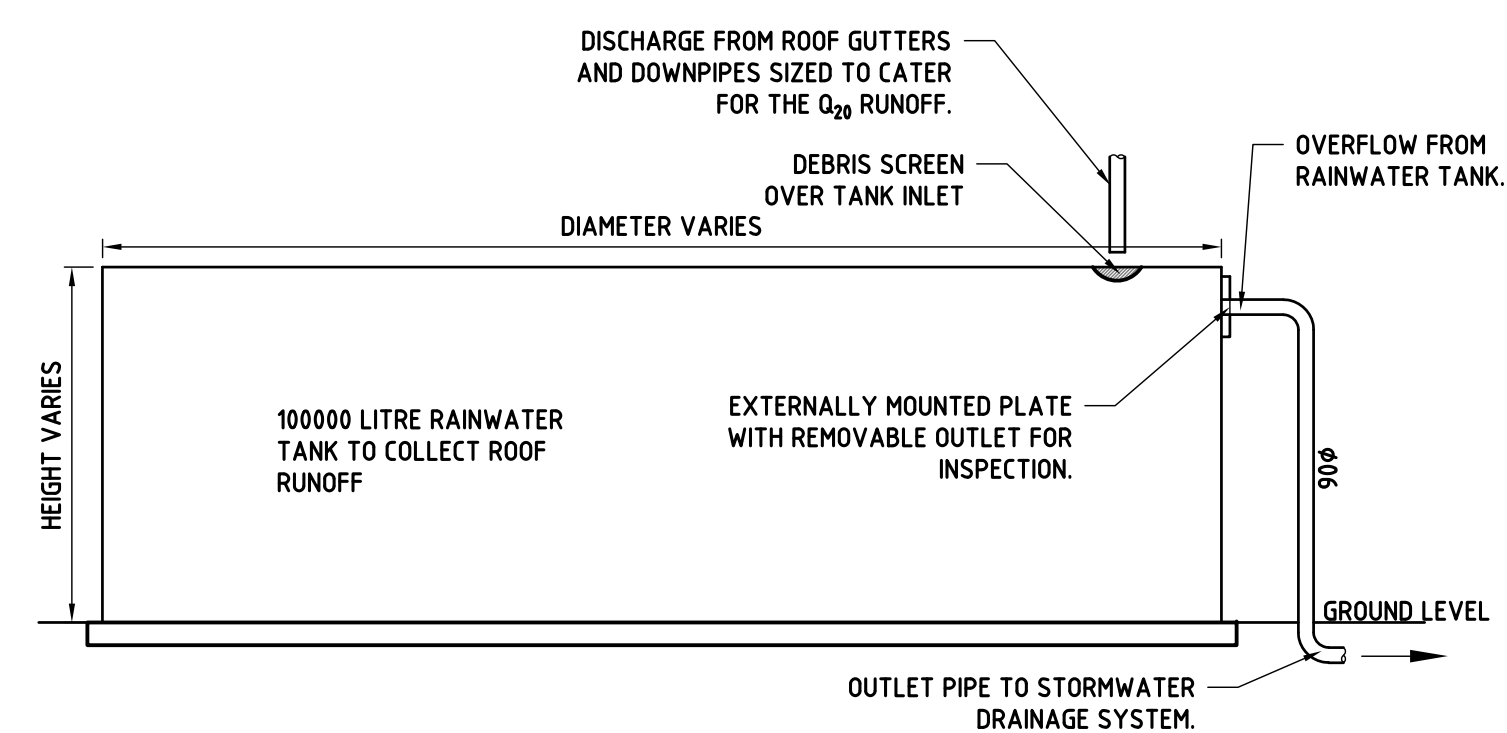
SURFACE RUNOFF HARVESTING

TANK	LOCATION	VOLUME m ³
1	INDOOR SHED	100
2	INDOOR SHED	100
4	EQUIPMENT AREA	10
	TOTAL	310m ³

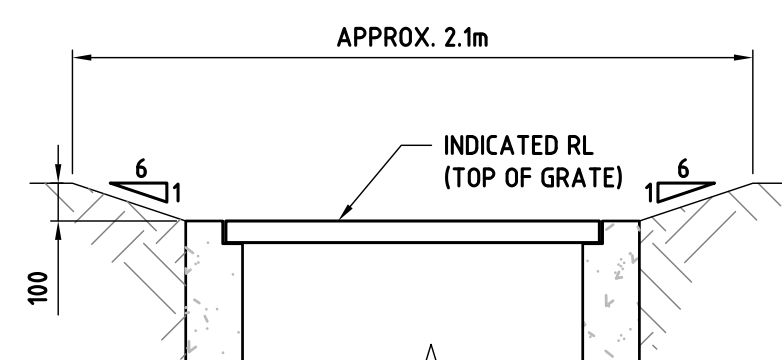
POND A	3428m³
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TOTAL RAINWATER HARVEST

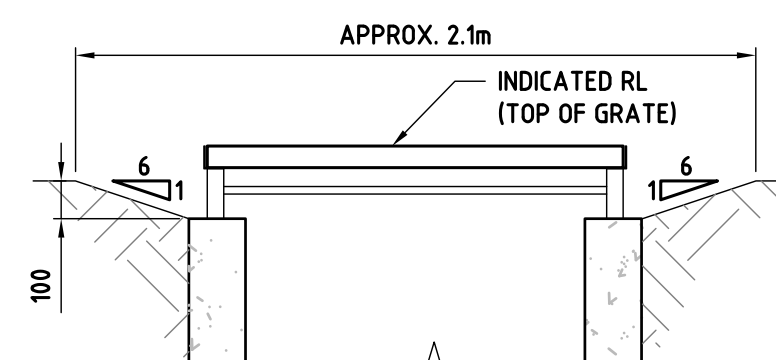
POND A + TANKS	3738m³
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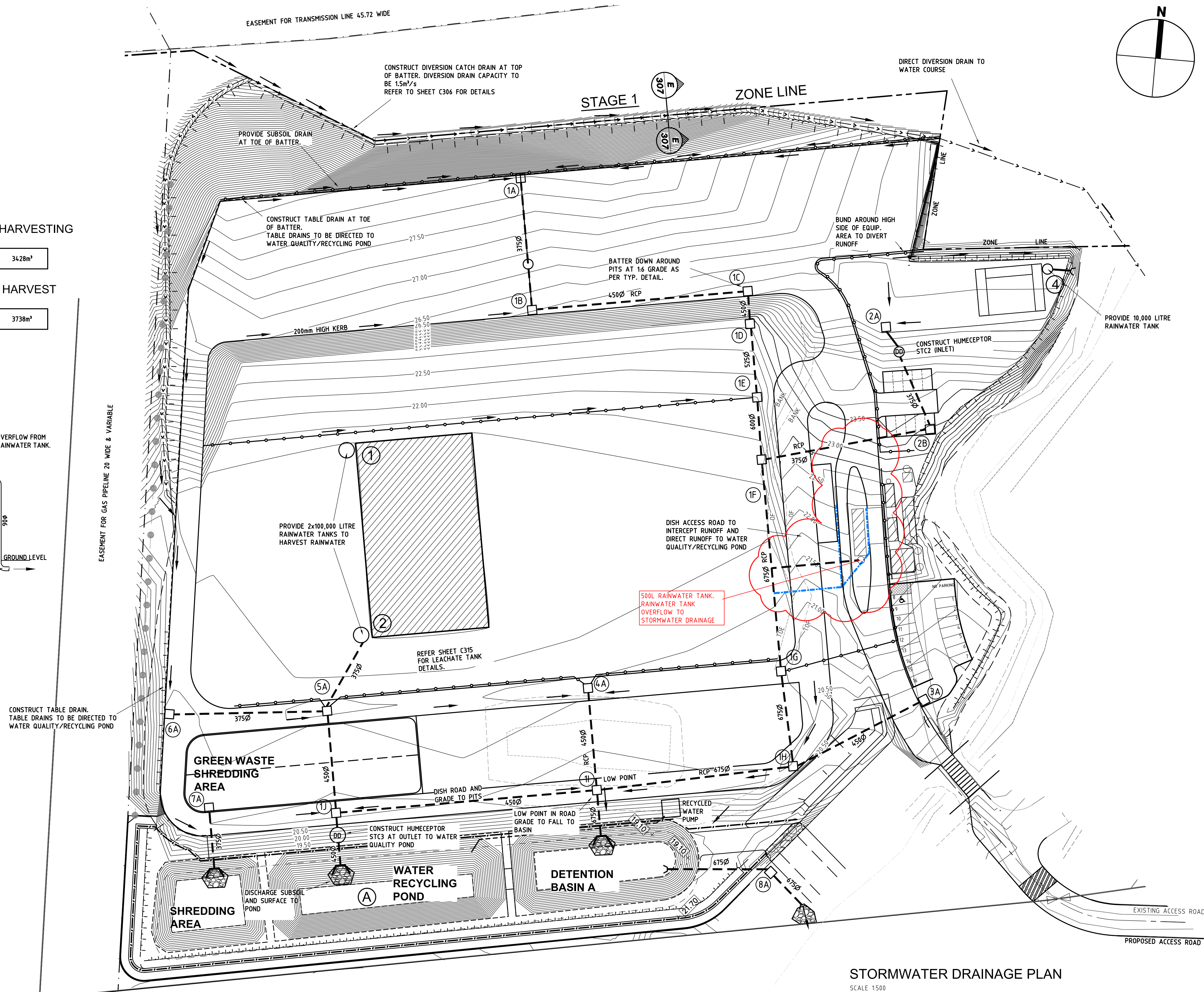
RESUSE RAINWATER TANK
NTS



TYP. PIT GROUND BATTER - HPG9090D
NTS



TYP. PIT GROUND BATTER - SPG99
NTS



STORMWATER DRAINAGE PLAN

SCALE 1:500

A	WEIGHBRIDGE LOCATION AMENDED	24.04.2017	B.M	W.M
Revision	Amendment or reason for issue	Issue date	Drawn by	Authorised



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Surveyor DENNIS SMITH	Date April 2016	Drawing Title PROPOSED INDUSTRIAL DEVELOPMENT LOT 10 DP 878167 WYLLIE ROAD, KEMBLA GRANGE STORMWATER DRAINAGE PLAN		Project No. KF110816	
Date of Survey	Drawn C. Roberts			Drawing No. C313	
Height Datum AHD	Designed C. Roberts BE (Civil) Grad (EAust)				
Origin	Checked W. Mullany BE Grad (EN) Lic (ME) (Inst) (NEAust) CP (Eng) (FD)				
Horiz. Datum	Approved	Scale 1:500 @ A1 1:1000 @ A3	Drawing Status ISSUED FOR CC	Sheet 14 Of 20	Revision A

NOTE:

DUST CONTROL TO BE ACHIEVED USING WATER
CART. DEMAND ESTIMATED AT 40,000 L/DAY

SITE WATER STORAGE

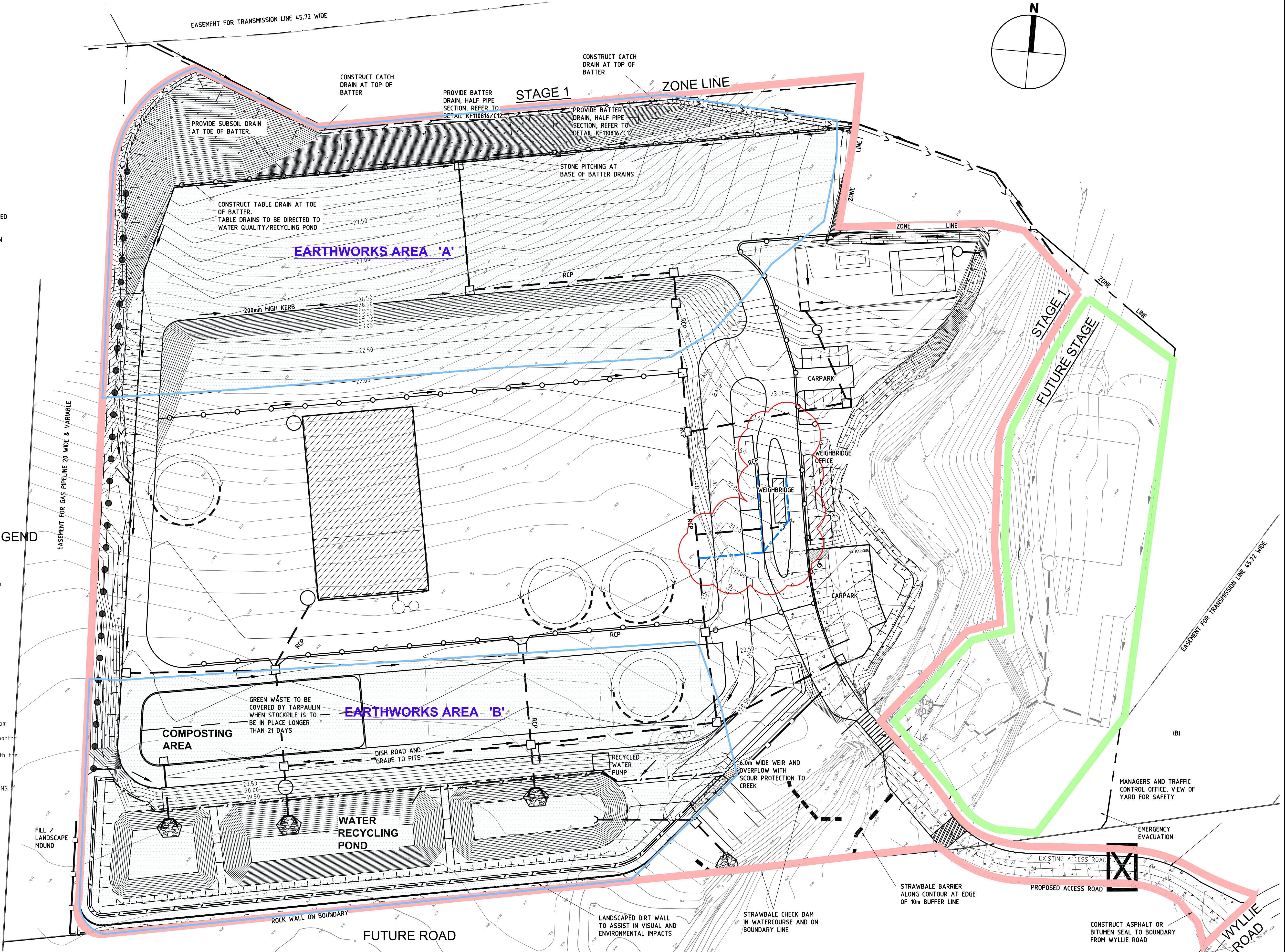
RAINWATER TANK = 300m³
POND = 5500
TOTAL = 5800m³

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 1% AEP FLOOD LIMIT
- DENOTES SUBSOIL DRAINAGE
- DENOTES CATCH DRAIN
- DENOTES DIRECTION OF TRAFFIC FLOW
- DENOTES STORMWATER SURFACE FLOW
- DENOTES HUMCEPTOR DOWNSTREAM DEFENDER
- DENOTES BOLLARD & SIGNAGE
- DENOTES STORMWATER PIPES AND PITS
- DENOTES STAGE 1 LIMITS
- DENOTES FUTURE STAGE LIMITS

SOL AND EROSION CONTROL LEGEND

- STRAW BALE DAMS
- SILT STOP FENCE AND DIVERSION DRAINS TO BE MAINTAINED UNTIL THE FINISH OF CONSTRUCTION.
- TEMPORARY CONSTRUCTION ENTRY/EXIT
- STRAW BALE CHECK BARRIER
- CLEAN WATER DIVERSION DRAIN
- TOPSOIL STOCKPILE AREA
Provide silt stop fence barrier on downstream side and diversion bank on upstream side. If stockpile is to be left for more than 2 months temporary revegetation will be required.
NOTE Stockpile areas can only be varied with the approval of supervising engineer.
REFER TO SHEET C14 FOR DETAILS OF TEMPORARY VEGETATION. ALTERNATIVELY, STOCKPILE SHALL BE COVERED BY TARPULINS.



A	WEIGHBRIDGE LOCATION AMENDED	24.01.2017	B.M	W.M
Revision	Amendment or reason for issue	Issue date	Drawn by	Authorised



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Surveyor	DENNIS SMITH	Date	APRIL 2016
Date of Survey		Drawn	B.MIDDLETON
Height Datum	AHD	Designed	W.MULLANY
Origin		Checked	
Horiz. Datum		Approved	

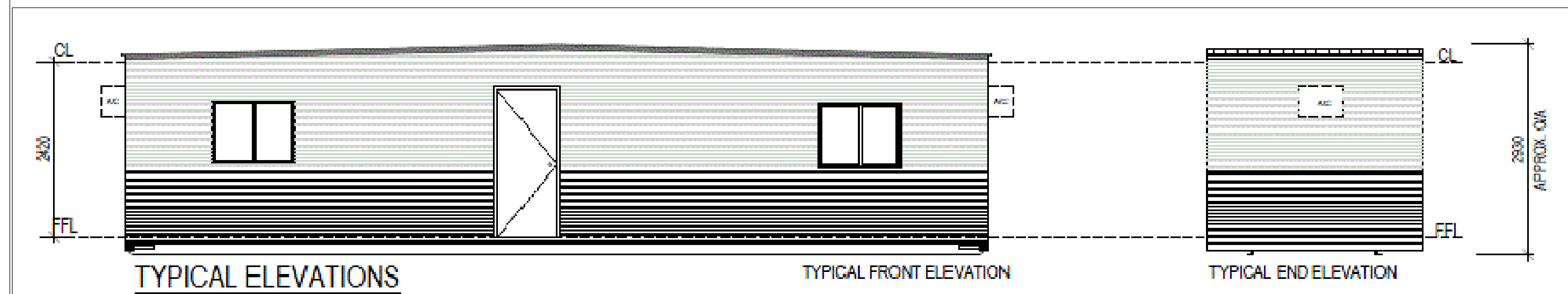
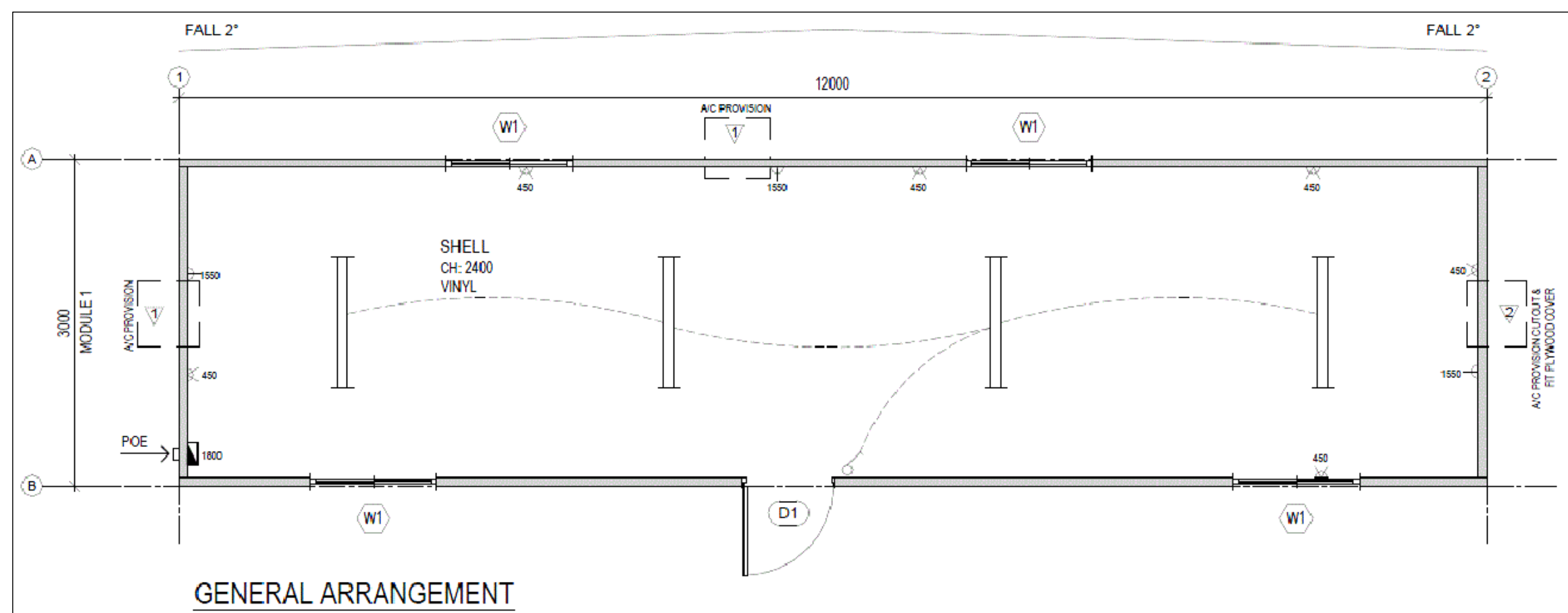
Drawing Title		PROPOSED INDUSTRIAL DEVELOPMENT LOT 10 DP 878167 WYLLIE ROAD, KEMBLA GRANGE SOIL AND WATER MANAGEMENT PLAN	
Scale	1:500 @ A1 1:1000@ A3	Drawing Status	ISSUED FOR CC APPROVAL

Project No.	
KF110816	
Drawing No.	
C318	
Sheet	Revision
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- NOTES:

1. PAVEMENT FOR WEIGHBRIDGE APPROACH TO BE 400mm RECYCLED CONCRETE PAVEMENT.
2. THIS PAVEMENT TYPE WAS APPROVED UNDER SSD-5300
3. REFER TO SHEET C303 REV.A
4. NO CHANGES PROPOSED TO EXISTING ADMIN/OFFICE BUILDING AND CARPARKING AREAS



PROPOSED SHED ELEVATION

Survey

Surveyor DENNIS SMITH	Date 13.01.2017	Drawing Title PROPOSED INDUSTRIAL DEVELOPMENT LOT 10 DP 878167 WYLLIE ROAD, KEMBLA GRANGE PROPOSED WEIGHBRIDGE		Project No. KF110816
Date of Survey	Drawn B.MIDDLETON			Drawing No. C320
Height Datum AHD	Designed W.MULLANY BE (Ref) DA, LGE (Hwy) MBE/Aust C/PNG (PFD)			
Origin	Checked			
Horiz. Datum	Approved	Scale 1:100 @ A1 1:200 @ A3	Drawing Status ISSUED FOR CC APPROVAL	Sheet 1 Of 1
				Revision