

560 Bli Bli Road and 18, 26, 40, 50,
66 Cooney Road, Bli Bli

APPENDIX

A

SUNSHINE COAST WASTE PRECINCT
PLAN OF DEVELOPMENT

URBIS

SUNSHINE COAST WASTE PRECINCT PLAN OF DEVELOPMENT



PREPARED FOR

**SUNSHINE COAST
REGIONAL COUNCIL**

28 JUNE 2016

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

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Project Code	GP0062
Report Number	Final for Lodgement

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1. INTRODUCTION

Pursuant to Section 242 of the *Sustainable Planning Act 2009 (the SPA)*, a preliminary approval is sought to vary the *Sunshine Coast Planning Scheme 2014 (27 February 2017) (Planning Scheme)*.

The Sunshine Coast Waste Precinct Plan of Development contains specific additional planning requirements to those set out in the Planning Scheme. Where it conflicts with the requirements of the Planning Scheme, this Plan of Development prevails.

1.1. LAND TO WHICH THE PRELIMINARY APPROVAL APPLIES

This Plan of Development applies to land at 18, 26, 40, 50 and 66 Cooney Road and 586 Bli Bli Road, Bli Bli (the **Sunshine Coast Waste Precinct Development Area**). The real property description of the Sunshine Coast Waste Precinct Development Area is as follows:

- Lot 4 on RP803104;
- Part of Lot 1 on CG2584;
- Lot 1 on RP208600;
- Lot 2 on RP208600;
- Lot 1 on RP202997; and
- Lot 3 on SP193049.

The Sunshine Coast Waste Precinct Preliminary Approval Map 1 (refer to **Appendix A**) identifies the Sunshine Coast Waste Precinct Development Area land to which this preliminary approval applies.

1.2. DEVELOPMENT APPROVED BY THE PRELIMINARY APPROVAL

The Preliminary Approval approves the following development in accordance with this Plan of Development:

- Environment Facility;
- Extractive Industry;
- High Impact Industry;
- Medium Impact Industry;
- Shop;
- Transport Depot; and
- Utility Installation.

1.3. RELATIONSHIP TO THE SUSTAINABLE PLANNING ACT 2009

The Plan of Development functions as part of the Preliminary Approval which varies the effect of the Planning Scheme, for the Sunshine Coast Waste Precinct Development Area by specifying:

- a) the types of development that may take place within the Sunshine Coast Waste Precinct Development Area;
- b) the levels of assessment for the approved development, which are to prevail over the levels of assessment for that development in the local planning instrument; and
- c) identifying the Sunshine Coast Waste Precinct Development Code for the approved development, which forms part of the common material against which subsequent development applications within the Plan of Development Area will be assessed.

The Sunshine Coast Waste Precinct Plan of Development is to prevail over specific aspects of the Planning Scheme, including:

- a) the tables of assessment in Section 5.5 (Level of assessment – material change of use) and Section 5.9 (Levels of assessment – local plans), limited to those aspects of development identifies in Section 1.2 of this Plan of Development;
- b) the tables of assessment in Section 5.10 (Level of assessment – overlays), limited to specifying that
 - i. the *Height of buildings and structures overlay* does not apply to development within the Sunshine Coast Waste Precinct Development Area;
 - ii. the *Biodiversity, waterways and wetlands overlay* only applies to development within the Waste Management Investigation Precinct shown on the **Sunshine Coast Waste Precinct Preliminary Approval Map 1**. To remove any doubt, the *Biodiversity, waterways and wetlands overlay* does not apply to the Waste Precinct Use Area shown on the **Sunshine Coast Waste Precinct Preliminary Approval Map 1**.
- c) the Nambour Local Plan Code by specifying it does not apply to development within the Sunshine Coast Waste Precinct Development Area;
- d) the Community Facilities Zone Code, High Impact Industry Zone Code and the Rural Zone Code by specifying the zone codes do not apply to development within the Sunshine Coast Waste Precinct Development Area;
- e) the *Height of buildings and structures overlay code* by specifying the zone codes do not apply to development within the Sunshine Coast Waste Precinct Development Area; and
- f) The *Biodiversity, waterways and wetlands overlay code* by specifying the code only applies to development within the Waste Management Investigation Precinct shown on the **Sunshine Coast Waste Precinct Preliminary Approval Map 1**. To remove any doubt, the *Biodiversity, waterways and wetlands overlay code* does not apply to the Waste Management Use Area shown on the **Sunshine Coast Waste Precinct Preliminary Approval Map 1**.

All remaining aspects of the Planning Scheme remain applicable to the approved development to the extent that they are relevant and are not inconsistent with the Sunshine Coast Waste Precinct Development Code.

NOTE: The Sunshine Coast Waste Precinct Development Area is *urban area* as defined in Section 26 of the Sustainable Planning Regulation 2009.

1.4. RELATIONSHIP TO THE PLANNING ACT 2016

The *Planning Act 2016 (Planning Act)* will commence on 3 July 2017 and replaces the SPA as the governing town planning legislation within Queensland.

In accordance with the transitional provisions outlined in Section 286 of the Planning Act, the preliminary approval for the Sunshine Coast Waste Precinct will be known as a variation approval.

As the Planning Act will commence before this preliminary approval takes effect, terms used within this document have been drafted to align with the Planning Act to assist in future usability and interpretation of the plan of development.

1.5. TIME LIMIT FOR DEVELOPMENT

In accordance with Section 343 (3)(b) of the SPA, a period of thirty (30) years from the date on which it has effect is nominated as the prescribed period for the completion time for the Preliminary Approval.

1.6. INTERPRETATION

Terms including use definitions, industry thresholds and administrative definitions in the Preliminary Approval have the meaning given in the *Sunshine Coast Planning Scheme 2014 (27 February 2017)*, unless otherwise specified below.

1.6.1. Administrative Definitions

Column 1 Term	Column 2 Definition
Recycled and Recovered Goods Store	A standalone shop that is specifically intended to sell recycled and recovered goods, including but not limited to: <ul style="list-style-type: none">a) Furnitureb) Antiquesc) Sporting goodsd) Household itemse) Garden equipmentf) Toolsg) Baby and children's itemsh) Bric-a-brac

2. TABLE OF ASSESSMENT

The following section of the Plan of Development determines the level of assessment for development approved by the Preliminary Approval.

The levels of assessment identified herein varies the tables of assessment within the Part 5 of the Planning Scheme in relation to the uses listed below.

In determining the level of assessment for development within the Sunshine Coast Waste Precinct Development Area, the following is specifically noted:

- a) The process for determining the category of development and category of assessment as outlined in Section 5.3 of the Planning Scheme apply, unless there is a conflict with the categories of development specified in Table 1;
- b) Table 5.10.1 (Overlays) of the Planning Scheme applies to determining category of development and category of assessment for development in the Sunshine Coast Waste Precinct Development Area, except for:
 - i. the *Height of buildings and structures overlay* which does not apply to development in the Sunshine Coast Waste Precinct Development Area;
 - ii. the *Biodiversity, waterways and wetlands overlay* only applies to development within the Waste Management Investigation Precinct shown on the **Sunshine Coast Waste Precinct Preliminary Approval Map 1**. To remove any doubt, the *Biodiversity, waterways and wetlands overlay* does not apply to the Waste Precinct Use Area shown on the **Sunshine Coast Waste Precinct Preliminary Approval Map 1**; and
- c) Where a use is not listed in Table 1, the category of development and category of assessment will be determined in accordance with the requirements of the Planning Scheme.

2.1. SUNSHINE COAST WASTE PRECINCT CATEGORIES OF DEVELOPMENT: MATERIAL CHANGE OF USE

Table 1 – Categories of development for Material Change of Use

Defined Use	Category of development and category of assessment	Assessment benchmarks for assessable development and requirements for accepted development
Environment facility	Accepted	<ul style="list-style-type: none"> No applicable requirements
Extractive industry	Code assessment	<ul style="list-style-type: none"> Sunshine Coast Waste Precinct Development Code Extractive industry code <i>Prescribed other development codes</i>
High impact industry	Code assessment	<ul style="list-style-type: none"> Sunshine Coast Waste Precinct Development Code Industry uses code <i>Prescribed other development codes</i>
Medium impact industry	Code assessment	<ul style="list-style-type: none"> Sunshine Coast Waste Precinct Development Code Industry uses code <i>Prescribed other development codes</i>
Shop	Accepted subject to requirements if for a <i>Recycled and Recovered Goods Store</i>	<ul style="list-style-type: none"> Transport and parking code
	Impact assessment if not otherwise specified	<ul style="list-style-type: none"> The Planning Scheme

Defined Use	Category of development and category of assessment	Assessment benchmarks for assessable development and requirements for accepted development
Transport depot	Code assessment	<ul style="list-style-type: none"> • Sunshine Coast Waste Precinct Development Code • Industry uses code • <i>Prescribed other development codes</i>
Utility installation	Accepted if for a <i>local utility</i>	<ul style="list-style-type: none"> • No applicable requirements
	Code assessment if not otherwise specified	<ul style="list-style-type: none"> • Sunshine Coast Waste Precinct Development Code • Utility code • <i>Prescribed other development codes</i>

3. SUNSHINE COAST WASTE PRECINCT DEVELOPMENT CODE

3.1. APPLICATION

- 1) This code applies to assessable development:-
 - a) within the Sunshine Coast Waste Precinct Development Area as identified on Preliminary Approval Map 1 within **Appendix A**; and
 - b) identified as requiring assessment against the Sunshine Coast Waste Precinct Development Code by the table of assessment in Section 2 of this Plan of Development (**Table of Assessment**).
- 2) All provisions in this code are assessment benchmarks for applicable assessable development.

3.2. PURPOSE AND OVERALL OUTCOMES

- 1) The purpose of the Sunshine Coast Waste Precinct Development Code is to:-
 - a) provide for a range of industry activities, other activities and complimentary associated uses at varying degrees of scale and intensity to support the operation of the site as an integrated waste management facility to meet the infrastructure related needs of the Sunshine Coast's existing and future communities.
- 2) The purpose of the Sunshine Coast Waste Precinct Development Code will be achieved through the following overall outcomes:-
 - a) development in the Waste Precinct Use Area caters predominately for specified uses, facilities and works, which include:-
 - i. high intensity industrial activities and other activities that have the potential to generate significant off-site impacts, including *Extractive Industry, High Impact Industry, Medium Impact Industry, Transport Depot and Utility Installation* uses; or
 - ii. a limited range of allied and compatible uses, including *Environment Facility and Shop (if for a Recycled and Recovered Goods Store)*, where they are associated with the ongoing waste management function of the development area;

Note: *The Sunshine Coast Waste Precinct Elements Figure (Figure 1) depicts how the above specified uses will be spatially distributed on the site, to ensure the orderly sequencing and staging of development.*

- b) the Waste Management Investigation Precinct Area is intended to provide long-term waste management solutions for the Sunshine Coast region. Development in the area is intended to cater for the uses identified in (a) above, only if it can be demonstrated that impacts to *ecologically important areas* in the Waste Management Investigation Precinct Area can be appropriately managed and minimised.
- c) the Vegetation Protection Area is an *ecologically important area* that is retained in-site and conserved.
- d) the Landscape Buffer Area is provided to all street frontages of the site, is only broken to provide for necessary vehicle access points to the site and has a minimum width of three (3) metres. Landscaping treatments must include species that occur naturally in the area and species that will achieve suitable height at maturity to provide effective screening;
- e) uses are located to optimise their operational efficiency and to ensure the orderly and efficient sequencing of development and *infrastructure* within the Sunshine Coast Waste Precinct Development Area;
- f) the height of buildings and structures in the Sunshine Coast Waste Precinct Development Area do not exceed 25 metres;

- g) development accommodates the specific operational, functional and locational needs of the particular use, whilst being sympathetic to the existing and planned scale and character of the streetscape and surrounding development
- h) development maintains the safety of people, buildings and works;
- i) activities established in the Sunshine Coast Waste Precinct Development Area make a positive contribution to the image of the Sunshine Coast by incorporating a high quality of built form and landscape design in keeping with the expectations of a modern, safe and attractive industrial environment;
- j) development ensures that uses and works are located, designed and managed to maintain public health and safety and minimise adverse impacts on the natural environment and sensitive uses;
- k) development is designed and sited to sensitively respond to the physical characteristics and constraints of land, including flooding, *steep land*, landslide hazard and bushfire hazard, where applicable;
- l) development has access to the appropriate level of transport infrastructure and does not interfere with the safe and efficient operation of the surrounding road network;
- m) development is provided with a level of *infrastructure* and essential services that is commensurate with the location, nature, scale and intensity of the use; and
- n) development is located and designed to maximise the efficient extension and safe operation of *infrastructure*.
- o) development provides for the following:-
 - (i) a use listed as a consistent use in column 1 of **Table 2 (Consistent uses and potentially consistent uses in the Sunshine Coast Waste Precinct Development Area)** to occur in the Sunshine Coast Waste Precinct Development Area; and
 - (ii) a use listed as a potentially consistent use in column 2 of **Table 2 (Consistent uses and potentially consistent uses in the Sunshine Coast Waste Precinct Development Area)** of Table 6.2.11.2.1 to occur in the Sunshine Coast Waste Precinct Development Area only where further assessment has determined that the use is appropriate in the zone having regard to such matters as its location, nature, scale and intensity.

Table 2 – Consistent uses and potentially consistent uses in the Sunshine Coast Waste Precinct Development Area

Column 1: Consistent Uses	Column 2: Potentially Consistent Uses
Business activities	
(a) <i>Shop (if a Recycled and Recovered Goods Store)</i>	None
Industrial Activities	
(a) <i>Extractive industry</i>	None
(b) <i>High impact industry</i>	
(c) <i>Medium impact industry</i>	
(d) <i>Transport depot</i>	
Other activities	
(a) <i>Environment facility</i>	None
(b) <i>Utility installation</i>	

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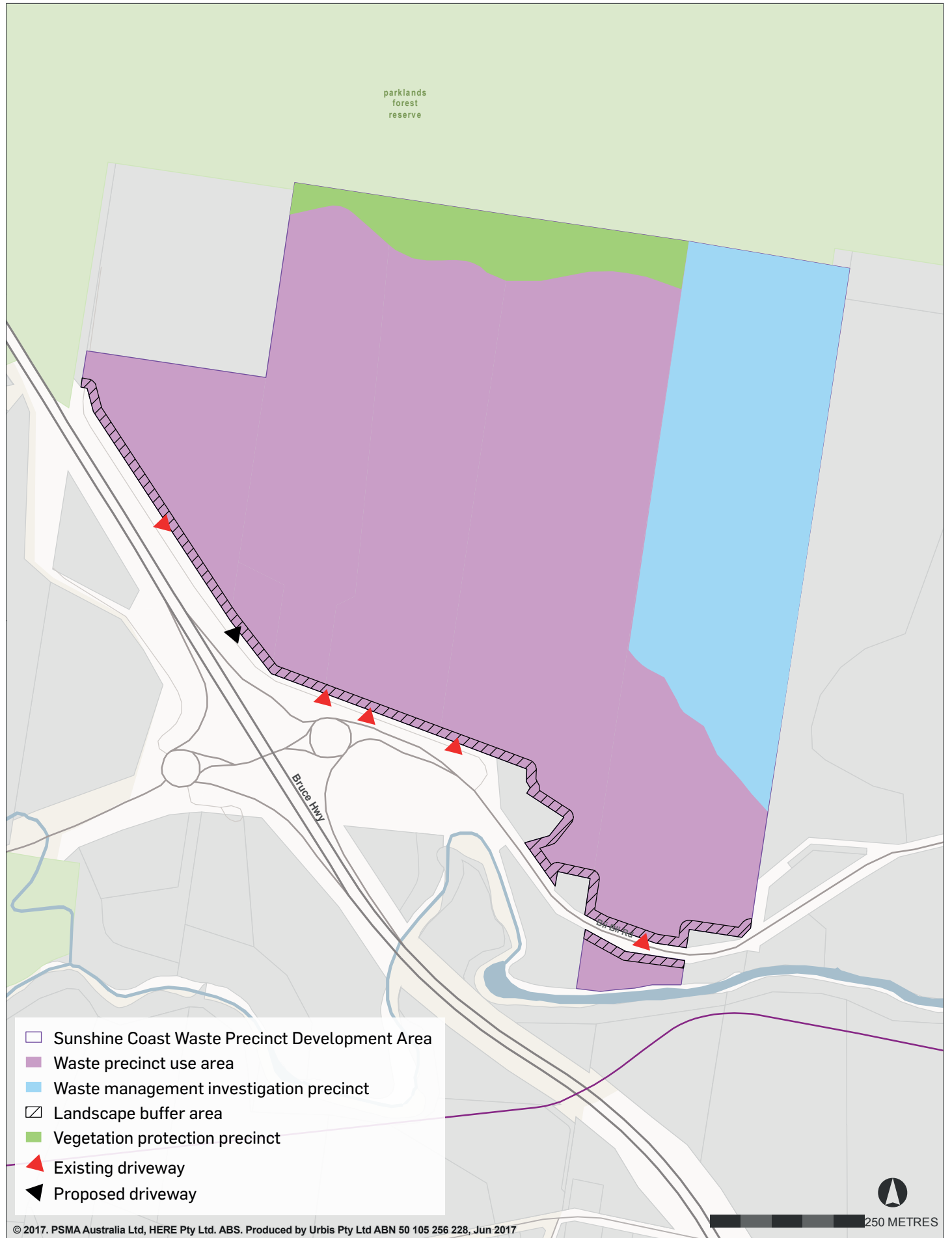
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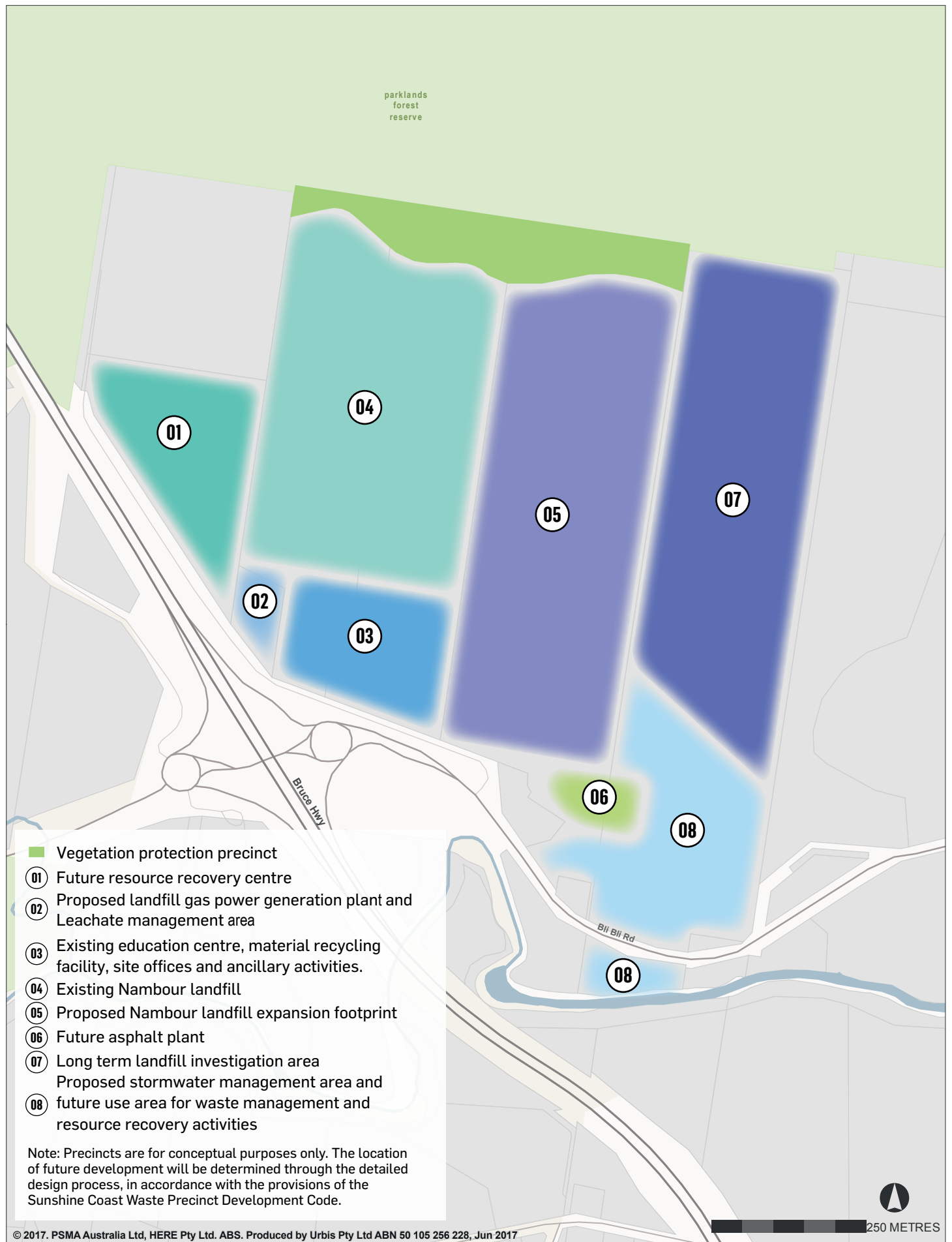
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APPENDIX A PLAN OF DEVELOPMENT MAPS





- Vegetation protection precinct
- ① Future resource recovery centre
- ② Proposed landfill gas power generation plant and Leachate management area
- ③ Existing education centre, material recycling facility, site offices and ancillary activities.
- ④ Existing Nambour landfill
- ⑤ Proposed Nambour landfill expansion footprint
- ⑥ Future asphalt plant
- ⑦ Long term landfill investigation area
- ⑧ Proposed stormwater management area and future use area for waste management and resource recovery activities

Note: Precincts are for conceptual purposes only. The location of future development will be determined through the detailed design process, in accordance with the provisions of the Sunshine Coast Waste Precinct Development Code.



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APPENDIX

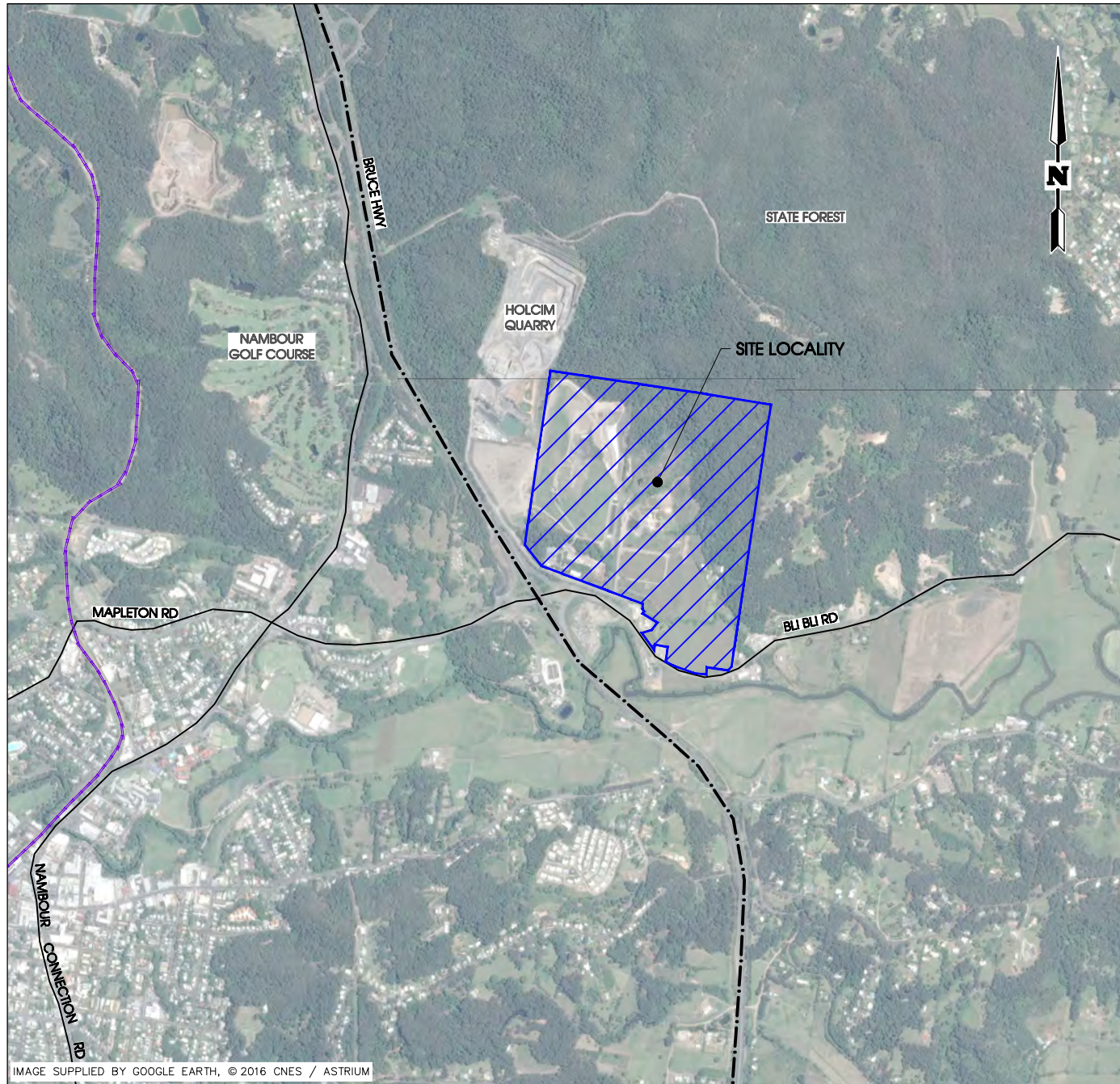
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PROPOSAL PLANS FOR MAJOR
UTILITY, EXTRACTIVE INDUSTRY,
UNDEFINED USE

SUNSHINE COAST COUNCIL NAMBOUR LANDFILL EXPANSION

DRAWING LIST

DWG NO.	DRAWING TITLE	REV. NO.
001	SITE LOCALITY AND DRAWING LIST	C
002	EXISTING SITE CONDITIONS AND DRAINAGE	C
003	PROPOSED INFRASTRUCTURE AND SITE ACCESS	C
004	LANDFILL BASE PROFILE (CONSOLIDATED VIEW)	C
005	STAGE 1 PLATFORM	C
006	STAGE 1 LANDFORM AND STAGE 2 PLATFORM	C
007	STAGE 2 LANDFORM AND STAGE 3 PLATFORM	C
008	STAGE 3 LANDFORM AND STAGE 4 PLATFORM	C
009	STAGE 4 LANDFORM AND STAGE 5 PLATFORM	C
010	STAGE 5 LANDFORM (FINAL LANDFORM)	C
011	FINAL LANDFORM CROSS SECTIONS	C
012	STOCKPILE MANAGEMENT PLAN INDICATIVE LAYOUT	C
101	EXISTING LEACHATE MANAGEMENT SYSTEM	B
102	TYPICAL DETAILS - SHEET 1	C
103	TYPICAL DETAILS - SHEET 2	B
104	TYPICAL DETAILS - SHEET 3	B
105	LEACHATE MANAGEMENT SYSTEM	C
106	EXISTING LEACHATE MANAGEMENT SYSTEM UPGRADE DETAILS	B
201	MONITORING PLAN	C
301	STAGE 1 STORMWATER MANAGEMENT	C
302	STAGE 2 STORMWATER MANAGEMENT	C
303	STAGE 3 STORMWATER MANAGEMENT	C
304	STAGE 4 STORMWATER MANAGEMENT	C
305	STAGE 5 STORMWATER MANAGEMENT	C
306	FINAL LANDFORM STORMWATER MANAGEMENT	C
307	STORMWATER CONTROL POND PLAN AND TYPICAL SECTIONS	B
308	STORMWATER MANAGEMENT TYPICAL DRAIN DETAILS - SHEET 1	B
309	STORMWATER MANAGEMENT TYPICAL DRAIN DETAILS - SHEET 2	B
401	LANDFILL GAS MANAGEMENT SYSTEM (CONCEPT)	C
402	LANDFILL GAS MANAGEMENT SYSTEM (CONCEPT) TYPICAL DETAILS - SHEET 1	B
403	LANDFILL GAS MANAGEMENT SYSTEM (CONCEPT) TYPICAL DETAILS - SHEET 2	B



LOCALITY PLAN
N.T.S

GENERAL NOTES

- ALL LEVELS ARE IN METRES TO AUSTRALIAN HEIGHT DATUM (AHD).
- ALL COORDINATES ARE IN METRES TO MAP GRID AUSTRALIAN (MGA-56).
- ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
- DIMENSIONS SHALL NOT BE SCALED OFF DRAWINGS.

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SUNSHINE COAST COUNCIL
NAMBOUR LANDFILL EXPANSION

001

LANDFILL ENGINEERING REPORT
SITE LOCALITY
AND DRAWING LIST

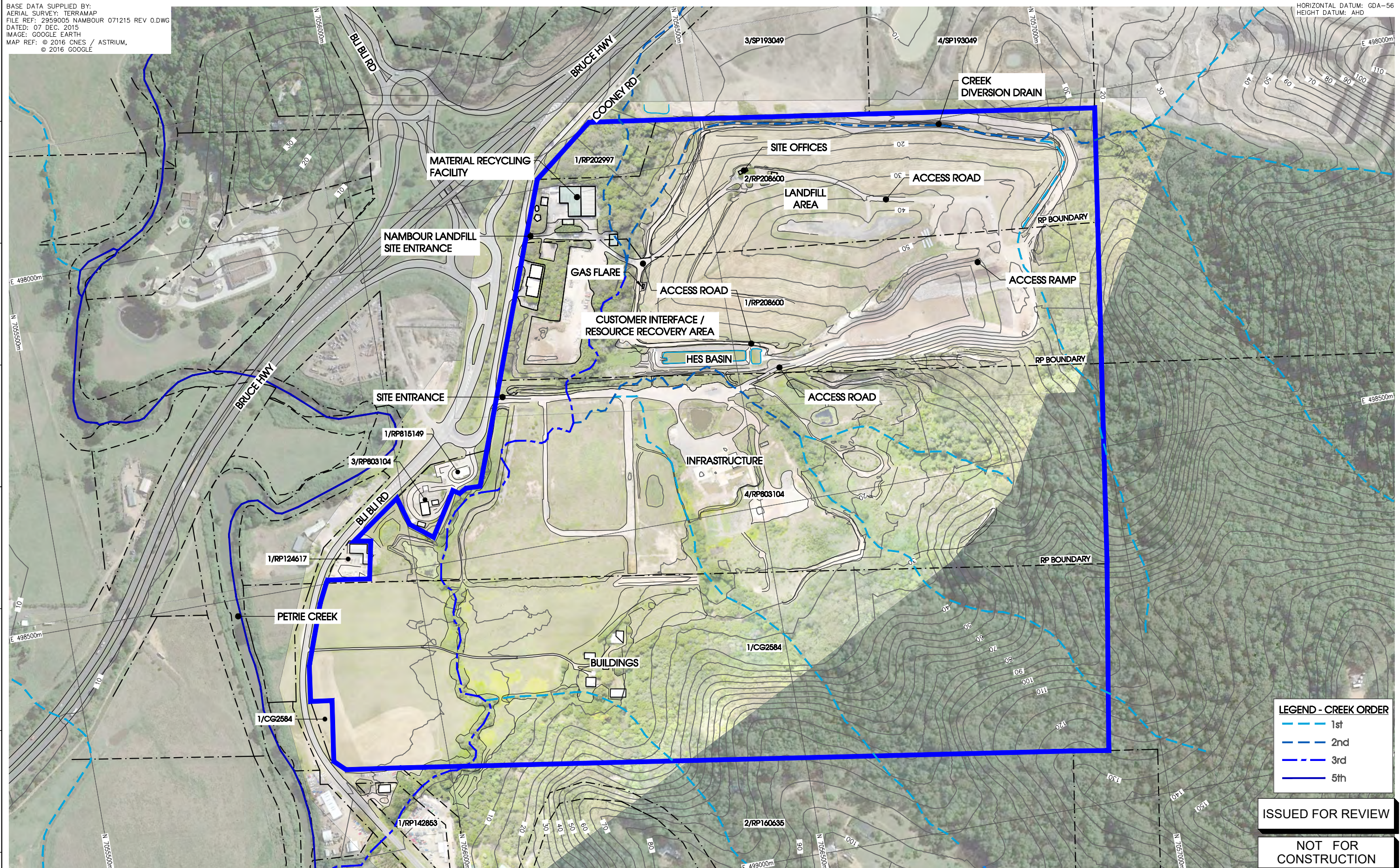
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SHEET 1 OF 1

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 DATED: 07 DEC. 2015
 IMAGE: GOOGLE EARTH
 MAP REF: © 2016 CNES / ASTRIUM,
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HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD



LEGEND - CREEK ORDER	
--- (dashed blue)	1st
--- (dashed blue)	2nd
--- (dashed blue)	3rd
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NAMBOUR LANDFILL EXPANSION

LANDFILL ENGINEERING REPORT
EXISTING SITE CONDITIONS AND DRAINAGE

002

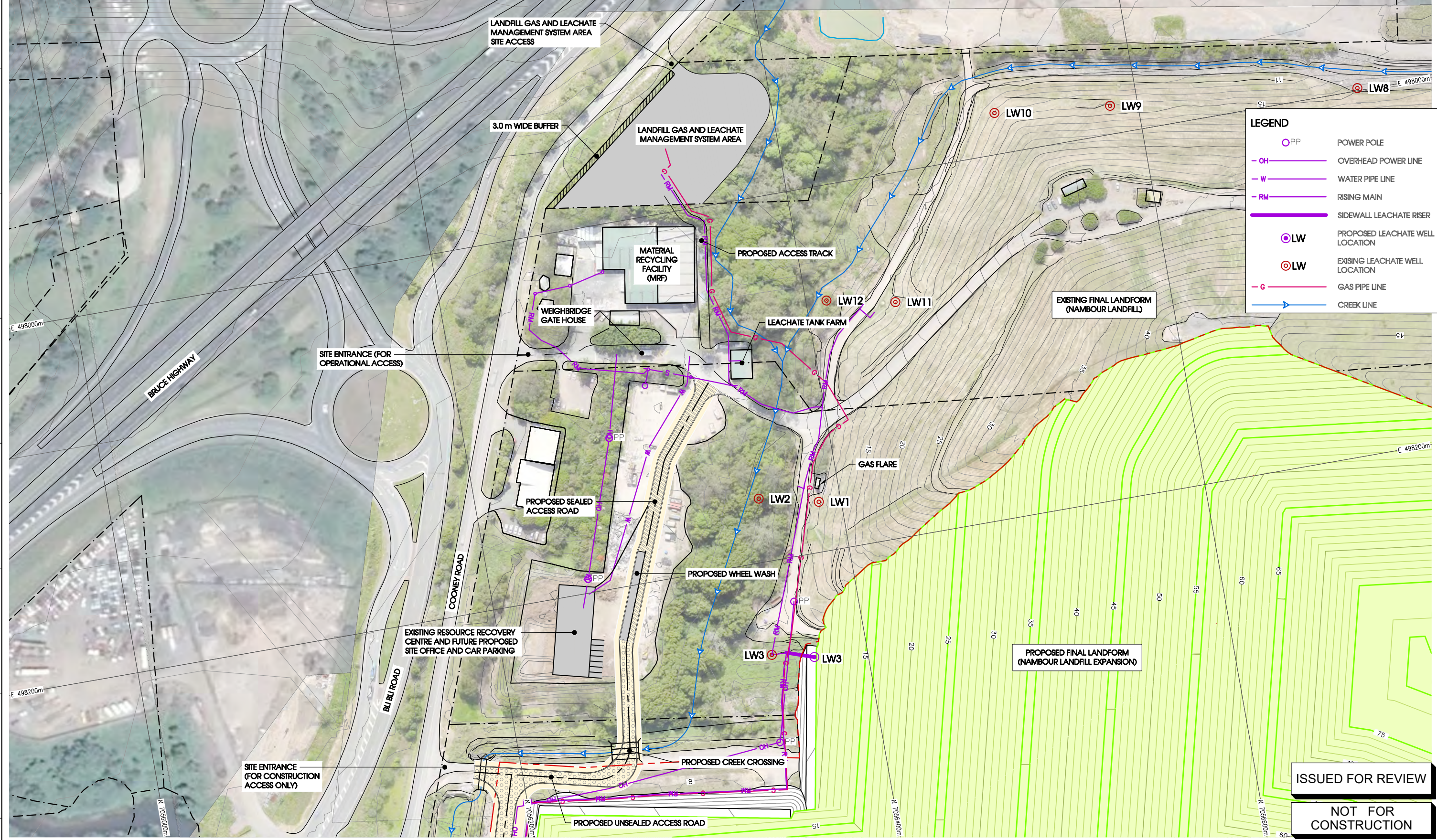
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LEGEND

○ PP	POWER POLE
— OH —	OVERHEAD POWER LINE
— W —	WATER PIPE LINE
— RM —	RISING MAIN
—	SIDEWALL LEACHATE RISER
○ LW	PROPOSED LEACHATE WELL LOCATION
⊙ LW	EXISTING LEACHATE WELL LOCATION
— G —	GAS PIPE LINE
—	CREEK LINE

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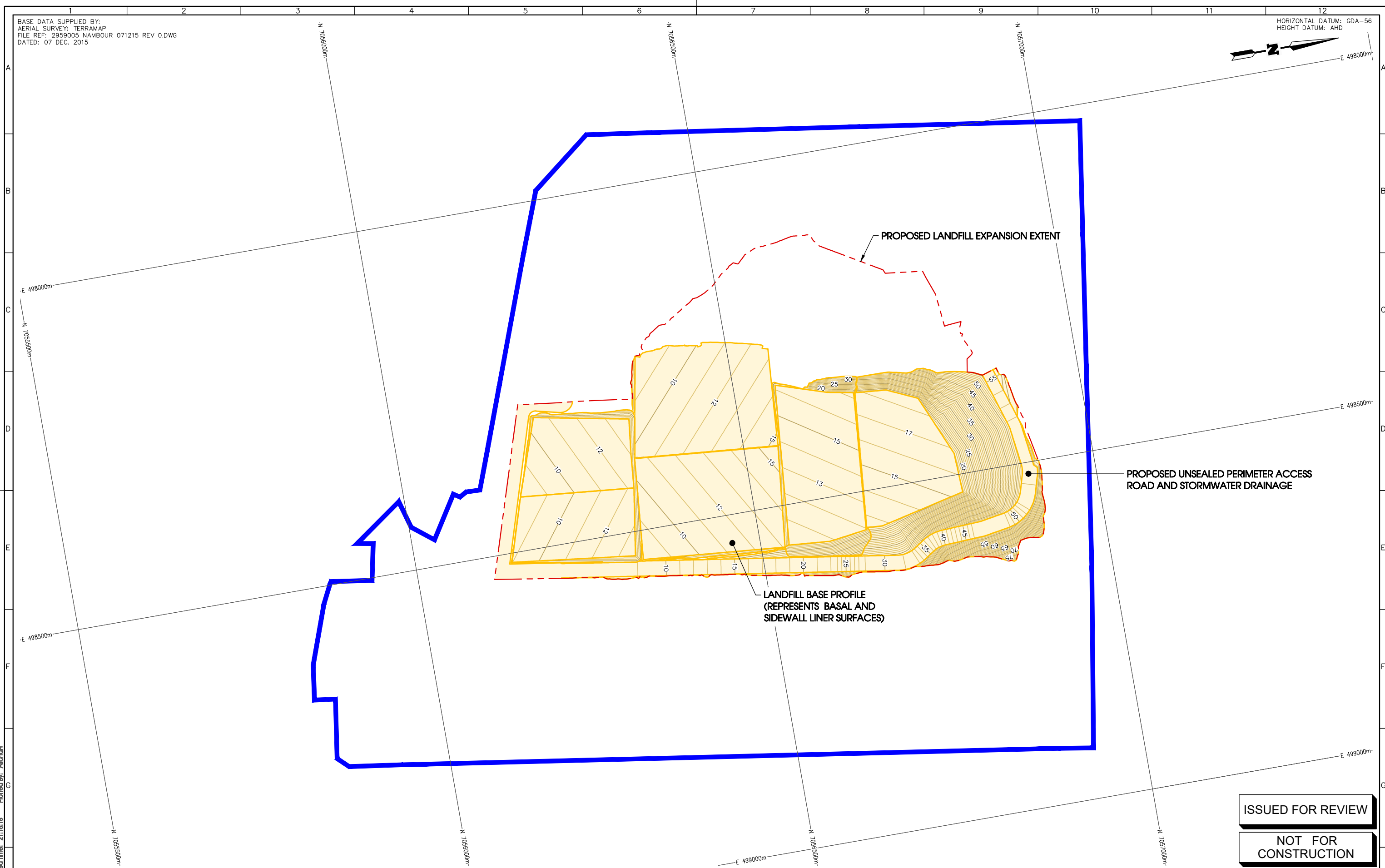
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PROPOSED INFRASTRUCTURE AND SITE ACCESS		SHEET 1 OF 1	

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**SUNSHINE COAST COUNCIL
 NAMBOUR LANDFILL EXPANSION**

**LANDFILL ENGINEERING REPORT
 LANDFILL BASE PROFILE
 (CONSOLIDATED VIEW)**

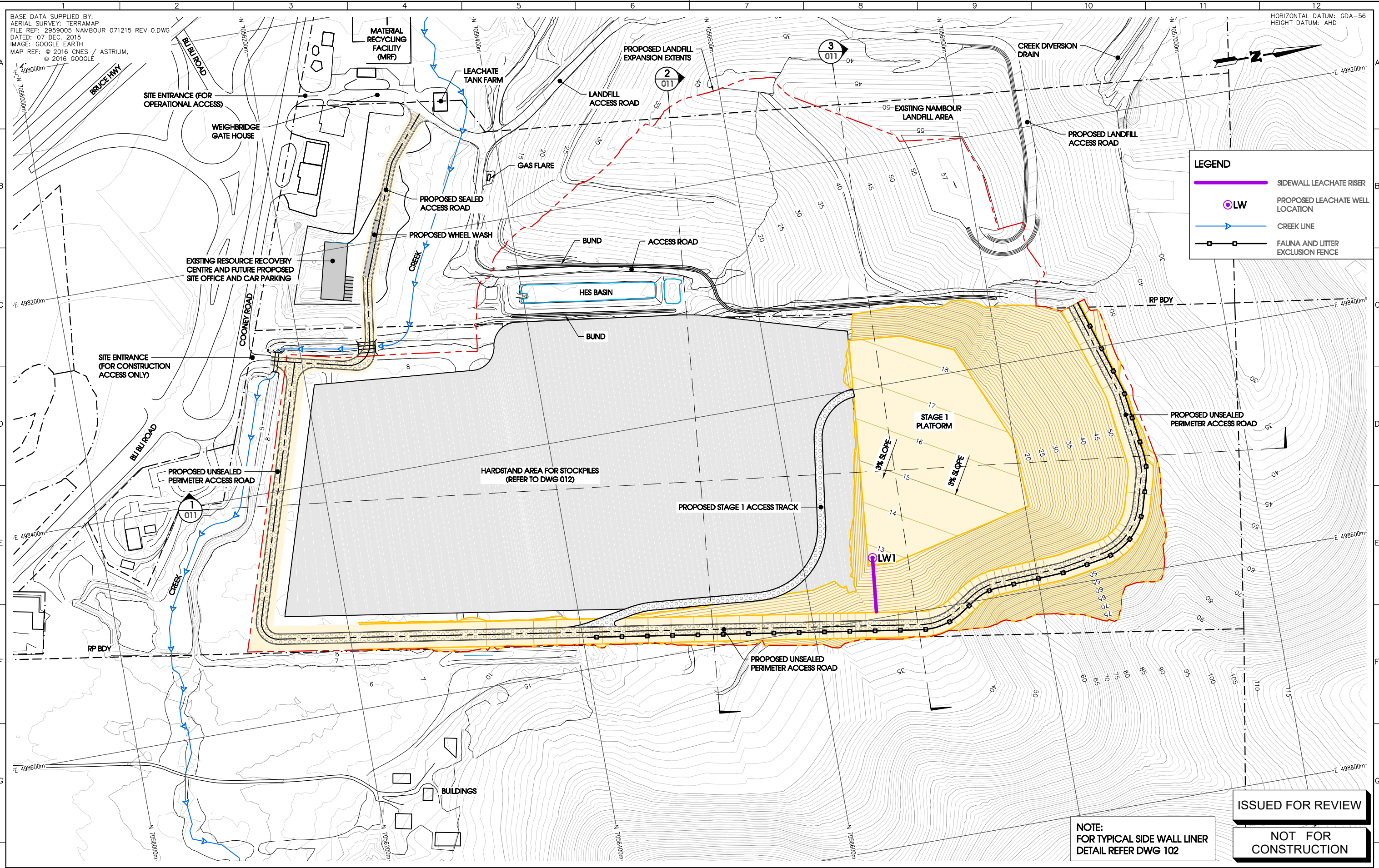
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HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD

LEGEND	
	SIDEWALL LEACHATE RISER
	PROPOSED LEACHATE WELL LOCATION
	CREEK LINE
	FAUNA AND LITTER EXCLUSION FENCE

ISSUED FOR REVIEW

NOT FOR CONSTRUCTION

NOTE:
 FOR TYPICAL SIDE WALL LINER
 DETAIL REFER DWG 102

SCALE: 1 : 3000							
JOB No. 116283-09							
DATE MAY 2017							
DESIGN							
C	ISSUED FOR REVIEW	05-06-17	AH	LR	AW	DRAWN	AH
B	ISSUED FOR REVIEW	19-05-17	AH	LR	AW	CHECKED	LR
A	ISSUED FOR REVIEW	12-05-17	AH	LR	AW	APPROVED	AW
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SUNSHINE COAST COUNCIL
 NAMBOUR LANDFILL EXPANSION

LANDFILL ENGINEERING REPORT
 STAGE 1 PLATFORM

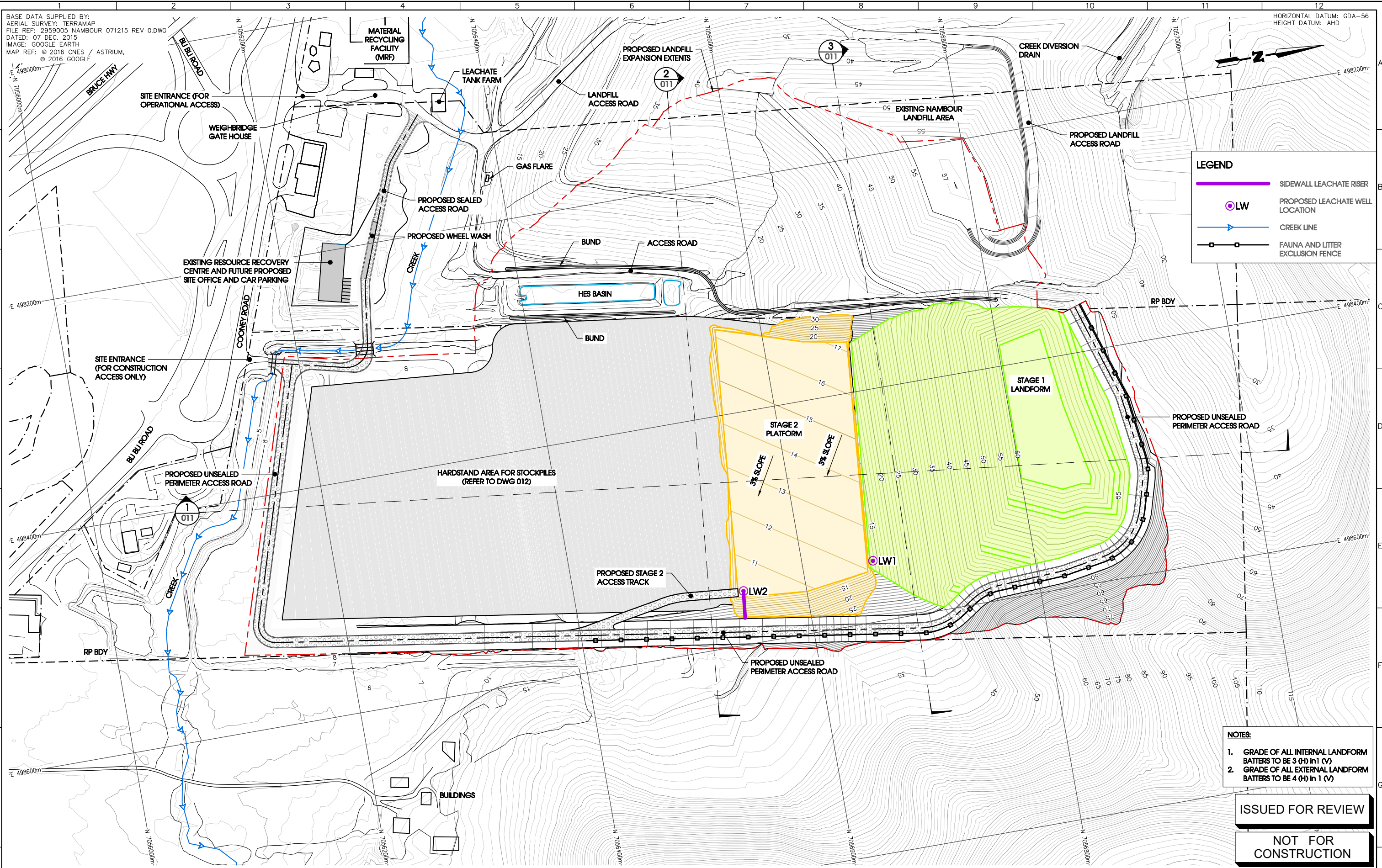
005

SHEET SIZE	A3	Rev.	C
SHEET	1	OF	1

Plotted Date: 18/05/17
 Plotted Time: 21:19:54
 Plotted By: Alchrah

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 AERIAL SURVEY: TERRAMAP
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 DATED: 07 DEC. 2015
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HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD



LEGEND

- SIDEWALL LEACHATE RISER
- PROPOSED LEACHATE WELL LOCATION
- CREEK LINE
- FAUNA AND LITTER EXCLUSION FENCE

- NOTES:**
- GRADE OF ALL INTERNAL LANDFORM BATTERS TO BE 3 (H) IN 1 (V)
 - GRADE OF ALL EXTERNAL LANDFORM BATTERS TO BE 4 (H) IN 1 (V)

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SCALE: 1 : 3000			
JOB No. 116283-09		DATE MAY 2017	
DESIGN			
C	ISSUED FOR REVIEW	05-06-17	AH LR AW DRAWN AH
B	ISSUED FOR REVIEW	19-05-17	AH LR AW CHECKED LR
A	ISSUED FOR REVIEW	12-05-17	AH LR AW APPROVED AW
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SUNSHINE COAST COUNCIL
NAMBOUR LANDFILL EXPANSION

LANDFILL ENGINEERING REPORT
STAGE 1 LANDFORM
AND STAGE 2 PLATFORM

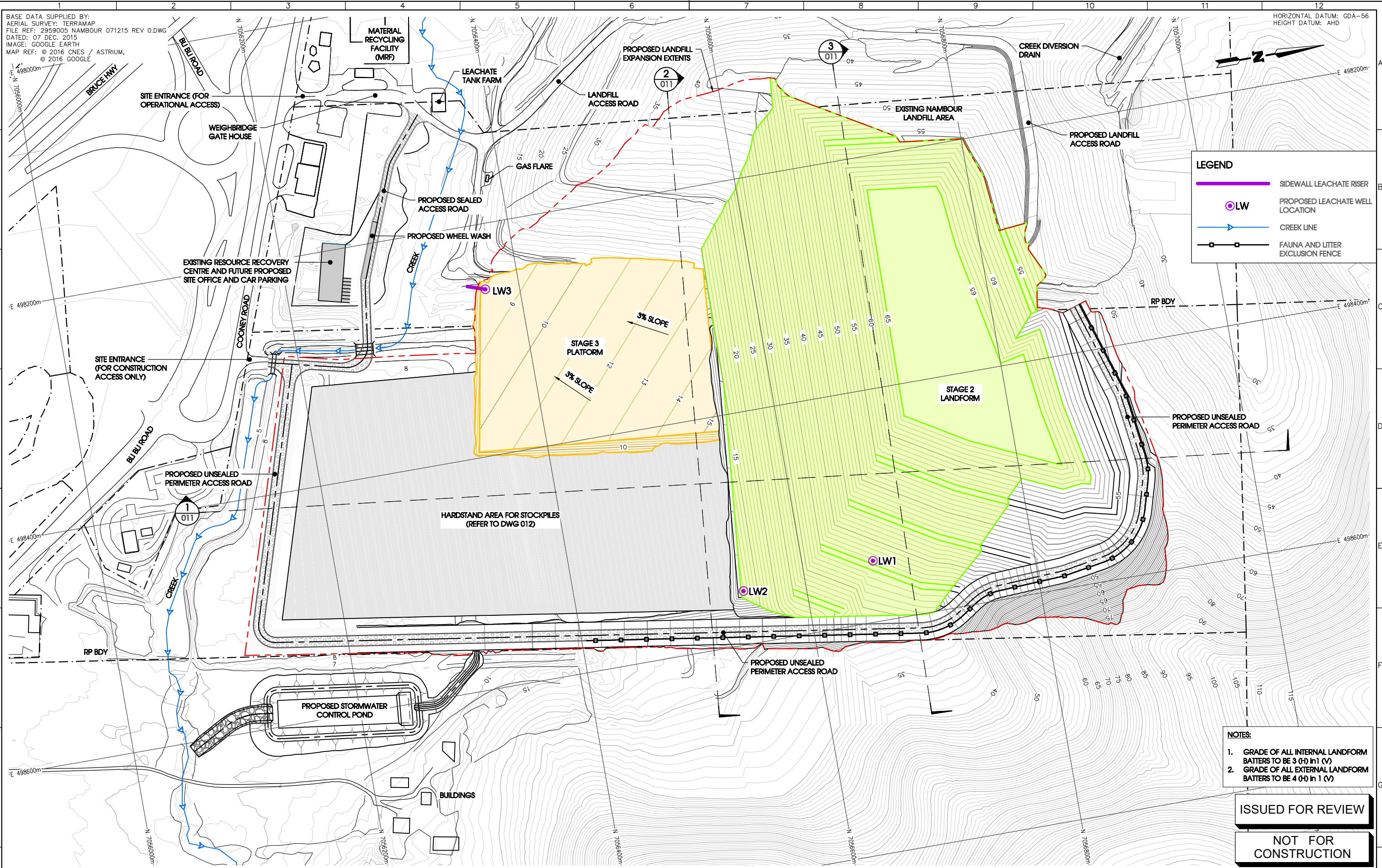
006
SHEET SIZE A3 Rev. C
SHEET 1 OF 1

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HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD



LEGEND

- SIDEWALL LEACHATE RISER
- LW PROPOSED LEACHATE WELL LOCATION
- CREEK LINE
- FAUNA AND LITTER EXCLUSION FENCE

- NOTES:**
1. GRADE OF ALL INTERNAL LANDFORM BATTERS TO BE 3 (H) IN 1 (V)
 2. GRADE OF ALL EXTERNAL LANDFORM BATTERS TO BE 4 (H) IN 1 (V)

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				JOB No. 116283-09			
				DATE MAY 2017			
				DESIGN			
C	ISSUED FOR REVIEW	05-06-17	AH	LR	AW	DRAWN	AH
B	ISSUED FOR REVIEW	19-05-17	AH	LR	AW	CHECKED	LR
A	ISSUED FOR REVIEW	12-05-17	AH	LR	AW	APPROVED	AW
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 NAMBOUR LANDFILL EXPANSION**

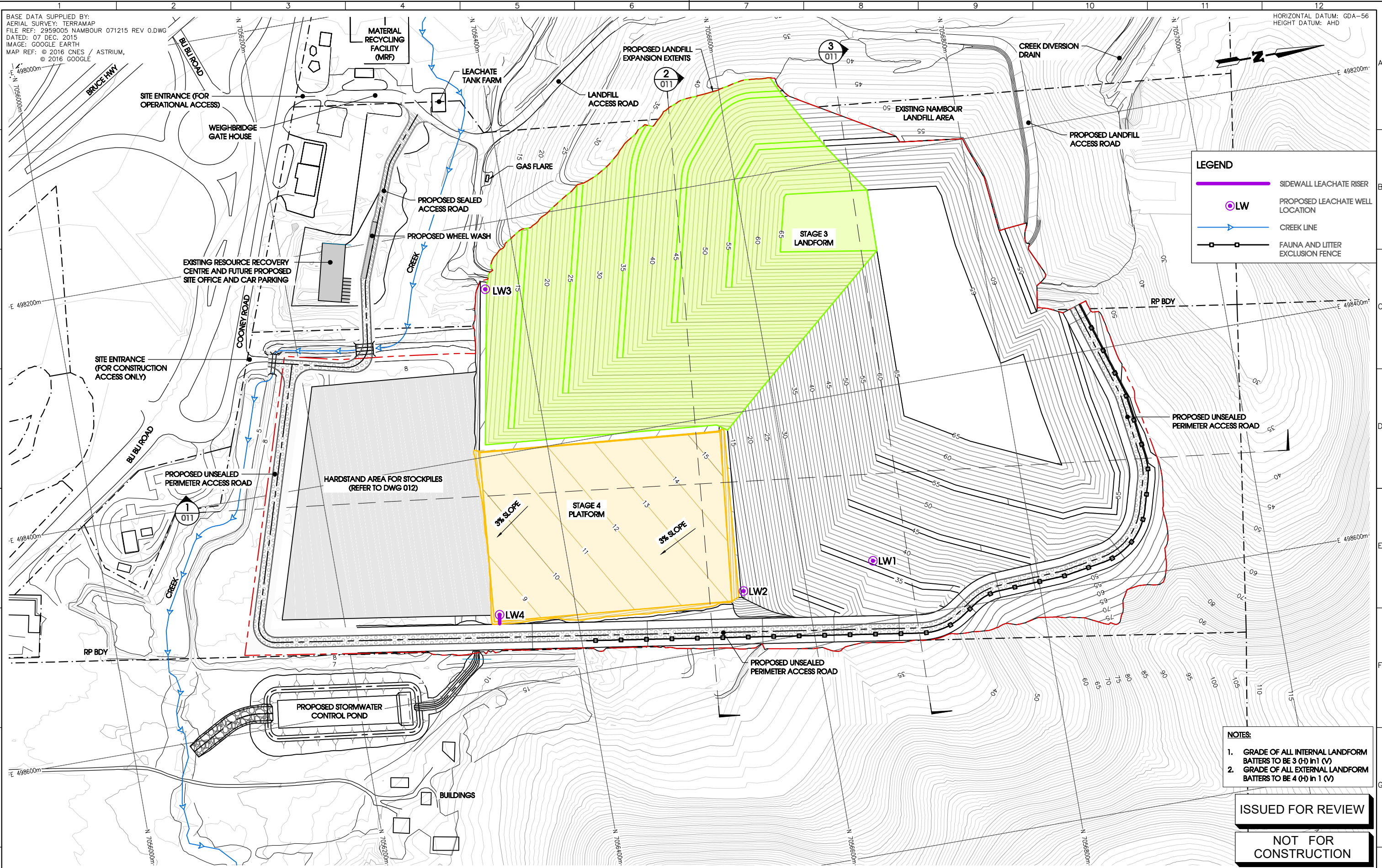
**LANDFILL ENGINEERING REPORT
 STAGE 2 LANDFORM
 AND STAGE 3 PLATFORM**

007		
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HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD



LEGEND

- SIDEWALL LEACHATE RISER
- PROPOSED LEACHATE WELL LOCATION
- CREEK LINE
- FAUNA AND LITTER EXCLUSION FENCE

- NOTES:**
1. GRADE OF ALL INTERNAL LANDFORM BATTERS TO BE 3 (H) IN 1 (V)
 2. GRADE OF ALL EXTERNAL LANDFORM BATTERS TO BE 4 (H) IN 1 (V)

ISSUED FOR REVIEW

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				SCALE: 1 : 3000
				JOB No. 116283-09
				DATE MAY 2017
				DESIGN
C	ISSUED FOR REVIEW	05-06-17	AH LR AW	DRAWN AH
B	ISSUED FOR REVIEW	19-05-17	AH LR AW	CHECKED LR
A	ISSUED FOR REVIEW	12-05-17	AH LR AW	APPROVED AW
No.	DESCRIPTION	DATE	DRAWN CHECK'D APPR'D	



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**SUNSHINE COAST COUNCIL
 NAMBOUR LANDFILL EXPANSION**

**LANDFILL ENGINEERING REPORT
 STAGE 3 LANDFORM
 AND STAGE 4 PLATFORM**

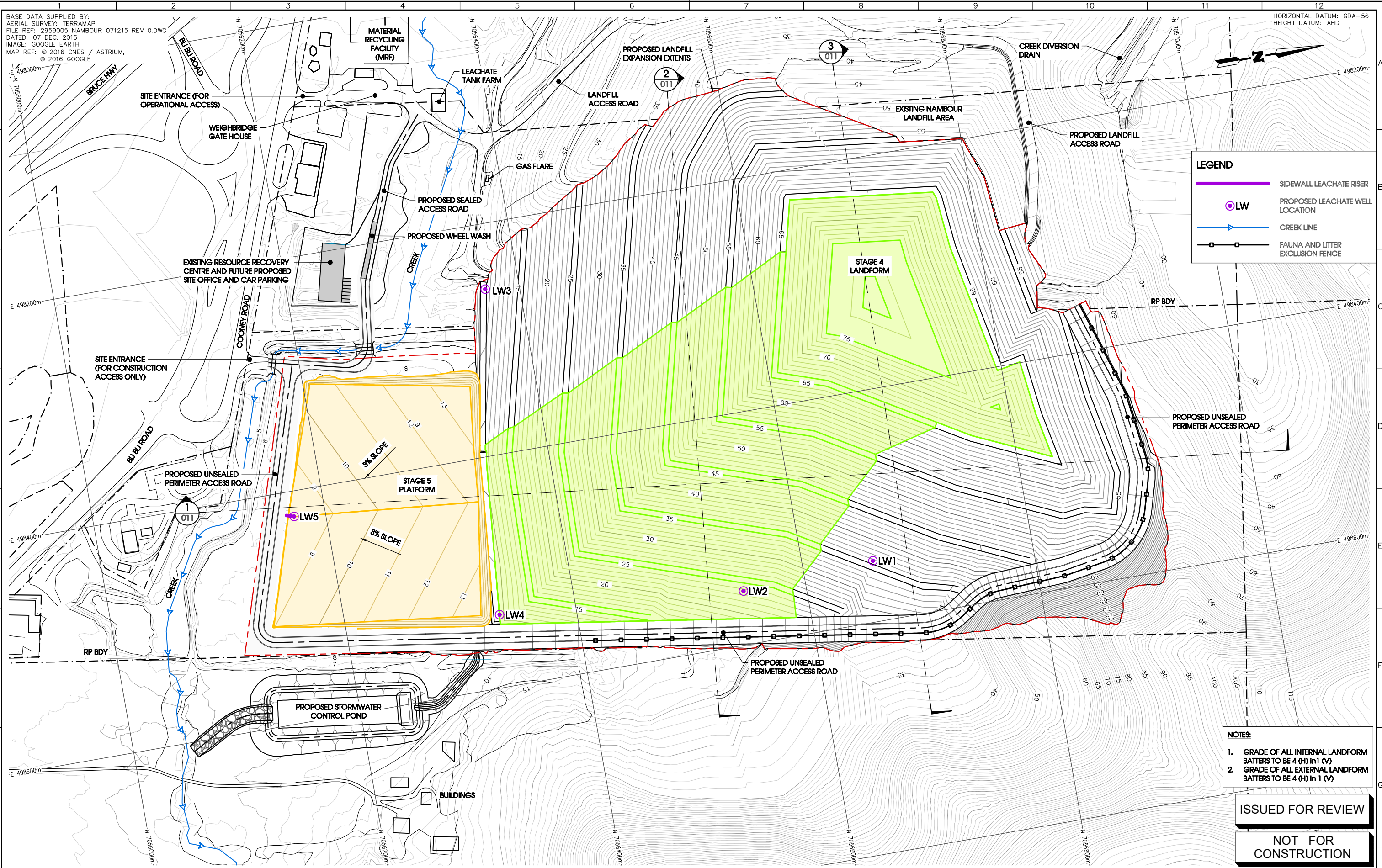
008

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Plotted Date: 18/05/17
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 Plotted By: Alchoh

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HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD



LEGEND

- SIDEWALL LEACHATE RISER
- LW PROPOSED LEACHATE WELL LOCATION
- CREEK LINE
- FAUNA AND LITTER EXCLUSION FENCE

- NOTES:**
1. GRADE OF ALL INTERNAL LANDFORM BATTERS TO BE 4 (H) IN 1 (V)
 2. GRADE OF ALL EXTERNAL LANDFORM BATTERS TO BE 4 (H) IN 1 (V)

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		SCALE: 1 : 3000	
		JOB No.	116283-09
		DATE	MAY 2017
		DESIGN	
C	ISSUED FOR REVIEW	05-06-17	AH LR AW DRAWN AH
B	ISSUED FOR REVIEW	19-05-17	AH LR AW CHECKED LR
A	ISSUED FOR REVIEW	12-05-17	AH LR AW APPROVED AW
No.	DESCRIPTION	DATE	DRAWN CHECK'D APPR'D

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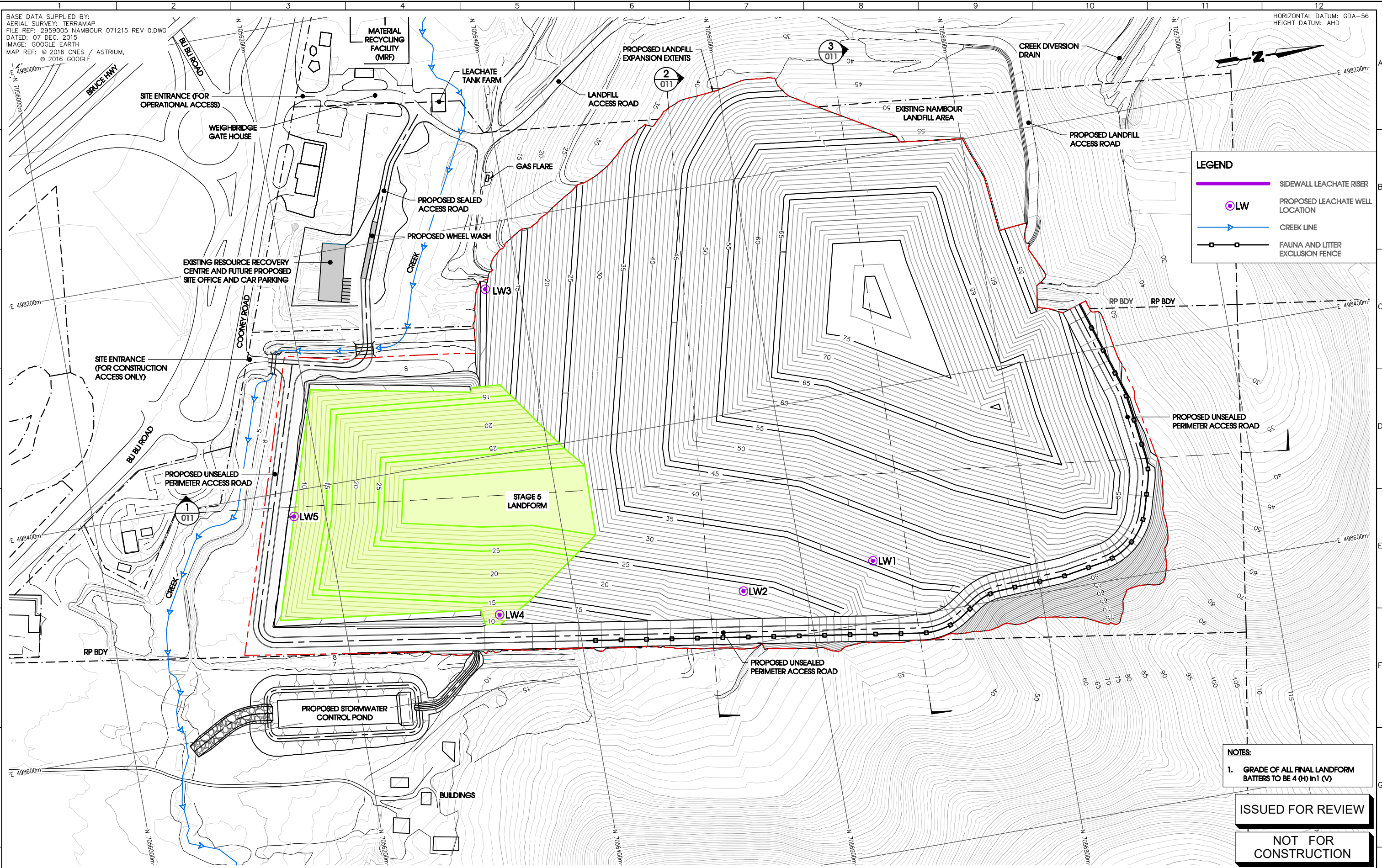
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SUNSHINE COAST COUNCIL NAMBOUR LANDFILL EXPANSION		009
LANDFILL ENGINEERING REPORT STAGE 4 LANDFORM AND STAGE 5 PLATFORM		SHEET SIZE A3 Rev. C
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Plotted Date: 18/05/17 Plotted Time: 21:45:30 Plotted By: Alchrah

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HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD



LEGEND

- SIDEWALL LEACHATE RISER
- LW PROPOSED LEACHATE WELL LOCATION
- CREEK LINE
- FAUNA AND LITTER EXCLUSION FENCE

NOTES:
 1. GRADE OF ALL FINAL LANDFORM BATTERS TO BE 4 (H) IN 1 (V)

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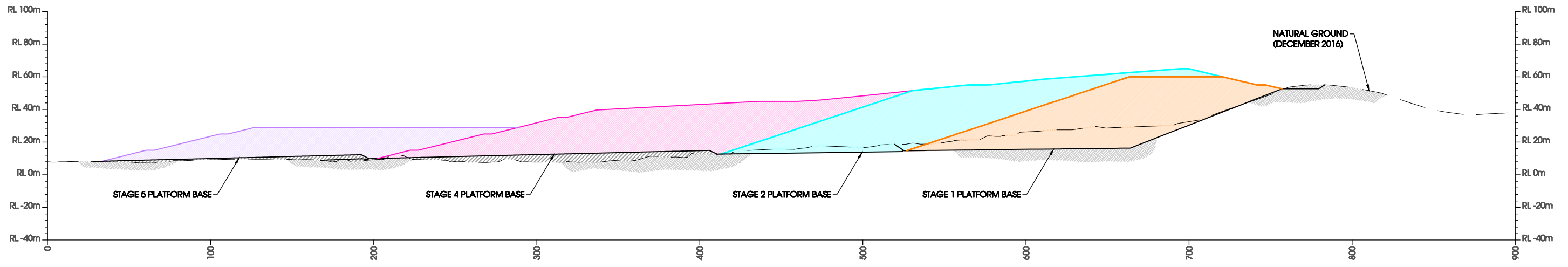
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				DATE	MAY 2017
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B	ISSUED FOR REVIEW	19-05-17	AH	LR	AW
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No.	DESCRIPTION	DATE	DRAWN	CHECK'D	APPR'D



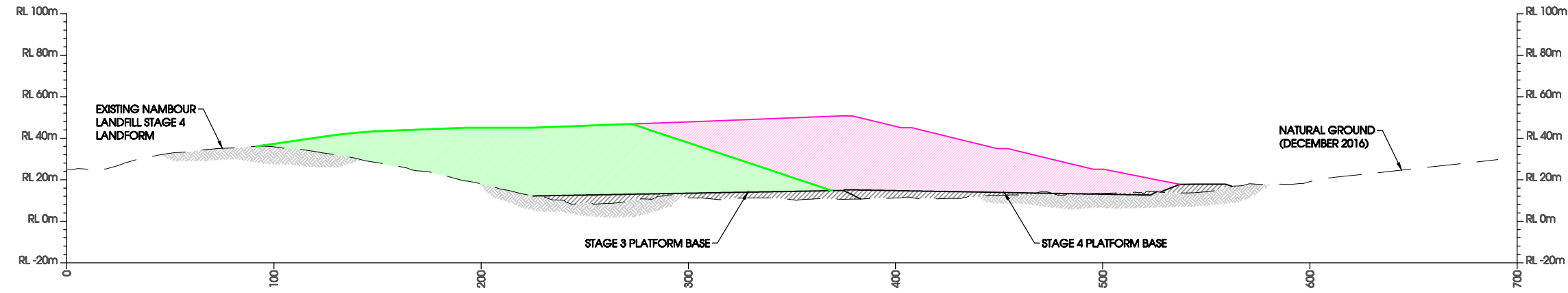
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SUNSHINE COAST COUNCIL NAMBOUR LANDFILL EXPANSION			010
LANDFILL ENGINEERING REPORT STAGE 5 LANDFORM (FINAL LANDFORM)			SHEET SIZE A3 Rev. C
			SHEET 1 OF 1

Plotted Date: 18/05/17
 Plotted Time: 21:47:12
 Plotted By: Alchrah

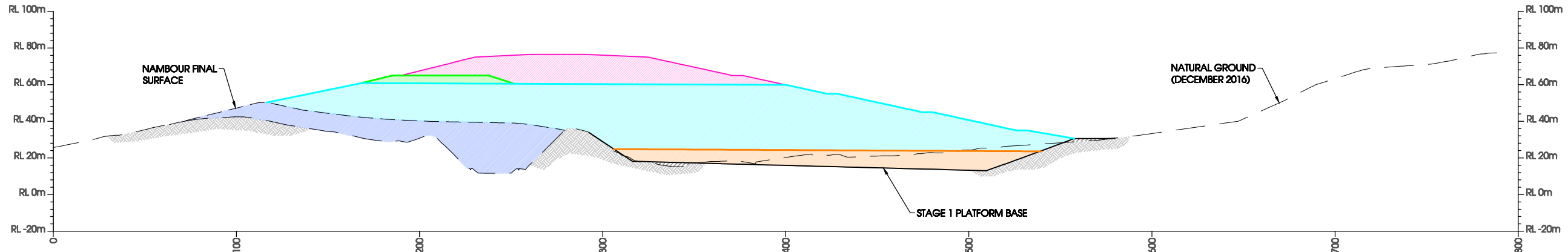


SECTION 1
SCALE: 1:4000



SECTION 2
SCALE: 1:4000

- LEGEND**
- STAGE 1 LANDFORM
 - STAGE 2 LANDFORM
 - STAGE 3 LANDFORM
 - STAGE 4 LANDFORM
 - STAGE 5 LANDFORM
 - EXISTING NAMBOUR LANDFILL
 - ULTIMATE LANDFORM STAGE 5
 - CELL BASE FILL



SECTION 3
SCALE: 1:4000

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Plotted Date: 18/05/17 Plotted By: Alkhabr Plotted Time: 21:49:15

				SCALE: 1 : 2500	
				JOB No.	116283-09
				DATE	MAY 2017
				DESIGN	
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B	ISSUED FOR REVIEW	19-05-17	AH	LR	AW
A	ISSUED FOR REVIEW	12-05-17	BH	LR	AW
No.	DESCRIPTION	DATE	DRAWN	CHECK'D	APPR'D

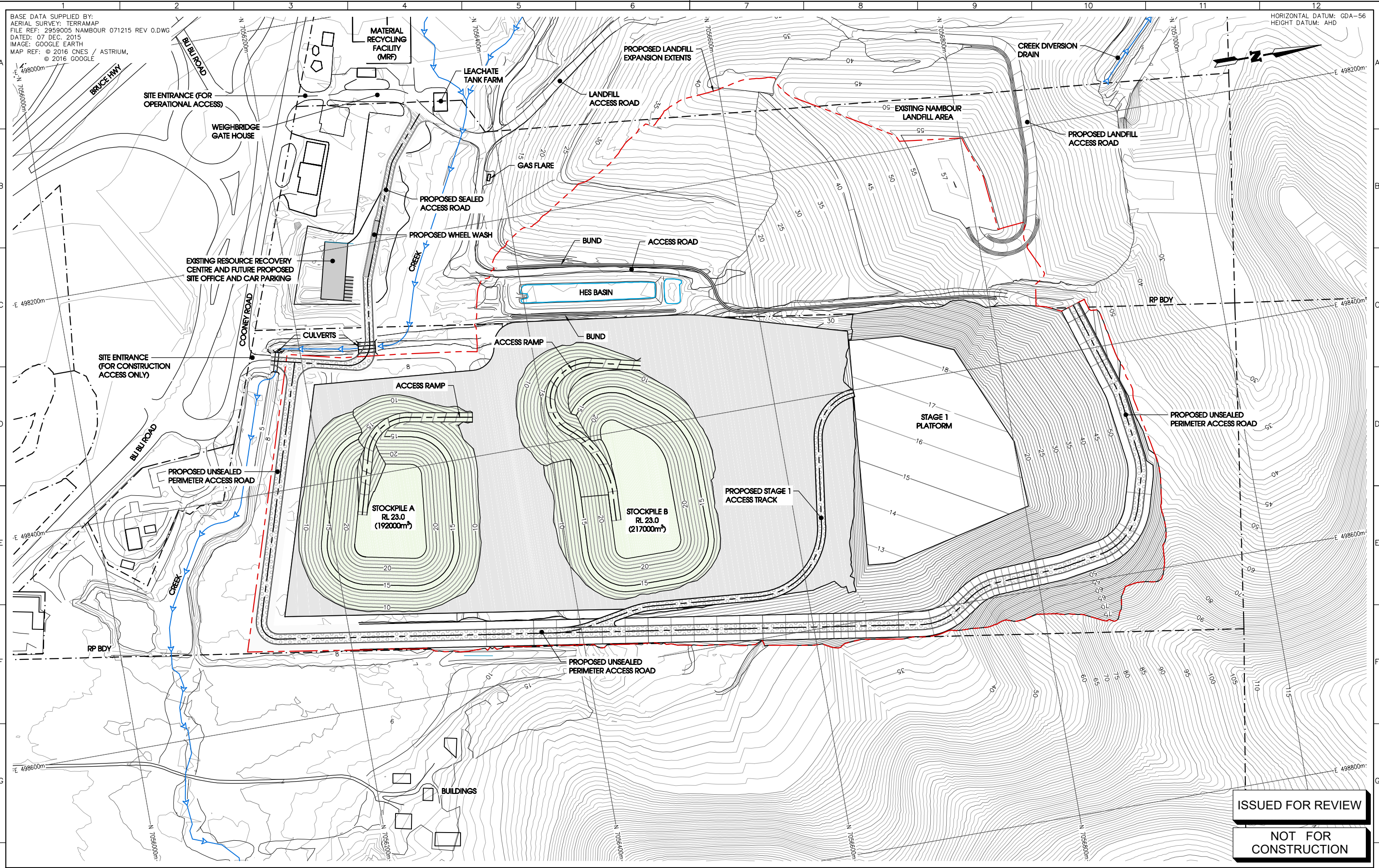


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**SUNSHINE COAST COUNCIL
NAMBOUR LANDFILL EXPANSION**

**LANDFILL ENGINEERING REPORT
FINAL LANDFORM CROSS SECTIONS**

011		
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A	ISSUED FOR REVIEW	12-05-17	BH	LR	AW

SCALE:	1 : 3000
JOB No.	116283-09
DATE	MAY 2017
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DRAWN	BH
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SUNSHINE COAST COUNCIL
NAMBOUR LANDFILL EXPANSION

LANDFILL ENGINEERING REPORT
STOCKPILE MANAGEMENT PLAN
INDICATIVE LAYOUT

012

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SHEET	1	OF	1

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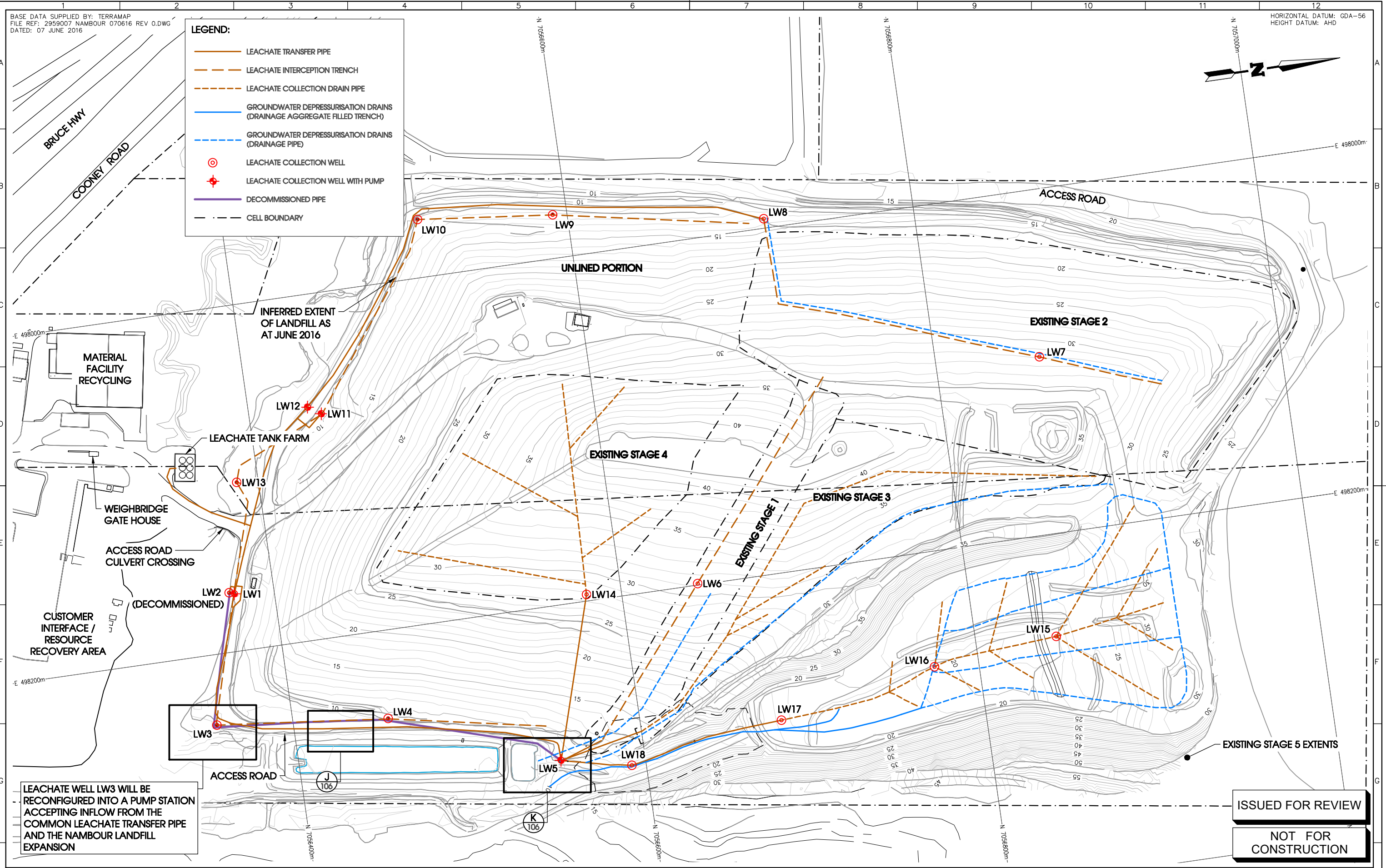
Plotted Date: 18/05/17
 Plotted Time: 21:52:17
 Plotted By: Alchrah

BASE DATA SUPPLIED BY: TERRAMAP
 FILE REF: 2959007 NAMBOUR 070616 REV 0.DWG
 DATED: 07 JUNE 2016

HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD

LEGEND:

- LEACHATE TRANSFER PIPE
- LEACHATE INTERCEPTION TRENCH
- LEACHATE COLLECTION DRAIN PIPE
- GROUNDWATER DEPRESSURISATION DRAINS (DRAINAGE AGGREGATE FILLED TRENCH)
- GROUNDWATER DEPRESSURISATION DRAINS (DRAINAGE PIPE)
- LEACHATE COLLECTION WELL
- LEACHATE COLLECTION WELL WITH PUMP
- DECOMMISSIONED PIPE
- CELL BOUNDARY



LEACHATE WELL LW3 WILL BE RECONFIGURED INTO A PUMP STATION ACCEPTING INFLOW FROM THE COMMON LEACHATE TRANSFER PIPE AND THE NAMBOUR LANDFILL EXPANSION

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 Plotted Time: 22:09:39
 Plotted By: Alchrah

No.	DESCRIPTION	DATE	DRAWN	CHECK'D	APPR'D
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A	ISSUED FOR REVIEW	12-05-17	AH	LR	AW

SCALE: 1 : 2000

JOB No. 116283-09
 DATE MAY 2017

DESIGN
 DRAWN AH
 CHECKED LR
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NAMBOUR LANDFILL EXPANSION

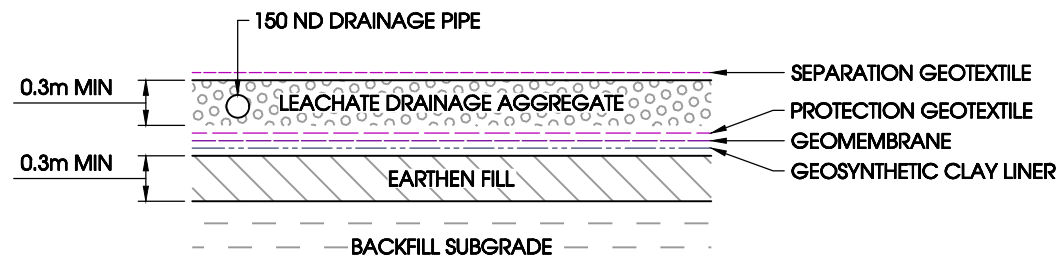
LANDFILL ENGINEERING REPORT
EXISTING LEACHATE MANAGEMENT SYSTEM

101

SHEET SIZE	A3	Rev.	B
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SHEET 1 OF 1

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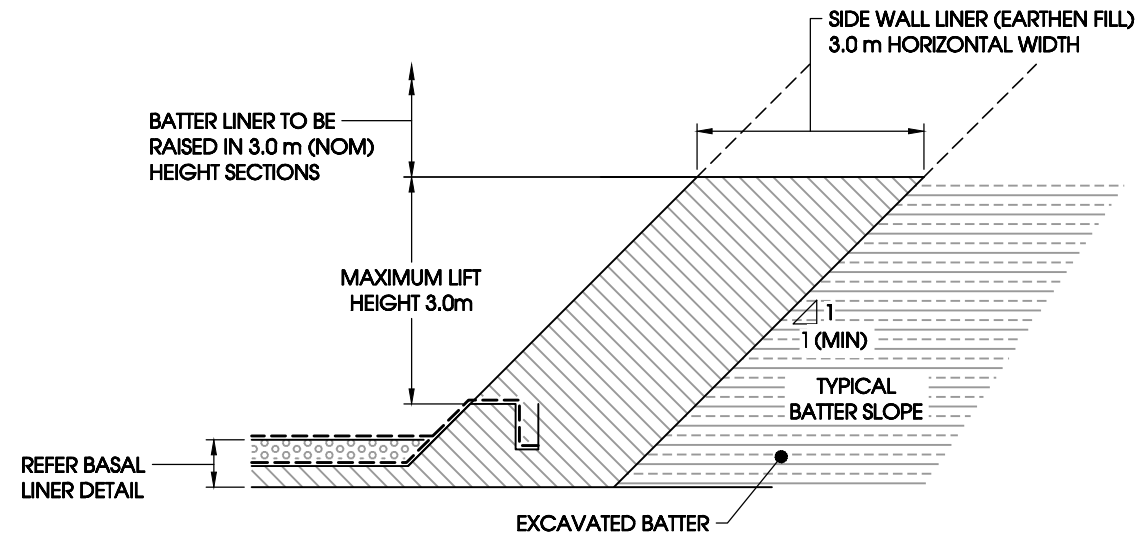


TYPICAL DETAIL (A) BASAL LINER
SCALE: 1:50

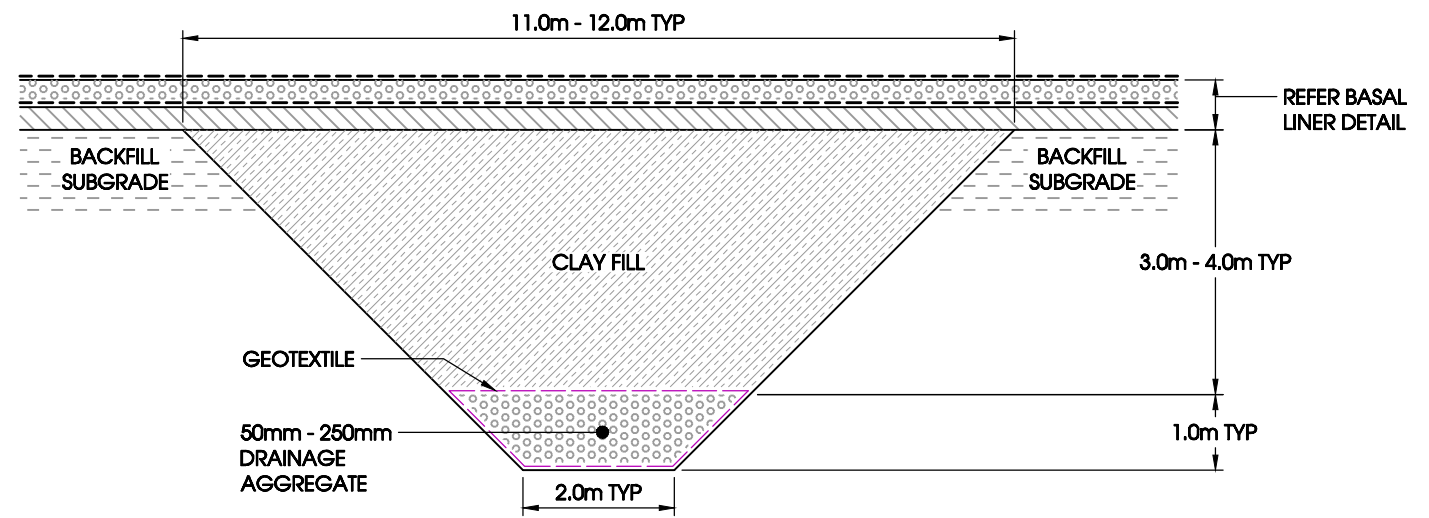
NOTE:
DRAINAGE PIPE NOMINALLY @ 20 m CTS
PLACED TRANSVERSE TO THE LINER BASE
SLOPE

TYPICAL MATERIAL SPECIFICATIONS

MATERIAL TYPES	BASAL LINER	SIDE WALL LINER
SEPARATION GEOTEXTILE	NON-WOVEN, NEEDLE PUNCHED, POLYESTER, POLYPROPYLENE OR POLYETHYLENE MATERIAL. MASS PER UNIT AREA > 270 g/m ²	NON-WOVEN, NEEDLE PUNCHED, POLYESTER, POLYPROPYLENE OR POLYETHYLENE MATERIAL. MASS PER UNIT AREA > 270 g/m ²
PROTECTION GEOTEXTILE	NON-WOVEN, NEEDLE PUNCHED, POLYESTER, POLYPROPYLENE OR POLYETHYLENE MATERIAL. MASS PER UNIT AREA > 550 g/m ²	NON-WOVEN, NEEDLE PUNCHED, POLYESTER, POLYPROPYLENE OR POLYETHYLENE MATERIAL. MASS PER UNIT AREA > 550 g/m ²
GEOMEMBRANE	1.5 mm HDPE (SMOOTH)	1.5 mm HDPE (TEXTURED)
GEOSYNTHETIC CLAY LINER	BENTONITE MASS ≥ 4000 mg/m ²	BENTONITE MASS > 3700 mg/m ² WITH TREATMENT FOR SUB-VERTICAL PLACEMENT

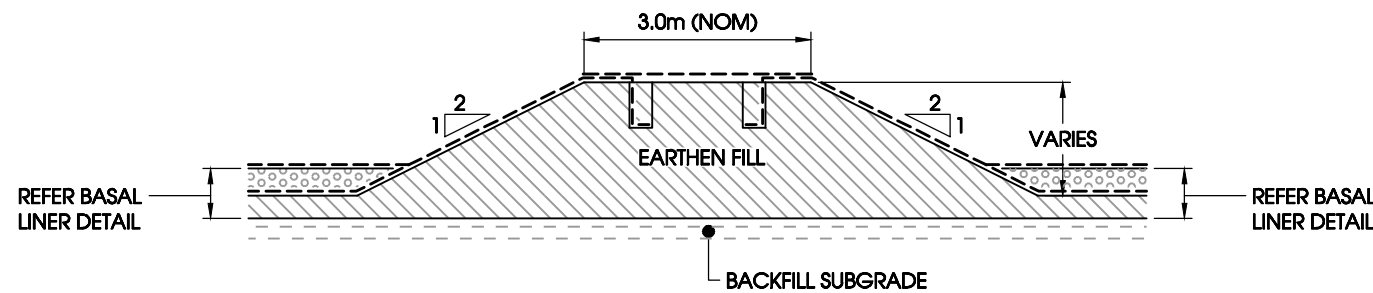


TYPICAL DETAIL (B) SIDE WALL LINER
SCALE: 1:100

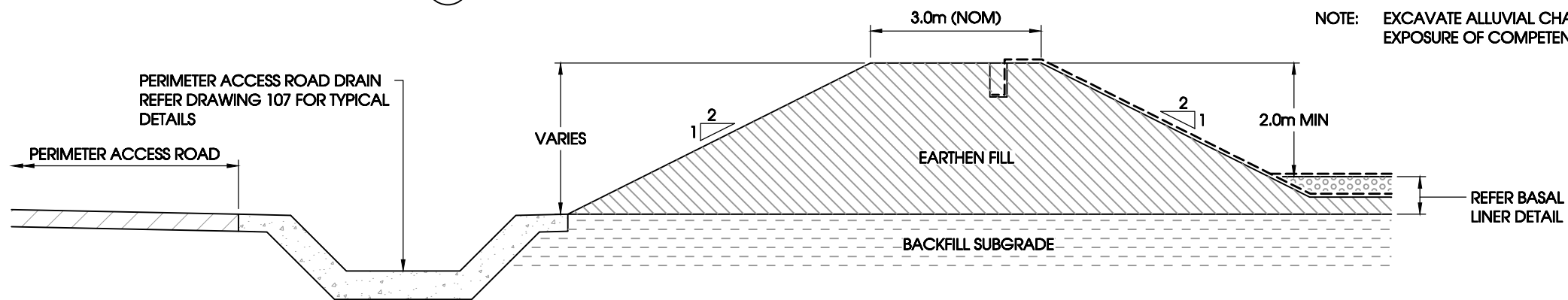


TYPICAL DETAIL (D) BACKFILL OF ALLUVIAL CHANNELS
SCALE: 1:100

NOTE: EXCAVATE ALLUVIAL CHANNELS UNTIL EXPOSURE OF COMPETENT SUBGRADE



TYPICAL DETAIL (C) INTERSTAGE BUND
SCALE: 1:100



TYPICAL DETAIL (E) PERIMETER CONTAINMENT BUND
SCALE: 1:100

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Plotted Date: 18/05/17
 Plotted By: Alchrah
 Plotted Time: 22:11:11

No.	DESCRIPTION	DATE	DRAWN	CHECK'D	APPR'D	SCALE: AS SHOWN
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A	ISSUED FOR REVIEW	12-05-17	AH	LR	AW	DESIGN
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						CHECKED LR
						APPROVED AW



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NAMBOUR LANDFILL EXPANSION

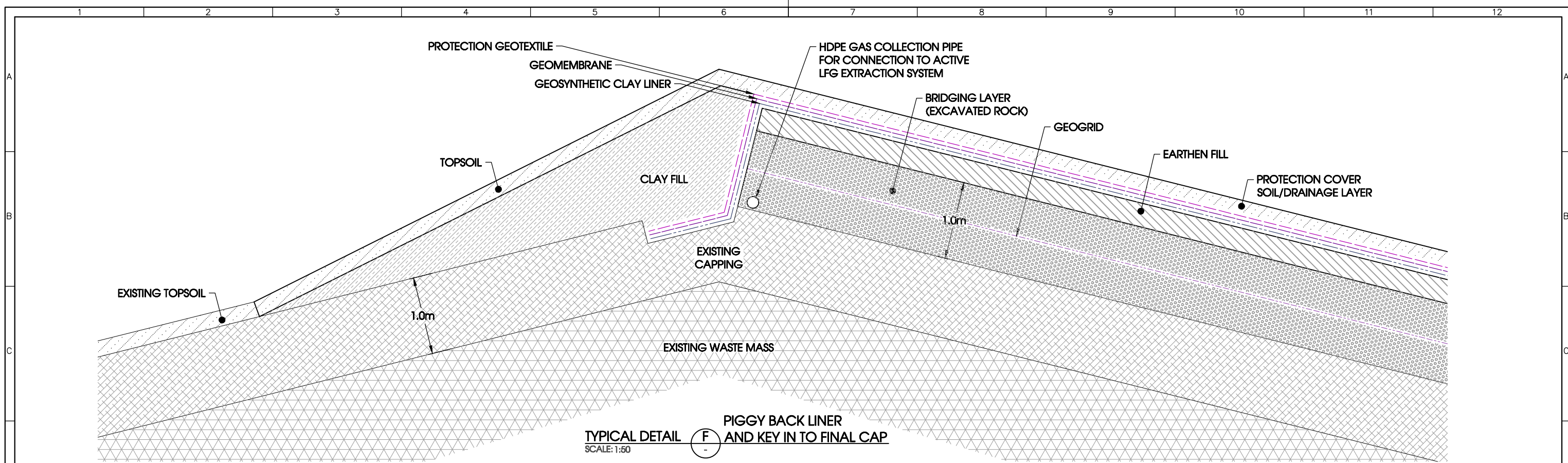
LANDFILL ENGINEERING REPORT
TYPICAL DETAILS - SHEET 1

102

SHEET SIZE A3 Rev. C

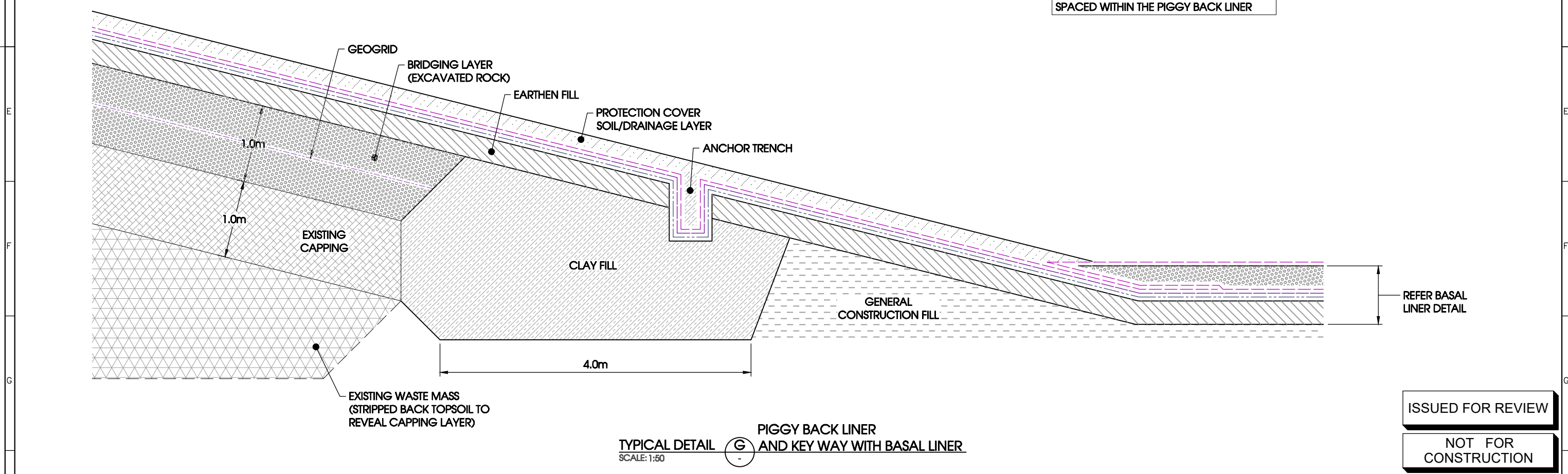
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SHEET 1 OF 1



TYPICAL DETAIL F AND KEY IN TO FINAL CAP
SCALE: 1:50

NOTE:
GAS COLLECTION TRENCHES TO BE EVENLY SPACED WITHIN THE PIGGY BACK LINER



TYPICAL DETAIL G AND KEY WAY WITH BASAL LINER
SCALE: 1:50

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				SCALE: AS SHOWN	
				JOB No.	116283-09
				DATE	MAY 2017
				DESIGN	
				DRAWN	AH
				CHECKED	LR
				APPROVED	AW
No.	DESCRIPTION	DATE	DRAWN	CHECK'D	APPR'D
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A	ISSUED FOR REVIEW	12-05-17	AH	LR	AW

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NAMBOUR LANDFILL EXPANSION**

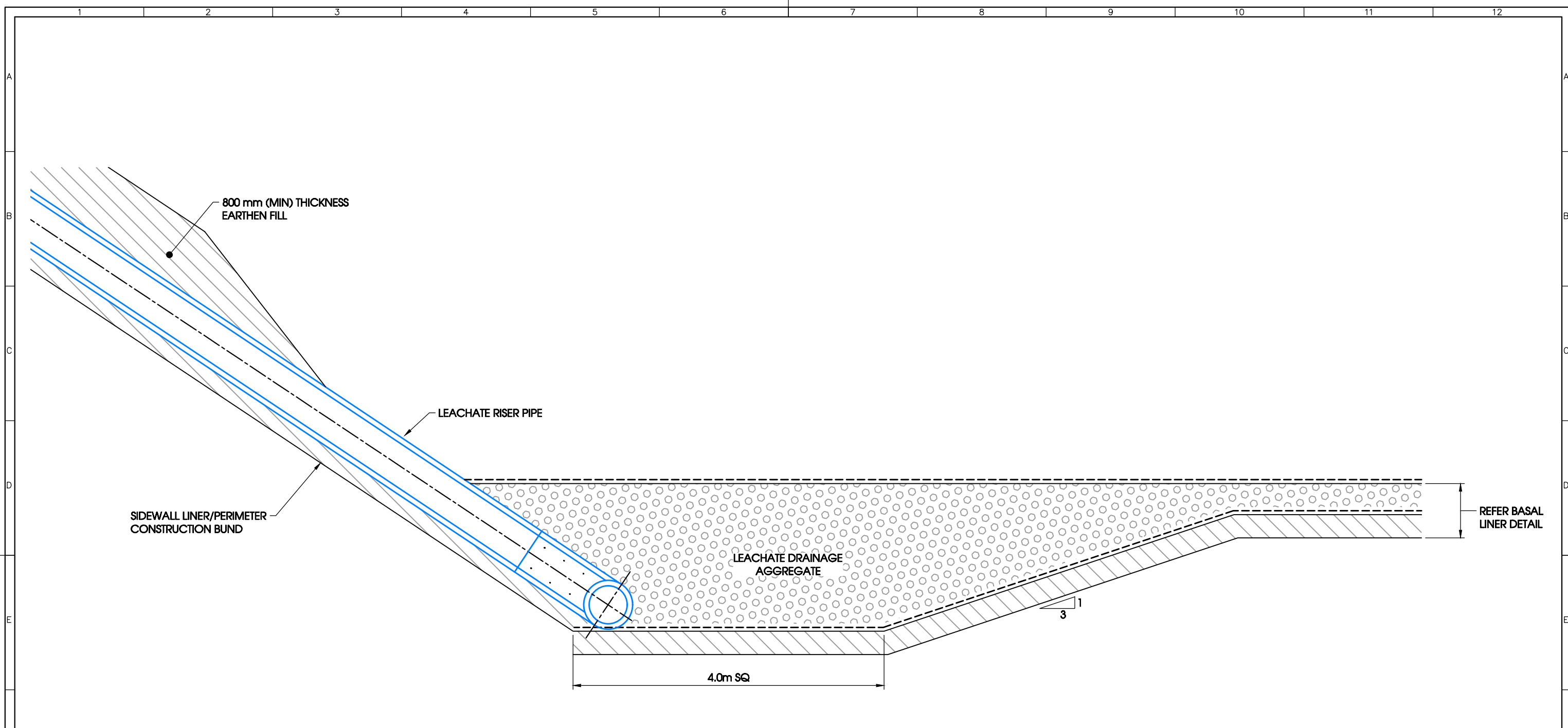
103

**LANDFILL ENGINEERING REPORT
TYPICAL DETAILS - SHEET 2**

SHEET SIZE	A3	Rev.	B
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SHEET 1 OF 1



TYPICAL DETAIL (H) LEACHATE BATTER RISER
SCALE: 1:50

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Plothead Date: 19/05/17 Plothead By: Alkchah Plothead Time: 00:08:10

No.	DESCRIPTION	DATE	DRAWN	CHECK'D	APPR'D
B	ISSUED FOR REVIEW	19-05-17	AH	LR	AW
A	ISSUED FOR REVIEW	12-05-17	AH	LR	AW

SCALE: AS SHOWN	
JOB No.	116283-09
DATE	MAY 2017
DESIGN	
DRAWN	AH
CHECKED	LR
APPROVED	AW



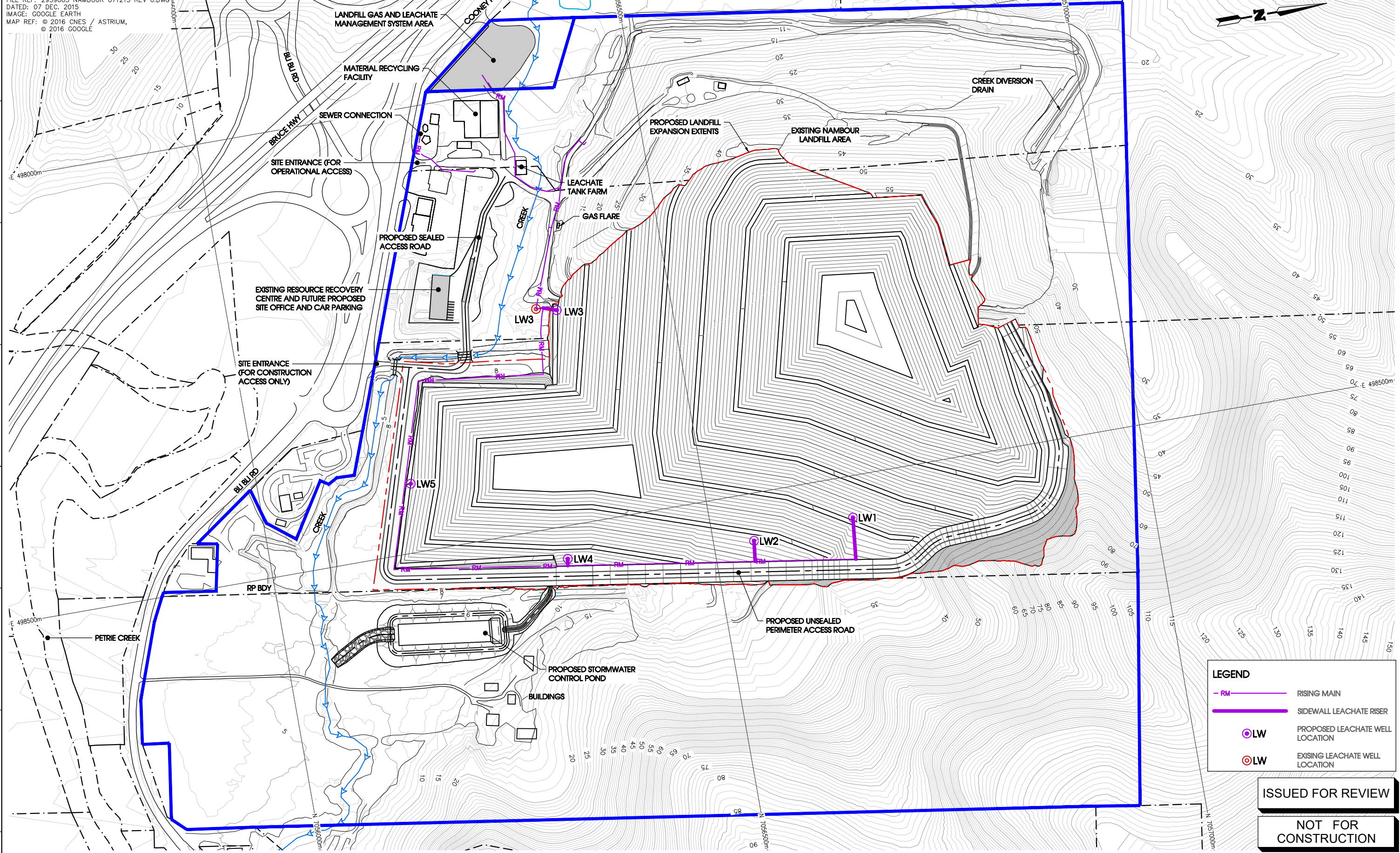
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NAMBOUR LANDFILL EXPANSION
LANDFILL ENGINEERING REPORT
TYPICAL DETAILS - SHEET 3

104			
SHEET SIZE	A3	Rev.	B
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SHEET 1 OF 1			

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HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD



LEGEND

- RM — RISING MAIN
- SIDEWALL LEACHATE RISER
- LW PROPOSED LEACHATE WELL LOCATION
- LW EXISTING LEACHATE WELL LOCATION

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		SCALE: 1 : 4000	
		JOB No.	116283-09
		DATE	MAY 2017
		DESIGN	
C	ISSUED FOR REVIEW	05-06-17	AH LR AW DRAWN AH
B	ISSUED FOR REVIEW	19-05-17	AH LR AW CHECKED LR
A	ISSUED FOR REVIEW	12-05-17	AH LR AW APPROVED AW
No.	DESCRIPTION	DATE	DRAWN CHECK'D APPR'D

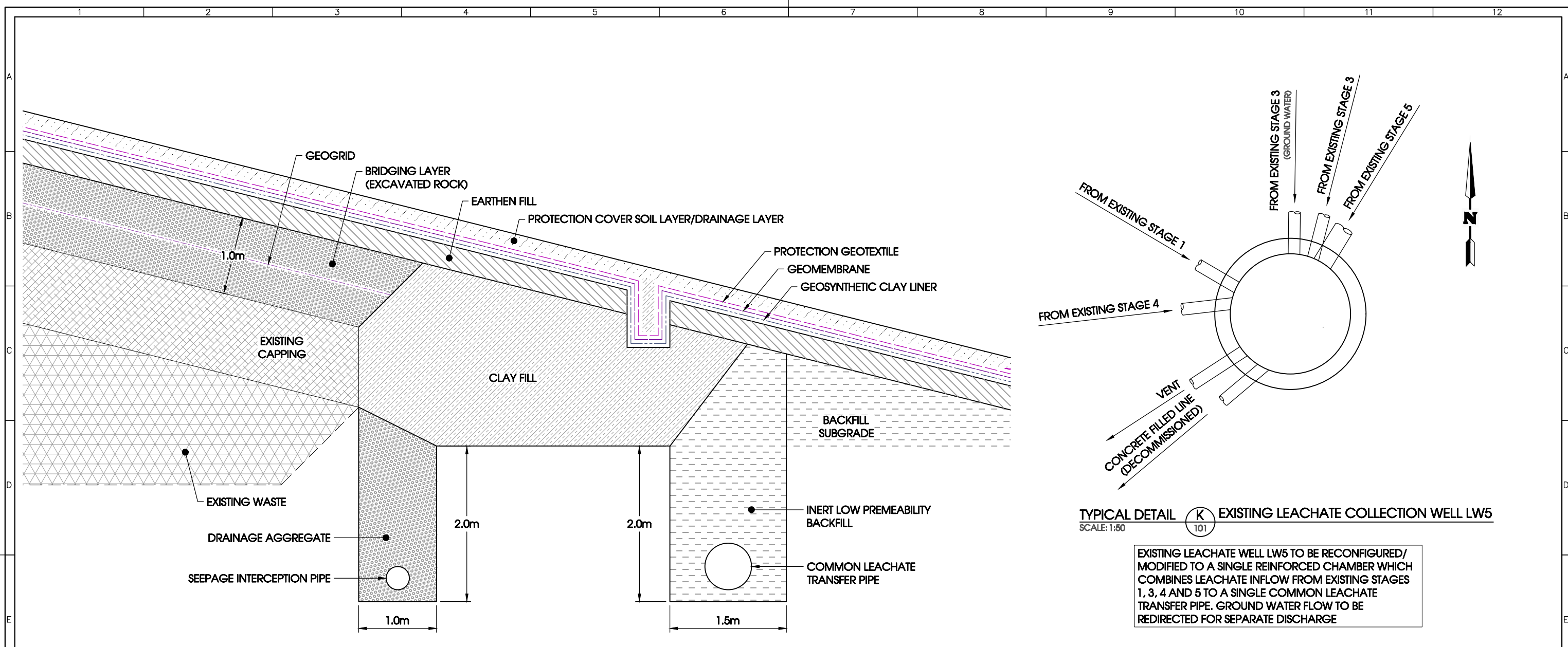
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SUNSHINE COAST COUNCIL NAMBOUR LANDFILL EXPANSION		105
LANDFILL ENGINEERING REPORT LEACHATE MANAGEMENT SYSTEM		SHEET SIZE A3 Rev. C
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		SHEET 1 OF 1

Plotted Date: 19/05/17 Plotted By: Alkhalaf
 Plotted Time: 02:29:18



TYPICAL DETAIL (J) RECONFIGURATION OF LEACHATE INTERCEPTION TRENCH AND LEACHATE TRANSFER PIPE
SCALE: 1:50

TYPICAL DETAIL (K) EXISTING LEACHATE COLLECTION WELL LW5
SCALE: 1:50

EXISTING LEACHATE WELL LW5 TO BE RECONFIGURED/ MODIFIED TO A SINGLE REINFORCED CHAMBER WHICH COMBINES LEACHATE INFLOW FROM EXISTING STAGES 1, 3, 4 AND 5 TO A SINGLE COMMON LEACHATE TRANSFER PIPE. GROUND WATER FLOW TO BE REDIRECTED FOR SEPARATE DISCHARGE

ISSUED FOR REVIEW
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Plotted Date: 19/05/17
 Plotted By: Alkhrab
 Plotted Time: 00:23:33

No.	DESCRIPTION	DATE	DRAWN	CHECK'D	APPR'D
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A	ISSUED FOR REVIEW	12-05-17	AH	LR	AW

SCALE: AS SHOWN

JOB No.	116283-09
DATE	MAY 2017
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DRAWN	AH
CHECKED	LR
APPROVED	AW

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**SUNSHINE COAST COUNCIL
NAMBOUR LANDFILL EXPANSION**

**LANDFILL ENGINEERING REPORT
EXISTING LEACHATE MANAGEMENT SYSTEM UPGRADE
DETAILS**

106

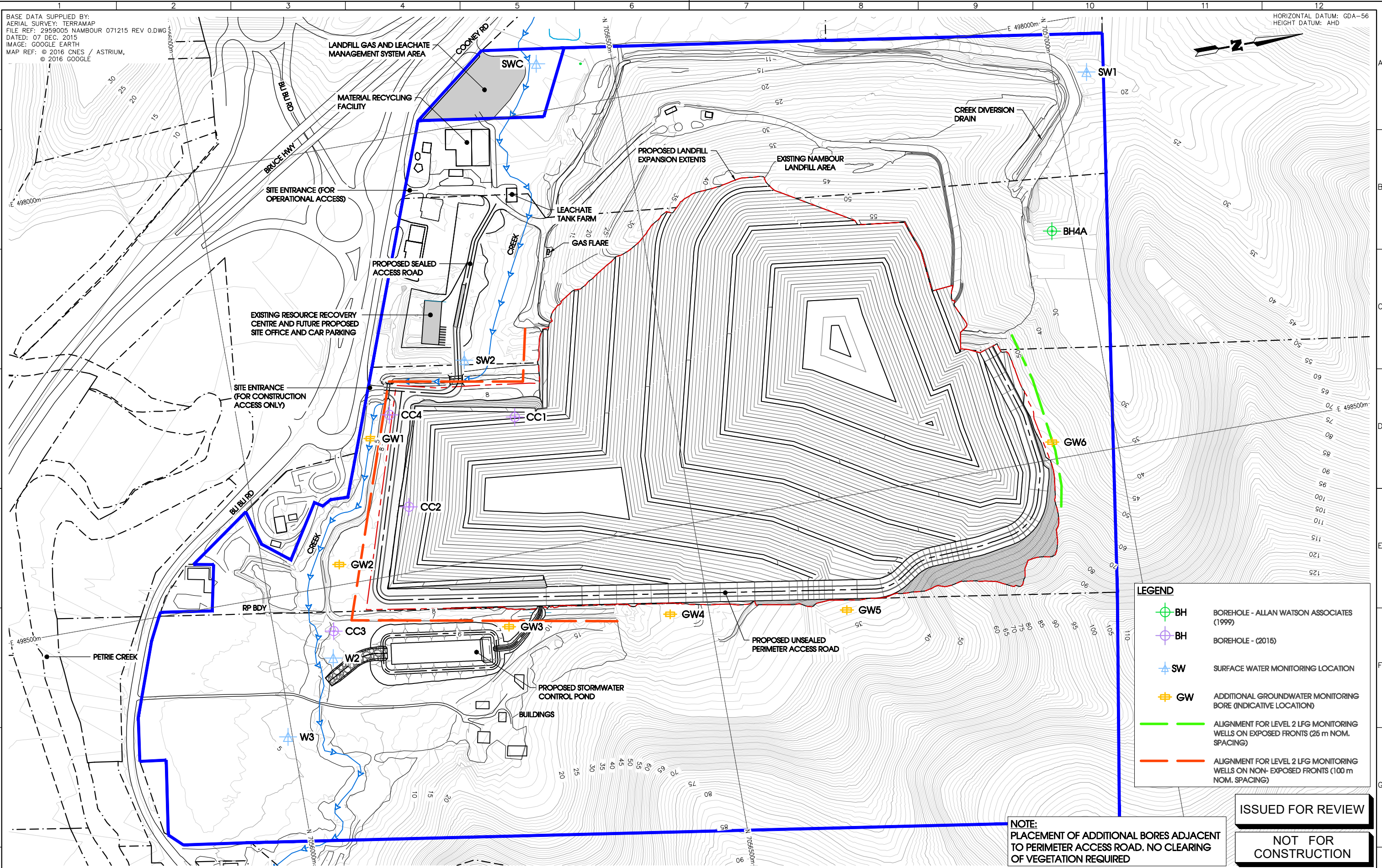
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HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD



LEGEND

- BH BOREHOLE - ALLAN WATSON ASSOCIATES (1999)
- BH BOREHOLE - (2016)
- SW SURFACE WATER MONITORING LOCATION
- GW ADDITIONAL GROUNDWATER MONITORING BORE (INDICATIVE LOCATION)
- ALIGNMENT FOR LEVEL 2 LFG MONITORING WELLS ON EXPOSED FRONTS (25 m NOM. SPACING)
- ALIGNMENT FOR LEVEL 2 LFG MONITORING WELLS ON NON- EXPOSED FRONTS (100 m NOM. SPACING)

NOTE:
 PLACEMENT OF ADDITIONAL BORES ADJACENT TO PERIMETER ACCESS ROAD. NO CLEARING OF VEGETATION REQUIRED

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		SCALE: 1 : 4000	
		JOB No.	116283-09
		DATE	MAY 2017
		DESIGN	
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B	ISSUED FOR REVIEW	19-05-17	AH LR AW CHECKED LR
A	ISSUED FOR REVIEW	12-05-17	AH LR AW APPROVED AW
No.	DESCRIPTION	DATE	DRAWN CHECK'D APPR'D

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SUNSHINE COAST COUNCIL
NAMBOUR LANDFILL EXPANSION

LANDFILL ENGINEERING REPORT
MONITORING PLAN

201

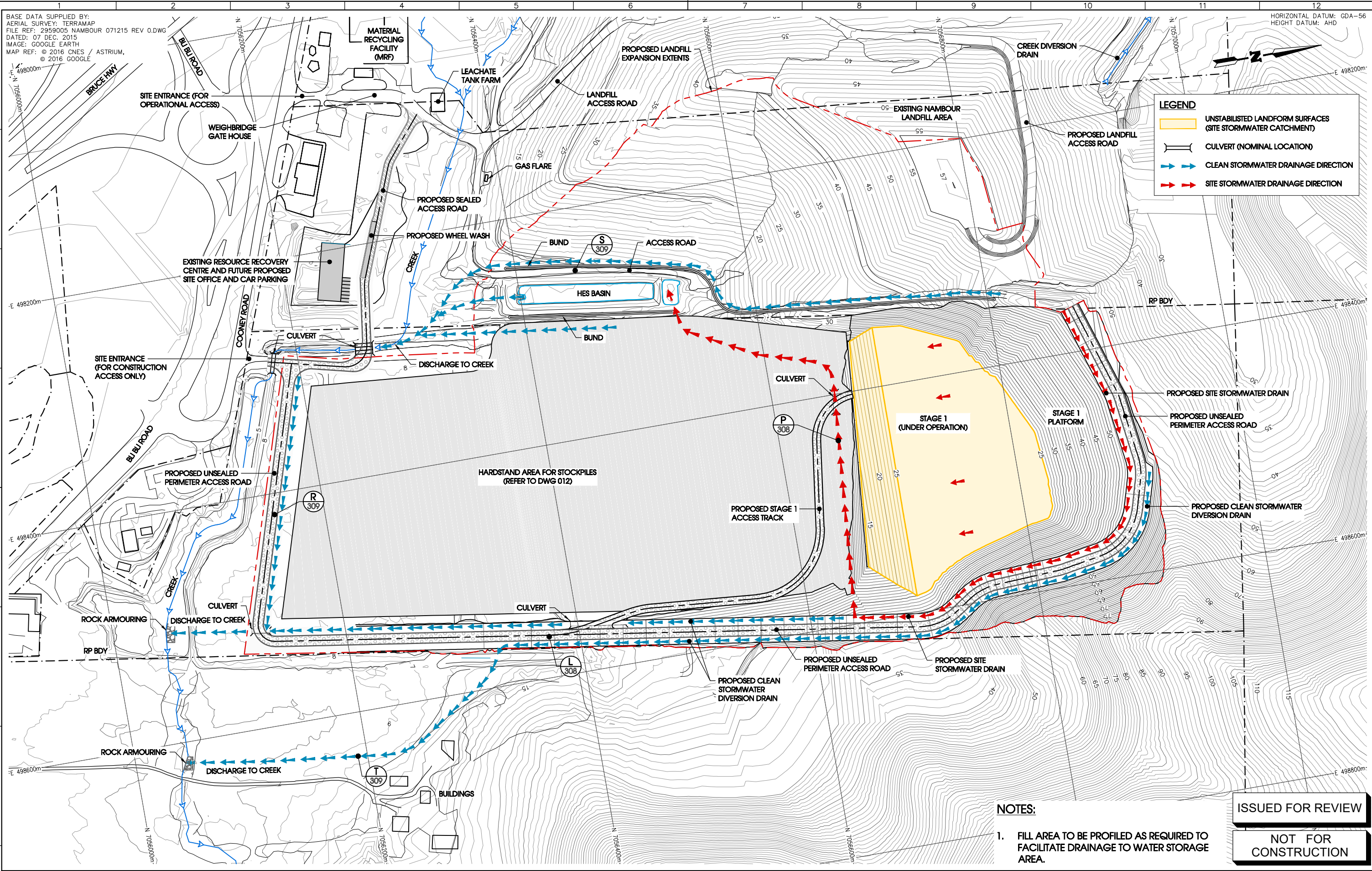
SHEET SIZE	A3	Rev.	C
SHEET 1 OF 1			

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 HEIGHT DATUM: AHD



NOTES:

- FILL AREA TO BE PROFILED AS REQUIRED TO FACILITATE DRAINAGE TO WATER STORAGE AREA.

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No.	DESCRIPTION	DATE	DRAWN	CHECK'D	APPR'D
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B	ISSUED FOR REVIEW	19-05-17	AH	LR	AW
A	ISSUED FOR REVIEW	12-05-17	BH	LR	AW

SCALE: 1 : 3000
 JOB No. 116283-09
 DATE MAY 2017
 DESIGN
 DRAWN BH
 CHECKED LR
 APPROVED AW

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SUNSHINE COAST COUNCIL
NAMBOUR LANDFILL EXPANSION

LANDFILL ENGINEERING REPORT
STAGE 1 STORMWATER MANAGEMENT

301

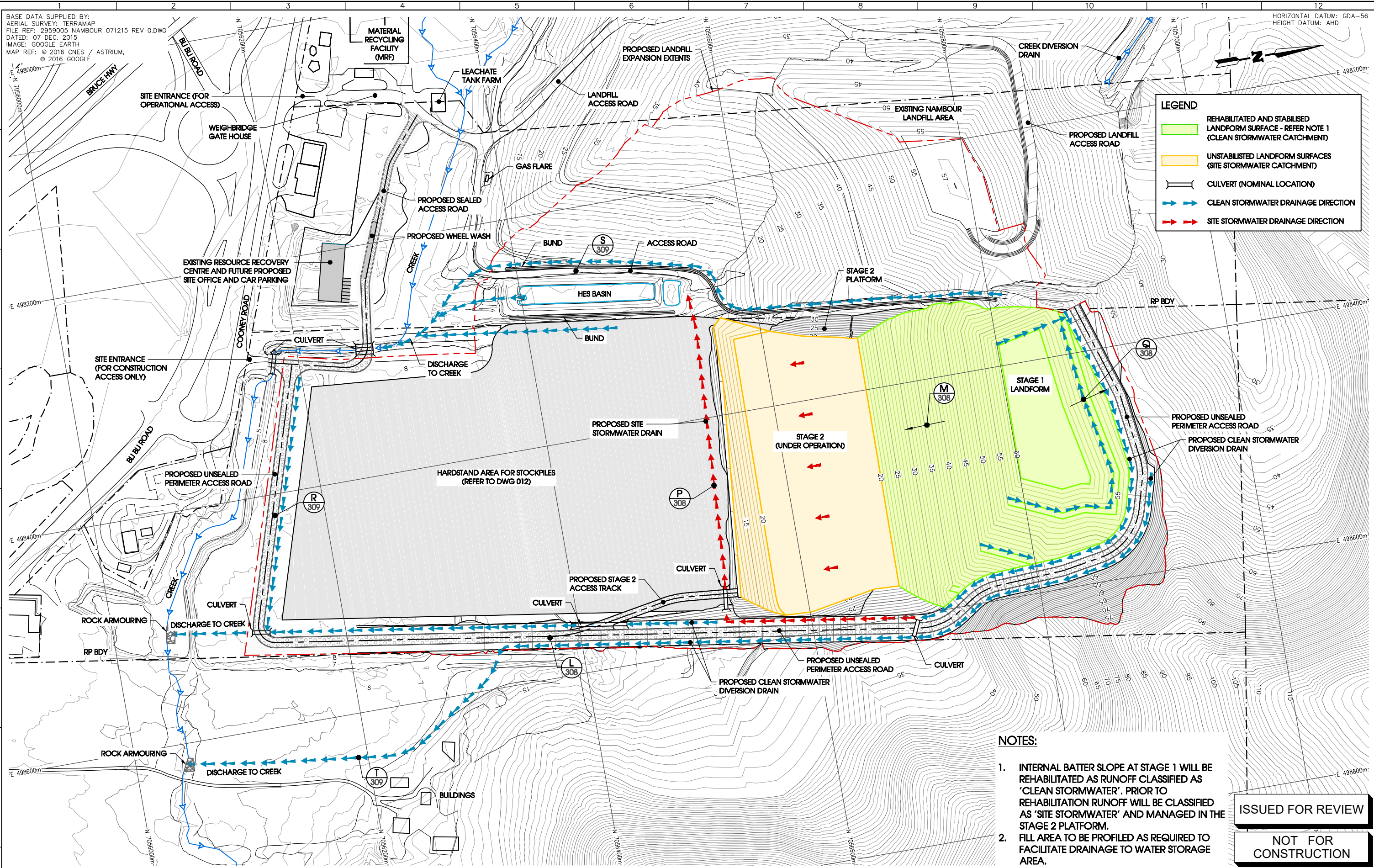
SHEET SIZE A3 Rev. C

SHEET 1 OF 1

Profiled Date: 18/05/17 Profiled By: Alchrah Profiled Time: 22:49:37

BASE DATA SUPPLIED BY:
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HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD



LEGEND

- REHABILITATED AND STABILISED LANDFORM SURFACE - REFER NOTE 1 (CLEAN STORMWATER CATCHMENT)
- UNSTABILISED LANDFORM SURFACES (SITE STORMWATER CATCHMENT)
- CULVERT (NOMINAL LOCATION)
- CLEAN STORMWATER DRAINAGE DIRECTION
- SITE STORMWATER DRAINAGE DIRECTION

NOTES:

1. INTERNAL BATTER SLOPE AT STAGE 1 WILL BE REHABILITATED AS RUNOFF CLASSIFIED AS 'CLEAN STORMWATER'. PRIOR TO REHABILITATION RUNOFF WILL BE CLASSIFIED AS 'SITE STORMWATER' AND MANAGED IN THE STAGE 2 PLATFORM.
2. FILL AREA TO BE PROFILED AS REQUIRED TO FACILITATE DRAINAGE TO WATER STORAGE AREA.

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				SCALE: 1 : 3000	
				JOB No.	116283-09
				DATE	MAY 2017
				DESIGN	
C	ISSUED FOR REVIEW	05-06-17	AH	LR	AW
B	ISSUED FOR REVIEW	19-05-17	AH	LR	AW
A	ISSUED FOR REVIEW	12-05-17	BH	LR	AW
No.	DESCRIPTION	DATE	DRAWN	CHECK'D	APPR'D



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 NAMBOUR LANDFILL EXPANSION**

**LANDFILL ENGINEERING REPORT
 STAGE 2 STORMWATER MANAGEMENT**

302

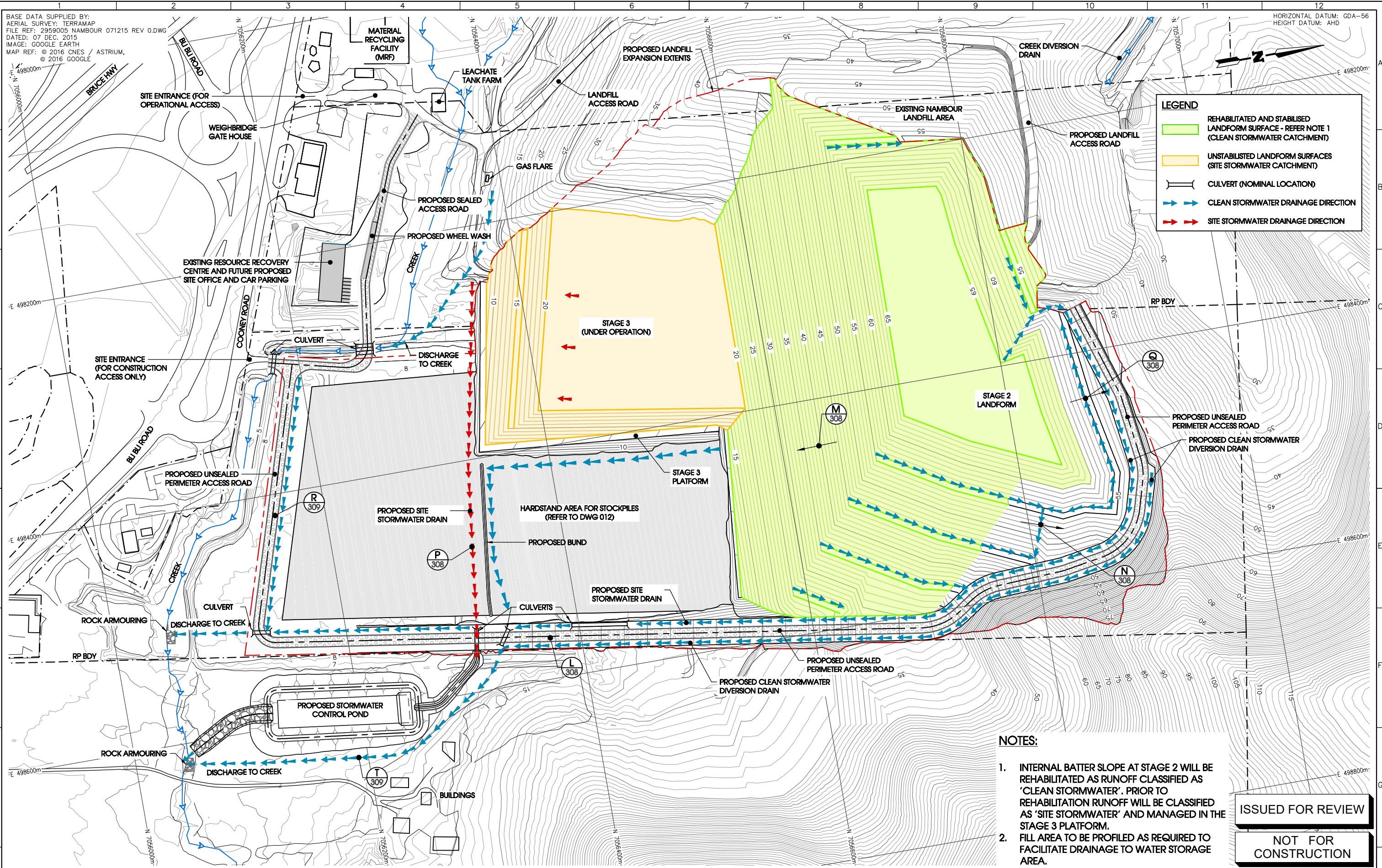
SHEET SIZE A3 Rev. C

SHEET 1 OF 1

Plotted Date: 18/05/17
 Plotted Time: 22:55:19
 Plotted By: Alchrah

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HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD



LEGEND

- REHABILITATED AND STABILISED LANDFORM SURFACE - REFER NOTE 1 (CLEAN STORMWATER CATCHMENT)
- UNSTABILISED LANDFORM SURFACES (SITE STORMWATER CATCHMENT)
- CULVERT (NOMINAL LOCATION)
- CLEAN STORMWATER DRAINAGE DIRECTION
- SITE STORMWATER DRAINAGE DIRECTION

- NOTES:**
1. INTERNAL BATTER SLOPE AT STAGE 2 WILL BE REHABILITATED AS RUNOFF CLASSIFIED AS 'CLEAN STORMWATER'. PRIOR TO REHABILITATION RUNOFF WILL BE CLASSIFIED AS 'SITE STORMWATER' AND MANAGED IN THE STAGE 3 PLATFORM.
 2. FILL AREA TO BE PROFILED AS REQUIRED TO FACILITATE DRAINAGE TO WATER STORAGE AREA.

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		SCALE: 1 : 3000	
		JOB No.	116283-09
		DATE	MAY 2017
		DESIGN	
C	ISSUED FOR REVIEW	05-06-17	AH LR AW DRAWN BH
B	ISSUED FOR REVIEW	19-05-17	AH LR AW CHECKED LR
A	ISSUED FOR REVIEW	12-05-17	BH LR AW APPROVED AW
No.	DESCRIPTION	DATE	DRAWN CHECK'D APPR'D



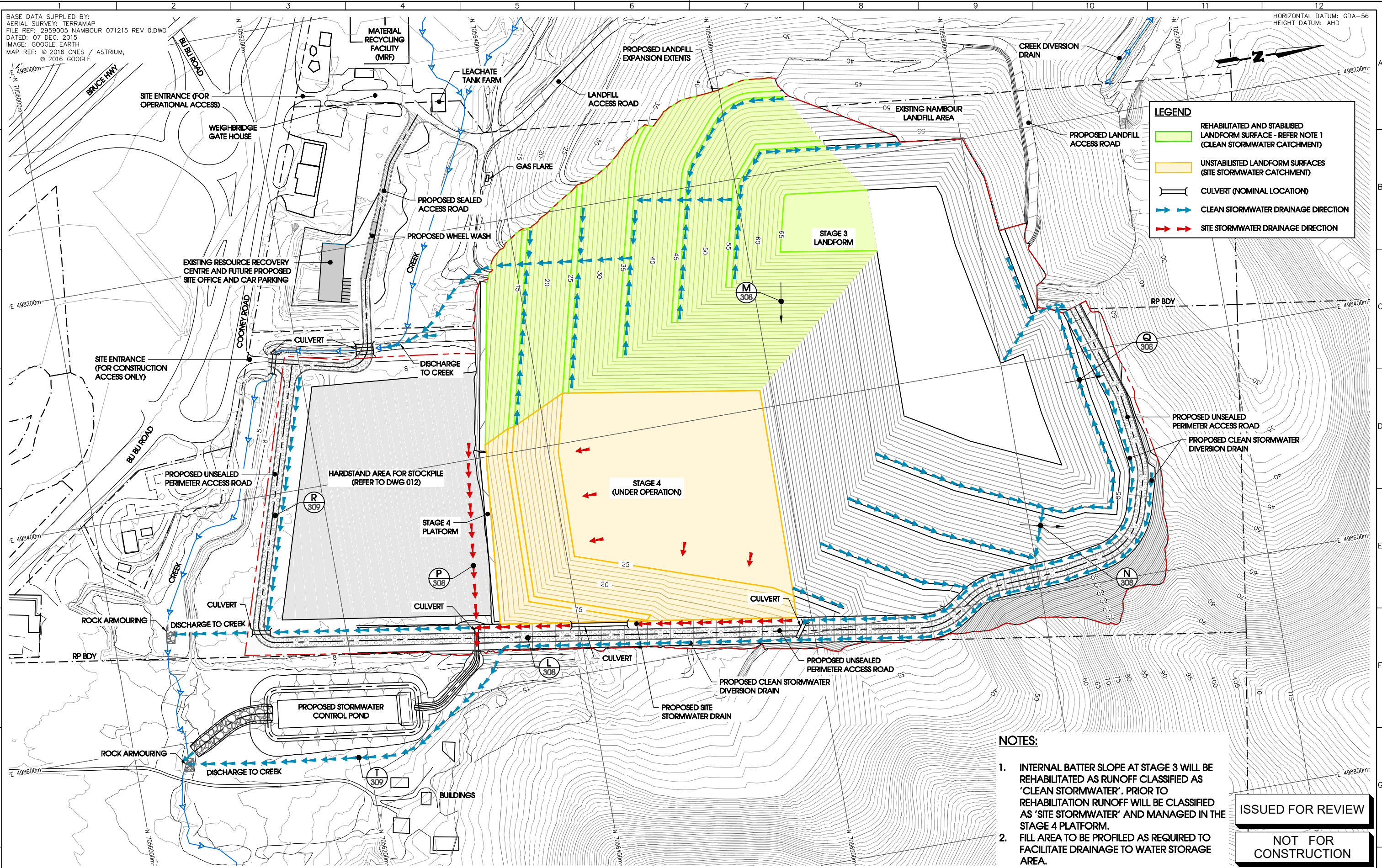
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LANDFILL ENGINEERING REPORT STAGE 3 STORMWATER MANAGEMENT		SHEET SIZE A3 Rev. C
		SHEET 1 OF 1

Plotted Date: 18/05/17
 Plotted Time: 22:59:53
 Plotted By: Alchrah

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HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD



LEGEND

- REHABILITATED AND STABILISED LANDFORM SURFACE - REFER NOTE 1 (CLEAN STORMWATER CATCHMENT)
- UNSTABILISED LANDFORM SURFACES (SITE STORMWATER CATCHMENT)
- CULVERT (NOMINAL LOCATION)
- CLEAN STORMWATER DRAINAGE DIRECTION
- SITE STORMWATER DRAINAGE DIRECTION

- NOTES:**
1. INTERNAL BATTER SLOPE AT STAGE 3 WILL BE REHABILITATED AS RUNOFF CLASSIFIED AS 'CLEAN STORMWATER'. PRIOR TO REHABILITATION RUNOFF WILL BE CLASSIFIED AS 'SITE STORMWATER' AND MANAGED IN THE STAGE 4 PLATFORM.
 2. FILL AREA TO BE PROFILED AS REQUIRED TO FACILITATE DRAINAGE TO WATER STORAGE AREA.

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		SCALE: 1 : 3000	
		JOB No.	116283-09
		DATE	MAY 2017
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B	ISSUED FOR REVIEW	19-05-17	AH LR AW CHECKED LR
A	ISSUED FOR REVIEW	12-05-17	BH LR AW APPROVED AW
No.	DESCRIPTION	DATE	DRAWN CHECK'D APPR'D



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NAMBOUR LANDFILL EXPANSION

LANDFILL ENGINEERING REPORT
STAGE 4 STORMWATER MANAGEMENT

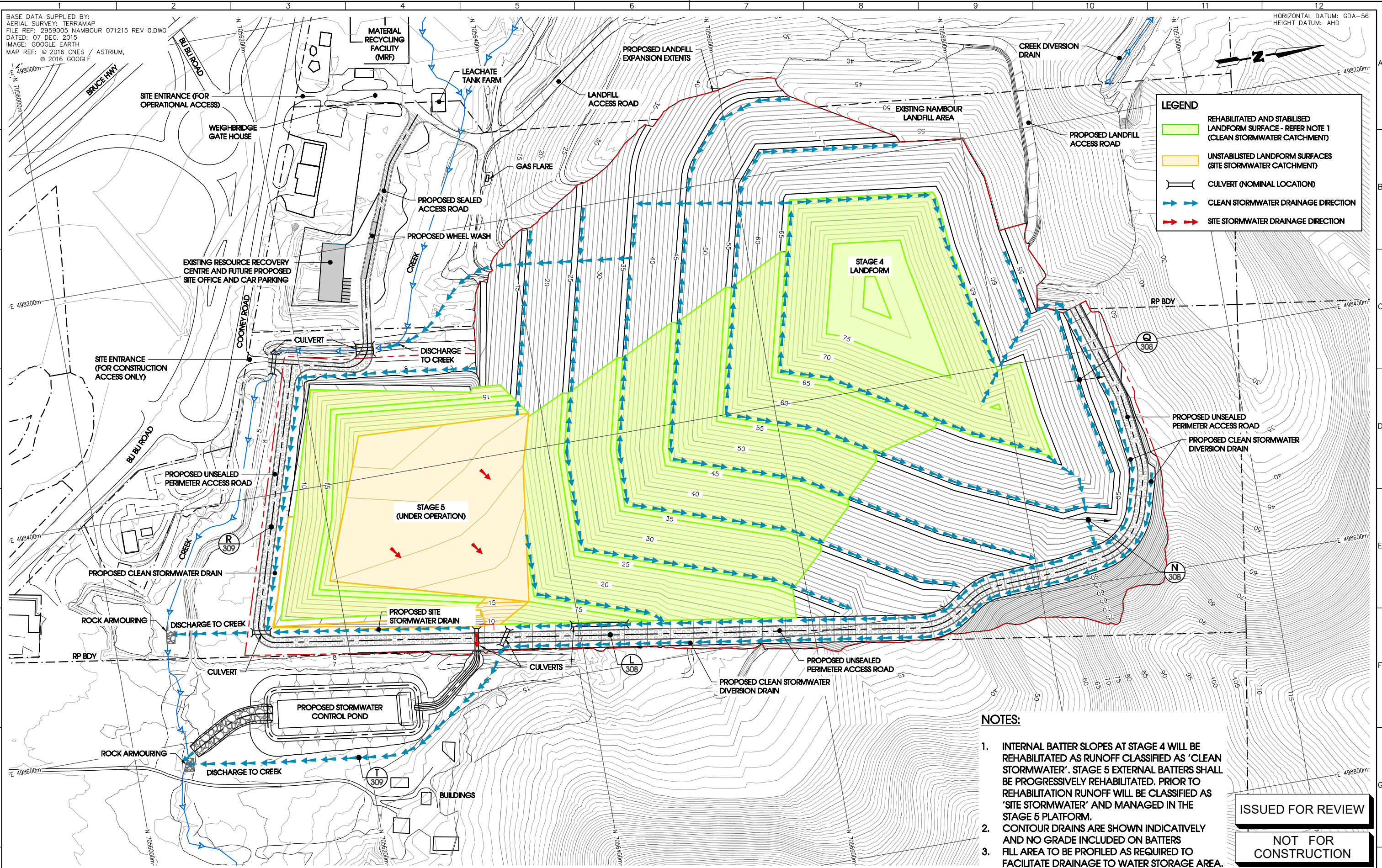
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SHEET SIZE	A3	Rev.	C
SHEET	1	OF	1

Plotted Date: 18/05/17
 Plotted Time: 23:04:02
 Plotted By: Alchrah

BASE DATA SUPPLIED BY:
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B	ISSUED FOR REVIEW	19-05-17	AH	LR	AW
A	ISSUED FOR REVIEW	12-05-17	BH	LR	AW

SCALE:	1 : 3000
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DATE	MAY 2017
DESIGN	
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APPROVED	AW



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NAMBOUR LANDFILL EXPANSION

LANDFILL ENGINEERING REPORT
STAGE 5 STORMWATER MANAGEMENT

305

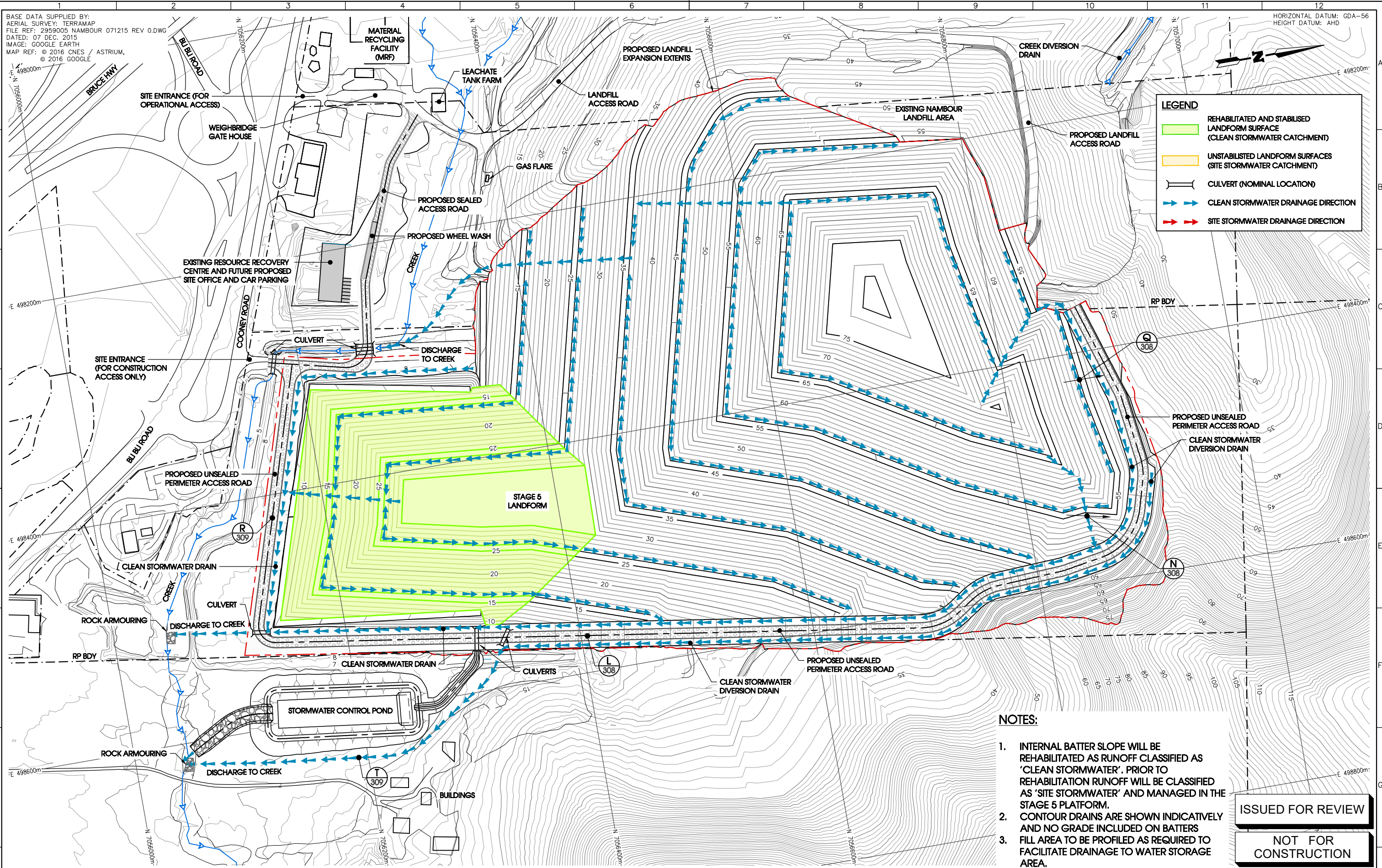
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SHEET 1 OF 1

Profled Date: 19/05/17 Profled By: Alchrah Profled Time: 01:23:15

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HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD



LEGEND

- REHABILITATED AND STABILISED LANDFORM SURFACE (CLEAN STORMWATER CATCHMENT)
- UNSTABILISED LANDFORM SURFACES (SITE STORMWATER CATCHMENT)
- CULVERT (NOMINAL LOCATION)
- CLEAN STORMWATER DRAINAGE DIRECTION
- SITE STORMWATER DRAINAGE DIRECTION

- NOTES:**
1. INTERNAL BATTER SLOPE WILL BE REHABILITATED AS RUNOFF CLASSIFIED AS 'CLEAN STORMWATER'. PRIOR TO REHABILITATION RUNOFF WILL BE CLASSIFIED AS 'SITE STORMWATER' AND MANAGED IN THE STAGE 5 PLATFORM.
 2. CONTOUR DRAINS ARE SHOWN INDICATIVELY AND NO GRADE INCLUDED ON BATTERS
 3. FILL AREA TO BE PROFILED AS REQUIRED TO FACILITATE DRAINAGE TO WATER STORAGE AREA.

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		JOB No.	116283-09
		DATE	MAY 2017
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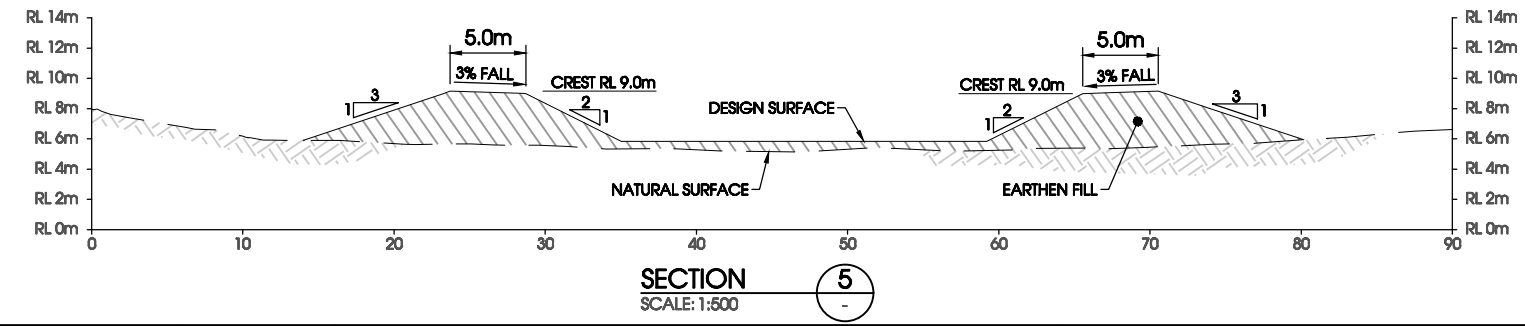
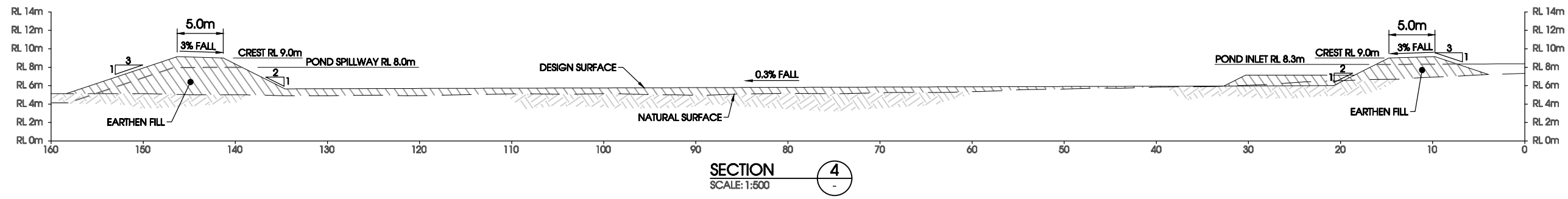
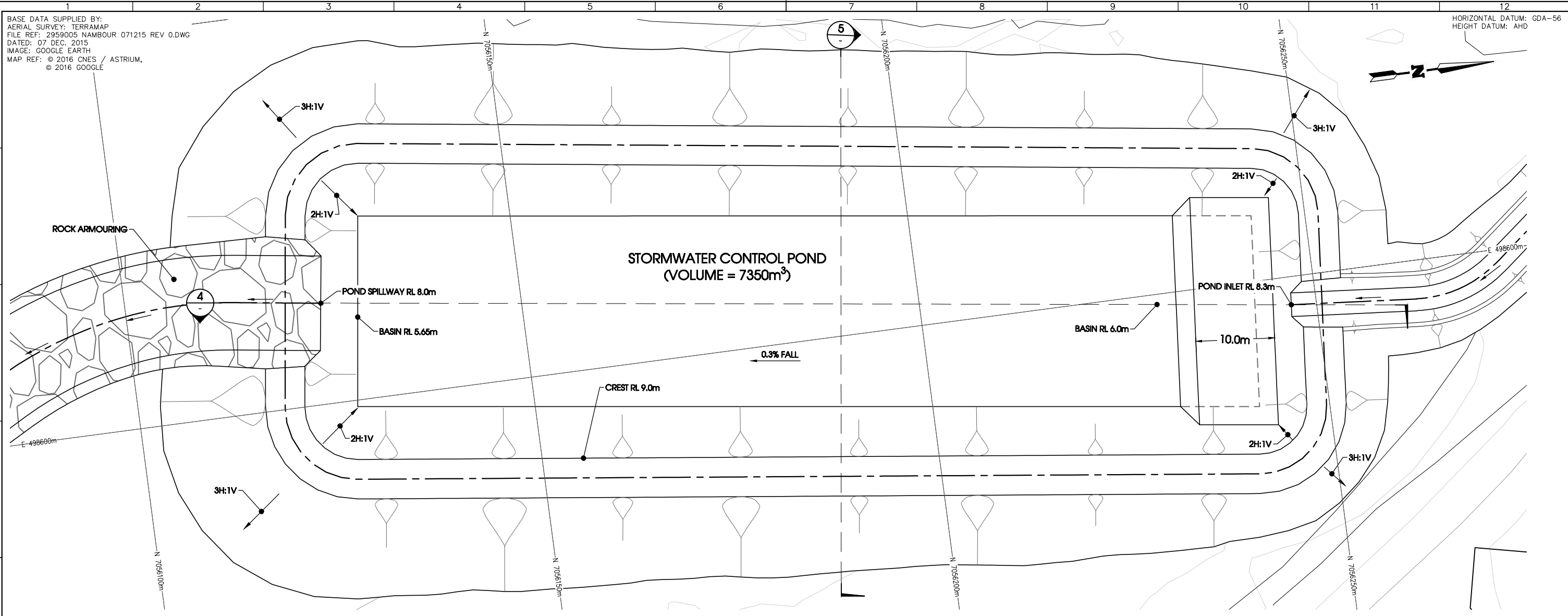
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LANDFILL ENGINEERING REPORT FINAL LANDFORM STORMWATER MANAGEMENT		SHEET SIZE A3 Rev. C
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 HEIGHT DATUM: AHD



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A	ISSUED FOR REVIEW	12-05-17	BH	LR	AW

SCALE: 1:500

JOB No. 116283-09
 DATE MAY 2017
 DESIGN BH
 DRAWN BH
 CHECKED LR
 APPROVED AW

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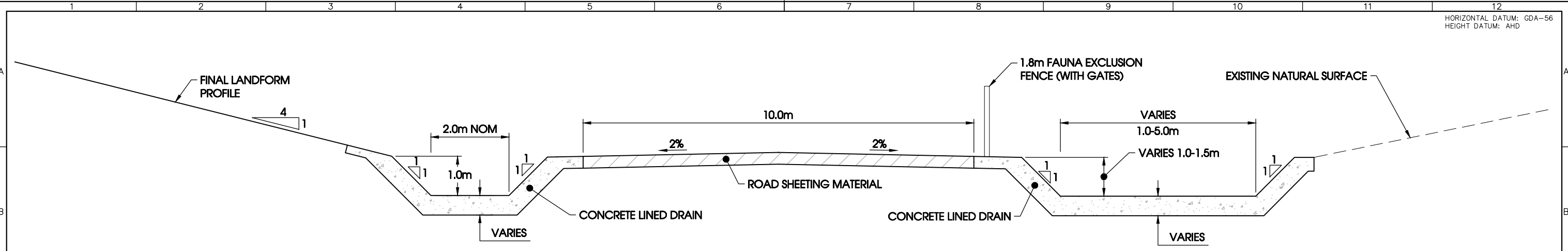
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NAMBOUR LANDFILL EXPANSION

307

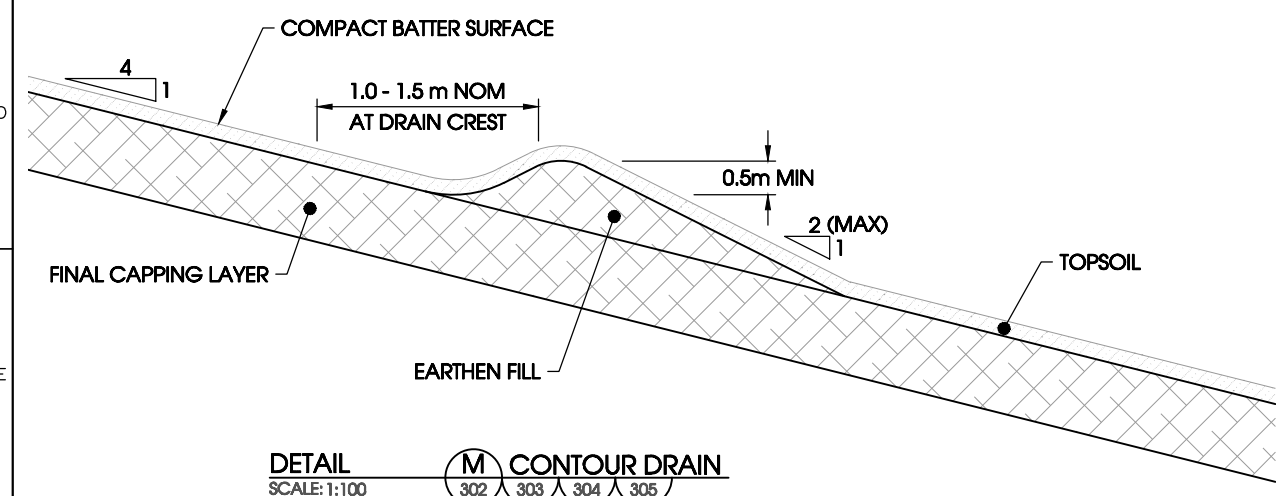
LANDFILL ENGINEERING REPORT
STORMWATER CONTROL POND
PLAN AND TYPICAL SECTIONS

SHEET SIZE A3 Rev. B
 SHEET 1 OF 1

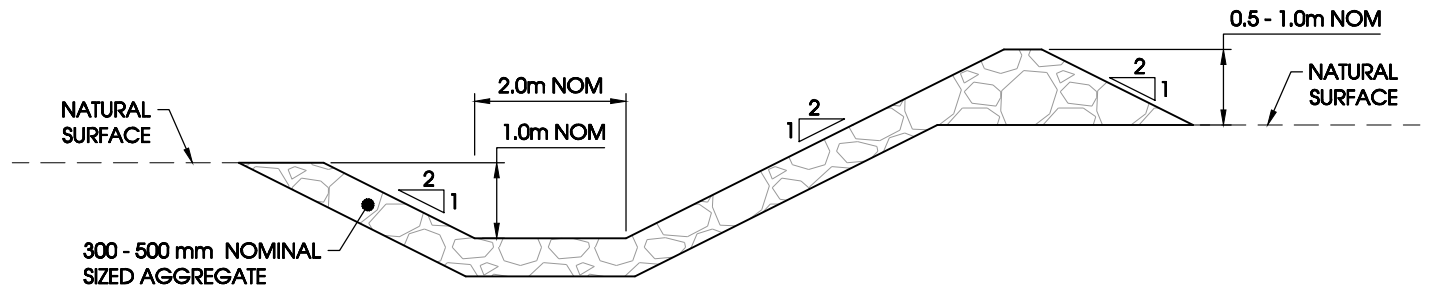
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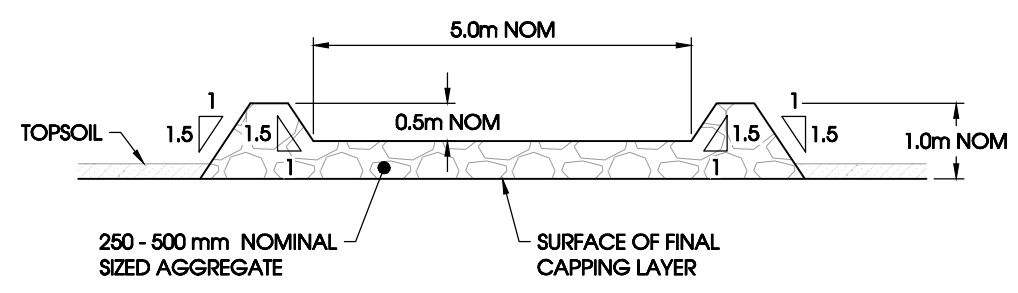
PERIMETER ACCESS
L ROAD DRAINS
SCALE: 1:100
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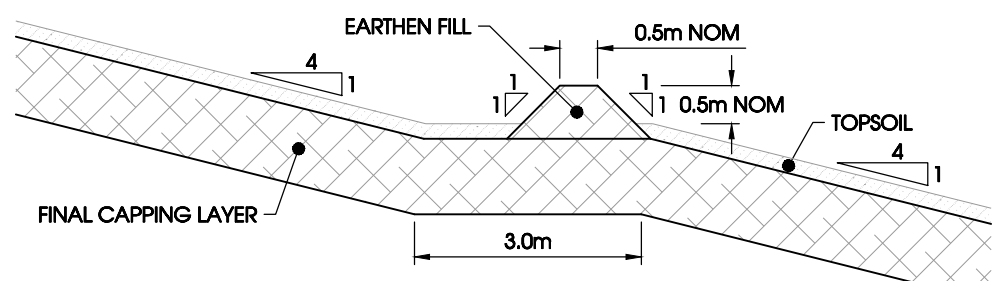
DETAIL
SCALE: 1:100
M CONTOUR DRAIN
302 303 304 305



DETAIL
SCALE: 1:100
P SITE STORMWATER DRAIN
301 302 303 304



DETAIL
SCALE: 1:100
N BATTER DRAIN
303 304 305 306



DETAIL
SCALE: 1:100
Q BENCH DRAIN
302 303 304 305 306

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				SCALE: AS SHOWN	
				JOB No. 116283-09	
				DATE MAY 2017	
				DESIGN	
				DRAWN AH	
				CHECKED LR	
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No.	DESCRIPTION	DATE	DRAWN	CHECK'D	APPR'D
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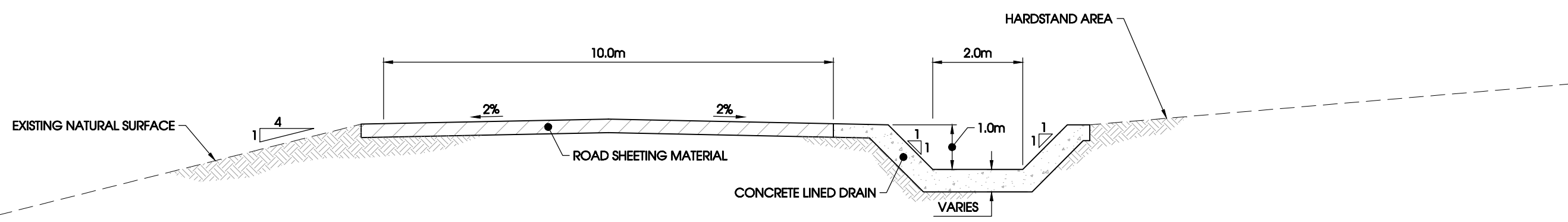
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SUNSHINE COAST COUNCIL
NAMBOUR LANDFILL EXPANSION

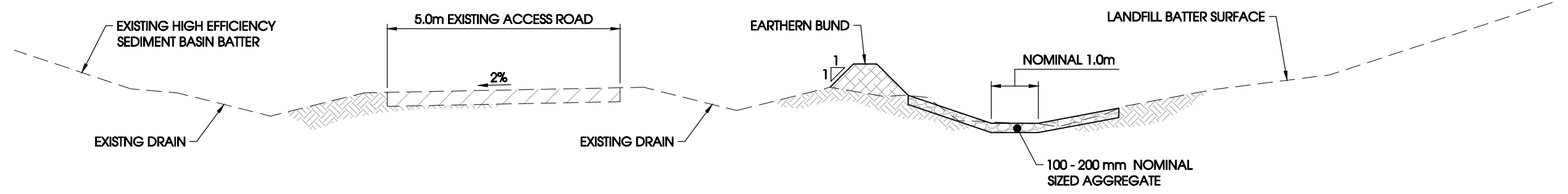
LANDFILL ENGINEERING REPORT
STORMWATER MANAGEMENT
TYPICAL DRAIN DETAILS - SHEET 1

308
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SHEET 1 OF 1

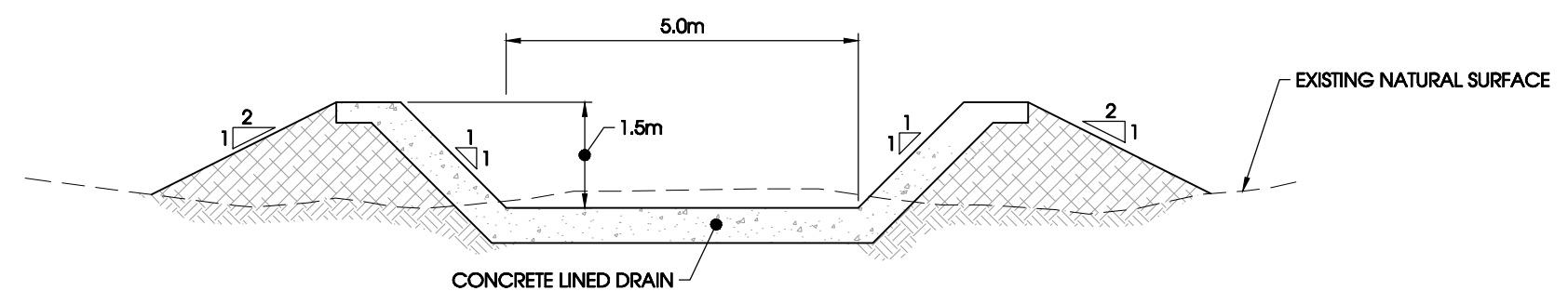
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PERIMETER ACCESS ROAD SOUTHERN DRAIN
 DETAIL R
 SCALE: 1:100
 301 302 303 304 305 306



HIGH EFFICIENCY SEDIMENT BASIN DRAIN
 DETAIL S
 SCALE: 1:100
 301 302



TYPICAL DRAIN DISCHARGE TO CREEK
 DETAIL T
 SCALE: 1:100
 301 302 303 304 305 306

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Plotted Date: 19/05/17
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SCALE: AS SHOWN

JOB No. 116283-09
 DATE MAY 2017

DESIGN
 DRAWN AH
 CHECKED LR
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SUNSHINE COAST COUNCIL
 NAMBOUR LANDFILL EXPANSION

309

LANDFILL ENGINEERING REPORT
 STORMWATER MANAGEMENT
 TYPICAL DRAIN DETAILS - SHEET 2

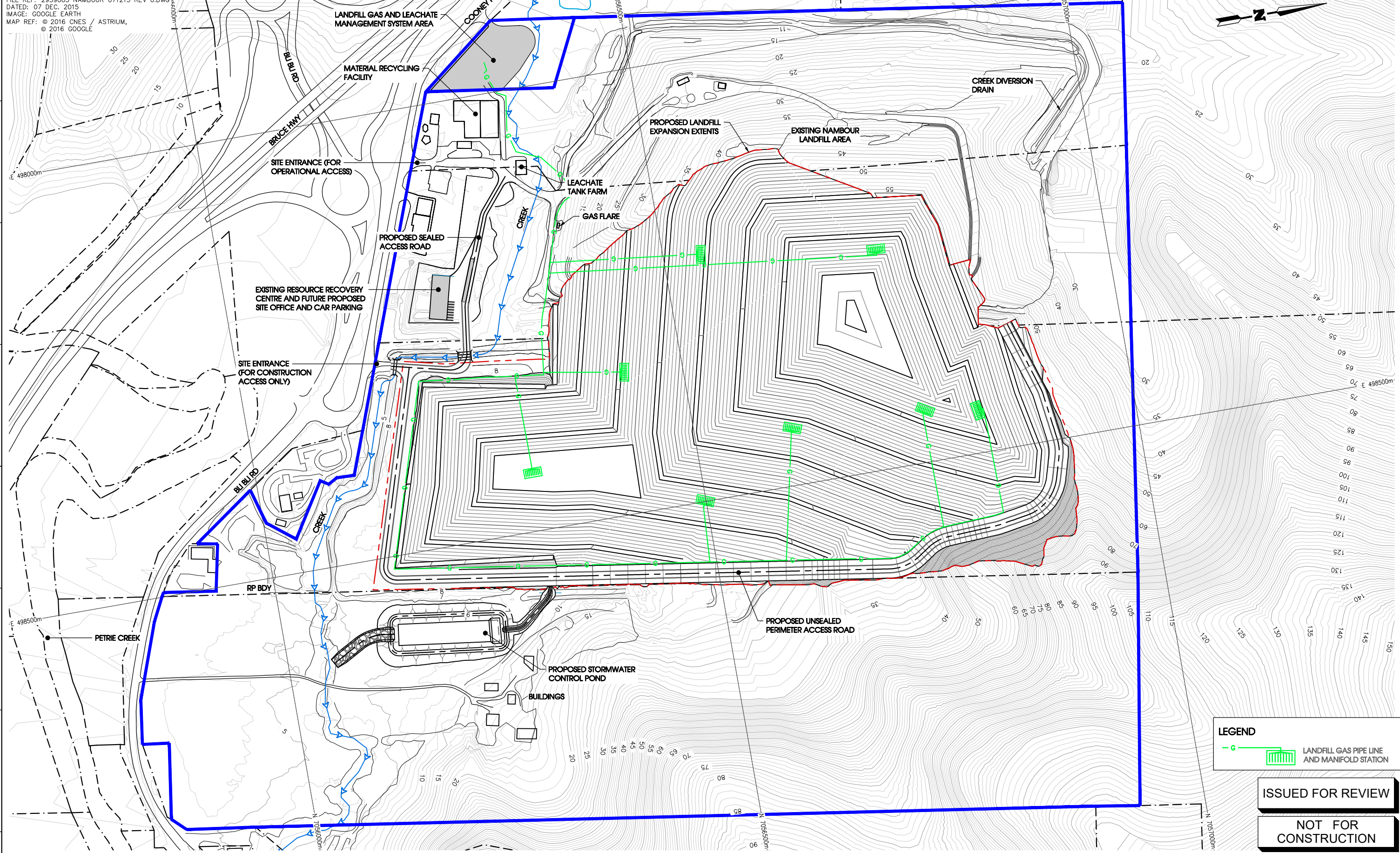
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SHEET 1 OF 1

BASE DATA SUPPLIED BY:
 AERIAL SURVEY: TERRAMAP
 FILE REF: 2959005 NAMBOUR 071215 REV 0.DWG
 DATED: 07 DEC. 2015
 IMAGE: GOOGLE EARTH
 MAP REF: © 2016 CNES / ASTRIUM,
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HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD



LEGEND

LANDFILL GAS PIPE LINE AND MANIFOLD STATION

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No.	DESCRIPTION	DATE	DRAWN	CHECK'D	APPR'D
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B	ISSUED FOR REVIEW	19-05-17	AH	LR	AW
A	ISSUED FOR REVIEW	12-05-17	AH	LR	AW

SCALE:	1 : 4000
JOB No.	116283-09
DATE	MAY 2017
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DRAWN	AH
CHECKED	LR
APPROVED	AW



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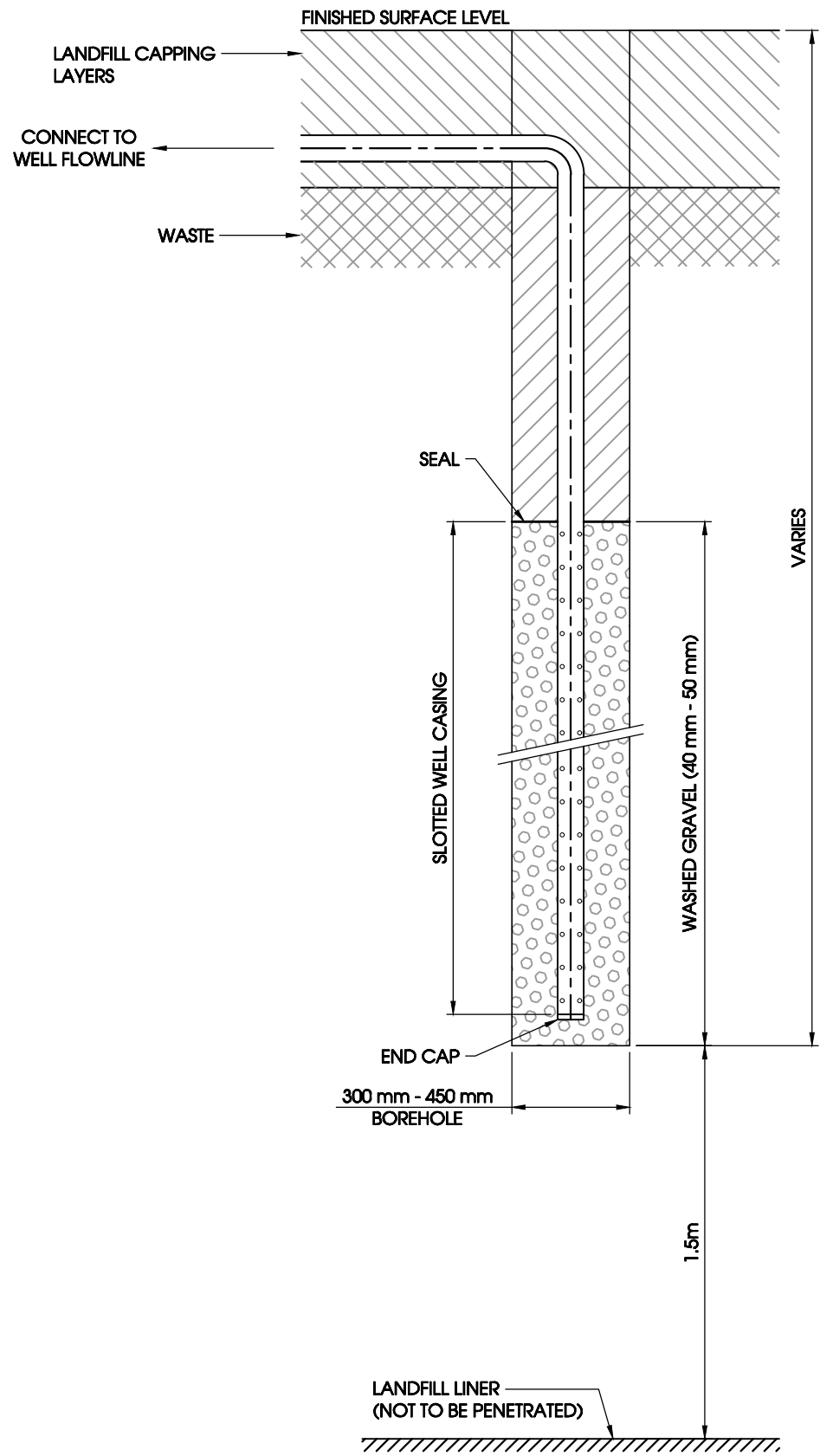
SUNSHINE COAST COUNCIL
NAMBOUR LANDFILL EXPANSION

LANDFILL ENGINEERING REPORT
LANDFILL GAS MANAGEMENT SYSTEM (CONCEPT)

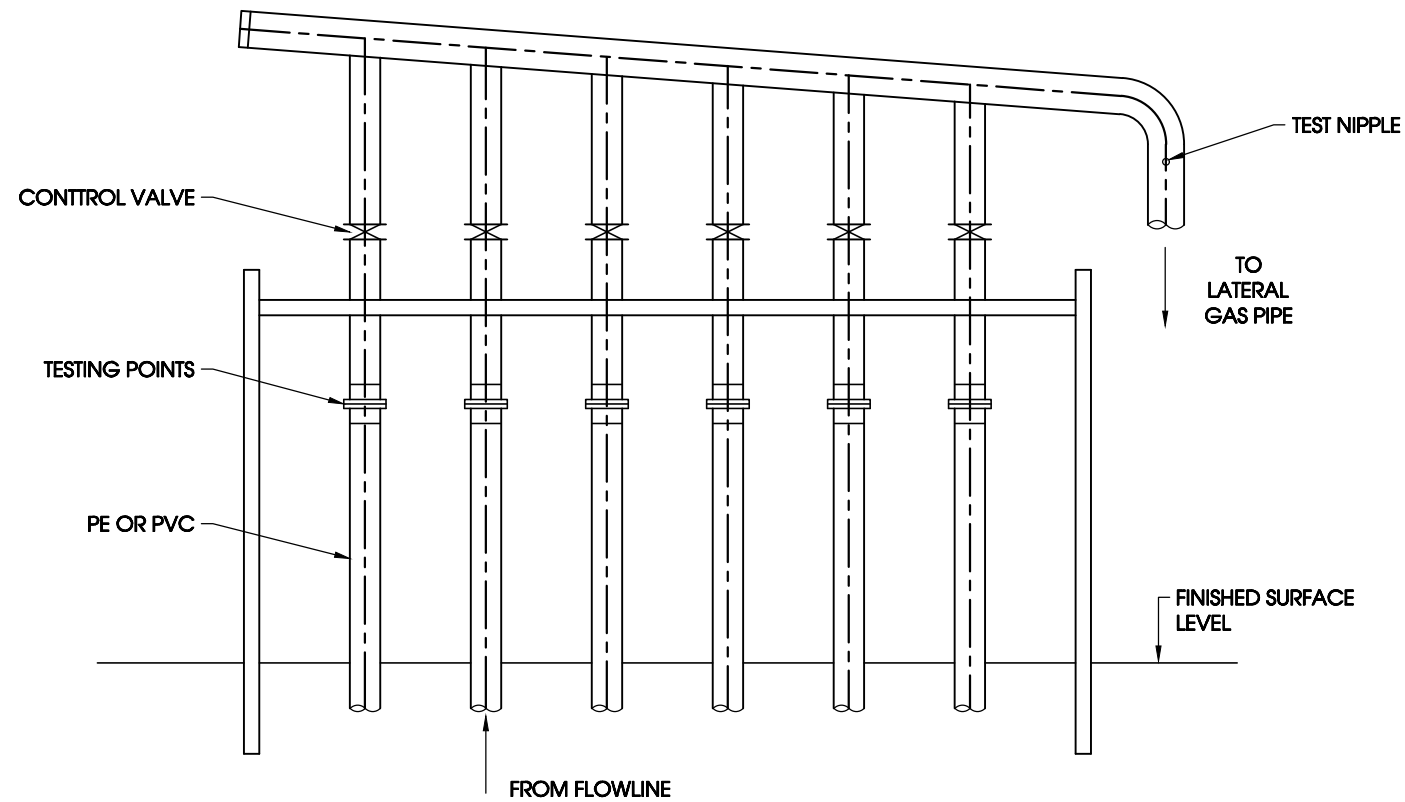
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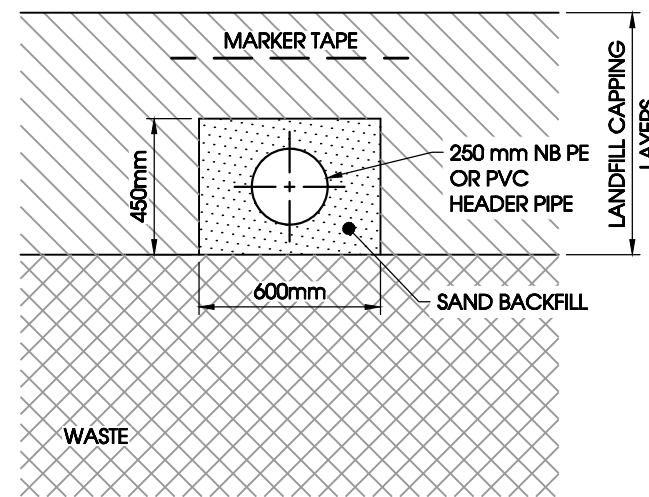
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 Plotted By: Alchrah



TYPICAL DETAIL (U)
STANDARD EXTRACTION WELL (FOR VERTICAL COLLECTION SYSTEM)
 SCALE: 1:25



TYPICAL DETAIL (V)
WELL CONTROL MANIFOLD
 SCALE: N.T.S.



TYPICAL DETAIL (W)
LANDFILL GAS WELL FLOWLINE (FOR VERTICAL COLLECTION SYSTEM)
 SCALE: 1:25

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Plotted Date: 18/05/17
 Plotted By: Alkchah
 Plotted Time: 22:40:12

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SCALE: AS SHOWN

JOB No. 116283-09
 DATE MAY 2017

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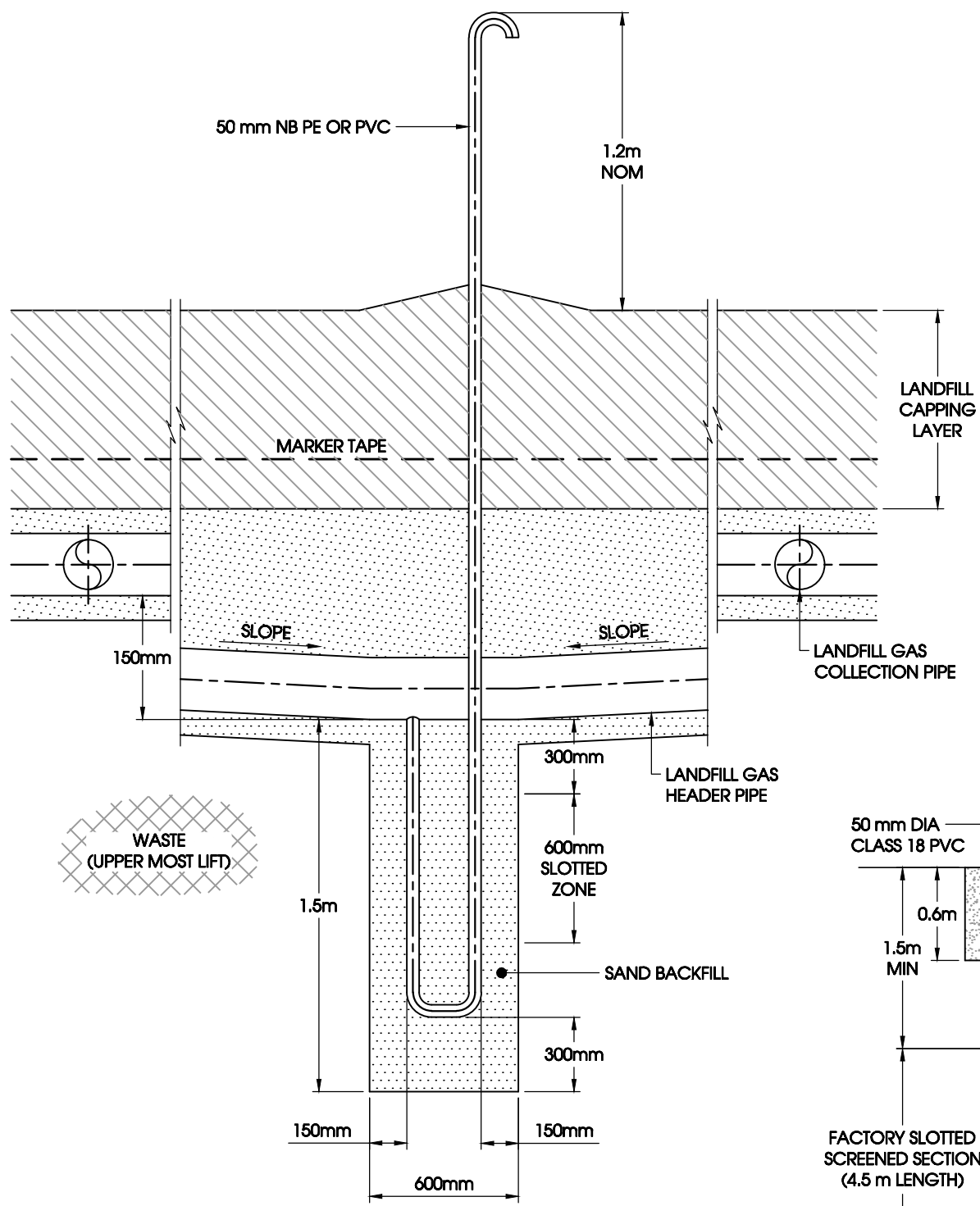
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**SUNSHINE COAST COUNCIL
 NAMBOUR LANDFILL EXPANSION**

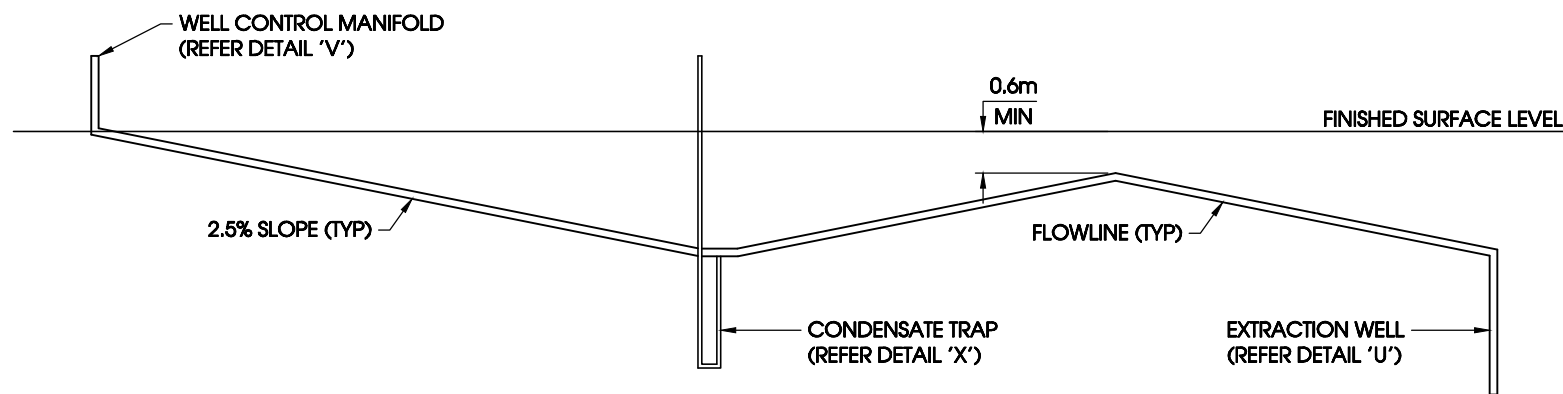
**LANDFILL ENGINEERING REPORT
 LANDFILL GAS MANAGEMENT SYSTEM (CONCEPT)
 TYPICAL DETAILS - SHEET 1**

402	
SHEET SIZE	A3 Rev. B
SHEET 1 OF 1	

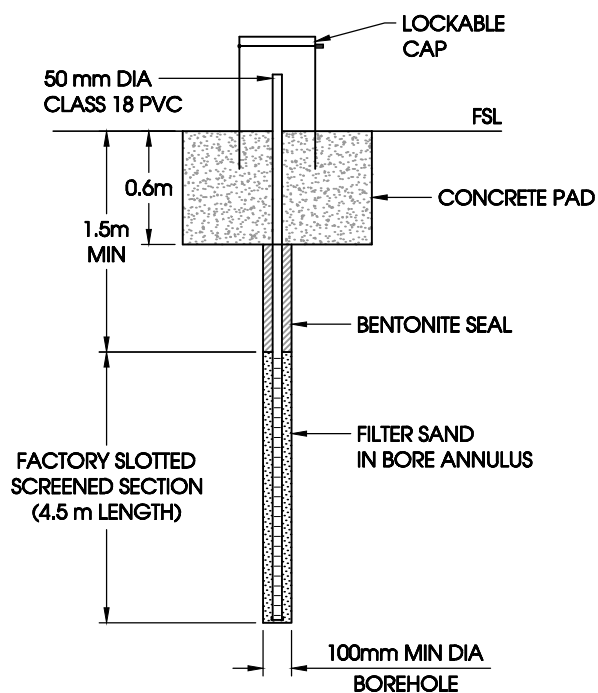
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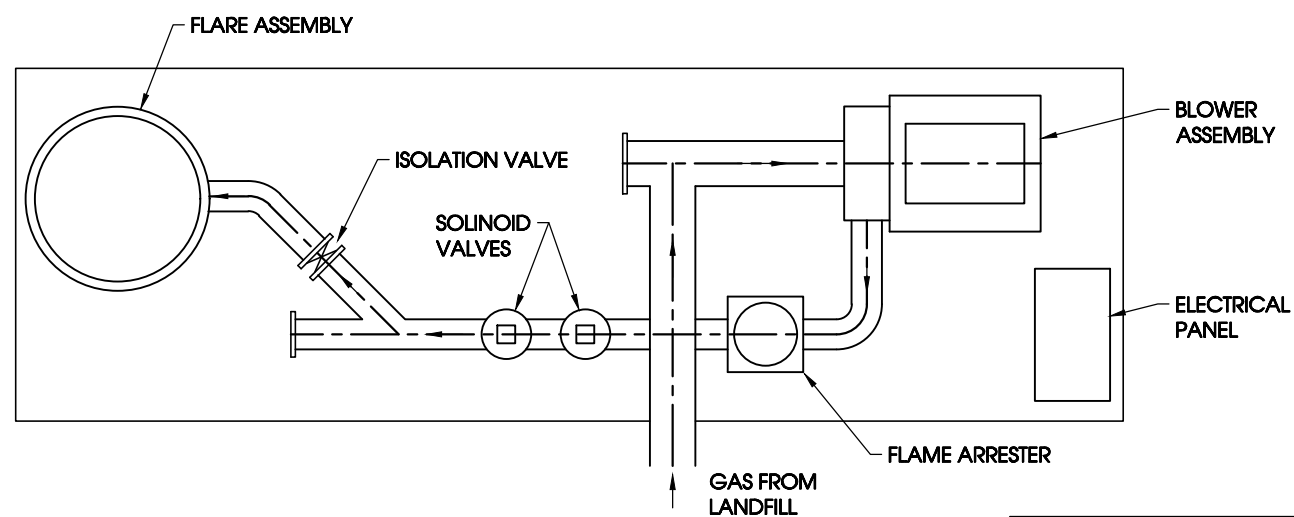
TYPICAL DETAIL (X) CONDENSATE TRAP
SCALE: 1:25



TYPICAL DETAIL (Y) LANDFILL GAS COLLECTOR / FLOWLINE WITH CONDENSATE TRAP (HORIZONTAL OR VERTICAL COLLECTION SYSTEM)
SCALE: 1:100



TYPICAL DETAIL (Z) LANDFILL GAS MONITORING BORE
SCALE: 1:40



TYPICAL DETAIL (AA) CONCEPT LAYOUT FOR LANDFILL GAS FLAME COMPOUND
SCALE: 1:50

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No.	DESCRIPTION	DATE	DRAWN	CHECK'D	APPR'D
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A	ISSUED FOR REVIEW	12-05-17	AH	LR	AW

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SUNSHINE COAST COUNCIL
 NAMBOUR LANDFILL EXPANSION

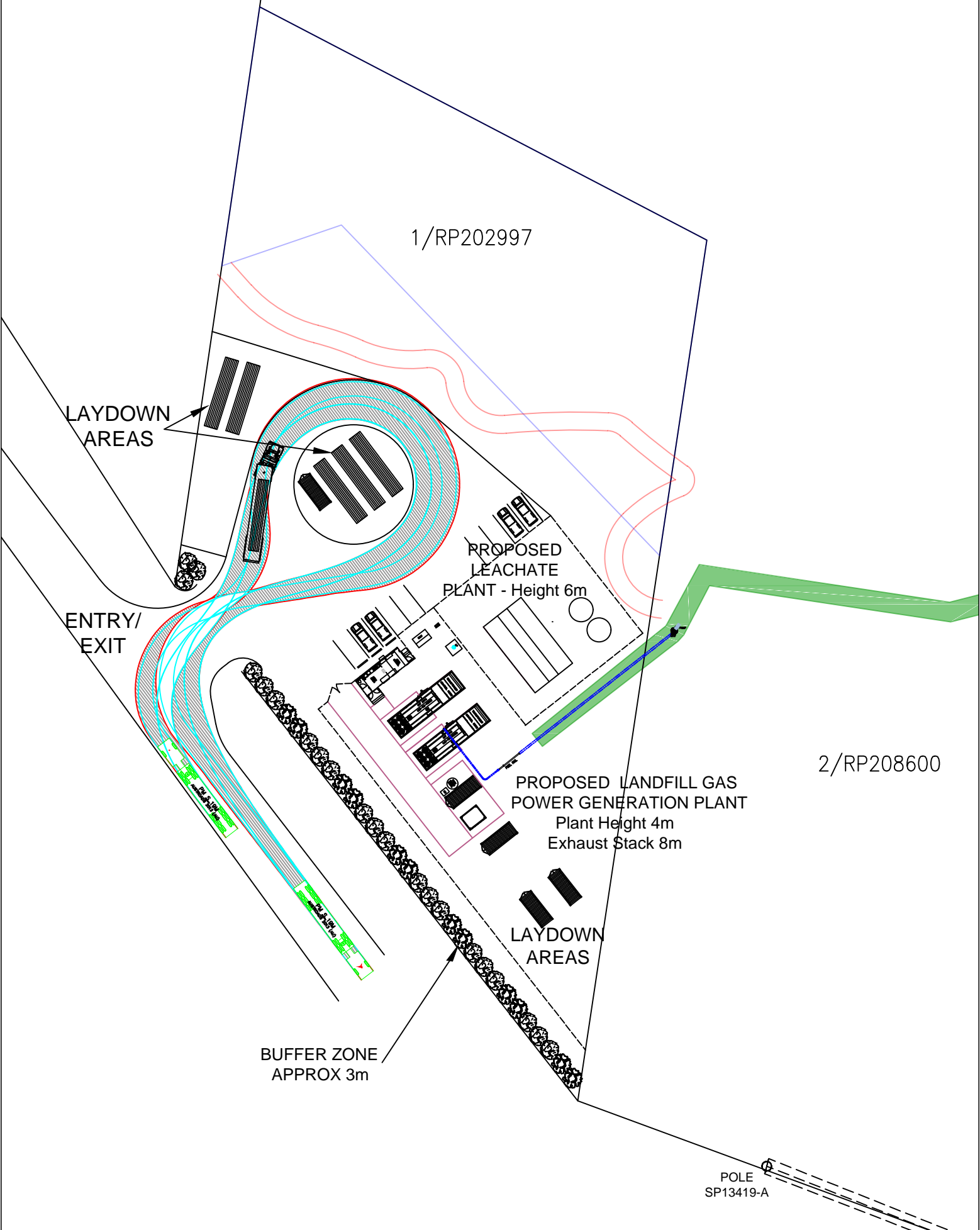
LANDFILL ENGINEERING REPORT
 LANDFILL GAS MANAGEMENT SYSTEM (CONCEPT)
 TYPICAL DETAILS - SHEET 2

403

SHEET SIZE	A3	Rev.	B
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SHEET 1 OF 1

Plotted Date: 18/05/17
 Plotted By: Alchrah
 Plotted Time: 22:37:44



MARK RIGBY & ASSOCIATES
excellence in environmental management

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 MOB 0417 797 486

CLIENT	SUNSHINE COAST COUNCIL	JOB NUMBER	MRA 17- 001
PROJECT	NAMBOUR LANDFILL EXPANSION MCU DEVELOPMENT APPLICATION	DRAWING	FIGURE 1
TITLE	PROPOSED LEACHATE & LANDFILL GAS MANAGEMENT AREA		

DESIGNED	DRAWN	CHECKED	APPROVED	DATE	SCALE	LEVEL DATUM	SHEET SIZE	CAD FILE	ISSUE	REV
SI	SI	AR	MR	JUNE 2017	NTS		A4			FINAL

560 Bli Bli Road and 18, 26, 40, 50,
66 Cooney Road, Bli Bli

APPENDIX

C

LANDSCAPE AND VISUAL IMPACT
ASSESSMENT

Our Ref: LA172801:Click here to enter text.
Contact: Alan Chenoweth

13 March 2018

CARDNO
P.O. Box 152
Maroochydore QLD 4558

Attention: Morgan Wilson

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Dear Morgan,

**LA172801 NAMBOUR LANDFILL EXPANSION- VISUAL IMPACT ASSESSMENT
FINAL REPORTING (MCU17/0142 & MCU17/0142.01 586 BLI BLI ROAD, AND 18,
26, 40, 50 & 66 COONEY ROAD, BLI BLI)**

The Visual Impact Assessment (VIA) and Landscape Intent Plan for the Nambour Landfill Expansion Development Application, submitted in 2017 and 2018 on behalf of Sunshine Coast Regional Council has been reviewed. To assist with your preparation of the overall assessment report, a summary of our review is provided below.

Review of application materials

The following application materials have been reviewed as part of this process:

- 'Nambour Landfill Expansion, Landscape Character & VIA' Prepared by Conlon Group (July 2016) for Sunshine Coast Council;
- 'Nambour Landfill Expansion- Landscape Intent Plan', Prepared by Mark Rigby & Associates as part of the MCU Development Application;
- 'Nambour Landfill Expansion- Option 2B' Civil Drawings, Prepared by ATC Williams;
- 'Sunshine Coast Waste Precinct Town Planning Assessment' Prepared by Urbis (28 June, 2016).

Review of information response materials

The following information response materials have been reviewed:

- 3 submissions received as part of the public notification period;
- 'Nambour Landfill Expansion, Landscape Character & VIA', Prepared by Conlon Group (December 2017) Issue F, for Sunshine Coast Council;
- Response to Information Request (21 December 2017), Prepared by Mark Rigby & Associates.

Attachment 1 provides a detailed review of the Information Request Response.

Identification of key issues

As discussed in detail under PO1 of the Scenic Amenity Overlay Code and PO22 of the Landscape Code (**Attachment 2**) the key visual amenity issues relate to:

- the large scale nature of the proposed landfill and extent of landscape change;
- potential visibility of the Leachate Plant & Landfill Gas Power Generation Plant from some sections of the Bruce Highway and the Bli Bli Road exit travelling south due to limited screening buffer widths and the height difference between the highway and proposed landfill expansion site. (It is noted that existing mature vegetation is to be retained within this area);
- potential visibility from nearby residents and local roads on elevated land to the south of the subject land;

- visibility of stockpile areas until the proposed buffer vegetation is established;
- potential visibility of the upper part of the approximately 40+m high cut faces until the landfill expansion is complete;
- potential impacts of lighting which have not been addressed in the VIA;
- lack of information regarding post landfill uses although it is noted that this will be determined by Council upon closure of the Landfill site; and
- areas of high scenic quality within the local area under the Strategic Framework Map 6 Community Identity, Character and Social Inclusion Element which were not sufficiently identified in the VIA (Dec 2017).

Identification of compliance/non-compliance with relevant planning scheme benchmarks and other criteria

A detailed review assessing compliance with the relevant visual amenity related codes and provisions under the Sunshine Coast Regional Planning Scheme is provided in **Attachment 2**.

General discussion regarding compliance/non-compliance

Generally, the proposal is considered to comply with the relevant visual amenity related codes and provisions as detailed in **Attachment 2** due to:

- The provision of sufficient landscape buffering to adequately screen most views from lower elevations and views from Bruce Highway travelling north;
- Views from residents and local roads on elevated areas towards a large grassy mound surrounded by higher forested hills will not significantly detract from current scenic amenity and character;
- The proposal will be consistent with community expectations for a landfill facility under the Nambour Local Plan Elements Figure 7.2.2A (Sunshine Coast Council 2017) and infrastructure use under the Community Facilities Zone;
- The proposal represents an expansion of an existing landfill operating on the subject land and the site borders adjacent industrial uses within the High Impact Industry Zone including the New Korgan Quarry;
- The proposed buffering species have been selected to be compatible with the existing landscape;
- Proposed mitigation measures for on-site infrastructure will assist with reducing visibility; and
- Whilst not all areas of local high scenic quality were sufficiently identified, the additional cross sections and visualisations adequately demonstrate how the final landform will be integrated into the surrounding landscape from a range of distances.

Recommendation for approval/refusal and any required conditions

It is recommended that the highlighted standard conditions for MCU and RAL Approvals Landscape & Ecology as shown in **Attachment 3** be applied as part of the development approval.

The application should be approved with the following additional conditions as stated under PO1 of the Scenic Amenity Overlay Code and PO22 of the Landscape Code (**Attachment 2**):

- Detailed landscape design of proposed landscape buffer areas as shown on the 'Nambour Landfill Expansion- Landscape Intent Plan' is required.
- The 3m wide screening buffer to the Leachate Plant & Landfill Gas Power Generation Plant along Cooney Road as shown on the 'Nambour Landfill Expansion- Landscape Intent Plan' is to be increased where feasible to provide additional screening of views from the Bruce Highway scenic route and the Bli Bli Road exit travelling south.
- Stockpile areas as shown on the civil drawings are to be sprayed with coloured hydromulch to provide a more natural green surface appearance, prior to growth of the hydroseeded vegetation.
- The upper parts of high cut faces, visible from external scenic routes and other viewpoints, are to be hydroseeded with coloured mulch.
- Further clarification is required as to the proposed lighting and mitigation measures.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Alan Chenoweth".

Alan Chenoweth
Senior Consultant
for Cardno
Direct Line: +61 7 3310 2433
Email: alan.chenoweth@cardno.com.au

Enc: Attachment 1- Review of Information Request Response
Attachment 2- Landscape and Scenic Amenity Assessment
Attachment 3- Visual Assessment Landscape Conditions

1 INFORMATION REQUEST RESPONSE- CARDNO REVIEW

Table 1: Sunshine Coast Regional Council Information Request Items

Item No.	Issue	Information Required	Item Comment	Supporting Information Provided	Cardno Information Response Review
6.	Stockpiling of material and potential amenity impacts	Provide further detail regarding the expected amenity impacts of the stockpiles in the early part of the proposed development and proposed mitigation measures.	<p>This item is addressed in detail in Separate Attachment 5: Conlon Group's <i>Landscape Character and Visual Impact Assessment Issue F (Landscape and Scenic Amenity Items)</i>.</p> <p>Input into this response has also been provided by ATC Williams in relation to stockpile quantities and the potential to minimise anticipated stockpile heights. It was advised that the layout and configuration of</p>	<p><u>Separate Attachment 4:</u> ATC Williams Response to Information Request Letter (Engineering Items)</p> <p>Separate</p>	<p>Sufficient visualisations have been provided demonstrating the location of proposed stockpiles & heights during the various stages from a range of receptors.</p> <p>Suitable mitigation measures have been proposed to ensure the stockpiles will be formed as natural as possible and vegetated with local species appropriate to the surrounding context. However, it is recommended that stockpile areas be sprayed with coloured hydromulch to provide a more natural appearance, even before the hydroseeded vegetation grows.</p>



					<p>The stockpiles will also assist with reducing visibility to cut areas. It is recommended that the upper part of the approximately 40+ m high cut face could also be hydroseeded with coloured mulch. Even if only a small proportion of the seeds germinate and survive on the cut rock face and bench, the coloured mulch may soften its visual appearance, especially in the afternoon sun.</p>
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			<p>stockpiles has been optimised based on functional criteria such as available footprint area, access and revegetation requirements. Therefore, no opportunity exists to reduce the initial stockpile height, assuming containment of the majority of the excavated material.</p> <p>The consideration of amenity in a town planning context must consider the following well-established principles:</p> <ul style="list-style-type: none"> (a) The consideration is objective; (b) Consideration of amenity is informed by the Planning Scheme provisions relevant to the development site; (c) Notions of reasonableness are applied; (d) Any proposed development will usually affect existing amenity; (e) For amenity impacts to be unacceptable, the detrimental effects must be to an unreasonable extent; (f) Whether amenity impacts are unreasonable must be determined according to the standard of comfort and enjoyment expected by ordinary people and not by persons affected by some sort of special sensitive of eccentricity; (g) Planning scheme provisions should not be read as 	<p><u>Attachment 5: Conlon</u> Group, Landscape Character and Visual Impact Assessment Issue F</p>	
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Item No.	Issue	Information Required	Item Comment	Supporting Information Provided	Cardno Information Response Review
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			<p>facilities zone and annotated for waste management functions.</p> <p>Having regard to the above listed principles, it must be concluded that the reasonable expectations of nearby residents have been informed by the clear expectation that this site is intended to provide a range of intensive waste management functions.</p> <p>The stockpiling of material is a necessary and integral component of landfilling activities. The stockpiles will be shaped to enable surface sealing, topsoiling and revegetation with a suitable grass species for temporary stabilisation purposes. With vegetation in place and appropriate profiling, the stockpiles will provide a visual barrier to the excavation face and first stages of landfilling, therefore having an ameliorative effect in this context.</p> <p>When considering the location of the site, its proximity to sensitive uses and the potential views lines, the proposed stockpiles will not result in the detrimental effects to an unreasonable extent.</p> <p>The proposed development has been designed and sited to mitigate amenity impacts, where possible, ensuring that a reasonable level of amenity protection for existing and intended development in adjoining zones. On this basis, the development is considered to comply with the amenity objectives of the Planning Scheme.</p>		
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Item No.	Issue	Information Required	Item Comment	Supporting Information	Cardno Information Response Review
LANDSCAPE AND SCENIC AMENITY					
8.	The proposed development is of a large scale and has the potential to significantly impact on the visual character of the locality, as well as introduce additional visual impacts to sensitive receptors on the elevated parts of the locality to the south of Petrie Creek Road and Rosemount to the south- west	Identify landscape values and visual impacts on scenic amenity and character visible from other scenic routes, taking into consideration prominent vegetated hills and ridgelines (not just landuse) and expand the Fig 16 map in the submitted Visual Impact Assessment to consider areas to the south of the subject land.	This item is addressed in detail in Separate Attachment 5: Conlon Group's <i>Landscape Character and Visual Impact Assessment Issue F</i> (Landscape and Scenic Amenity Items).	<u>Separate Attachment 5:</u> Conlon Group, Landscape Character and Visual Impact Assessment Issue F	The site context has been expanded to consider receptors to the south & other scenic routes. The visualisations through the various stages provide sufficient information to determine the degree of impacts from various receptors.



9.	Issue is as per Item 8.	Clarify that development Option 2B has been assessed as part of the VIA.	<p>The <i>Landscape Character and Visual Impact Assessment Report</i> submitted with the Development Application (DA) MCU17/0142 was prepared as part of the Master Planning process undertaken during 2015/2016. The Master Plan document considered potential landform options including Option 2A Combined Landform Four (4) Stages and Option 2B Combined Landform Five (5) Stages.</p> <p>Option 2B Combined Landform Five (5) Stages was the preferred concept design for the landfill expansion and is the basis for DA MCU17/0142. It is confirmed that Option 2B (being the 5 Stage landfill) was assessed as part of the Visual Impact Assessment submitted with DA MCU17/042.</p>	<p><u>Separate Attachment 1:</u> Mark Rigby & Associates, Response to Information Request Letter</p>	Adequately addressed
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Item No.	Issue	Information Required	Item Comment	Supporting Information Provided	Cardno Information Response Review
10.	Issue is as per Item 8.	Clarify Stage 1 platform and Stage 2 platform locations in visualisations (Figure 18-23 of VIA).	This item is addressed in detail in Separate Attachment 5: Conlon Group's <i>Landscape Character and Visual Impact Assessment Issue F</i> (Landscape and Scenic Amenity Items).	<u>Separate Attachment 5:</u> Conlon Group, Landscape Character and Visual Impact Assessment Issue F	While the extent of the Stage 1 platform shown in visualisations (Figure 38-47 of Dec 2017 VIA) and also in the visualisations with the proposed vegetation buffers (eg. Figures 70-79 of Dec 2017 VIA) appears to be wider than the proposal, it is assumed that this may have been incorrectly represented as the Stage 2 landform.
11.	Issue is as per Item 8.	Provide a summary of the methodology used to prepare Visibility (Fig 17) visualisations and heights of trees/ rates of tree growth represented in various stages in visualisations, and the extent to which such trees will eventually screen parts of the landfill mound.	This item is addressed in detail in Separate Attachment 5: Conlon Group's <i>Landscape Character and Visual Impact Assessment Issue F</i> (Landscape and Scenic Amenity Items).	<u>Separate Attachment 5:</u> Conlon Group, Landscape Character and Visual Impact Assessment Issue F	The rates of tree growth/ screening capacity has been adequately addressed, but it is still difficult to reconcile the wire frame model with the plans. However, based on our interpretation, there appears to be some anomalies with the increased height of the Stage 4 landfill and Stage 5 landform which may have exaggerated the visual impacts



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<p>12.</p>	<p>Issue is as per Item 8. Potential visual impact due to proposed Leachate Plant & Landfill Gas Power Generation Plant</p>	<p>Consider potential visual impacts of proposed structures and mitigation measures (e.g. colours, lighting, materials) including the proposed Leachate Plant & Landfill Gas Power Generation Plant.</p>	<p>This item is addressed in detail in Separate Attachment 5: Conlon Group's <i>Landscape Character and Visual Impact Assessment Issue F (Landscape and Scenic Amenity Items)</i>.</p> <p>As outlined in response to Item 6, it must be concluded that the reasonable expectations of nearby residents have been informed by the clear expectation that this site is intended to provide a range of intensive waste management functions.</p> <p>The Leachate Plant & Landfill Gas Power Generation Plant are infrastructure elements necessary for operational requirements to ensure the effective and</p>	<p><u>Separate Attachment 5:</u> Conlon Group, Landscape Character and Visual Impact Assessment Issue F</p>	<p>Sufficient information has been provided as to the proposed structures within the Leachate Plant & Landfill Gas Power Generation Plant (p14 Dec 2017 VIA).</p> <p>It is assumed that all on 'site infrastructure to be coloured to complement natural vegetation' (p56 Dec 2017 VIA) includes all built form on site.</p> <p>Require clarification as to proposed lighting and mitigation measures.</p>
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Item No.	Issue	Information Required	Item Comment	Supporting Information	Cardno Information Response Review
			<p>safe management of the landfill.</p> <p>When considering the location of the site, its proximity to sensitive uses and the potential views lines, the proposed Leachate Plant & Landfill Gas Power Generation Plant will not result in the detrimental effects to an unreasonable extent.</p> <p>The proposed development has been designed and sited to mitigate amenity impacts, where possible, ensuring that a reasonable level of amenity protection for existing and intended development in adjoining zones.</p> <p>On this basis, the development is considered to comply with the amenity objectives of the Planning Scheme.</p>		

13.	Issue is as per Item 8.	Assess potential impacts on views from Bruce Highway immediately west of the subject land.	This item is addressed in detail in Separate Attachment 5: Conlon Group's <i>Landscape Character and Visual Impact Assessment Issue F</i> (<i>Landscape</i> and <i>Scenic Amenity</i> Items).	<p><u>Separate Attachment 5:</u> Conlon Group, <i>Landscape Character and Visual Impact Assessment Issue F</i></p>	<p>Given the proximity and high visual exposure of the facility to this scenic route, a 3m wide screen is too narrow to ensure a screening buffer to the Leachate Plant & Landfill Gas Power Generation Plant. It is recommended that additional planting be provided to screen views from Bruce Highway & the Bli Bli Road exit travelling south.</p> <p>The proposed cross section 2 (Figure 19, p23) assists with demonstrating the proposed height of the Stage 1-5 landform relative to the existing landfill site from the Bruce Highway.</p>
14.	Issue is as per Item 8.	Consider integration of final landform and post landfill uses into the existing landscape.	<p>Cross-sections to illustrate integration of the final landform and post landfill uses into the existing landscape have been prepared as part of the <i>Landscape Character and Visual Impact Assessment Issue F</i> prepared by the Conlon Group.</p> <p>Also, please refer to ATC Williams Landfill Engineering</p>	<p><u>Separate Attachment 5:</u> Conlon Group, <i>Landscape Character and Visual Impact</i></p>	<p>The proposed cross sections and additional visualisations adequately demonstrate the relationship of the proposed landform with the surrounding landform and discuss the final surface treatment.</p> <p>It is noted that the post landfill uses will be determined by Council upon closure of the Landfill site (p56 Dec 2017 VIA).</p>

Item No.	Issue	Information Required	Item Comment	Supporting Information Provided	Cardno Information Response Review
			<p>Report which discusses landfill development concepts including staging and interaction with the existing landfill (Section 4.0) and final capping and rehabilitation concepts (Section 10).</p> <p>It is also relevant to note that the current Nambour Landfill Environmental Authority (EA) EPPR00978713 for ERA60 includes in Schedule 3 closure and post- closure care conditions NK13-NK16. Based on review of EHP's Model operating conditions for ERA60 Guideline, similar conditions are expected to apply to closure and post-closure care of the proposed landfill expansion as outlined in model conditions L1 – L5.</p> <p>Refer to Attachment 11 of MRA's ERA Supporting Report Rev.2 which includes a copy of EPPR00978713 as well as EHP's Model operating conditions for ERA 60 – Waste disposal.</p> <p>EA conditions also require the final cover system to minimise moisture infiltration, prevent erosion and control landfill gas. Maintaining the integrity of the capping surface is critical as the</p>	<p>Assessment Issue F</p> <p><u>Separate Attachment 6:</u></p> <p>ATC Williams Landfill Engineering Report Revision G.</p> <p><u>Attachment 2:</u></p> <p>Mark Rigby & Associates, ERA Supporting Report Rev.2</p>	



Item No.	Issue	Information Required	Item Comment	Supporting Information Provided	Cardno Information Response Review
			consistent with existing land uses in proximity and integrates into the general landscape character of industrial uses surrounded by forested mountain landscape to the north and fringing rural uses as identified in Separate Attachment 5: Conlon Group's <i>Landscape Character and Visual Impact Assessment Issue F</i>		

<p>15.</p>	<p>Issue is as per Item 8.</p>	<p>Address the extent of changes to views from scenic routes & landscape values identified in the planning scheme</p>	<p>This item is addressed in detail in Separate Attachment 5: Conlon Group's <i>Landscape Character and Visual Impact Assessment Issue F (Landscape and Scenic Amenity Items)</i>.</p> <p>As outlined in response to Item 6, the consideration of scenic routes and landscapes values must be informed by the Planning Scheme provisions relevant to the development site.</p> <p>The proposed development has been designed and sited to mitigate amenity impacts, where possible, ensuring that a reasonable level of visual amenity protection.</p> <p>On this basis, the development is considered to comply with the amenity objectives of the Planning Scheme.</p>	<p><u>Separate Attachment 5:</u> Conlon Group, Landscape Character and Visual Impact Assessment Issue F</p>	<p>Whilst the assessment of visibility from scenic routes does not adequately consider the potential view obstruction from built form, vegetation and topography (see Visual Exposure Map, Figure 22, p26 Dec 2017 VIA) from scenic routes, (for instance most of the scenic routes (Bli, Bli Road and Petrie Creek Road) have been rated red 'High Visual Exposure'), it is considered that the additional visualisations from higher elevations to the south (Viewpoint 9 and 12) provide sufficient information to represent the scale of change to the existing landscape from areas to the south.</p>
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Item No.	Issue	Information Required	Item Comment	Supporting Information Provided	Cardno Information Response Review
16.	<p>While the proposed landform appears to be broadly sympathetic to the existing shapes of the surrounding foothills, this requires analysis and a statement of intent, indicating the rationale.</p> <p>Similarly, the proposed band of Paperbark Teatree vegetation should be addressed in terms of the existing character of surrounding vegetation, as well as its screening capacity. It is not clear how the final landform (a grassy hill surrounded by forested mountain range) will achieve the outcomes</p>	<p>Identify areas of high scenic quality, and impacts on these, as seen from potentially impacted residents and other residents.</p>	<p>This item is addressed in detail in Separate Attachment 5: Conlon Group's <i>Landscape Character and Visual Impact Assessment Issue F (Landscape and Scenic Amenity Items)</i>.</p> <p>The proposed landscape buffers will be planted with species chosen from a combination of Regional Ecosystem technical descriptions and ecological site survey work conducted by Native Foresters. Species have been further selected based on planting requirements i.e. no vines, ground ferns, small herbs or slow growing species and those which are generally available in cultivation. This is outlined in the Landscape Intent Plan submitted with the DA Package for MCU17/0142.</p>	<p><u>Separate Attachment 5:</u> Conlon Group, Landscape Character and Visual Impact Assessment Issue F</p>	<p>Whilst areas of high scenic quality within the local area have not been specifically in the Dec 2017 VIA, the additional cross sections and visualisations adequately demonstrate how the final landform will be integrated into the surrounding landscape from a range of distances.</p> <p>Integration of the proposed buffer into the existing landscape has been adequately addressed.</p>

<p>17.</p>	<p>It is not clear how the final landform (a grassy hill surrounded by forested mountain range) will achieve the outcomes envisaged by PO3 of the <i>Landscape code</i></p>	<p>Address potential post landfill uses and how the final landform is integrated into the existing landscape character.</p>	<p>This item is addressed in detail in Separate Attachment 5: Conlon Group's <i>Landscape Character and Visual Impact Assessment Issue F (Landscape and Scenic Amenity Items)</i>.</p> <p>The development incorporates a range of frontage and buffer landscaping planting to create a high-quality landscape character, consistent with the emerging character of the area as a cluster of high intensive industrial and</p>	<p><u>Separate Attachment 5:</u> Conlon Group, Landscape Character and Visual Impact Assessment Issue F</p>	<p>This has been adequately addressed</p>
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Item No.	Issue	Information Required	Item Comment	Supporting Information Provided	Cardno Information Response Review
			<p>The provision of on-site landscape must achieve an appropriate balance between natural planted areas and areas of the site required for the operational needs of the development.</p> <p>The scale of the proposed landscaping is considered to be sufficient to integrate successfully with the development.</p>		
18.	Issue as per item 16	Provide further assessment of the capacity of the proposed 3m wide buffer zone in Lot 1/RP202997 and 20m wide buffer on Lot 1/CG2584 along the western lot boundary to provide landscape screening (including structures) as seen from Bruce Highway	This item is addressed in detail in Separate Attachment 5: Conlon Group's <i>Landscape Character and Visual Impact Assessment Issue F (Landscape and Scenic Amenity Items)</i> .	<p><u>Separate Attachment 5:</u> Conlon Group, Landscape Character and Visual Impact Assessment Issue F</p>	<p>The additional material presented does not demonstrate that adequate screening can be achieved with a 3 m wide band of screen planting.</p> <p>As stated above, it is recommended that the 3m wide screening buffer to the Leachate Plant & Landfill Gas Power Generation Plant be increased to screen views from Bruce Highway & the Bli Bli Road exit travelling south given the proximity and high visual exposure of the facility to this scenic route.</p>

Landscape and Scenic Amenity Assessment

Scenic Amenity Overlay Code

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
Scenic Routes						
PO1	<p>Development does not detract from the visual amenity of a scenic route and:-</p> <p>(a) is visually unobtrusive, relative to its urban or non-urban setting and surroundings, when viewed from the scenic route;</p> <p>(b) maintains or enhances important view corridors or distance views from the scenic route to significant landscape features; and</p> <p>(c) is low key, both visually and in scale, so as not to detract from the scenic amenity offered from the scenic route.</p>	AO1	<p>Development on land adjoining a scenic route, as identified on a Scenic Amenity Overlay Map:-</p> <p>(a) retains existing vegetation and incorporates landscape treatments to visually screen and soften built form elements, whilst not impeding distance views or view corridors from the scenic route;</p> <p>(b) incorporates building materials and external finishes that are compatible with the visual character and the landscape or townscape setting of the scenic route; and</p> <p>(c) minimises visual impacts on the scenic route in terms of:-</p> <p>(i) the scale, <i>building height</i> and setback of buildings;</p> <p>(ii) the location and configuration of access roads and driveways; and</p> <p>(iii) the scale, extent and visual prominence of signage.</p>	<p>Complies with PO1</p> <p>Refer to town planning assessment report.</p>	<p>Identify landscape values and visual impacts on scenic amenity and character visible from other scenic routes; and take into consideration prominent vegetated hills and ridgelines (not just landuse) and expand Fig 16 map in VIA to consider areas to the south of the subject land.</p> <p>Clarify that development Option 2B has been assessed as part of the VIA.</p> <p>Clarify Stage 1 platform and Stage 2 platform locations in visualisations (Figure 18- 23 of VIA).</p> <p>Provide a summary of methodology used to prepare Visibility (Fig 17) visualisations and heights of trees/ rates of tree growth represented in various stages in visualisations, and the extent to which such trees will eventually screen parts of the landfill mound.</p> <p>Consider potential visual impacts of proposed structures and mitigation measures (eg. colours, lighting, materials); including the proposed Leachate Plant & Landfill Gas Power Generation Plant.</p> <p>Assess potential impacts on views from Bruce Highway immediately west of the subject land.</p> <p>Consider integration of final landform and potential post landfill uses into the existing landscape.</p> <p>Address extent of changes to views from scenic routes & landscape values identified in the planning scheme.</p>	<p>Agreed- will comply with PO1, notwithstanding its scale and proximity to a scenic route.</p> <p>Whilst the proposed landfill will be large scale and visible from some sections of nearby Bruce Highway and nearby residents and local roads on elevated land to the south, sufficient landscape buffering has been provided to adequately screen most views from lower elevations (eg. views from Cooney Road as shown in the visualisations from Viewpoint 2 Figure 96, p92 and Viewpoint 3 Figure 97, p93 of the Dec 2017 VIA) and views from Bruce Highway travelling north as shown in Figure 95, p91.</p> <p>Views from residents and local roads on elevated areas towards a large grassy mound surrounded by higher forested hills will not significantly detract from current scenic amenity and character, despite the large scale nature of the proposed landfill & extent of landscape change. It will be consistent with community expectations for a landfill facility under the Nambour Local Plan Elements Figure 7.2.2A (Sunshine Coast Council 2017) and infrastructure use under the Community Facilities Zone.</p> <p>Additionally, the proposal represents an expansion of an existing landfill operating on the subject land and the site borders adjacent industrial uses within the High Impact Industry Zone including the New Korgan Quarry. It is noted the proposed rehabilitation plans for the adjacent quarry have not been considered within the Dec 2017 VIA.</p> <p>The proposed buffering species have been selected to be compatible with the existing landscape. Proposed mitigation measures for on-site infrastructure will assist with reducing visibility although potential impacts of lighting have not been addressed.</p> <p>It is recommended that the 3m wide screening buffer to the Leachate Plant & Landfill Gas Power Generation Plant along Cooney Road be increased to screen views from Bruce Highway & the Bli Bli Road exit travelling south given the proximity and high visual exposure of the facility to this scenic route.</p>

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
						It is also recommended that stockpile areas be sprayed with coloured hydromulch to provide a more natural appearance, even before the hydroseeded vegetation grows. It is recommended further that the upper part of the approximately 40+ m high cut faces could also be hydroseeded with coloured mulch. Even if only a small proportion of the seeds germinate and survive on the cut rock face and bench, the coloured mulch may soften its visual appearance, especially in the afternoon sun. It is noted that the Dec 2017 VIA did not take into consideration that the subject land is located within high value scenic area under the Strategic Framework Map 6 Community Identity, Character and Social Inclusion Elements.
Regional Inter-urban Break						
PO2	Urban and rural residential development does not occur within the regional inter-urban break.	AO2	No acceptable outcome provided.	PO2 – Not Applicable The site is not mapped within proximity to a Regional Inter-Urban Break.	Agreed – not applicable	N/A
PO3	Development protects and enhances the landscape values of the regional inter-urban break as a non-urban land area, free of urban elements and infrastructure, that maintains the continuity of separation between the Sunshine Coast and the Brisbane to Caboolture metropolitan area.	AO3	No acceptable outcome provided.	PO3 – Not Applicable The site is not mapped within proximity to a Regional Inter-Urban Break.	Agreed – not applicable	N/A
Sub-regional Inter-urban Breaks						
PO4	Urban and rural residential development does not occur within a sub-regional inter-urban break.	AO4	No acceptable outcome provided.	PO4 – Not Applicable The site is not mapped within proximity to any Sub-Regional Inter-Urban Breaks.	Agreed – not applicable	N/A
PO5	Development protects the function of a sub-regional inter-urban break in providing physical and visual separation between urban areas, individual places and communities within the Sunshine Coast.	AO5	No acceptable outcome provided.	PO5 – Not Applicable The site is not mapped within proximity to any Sub-Regional Inter-Urban Breaks.	Agreed – not applicable	N/A
Significant Views and Vistas						
PO6	Impact assessable development, or other development that exceeds the maximum height specified on a Height of Buildings and	AO6	Development maintains or enhances the significant views identified in Table 8.2.12.3.2 (Significant views) .	AO6 – Not Applicable The site is not located within proximity to any significant views identified in Table 8.2.12.3.2.	Agreed – not applicable	N/A

Performance Outcomes	Acceptable Outcomes	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
Structures Overlay Map, does not adversely impact upon significant views. Note—the Height of buildings and structures overlay code provides that certain types of development may exceed the height limits specified for a <i>site</i> on the applicable Height of Buildings and Structures Overlay Map.				

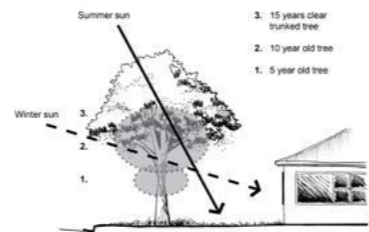
Landscape Code

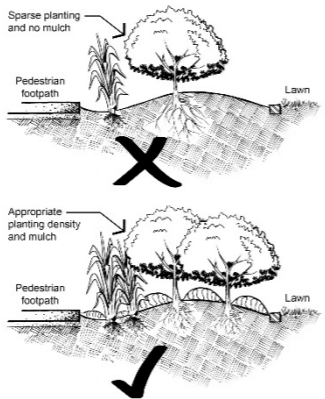
Performance Outcomes	Acceptable Outcomes	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
Retention of Vegetation and Topographic Features in Layout and Design of Landscapes				
PO1	Development provides landscapes that, as far as practicable, retain and protect existing trees, vegetation and topographic features of ecological, recreational, aesthetic and cultural value.	AO1 No acceptable outcome provided. <i>Note—the Planning scheme policy for development works provides more specific guidance about the retention of vegetation and topographic features.</i>	Complies with PO1 Where possible, existing vegetation will be retained as buffer screening, however the site is largely cleared of native vegetation and additional buffer planting will be carried out. Detailed landscape design to be provided at the time of final detailed engineering design. Landscape intent is provided in the landscape intent plan prepared by Mark Rigby & Associates Pty Ltd.	Consider final landform and post landfill uses, as above under Scenic Amenity Overlay Code, PO1. Agreed- will comply. As stated above under PO1 of the Scenic Amenity Overlay Code, from most viewpoints at lower elevations, the final landform with proposed buffer planting will be adequately screened using species compatible with the surrounding landscape. Possible views from elevated areas will be consistent with community expectations for a landfill facility and the proposed grassy mound will not be visually offensive with the surrounding landscape despite its increased scale. Require detailed landscape design of proposed landscape buffer areas and a wider buffer is recommended to the front of the Leachate Plant & Landfill Gas Power Generation Plant along Cooney Road as stated above under PO1 Scenic Amenity Overlay Code. It is noted that the post landfill uses will be determined by Council upon closure of the Landfill site (p56 Dec 2017 VIA).
Management of Weeds				
PO2	Development provides for all weeds to be managed within the site and frontages and for the implementation of effective measures to reduce weed intrusion and	AO2 No acceptable outcome provided. <i>Note—the Planning scheme policy for development works provides more specific guidance about the retention of vegetation and topographic features.</i>	Complies with PO2 A Site Based Management Plan (SBMP) has been prepared by Sunshine Coast Council to document the operational and management	Agreed – will comply Agreed – will comply

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	the risk of re-infestation on an ongoing basis.			practices associated with the landfill activity, including the management of weeds. An EPBC Referral also includes a commitment to weed management to protect an environmentally significant vegetation community along the northern development boundary. A detailed Landscape Plan will be provided at the time of final detailed engineering design and will outline buffer planting maintenance including weed management.		
Landscape Design						
PO3	Development provides for landscapes that contribute to and create a high quality landscape character for the site, street, local area and the Sunshine Coast, by:- (a) promoting the character of the Sunshine Coast as a sub-tropical environment; (b) being sensitive to site conditions, natural landforms and landscape characteristics; (c) protecting and enhancing native vegetation, wildlife habitat and ecological values; (d) protecting and framing significant views, vistas and areas of high scenic quality; and (e) being of an appropriate scale to integrate successfully with development.	AO3	No acceptable outcome provided. <i>Note—the Planning scheme policy for development works provides more specific guidance about the retention of vegetation and topographic features.</i>	Complies with PO3 Landscape intent is provided in the landscape intent plan prepared by Mark Rigby & Associates Pty Ltd. The proposed landscape design has: <ul style="list-style-type: none"> Included species to provide visual buffers which will include species that occur naturally in the area and have been selected from pre-clear vegetation mapping. This will ensure the character of the Sunshine Coast is retained. Considered site conditions and the landforms on which it will be installed to maximise successful growth and visual buffering. Included species to enhance wildlife habitat identified in the ecological assessments undertaken on the site. This will focus on koala and Richmond birdwing butterfly habitat. A landscape character and visual impact assessment has been undertaken for the development and this landscape intent is facilitating the implementation of recommendations from this report. Considered site conditions and the landforms on which it will be installed to integrate successfully with development. 	Complies generally with PO3 (a) and (b), but further analysis is required to demonstrate compliance with (d) and (e) and the provision of a 'high quality landscape character' for the final visible landform. While the proposed landform appears to be broadly sympathetic to the existing shapes of the surrounding foothills, this requires analysis and a statement of intent, indicating the rationale. Similarly, the proposed band of Paperbark Teatree vegetation should be addressed in terms of the existing character of surrounding vegetation, as well as its screening capacity. It is not clear how the final landform (a grassy hill surrounded by forested mountain range) will achieve PO3. Identify areas of high scenic quality, and impacts on these, as seen from potentially impacted residents and other residents; as well as the information requirements listed under Scenic Amenity Overlay Code, PO1 above.	Agreed – will comply for reasons outlined under PO1, Landscape Code Whilst areas of high scenic quality within the local area have not been sufficiently identified in Section 3.0 Landscape Character Impact Assessment of the Dec 2017 VIA, the additional cross sections and visualisations adequately demonstrate how the final landform will be integrated into the surrounding landscape from a range of distances. As stated above under PO1 of the Scenic Amenity Overlay Code, it is noted that the Dec 2017 VIA did not take into consideration that the subject land is located within high value scenic area under the Strategic Framework Map 6 Community Identity, Character and Social Inclusion Elements.
Landscape Management and Maintenance						
PO4	Development provides for landscapes that are designed, constructed,	AO4	No acceptable outcome provided.	Complies with PO4	Address potential post landfill uses and how the final landform is integrated into the existing landscape character, as	Agreed – will comply See PO1, Landscape Code

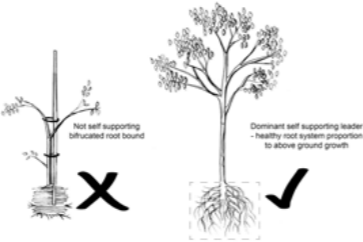
Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	established and maintained to allow for natural vegetation communities renewal, where practicable, and to ensure minimisation of ongoing maintenance costs.			<p>Landscape intent is provided in the landscape intent plan prepared by Mark Rigby & Associates Pty Ltd.</p> <p>The landscape intent is to replicate naturally occurring vegetation communities (i.e. RE12.12.15 and RE12.3.2) which in the long term will require reducing maintenance commitments. NOTE: Pre-clear mapping indicates the presence of 12.12.2, however ground truthing found this to be incorrect and is in fact 12.12.15.</p>	mentioned under Information Requirements for Scenic Amenity Overlay Code, PO1.	
Hazardous Materials						
PO5	Development provides for maintenance issues to be considered as an integral part of the landscape design and a sustainable maintenance regime to be implemented over time.	AO5	No acceptable outcome provided.	<p>Complies with PO4</p> <p>Maintenance requirements have been considered in the landscape intent and species selection and the use of natural vegetation communities will result in a long term reduction in maintenance commitments.</p>	Agreed – will comply	Agreed – will comply
Safety and Security						
PO6	Development provides for landscapes that enhance access points and personal safety, but which do not impede visibility at access points, pedestrian crossings, speed control devices and intersections.	AO6	<p>Development provides landscapes which:-</p> <p>(a) define territory and ownership of public, common, semi-private and private space and does not create ambiguous spaces adjacent to areas with security issues;</p> <p>(b) allow passive surveillance into, and visibility within, communal recreational spaces, children's play areas / playgrounds, pathways and car parks;</p> <p>(c) incorporate trees that will establish to provide a minimum of 1.8 metres clear trunk and understorey planting that is a maximum of 0.7 metres in height above the road pavement, where located immediately adjacent to pathways, entries, parking areas, street corners, street lighting and driveways;</p> <p>(d) minimise the use of dense shrubby vegetation over 1.5 metres in height along street frontages and adjacent to open space areas;</p> <p>(e) incorporate pedestrian surfaces that comply with AS/NZS 4586 Slip resistance classification of new pedestrian surface materials and AS 3661 Slip resistance of pedestrian surfaces, and be stable and trafficable in all weather conditions;</p> <p>(f) provide universal access in accordance with <i>Australian Standard AS 1428: Design for Access and Mobility</i>; and</p> <p>(g) provide security and pathway level lighting to site entries, driveways, parking areas, building entries and pedestrian pathways.</p>	<p>Complies with AO6</p> <p>Landscape intent is provided in the landscape intent plan prepared by Mark Rigby & Associates Pty Ltd.</p> <p>The landscape intent will:</p> <ul style="list-style-type: none"> define the boundary of the landfill footprint whilst providing an access road between the landfill and the landscaping for maintenance and security. Planting will focus on height as a consequence of the screening intent of the landscape plan. In parts shrubby vegetation will be used as screen planting. Existing security and lighting will be maintained. Any additional measures will be provided as required and detailed in the detailed landscape plan. 	Agreed – will comply	Agreed – will comply

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
PO7	Development provides for public landscape management to occur within a safe working environment.	AO7	No acceptable outcome provided. <i>Note—development of landscape is to have regard to the Manual of Uniform Traffic Control Devices and the Work Health and Safety Act 2011.</i>	Complies with PO7 Landscape management will occur in a safe working environment and have regard to the Work Health and Safety Act 2011 by avoiding steep slopes, works close to roadways etc. Appropriately qualified landscape contractors with the necessary licenses will be used to install and maintain the landscape works.	Agreed – will comply	Agreed – will comply
Energy Efficiency						
PO8	Development provides landscapes that assist in passive solar access, the provision of shade, microclimate management and energy conservation.	AO8.1 AO8.2 AO8.3 AO8.4 AO8.5	Landscape elements are positioned to shade walls, windows and outdoor areas from afternoon (western) sun. Landscapes facilitate winter sun access to living areas, north facing windows and public spaces. Landscapes, fences and walls allow exposure of living and public areas to prevailing summer breezes and protection against winter winds. Landscape elements do not shade solar collector devices during the middle 6 hours of the day. Existing street and park trees are retained where solar collectors are installed. <i>Note—Figure 9.4.2A (Design for passive solar access) illustrates how landscapes may provide for passive solar access, the provision of shade and microclimate management.</i> Figure 9.4.2A Design for passive solar access	AO8.1 to AO8.4 – Not Applicable The landscape intent is to provide buffer plantings to screen and minimise visual impacts created from the development of a landfill. Given the nature of the proposed development, these considerations are not relevant to the landscaping proposed as part of the development.	Agreed – not applicable	Agreed – not applicable
Stormwater Drainage and Water Conservation						
PO9	Development provides for landscapes that successfully integrate stormwater drainage and water sensitive urban design elements with the street tree infrastructure	AO8.1	No acceptable outcome provided	Complies with PO9 Landscaping to visually screen the landfill development will not be integrated with site stormwater drainage and water sensitive urban design due to the specific nature of	While it doesn't comply, we agree that there is no need to comply in this situation	N/A



Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	and surrounding landscapes.			landfill stormwater engineering requirements. These elements will be separate.		
PO10	Development provides for landscapes that promote the efficient use of water through appropriate plant selection and layout and by maximising opportunities for water infiltration.	AO10	<p>Landscapes maximise the infiltration and conservation of water by:-</p> <ul style="list-style-type: none"> (a) selecting plant species appropriate for local conditions and appropriate turf species that require minimal irrigation after establishment; (b) grouping plants and street trees (where appropriate) in mulched beds; (c) minimising impervious surfaces; (d) incorporating semi-porous pavement surfaces as an alternative to impervious surfaces; and (e) draining hard surface areas to landscaped areas and water sensitive urban design devices. <p>Note—Figure 9.4.2B (Planting density and use of mulch) illustrates how landscapes may promote water conservation through appropriate planting density and use of mulch.</p> <p><i>Figure 9.4.2B Planting density and use of mulch</i></p> 	<p>Complies with AO10</p> <p>Landscape intent is provided in the landscape intent plan prepared by Mark Rigby & Associates Pty Ltd.</p> <p>The landscape intent has been prepared to ensure:</p> <ul style="list-style-type: none"> (a) Plant species have largely been chosen from the pre-clear regional ecosystem in combination with site survey (Native Foresters 2016) of that area which means they are appropriate for local conditions and will require minimal irrigation. (b) Trees will be linearly planted and mulched to create a visual screen. (c) There will be no impervious areas in relation to the buffer planting. (d) There will be no impervious areas in relation to the buffer planting. (e) There is potential for the clean water drain aligned with the perimeter access road to drain into the buffer planting area. Site water will be directed to the HES Basin/proposed Sediment Control Pond as outlined in ATC Williams Landfill Engineering Report. 	Agreed – will comply	Agreed – will comply
PO11	Development provides for landscapes with planting and lawn areas that do not require permanent irrigation, except in high profile and high use landscape areas.	AO11	No acceptable outcome provided	<p>PO11 – Not Applicable</p> <p>Permanent irrigation will not be required in the buffer areas.</p>	It <u>is</u> applicable, but it will comply	It <u>is</u> applicable, but it will comply
Site Stability and Soil Quality						
P12	Development provides for landscapes which are designed and sited to	AO12	No acceptable outcome provided	<p>Complies with PO12</p> <p>The buffer planting will occur on areas of the site that are not steeply sloping, thus</p>	Agreed – will comply	Agreed – will comply


Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review										
	ensure the stability of soils and minimisation of erosion.			reducing the potential for erosion. Some sections of the planting may need to occur on the lower sections of the landfill bund, however these will be engineered to minimise erosion.												
PO13	Development provides for landscapes on steep and unstable land to be managed with slope stabilising planting rather than engineered retaining structures, as far as practicable.	AO13	Landscapes incorporate stabilising plant species at an appropriate density and establishment materials on batters, slopes and the edges of <i>waterways</i> using soils which are less prone to erosion. <i>Note – Figure 9.4.2C (Landscape design for waterway edges) illustrates the preferred landscape treatment for waterway edges. Figure 9.4.2C Landscape design for waterway edges</i>	AO13 – Not Applicable Buffer planting will not occur on steep and unstable land.	Agreed – will comply	Agreed – will comply										
PO14	Development provides for landscapes that incorporate planting media that is capable of supporting the successful establishment and sustainable growth of selected plant species.	AO14.1 AO14.2	All planting media including site soil and imported topsoil used in landscapes:- (a) is suitable for the successful establishment of the selected plant species; and (b) is suitably remediated to maximise the site specific vegetation performance objectives. As far as practicable, existing site soil is used for planting media.	Complies with AO14.1 and AO14.2 Planting media will be assessed for the detailed design phase of the buffer planting and suitable media will be provided if required. Planting is likely to occur direct into existing soil and the use of pre-clear regional ecosystem plants will result in the most suitable plants for the site conditions.	Agreed – will comply	Agreed – will comply										
Planting Technique, Plant Selection, Stock Size and Quality																
PO15	Development provides for landscapes where planting of plant stock is undertaken in accordance with best horticultural practice.	AO15	No acceptable outcome provided	Complies with PO15 Details of plant stock and planting techniques to be provided in the detailed landscape design, however, standard horticultural practices together with adaptive management will be used to satisfy best practice requirements.	Agreed – will comply	Agreed – will comply										
PO16	Development provides for landscapes which incorporate plant stock of an appropriate size at the time of planting to fulfil the intended function whilst ensuring long term viability.	AO16	Landscapes incorporate plant stock sizes that comply with Table 9.4.2.3.1A (Minimum plant stock sizes) Table 9.4.2.3.1A Minimum plant stock sizes <table border="1"> <thead> <tr> <th>Column 1 Planting Stock</th> <th>Column 2 Minimum Pot Size</th> </tr> </thead> <tbody> <tr> <td>Feature or landmark trees</td> <td>45 litre pot</td> </tr> <tr> <td>Street trees or park trees</td> <td>25 litre pot</td> </tr> <tr> <td>Other trees</td> <td>15 litre pot (300mm)</td> </tr> <tr> <td>Shrubs, vines and ground covers</td> <td>140mm pot</td> </tr> </tbody> </table>	Column 1 Planting Stock	Column 2 Minimum Pot Size	Feature or landmark trees	45 litre pot	Street trees or park trees	25 litre pot	Other trees	15 litre pot (300mm)	Shrubs, vines and ground covers	140mm pot	Complies with PO16 Details of plant stock to be provided in the detailed landscape design, however Table 9.4.2.3.1A will be considered. Given the landscape works is for long-term visual screening of the landfill from given vantage points, the minimum pot sizes in Table 9.4.2.3.1A may not result in the best long-term outcome.	While it does <u>not</u> comply, we agree that smaller stock sizes (including tubestock) are probably more appropriate in this situation	Agreed – will comply
Column 1 Planting Stock	Column 2 Minimum Pot Size															
Feature or landmark trees	45 litre pot															
Street trees or park trees	25 litre pot															
Other trees	15 litre pot (300mm)															
Shrubs, vines and ground covers	140mm pot															

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
			Macrophytes, tufting plants and revegetation stock	50mm tube		
PO17	Development provides for landscapes which incorporate plant species that:- (a) are well matched to the required landscape function; (b) are not poisonous or dangerous; (c) have a form and structure typical of the species, free from structural or root system faults, diseases and nutritional deficits; and (d) are of appropriate hardiness for the intended location.	AO17.1 AO17.2 AO17.3 AO17.4 AO17.5	<p>In urban settings, landscapes incorporate local and 'cultivar' native plants with moderate use of suitable non-invasive exotic species where function requires.</p> <p>Landscape planting does not use plant species that:- (a) have large thorns or spines; (b) are capable of triggering severe allergic reactions; or (c) are poisonous.</p> <p>Landscape planting does not use declared or environmental weeds as specified in the Planning scheme policy for development works.</p> <p>Street and park tree stock meet the requirements for quality specified in the <i>NATSPEC Guidelines: Specifying Trees, and/or plants are true to form</i>.</p> <p>Note—Figure 9.4.2D (Quality of street and plant tree stock) illustrates the condition of trees to be used in landscapes.</p> <p>Figure 9.4.2D Quality of street and plant tree stock</p>  <p>All plant stock is free of disease and nutritional deficiencies and has been acclimatised to conditions similar to those expected on the development <i>site</i> (i.e. full sun, wind, salt spray).</p>	<p>Complies with AO17.1 to AO17.5</p> <p>The planting of the buffer area is not within an urban setting and will be chosen to achieve height, wildlife habitat and a natural ecosystem. No declared or environmental weeds will be used in the plant stock.</p> <p>The landscape intent has considered SC6.14.7.13 Revegetation and habitat restoration works; SC6.14.7.14 Landscape design for wildlife and SC6.14.7.15 Landscape buffers in SC6.14 Planning scheme policy for development works.</p>	Agreed – will comply	Agreed – will comply
PO18	Development ensures that where palms are used in landscapes they are:- (a) used in a manner that is consistent with their natural character and occurrence on the	AO18	Palms included in the planting palette are planted in small naturalistic groups (clumped as they would normally occur) in coordination with other trees and foliage planting.	<p>Complies with AO18</p> <p>Palms will be included in Buffer Areas 1 & 3 and will be planted in small copses mirroring their natural habit – Palms will include Bangalow Palm and Cabbage Tree Palms only.</p>	Agreed – will comply	Agreed – will comply

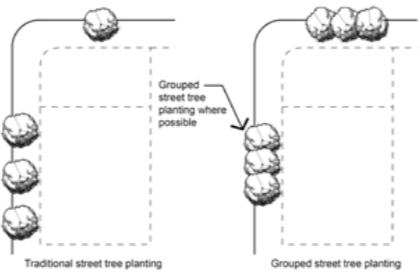
Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	Sunshine Coast, where practicable; (b) used as an emergent rather than dominant landscape feature, where other species are less suitable; and (c) the appropriate species for their location, and minimise public safety risks.					
Revegetation and Habitat Restoration Works						
PO19	Development with landscapes for revegetation or habitat restoration works, ensures that the works:- (a) are of a high quality; (b) replicate the topography and structure of appropriate natural habitat and corridor elements; (c) utilise plant species of local native provenance where available; and (d) are established using appropriate methods so as to maximise environmental outcomes and minimise ongoing maintenance requirements.	AO19	Revegetation and habitat restoration works:- (a) are undertaken in accordance with the standards specified in the Planning scheme policy for development works ; (b) employ suitable establishment and management methods and combinations of methods to encourage the most successful regeneration; (c) use local native provenance species, where available, that are planted in a matrix or naturalistic pattern to densities best suited to the species, landform, soil profile, drainage and ecosystem being recreated; (d) provide for self-sustaining ecosystems to be created through successional planting/regeneration methods that employ pioneer species to stabilise the site, before encouraging longer term species establishment; and (e) use understorey shrubs and vines to appropriately bind rehabilitation area edges (including waterway edges) against degradation and weed infestation.	Complies with PO19 Whilst the primary aim of the landscape works is to provide a visual screen to the landfill development, the plantings will also aim to provide wildlife habitat for threatened species with the potential to occur on the site. Targeted species will be the koala and the Richmond birdwing butterfly. Works will be of a high quality, provide known vegetation habitat associated with the threatened species (ie koala food and habitat trees, Richmond birdwing butterfly vine etc), utilise local native species to the area and installed to replicate pre-clear regional ecosystems where possible. This is likely to result in a long-term self sustaining ecosystem that provides for visual screening to the landfill from vantage points.	Agreed – will comply	Agreed – will comply
Landscape Design for Wildlife						
PO20	Development ensures that landscapes protect habitats and corridors for native wildlife by:- (a) replicating adjacent remnant vegetation including understorey vegetation and ground surface habitat logs, rock piles and melon holes; (b) siting landscaped areas to complement and enhance existing and surrounding vegetation; (c) retaining old trees (including dead trees)	AO20	No acceptable outcomes provided	PO20 – Not Applicable Whilst the primary aim of the landscape works is to provide a visual screen to the landfill development, the plantings will also aim to provide wildlife habitat for threatened species with the potential to occur on the site. Targeted species will be the koala and the Richmond birdwing butterfly.	It <u>is</u> applicable, but it will comply	It <u>is</u> applicable, but it will comply

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	<p>with hollows for local native fauna habitat, where trees will not provide a public safety risk;</p> <p>(d) retaining natural leaf litter where appropriate for local native fauna;</p> <p>(e) creating or enhancing vegetation linkages between existing habitats;</p> <p>(f) selecting species that provide a range of foliage, fruit and flower suitable for local native fauna;</p> <p>(g) minimising adverse effects to koalas by planting and retaining appropriate tree species and facilitating koala movement in koala habitat areas; and</p> <p>(h) providing wildlife nesting boxes, fauna bridges, ropeways, arboreal road crossings, fauna underpasses and traffic calming.</p>					
Landscape Buffers						
PO21	<p>Development provides for landscape buffers that:-</p> <p>(a) effectively protect the edges of existing native vegetation or another ecologically important area;</p> <p>(b) achieve visual screening of acoustic attenuation devices; and</p> <p>(c) provide separation between incompatible land uses or between major infrastructure elements (such as State controlled roads) and land uses.</p>	AO21	<p>Where a landscape buffer is required by an applicable use code, local plan code or overlay code, it is designed, constructed, established and maintained in accordance with the following:-</p> <p>(a) earth mounding is provided, where necessary, to complement and achieve satisfactory acoustic attenuation, visual screening or land use separation;</p> <p>(b) selected plant species are appropriate to the location, drainage and soil type, meet the buffer's functional requirements and require minimal ongoing maintenance;</p> <p>(c) plant selection includes a range of species to provide variation in form, colour and texture to contribute to the natural appearance of the buffer;</p> <p>(d) planting density results in the creation of upper, mid and understorey strata with:-</p> <p>(i) large trees planted at 6 metre centres;</p>	<p>Complies with AO21</p> <p>Landscape buffer is being implemented to facilitate the recommendations of the Landscape Character and Visual Impact Report. The buffer will be designed to:</p> <p>a) incorporate earth mounding only if required to achieve visual screening outcomes, otherwise plantings will occur at natural ground level.</p> <p>b) The use of pre-clear regional ecosystem plants where possible will result in the most suitable plants for the site conditions including soil conditions.</p> <p>c) Plant selection is provided on the landscape intent plan and includes variation to contribute to the appearance of the buffer.</p> <p>d) Planting density will be detailed in the detailed landscape plan and will consider densities to achieve the desired visual buffer.</p>	<p>The assessment of impacts on areas of high scenic quality, scenic routes and potentially impacted residents, addressed in the information requirements listed under Scenic Amenity Overlay Code, PO1 and the Landscape Code, PO3 above, will allow the likely effectiveness of buffer screening to be assessed.</p>	<p>Agreed – will comply</p> <p>Refer assessment under Scenic Amenity Overlay Code, PO1 and the Landscape Code, PO3 above</p>

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
			<p>(ii) small trees planted at 2 metre centres; and (iii) shrubs planted at 1 metre centres; (e) tufting plants, vines and groundcovers planted at 0.5 metre to 1 metre centres; and (f) where adjoining the edge of native vegetation or waterway understorey, shrubs and vines are used to bind appropriately the buffer edges against degradation and weed infestation.</p> <p>Note—Figure 9.4.2E (Landscape buffer design) illustrates the preferred configuration of <i>landscape buffers</i>.</p> <p>Figure 9.4.2E Landscape buffer design</p>	<p>e) Vines and groundcover densities will be provided at the detailed landscape plan and consider the suggested centre spacings.</p> <p>f) Only applicable in Buffer Area 2 and vines to be planted on outer edge of buffer. Vines can be aggressive to newly establish plants and will not be planted in Buffer Areas 1 & 3.</p>		
Landscape Screening						
PO22	Development provides for complete or partial landscape screening of built form elements, carparks, fences, utilities and storage areas at maturity.	<p>AO22.1</p> <p>AO22.2</p> <p>AO22.3</p> <p>AO22.4</p>	<p>Built form is softened and integrated with the broader landscape by structured landscape planting.</p> <p>Landscape screening occupies at least 30% of a building elevation as viewed from the street.</p> <p>Except where otherwise provided by the applicable use code, car parks and driveways are screened by:-</p> <p>(a) a planting bed of at least 1.5 metres wide where adjacent to a residential use; or (b) a planting bed of at least 3 metres wide where adjacent to a street frontage or public open space.</p> <p>Storage and utility areas are completely screened by vegetation or built screens, except for access ways.</p> <p>Note—Figure 9.4.2F (Landscape screening of building elevations) illustrates how landscape</p>	<p>Complies with PO22</p> <p>Landscape screening will occur to screen built infrastructure at maturity.</p> <p>Within Lot 1/RP202997 landscape screening will occur within a 3m wide buffer zone consisting of existing vegetation adjacent to Cooney Road. Planting is not intended, however if additional screening is required planting can occur.</p> <p>Visual screening on Lot 1/CG2584 will largely occur as a 20m wide buffer along the western lot boundary and within Lot (landfill site lot) along the southern property boundary.</p>	<p>Assess capacity of 3m wide buffer zone in Lot 1/RP202997 and 20m wide buffer on Lot 1/CG2584 along the western lot boundary to provide landscape screening (including structures) as seen from Bruce Highway</p>	<p>As stated above under PO1 Scenic Amenity Overlay Code, It is recommended that the 3m wide screening buffer to the Leachate Plant & Landfill Gas Power Generation Plant be increased to screen views from Bruce Highway & the Bli Bli Road exit travelling south given the proximity and high visual exposure of the facility to this scenic route.</p>

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
			<p>screening is intended to soften and integrate with the built form.</p> <p><i>Figure 9.4.2F Landscape screening of building elevations</i></p> 			
Engineered Planting						
PO23	Development provides for landscapes incorporating any podium planter, green wall or other vertical landscape element to be appropriately designed, constructed and managed with adequate growing media, drainage and irrigation, where required, and to ensure vigorous and sustainable plant growth without structural or drainage conflicts.	AO23	No acceptable outcome provided	PO23 – Not Applicable The development does not involve any engineered planting.	Agreed – not applicable	Agreed – not applicable
Landscape Area Provision						
PO24	Areas to be included in landscape provisions contribute to the local amenity and conditions that support the establishment of successful trees and landscapes whose growth is not compromised by services and infrastructure.	AO24	Landscape areas are concentrated toward development frontages and contribute to the streetscape.	Complies with PO24 A Landscape buffer is being implemented to facilitate the recommendations of the Landscape Character and Visual Impact Report.	Agreed – appears to comply with PO24, but further analysis is required to demonstrate that the buffer trees will screen development as seen from potentially impacted residents	Agreed- complies
Streetscape Landscapes						
PO25	Development provides for streetscape landscapes that:- (a) ensures the provision of shade trees at regular intervals; (b) contributes to the continuity and character of existing and proposed streetscapes;	AO25	No acceptable outcome provided. <i>Note—a landscape master plan may provide further guidance regarding particular streetscape treatments in a local plan area.</i> <i>Note—streetscape materials and palettes can be referenced from the Council's Infrastructure and Guideline Standards for each centre as required.</i>	PO25 – Not Applicable Given the nature of the proposed development, streetscape planting is not proposed.	Agreed – not applicable	Agreed – not applicable

Performance Outcomes	Acceptable Outcomes	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	<p>(c) in established urban areas, towns and villages, incorporates landscape design (including planting, pavements, furniture, structures, etc.) that reflect and enhance the character of the streetscape; and</p> <p>(d) in new or establishing urban areas, incorporates landscape design that is consistent with and complementary to the natural landscape character of the local area.</p>			
PO26	<p>Development provides for entry statement landscapes that:-</p> <p>(a) consist mainly of vegetative features with minimal signage and built form;</p> <p>(b) have all components of the entry statement contained wholly on private land; and</p> <p>(c) are vandal resistant and require minimal ongoing maintenance.</p>	<p>AO26</p> <p>Entry statements:-</p> <p>(a) are only provided at major estate or centre entry points;</p> <p>(b) incorporate feature trees and suitable understorey planting as the main elements of the entry statement;</p> <p>(c) incorporate restrained signage with all built form features located on private land; and</p> <p>(d) require minimal ongoing maintenance.</p> <p><i>Editor's note—Section 9.4.1 (Advertising devices code) sets out requirements for an entry statement sign.</i></p>	<p>AO26 – Not Applicable</p> <p>Given the nature of the proposed development, streetscape planting is not proposed.</p>	<p>Agreed – not applicable</p>
PO27	<p>Developments are designed to ensure adequate space is provided for street trees and that the provision of shade and amenity to the streetscape receives high priority when locating services, footpaths, driveways, car parking and buildings.</p>	<p>AO27.1</p> <p>Street trees are centrally located between kerb and footpath.</p> <p>AO27.2</p> <p>Street trees are suitable to the locality, soil type, drainage and functional requirements of a shade tree.</p> <p><i>Note—Figure 9.4.2G (Street tree planting configuration) illustrates traditional and grouped street tree planting configuration examples.</i></p> <p>Figure 9.4.2G Street tree planting configuration</p>	<p>AO27.1 and AO27.2 – Not Applicable</p> <p>Given the nature of the proposed development, streetscape planting is not proposed.</p>	<p>not applicable</p>

Performance Outcomes	Acceptable Outcomes	Applicant Response	Cardno Information Request Review	Cardno Information Response Review	
					
Provision of Natural and Built Shade					
<p>PO28</p>	<p>Development provides for landscapes that incorporate protective shade to public and communal spaces, including car parking areas, barbeque and picnic areas, children's play areas and exercise equipment stations.</p>	<p>AO28.1 All pathways are designed for maximum shade opportunities, with shade trees at an average of 6 metre centres and/or awnings to achieve a shade level consistent with the subtropical climate.</p> <p><i>Note—target of 80% shade at tree maturity.</i></p> <p>AO28.2 All carparking areas are shaded by either:- (a) shade trees at a maximum spacing of 1 shade tree per 4 parking bays planted in:- (i) deep natural ground where growing media has sufficient volume to facilitate vigour, sustainability and will allow for the tree to achieve mature form; or (ii) structured soil cells with growing media volume capable of facilitating vigour, sustainability and allowing the tree to achieve mature form; or (b) a constructed shade structure, only where set back from the street and consistent with the character of the area.</p> <p>AO28.3 All public or communal barbecues, picnic table areas, children's play areas and playgrounds are shaded by a constructed shade structure and supplemented with trees.</p> <p>AO28.4 Constructed shade structures (awnings, pergolas, shelters and shade sails) are manufactured from long lasting UV stable materials that are vandal resistant and require minimal ongoing maintenance.</p> <p>AO28.5</p> <p>AO28.6 Shade trees are selected from species suitable to the location, soil and drainage conditions and create a dense, wide spreading foliage canopy with minimal limb, leaf and fruit drop.</p>	<p>AO28.1 to AO28.6 – Not Applicable</p> <p>Given the nature of the proposed development, landscape treatment for natural and built shade is not considered necessary.</p>	<p>Agreed – not applicable</p>	<p>Agreed – not applicable</p>

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
			The quantities and types of built or natural shade is provided in accordance with the <i>Creating Shade at Public Facilities: Policy and Guidelines for Local Government</i> , prepared by the Australian Institute of Environmental Health.			
Pathways and Access Points						
PO29	Development provides for public and communal pathways and access points to be fit for purpose in terms of their location, width and extent and to be effectively integrated with the landscape design for the development. <i>Note—public and communal pathways and access points include, but are not limited to, beach access paths, vehicle and machinery access paths, boat ramp accesses and pedestrian and bicycle pathways.</i>	AO29	Development complies with the standards for pathways and access points specified in the Planning scheme policy for development works .	AO29 – Not Applicable Given the nature of the proposed development, public pathways are not required or considered necessary.	Agreed – not applicable	Agreed – not applicable
Recreational Equipment						
PO30	Development provides for children's play areas, recreational sports areas and exercise equipment provided in public and communal open space to:- (a) be appropriately located within open space; (b) utilise equipment and materials that are fit for purpose, durable and safe; and (c) be designed for the use of a range of age groups and physical and cognitive abilities.	AO30	Development complies with the standards specified in the Planning scheme policy for development works .	AO30 – Not Applicable Given the nature of the proposed development, the provisions of recreational equipment is not required or considered necessary.	Agreed – not applicable	Agreed – not applicable
Landscape Structures						
PO31	Development provides for all built structures used in landscapes to:- (a) be appropriately located within the landscape; (b) be fit for purpose, durable and safe; (c) incorporate impervious roofs that maximise	AO31	Development complies with the standards specified in the Planning scheme policy for development works .	AO31 – Not Applicable Given the nature of the proposed development, the provisions of landscape structures is not required or considered necessary.	Agreed – not applicable	Agreed – not applicable

Performance Outcomes	Acceptable Outcomes	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	<p>rain and sun protection, where intended to provide shelter;</p> <p>(d) harvest water for re-use, where appropriate; and</p> <p>(e) comply with any relevant building, engineering, plumbing or electrical standards.</p> <p><i>Note—landscape structures include, but are not limited to, shade shelters for barbeques and picnic areas, pergolas, toilet and change room facilities, maintenance and storage sheds, boardwalks, bridges, raised platforms, lookouts, steps and stairs.</i></p>			
Furniture and Fixtures				
<p>PO32</p>	<p>Development provides for all furniture and fixtures used in open space or landscapes to:-</p> <p>(a) be appropriately located within open space or the landscape;</p> <p>(b) be fit for purpose, durable and safe;</p> <p>(c) be vandal resistant with parts that are easily replaceable;</p> <p>(d) be easy to maintain; and</p> <p>(e) comply with any relevant building, engineering, plumbing or electrical standards.</p> <p><i>Note—landscape furniture and fixtures include, but are not limited to, seats, benches, picnic tables, tree guards, bicycle racks/rails, balustrades and railings, bollards, maintenance gates, barbeque plates, taps and drinking fountains, beach showers, bins and</i></p>	<p>AO32.1 Development complies with the standards specified in the Planning scheme policy for development works.</p> <p>AO32.2 Landscape furniture and fixtures:-</p> <p>(a) comply with the furniture and fixture range design developed for the local area; or</p> <p>(b) where no range design exists, reflect a coordinated or themed design aesthetic.</p> <p><i>Note—a streetscape master plan may provide further guidance regarding particular streetscape treatments in a local plan area.</i></p> <p><i>Note—streetscape materials and palettes' can be referenced from the Council's Infrastructure and Guideline Standards for each centre as required.</i></p>	<p>AO32.1 and AO32.2 – Not Applicable</p> <p>Given the nature of the proposed development, the provisions of furniture and fixtures is not required or considered necessary.</p>	<p>Agreed – not applicable</p>
				<p>Agreed – not applicable</p>

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	<i>bin surrounds, lighting and signage.</i>					
Pavements						
PO33	Development provides for all pavements used in landscapes to be:- (a) hard wearing; (b) non-slip; (c) shaded or coloured to reduce glare and heat reflection; and (d) finished with surface treatments that require minimal cleaning or ongoing maintenance.	AO33	Development complies with the standards specified in the Planning scheme policy for development works .	AO33 – Not Applicable Given the nature of the proposed development, pavement treatments are not required.	Agreed – not applicable	Agreed – not applicable
Fencing, Walls and Screening						
PO34	Development provides for all fences, walls and screening structures used in landscapes, where interfacing with public use areas, to be:- (a) appropriately located within the landscape; (b) fit for purpose, durable and safe; (c) integrated within the landscape; (d) vandal and graffiti resistant where fronting a public space; and (e) articulated, screened by planting, coloured and textured so as to blend in with the character of the local area.	AO34.1 AO34.2 AO34.3 AO34.4 AO34.5	Development complies with the standards specified in the Planning scheme policy for development works . Fences and screens to street <i>frontages</i> are a minimum of 50% visually and climatically permeable. Fences and screens do not extend further than 6 lineal metres without articulation and vegetative screening. Fences and screens bordering public use areas allow for casual surveillance opportunities and are designed to blend with adjacent landscape features. Fences and screens bordering beachfront reserves are of commercial grade pool type fence construction, coloured to blend with adjacent landscape features. <i>Note—Figure 9.4.2H (Design of fences, walls and structures) illustrates the preferred treatment of fences, walls and structures used in landscapes.</i> Figure 9.4.2H Design of fences, walls and Structures	PO34 – Not Applicable Not applicable as the buffer planting and visual screening does not require the provision of fencing and walls – screening has been previously addressed.	Agreed – not applicable	Agreed – not applicable

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
Lighting						
PO35	Development provides for lighting of a suitable standard to be incorporated in landscapes, where required, to support the use of areas and facilities and maintain the safety and security of people and property.	AO35	Development complies with the standards specified in the Planning scheme policy for development works and <i>Australian Standard (AS 1158.3.1 Lighting for roads and public spaces)</i> .	AO35 – Not Applicable Not applicable as the buffer planting and visual screening does not require the provision of lighting.	To be addressed by others	To be addressed by others
Signage						
PO36	Development provides for signage in public open space and communal open space areas to be:- (a) appropriately located in open space; (b) limited to park naming signs, estate signs, way finding signs and symbols, education and interpretive signs and warning/safety signs; and (c) durable and easy to maintain.	AO36	No acceptable outcome provided	PO36 – Not Applicable Not applicable as the buffer planting and visual screening does not require the provision of signage.	Agreed – not applicable	Agreed – not applicable
Roads, Services and Utilities						
PO37	Development provides for all landscapes to be located a safe distance from utilities and underground services.	AO37.1 AO37.2 AO37.3	Planting and landscape structures are located to enable tradespersons to access, view and inspect switchboards, substations, service meters and the like. Root barriers are installed around critical <i>infrastructure</i> where <i>infrastructure</i> is located adjoining tree planting zones. Planting in landscapes adjacent to electricity substations or high voltage transmission line easements complies with:- (a) for Energex's assets, the <i>Energex Vegetation Management Standard</i> ; and	Complies with PO37 The buffer planting and visual screening will be appropriately located a safe distance from utilities and underground services – to be detailed in the landscape detail design Plan.	To be demonstrated at detailed landscape design stage	To be demonstrated at detailed landscape design stage

Performance Outcomes	Acceptable Outcomes	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
		(b) for Powerlink's assets, Powerlink's <i>Easement Co-use Guideline and Screening Your Home from Powerlines</i> Guideline.		

Community Facilities Zone Code

Overall Outcome	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
(a) development caters predominantly for specified uses, facilities and works which include:- <ul style="list-style-type: none"> i. land used, owned or operated by Federal, State or local government for purposes such as air services, cemeteries, community uses, educational establishments, emergency services, hospitals, utility installations and transport networks; ii. uses, facilities and works which by virtue of their location, intensity, combination of uses, operations or site characteristics are best managed in a use-specific land use allocation; or iii. private community services and facilities including educational establishments, places of worship, private hospitals and tourist parks; 	<p>Complies</p> <p>The development application seeks approval for development on land owned by the Council for the purposes of utility installations and related waste management activities.</p> <p>The combination of land uses sought for approval by virtue of their location and intensity require a site specific land use allocation, which is provided through the submitted Sunshine Coast Waste Precinct Plan of Development.</p>	While the landfill <i>per se</i> may comply, details regarding post-landfill uses are lacking	<p>While the landfill <i>per se</i> may comply, details regarding post-landfill uses are lacking.</p> <p>The VIA (Dec 2017) states that the post landfill uses will be determined by Council upon closure of the Landfill site (p56).</p>
(b) a limited range of allied and compatible uses are provided to fulfil ancillary functions required for community facilities to function effectively;	<p>Complies</p> <p>In addition to the primary waste management uses sought for approval, a range of allied and compatible uses are sought for approval to allow for the integrated operation of the site as a local government waste management precinct.</p>	While the landfill <i>per se</i> may comply, details regarding post-landfill uses are lacking	<p>While the landfill <i>per se</i> may comply, details regarding post-landfill uses are lacking.</p> <p>The VIA (Dec 2017) states that the post landfill uses will be determined by Council upon closure of the Landfill site (p56).</p>
(c) community facilities and associated uses are located to optimise their accessibility, operational efficiency and benefit to the public;	<p>Complies</p> <p>The subject site is located in proximity to a variety of major transit corridors, including Bli Bli Road in the south which is recognised as an intra-regional freight corridor. The site is also located to the immediate east of the Bruce Highway.</p> <p>The site is therefore considered to be well located to benefit the public.</p>	While the landfill <i>per se</i> may comply, details regarding post-landfill uses are lacking	<p>While the landfill <i>per se</i> may comply, details regarding post-landfill uses are lacking.</p> <p>The VIA (Dec 2017) states that the post landfill uses will be determined by Council upon closure of the Landfill site (p56).</p>
(d) development accommodates the specific operational, functional and locational needs of the particular use, whilst being of a scale, appearance and intensity that is compatible with existing and intended development in adjacent zones;	<p>Complies</p> <p>A Landscape Character and Visual Impact Assessment has been prepared by Conlon Group and is submitted as part of the development application package. This intent of the report is to address the scenic amenity overlay code of the Planning Scheme. The key findings of the assessment are as follows:</p> <ul style="list-style-type: none"> • The character of the landfill site is an industrial edge setting at its frontage and parkland reserve to it's rear. • There is not considered to be a discernible character within the immediate vicinity other than industrial. This 	Further information (as detailed above under Scenic Amenity Overlay Code PO1) to ensure the proposal is of a scale, appearance and intensity which does not affect the visual amenity of "existing and intended development in adjacent zones"	Refer assessment under Scenic Amenity Overlay Code, PO1 and the Landscape Code, PO3 above

Overall Outcome	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	<p>is reinforced through surrounding industrial based uses, including – Sunshine Coast Council library archives building, BP Nambour depot and JC Hire premises (industrial equipment hire).</p> <ul style="list-style-type: none"> • Buildings in the surrounding locality are not considered to hold any localised aesthetic quality and are not considered to contribute to the visual quality of the area. Buildings are not considered to contribute to the surrounding environment. • Whilst the proposed development will result in a large structure, and as a result changing the areas visual amenity, the developments staging will result in the impact occurring gradually. • The development is large in scale and as a result will be visible from a range of points around the area, including surrounding sensitive receptors. • Landscape buffering is recommended to mitigate the predicted impacts of the landfill expansion. Landscaping is suggested to include nature vegetation, and be located along the boundaries to buffer the site. • The Cooney Road frontage and the eastern boundary of the site is suggested to be of moderate to high impact. As such, these interfaces are recommended to be buffered by a diverse mix of species to coincide with the character of the surrounding natural environment. <p>The recommendations of the report that landscape buffering be implemented to mitigate the predicted impacts of the landfill expansion have been incorporated into the design of the proposed development.</p>		
(e) development provides a high level of amenity, maintains the safety of people, buildings and works, and effectively manages the potential for land use conflict with existing and intended surrounding development;	<p>Complies</p> <p>The development has been designed and sited to maintain the safety of people, building and works. The technical studies submitted as part of this development application demonstrate that the intended use of the site is appropriate and will not result in any significant conflict with the existing and intended surrounding development.</p>	<p>Agreed – will comply with respect to land use conflict with existing and intended surrounding development, although it may affect visual amenity of potentially impacted residents in nearby areas</p>	<p>Agreed – will comply</p>
(f) existing and planned community facilities and associated uses are protected from the intrusion of incompatible uses that could limit the ongoing operation of existing community facilities or prejudice appropriate new community facilities;	<p>Complies</p> <p>The proposed development does not involve any sensitive land uses which would otherwise impact upon the ongoing operation of the site for waste management and resource recovery activities.</p>	<p>Agree – will comply,</p>	<p>Agreed – will comply</p>
(g) activities established in the zone make a positive contribution to the image of the Sunshine Coast by incorporating a high quality of built form and landscape design;	<p>Complies</p> <p>As discussed, above, the development incorporates specific landscape buffer treatments to ensure the development minimises visual impacts and contributes to the overall image of the Sunshine Coast region.</p> <p>The proposed landscape buffers, as recommended by the Landscape Character and Visual Impact Assessment and the Landscape Intent Plan, are considered to achieve the outcomes sought by (g), given:</p>	<p>Further information to ensure landfill stages and final grassy hill landform make a positive contribution, as detailed under Information Requirements for Scenic Amenity Overlay Code, PO1 above.</p>	<p>Agreed – will comply for reasons outlined under the Information Response Review for Scenic Amenity Overlay Code, PO1 above</p>

Overall Outcome	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	<ul style="list-style-type: none"> The landscape buffers will minimise the visual obtrusiveness of the proposed landfill expansion, when viewed from the scenic route. Once fully established, the landscape buffer will provide an enhanced outcome by creating a more natural view corridor which is to be achieved through the use of a species planting palette consistent with the regional ecosystem of the surrounding locality. The development will take place over a number of stages which will lessen the impact of the landfill expansion over time. 		
(h) development is located, designed and operated to be responsive to the Sunshine Coast's sub-tropical climate and minimises the consumption of energy and water;	<p>Complies</p> <p>The development maximises the use of sustainable energy supplies and sources by including a landfill gas power generation plant, that captures gas created from landfill activities for power generation purposes.</p>	Agree - complies	Agree - complies
(i) development avoids as far as practicable, or where avoidance is not practicable, minimises and otherwise mitigates, adverse impacts on ecologically important areas, including creeks, gullies, waterways, wetlands, coastal areas, habitats and vegetation through location, design, operation and management;	<p>Complies</p> <p>The proposed development has been designed and sited to avoid, mitigate and minimise impacts to the sites ecological values to the greatest extent possible. However, the proposal nevertheless requires the removal of vegetation to facilitate the base form of the landfill on site.</p> <p>The following design and operational management measures ensure the development will avoid and other minimise to the greatest extent practicable, impacts to ecologically important areas:</p> <p>a) A comprehensive Impact Management Plan for Tusked frog, Richmond Birdwing butterfly and their breeding habitat has been prepared and submitted to DEHP as part of a Species Management Program and Protected Plants Clearing application. Refer to Impact Assessment and Management Plan – Tusked frog, Richmond Birdwing Butterfly and Richmond Birdwing vine – Nambour Landfill Expansion (Native Foresters, 2017c).</p> <p>b) Site design does not change drainage patterns in relation to the Richmond Birdwing butterfly breeding habitat contained within the Lowland rainforest area. All stormwater flows from the landform and access roads are to be directed to a sediment control pond or discharge to the south of the site, away from the Lowland rainforest area.</p> <p>c) Undertaking to erect fauna, dust and rubbish exclusion fencing around the perimeter of the proposed landfill extension.</p> <p>d) A maintenance area of approximately three metres in width will be allowed for fence maintenance and to allow for vegetation management and weed control works in</p>	Being addressed by others	Being addressed by others

Overall Outcome	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	<p>the sites retained vegetation buffer. This fencing is to be installed prior to the commencement of operation of the expanded landfill.</p> <p>e) Retention of 30 – 80 metre vegetation buffer zone around the Lowland Subtropical Rainforest which provides breeding habitat for the EVNT listed Flora and Fauna species occurring onsite.</p> <p>f) Bush revegetation/weed control works will be undertaken in the retained remnant vegetation areas onsite. Particular emphasis will be placed on undertaking weed control works within the retained vegetation buffer zone to the Lowland Subtropical Rainforest.</p> <p>g) A Fauna Spotter-catcher will be required to work through the area prior to commencement of works and during clearing and reprofiling to relocate any fauna found to suitable undisturbed habitat.</p> <p>h) Clearing works will be undertaken in a sequential manner beginning in cleared areas and moving towards areas of retained vegetation to facilitate the movement of native fauna species out of the works impact zone.</p> <p>i) Works to be undertaken in high quality habitat areas only once Qld DEHP Species Management Program for Tusked frog and Richmond birdwing butterfly has been approved.</p> <p>j) Works to comply with provisions of Construction Environmental Management Plan (CEMP) which details the methodology for clearing works.</p> <p>k) A Stormwater Management and Erosion and Sediment Control Plan will be implemented during the construction phase of operation, with a whole of site Stormwater Management Plan in place during the landfill operation phase.</p> <p>l) Preparation and implementation of Weed Management Plan in areas of retained vegetation adjacent to the landfill site. Particular emphasis will be placed on undertaking weed control works within the retained vegetation buffer zone to the Lowland subtropical rainforest including areas within the existing landfill facility and within proximity to mapped watercourses and wetlands.</p> <p>m) Greenwaste storage and processing will occur 700m to the southwest of the lowland rainforest to minimise impacts from plant pathogens and weed seed dispersal impacting on this forest community. Dust fencing will minimise wind dispersal of some weed species into the forest community.</p>		

Overall Outcome	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	<p>n) Site management to conduct regular site inspections during landfill operations in accordance with the Site Based Management Plan. This includes general site inspections and audits against approval conditions and standard procedures.</p> <p>o) Construction quality assurance will be implemented during construction of the landfill facility to provide confidence that the construction meets the design requirements and specifications.</p> <p>p) Additional / alternative environmental requirements to be implemented using adaptive management principles as required.</p> <p>Notwithstanding the above impact avoidance and mitigation measures, the proposed developments anticipated disturbance of ecologically important areas, includes:</p> <p>a) Clearing Footprint A: Approximately 1.3 hectares proposed to be cleared on Lot 1 on RP202997 and Lots 1 and 2 on RP208600 for leachate and landfill gas management purposes.</p> <p>b) Clearing Footprint B: Approximately 5.6 hectares proposed to be cleared on Lot 4 on RP803104 for landfill purposes. An estimated two (2) hectares has been groundtruthed as Koala habitat and regulated vegetation (RE 12.12.15/12.12.2) and contains threatened species habitat for Tusked Frog and Richmond Birdwing Butterfly.</p> <p>c) Waterways and wetlands: Approximately 0.8 hectares of the abovementioned clearing footprints is identifies as being a wetland within three metres of the watercourse for proposed leachate and landfill gas management infrastructure on Lot 1 on RP202997.</p> <p>Further, the development will involve reprofiling (including filling) to accommodate a 10 year ARI critical duration event on Lot 1 on RP202997, construction of a culvert crossing on Lot 2 on RP802600, a road crossing over the embankment on boundary of Lot 1 on RP208600 and Lot 4 on RP803104 and a channel diversion and reprofiling of part of the watercourse to tie into overbank levels on Lot 2 RP208600.</p> <p>Notwithstanding, the application is supported by a Community Needs Assessment, prepared by Norling Consulting. The analysis clearly demonstrates that there is an overarching community, economic and planning benefit to the proposed development occurring on the subject site.</p> <p>Further, the technical reports submitted as part of the development application demonstrates that the Applicant considered alternative development options and will</p>		

Overall Outcome	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	<p>implement management measures to minimise impacts to the greatest extent possible.</p> <p>Additionally, a detailed assessment relating to environmental considerations, is provided in Section 10 of the submitted town planning assessment report.</p>		
(j) development is designed and sited to sensitively respond to the physical characteristics and constraints of land, including flooding, steep land, landslide hazard and bushfire hazard, where applicable;	<p>Complies</p> <p>The development has been designed and sited to respond to the physical characteristics of the site. Technical reports submitted as part of the development application address how the development has responded to and seeks to mitigate the risks associated with onsite constraints.</p>	Agree - complies	Agree - complies
(k) development is provided with a level of infrastructure and essential services that is commensurate with the location, nature, scale and intensity of the use; and	<p>Complies</p> <p>The site has access to all necessary infrastructure required to support the efficient and effective operation of the development.</p>	Being addressed by others	Being addressed by others
(l) development is located and designed to maximise the efficient extension and safe operation of infrastructure.	<p>Complies</p> <p>No upgrades to essential services are proposed, except for upgrades to the Cooney Road and Bli Bli Road intersection.</p> <p>These intersection upgrades will ensure the development is designed to maximise the efficient extension and safe operation of infrastructure.</p>	Being addressed by others	Being addressed by others

Nambour Local Plan Code

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
Development in the Nambour Local Plan Area Generally (All Zones)						
PO1	<p>Development provides for visually interesting building elements which:-</p> <p>(a) respond to and respect the traditional streetscape and architectural character of Nambour in terms of scale, siting, form, composition and use of materials; and</p> <p>(b) facilitate high levels of pedestrian comfort, meaningful architectural expression and interesting urban forms.</p>	AO1	No acceptable outcome provided.	<p>Complies with PO1</p> <p>The proposed development seeks approval for a range of waste management and resource recovery activities and has limited built form elements.</p> <p>Where built form elements are proposed, they are considered to be in keeping with the immediate surrounding industrial character and will be screened through buffer plantings and existing frontage vegetation.</p>	<p>Agree – although the visibility of structures and mitigation of their visual impacts have not been adequately addressed (see Information Requirements under Scenic Amenity Overlay Code, PO1 above), the structures are likely to appear compatible in character with surrounding industrial uses.</p>	<p>Agree for reasons stated under Information Request Review, although it is recommended that the 3m wide screening buffer to the Leachate Plant & Landfill Gas Power Generation Plant be increased (see reasons outlined under the Information Response Review for Scenic Amenity Overlay Code, PO1 above)</p>
PO2	Development provides for the retention and enhancement of key landscape elements including historical landmarks, significant views	AO2.1	Development provides for the retention of old stone retaining walls, historical landmarks, memorials and monuments.	AO2.1 – Not Applicable	Agree – not applicable	Agreed – not applicable

Performance Outcomes	Acceptable Outcomes	Applicant Response	Cardno Information Request Review	Cardno Information Response Review	
and vistas, existing character trees and areas of significant vegetation contributing to the character, setting and sense of place of Nambour.	<p>AO2.2</p> <p>Development protects and emphasises, and does not intrude upon, important view lines to the Blackall Range and other views to surrounding rural and natural areas where identified on Figure 7.2.22A (Nambour local plan elements).</p> <p>AO2.3</p> <p>Development retains and protects existing mature trees and character vegetation contributing to the vegetated backdrop setting and streetscape character of the local plan area including:-</p> <p>(a) riparian vegetation adjacent to Petrie Creek, Paynter Creek, Whalleys Creek, Tuckers Creek and tributaries;</p> <p>(b) native vegetation areas along ridgelines and on prominent hillsides and escarpments framing the town; and</p> <p>(c) other character vegetation identified on Figure 7.2.22A (Nambour local plan elements).</p> <p>Note—in some circumstances, the eradication of weed species and planting of locally native species that make a comparable contribution to local character may also satisfy the Acceptable Outcome.</p>	<p>The site does not contain any old stone retaining walls or historical landmarks, memorials or monuments.</p> <p>AO2.2 – Not Applicable</p> <p>The site is noted identified on Figure 7.2.22A as being within an area that exhibits significant vies.</p> <p>Complies with AO2.3</p> <p>The site is not located in proximity to any character vegetation shown on Figure 7.2.22A.</p> <p>Further, the proposed development does not seek to remove any riparian vegetation adjacent to Petrie Creek. Whilst part of the site adjoins Petrie Creek, the development permit does not seek approval for any activities on this part of the site.</p> <p>In addition to the above matters, the development has been designed to incorporate vegetated buffers to minimise and mitigate the visual impact of the landfill development.</p> <p>Over time, as the vegetation within these buffers will establish to reflect the type and nature of endemic vegetation expected to occur within the area.</p>			
PO3	Development provides for the retention and possible future operation of the former sugar cane train railway along the Mill Street/Howard Street route between the former mill site and the former marshalling yards off Howard Street, for the purpose of tourism, transportation, connectivity and retention of heritage values.	<p>AO3</p> <p>No acceptable outcome provided.</p>	<p>PO3 – Not Applicable</p> <p>The proposed development is not located within proximity to any sugar cane train railway.</p>	Agree – not applicable	Agree – not applicable
PO4	Development contributes to the establishment of attractive and coherent streetscapes and gateways to enhance the contemporary	<p>AO4.1</p> <p>Development adjacent to a primary streetscape treatment area or identified gateway/entry point on Figure 7.2.22A (Nambour local plan elements) incorporates architectural</p>	<p>AO4.1 – Not Applicable</p> <p>The site is not located adjacent to a primary streetscape treatment area or identified gateway/entry point on Figure 7.2.22A.</p>	Agree – the proposed development will not affect identified gateways to Nambour	Agree – will comply

Performance Outcomes	Acceptable Outcomes	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	<p>rural town character of, and sense of entry and arrival to, Nambour.</p>	<p>and landscape treatments and other design elements which enhance the sense of entry and arrival to, and contemporary rural town character of, Nambour, and emphasise corner locations.</p> <p>AO4.2</p> <p>Development adjacent to the gateway/entry point on Nambour Connection Road at Panorama Drive, identified on Figure 7.2.22A (Nambour local plan elements) provides for the retention and enhancement of significant views and maintains the dominance of natural features over built features in order to maintain the natural character of this gateway/entry point.</p> <p>AO4.3</p> <p>Development provides for streetscape improvements which complement existing or proposed streetscape works in the local area to ensure continuity of streetscapes and landscape design.</p> <p>Note—Section 9.4.2 (Landscape code) sets out requirements for streetscape landscapes including entry statement landscapes.</p> <p>Note—a landscape master plan may provide further guidance regarding particular streetscape treatments in a local plan area.</p> <p>Note—streetscape materials and palettes can be referenced from the <i>Council's</i> Infrastructure and Guideline Standards for each centre as required.</p>	<p>AO4.2 – Not Applicable</p> <p>The site is not located adjacent to the gateway/entry point on Nambour Connection Road at Panorama Drive on Figure 7.2.22A.</p> <p>Complies with AO4.3</p> <p>A Landscape Intent Plan has been prepared by Mark Rigby & Associates and is submitted as part of the development application to detail proposed landscape treatments.</p> <p>Further, an assessment of the landscape code has been undertaken and is submitted as part of the development application package.</p>	
PO5	<p>Development on land with frontage to Petrie Creek, Paynter Creek, Whalleys Creek and Tuckers Creek, or on land otherwise identified as a local ecological linkage on Figure 7.2.22A (Nambour local plan elements), facilitates the provision of the local ecological linkage.</p>	<p>No acceptable outcome provided.</p> <p>Editor's Note—Section 8.2.3 (Biodiversity, waterways and wetlands overlay code) sets out requirements for the provision of ecological linkages.</p>	<p>Complies with PO5</p> <p>The proposed development does not seek to remove any riparian vegetation adjacent to Petrie Creek. Whilst part of the site adjoins Petrie Creek, the development permit does not seek approval for any activities on this part of the site.</p> <p>The preliminary approval component identifies future development on part of the site adjoining Petrie Creek, however, all future</p>	<p>Agree – not applicable</p> <p>Agreed – not applicable</p>

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
				development will be subject to assessment against the Biodiversity, waterways and wetlands overlay code.		
PO6	Development protects prominent hillsides, ridgelines and escarpments in the local plan area through sensitive and innovative lot layouts and building siting and design.	AO6	No acceptable outcome provided.	<p>Complies with PO6</p> <p>The ultimate landform that will be created on the site will not breach the existing ridgeline. Further, the design of the landfill has sought to minimise the visual impacts of the development through site layout and landscape treatments.</p> <p>A Landscape Character and Visual Impact Assessment was undertaken by Conlon Group and is submitted as part of the development application package.</p> <p>Further, a Community Needs Analysis has been prepared by Norling Consulting. This assessment concludes there is a very strong economic, planning and social need for the development.</p>	<p>Require further information to demonstrate full visibility of proposal due to its hillside location, appearance of the proposal throughout all stages, including assessment of visual impacts and proposed mitigation measures for all structures as per Information Requirements under Scenic Amenity Overlay Code, PO1.</p> <p>Further information to ensure landfill stages and final grassy hill landform will be sensitive to existing landform and character, as detailed under Information Requirements for Scenic Amenity Overlay Code, PO1 above.</p>	Agree- complies for reasons outlined under the Information Response Review for Scenic Amenity Overlay Code, PO1 above
PO7	Development improves local connectivity by providing pedestrian and cycle connections to and between key destinations including, but not limited to, those connections identified conceptually on Figure 7.2.22A (Nambour local plan elements) .	AO7	No acceptable outcome provided.	<p>PO7 – Not Applicable</p> <p>Given the nature of the proposed development and its location at the outer edge of the Nambour Local Plan area, it is not considered necessary, nor safe, to provide pedestrian and cycle connections associated with the development.</p>	Addressed by others	Addressed by others
PO8	Development does not compromise the provision and operation of transport networks, including the proposed realignment and duplication of the North Coast Rail Line.	AO8	No acceptable outcome provided.	<p>Complies with PO6</p> <p>The proposed development will not compromise the operation of transport networks. A Traffic Impact Assessment has been prepared by ProjexPartners and is submitted as part of the development application package.</p> <p>Where required, mitigation works are proposed to ensure the development does not impact upon the safe operation of the surrounding road network.</p>	Addressed by others	Addressed by others
Development in the Major Centre Zone Generally						

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
PO9	<p>Development in the Major centre zone provides large scale and mixed uses that:-</p> <p>(a) support Nambour's role and function as the dominant major regional activity centre for the central Sunshine Coast hinterland, subservient only to the Maroochydore Principal Regional Activity Centre; and</p> <p>(b) provide a wide range of higher order goods and services to Nambour's resident population and surrounding areas, including Woombye, Palmwoods, Montville, Mapleton and Yandina.</p>	AO9	No acceptable outcome provided.	<p>PO9 – Not Applicable</p> <p>The site is not located in the Major Centre zone.</p>	Addressed by others	Addressed by others
PO10	<p>Development in the Major centre zone:-</p> <p>(a) is sympathetic to and reinforces the rural character and heritage values of Nambour;</p> <p>(b) provides a walkable town centre which includes a permeable street network, wide tree lined footpaths and continuous weather protection for pedestrians along active or semi-active streetfront areas;</p> <p>(c) creates vibrant and active streets and public spaces;</p> <p>(d) maximises the physical and visual accessibility to Nambour's transit hub; and</p> <p>(e) provides integrated and functional car parking and access arrangements that do not dominate the street.</p>	AO10	<p>Development in the Major centre zone:-</p> <p>(a) respects the layout, scale and character of development on adjoining sites;</p> <p>(b) provides for primary active street frontages, built to the front boundary, where identified on Figure 7.2.22A (Nambour local plan elements);</p> <p>(c) provides for adaptive reuse, with limited modification, of heritage places or character buildings that is sympathetic to the inherent character of the building and the Nambour town centre context;</p> <p>(d) provides for vertical and horizontal building elements created through the visible expression of building design elements such as columns, doors and doorways, windows, awnings, screens, shade structures, low relief decorative elements, parapet details and shadow lines;</p> <p>(e) incorporates variety in storey height, recessed upper levels, single and double storey colonnades and recesses for balconies and verandahs such that long unbroken blank wall planes with repetitive elements and continuous roof lines are avoided;</p>	<p>PO10 – Not Applicable</p> <p>The site is not located in the Major Centre zone.</p>	Addressed by others	Addressed by others

Performance Outcomes	Acceptable Outcomes	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
		<ul style="list-style-type: none"> (f) provides for buildings with frontage to Currie Street to incorporate:- <ul style="list-style-type: none"> (i) vertical building proportions that divide the building elevation into three (3) or more major vertical parts for every 20 metres of street frontage as identified on Figure 7.2.22B (Typical vertical proportions along part of Currie Street); (ii) roof forms designed to diminish the visual impact of large floor plate buildings and large flat roof forms by articulated roof designs (pitched or sloped) with multiple ridge lines and incorporating articulated upper facades as identified on Figure 7.2.22C (Articulated and 'fine grain' skyline); and (iii) understated colour schemes and low-reflective roofing and cladding materials; (g) ensures that signage is integrated with the building; (h) includes provision of landscaping, shaded seating and consistent and simple paving materials on footpaths; (i) provides all weather protection along active street frontages in the form of continuous cantilevered awnings and/or lightweight verandah structures with no load bearing posts over footpath areas in conjunction with mature or semi-mature shade trees planted along the site frontage; (j) provides for the continuation of existing laneways and pedestrian and cycle linkages where identified on Figure 7.2.22A (Nambour local plan elements); and (k) provides for on-site car parking at the rear or below ground level of the development. 		
PO11	Development in the Major centre zone facilitates pedestrian movement and connectivity by providing pedestrian through-block links that:- (a) are located to connect key activity nodes,	AO11 No acceptable outcome provided.	PO11 – Not Applicable The site is not located in the Major Centre zone.	Addressed by others

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	including the Nambour transit hub, and pedestrian crossings of streets; (b) provide a safe alternative to the street-based movement network; and (c) provide a comfortable pedestrian environment in terms of access, width, shelter, materials and function.					
Development in the Major Centre Zone in Precinct NAM LPP-1 (Nambour Hospitality Area) and Precinct NAM LPP-2 (Former Mill Site and Hospitality Area)						
PO12	Development in Precinct NAM LPP-1 (Nambour Hospitality Area) and NAM LPP-2 (Former Mill Site and Hospitality Area) identified on Local Plan Map LPM18 provides for a range of entertainment/catering business uses and other business uses including food and drink outlets, function facilities, bars, hotels and nightclub entertainment facilities that may operate after hours and include live music which creates a vibrant atmosphere.	AO12	No acceptable outcome provided.	PO12 – Not Applicable The site is not located in the Major Centre zone.	Addressed by others	Addressed by others
Development in the Major Centre Zone in Precinct NAM LPP-2 (Former Mill Site and Hospitality Area)						
PO13	Development in Precinct NAM LPP-2 (Former Mill Site and Hospitality Area) identified on Local Plan Map LPM18 provides for a proportional share of the total commercial business and retail business floor space for the Nambour town centre through the establishment of only one full line supermarket or discount department store, with a gross leasable floor area not exceeding 4,000m ² .	AO13	No acceptable outcome provided.	PO13 – Not Applicable The site is not located in the Major Centre zone.	Addressed by others	Addressed by others
PO14	Development in Precinct NAM LPP-2 (Former Mill Site and Hospitality Area) provides for any large floor plate retail use to be located to the north of the Bury Street	AO14	No acceptable outcome provided.	PO14 – Not Applicable The site is not located in the Major Centre zone.	Addressed by others	Addressed by others

Performance Outcomes	Acceptable Outcomes	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	extension and on the western side of the Mill Lane extension identified on Figure 7.2.22A (Nambour local plan elements) .			
PO15	<p>Development in Precinct NAM LPP-2 (Former Mill Site and Hospitality Area):-</p> <p>(a) provides for the establishment of an outwardly focused, active main street format; and</p> <p>(b) visually and physically integrates with the established town centre of Nambour and the State heritage-listed Mill Houses.</p>	<p>AO15</p> <p>Development in Precinct NAM LPP-2 (Former Mill Site and Hospitality Area) is provided in a main street configuration and ensures that:-</p> <p>(a) any large floor plate retail use is separated from the street by sleeving;</p> <p>(b) sleeving comprises active retail business uses or catering business uses located at ground level with residential uses and commercial business uses located on upper building levels;</p> <p>(c) sleeving extends to the Bury Street and Mill Street boundaries and is provided adjacent to the Mill House Courtyard;</p> <p>(d) a civic space (mini plaza) is provided opposite the Mill House Courtyard;</p> <p>(e) site interpretative features, such as public artwork, are provided; and</p> <p>(f) service lanes and loading bays are appropriately screened and are located adjacent to the rail line corridor in areas of least visibility.</p>	<p>AO15 – Not Applicable</p> <p>The site is not located in the Major Centre zone.</p>	<p>Addressed by others</p>
PO16	<p>Development in Precinct NAM LPP-2 (Former Mill Site and Hospitality Area) provides a functional and permeable street network that:-</p> <p>(a) is integrated with the street network in the Nambour Town Centre;</p> <p>(b) is in the configuration identified on Figure 7.2.22A (Nambour local plan elements); and</p> <p>(c) incorporates the following road network and intersection improvements:-</p> <p>(i) the widening and extension of Mill Lane to connect to Mill Street adjacent to the Mill Houses;</p>	<p>No acceptable outcome provided.</p>	<p>PO16 – Not Applicable</p> <p>The site is not located in the Major Centre zone.</p>	<p>N/A</p>

Performance Outcomes	Acceptable Outcomes	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	<ul style="list-style-type: none"> (ii) the extension of Bury Street into the Former Mill Site; (iii) the extension of Mitchell Street into the Former Mill Site; (iv) intersections upgraded at Mill Street/Mill Lane and Mitchell Street/Mill Lane; and (v) a new intersection located at the Bury Street and new Mill Lane extension. 			
<p>PO17</p>	<p>Development in Precinct NAM LPP-2 (Former Mill Site and Hospitality Area) ensures that the State heritage listed Mill Houses:-</p> <ul style="list-style-type: none"> (a) are sensitively reused for a range of business, community and cultural activities; and (b) form part of a courtyard setting for passive recreation and social interaction as part of the overall redevelopment of the Former Mill Site. 	<p>AO17</p> <p>Development in Precinct NAM LPP-2 (Former Mill Site and Hospitality Area) provides for the establishment of a 'Mill Houses Courtyard' that:-</p> <ul style="list-style-type: none"> (a) is in the location identified on Figure 7.2.22A (Nambour local plan elements); (b) is designed and constructed in accordance with a detailed master plan; and (c) provides for the following:- <ul style="list-style-type: none"> (i) adaptive reuse of the buildings for a range of business and community activities that are sympathetic with cultural heritage values; (ii) soft and hard landscaped surfaces that provide a public 'courtyard' as an outdoor focus for the activities in the Mill Houses; (iii) retention of mature vegetation; (iv) shelter over the space that includes a mix of vegetation and roofed structures; (v) reinforced pedestrian connections to the commercial activities in the Nambour Town Centre; (vi) public art works and signage elements that celebrate the Mill Houses' heritage values; (vii) public accessibility at all times; (viii) clear sight lines and visibility corridors to the Mill Houses; and (ix) compliance with disability access and CPTED principles and standards. 	<p>AO17 – Not Applicable</p> <p>The site is not located in the Major Centre zone.</p>	<p>Addressed by others</p> <p>Addressed by others</p>

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
PO18	<p>Development in Precinct NAM LPP-2 (Former Mill Site and Hospitality Area) on or adjacent to the 'Mill House Courtyard':-</p> <p>(a) clearly displays its physical relationship to the Mill Houses and the Mill Houses Courtyard; and</p> <p>(b) enhances the heritage values associated with the Mill House Courtyard through its use, form and function.</p>	AO18	No acceptable outcome provided.	<p>PO18 – Not Applicable</p> <p>The site is not located in the Major Centre zone.</p>	Addressed by others	Addressed by others
Development in the Major Centre Zone in Precinct NAM LPP-3 (Town Centre Frame)						
PO19	<p>Development in the Major centre zone in Precinct NAM LPP-3 (Town Centre Frame) identified on Local Plan Map LPM18 provides for:-</p> <p>(a) mixed use development that incorporates medium to high density residential uses;</p> <p>(b) a range of commercial and entertainment/catering business uses;</p> <p>(c) retail business uses at a scale and intensity less than in other parts of the Major centre zone;</p> <p>(d) showrooms; and</p> <p>(e) low intensity and small scale industry uses, provided that there are no adverse amenity impacts on surrounding uses.</p>	AO19	No acceptable outcome provided.	<p>PO19 – Not Applicable</p> <p>The site is not located in the Major Centre zone.</p>	Addressed by others	Addressed by others
PO20	<p>Development in the Major centre zone in Precinct NAM LPP-3 (Town Centre Frame) identified on Local Plan Map LPM18 provides for:-</p> <p>(a) a use listed as a consistent use in Column 1 of Table 7.2.22.4.2 (Nambour local plan supplementary table of consistent uses and potentially consistent uses in the Major centre zone) to occur in the precinct; and</p>	AO20	No acceptable outcome provided.	<p>PO20 – Not Applicable</p> <p>The site is not located in the Major Centre zone.</p>	Addressed by others	Addressed by others

Performance Outcomes	Acceptable Outcomes	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	<p>(b) a use listed as a potentially consistent use in Column 2 of Table 7.2.22.4.2 to occur in the precinct only where further assessment has determined that the use is appropriate in the precinct having regard to such matters as its location, nature, scale and intensity.</p> <p>Note—a use not listed in Table 7.2.22.4.2 is an inconsistent use and is not intended to occur in the Major centre zone in Precinct NAM LPP-3.</p> <p>Note—consistent and potentially consistent uses for other areas within the Major centre zone at Nambour are identified in Part 6 (Zone codes) in Table 6.2.6.2.1 (Consistent uses and potentially consistent uses in the Major centre zone).</p>			
<p>PO21</p>	<p>Development in that part of Precinct NAM LPP-3 (Town Centre Frame) centred on Price Street:-</p> <p>(a) maximises the physical and visual accessibility to the transit hub and town centre core retail area; and</p> <p>(b) does not inhibit, prevent or delay the provision and delivery of the North Coast Rail Line corridor upgrade and transit hub.</p>	<p>AO21</p> <p>No acceptable outcome provided.</p>	<p>PO21 – Not Applicable</p> <p>The site is not located in the Major Centre zone.</p>	<p>Addressed by others</p>
<p>Development in the Local Centre Zone in Precinct NAM LPP-4 (Nambour Health Hub)</p>				
<p>PO22</p>	<p>Development in the Local centre zone in Precinct NAM LPP-4 (Nambour Health Hub) identified on Local Plan Precinct Map LPM18:-</p> <p>(a) contributes to the creation of a cluster of health-related business uses which complement the nearby hospital uses;</p>	<p>AO22</p> <p>No acceptable outcome provided.</p>	<p>PO22 – Not Applicable</p> <p>The site is not located in the Local Centre zone.</p>	<p>Addressed by others</p>

Performance Outcomes	Acceptable Outcomes	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	<p>(b) provides for a limited range of other business and community activities which provide a service to the health-related uses and residential uses in the immediate area; and</p> <p>(c) has an intensity and scale which does not detract from the role and function of the Nambour Town Centre as the key focus for office and retail activities.</p>			
<p>PO23</p>	<p>Development in the Local centre zone in Precinct NAM LPP-4 (Nambour Health Hub) identified on Local Plan Map LPM18 provides for:-</p> <p>(a) a use listed as a consistent use in Column 1 of Table 7.2.22.4.3 (Nambour local plan supplementary table of consistent uses and potentially consistent uses in the Local centre zone) to occur in the precinct; and</p> <p>(b) a use listed as a potentially consistent use in Column 2 of Table 7.2.22.4.3 to occur in the precinct only where further assessment has determined that the use is appropriate in the precinct having regard to such matters as its location, nature, scale and intensity.</p> <p>Note—a use not listed in Table 7.2.22.4.3 is an inconsistent use and is not intended to occur in the Local centre zone in Precinct NAM LPP-4.</p> <p>Note—consistent and potentially consistent uses for other areas within the Local centre zone at Nambour are identified in Part 6 (Zone codes) in Table 6.2.8.2.1 (Consistent uses and</p>	<p>No acceptable outcome provided.</p>	<p>PO23 – Not Applicable</p> <p>The site is not located in the Local Centre zone.</p>	<p>Addressed by others</p>
				<p>Addressed by others</p>

Performance Outcomes	Acceptable Outcomes	Applicant Response	Cardno Information Request Review	Cardno Information Response Review	
	potentially consistent uses in the Local centre zone).				
PO24	<p>Development in the Local centre zone in Precinct NAM LPP-4 (Nambour Health Hub):-</p> <p>(a) is sympathetic to the traditional built form and streetscape character of residential development and identified character areas in the locality;</p> <p>(b) provides an attractive streetfront address;</p> <p>(c) provides a high level of accessibility and permeability for pedestrians; and</p> <p>(d) provides an integrated approach to the provision of on-site car parking and the management of car parking demand in a manner which does not dominate the street.</p>	<p>AO24.1 Development provides for the retention and adaptive re-use of existing residential buildings, with limited external modification.</p> <p>OR</p> <p>New buildings are sited and designed to be of an appearance and scale that is sympathetic to existing residential development in the locality.</p> <p>AO24.2 Development provides for business uses to address the street with attractive buildings and landscaping established along frontages to Blackall Terrace, Nambour-Mapleton Road, and Hospital Road.</p> <p>AO24.3</p> <p>AO24.4 Development provides for safe, efficient and legible pedestrian access to the hospitals and associated medical and related uses in the locality.</p> <p>AO24.5 Development provides for on-site car parking areas to be located behind, under or at one side of buildings such that parking areas do not dominate the street or interfere with the continuity of the streetscape.</p> <p>AO24.6 Development is undertaken in accordance with a car parking and public transport management plan which identifies how the operational needs of the development are to be met through a combination of travel modes such that there is a reduction in demand for on-site car parking.</p> <p>Where located in a character area identified on a Heritage and character areas overlay map, development provides for shared access driveways between sites where there is restricted</p>	<p>AO24.1 to AO24.6 – Not Applicable</p> <p>The site is not located in the Local Centre zone.</p>	Addressed by others	Addressed by others

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
			access within one site to gain rear access.			
Development in the Medium Density Residential Zone						
PO25	Development in the Medium density residential zone:- (a) provides for the establishment of medium density housing compatible with a rural town setting; (b) is sympathetic to and respects the character of established residential areas and identified character areas; (c) is of a domestic scale that does not dominate the streetscape and is compatible with surrounding development; (d) provides for building form that reflects the traditional Queensland style; (e) contributes positively to local streetscape character; (f) provides for generous open space to be maintained between buildings to preserve a predominantly open feel; (g) provides for on-site car parking to be located and designed such that it does not dominate the streetscape; and (h) avoids constrained land.	AO25	Development in the Medium density residential zone:- (a) provides buildings which have the appearance of one or more individual buildings on the site with each building being of a dwelling house scale; (b) where located within an identified character area identified on a Heritage and character areas overlay map:- (i) provides for the retention and adaptive re-use of existing residential buildings, with limited external modification; (ii) provides for shared access driveways between sites where there is restricted access within one site to gain rear access; (c) provides for building form which reflects the traditional Queensland style with the use of timber, pitched roofs, roof overhangs, prominent entry treatments, subdued colours and non-reflective materials; (d) incorporates verandah to at least 40% of the front facade length; (e) provides good pedestrian and cycle connectivity to the town centre; (f) provides for on-site car parking to be located at the rear of buildings and separated into discrete areas so that it does not dominate the streetscape; and (g) avoids land subject to constraints.	AO25 – Not Applicable The site is not located in the Medium Density Residential zone.	Addressed by others	Addressed by others
Development in the Low Density Residential Zone						
PO26	Reconfiguring a lot within the Low density residential zone:- (a) is designed to sensitively respond to site characteristics and avoids significant scarring of the landscape; (b) is compatible with the predominant landscape character of its location and setting; and	AO26	Reconfiguring a lot in the Low density residential zone:- (a) provides for a subdivision layout which minimises the extent of cut and fill required to accommodate new lots and roads; (b) avoids or minimises vegetation clearing; (c) provides street trees and landscaping which complements nearby bushland, contributing to the re-forestation of the hillsides	AO26 – Not Applicable The site is not located in the Low Density Residential zone.	Addressed by others	Addressed by others

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	(c) provides for an interconnected system of local roads, pedestrian, cycle and open space links with adjoining land.		and riparian corridors and softening the visual impact of urban development; and (d) incorporates an interconnected internal road system, pedestrian, cycle and open space links including where identified on Figure 7.2.22A (Nambour local plan elements) .			
Development in the Emerging Community Zone						
PO27	Development in the Emerging community zone contributes to the creation of high quality, attractive, environmentally responsible and sustainable residential neighbourhoods which:- (a) are designed to sensitively respond to site characteristics and avoids significant scarring of the landscape; (b) are integrated with and connect to established residential development to the north and the east; (c) have legible and permeable local street systems and movement networks; (d) provide for the coordinated provision of infrastructure; and (e) retain, enhance and connect native vegetation areas and other ecologically important areas.	AO27	No acceptable outcome provided.	PO27 – Not Applicable The site is not located in the Emerging Community zone.	Addressed by others	Addressed by others
PO28	Development in the Emerging community zone provides for the establishment of a mix of land uses and housing types at a scale and intensity and in a configuration that is sympathetic to the character and amenity of established residential neighbourhoods.	AO28	No acceptable outcome provided.	PO28 – Not Applicable The site is not located in the Emerging Community zone.	Addressed by others	Addressed by others

High impact industry zone code

Overall Outcome	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
a. development provides predominantly for high intensity industrial activities that have the potential to generate significant off-site impacts, including medium impact industry and high impact industry uses;	Complies The range of activities proposed on the site, whilst focused on local government waste management facilities, by their nature can be categorised as high intensity industrial activities that have the potential to generate significant off-site impacts. Therefore, the development is considered to be appropriate and consistent with the high impact industry zone designation applying over part of the site.	Addressed by others	Addressed by others
b. non-industrial activities, including caretakers accommodation, food and drink outlets and service stations may also be established in the zone where they directly support the ongoing industrial use of the zone;	Complies Non-industrial activities proposed as part of the preliminary approval directly relate to the integrated operation of the site for waste management purposes.	Addressed by others	Addressed by others
c. existing and planned industrial activities are protected from the intrusion of incompatible activities that may compromise or conflict with the primary use of the premises for industry purposes;	Complies Any non-industrial activities that may be located on the site as a result of the preliminary approval are directly related to the integrated operation of the site for waste management purposes. These uses will not compromise or otherwise conflict with the primary intended use of the land for community facilities and industrial purposes.	Addressed by others	Addressed by others
d. development provides for a range of lot sizes, including an appropriate proportion of larger lots to cater for larger format and land consumptive industry uses;	Not Applicable The proposed development does not include a reconfiguring a lot component.	Addressed by others	Addressed by others
e. industrial activities and other activities established in the zone make a positive contribution to the image of the Sunshine Coast by incorporating a high quality of built form and landscape design in keeping with the expectations of a modern, safe, and attractive industrial environment;	Complies The design and landscape treatments proposed as part of the development are considered to be in keeping with the expectations of a modern, safe, and attractive industrial environment.	Require further information to demonstrate that the proposed development will make a positive contribution, as per Information Requirements under Scenic Amenity Overlay Code, PO1 above.	Agreed – will comply for reasons outlined under the Information Response Review for Scenic Amenity Overlay Code, PO1 above
f. development is located, designed and operated to be responsive to the Sunshine Coast's sub-tropical climate and minimises the consumption of energy and water;	Complies The development maximises the use of sustainable energy supplies and sources by including a landfill gas power generation plant, that captures gas created from landfill activities for power generation purposes.	Addressed by others	Addressed by others
g. development ensures that uses and works for industrial activities are located, designed and managed to maintain public health and safety and minimise adverse impacts on the natural environment, non-industrial land and sensitive uses;	Complies The proposed development will mitigate impacts created by the proposed development to protect the health and wellbeing of the community and the natural environment. Operational management plans are submitted to provide mitigation measures that will be employed as part of the operation of the development.	Addressed by others	Addressed by others
h. development avoids as far as practicable, or where avoidance is not practicable, minimises and otherwise mitigates, adverse impacts on ecologically important	Complies	Addressed by others	Addressed by others

Overall Outcome	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
<p>areas, including creeks, gullies, waterways, wetlands, coastal areas, habitats and vegetation through location, design, operation and management;</p>	<p>The proposed development has been designed and sited to avoid, mitigate and minimise impacts to the sites ecological values to the greatest extent possible. However, the proposal nevertheless requires the removal of vegetation to facilitate the base form of the landfill on site.</p> <p>The following design and operational management measures ensure the development will avoid and other minimise to the greatest extent practicable, impacts to ecologically important areas:</p> <ul style="list-style-type: none"> q) A comprehensive Impact Management Plan for Tusked frog, Richmond Birdwing butterfly and their breeding habitat has been prepared and submitted to DEHP as part of a Species Management Program and Protected Plants Clearing application. Refer to Impact Assessment and Management Plan – Tusked frog, Richmond Birdwing Butterfly and Richmond Birdwing vine – Nambour Landfill Expansion (Native Foresters, 2017c). r) Site design does not change drainage patterns in relation to the Richmond Birdwing butterfly breeding habitat contained within the Lowland rainforest area. All stormwater flows from the landform and access roads are to be directed to a sediment control pond or discharge to the south of the site, away from the Lowland rainforest area. s) Undertaking to erect fauna, dust and rubbish exclusion fencing around the perimeter of the proposed landfill extension. t) A maintenance area of approximately three metres in width will be allowed for fence maintenance and to allow for vegetation management and weed control works in the sites retained vegetation buffer. This fencing is to be installed prior to the commencement of operation of the expanded landfill. u) Retention of 30 – 80 metre vegetation buffer zone around the Lowland Subtropical Rainforest which provides breeding habitat for the EVNT listed Flora and Fauna species occurring onsite. v) Bush revegetation/weed control works will be undertaken in the retained remnant vegetation areas onsite. Particular emphasis will be placed on undertaking weed control works within the retained vegetation buffer zone to the Lowland Subtropical Rainforest. w) A Fauna Spotter-catcher will be required to work through the area prior to commencement of works and during clearing and reprofiling to relocate any fauna found to suitable undisturbed habitat. 		

Overall Outcome	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	<p>x) Clearing works will be undertaken in a sequential manner beginning in cleared areas and moving towards areas of retained vegetation to facilitate the movement of native fauna species out of the works impact zone.</p> <p>y) Works to be undertaken in high quality habitat areas only once Qld DEHP Species Management Program for Tusked frog and Richmond birdwing butterfly has been approved.</p> <p>z) Works to comply with provisions of Construction Environmental Management Plan (CEMP) which details the methodology for clearing works.</p> <p>aa) A Stormwater Management and Erosion and Sediment Control Plan will be implemented during the construction phase of operation, with a whole of site Stormwater Management Plan in place during the landfill operation phase.</p> <p>bb) Preparation and implementation of Weed Management Plan in areas of retained vegetation adjacent to the landfill site. Particular emphasis will be placed on undertaking weed control works within the retained vegetation buffer zone to the Lowland subtropical rainforest including areas within the existing landfill facility and within proximity to mapped watercourses and wetlands.</p> <p>cc) Greenwaste storage and processing will occur 700m to the southwest of the lowland rainforest to minimise impacts from plant pathogens and weed seed dispersal impacting on this forest community. Dust fencing will minimise wind dispersal of some weed species into the forest community.</p> <p>dd) Site management to conduct regular site inspections during landfill operations in accordance with the Site Based Management Plan. This includes general site inspections and audits against approval conditions and standard procedures.</p> <p>ee) Construction quality assurance will be implemented during construction of the landfill facility to provide confidence that the construction meets the design requirements and specifications.</p> <p>ff) Additional / alternative environmental requirements to be implemented using adaptive management principles as required.</p> <p>Notwithstanding the above impact avoidance and mitigation measures, the proposed developments anticipated disturbance of ecologically important areas, includes:</p> <p>d) Clearing Footprint A: Approximately 1.3 hectares proposed to be cleared on Lot 1 on RP202997 and</p>		

Overall Outcome	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	<p>Lots 1 and 2 on RP208600 for leachate and landfill gas management purposes.</p> <p>e) Clearing Footprint B: Approximately 5.6 hectares proposed to be cleared on Lot 4 on RP803104 for landfill purposes. An estimated two (2) hectares has been groundtruthed as Koala habitat and regulated vegetation (RE 12.12.15/12.12.2) and contains threatened species habitat for Tusked Frog and Richmond Birdwing Butterfly.</p> <p>f) Waterways and wetlands: Approximately 0.8 hectares of the abovementioned clearing footprints is identified as being a wetland within three metres of the watercourse for proposed leachate and landfill gas management infrastructure on Lot 1 on RP202997.</p> <p>Further, the development will involve reprofiling (including filling) to accommodate a 10 year ARI critical duration event on Lot 1 on RP202997, construction of a culvert crossing on Lot 2 on RP802600, a road crossing over the embankment on boundary of Lot 1 on RP208600 and Lot 4 on RP803104 and a channel diversion and reprofiling of part of the watercourse to tie into overbank levels on Lot 2 RP208600.</p> <p>Notwithstanding, the application is supported by a Community Needs Assessment, prepared by Norling Consulting. The analysis clearly demonstrates that there is an overarching community, economic and planning benefit to the proposed development occurring on the subject site.</p> <p>Further, the technical reports submitted as part of the development application demonstrates that the Applicant considered alternative development options and will implement management measures to minimise impacts to the greatest extent possible.</p> <p>Additionally, a detailed assessment relating to environmental considerations, is provided in Section 10 of the submitted town planning assessment report.</p>		
<p>i. development is designed and sited to sensitively respond to the physical characteristics and constraints of land, including flooding, steep land, landslide hazard and bushfire hazard, where applicable;</p>	<p>Complies</p> <p>The development has been designed and sited to respond to the physical characteristics of the site. Technical reports submitted as part of the development application address how the development has responded to and seeks to mitigate the risks associated with onsite constraints.</p>	<p>Agreed – complies (inasmuch as the stages and final landform of a grassy hill is a sensitive response to the local foothills character)</p>	<p>Agreed – complies for reasons outlined under the Information Response Review for Scenic Amenity Overlay Code, PO1 above</p>
<p>j. industrial activities have access to the appropriate level of transport infrastructure and do not interfere with the safe and efficient operation of the surrounding road network;</p>	<p>Complies</p> <p>The site is advantageously located within proximity of major freight routes, including Bli Bli Road in the south, which is recognised as an intra-regional corridor and the Bruce Highway in the west.</p> <p>Intersections upgrades are also proposed as part of the development works to mitigate the impacts to the</p>	<p>Addressed by others</p>	<p>Addressed by others</p>

Overall Outcome	Applicant Response	Cardno Information Request Review	Cardno Information Response Review
	surrounding road network, ensuring the development is designed to maximise the efficient extension and safe operation of infrastructure.		
k. development is provided with the full range of urban services to support the needs of the community, including parks, roads and transport corridors, pedestrian and cycle paths, reticulated water, sewerage, stormwater drainage and electricity and telecommunication infrastructure; Sunshine Coast Planning Scheme 2014 Page 6-30;	<p>Complies</p> <p>The site has access to all necessary infrastructure required to support the efficient and effective operation of the development.</p>	Addressed by others	Addressed by others
l. development is located and designed to maximise the efficient extension and safe operation of infrastructure;	<p>Complies</p> <p>No upgrades to essential services are proposed, except for upgrades to the Cooney Road and Bli Bli Road intersection.</p> <p>These intersection upgrades will ensure the development is designed to maximise the efficient extension and safe operation of infrastructure.</p>	Addressed by others	Addressed by others
m. development does not adversely impact on the continued operation, viability and maintenance of existing infrastructure or compromise the future provision of planned infrastructure; and	<p>Complies</p> <p>The development is not considered to adversely impacts on the continued operation, viability and maintenance of existing infrastructure.</p> <p>Nevertheless, the development does propose intersection upgrades to the Bli Bli Road and Cooney Road intersection. This will ensure the development is designed to ensure safe operation of infrastructure in the locality.</p>	Addressed by others	Addressed by others
<p>n. development provides for the following:-</p> <p>a. a use listed as a consistent use in column 1 of Table 6.2.11.2.1 (Consistent uses and potentially consistent uses in the High impact industry zone) to occur in the High impact industry zone; and</p> <p>b. a use listed as a potentially consistent use in column 2 of Table 6.2.11.2.1 to occur in the High impact industry zone only where further assessment has determined that the use is appropriate in the zone having regard to such matters as its location, nature, scale and intensity.</p>	<p>Refer to Town Planning Report</p> <p>The development includes uses identified as being consistent and potentially consistent land uses.</p> <p>Further, both the preliminary approval and the development permit seek approval for additional uses not otherwise listed in Table 6.2.11.2.1. The suitability of the proposed land uses is a key planning consideration addressed in the town planning assessment report.</p>	Addressed by others	Addressed by others

Template Conditions for MCU and RAL Approvals

LANDSCAPE & ECOLOGY

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BASIC USER INSTRUCTIONS – TEMPLATE CONDITIONS

The following guiding principles have been employed in the template condition drafting and must be understood by all staff in using these conditions:

1. The conditions on MCU and RAL permits are to be more focussed on planning/land use matters and **not** on construction details/requirements. The OPW permit is the construction permit. Generally speaking, the planning conditions may set the spatial characteristics and broad parameters for development works such as the general ‘what’ and ‘where’, but not the detailed ‘what’ and ‘how’.
2. MCU and RAL conditions should not be used as a pre-lodgement tool to spell out processes or design and assessment requirements for OPW applications. Advice of this nature can be placed in the Advisory Notes part of the MCU/RAL approval if necessary.
3. Conditions must be tailored to the specifics of the site. Catch-all or “just in case” statements in conditions are to be avoided.
4. The first sentence of any condition must express in a simple, unambiguous and clear statement the overall obligation being imposed on the applicant. Particular and unique aspects of the obligation are to be listed in the standard format provided ((a) – (z) numbering). Work obligations are not to be alluded to or implied by the condition drafting.
5. There is no need to reference the standards, codes and policies that the work must be in accordance with. The standard clause: “*...in accordance with an Operational Works approval*” already covers this. The only exception to this rule is where either:
 - the standard, code or policy you wish to reference is not contained or triggered in the planning scheme; or
 - there will be no later OPW assessment about the issue (eg acoustical performance of plant and mechanical equipment).
6. As a general rule, conditions should not replicate detail already depicted clearly on the Approved Plans.
7. Condition wording around Approved Plans and referenced documents (including post-approval amendments to those plans and documents) must comply with the internal guideline on Dealing with Plans and Documents in Approvals.
8. All titles of referenced standards, codes, documents, policies etc must be *italicised*.
9. The sequencing and content of words within the conditions should not be altered because the conditions have been designed to follow a consistent format across all disciplines.
10. Typical timing clauses “*prior to commencement of use*” and “*prior to sealing of the plan of survey*” are not to be stated in individual conditions because they are already covered by a standard planning condition. However, if the timing will be different to the standard clause, then the alternative timing **must** be included in the condition.

MCU AND RAL CONDITIONS (LANDSCAPE & ECOLOGY)

LANDSCAPE & ECOLOGY

Landscaping Works

1. The development site must be landscaped. The works must be undertaken in accordance with an Operational Works approval and must include in particular:

(Outline landscape scope: add, delete, amend as required)

(a) ~~the works shown on the approved XYZ plan (insert name of Landscape Concept Plan) OR the works shown on the Approved Plans~~ "Landscape works as detailed in an approved Landscape Concept Plan, to a scale and standards as required by Council's Landscape Policy, and generally in accordance with Drawing *** and these conditions"

(b) a landscape materials palette in accordance with council's materials palette for XYZ (identify specific public area palette)

(c) a minimum XYZ metre planting width along the XYZ road frontage of the site in accordance with the conditions of this development approval

(d) landscaping of the approved driveway and car parking area in accordance with the conditions of this development approval

(e) vegetated screening of service infrastructure including XYZ (insert specific infrastructure to be screened eg. acoustic barriers, electrical transformers, mechanical plant, bin storage areas)

(f) landscaping to XYZ OR an XYZm wide planted buffer to XYZ (insert specific features eg the western building elevation, or building undercroft, or the Sunshine Motorway etc)

(g) Where weed species are known or suspected on the site and where not already included in the Land Rehabilitation condition, otherwise delete: removal of all weeds species listed in the following standards and legislation:

(i) Invasive plants listed in the *Biosecurity Act 2014*

(ii) *Sunshine Coast Local Government Area Pest Management Plan 2012-2016.* **ASSUME THIS WILL BE COVERED BY ECOLOGY & REVIEW OF THE REHAB PLAN**

2. For MCU applications only: All landscape works must be established and maintained in accordance with the approved design for the life of the development, and in a manner that ensures healthy, sustained and vigorous plant growth. All plant material must be allowed to grow to full form and be refurbished when its life expectancy is reached.

3. Except where otherwise specified in the conditions of this development approval, all landscape works must be established in deep natural ground that is open to the ground below and open to the sky above.

Frontage Landscaping

Where a landscaped frontage has been specified: **NOT RELEVANT**

4. The landscaped frontage area specified in the conditions of this development approval must be:
- (a) wholly located within the site and at grade to the verge
 - (b) unencumbered by infrastructure items such as car parking, washdown bays and pathways
 - (c) provided for a minimum 60% of the extent of the frontage (exclusive of driveway and pedestrian access)
 - (d) located in front (road side) of any site retaining or fencing
 - (e) established and maintained for the purposes of screening and integrating built form and providing shade and amenity to the street frontage

Street Tree Landscaping **NOT RELEVANT**

Where a requirement for street trees has been specified:

5. The street tree landscaping specified in the conditions of this development approval must:
- (a) be centrally located between kerb and footpath **OR** where no paved footpath: be offset a minimum 1m from back of kerb
 - (b) be established in a planting bed that is positively drained
 - (c) Add where in full width pavement verges: include structured soil design
 - (d) Add where building awnings apply: be co-ordinated with building awning design to allow canopy growth to full maturity
 - (e) have a balanced canopy and roots free of container deformation
 - (f) be provided to meet the intent of shading the road verge **OR** pedestrian paths **AND/OR** seating to 80% at maturity
 - (g) be located so as to facilitate ingress and egress from kerbside
 - (h) be provided with a drainage connection to the tree pit and structured soils if individually planted
 - (i) comply with AS2303:2015 *Tree stock for landscape use*
 - (j) comply with council's *Planning scheme policy for the transport and parking code*
 - (k) Add where practical: include low clumping planting between the site boundary and the footpath edge
 - (l) be designed so that any soil areas less than 2m² are provided as planting (not turf)
 - (m) be designed for turf areas to be maintained by mowers with a 2.1m wide cutting deck.

Car Park and Driveway Landscaping **NOT RELEVANT**

Where a requirement for car park and driveway landscaping has been specified:

6. Landscaping for car parking and driveways specified in the conditions of this development approval must:
- (a) incorporate a minimum 3m planting width where abutting a road reserve or public land
 - (b) incorporate a minimum 1.5m planting width where adjoining side and rear boundaries

- (c) incorporate shade trees at a rate of 1 tree per every 4 car parks
- (d) be designed for pedestrian safety
- (e) be designed to incorporate:
 - (i) shade trees in concave profile planting area
 - (ii) drainage of hard surface areas to landscape areas
 - (iii) edge of hardstand finished at wheel stop
 - (iv) planting of low species past the wheel stop (under vehicle overhang)

Engineered Landscape Planting NOT RELEVANT

Where a requirement for engineered landscape planting has been specified such as podium or trellis planting:

- 7. Engineered landscape planting on the podium level of the building (or attached to the XYZ building elevation) specified in the conditions of this development approval must:
 - (a) supplement in-ground deep planting
 - (b) have a minimum media depth of 0.8m
 - (c) be irrigated by means of XYZ
 - (d) be designed to soften and integrate the built form

Entrance Features NOT RELEVANT

For RAL applications:

- 8. Any proposed entrance feature must be located entirely within private land and not within the public road reserve. Entrance features must:
 - (a) reflect a local character
 - (b) comprise feature vegetation (either existing or planted) in preference to built forms
 - (c) integrate with the landscape design of the balance of the estate
 - (d) be constructed of durable and low maintenance materials
 - (e) be treated with a graffiti resistant coating
 - (f) not restrict pedestrian access.

Treatment of Temporarily Vacant Land NOT RELEVANT

Where applicable (eg. for development likely to be constructed in stages):

- 9. Where some or all of the land remains vacant or undeveloped for more than three (3) months, or buildings are demolished and redevelopment is delayed for more than three (3) months, the following works must to be carried out:

Insert as appropriate:

- (a) the site must be cleared of all rubble, debris and demolition materials
- (b) the site must be graded to prevent ponding (to the same level as the adjoining footpath wherever practicable), turfed and mown at a minimum three (3) weekly intervals
- (c) the site must be landscaped with perimeter planting consisting of advanced specimens of fast growing tree species
- (d) the site must be maintained to ensure no nuisance to adjacent premises, roads or footpaths
- (e) where fencing is installed to secure boundaries:
 - (i) the fencing must be durable and not capable of being pushed or blown over

- (ii) the fencing type must not detract from local amenity (barbed wire is not acceptable)
- (iii) vandalism must be promptly repaired and any graffiti removed.

Retention of Existing Trees **NOT RELEVANT**

Option 1: Where an arborist/tree retention report will become a referenced document:

10. All works must be carried out in accordance with section XYZ of the XYZ report (insert the report's name only) listed within this development approval Add where necessary , with the exception of the following:

- (a) XYZ...(describe unsatisfactory aspects of the report)

Add if post approval amendments are also required (see internal guideline):

The report must be resubmitted to council incorporating the above amendments prior to the issue of any Development Permit for operational works.*

*(Refer to Advisory Note)

OR Option 2: Where it is desired to prescribe particular trees for retention and an arborist/tree retention report will be submitted and assessed through the OPW application:

The existing XYZ tree/s located at XYZ on the site **OR** Existing trees on the site **and in the road reserve** must be retained in accordance with an arborist report (or part thereof) prepared by a qualified person* and endorsed through an operational works approval.

*(Refer to Advisory Note)

OR Option 3: Where it is acceptable to leave it for the project arborist to determine which trees should stay or go:

11. The existing XYZ tree/s located at XYZ on the site **OR** Existing trees on the site **and in the road reserve** must be assessed by a qualified person* and retained and protected where possible. Where mature trees are to be removed, reasonable grounds must be given by the qualified person*.

Where trees are identified for protection, whether by an arborist/tree retention report or by council:

12. Prior to the prestart meeting, a bank guarantee or a bond of \$XYZ must be lodged as security for the protection of the tree/s identified for retention in the conditions of this approval **OR in section XYZ of the XYZ report (insert the report's name only)** listed within this development approval. The bond:

- (a) may be drawn upon by council in its entirety if the tree **OR any one tree** identified for retention is damaged to the point where the tree cannot be saved (as confirmed by the project arborist and agreed in writing by council)
- (b) will be returned upon practical completion of all the operational works relating to the development.

Land Rehabilitation ASSUME THIS WILL BE COVERED BY ECOLOGY & REVIEW OF THE REHAB PLAN

13. The land area **defined by/located at XYZ** on the subject site **OR identified for rehabilitation on the Approved Plans** must be rehabilitated in accordance with

an operational works approval and must include the removal of all weeds species listed in the following standards and legislation:

- (a) Invasive plants listing in the *Biosecurity Act 2014*
- (b) *Sunshine Coast Local Government Area Pest Management Plan 2012-2016*.

Ecological Preservation ADDRESSED BY OTHERS

Where a vegetation protection covenant is necessary. Do not use covenant unless approved MCU/REC plan is not sufficient to protect vegetation:

14. A vegetation protection covenant must be registered against the title/s of the property/ies over the land area defined by/located at XYZ on the subject site **OR** over the area identified as XYZ on the Approved Plans pursuant to Section 97A(3)(b) of the *Land Title Act 1994*. The covenant document and a survey plan must be submitted to council for endorsement prior to lodgement with the relevant titles authority. The covenant document must:
 - (a) incorporate the requirements of this development approval
 - (b) include Sunshine Coast Council as Covenantee
 - (c) reference Queensland Land Registry Standard Terms Document No. 715219876.

Add only if non-standard covenant terms are applied, otherwise delete:

15. If a provision included in the covenant document is requisitioned or refused registration by the relevant titles authority, a substitute provision must be included in the document which as nearly as practicable addresses the objective sought by the requisitioned or refused provision. The wording of the substitute provision must be agreed by council.

For RALs – where a vegetation protection covenant is not necessary but development is still required to be setback from vegetation (note – the applicant should be required to nominate a building envelope on each lot):

16. All future dwellings on the approved lots must be sited within the building envelopes shown on the Approved Plans.

OR

For MCUs – where a vegetation protection covenant is not necessary but development is still required to be setback from vegetation and local laws do not already protect the vegetation:

17. The development must maintain a setback of XYZm to the XYZ vegetation located at XYZ on the subject site **OR** as identified on the Approved Plans.

AND

A “no clearing zone” must be established and maintained over the land area defined by/located at XYZ on the subject site **OR** over the area identified as XYZ on the Approved Plans. The following activities must not be carried out within the no clearing zone:

- (a) clearing, cutting down, poisoning, lopping or pruning of native vegetation which is indigenous to, or planted within, the zone
- (b) soil/spoil dumping and/or compacting
- (c) soil excavation, other than for planting indigenous native plants.

The following exceptions apply:

- (a) invasive plants listed in the *Biosecurity Act 2014* and any council listed environmental weeds, exotic grasses and other plants identified in writing by council

- (b) indigenous native trees which pose a well-founded threat to persons or property as approved in writing by council
- (c) controlled bushfire burns to maintain ecological processes subject to submission of a bushfire management plan and agreed in writing by council.

Easements NOT RELEVANT

To prescribe a specific easement to council for a specific purpose:

- 18. An XYZm wide easement for XYZ purposes must be registered against the title/s of the property/ies in favour of council over the land area defined by/located at XYZ on the subject site **OR** over the proposed easement identified on the Approved Plans.
- 19. All easements must be designed in accordance with the planning scheme and granted at no cost to the Grantee. Where the Grantee is council or a service authority, the easement documentation must be in accordance with the Grantee's standard easement terms. Draft easement documentation must be submitted to council for endorsement.

Transfer of Land to Council NOT RELEVANT

- 20. The land area defined by/located at XYZ on the subject site **OR** the area identified as XYZ on the Approved Plans must be transferred to council in fee simple for XYZ (insert purpose/status of the land eg. river esplanade, bushland park, sports, recreation) purposes. Add where applicable (consult with planner): The land to be transferred is "non-trunk infrastructure" for the purposes of the *Planning Act 2016*.
- 21. The land area to be transferred must be unencumbered by services such as pump stations, services easements or similar operational uses.
- 22. The land owner/developer must be responsible for all costs associated with the transfer of the land, including the requirement to obtain a valuation for the land from a registered property valuer and to pay all transfer duty upon transfer.
- 23. One original signed and 'stamped' Queensland Titles Registry and Form 1 Transfer and Form 24 must be lodged with council for endorsement prior to the registration of title, together with a survey plan and a copy of the land valuation.

Works within Protected Land NOT RELEVANT

- 24. The following works must be undertaken within the land to be covered by the XYZ (purpose) easement **OR** the land to be covered by the vegetation protection covenant **OR** the land to be transferred to council **OR** the land to be dedicated to the Crown as reserve in accordance with an operational works approval:
 - (a) XYZ (eg a 3m wide concrete driveway for access purposes for council's maintenance vehicles)
 - (b) XYZ (eg a lockable gate to prevent unauthorised access)

- (c) XYZ (eg permanent survey markers at XYZ intervals. Note: permanent fencing is covered by fencing condition)
- (d) XYZ (eg management or maintenance requirements for an existing dam).

Fencing to Protected Land NOT RELEVANT

For permanent fencing only (temporary protective fencing to be conditioned with OPW):

25. A permanent fence must be constructed along the entire length of the interface of the site with the XYZ (insert details of the protected land). The fence must be constructed in accordance with an operational works approval and must be to the following specifications:
- (a) XYZm high
 - (b) XYZ (e.g. construction materials, including any fire-proof materials)
 - (c) XYZ (e.g. a lockable gate for maintenance purposes at specific locations)
 - (d) XYZ (e.g. any specifications to reflect fencing requirements under Fauna Management conditions).

Community Awareness of Protected Land NOT RELEVANT

26. Pole mounted educational signage must be provided to the XYZ (protected land). The signage must be constructed in accordance with an operational works approval and must be to the following specifications:
- (a) A0 in size, facing XYZ (eg toward the development)
 - (b) located at approximate XYZm intervals adjacent to XYZ
 - (c) educative in nature, noting the proximity of the XYZ (protected land)
 - (d) wording and images to include the words: "XYZ" (e.g. "Dogs and cats are not permitted within the National Park")
 - (e) durable, weather resistant and visually complementary to the natural environment
 - (f) the exact wording, design and colours of the sign/s must be agreed by council in consultation with the Queensland Parks Wildlife Service.

Fauna Management ADDRESSED BY OTHERS

Option 1: Where a fauna management plan will be required through the OPW application:

27. Vegetation must only be removed or disturbed in accordance with a fauna management plan (or part thereof) prepared by a qualified person* and endorsed through an operational works approval.
*(Refer to Advisory Note)

OR Option 2: Where a fauna management plan will become a referenced document to the MCU/RAL approval:

28. Vegetation must only be removed or disturbed in accordance with section XYZ of the XYZ report (insert the report's name only) listed within this development approval Add where necessary , with the exception of the following:

- (a) XYZ...(describe unsatisfactory aspects of the report)

OR Option 3: Other fauna conditions (where not already in a FMP and where related to permanent structures or the ongoing use of the land). Note: construction phase fauna requirements such as spotter/catchers should be conditioned with OPW:

29. Any proposed new fencing to delineate boundary alignments must be constructed to allow for the movement of fauna. Such fencing must:
- (a) allow adequate clearance at ground level for local macropods
 - (b) not include any use of barbed wire or similar materials
 - (c) provide regular opportunities for passage over and through
 - (d) be agreed by council
 - (e) Add where appropriate: be constructed in accordance with Sunshine Coast Council design plan XYZ (insert standard drawing reference number).
30. A XYZ metre high dog proof fence **OR** fauna exclusion fence **OR** fauna exclusion 'frog fence' **OR** directional wildlife fence must be constructed along the entire common boundary to XYZ (insert details of the protected land). The fence must be constructed in accordance with an operational works approval Add where appropriate: and Sunshine Coast Council design plan XYZ (insert standard drawing reference number).
31. Fauna crossings in the form of XYZ (e.g. a culvert underpass **OR** a rope bridge overpass **OR** a traffic calming device) must be provided in/at the location identified as XYZ on the subject site **OR** in/at the location identified as XYZ on the Approved Plans. The works must be undertaken in accordance with an operational works approval.
32. Permanent artificial nesting boxes must be installed within the XYZ (identify location) to provide compensatory habitat for arboreal mammals and hollow dependent avian species. The works must be undertaken in accordance with an operational works approval.

Bushfire Management ADDRESSED BY OTHERS

Option 1: The following conditions are for when no bushfire management plan is submitted or required for the development:

33. For MCU only – non-reticulated areas: The site must be provided with a water storage reservoir having a minimum XYZ (depends on planning scheme) litres of water for emergency firefighting purposes. Such storage must be provided in addition to the water supply capacity required for the use and must be provided in the form of either an accessible dam, swimming pool, or rainwater tank. If by rainwater tank, water storage for firefighting purposes must be provided either in a separate rainwater tank or a reserve section in the main water supply tank on which:
- (a) the domestic take off from the tank is at or above the 5,000 litre point
 - (b) standard rural fire brigade fittings are fitted to the tank outlet for access by four wheel drive rural services vehicles.
34. For MCU only – non-reticulated areas: The site must be provided with an auxiliary power supply such as a petrol driven fire fighter pump (or generator),

together with a hose of sufficient length to easily reach around to all sides of the building.

35. For MCU only: A XYZm wide asset protection zone from/around the building/s must be maintained on the site which is kept free of:
- (a) grass understoreys greater than XYZ (eg 8) tonnes per hectare or higher than XYZ (eg 300mm)
 - (b) shrubs and small trees
 - (c) large trees that have continuous or overlapping canopies with other large trees
 - (d) trees that overhang dwellings or structures
 - (e) branches on trees that are within XYZ (eg 3)m of the ground
 - (f) dead branches and loose bark
 - (g) woodpiles, combustible material storage areas, large quantities of garden mulch or any other form of stacked flammable materials.
36. For MCU and RAL: A XYZm wide cleared firebreak must be constructed between XYZ and the adjoining flammable vegetation located at XYZ on the site/adjoining property. The works must be undertaken in accordance with an operational works approval Add where required: and must include in particular:
- (a) XYZ...
 - (b) XYZ...
37. For MCU and RAL: A XYZm wide continuous maintenance and firefighting track **OR** fire evacuation track must be established along the XYZ boundary of the subject site **OR** in/at the location identified as XYZ on the subject site or Approved Plans. The track must be provided in accordance with an operational works approval and must include in particular:
- (a) a level and trafficable surface
 - (b) direct access to XYZ Road
 - (c) XYZ...
38. For MCU and RAL: Certification must be submitted to council from a qualified person* which certifies that the development has been constructed in accordance with the bushfire management conditions of this development approval.
**(Refer to Advisory Note)*

Option 2: The following conditions are for when a bushfire hazard assessment report and/or bushfire management plan will become a referenced document to the MCU/RAL approval:

39. The development must be carried out in accordance with section XYZ of the XYZ report (insert the report's name only) listed within this development approval Add where necessary: , with the exception of the following:
- (a) XYZ...(describe unsatisfactory aspects of the report)
- Add if post approval amendments are also required (see internal guideline):
The report must be resubmitted to council incorporating the above amendments prior to the issue of any Development Permit for operational works.*
**(Refer to Advisory Note)*

40. A copy of the [XYZ report \(insert the report's name only\)](#) listed within this development approval must be provided to the nearest fire authority.
41. Certification must be submitted to council from a qualified person* which certifies that the development has been constructed in accordance with the bushfire management conditions of this development approval.
**(Refer to Advisory Note)*
42. [For RAL only:](#) A clause must be included in the contract of sale for Lots [XYZ](#) which requires future dwellings to be constructed within the building envelopes shown on the Approved Plans [AND/OR](#) in accordance with [section XYZ of the XYZ report \(insert the report's name only\)](#) listed within this development approval.

[Option 3: The following conditions are for when a bushfire management plan will be submitted and assessed through the OPW application:](#)

43. All works must be carried out in accordance with a bushfire management plan (or part thereof) prepared by a qualified person* and endorsed through an operational works approval.
**(Refer to Advisory Note)*
44. A copy of the bushfire management plan for the development must be provided to the nearest fire authority.
45. A clause must be included in the contract of sale for affected lots which requires future dwellings to be constructed in accordance with any building siting and construction requirements specified in the bushfire management plan for the development.
46. [For RAL only:](#) Certification must be submitted to council from a qualified person* which certifies that the development has been constructed in accordance with the bushfire management conditions of this development approval.
**(Refer to Advisory Note)*

[Add to any/all Options if the development is for a school, hospital, retirement village, accommodation building or the like](#)

47. A bushfire evacuation plan for the site must be prepared by a qualified person* and submitted to council prior to the issue of any Development Permit for operational works.
**(Refer to Advisory Note)*
48. A copy of the bushfire evacuation plan for the development must be provided to the nearest fire authority.

Bushfire Management – Future Dwelling Requirements ADDRESSED BY OTHERS

[The following additional “Bushfire Management – Future Dwelling Requirements” conditions apply only to RAL approvals](#)

Option 1: Where no bushfire management plan is submitted or required for the development:

49. **Where building envelopes have been required and depicted on the Approved Plans:** All future dwellings on the approved lots must be sited within the building envelopes shown on the Approved Plans.
50. All future dwellings on the approved lots must maintain a XYZm wide asset protection zone from/around the dwelling which is kept free of:
- (a) grass understoreys greater than XYZ (eg 8) tonnes per hectare or higher than XYZ (eg 300mm);
 - (b) shrubs and small trees;
 - (c) large trees that have continuous or overlapping canopies with other large trees;
 - (d) trees that overhang dwellings or structures
 - (e) branches on trees that are within XYZ (eg 3)m of the ground;
 - (f) dead branches and loose bark; and
 - (g) woodpiles, combustible material storage areas, large quantities of garden mulch or any other form of stacked flammable materials.

Option 2: Where a bushfire hazard assessment report and/or bushfire management plan will become a referenced document to the REC approval:

51. **Where the referenced bushfire management plan contains building siting or construction techniques** All future dwellings on the approved lots must be sited and/or constructed in accordance with section XYZ of the XYZ report (insert the report's name only) listed within this development approval.

Option 3: Where a bushfire management plan will be submitted and assessed through the OPW application:

52. All future dwellings on the approved lots must be sited and constructed in accordance with any building siting and construction requirements contained within the bushfire management plan for the development.

ADVISORY NOTES (LANDSCAPE & ECOLOGY)

Resubmission of Amended Documents Required

Where post-approval amendments are required to a referenced document (see internal guideline):

1. The conditions of this development approval require resubmission of the referenced XYZ (eg bushfire management plan) to council with amendments. Please address the amended document/s to council's Planning Assessment Unit with the reference no. MCUXYZ **OR** RALXYZ, separate to any operational works application. To avoid delays and assessment issues with the operational works application, it is recommended the document/s be resubmitted prior to lodgement of any operational works application. Should the amended document/s not be submitted, the applicant is advised that a Preliminary Approval may be issued in lieu of a Development Permit for the operational works.

Pre-Design Meeting Services (only applicable if subsequent operational works approval is required)

2. Council offers a free pre-design meeting service specifically for operational works applications. Applicants are encouraged to utilise this service prior to the submission of their operational works application to ensure that their application is not held up by avoidable design issues. It is anticipated that the pre-design meeting will ultimately assist in fast tracking the assessment of an operational works application once it is lodged with council as a result of design and application issues being resolved or substantially resolved prior to the application being submitted. For more information on this service or to book a pre-design meeting please visit council's website or contact (07) 5475 PLAN.

Qualified Person

Add only the components that are referred to in the conditions:

3. For the purpose of preparing a landscape plan, a qualified person is considered to be a landscape architect, landscape designer and/or horticulturist with a minimum of three (3) years current experience in the field of landscape design.
4. For the purpose of preparing an arborist report, a qualified person is considered to be a person with either:
 - (a) ISA certification; or
 - (b) a Diploma of Arboriculture in addition to a minimum of three (3) years current experience in the field of arboriculture.
5. For the purpose of preparing a rehabilitation plan, a qualified person is considered to be a landscape architect or ecologist with a minimum of three (3) years current experience in the field of landscape design.

6. For the purpose of preparing a fauna management plan, a qualified person is considered to be an ecologist with a minimum of three (3) years current experience in the field of fauna assessment and management.
7. For the purpose of preparing a bushfire management plan, and for certifying compliance with the bushfire requirements of this development approval, a qualified person is considered to be an ecologist with a minimum of three (3) years current experience in the field of bushfire assessment and management.

Displacement of Fauna Species BY OTHERS

8. This development site supports a population of XYZ. These animals will be progressively displaced as a consequence of this development. Liaison with relevant officers from the Queensland National Parks and Wildlife Service of the Department of Environment and Resource Management in respect to the management of these animals should be undertaken.

Street Tree Species NOT RELEVANT

9. Street trees species are to be selected for successful establishment and long term benefit in regards to location and soil type. council suggests the following species selection:

Coastal (east of Bruce Highway), except for Buderim:

- a) Melaleuca quinqueneriva – Broad-leaved Paperbark
- b) Cupaniopsis anacardioides – Tuckeroo
- c) Elaeocarpus obovatus – Hard Quandong
- d) Banksia integrifolia – Coastal Banksia
- e) Syzygium hemilamprum syn. Acmena hemilampra – Blush Satinash with overhead powerlines:
- f) Acronychia imperforata – Fraser Island Apple
- g) Melaleuca viminalis / Melaleuca salignus syn. Callistemon salignus – Weeping Bottlebrush / Willow Bottlebrush

Hinterland (west of Bruce Highway) and including Buderim:

- a) Tristaniopsis laurina 'Luscious'
- b) Elaeocarpus eumundii – Eumundi Quandong
- c) Syzygium hemilamprum syn. Acmena hemilampra – Blush Satinash
- d) Syzygium floribundum syn. Waterhousea floribunda – Weeping Satinash with overhead powerlines:
- e) Backhousia citriodora – Lemon Scented Myrtle

Alternate species may be considered by agreement with council.

PROPERTY NOTES (LANDSCAPE & ECOLOGY)

MCUXYZ or RALXYZ – Vegetation Protection Covenant NOT RELEVANT

Add for RAL: The following notation applies to approved lots XYZ:

A Vegetation Protection Covenant applies to this property. No clearing of vegetation is to occur within the covenanted area, except where in accordance with the terms of the covenant.

MCUXYZ or RALXYZ – Ecological Preservation NOT RELEVANT

Add for RAL: The following notation applies to approved lots XYZ:

To ensure the protection of vegetation on this property, any dwelling on this lot is required by council approval RALXYZ to be constructed within the building envelope nominated on the approved subdivision proposal plan (see council file reference RALXYZ).

AND/OR

A “no clearing zone” applies to this lot for the purpose of vegetation protection. The landowner must maintain the property in accordance with the ecological preservation conditions of council approval MCUXYZ or RALXYZ.

MCUXYZ or RALXYZ – Bushfire Management NOT RELEVANT

Add for RAL: The following notation applies to approved lots XYZ:

To ensure the safety of people and property on this lot is maintained, all buildings and structures must be sited and/or constructed in accordance with the bushfire management conditions of council approval MCUXYZ or RECXYZ and associated Operational Work approvals.

MCUXYZ or RALXYZ – Control of Domestic Cats NOT RELEVANT

Add for RAL: The following notation applies to approved lots XYZ:

Domestic cats are permitted on this property provided that they are permanently confined within buildings and/or cat enclosures. This requirement is designed to protect lower canopy and ground nesting and feeding birds which occur proximate to the lot.

PLANS, DOCUMENTS AND FURTHER DEVELOPMENT PERMITS REQUIRED (LANDSCAPE & ECOLOGY)

- Development Permit for operational works (Landscaping Works)

Approved Plans

Plan No.	Rev.	Plan Name	Date
[Insert details of plan #1]		[Insert plan title in italics], prepared by [Insert company name <u>not</u> italics]	
[Insert details of plan #2]		[Insert plan title in italics], prepared by [Insert company name <u>not</u> italics]	

Plans Requiring Amendment

Plan No.	Rev.	Plan Name	Date
[Insert details of plan #1]		[Insert plan title in italics], prepared by [Insert company name <u>not</u> italics]	
Amendments	•		
[Insert details of plan #2]		[Insert plan title in italics], prepared by [Insert company name <u>not</u> italics]	
Amendments	•		

Referenced Documents

Document No.	Rev.	Document Name	Date
[Insert details of doc #1]		[Insert doc title in italics], prepared by [Insert company name <u>not</u> italics]	
[Insert details of doc #2]		[Insert doc title in italics], prepared by [Insert company name <u>not</u> italics]	

560 Bli Bli Road and 18, 26, 40, 50,
66 Cooney Road, Bli Bli

APPENDIX

D

ACOUSTIC ASSESSMENT

Our Ref pl_G065_120318_01JM.docx

Contact: Julie McDonagh



Monday, 23 April 2018

Cardno
Level 11, 515 St Paul's Terrace
Fortitude Valley QLD 4006

ATTN: Morgan Wilson

Dear Morgan,

Cardno (Qld) Pty Ltd
ABN 57 051 074 992

Level 11
515 St Paul's Terrace
Fortitude Valley QLD 4064
Australia

Locked Bag 4006
Fortitude Valley QLD 4006
Australia

Phone: 61 7 3369 9822
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**ACOUSTIC PEER REVIEW OF DA SUBMISSION
FOR PROPOSED NAMBOUR LANDFILL EXPANSION**

www.cardno.com.au

1.0. Introduction

The Sunshine Coast Council (SCC) is proposing to expand its existing landfill operations at 26 & 40 Cooney Road, Bli Bli. The site and proposed expansion area are shown below in Figure 1.

Figure 1: Existing and Proposed Site Layout for the Nambour Landfill Operations.



A Noise Impact Assessment Report was prepared by Renzo Tonin Ron Rumble to accompany the development application for a material change of use for the proposed expansion areas, adjoining the existing landfill site. This report

Belgium Brussels **Indonesia** Jakarta **Kenya** Nairobi **New Zealand** Auckland Christchurch Wellington
Papua New Guinea Port Moresby **Sri Lanka** Colombo **United Arab Emirates** Abu Dhabi **United Kingdom** London
United States of America Portland Washington Phoenix Sacramento Boise Las Vegas Charlotte

provides a review of the submitted material, documented comments and requests for information associated with review of the provided application material, and a summary of recommendation based on the outcomes of the review.

2.0. Application Materials Review

2.1. Reviewed Application Documents

The following application material was initially reviewed or referred to:

- Noise & Vibration Assessment Report prepared by Renzo Tonin Ron Rumble (29 August 2016)
- Nambour Landfill Expansion Plans prepared by ATC Williams
- Town Planning Report prepared by Urbis
- Environmentally Relevant Activity Supporting Report prepared by Mark Rigby & Associates

2.2. Assessment Criteria

The following relevant performance and acceptable outcomes from the Nuisance Code relating to Noise from the Sunshine Coast Planning Scheme were adopted to assess the proposal:

Performance Outcomes		Acceptable Outcomes	
Acoustic Amenity and Noise			
PO1	Development, other than development involving live entertainment or amplified sound in a hospitality area or as part of a temporary event, is located, designed, constructed and operated to ensure that noise emissions do not adversely impact on surrounding sensitive land uses. <i>Note—this performance outcome applies even if noise emissions are generated by sensitive land uses, from sources such as communal areas, service areas, plant and equipment (e.g. air conditioning units) and the like.</i>	AO1	Development does not involve activities that would cause noise related environmental harm or nuisance. OR Development ensures noise does not emanate from the <i>site</i> through site layout, design, construction, and operation.

2.3. Summary of Review Outcomes

The following items were identified during the review of initial application materials:

1. Full operating periods of truck movements were not provided.
2. Weather data ring the noise monitoring period was not provided.
3. The height above ground for various modelled noise sources and receivers along with assumed ground absorption was not provided.
4. Model verification details (i.e. modelled versus measured noise levels) were not provided to demonstrate model verification.
5. General claims were made regarding Pasquill stability class and verification results, but a comparison of the various results adopting these variables was not provided to confirm that the correct inputs had been adopted.
6. A 5 metre high noise berm was recommended as a mitigation measure to reduce noise from the crushing and screening area but modelled results including this barrier were not included in the report to confirm its effectiveness and support this recommendation.
7. There were no noise contour maps to show the predicted exceedances, so it was difficult to determine the level of exceedance across the area surrounding the site.

Following the initial review an information request was provided to the applicant requesting clarification of the above items, and additional materials to close out the above comments.

3.0. Information Response Materials Review

3.1. Reviewed Application Documents

The additional information was reviewed following receipt of the applicant's response:

- Information Request Response prepared by Renzo Tonin Ron Rumble dated 15 December 2017

3.2. Summary of Review Outcomes

Review of the Response to Information Request (RIR) provided the following clarification for each issue raised above:

1. **Full operating periods of truck movements were not provided.**
Truck operating times were provided in the RIR and reviewed.
2. **Weather data during the noise monitoring period was not provided.**
Weather data for the monitoring period was provided in the RIR noting that partial wind data had been included on the noise monitoring graphs in the original report. More comprehensive weather data was provided in an appendix to the RIR. It should be noted that records from the Bureau of Meteorology Bli Bli weather station indicate that significant rain fell between the 29 February and the 2 March at the site but that this information is not indicated in the noise assessment report or the RIR.
3. **The height above ground for various modelled noise sources and receivers, and ground absorption were not provided.**
Source and ground floor receiver heights and ground absorption assumptions were provided in the RIR. However it was not clear if the upper levels of two storey receivers had been considered in their assessment. This is important because noise levels will likely be higher on the first floor of receivers due to increased line of sight to the landfill operations. A subsequent letter from Renzo Tonin Ron Rumble (their ref QA590-02F04 Information Response (r1) dated 20 March 2018) provided the following additional information:

During our original assessment, calculation checks were made to simulate potential highset receivers. The receiver height was set at 4.6m high for this calculation. Our calculation showed compliance at 4.6m high receptors with the 5m berm constructed close to the noise sources. Again, we did not show 4.6m high results in our report as most dwellings within the vicinity of the landfill were observed to be lowset buildings during our site inspections. That is, the results of our report remain unchanged.

The comment provided above still does not address the requested additional information. If any of the dwellings are two storey maps should have been provided to show compliance. If compliance is predicted at 4.6 metres, we are unsure why the applicant would not provide this information.
4. **Model verification details (i.e. modelled versus measured noise levels) were not provided to demonstrate model verification.**
This request was partially addressed with the one verification noise level provided. Given that there were a number of monitoring locations we would normally expect more than one verification location for the model.
5. **General claims were made regarding Pasquill stability class and verification results, but a comparison of the various results adopting these variables was not provided to confirm that the correct inputs had been adopted.**
It was requested that verified noise levels for each Pasquill Stability Class (relating to atmospheric conditions) were included to enable confirmation that the correct tone had been selected, as stated in the original report. This information was not provided in the RIR, but has subsequently been provided in a supplementary letter from Renzo

Tonin Ron Rumble (their ref QA590-02F04 Information Response (r1) dated 20 March 2018). It was noted that the Pasquil Stability Class made no difference to the noise modelling results.

6. ***A 5 metre high noise berm was recommended as a mitigation measure to reduce noise from the crushing and screening area but modelled results including this barrier were not included in the report to confirm its effectiveness and support this recommendation.***
Additional modelling results were provided in the RIR.
7. ***There were no noise contour maps clearly showing the predicted exceedances, so it was difficult to determine the level of exceedance across the area surrounding the site.***
Additional Noise Contour Maps were provided in the RIR.

4.0. Summary of Key Issues

Most of the issues were associated with missing information which prevented a comprehensive review of the predicted noise and vibration (blasting) impacts.

Most of these omissions have been resolved after the provision of additional information in the RIR, and subsequent information response letter from Renzo Tonin Ron Rumble. However the following issues are still outstanding:

- Confirmation of whether any of the modelled and / or nearby affected sensitive receivers are two storey has not been provided.
- Predicted noise levels have not been provided for a modelled receiver height of 4.6 metres to confirm compliance for any two storey receivers that may be located around the site.

5.0. Assessment of Compliance with Project Assessment Criteria

- The quantitative assessment criteria adopted for the assessment is as follows:
- The Queensland Environmental Protection (Noise) Policy 2008.
- The Current Site Licence ERA Conditions
- The Queensland Environmental Protection Regulation 2008, section 440Z
- The Queensland Environmental Protection Act 1994

We consider that these criteria are suitable quantitative criteria for assessment of the site noise and blasting emissions, in accordance with current Queensland state requirements to achieve the outcomes required by Condition P01 of the Nuisance Code relating to Noise from the Sunshine Coast Planning Scheme.

In general notwithstanding the missing information detailed above, the noise impact assessment report indicates that compliance will be achieved with the adopted assessment criteria. However predicted noise levels at first floors of any nearby two storey receivers have not been provided, and may not comply with the above criteria, as impacts are generally higher where receivers are located at a higher RL above ground.

Therefore conditional development approval with the conditions detailed below in Section 6.0 included is recommended on the basis of compliance with Condition P01 of the Nuisance Code relating to Noise from the Sunshine Coast Planning Scheme.

6.0. Recommendations

We recommend that the proposal is conditionally approved on the basis of the predicted noise impacts included in the Renzo Tonin Ron Rumble noise impact assessment provided the following noise and vibration conditions are included in the approval:

1. Acoustic measures and treatments must be incorporated into the development in accordance with Section 7.9 and Section 9.0 of the *Noise & Vibration Assessment Report - Renzo Tonin Ron Rumble (29 August 2016)* listed within this development approval.

2. Notwithstanding the requirements of Condition (1), a revised Noise & Vibration Assessment Report shall be submitted to Council incorporating the following:
 - a) Confirmation whether any of the receivers surrounding the development are two storey.
 - b) Predicted noise levels at the second storey of each of these two storey receivers for all modelled scenarios
 - c) Demonstration that compliance will be achieved with the noise criteria detailed in the report at all of these locations
 - d) Where compliance is not achieved, revised mitigation measures to be implemented to ensure compliance is achieved at all floors of all affected sensitive receivers.
3. The approved use OR Non-residential uses on the premises must not operate outside the hours of:
 - a) 7am to 5pm Monday to Saturday
 - b) 9am to 5pm Sunday or any public holiday.
4. Any grills or metal plates subject to vehicular traffic on the site must be suitably acoustically dampened to prevent noise impacts on surrounding sensitive land uses.
5. Where complaints (other than frivolous or vexatious complaints) are made to council about noise from the approved use, council may require the site management entity to:
 - a) Submit a Noise Impact Assessment prepared by a qualified person* in accordance with council's Planning scheme policy for the nuisance code, and/or
 - b) Undertake further noise amelioration measures or operations, install volume limiting devices or barriers and/or shield or relocate mechanical plant and equipment and have such measures certified by a qualified person*.
6. Certification must be submitted to council from a qualified person* that the development and recommended mitigation measures have been constructed in accordance with the Noise & Vibration Report and/or Acoustic Amenity conditions of this development approval.

*(Refer to Advisory Note)

We trust that the above is constructive. Please do not hesitate to contact the undersigned if you require any clarification of the above.

Yours Sincerely

Julie McDonagh
Principal
Manager, Acoustics
for **Cardno**

560 Bli Bli Road and 18, 26, 40, 50, 66
Cooney Road, Bli Bli

APPENDIX

E

AIR QUALITY IMPACT ASSESSMENT

Air Noise Environment Pty Ltd

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ACN 081 834 513
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Cardno
Level 1, 9 Maud Street
Maroochydore
QLD 4558

Attention: Morgan Wilson

20 April 2018

Ref: 5027RepLet02.odt

Dear Morgan

Re: NAMBOUR LANDFILL EXPANSION - AIR QUALITY ASSESSMENT INDEPENDENT PEER REVIEW

This report letter presents the approach and findings of the independent peer review of the Air Quality Assessment prepared by AECOM for the proposed Nambour Landfill Expansion Application. This review has been prepared on behalf of Cardno, the appointed independent assessment manager acting on behalf of Sunshine Coast Regional Council (SCRS).

The Nambour Landfill Expansion Application relates to a combined development application for:

- Preliminary Approval under section 242 of the Sustainable Planning Act 2009 (the SPA) for a material change of use to vary the effect of the Sunshine Coast Planning Scheme for an Environment Facility, Extractive Industry, High Impact Industry, Medium Impact Industry, Shop, Transport Depot and Utility Installation in accordance with the Sunshine Coast Waste Precinct Plan of Development; and
- Development permit for making a material change of use for utility installation (major utility - refuse disposal involving a landfill and ancillary activities), extractive industry (involving crushing, grinding, milling or screening), an undefined use (landfill gas power generation plant) and associated Environmentally Relevant Activities (ERA's).

The development involves the following ERA's:

- ERA 60 (1d) - Waste Disposal for operating a facility for disposing of, in a year, more than 200,000 tonnes of waste (regulated waste and any combination of general waste, limited regulated waste);



- ERA16 (2b) – Extracting, other than by dredging, in a year, more than 100,000 tonnes but not more than 1,000,000 tonnes of material;
- ERA16 (3b) – Screening, in a year, more than 100,000 tonnes but not more than 1,000,000 tonnes of material; and
- ERA 33 – Crushing, grinding, milling or screening more than 5,000 tonnes of material in a year (existing approval to be retained and expanded to Lot 4 on RP803104).

The application has been reviewed from an air quality compliance perspective, and the scope and findings of the review are presented below and Attachment A.

1. Review of Application Material

The following application material has been reviewed in completing the initial assessment of the application:

- Nambour Landfill Expansion, Air Quality Assessment Report, prepared by AECOM, 1 July 2016.
- Environmentally Relevant Activity Supporting Information – Nambour Landfill Expansion, prepared by Mark Rigby and Associates, June 2017.
- Sunshine Coast Waste Precinct Town Planning Assessment Report, prepared by Urbis, 28 June 2016.

The air quality assessment was considered in the context of the requirements of the Sunshine Coast Planning Scheme, 2014. Specifically, the application was assessed, from an air quality perspective, against the following Codes:

- Nuisance Code.
- Community Facilities Zone Code.
- High Impact Industry Zone Code.
- Extractive Industry Code.

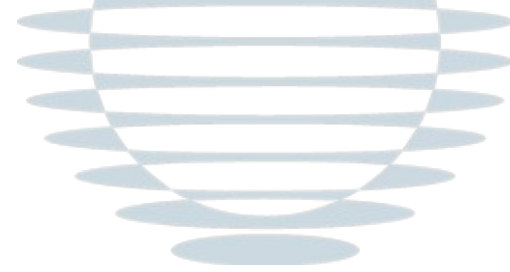
The outcomes of the assessment against these Planning Scheme Codes is presented in Attachment A.

2. Review of Information Response Materials

Following issue of the information request, a response to the air quality issues raised in the Code Assessment, Attachment A, was provided as follows:

- Information request response, prepared by AECOM, dated 31 October 2017, including updated Air Quality Assessment report dated 13 November 2017.
- Information request response prepared by Mark Rigby and Associates, dated 21st December 2017.

The responses provided in these documents were considered satisfactory to address the outstanding assessment related issues, and sufficient to allow analysis of the overall likelihood of compliance from an air quality perspective.



3. Compliance Status

Based on the AECOM air quality assessment, and the revised modelling and assessment provided in the response to the information request, it is concluded that the proposal is capable of meeting the appropriate air quality health related and amenity impact criteria. In order to meet these requirements, appropriate conditions of approval should be imposed.

4. Recommendations

It is recommended that a series of air quality related conditions are imposed, as detailed in Attachment B.

Please do not hesitate to contact us should any further information be required.

Yours sincerely
for Air Noise Environment Pty Ltd

Claire Richardson BSc(Hons), MAAS
Principal Consultant

Note: All professional advice provided by Air Noise Environment, including any information contained in this letter, is subject to the terms of the Disclaimer shown on our website at www.ane.com.au/disclaimer.html

Attachment A – Planning Scheme Code Assessment - Air Quality

Nuisance Code

Air Quality				
PO1	Development, other than development involving live entertainment or amplified sound in a hospitality area or as part of a temporary event, is located, designed, constructed and operated to ensure that noise emissions do not adversely impact on surrounding sensitive land uses. <i>Note—this performance outcome applies even if noise emissions are generated by sensitive land uses, from sources such as communal areas, service areas, plant and equipment (e.g. air conditioning units) and the like.</i>	AO1	Development does not involve activities that would cause noise related environmental harm or nuisance. OR Development ensures noise does not emanate from the site through site layout, design, construction, and operation.	PO1 is not applicable to air quality.
PO2	Development that is a sensitive land use is located, designed, constructed and operated to achieve a satisfactory level of acoustic amenity where there is potential for noise emissions generated from surrounding development to adversely affect the sensitive land use. <i>Editor's note—this performance outcome relates to a 'reverse amenity' situation where a proposed sensitive land use may be adversely impacted by noise emissions from surrounding development. In such cases, it is contingent upon the proposed sensitive land use to implement measures to ensure a satisfactory level of acoustic amenity is provided to prospective occupants and users of the development.</i>	AO2	The <i>sensitive land use</i> is not established in an area that will be adversely impacted by noise generated by existing land uses, activities and possible future development in the area. OR Where located in an area where adverse noise impacts are likely, the <i>sensitive land use</i> mitigates all potential impacts through site layout, design, construction, and operation.	PO2 is not applicable to Air Quality.
PO3	Development involving live entertainment or amplified sound in a hospitality area, or as part of a temporary event, provides a satisfactory level of acoustic amenity for surrounding sensitive land uses, having regard to the location and setting of the development and the frequency of the event.	AO3	No acceptable Outcome provided.	PO3 is not applicable to Air Quality
PO4	Development is located, designed, constructed and operated to ensure that odour, dust and particulate emissions do not cause environmental nuisance to sensitive land uses (whether existing or proposed uses) in the surroundings of the proposed development.	AO4.1	Development does not involve activities that create odorous air emissions. OR Development does not result in odour that causes environmental harm or nuisance with respect to surrounding land uses.	Overall, the AECOM air quality assessment is considered to follow appropriate methodologies and current industry practices. There are a number of aspects of the assessment report where additional supporting information/clarification are necessary in order to determine the suitability of the assessment to demonstrate compliance with PO4. These are as follows: (I) Table 7 – the adopted background concentrations are noted in the AECOM report as being conservative, however this conclusion is not supported by the data as all but one of the sites are a significant separation distance from a major road. Further justification of the adopted background concentrations is considered appropriate and, if necessary, revision of the cumulative predictions should be conducted to include

		AO4.2	<p>Development does not involve activities that will result in airborne particles or emissions being generated.</p> <p>OR</p> <p>Development ensures that no airborne particles or emissions cause environmental harm or nuisance through site layout, design, construction and operation.</p>	<p>consideration of more appropriate background concentrations.</p> <p>(ii) Section 5.3.3 – Demonstrate that the source locations adopted for modelling scenario 2, which are not at the shortest distance to receptors, represents the potential worst case impacts on surrounding receptors.</p> <p>(iii) Table 16 – emission rates for haul routes. Confirm that the correct units are stated for these sources (g/s) and that the correct emission data has been adopted in the modelling.</p> <p>(iv) Table 25 – exceedance of the air quality goal for 24 hour PM₁₀ is predicted for receptor 10. Demonstrate that this premises is not 'a place used as a workplace including an office for business or commercial purposes.'. Adopting the 6th highest predicted cumulative concentration is not appropriate for demonstrating compliance.</p> <p>(v) Appendix B2 – amend the emissions estimates and complete revised air quality modelling and assessment based on the proposed hours of operation 6 am to 7 pm as defined in the ATC Williams landfill plan. The air quality assessment lodged with the application has adopted the hours of 6 am to 6 pm, which will underestimate emissions hence the modelling predictions are also underestimates.</p> <p>(vi) Provide further justification that the 90 % control of dust emissions from haul routes assumed for the air quality assessment can be achieved in practice, and how this will be achieved.</p> <p>(vii) A control efficiency of 93 % of the flare emissions has been assumed. Provide justification that the flare design and operation will be appropriate for achieving this level of mitigation.</p> <p>(viii) The contour plots presented in Appendix C for particulates should represent the maximum predicted ground level concentrations, not the 6th highest.</p>
PO5	Development that is a sensitive land use is located, designed, constructed and operated to ensure that the proposed use is not subject to odour, dust or particulate emissions from surrounding development that would cause environmental nuisance.	AO5	No acceptable outcome provided.	PO5 – the applicants response to this performance outcome is considered appropriate.
PO6	Development ensures that lighting and glare does not have any significant adverse amenity impacts or create nuisance to surrounding premises.	<p>AO6.1</p> <p>Lighting devices are located, designed and installed to:- (a) minimise light spillage on surrounding premises; (b) preserve an acceptable degree of lighting amenity at surrounding premises; (c) provide covers or shading around lights; (d) direct lights downwards; (e) position lights away from possible affected areas; and (f) enable the brightness of lights to be adjusted to low levels.</p> <p>AO6.2</p> <p>Streets, driveways, servicing and car parking areas are located and designed to minimise vehicle headlight impacts on any surrounding residential premises.</p>	PO6 is not applicable to Air Quality.	

		AO6.3	Reflective glare that would cause nuisance to residents or the general public at surrounding premises and public spaces is avoided or minimised through the use of:- (a) external building materials and finishes with low-reflectivity; or (b) building design/architectural elements or landscape treatments to block or reduce excessive reflected glare.	
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Community Facilities Zone Code

(a) development caters predominantly for specified uses, facilities and works which include:- i. land used, owned or operated by Federal, State or local government for purposes such as air services, cemeteries, community uses, educational establishments, emergency services, hospitals, utility installations and transport networks; ii. uses, facilities and works which by virtue of their location, intensity, combination of uses, operations or site characteristics are best managed in a use-specific land use allocation; or iii. private community services and facilities including educational establishments, places of worship, private hospitals and tourist parks;	Not applicable to air quality.
(b) a limited range of allied and compatible uses are provided to fulfil ancillary functions required for community facilities to function effectively;	Not applicable to air quality.
(c) community facilities and associated uses are located to optimise their accessibility, operational efficiency and benefit to the public;	Not applicable to air quality.
(d) development accommodates the specific operational, functional and locational needs of the particular use, whilst being of a scale, appearance and intensity that is compatible with existing and intended development in adjacent zones;	Not applicable to air quality.
(e) development provides a high level of amenity, maintains the safety of people, buildings and works, and effectively manages the potential for land use conflict with existing and intended surrounding development;	Refer to response to PO4
(f) existing and planned community facilities and associated uses are protected from the intrusion of incompatible uses that could limit the ongoing operation of existing community facilities or prejudice appropriate new community facilities;	Not applicable to air quality.
(g) activities established in the zone make a positive contribution to the image of the Sunshine Coast by incorporating a high quality of built form and landscape design;	Not applicable to air quality.
(h) development is located, designed and operated to be responsive to the Sunshine Coast's sub-tropical climate and minimises the consumption of energy and water;	Not applicable to air quality.
(i) development avoids as far as practicable, or where avoidance is not practicable, minimises and otherwise mitigates, adverse impacts on ecologically important areas, including creeks, gullies, waterways, wetlands, coastal areas, habitats and vegetation through location, design, operation and management;	Not applicable to air quality.
(j) development is designed and sited to sensitively respond to the physical characteristics and constraints of land, including flooding, steep land, landslide hazard and bushfire hazard, where applicable;	Not applicable to air quality.
(k) development is provided with a level of infrastructure and essential services that is commensurate with the location, nature, scale and intensity of the use; and	Not applicable to air quality.
(l) development is located and designed to maximise the efficient extension and safe operation of infrastructure.	Not applicable to air quality.

High impact industry zone code

a. development provides predominantly for high intensity industrial activities that have the potential to generate significant off-site impacts, including medium impact industry and high impact industry uses;	Not applicable to air quality.
b. non-industrial activities, including caretakers accommodation, food and drink outlets and service stations may also be established in the zone where they directly support the ongoing industrial use of the zone;	There is a property located on Lot 1 CG 2584 that is predicted to be affected by particulate impacts in excess of the air quality guidelines. It is possible that this is identified for caretaker use, however the impacts on this property have not been commented on in the AECOM report.
c. existing and planned industrial activities are protected from the intrusion of incompatible activities that may compromise or conflict with the	Not significant from an air quality perspective – applicant's response is

primary use of the premises for industry purposes;	sufficient.
d. development provides for a range of lot sizes, including an appropriate proportion of larger lots to cater for larger format and land consumptive industry uses;	Not applicable to air quality.
e. industrial activities and other activities established in the zone make a positive contribution to the image of the Sunshine Coast by incorporating a high quality of built form and landscape design in keeping with the expectations of a modern, safe, and attractive industrial environment;	Not applicable to air quality.
f. development is located, designed and operated to be responsive to the Sunshine Coast's sub-tropical climate and minimises the consumption of energy and water;	Not applicable to air quality.
g. development ensures that uses and works for industrial activities are located, designed and managed to maintain public health and safety and minimise adverse impacts on the natural environment, non-industrial land and sensitive uses;	Refer to response to PO4.
h. development avoids as far as practicable, or where avoidance is not practicable, minimises and otherwise mitigates, adverse impacts on ecologically important areas, including creeks, gullies, waterways, wetlands, coastal areas, habitats and vegetation through location, design, operation and management;	Not applicable to air quality.
i. development is designed and sited to sensitively respond to the physical characteristics and constraints of land, including flooding, steep land, landslide hazard and bushfire hazard, where applicable;	Not applicable to air quality.
j. industrial activities have access to the appropriate level of transport infrastructure and do not interfere with the safe and efficient operation of the surrounding road network;	Not applicable to air quality.
k. development is provided with the full range of urban services to support the needs of the community, including parks, roads and transport corridors, pedestrian and cycle paths, reticulated water, sewerage, stormwater drainage and electricity and telecommunication infrastructure; Sunshine Coast Planning Scheme 2014 Page 6-30;	Not applicable to air quality.
l. development is located and designed to maximise the efficient extension and safe operation of infrastructure;	Not applicable to air quality.
m. development does not adversely impact on the continued operation, viability and maintenance of existing infrastructure or compromise the future provision of planned infrastructure; and	Not applicable to air quality.
n. development provides for the following:- <ul style="list-style-type: none"> a. a use listed as a consistent use in column 1 of Table 6.2.11.2.1 (Consistent uses and potentially consistent uses in the High impact industry zone) to occur in the High impact industry zone; and b. a use listed as a potentially consistent use in column 2 of Table 6.2.11.2.1 to occur in the High impact industry zone only where further assessment has determined that the use is appropriate in the zone having regard to such matters as its location, nature, scale and intensity. 	Not applicable to air quality.

Extractive Industry Code

Extractive Industry Generally			
Site Planning			
PO1	The extractive industry is designed and established so as to provide:- <ul style="list-style-type: none"> (a) adequate buffering measures including separation distance to protect the surrounding area from significant noise, dust, vibration and visual impacts of operations; (b) suitable vehicle access; (c) protection against erosion; (d) acceptable quality of water leaving the site; (e) public safety; (f) acceptable restoration measures; (g) protection of groundwater quality and 	AO1	<i>In partial fulfilment of Performance Outcome PO1:-</i> The extractive industry is undertaken in accordance with an approved environmental management plan which is regularly updated to reflect on-site practices and addresses the environmental and social impacts of the extractive industry.
			Refer to response to PO4

	<p>quantity;</p> <p>(h) avoidance of land contamination;</p> <p>(i) effective stormwater management; and</p> <p>(j) waste management practices which maximise recycling and reuse of wastes.</p>			
PO2	Environmental management requirements for the extractive industry are properly identified, and their effective implementation and monitoring appropriately planned, to minimise environmental impact.	AO2	In partial fulfilment of Performance Outcome PO2:- The extractive industry demonstrates that adequate resources are available to fulfil the environmental management requirements identified in the approved environmental management plan.	<p>The ERA application supporting documentation contains a series of measures designed to manage the potential for off site air quality impacts. There are some aspects of the proposed management measures where additional supporting information or revision of the ERA report by the applicant is considered appropriate to ensure PO3 can be achieved:</p> <p>(I) demonstrate how haul routes with a maximum silt content of 6.4 % will be constructed and maintained within 6.4 % for the lifetime of the project;</p> <p>(ii) the ERA report discusses provision for watering of erodible surfaces and haul routes under adverse conditions, however a trigger for implementing watering and dust management is not identified.</p> <p>(iii) The ERA report does not require all vehicles to exit via the wheel wash.</p> <p>(iv) The ERA report does not require all vehicles accessing/exiting the site to have a fully enclosed or covered load.</p> <p>(vi) The compliance objectives do not identify that there is to be no offsite tracking of sediment or dust on to public roads.</p> <p>(vii) Demonstrate that there will be sufficient water available on site for the proposed dust control watering regime.</p>
PO3	The extractive industry provides for volumes of extraction to be planned and staged so that a suitable and sustainable landscape form remains on the extraction site.	AO3	No acceptable outcome provided.	Not applicable to air quality.
Vehicle Access and Manoeuvring				
PO4	<p>Vehicle access to, from, and within the <i>extractive industry</i> site is provided so as to:-</p> <p>a. be adequate for the type and</p> <p>(b) volume of traffic to be generated;</p> <p>(c) not create or worsen any traffic</p> <p>(d) hazard;</p> <p>(e) ensure disturbance to surrounding land uses is minor and that impacts from emissions are minimised; and</p> <p>(f) ensure no tracking of sediment or material onto the road network results from the transport of materials associated with the haulage of <i>extractive resources</i>.</p>	<p>AO4.1</p> <p>AO4.2</p> <p>AO4.3</p> <p>AO4.4</p>	<p>The proposed <i>transport route</i> to the <i>site</i> is along sealed roads and does not require heavy vehicles to traverse residential or rural residential streets classified as collector streets or local streets. All driveways and manoeuvring areas between the site entrance and site office and all wash down areas and works depot areas are sealed.</p> <p>Driveways have a minimum width of 9 metres measured at the property alignment/road <i>frontage</i> and are located not less than 9 metres from any other driveway.</p> <p>A wheel wash down area is provided near the driveway entrance of the <i>site</i> to any <i>transport route</i>.</p>	<p>The ERA report lodged with the application identifies that a truck wheel wash will be operated at the site, as per A04.4. Specific objectives to ensure all vehicles use the wheel wash on exiting from the site, all vehicles accessing the site have covered loads, and an objective of ensuring no offsite tracking of particulates on to external public roads are not included in the ERA report. It is recommended that further measures to address the issue of offsite tracking of sediment are included to ensure compliance with the requirements of PO4 can be achieved in practice.</p>
Separation Distances				

<p>PO5</p>	<p>The extractive industry is located on a site which has sufficient area to provide for adequate setback of operations from road frontages, site boundaries, surrounding residential uses and other sensitive receptors, such that the extractive industry achieves an acceptable standard of visual amenity and control of noise, light, dust and vibration impacts.</p>	<p>AO5.1</p> <p>AO5.2</p> <p>AO5.3</p> <p>AO5.4</p>	<p>Hard rock extraction and processing activities involving blasting are not carried out within 40 metres of any boundary of the <i>site</i> or within 1 kilometre of any residential premises, land included within a <i>residential zone</i> or Rural residential zone or other <i>sensitive receptor</i> on surrounding land.</p> <p>Extractive and processing activities not involving blasting are not carried out within 30 metres of any boundary of the site or within 200 metres of any residential premises, land included within a residential zone or Rural residential zone or other sensitive receptor.</p> <p>Note—a topographic feature providing a natural buffer between extractive and processing activities and a sensitive land use may justify provision of a lesser setback distance.</p> <p>A vegetated buffer strip or mound having a minimum width of 10 metres is provided to all boundaries of the site.</p> <p>Note—Acceptable Outcomes AO5.2 and AO5.3 may be modified by more specific requirements in this code relating to Precinct RUR-1 (Meridan Plains Extractive Resource Area).</p> <p>Extraction and processing activities are screened from view from any major road and any land included in an urban zone, where appropriate.</p>	<p>Refer to response to PO4</p>
<p>Site Drainage</p>				
<p>PO6</p>	<p>The extractive industry provides on-site drainage that is designed, constructed and maintained so as to:-</p> <ol style="list-style-type: none"> avoid erosion; prevent pollution of groundwater and surface water; protect downstream water quality; provide opportunities to recycle water for reuse in processing, washing and/or screening materials, dust suppression and on product stockpiles, overburden stockpiles, revegetation or rehabilitation areas and wheel wash facilities. 	<p>AO6.1</p> <p>AO6.2</p> <p>AO6.3</p> <p>AO6.4</p> <p>AO6.5</p>	<p>Banks and channels are constructed to divert stormwater run-off away from excavated areas.</p> <p>Sediment basins are provided to detain stormwater run-off from disturbed areas such that there is no off-site discharge likely to cause environmental harm.</p> <p>Bunding and treatment and disposal of industrial wastes are carried out such that no environmental harm is caused.</p> <p>Lining or other suitable treatment of erosion-prone areas is established and maintained at discharge points.</p> <p>Harvested water is re-used on the extractive industry site for a range of purposes including, but not limited to:-</p> <ol style="list-style-type: none"> processing, washing and/or screening materials; dust suppression and for use on product and overburden stockpiles; irrigation of revegetation and rehabilitation areas; and wheel wash facilities. 	<p>The air quality assessment assumes that sufficient water will be available to water haul routes and open erodible sources on dry and windy days. The availability of a suitable water supply for dust mitigation has not been demonstrated in the air quality report. It would be relevant to confirm that the stormwater management system will be sufficient to supply this need.</p>
<p>of Blasting and Other Operations</p>				
<p>PO7</p>	<p>The extractive industry provides for blasting, crushing, screening and loading to be carried out safely and in accordance with best practice management standards so that disturbance to surrounding land uses is minor and that impacts</p>	<p>AO7.1</p>	<p>Blasting and other operations are confined to the hours of operation identified in Table 9.3.7.3.1A (Extractive industry hours of operation).</p> <p>Table 9.3.7.3.1A</p>	<p>Not applicable to air quality.</p>

	from emissions are minimised.		<u>Extractive Industry activity Hours of Operation</u> Blasting Operations: 9AM – 5PM Monday to Friday No operations Saturday, Sunday or public holidays Other Operations: 9AM – 6PM Monday to Friday. 7AM to 1PM Saturday No operations Sunday or public holidays AO7.2 Vibration levels do not exceed the relevant provisions contained in the Environmental Protection Act 1994.	
Public Safety				
PO8	Extractive industry operation areas are fenced to prevent unauthorised or accidental public entry.	AO8.1 Safety fence is provided to prevent unauthorised or accidental public access to the extractive industry site to the greatest extent practicable. AO8.2 Public signage to warn of operations and safety hazards is provided to all boundaries of the site.		Not applicable to air quality.
Site Rehabilitation				
PO9	Rehabilitation of the extractive industry site provides:- (a) progressive/staged rehabilitation works; (b) appropriate clean-up works (taking particular account of areas of possible soil contamination); (c) agreed landform and soil profiles; (d) suitable revegetation; and (e) establishment phase requirements.	AO9 The extractive industry provides for all rehabilitation works to be undertaken in accordance with an approved expected final landform design and site rehabilitation plan.		Implementation of a clearly defined and staged rehabilitation plan in accordance with a set timeframe is an important element in minimising wind blown dust from the site. The AECOM modelling has assumed no more than 10 % of the overall site area will be open to wind erosion at any one time, and this will need to be reflected in the adopted rehabilitation plan.
P10	Rehabilitation works for each operational stage are bonded to ensure the effective return of disturbed areas to acceptable land use suitability.	AO10 No acceptable outcome provided		Refer to response PO9
PO11	Rehabilitation allows for suitable use of any water bodies created through the extraction process, having regard to water quality, hydraulic conditions, land form and vegetation.	AO11.1 Rehabilitation is carried out to provide water quality of a standard that can support aquatic vertebrates and invertebrates. AO11.2 Fringes of water bodies are planted with wetland species such that a sustainable aquatic plant community is established.		Not applicable to air quality.
Additional Requirements for Extractive Industry in Precinct RUR-1 (Meridan Plains Extractive Resource Area) on Zone Map ZM63				
Master Planning and Rehabilitation Concepts				
PO12	The extractive industry is established, operated and rehabilitated in a manner that is generally in accordance with the development and rehabilitation concepts identified on:- (a) Figure 9.3.7A (Meridan Plains extractive resource area master plan); and (b) Figure 9.3.7B (Meridan Plains extractive resource area end use concept plan).	AO12 No Acceptable Outcome Provided		Refer to response PO9
Avoidance of Constrained Areas and Staging of Extraction				
PO13	The extractive industry avoids constrained areas and utilises a staged approach to site development that provides for:- (a) the efficient exploitation of the Extractive Resource Area;	AO13 The extractive industry provides for:- (a) the avoidance of exploitation in areas identified as 'Constrained Resource Area (Type A)' on Figure 9.3.7A (Meridan Plains extractive resource area master plan); (b) the avoidance of exploitation in areas identified as 'Constrained Resource Area (Type B)' on Figure 9.3.7A		Refer to response PO9

	<p>(b) the progressive rehabilitation of the <i>site</i> such that the scenic values of the Mooloolah River <i>floodplain</i> are retained throughout the duration of the extraction;</p> <p>(c) the progressive creation of a lake system that at all times:-</p> <ul style="list-style-type: none"> (i) maintains or improves the integrity of the Mooloolah River and the flood storage capacity of the Mooloolah River <i>floodplain</i>; (ii) maintains, as far as practicable, the flow conveyance patterns of the Mooloolah River <i>floodplain</i>; and (iii) maintains or improves the quantity and quality of surface and groundwater in the catchment area; and <p>(d) the avoidance or effective mitigation of any potential environmental harm.</p>	<p>(Meridan Plains extractive resource area master plan) until such time as outstanding strategic coastal management, flooding and hydrological issues are investigated and resolved;</p> <p>(c) the avoidance of exploitation in any other part of the Extractive Resource Area determined (through further site assessment or referral agency advice) to have coastal management or other biophysical limitations making the land unsuitable for extractive industry development;</p> <p>(d) development on the site to be staged such that not more than 30% of the surface area of the site is used for extractive industry at any particular time; and</p> <p>(e) development of a lake system with a configuration that is generally consistent with that shown on Figure 9.3.7B (Meridan Plains extractive resource area end use concept plan) and designed in accordance with:-</p> <ul style="list-style-type: none"> (i) an approved lake management plan for the entire Extractive Resource Area; or (ii) if a lake management plan is yet to be approved for the entire Extractive Resource Area—a site specific lake management plan. <p>Note—<i>Council</i> may consider an alternative staging or lake configuration, provided that the development is otherwise consistent with this code and the intent of the end use concept depicted on Figure 9.3.7B (Meridan Plains extractive Resource area end use concept plan).</p>	
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Buffers and Batter Stability Zones

<p>PO14</p>	<p>The <i>extractive industry</i> provides for ecological and <i>landscape buffers</i>, visual screens and batter stability zones to conceal and/or setback operations and activities involved in the use from road <i>frontages</i>, <i>site</i> boundaries, incompatible uses on surrounding land, lakes, <i>waterways</i>, <i>wetlands</i>, ecologically important areas and <i>infrastructure</i> corridors, such that the <i>extractive industry</i>:-</p> <ul style="list-style-type: none"> (a) maintains or improves the integrity of the Mooloolah River and other <i>waterways</i>; (b) protects and reconnects <i>ecologically important areas</i>; (c) achieves a high standard of visual amenity from all scenic routes and significant viewpoints; (d) protects the functionality of transport and other <i>infrastructure</i> corridors; (e) prevents channel avulsion or erosion; and (f) avoids or effectively mitigates any potential environmental harm. 	<p>AO14.1</p> <p>The <i>extractive industry</i> provides for the establishment of ecological and <i>landscape buffers</i>, visual screens and batter stability zones in accordance with Table 9.3.7.3.1B (Ecological and landscape buffers, visual screens and batter stability zones).</p> <p>Table 9.3.7.3.1B Ecological and landscape buffers, visual screens and batter stability zones</p> <table border="1"> <tr> <td>Mooloolah River and waterways</td> <td>60 metre wide (minimum) ecological buffer measured from the high or outer bank of the waterway to the top of the batter of any extraction area. The northern and southern boundaries of this ecological buffer are "smoothed" (i.e. they do not follow every bend in the river) as indicated in figures 9.3.7A and 9.3.7B. To remove any doubt, the distance is not less than 60m at any point, but could be up to 100m when "smoothed".</td> </tr> <tr> <td>Native vegetation</td> <td>50 metre wide (minimum) ecological buffer measured from the outer edge of the native vegetation to the top of the batter of any extraction area.</td> </tr> <tr> <td>Bruce Highway – Caloundra Road Interchange</td> <td>200 metre wide open landscape buffer measured from the planned final Bruce Highway and Caloundra Road boundaries to the top of the batter of any extraction area.</td> </tr> <tr> <td>Multi Modal Transport</td> <td>40 metre wide batter stability zone measured from the final MMTC Road Boundary to the top</td> </tr> </table>	Mooloolah River and waterways	60 metre wide (minimum) ecological buffer measured from the high or outer bank of the waterway to the top of the batter of any extraction area. The northern and southern boundaries of this ecological buffer are "smoothed" (i.e. they do not follow every bend in the river) as indicated in figures 9.3.7A and 9.3.7B. To remove any doubt, the distance is not less than 60m at any point, but could be up to 100m when "smoothed".	Native vegetation	50 metre wide (minimum) ecological buffer measured from the outer edge of the native vegetation to the top of the batter of any extraction area.	Bruce Highway – Caloundra Road Interchange	200 metre wide open landscape buffer measured from the planned final Bruce Highway and Caloundra Road boundaries to the top of the batter of any extraction area.	Multi Modal Transport	40 metre wide batter stability zone measured from the final MMTC Road Boundary to the top	<p>Not applicable to air quality.</p>
Mooloolah River and waterways	60 metre wide (minimum) ecological buffer measured from the high or outer bank of the waterway to the top of the batter of any extraction area. The northern and southern boundaries of this ecological buffer are "smoothed" (i.e. they do not follow every bend in the river) as indicated in figures 9.3.7A and 9.3.7B. To remove any doubt, the distance is not less than 60m at any point, but could be up to 100m when "smoothed".										
Native vegetation	50 metre wide (minimum) ecological buffer measured from the outer edge of the native vegetation to the top of the batter of any extraction area.										
Bruce Highway – Caloundra Road Interchange	200 metre wide open landscape buffer measured from the planned final Bruce Highway and Caloundra Road boundaries to the top of the batter of any extraction area.										
Multi Modal Transport	40 metre wide batter stability zone measured from the final MMTC Road Boundary to the top										

			Corridor	of the batter of any extraction area; and 200 metre wide interim visual screen.		
			Sippy Downs to Caloundra South Link	20 metre wide batter stability zone and visual screen measured from the final corridor boundary to the top of the batter of any extraction area.		
			Rainforest Drive to Claymore Road Link	20 metre wide batter stability zone and visual screen measured from the final corridor boundary to the top of the batter of any extraction area.		
			Honey Farm Road Link	20 metre wide batter stability zone and visual screen measured from the final corridor boundary to the top of the batter of any extraction area.		
			Water Supply Ring Tank	40 metre wide batter stability zone measured from the property boundary to the top of the batter of any extraction area.		
			Water supply and sewerage main pipelines	40 metre wide batter stability zone measured from the centreline of the pipe to the top of the batter of any extraction area.		
			Created water body / lake	20 metre wide batter stability zone measured from the top of the batter of any extraction area/lake to another extraction area/lake.		
			Electricity transmission tower or other infrastructure service where not included within a road reserve	20 metre wide batter stability zone measured from the outer extremity of the transmission tower or other infrastructure service to the top of a minimum 1:3 batter of any extraction area.		
			External site boundary	10m wide batter stability zone measured from the property boundary to the top of the batter of any extraction area, except where a lake traverses a property boundary and is part of a development site.		
		AO14.2	<p>The <i>extractive industry</i> provides for:-</p> <p>(a) that part of any <i>site</i> included within the Mooloolah River ecological <i>buffer</i> to be:-</p> <p>(i) rehabilitated to provide for bank stabilisation and buffering in accordance with:-</p> <p>(A) an approved final landform design and site rehabilitation plan for the entire Extractive Resource Area; or</p> <p>(B) if an approved final landform design and site rehabilitation plan is yet to be approved for the entire Extractive Resource Area—a site specific final landform design and site rehabilitation plan; and</p> <p>(ii) dedicated to Council as esplanade prior to the commencement of any extraction on the site;</p> <p>(b) that part of any site included within another ecological buffer, to be established prior to the commencement of any</p>			

			<p>extraction on the site;</p> <p>(c) that part of any site included within the Bruce Highway-Caloundra Road open landscape buffer or the Multi- Modal Transport Corridor visual screen to be established for that purpose prior to the commencement of any extraction on the site; and</p> <p>(d) that part of any site included within another buffer or batter stability zone to be established for that purpose, at a time appropriate to the staging of the extraction.</p> <p>Note—where land in the Mooloolah River Ecological Buffer is dedicated to Council as esplanade in accordance with AO14.2(a) (ii), Council will consider the granting of a temporary lease over part of the esplanade in order to provide for:-</p> <p>(a) any activity required to avoid or mitigate impacts on the environment (including approved rehabilitation work); and/or</p> <p>(b) any access required to allow maintenance of the Ecological Buffer or egress to an extraction area adjoining the Esplanade; and/or</p> <p>(c) any security measure required for public safety purposes and/or the security of extractive industry sites.</p>									
PO15	The extractive industry provides for ecological and landscape buffers, and visual screens and batter stability zones, to comprise of vegetation endemic to the area and to have a landscape character that is consistent with a coastal plain landscape, where rural scenery and pockets of local native vegetation are interspersed with screen planting and views over water.	AO15	No acceptable outcome provided	Not applicable to air quality.								
Transport/Infrastructure Corridors and Transport Routes												
PO16	The extractive industry protects existing transport and infrastructure corridors and provides for the establishment of new transport and infrastructure corridors.	AO16.1	<p>The extractive industry provides for the establishment of the identified transport and infrastructure corridors described in Table 9.3.7.3.1C (Transport and infrastructure corridor requirements) to be located within the future transport and infrastructure study area depicted on Figure 9.3.7A (Meridan Plains extractive resource area master plan).</p> <p>Table 9.3.7.3.1C Transport and infrastructure corridor requirements</p> <table border="1"> <tr> <td>Sippy Downs to Caloundra South Link (Local government infrastructure)</td> <td>80 metre wide road reserve from Caloundra Road to Laxton Road and including the existing Honey Farm and Sattler Road Reserves.</td> </tr> <tr> <td>Rainforest Drive to Claymore Road Link (Local government infrastructure)</td> <td>40 metre wide road reserve from Honey Farm Road to Laxton Road and including the existing unnamed Road Reserve.</td> </tr> <tr> <td>Honey Farm Road Link (Local government infrastructure)</td> <td>40 metre wide road reserve from Sippy Downs to Caloundra South Link to Rainforest Drive and including the existing Rainforest Road Reserve.</td> </tr> <tr> <td>Electricity transmission line or other</td> <td>40 metre wide infrastructure corridor in an alignment and configuration that fulfils the functional requirements of the</td> </tr> </table>	Sippy Downs to Caloundra South Link (Local government infrastructure)	80 metre wide road reserve from Caloundra Road to Laxton Road and including the existing Honey Farm and Sattler Road Reserves.	Rainforest Drive to Claymore Road Link (Local government infrastructure)	40 metre wide road reserve from Honey Farm Road to Laxton Road and including the existing unnamed Road Reserve.	Honey Farm Road Link (Local government infrastructure)	40 metre wide road reserve from Sippy Downs to Caloundra South Link to Rainforest Drive and including the existing Rainforest Road Reserve.	Electricity transmission line or other	40 metre wide infrastructure corridor in an alignment and configuration that fulfils the functional requirements of the	Not applicable to air quality.
Sippy Downs to Caloundra South Link (Local government infrastructure)	80 metre wide road reserve from Caloundra Road to Laxton Road and including the existing Honey Farm and Sattler Road Reserves.											
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Electricity transmission line or other	40 metre wide infrastructure corridor in an alignment and configuration that fulfils the functional requirements of the											

		AO16.2	<table border="1"> <tr> <td>infrastructure service where not included within a road reserve</td> <td>infrastructure/service provider.</td> </tr> </table> <p>That part of any site required to accommodate a local government transport or other infrastructure corridor is dedicated to Council prior to the commencement of any extraction on the site.</p>	infrastructure service where not included within a road reserve	infrastructure/service provider.	
infrastructure service where not included within a road reserve	infrastructure/service provider.					
PO17	The extractive industry provides for the establishment and utilisation of identified transport routes, so as to provide for the efficient transport of extracted material from the Meridan Plains Extractive Resource Area in a manner that:- (a) is adequate for the type and volume of traffic to be generated; (b) does not create or worsen any traffic hazards; (c) minimises adverse effects on the amenity of the locality; (d) protects the inherent rural character and identity of the area; and (e) ensures that disturbance to surrounding land uses is minor and that impacts from emissions are minimised.	AO17	The extractive industry provides for the establishment of the transport routes in the configuration depicted on Figure 9.3.7A (Meridan Plains extractive resource area master plan) .	Refer to response to PO2 and PO4, Extractive Industry Code.		
Lake and Site Management						
PO18	The extractive industry provides for the appropriate establishment and management of lakes provided in accordance with Figure 9.3.7A (Meridan Plains extractive resource area master plan) in a manner that appropriately addresses potential environmental and flooding impacts.	AO18	In partial fulfilment of Performance Outcome PO18:- The extractive industry is established and operated in accordance with a lake management plan (supported by modelling) that:- (a) considers the full development scenario for the Meridan Plains Extractive Resource Area and its external influences; and (b) identifies and addresses all environmental and flooding impacts and the measures to manage the potential impacts. Note—a lake management plan is intended to be prepared for the entire area as well as individual sites.	Not applicable to air quality.		
Site Rehabilitation and End Use						
PO19	The extractive industry provides for the progressive rehabilitation of all areas subject to extractive industry operations to a stable and restored state such that the land is suitable for use in accordance with Figure 9.3.7B (Meridan Plains extractive resource area end use concept plan) .	AO19.1	The extractive industry provides for site rehabilitation to be carried out on a progressive basis at the conclusion of each stage of extraction, providing for:- (a) clean-up works (taking particular account of areas of possible soil contamination); (b) minimisation of potential for erosion from the site and sediment transport across the site; (c) management of the quality of stormwater, water and seepage released from the site such that releases of contaminants are not likely to cause environmental harm; (d) management of any actual and potential acid sulfate soils in or on the site; (e) a stable final landform and soil profile; (f) local native vegetation suitable for establishment in the coastal plain to be planted, established and maintained; (g) management of weeds; and (h) public infrastructure (including pathways) to be provided in those areas dedicated as public open space.	Implementation of a clearly defined and staged rehabilitation plan in accordance with a set timeframe is an important element in minimising wind blown dust from the site. The AECOM modelling has assumed no more than 10 % of the overall site area will be open to wind erosion at any one time, and this will need to be reflected in the adopted rehabilitation plan.		
		AO19.2	The extractive industry provides for all lakes created through the			

		<p>AO19.3</p> <p>The extractive industry provides for all rehabilitation works to be undertaken in accordance with an expected final landform design and site rehabilitation plan.</p> <p>Note—a final landform design and site rehabilitation plan is intended to be prepared for the entire area as well as individual sites.</p> <p>AO19.4</p> <p>The extractive industry provides for the long term management of any rehabilitated lands or lakes dedicated to Council as public open space or esplanade.</p>	
Infrastructure Agreement			
PO20	<p>The extractive industry occurs in accordance with an infrastructure agreement made with the Council that:-</p> <p>(a) incorporates the agreed plan of staging for extraction on the site;</p> <p>(b) provides for the establishment and maintenance of transport routes necessary to support development of the extractive resource area;</p> <p>(c) establishes the performance bonding arrangements for:-</p> <p>(i) the operation of the extractive industry in accordance with the lake management plan and site based management plan;</p> <p>(ii) the rehabilitation of the site in accordance with the final landform design and site rehabilitation plan; and</p> <p>(iii) the long term management of any rehabilitated lands or lakes dedicated to Council as public open space or esplanade; and</p> <p>(d) specifies any other obligation of the parties necessary to ensure the extraction, rehabilitation and ongoing maintenance of the extractive resource area.</p>	AO20	<p>No acceptable outcome provided</p> <p>Not applicable to air quality.</p>

Attachment B – Recommended Conditions of Approval

Recommended Conditions – Air Quality

Aspect	Recommended Condition	Reason
Overall Limits on Operations		The air quality assessment has completed modelling for maximum throughputs/areas/volumes and demonstrated compliance for these operations. To ensure compliance in the long term, these rates should be adopted as the maximum for the site.
1	Stage 1 – Earthworks Maximum daily excavation rate of 1,000 m ³ per day.	As per Table 13 in AECOM report, and Figure 6
2	Operations (Stage 2 – 4) Tipping face maximum of 1,000 m ³ Day cover area maximum of 23,000 m ³ Intermediate capping area maximum of 100,000 m ³ Green waste area maximum of 2,000 m ²	As per Table 14 in AECOM report, and Figure 7
3	Operations (Stage 5 – if completed) Tipping face maximum of 700 m ³ Day cover area maximum of 7,000 m ³ Intermediate capping area maximum of 7,000 m ³ Green waste area maximum of 2,000 m ²	As per Table 15 in AECOM report, and Figure 7
Monitoring 4	Air Quality Monitoring: In the event of a complaint that is not frivolous or vexatious, or at the request of the administering authority, complete dust and suspended particulate matter (as PM ₁₀) sampling in accordance with the following methodologies: <ul style="list-style-type: none"> a) For dust nuisance, dust fallout monitoring for a minimum of a 1 month period in accordance with AS 3580.10.1 – Determination of particulate matter – Deposited matter – Gravimetric Method b) For suspended particulates, PM₁₀ sampling in accordance with an approved method as defined in the Department of Environment and Science Air Quality Sampling Manual, 1997, or later revisions if available. Sampling must be completed over a minimum of 7 x 24 hour periods, during weather conditions representative of worst case receptor impacts. Results of the sampling are to be assessed for compliance with reference to the Air Quality Objectives defined in the Environmental Protection (Air) Policy 2008. The results and comparison to the Air Quality Objectives must be provided to the administering authority within 28 days of completion. The results must be provided separately for the dust fallout sampling and PM ₁₀ sampling, within the specified timeframe. If the monitoring demonstrates an actual or potential for exceedance of the air quality	To demonstrate compliance in the event of a complaint or a request for monitoring from the administering authority.

	objectives, the measures taken to address the non-compliance are to be submitted to the administering authority within 28 days of lodgement of the air quality sampling results.	
5	<p>Control Efficiency Testing</p> <p>Flare gas emission testing, to be completed within 3 months of commencement of this approval, and then annually thereafter. The flare gas emission testing is, to determine the combustion efficiency achieved by the flare for all compounds listed in Tables 29 and 30 of the AECOM Air Quality Assessment Report dated 13 November 2017 is 93 % or greater.</p>	To demonstrate that a flare emission control efficiency of 93 % or more is achieved.
6	<p>Emission Rate Verification Testing</p> <p>Complete haul route silt content testing to demonstrate silt content no greater than 6.4 % is achieved within the first 3 months of operations, and annually thereafter. If a higher silt content is present, complete revised air quality emission calculations to demonstrate that compliance with the air quality objectives can be achieved for the higher particulate emission rates.</p> <p>Testing to be completed in accordance with AS 3.6.1: Soil Classification Tests – Determination of particle size distribution of a soil – Standard method of analysis by sieving.</p>	To provide for the actual on site silt content being consistent with the % assumed in the emission calculations in the Air Quality Assessment.
Controls 7	Haul route watering is to be completed at a minimum rate of 4 litres/m ² per hour for all unsealed trafficable areas that are in use, or chemical surface treatments applied and maintained throughout to achieve a particulate emission reduction of ≥ 90 %	This is required to achieve the 90 % haul route emission control rate adopted in the air quality emission rate calculations and modelling
8	<p>A wheel wash is to be installed at all exits from the site. The wheel wash facility must be suitable for removing silt, dirt and dust from the wheels and chassis of vehicles exiting the site, to prevent off site tracking of particulates.</p> <p>The wheel wash must be maintained in an operable condition at all times, and spare parts to provide for this must be maintained on site at all times.</p> <p>All vehicles exiting the site must exit via the wheel wash facility.</p>	As per ERA Supporting Report prepared by Mark Rigby and Associates, dated December 2017.
9	The load of all vehicles accessing the site must be covered to prevent emissions of dust, waste or other materials enroute.	As per ERA Supporting Report prepared by Mark Rigby and Associates, dated December 2017.
10	All loads of compost transported from the site must be covered, or dampened to prevent dust or compost being emitted from the load enroute.	As per ERA Supporting Report prepared by Mark Rigby and Associates, dated December 2017.
Updated Site EMP 11	<p>The Site Based Management Plan required under the existing ERA approval should be updated to incorporate all air quality control measures identified in Section 7 of the AECOM report dated 13 November 2017 prior to commencement of Stage 1 of the operations.</p> <p>The site based EMP should be amended to incorporate a requirement to minimise open erodible areas to a maximum of 10 % for all rehabilitation activities.</p> <p>The site based EMP should be amended to incorporate the management commitments identified in the ERA application supporting report prepared by Mark Rigby and Associates, dated December 2017</p> <p>The report should be submitted to the Administering Authority for approval 28 days prior to commencement of the use.</p>	The AECOM modelling has assumed that the control measures defined in Section 7.1 will be adopted, and that during site rehabilitation there will be no more than a 10 % area of open erodible surface that could result in particulate emissions.

560 Bli Bli Road and 18, 26, 40, 50, 66
Cooney Road, Bli Bli

APPENDIX

F

CIVIL ENGINEERING ASSESSMENT

Our ref: HRP 17176
Contact: Tony Howard

23 April 2018

Cardno (Qld) Pty Ltd
PO Box 152
Maroochydore QLD 4558

Attention: Mr Morgan Wilson

Dear Morgan

**SUNSHINE COAST REGIONAL COUNCIL
PROPOSED EXPANSION OF NAMBOUR LANDFILL
MCU17/0412 AND MCU17/0142.01
FINAL REPORTING – CIVIL ENGINEERING AND FLOODING**

Cardno (Qld) Pty Ltd
ABN 57 051 074 992

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We have reviewed the following application and RFI response documentation in relation to the civil engineering and flooding aspects of the application for Material Change of Use approval for the proposed expansion of the Nambour landfill:

Application Documentation

- *Nambour Landfill Expansion, Landfill Engineering Report*, Revision F, June 2017, ATC Williams Pty Ltd.
- Nambour Landfill Expansion Drawings, ATC Williams Pty Ltd.
- *Flood Hazard Assessment – Nambour Landfill Expansion*, 15 August 2016, Hydrology and Water Management Consulting Pty Ltd.
- *Flood Hazard Assessment Addendum – Nambour Landfill Expansion*, 8 June 2017, Hydrology and Water Management Consulting Pty Ltd.

RFI Response Documentation

- Response to Information Request – Application Number MCU17/0142 & MCU17/0142.01, Mark Rigby and Associates, 21 December 2017.
- Attachment 4 to Response to Information Request, *Response to Information Request related to MCU17/0142 Nambour Landfill*, Mark Rigby and Associates, 28 November 2017. (RFI Engineering Assessment Letter)
- Attachment 6 to Response to Information Request, *Nambour Landfill Expansion, Landfill Engineering Report*, Revision G, November 2017, ATC Williams Pty Ltd.

- Attachment 10 to Response to Information Request, *RFI Response - Nambour Landfill Expansion*, 2 November 2017, Hydrology and Water Management Consulting Pty Ltd.

Matters Raised in Relation to Application Documentation

The following matters requiring further information were identified from our review of the application documentation:

- The documentation provided by the applicant states that 3m thick compacted clay sidewall liners are to be provided within the proposed landfill expansion. The documentation also notes that there is no low permeability material available on site which would be suitable for this purpose. The applicant was requested to provide an estimated quantity of low permeability material required for the project, and indicate potential sources of this material.
- The documentation provided by the applicant states that capping, earthen fill, subsoil and topsoil layers, with a total thickness of 2m, are to be provided over the completed land fill site. The applicant was requested to provide estimated quantities of these materials required for the project, and indicate potential sources of these materials.
- The applicant was requested to provide details of, and justification for, the culvert blockage factors adopted for the modelling undertaken for the Flood Impact Assessment Report for the project.
- The applicant was requested to provide additional flood mapping to demonstrate that the proposal will have no adverse impacts on the safety of persons or vehicles external to the site. This mapping should include velocity, depth x velocity product and flood hazard, particularly along the Nambour – Bli Bli Road.
- The applicant was requested to confirm that the proposed drainage works within the completed landfill area will be designed to safely accommodate the 1% AEP, year 2100, climate change, design flood event.
- The applicant was requested to provide evidence to support the reasoning that all points of discharge of constructed drainage works from the site are to lawful points of discharge which comply with the criteria prescribed in the Queensland Urban Drainage Manual.

The above matters were included as Items 63 to 67 of the Information Request, dated 15 August 2017, which was issued to the applicant.

Review of RFI Response Documentation

The information provided by the applicant in response to the above items in the Information Request was reviewed and determined to respond appropriately to the matters raised.

Recommendation for Approval

Following our review of the application and RFI response documentation provided for Material Change of Use for the Nambour landfill expansion, it is considered that the flooding and civil engineering aspects of the proposed development have been satisfactorily addressed by the applicant and that Council may approve these aspects of the project with standard conditions. This includes standard conditions number 10, 24, 27, 37, 72 and 80 from Council's Template Conditions for MCU and RAL Approvals, Engineering (incl. Traffic and Hydrology), which we received on 12 March 2018.

Yours faithfully,



Tony Howard
Senior Principal
For Cardno

560 Bli Bli Road and 18, 26, 40, 50,
66 Cooney Road, Bli Bli

APPENDIX

G

TRAFFIC AND TRANSPORT
ASSESSMENT

Our Ref: HRP17176:DMH
Contact: Dianne Hayes

15th March 2018

CARDNO
PO Box 152
Maroochydore QLD 4558

Attention: Morgan Wilson

Cardno (Qld) Pty Ltd
ABN 57 051 074 992

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Dear Morgan,

LA172801 NAMBOUR LANDFILL EXPANSION
MCU17/0142 BLI BLI ROAD AND COONEY ROAD, BLI BLI

The Traffic Impact Assessment for the Nambour Landfill Expansion Development Application, submitted in 2017 and 2018 on behalf of Sunshine Coast Regional Council has been reviewed. To assist with the preparation of the overall assessment report, a summary of our review is provided below.

Review of submitted application documents

The following application documents were reviewed as part of the application process:

- > Pavement Impact Assessment Project No,103-189 provided by Projex Partners dated May 2017
- > Traffic Impact Assessment Project No,103-189 provided by Projex Partners dated May 2017 (including the Assessment of Bli Bli Road and Cooney Road Intersection by Bitzios Consulting provided as Appendix A)

A meeting was held on Wednesday 11th October 2017 at Cardno offices to discuss the further information requested in addition to the application documents.

Further documentation was reviewed as part of the RFI response, including:

- > Urbis Report dated 28th November 2017
- > Mark Rigby & Associates Response to Information Request dated 21st December 2017
- > Traffic Impact Assessment Project No,103-189 provided by Projex Partners dated November 2017

Identification of key issues and response

The traffic engineering items identified in the information provided by Projex Partners were reviewed with regard to Council's code requirements, current standards for access and parking and Austroads Guides for Road Design. A summary of the issues and responses is provided at Table 1-1.

Table 1-1 Issues Raised and Information Request Response

Issues	Response
Inconsistencies in the assumptions for trip generations from the site and subsequent turn warrants for the intersection.	The response updated the trip generation methodology and applicant's consultant suggests that the layout remains in its current form until such a time that significant increase in the landfill traffic volumes are expected
No information was provided on traffic management during construction phases of the project.	The construction stage will form part of the Operational Works Conditions
No detailed assessment of car parking was undertaken and no provision for disabled parking was provided for on-site parking.	The Urbis Report indicates that 7 additional car parking spaces are proposed. Car parking spaces will be conditioned to comply with BCA and AS2890 requirements.
Details of service vehicle provision was not provided, concerning frequency and manoeuvrability.	The response stated that vehicles moving within the site would be in accordance with detailed operating plans and management by onsite staff.

Recommendations

It is recommended that the application be approved with Council's standard conditions and that consideration be given to the additional conditions:

- > Upgrade of the main access intersection to a sealed BAR prior to the commencement of use.
- > Provision of a road safety audit as part of detailed design and operational works phase.

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

Yours sincerely,

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Enc: Tabulated Assessment

Traffic and Transport Assessment

Transport and Parking Code

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review
Layout and Design of On-site Parking and Access					
PO1	Development ensures that the layout and design of vehicle access, on-site circulation systems and parking areas and systems is safe, convenient and legible for all users, including people with disabilities, pedestrians, cyclists and public transport services, where relevant.	AO1.1	Development provides access driveways, internal circulation and manoeuvring areas, service areas and parking areas in accordance with the standards specified in the Planning scheme policy for the transport and parking code , including ensuring:- (a) the number and type of vehicles planned for the development can be accommodated on-site; (b) on-site vehicle parking and manoeuvring areas provide for vehicles to enter and leave the site in a forward motion; and (c) a progressive reduction in vehicle speed between the external transport corridor and internal parking spaces such that lower speeds occur near areas of high pedestrian activity.	Complies with AO1.1 The existing landfill access intersection with Cooney Road is proposed to be upgraded to a type BAR standard. Further information is provided within the submitted Traffic Impact Assessment prepared by ProjexPartners. No changes are proposed to the internal circulation and hence no assessment of the existing internal circulation has been undertaken. Further, it is relevant to note that the future Resource Recovery Facility (subject to a separate development application) which is to be located on Lot 3 on SP193049. Once constructed, the relocated resource recovery facility will reduce the number of vehicles accessing the landfill site.	There appears to be inconsistencies in the assumptions for trips generated by the Nambour landfill between the Projex Partners report and the Bitzios assessment. The Bitzios report has included traffic surveys at the Cooney Road/Bli Bli Road intersection which indicate the weekday trips in and out of Cooney Road. These are inconsistent with the assumptions adopted by Projex Partners for Conney Road at the access. Please verify the trips associated with the landfill site in Cooney Road, (by way of weekday traffic counts at the landfill access) and reassess the turn warrant assessment. A review of updated Report by Project Partners includes a sensitivity analysis. The assessment for turn warrant for the access is now considered acceptable; however, the recommendations for the timing of the BAR have been altered in the Traffic Report. The RFI response now suggests the access "layout remains in its current form until such a time that significant increase in the landfill traffic volumes are expected". In the interest of safety, consideration should be given to conditioning the upgrade of the main access intersection to a sealed BAR prior to the commencement of use.
		AO1.2	Development provides clearly defined pathways within and around on-site vehicle parking areas that:- (a) are located in identified pedestrian desire lines; and (b) ensure pedestrian movement through parking areas is along aisles rather than across them.	AO1.2 – Not Applicable Given the nature of the use, there will be limited public access to the facility and pedestrian access will be restricted for safety and security area.	
Site Access					
PO2	Development ensures that the layout, design and construction of access:- (a) is safe, convenient and legible for all users, including people with disabilities, pedestrians, cyclists and public transport services, where relevant; (b) does not interfere with the planned function, safety, capacity and operation of the transport network; (c) minimises the impact of turning traffic from the development on external traffic systems;	AO2.1	The location and design of any new site access is in accordance with the standards specified in the Planning scheme policy for the transport and parking code .	Complies with PO2 The Traffic Impact Assessment prepared by Projex Partners has identified that the existing landfill access and the Landfill gas power station access are required to be upgraded to a type BAR intersections to comply with the required safety standards as recommended by Austroads based on existing and forecast future traffic volumes. Detailed design for these accesses will be undertaken as part of the detailed design phase of the landfill.	Refer to comments above for the main access into the landfill site. Provide specific details of the trips generated for the landfill gas power generation plans and leachate treatment plant to justify a type BAR intersection for this access. No information has been provided on construction access.
		AO2.2	For assessable development, the number of site access driveways is minimised (usually one), with access to the lowest order transport corridor to		

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review
	<p>(d) provides sufficient sight distances to ensure safe operation;</p> <p>(e) is appropriate to design traffic volumes and vehicle types; and</p> <p>(f) includes appropriate and sufficient signage to ensure safe and convenient use.</p>		<p>which the site has frontage, consistent with amenity impact constraints.</p>	<p>Sight distance checks will be undertaken as part of the future detailed design. Some minor vegetation clearing, batter trimming and possible fence relocation are expected to be required to meet the required design safety standards.</p> <p>Swept path analysis for the appropriate design vehicle (i.e. 19.0m semi-trailer) will also be undertaken as part of the detailed design for these intersections.</p> <p>Accordingly, no significant safety issues have been identified for these intersections.</p> <p>Further, given the nature of the use, it is necessary to have multiple site access driveways to separate traffic flow for certain uses and to ensure the site can be operate in a safe manner.</p>	<p>It is recommended that consideration should be given to conditioning the upgrade of the main access intersection to a sealed BAR prior to the commencement of use.</p> <p>It is recommended that consideration should be given to conditioning a road safety audit to be conducted as part of detailed design/operational works.</p> <p>As part of the construction access (which is located closer than the main entrance to Nambour Bli Bli Road) consideration should be given to conditioning a Traffic Management Plan.</p>
On-Site Car Parking					
PO3	<p>Development provides on-site car parking for the demand anticipated to be generated by the development.</p>	AO3.1	<p>Development provides on-site car parking spaces at the minimum rates specified in Table 9.4.8.3.3 (Minimum on-site parking requirements).</p> <p>OR</p> <p>Where located in a centre zone or the Tourist accommodation zone, development provides on-site car parking spaces at rates varied from those in Table 9.4.8.3.3 (Minimum on-site parking requirements) for specified development, as outlined below:-</p> <p>(a) rooming accommodation, short-term accommodation, resort complex, or retirement facility – reduce visitor parking to 1 space per 10 rooming units or dwellings;</p> <p>(b) food and drink outlet, function facility, hotel, indoor and sport and recreation, theatre – reduce parking to 1 space per 20m² gross floor area;</p> <p>(c) shopping centre – reduce parking to 1 space per 25m² gross floor area for</p>	<p>Complies with PO3</p> <p>Council have indicated that the current parking provisions are more than adequate for current usage and future growth projections.</p>	<p>Outline the current parking provision and demonstrate that the provision will be sufficient for future operations and that the car parking arrangements comply with AS2890.1 requirements.</p> <p>The Urbis Report indicates that the proposed development involves the construction of 7 additional car parking spaces adjacent to the proposed site office.</p> <p>There has been no detail provided for the dimensions of the new car parks. All Council Conditions should include compliance with AS2890 for all newly constructed parking areas.</p>

Performance Outcomes	Acceptable Outcomes	Applicant Response	Cardno Information Request Review
		<p>any component above 1,000m² gross floor area; and (d) child care centre – reduce customer parking to 1 space per 7 children.</p> <p>Note—where the calculated number of spaces is not a whole number, the required number of parking spaces is the nearest whole number. Parking requirements for other vehicles including service vehicles, motorcycles/scooters and cycles, as well as design requirements, outlined in the remainder of this code do not change.</p> <p>OR</p> <p>For self-assessable development, other than a call centre, located in premises that were lawfully established prior to the commencement of the planning scheme, the number of on-site car parking spaces provided is equal to the number of spaces required at the time the premises were lawfully established.</p> <p>OR</p> <p>Where development is physically unable to provide the required number of car parking spaces on-site, an Infrastructure Agreement is entered into between the developer and the Council which provides for contributions in lieu of on-site car parking spaces.</p> <p>AO3.2</p> <p>For assessable development, car parking provided for mixed-use development is sufficient to meet the demand of residential and business uses, with exclusive designations for both user types.</p>	
PO4	Development provides for a reasonable portion of the total number of on-site car parking spaces to be wheelchair accessible spaces and to	AO4.1 Development provides the number of parking spaces for people with disabilities, required by the <i>Building Code of Australia</i> .	Complies with AO4.1
			Outline the requirements for parking for people with disabilities which will need to be met in accordance with the relevant standards.

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review
	be identified and reserved for such purposes.	AO4.2	Parking spaces for people with disabilities, access and signage complies with AS 1428 – <i>General Requirements for Access: Buildings</i> and AS 2890.6 – <i>Parking facilities (Part 6: Off-street Parking for People with Disabilities)</i> .	<p>The provisions of disabled parking spaces will be provided in accordance with the requirements of the Building Code of Australia.</p> <p>Complies with AO4.2</p> <p>At the detailed design phase, parking spaces for people with disabilities, access and signage will be designed to comply with AS 1428 – <i>General Requirements for Access: Buildings</i> and AS 2890.6 – <i>Parking facilities (Part 6: Off-street Parking for People with Disabilities)</i>.</p>	As per the response provided by Urbis in item 70, it is agreed that this can be conditioned to comply BCA and AS2890.
On-site Parking and End of Trip Facilities for Bicycles					
PO5	Development provides on-site cycle parking facilities to encourage use of this mode of transport and support the demand anticipated to be generated by the development	AO5.1	Development provides on-site cycle parking spaces at the minimum rates specified in Table 9.4.8.3.3 (Minimum on-site parking requirements) .	<p>PO5 – Not Applicable</p> <p>Given the nature of the use, cycle parking facilities are not required and would impact upon the safe operation of the facility.</p>	<p>Support the decision for no provision for cycle parking and end of trip facilities.</p> <p>No further information required.</p>
		AO5.2	Cycle parking is designed in accordance with the Planning scheme policy for the transport and parking code .		
		AO5.3	<p>End of trip facilities, including personal lockers, change rooms, showers and sanitary compartments and wash basins are provided in accordance with the Planning scheme policy for the transport and parking code, for development involving:-</p> <p>(a) a use in the business activity group;</p> <p>(b) a use in the community activity group;</p> <p>(c) a use in the industrial activity group, other than bulk landscape supplies and extractive industry;</p> <p>(d) a use in the residential activity group;</p> <p>(e) a use in the sport and recreation activity group, other than park; and</p> <p>(f) a use in the other activity group being air services.</p>		
Service Vehicle Requirements					
PO6	Development provides sufficient parking and access for service vehicles to meet the needs of the development.	AO6.1	Development provides on-site service vehicle parking bays at the minimum rates specified in Table 9.4.8.3.3 (Minimum on-site parking requirements) .	<p>PO6 – Not Applicable</p> <p>Given the nature of the use, parking and access for service vehicles is not required or considered necessary.</p>	<p>It is expected that commercial vehicles will access the site more frequently at future operations. Demonstrate that sufficient service vehicle parking and circulation will be provided for future operations.</p> <p>This item has been addressed in the Response to Item 71 provided by Urbis.</p>
		AO6.2			

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review
			Service vehicle access, internal circulation and manoeuvring, loading and unloading, waste collection and fuel delivery facilities (if required) and parking areas are designed in accordance with the standards specified in the Planning scheme policy for the transport and parking code .		
PO7	Development provides for driveways, internal circulation areas and service areas to be designed to:- (a) ensure that proposed loading, unloading, waste collection and fuel delivery facilities (if required) can satisfactorily accommodate the number and type of service vehicles expected on-site; and (b) the movement of service vehicles on-site and loading and unloading operations do not interfere with on-site amenity and the safe and convenient movement of other vehicles and pedestrians on the site.	AO7.1	Driveways, internal circulation areas, and service areas are provided to accommodate the nominated design vehicles for each development type.	Complies with AO7.1 No changes are proposed to the internal circulation and hence no assessment of the existing internal circulation has been undertaken. Notwithstanding, the existing internal circulation roads have been designed to accommodate the vehicles expected to use the facility. AO7.2 – Not Applicable No changes are proposed to the internal circulation and hence no assessment of the existing internal circulation has been undertaken.	Outline the current and future operations and demonstrate compliance with AS2890 requirements for off-street commercial vehicles. This item has been addressed in the Response to Item 71 provided by Urbis.
		AO7.2	Driveways, internal circulation areas, manoeuvring areas, loading and unloading areas and refuse collection facilities are designed and constructed in accordance with the standards specified in the Planning scheme policy for the transport and parking code .		

Community Facilities Zone Code

Overall Outcome	Applicant Response	Cardno Information Request Review
(a) development caters predominantly for specified uses, facilities and works which include:- i. land used, owned or operated by Federal, State or local government for purposes such as air services, cemeteries, community uses, educational establishments, emergency services, hospitals, utility installations and transport networks; ii. uses, facilities and works which by virtue of their location, intensity, combination of uses, operations or site characteristics are best managed in a use-specific land use allocation; or iii. private community services and facilities including educational establishments, places of worship, private hospitals and tourist parks;	Complies The development application seeks approval for development on land owned by the Council for the purposes of utility installations and related waste management activities. The combination of land uses sought for approval by virtue of their location and intensity require a site specific land use allocation, which is provided through the submitted Sunshine Coast Waste Precinct Plan of Development.	
(b) a limited range of allied and compatible uses are provided to fulfil ancillary functions required for community facilities to function effectively;	Complies In addition to the primary waste management uses sought for approval, a range of allied and compatible uses are sought for approval to allow for the integrated operation of the site as a local government waste management precinct.	

Overall Outcome	Applicant Response	Cardno Information Request Review
(c) community facilities and associated uses are located to optimise their accessibility, operational efficiency and benefit to the public;	<p>Complies</p> <p>The subject site is located in proximity to a variety of major transit corridors, including Bli Bli Road in the south which is recognised as an intra-regional freight corridor. The site is also located to the immediate east of the Bruce Highway.</p> <p>The site is therefore considered to be well located to benefit the public.</p>	
(d) development accommodates the specific operational, functional and locational needs of the particular use, whilst being of a scale, appearance and intensity that is compatible with existing and intended development in adjacent zones;	<p>Complies</p> <p>A Landscape Character and Visual Impact Assessment has been prepared by Conlon Group and is submitted as part of the development application package. This intent of the report is to address the scenic amenity overlay code of the Planning Scheme. The key findings of the assessment are as follows:</p> <ul style="list-style-type: none"> • The character of the landfill site is an industrial edge setting at its frontage and parkland reserve to it's rear. • There is not considered to be a discernible character within the immediate vicinity other than industrial. This is reinforced through surrounding industrial based uses, including – Sunshine Coast Council library archives building, BP Nambour depot and JC Hire premises (industrial equipment hire). • Buildings in the surrounding locality are not considered to hold any localised aesthetic quality and are not considered to contribute to the visual quality of the area. Buildings are not considered to contribute to the surrounding environment. • Whilst the proposed development will result in a large structure, and as a result changing the areas visual amenity, the developments staging will result in the impact occurring gradually. • The development is large in scale and as a result will be visible from a range of points around the area, including surrounding sensitive receptors. • Landscape buffering is recommended to mitigate the predicted impacts of the landfill expansion. Landscaping is suggested to include nature vegetation, and be located along the boundaries to buffer the site. • The Cooney Road frontage and the eastern boundary of the site is suggested to be of moderate to high impact. As such, these interfaces are recommended to be buffered by a diverse mix of species to coincide with the character of the surrounding natural environment. <p>The recommendations of the report that landscape buffering be implemented to mitigate the predicted impacts of the landfill expansion have been incorporated into the design of the proposed development.</p>	
(e) development provides a high level of amenity, maintains the safety of people, buildings and works, and effectively manages the potential for land use conflict with existing and intended surrounding development;	<p>Complies</p> <p>The development has been designed and sited to maintain the safety of people, building and works. The technical studies submitted as part of this development application demonstrate that the intended use of the site is appropriate and will not result in any significant conflict with the existing and intended surrounding development.</p>	
(f) existing and planned community facilities and associated uses are protected from the intrusion of incompatible uses that could limit the ongoing operation of existing community facilities or prejudice appropriate new community facilities;	<p>Complies</p>	

Overall Outcome	Applicant Response	Cardno Information Request Review
	<p>The proposed development does not involve any sensitive land uses which would otherwise impact upon the ongoing operation of the site for waste management and resource recovery activities.</p>	
<p>(g) activities established in the zone make a positive contribution to the image of the Sunshine Coast by incorporating a high quality of built form and landscape design;</p>	<p>Complies</p> <p>As discussed, above, the development incorporates specific landscape buffer treatments to ensure the development minimises visual impacts and contributes to the overall image of the Sunshine Coast region.</p> <p>The proposed landscape buffers, as recommended by the Landscape Character and Visual Impact Assessment and the Landscape Intent Plan, are considered to achieve the outcomes sought by (g), given:</p> <ul style="list-style-type: none"> • The landscape buffers will minimise the visual obtrusiveness of the proposed landfill expansion, when viewed from the scenic route. • Once fully established, the landscape buffer will provide an enhanced outcome by creating a more natural view corridor which is to be achieved through the use of a species planting palette consistent with the regional ecosystem of the surrounding locality. • The development will take place over a number of stages which will lessen the impact of the landfill expansion over time. 	
<p>(h) development is located, designed and operated to be responsive to the Sunshine Coast's sub-tropical climate and minimises the consumption of energy and water;</p>	<p>Complies</p> <p>The development maximises the use of sustainable energy supplies and sources by including a landfill gas power generation plant, that captures gas created from landfill activities for power generation purposes.</p>	
<p>(i) development avoids as far as practicable, or where avoidance is not practicable, minimises and otherwise mitigates, adverse impacts on ecologically important areas, including creeks, gullies, waterways, wetlands, coastal areas, habitats and vegetation through location, design, operation and management;</p>	<p>Complies</p> <p>The proposed development has been designed and sited to avoid, mitigate and minimise impacts to the sites ecological values to the greatest extent possible. However, the proposal nevertheless requires the removal of vegetation to facilitate the base form of the landfill on site.</p> <p>The following design and operational management measures ensure the development will avoid and other minimise to the greatest extent practicable, impacts to ecologically important areas:</p> <ol style="list-style-type: none"> a) A comprehensive Impact Management Plan for Tusked frog, Richmond Birdwing butterfly and their breeding habitat has been prepared and submitted to DEHP as part of a Species Management Program and Protected Plants Clearing application. Refer to Impact Assessment and Management Plan – Tusked frog, Richmond Birdwing Butterfly and Richmond Birdwing vine – Nambour Landfill Expansion (Native Foresters, 2017c). b) Site design does not change drainage patterns in relation to the Richmond Birdwing butterfly breeding habitat contained within the Lowland rainforest area. All stormwater flows from the landform and access roads are to be directed to a sediment control pond or discharge to the south of the site, away from the Lowland rainforest area. c) Undertaking to erect fauna, dust and rubbish exclusion fencing around the perimeter of the proposed landfill extension. 	

Overall Outcome**Applicant Response****Cardno Information Request Review**

- d) A maintenance area of approximately three metres in width will be allowed for fence maintenance and to allow for vegetation management and weed control works in the sites retained vegetation buffer. This fencing is to be installed prior to the commencement of operation of the expanded landfill.
- e) Retention of 30 – 80 metre vegetation buffer zone around the Lowland Subtropical Rainforest which provides breeding habitat for the EVNT listed Flora and Fauna species occurring onsite.
- f) Bush revegetation/weed control works will be undertaken in the retained remnant vegetation areas onsite. Particular emphasis will be placed on undertaking weed control works within the retained vegetation buffer zone to the Lowland Subtropical Rainforest.
- g) A Fauna Spotter-catcher will be required to work through the area prior to commencement of works and during clearing and reprofiling to relocate any fauna found to suitable undisturbed habitat.
- h) Clearing works will be undertaken in a sequential manner beginning in cleared areas and moving towards areas of retained vegetation to facilitate the movement of native fauna species out of the works impact zone.
- i) Works to be undertaken in high quality habitat areas only once Qld DEHP Species Management Program for Tusked frog and Richmond birdwing butterfly has been approved.
- j) Works to comply with provisions of Construction Environmental Management Plan (CEMP) which details the methodology for clearing works.
- k) A Stormwater Management and Erosion and Sediment Control Plan will be implemented during the construction phase of operation, with a whole of site Stormwater Management Plan in place during the landfill operation phase.
- l) Preparation and implementation of Weed Management Plan in areas of retained vegetation adjacent to the landfill site. Particular emphasis will be placed on undertaking weed control works within the retained vegetation buffer zone to the Lowland subtropical rainforest including areas within the existing landfill facility and within proximity to mapped watercourses and wetlands.
- m) Greenwaste storage and processing will occur 700m to the southwest of the lowland rainforest to minimise impacts from plant pathogens and weed seed dispersal impacting on this forest community. Dust fencing will minimise wind dispersal of some weed species into the forest community.
- n) Site management to conduct regular site inspections during landfill operations in accordance with the Site Based Management Plan. This includes general site inspections and audits against approval conditions and standard procedures.
- o) Construction quality assurance will be implemented during construction of the landfill facility to provide confidence that the construction meets the design requirements and specifications.

Overall Outcome	Applicant Response	Cardno Information Request Review
	<p>p) Additional / alternative environmental requirements to be implemented using adaptive management principles as required.</p> <p>Notwithstanding the above impact avoidance and mitigation measures, the proposed developments anticipated disturbance of ecologically important areas, includes:</p> <p>a) Clearing Footprint A: Approximately 1.3 hectares proposed to be cleared on Lot 1 on RP202997 and Lots 1 and 2 on RP208600 for leachate and landfill gas management purposes.</p> <p>b) Clearing Footprint B: Approximately 5.6 hectares proposed to be cleared on Lot 4 on RP803104 for landfill purposes. An estimated two (2) hectares has been groundtruthed as Koala habitat and regulated vegetation (RE 12.12.15/12.12.2) and contains threatened species habitat for Tusked Frog and Richmond Birdwing Butterfly.</p> <p>c) Waterways and wetlands: Approximately 0.8 hectares of the abovementioned clearing footprints is identifies as being a wetland within three metres of the watercourse for proposed leachate and landfill gas management infrastructure on Lot 1 on RP202997.</p> <p>Further, the development will involve reprofiling (including filling) to accommodate a 10 year ARI critical duration event on Lot 1 on RP202997, construction of a culvert crossing on Lot 2 on RP802600, a road crossing over the embankment on boundary of Lot 1 on RP208600 and Lot 4 on RP803104 and a channel diversion and reprofiling of part of the watercourse to tie into overbank levels on Lot 2 RP208600.</p> <p>Notwithstanding, the application is supported by a Community Needs Assessment, prepared by Norling Consulting. The analysis clearly demonstrates that there is an overarching community, economic and planning benefit to the proposed development occurring on the subject site.</p> <p>Further, the technical reports submitted as part of the development application demonstrates that the Applicant considered alternative development options and will implement management measures to minimise impacts to the greatest extent possible.</p> <p>Additionally, a detailed assessment relating to environmental considerations, is provided in Section 10 of the submitted town planning assessment report.</p>	
(j) development is designed and sited to sensitively respond to the physical characteristics and constraints of land, including flooding, steep land, landslide hazard and bushfire hazard, where applicable;	<p>Complies</p> <p>The development has been designed and sited to respond to the physical characteristics of the site. Technical reports submitted as part of the development application address how the development has responded to and seeks to mitigate the risks associated with onsite constraints.</p>	
(k) development is provided with a level of infrastructure and essential services that is commensurate with the location, nature, scale and intensity of the use; and	<p>Complies</p> <p>The site has access to all necessary infrastructure required to support the efficient and effective operation of the development.</p>	
(l) development is located and designed to maximise the efficient extension and safe operation of infrastructure.	<p>Complies</p> <p>No upgrades to essential services are proposed, except for upgrades to the Cooney Road and Bli Bli Road intersection.</p>	

Overall Outcome	Applicant Response	Cardno Information Request Review
	These intersection upgrades will ensure the development is designed to maximise the efficient extension and safe operation of infrastructure.	

Extractive Industry Code

Performance Outcomes	Acceptable Outcomes	Applicant Response	Cardno Information Request Review
Extractive Industry Generally			
Site Planning			
PO1	The extractive industry is designed and established so as to provide:- (a) adequate buffering measures including separation distance to protect the surrounding area from significant noise, dust, vibration and visual impacts of operations; (b) suitable vehicle access; (c) protection against erosion; (d) acceptable quality of water leaving the site; (e) public safety; (f) acceptable restoration measures; (g) protection of groundwater quality and quantity; (h) avoidance of land contamination; (i) effective stormwater management; and (j) waste management practices which maximise recycling and reuse of wastes.	AO1 <i>In partial fulfilment of Performance Outcome PO1:-</i> The extractive industry is undertaken in accordance with an approved environmental management plan which is regularly updated to reflect on-site practices and addresses the environmental and social impacts of the extractive industry.	Complies with PO1 The proposed extractive industry activity relates to works required onsite to achieve the necessary landfill base profile. Based on engineering analysis undertaken, the proposed landfill expansion project will involve the extraction of approximately 400,000m ³ . An Environmentally Relevant Activity Supporting Report has been prepared by Mark Rigby and Associates, which outlines the proposed operations and management controls that will be implemented to ensure the development complies with applicable environmental standards and guidelines. Further, a range of specialist technical reports are submitted as part of the development application which demonstrates the development will achieve the outcomes sought by PO1.
PO2	Environmental management requirements for the extractive industry are properly identified, and their effective implementation and monitoring appropriately planned, to minimise environmental impact.	AO2 <i>In partial fulfilment of Performance Outcome PO2:-</i> The extractive industry demonstrates that adequate resources are available to fulfil the environmental management requirements identified in the approved environmental management plan.	Complies with PO2 An Environmentally Relevant Activity Supporting Report has been prepared by Mark Rigby and Associates, which outlines the proposed operations of the facility to achieve environmental compliance.
PO3	The extractive industry provides for volumes of extraction to be planned and staged so that a suitable and sustainable landscape form remains on the extraction site.	AO3 No acceptable outcome provided.	Complies with PO3 As noted, the proposed extractive industry activities on the site directly correlate to the site preparatory works necessary to create the landfill base profile. Given the nature of the activities, the extraction will occur as part of the initial stage of works. Whilst landfilling will be undertaken on a staged basis, the remaining area will be used for hardstand purposes as an interim use.

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review
				<p>A Landscape Intent Plan has been prepared by Mark Rigby & Associates and is submitted as part of the development application to detail proposed landscape treatments.</p> <p>The landscape intent is to provide buffer plantings to screen and minimise visual impacts created from the development of a landfill.</p> <p>The proposed landscape treatments, will also act to minimise the visual impact of the initial extraction activities.</p>	
Vehicle Access and Manoeuvring					
PO4	<p>Vehicle access to, from, and within the <i>extractive industry</i> site is provided so as to:-</p> <p>a. be adequate for the type and volume of traffic to be generated;</p> <p>(b) not create or worsen any traffic hazard;</p> <p>(c) ensure disturbance to surrounding land uses is minor and that impacts from emissions are minimised; and</p> <p>(d) ensure no tracking of sediment or material onto the road network results from the transport of materials associated with the haulage of <i>extractive resources</i>.</p>	<p>AO4.1</p> <p>AO4.2</p> <p>AO4.3</p> <p>AO4.4</p>	<p>The proposed <i>transport route</i> to the <i>site</i> is along sealed roads and does not require heavy vehicles to traverse residential or rural residential streets classified as collector streets or local streets.</p> <p>All driveways and manoeuvring areas between the site entrance and site office and all wash down areas and works depot areas are sealed.</p> <p>Driveways have a minimum width of 9 metres measured at the property alignment/road <i>frontage</i> and are located not less than 9 metres from any other driveway.</p> <p>A wheel wash down area is provided near the driveway entrance of the <i>site</i> to any <i>transport route</i>.</p>	<p>Complies with AO4.1</p> <p>The proposed development is accessed via Cooney Road, which is a designated transport route.</p> <p>Complies with AO4.2</p> <p>The primary access road through the site is sealed.</p> <p>AO4.3 – Not Applicable</p> <p>The proposed development seeks to rely upon existing driveways.</p> <p>Complies with AO4.4</p> <p>As shown on the submitted engineering drawings, a proposed wheel wash is located on the primary sealed access road internal to the site, adjacent to the proposed site office. b</p>	
Separation Distances					
PO5	<p>The extractive industry is located on a site which has sufficient area to provide for adequate setback of operations from road frontages, site boundaries, surrounding residential uses and other sensitive receptors, such that the extractive industry achieves an acceptable standard of visual amenity and control of noise, light, dust and vibration impacts.</p>	<p>AO5.1</p> <p>AO5.2</p>	<p>Hard rock extraction and processing activities involving blasting are not carried out within 40 metres of any boundary of the <i>site</i> or within 1 kilometre of any residential premises, land included within a <i>residential zone</i> or Rural residential zone or other <i>sensitive receptor</i> on surrounding land.</p> <p>Extractive and processing activities not involving blasting are not carried out within 30 metres of any boundary of the site or within 200 metres of any residential premises, land included within a residential zone or Rural residential zone or other sensitive receptor.</p> <p>Note—a topographic feature providing a natural buffer between extractive and processing activities and a sensitive land use may justify provision of a lesser setback distance.</p>	<p>Complies with PO5</p> <p>As noted, the proposed extractive industry activities on the site directly correlate to the site preparatory works necessary to create the landfill base profile. Accordingly, the location of the extractive activities has been determined based on the detailed engineering design of the landfill base profile.</p> <p>The proposed extractive activities are separated approximately 600 metres to the nearest sensitive receptor.</p> <p>It is considered that the separation achieved is sufficient to ensure that the extractive industry achieves an acceptable standard of visual amenity and control of noise, light, dust and vibration impacts.</p> <p>This position is supported through the following technical reports submitted as part of the development application:</p> <ul style="list-style-type: none"> Air Quality Impact Assessment prepared by AECOM Australia Pty Ltd; 	

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review
		<p>AO5.3</p> <p>A vegetated buffer strip or mound having a minimum width of 10 metres is provided to all boundaries of the site.</p> <p>Note—Acceptable Outcomes AO5.2 and AO5.3 may be modified by more specific requirements in this code relating to Precinct RUR-1 (Meridan Plains Extractive Resource Area).</p> <p>AO5.4</p> <p>Extraction and processing activities are screened from view from any major road and any land included in an urban zone, where appropriate.</p>		<ul style="list-style-type: none"> Noise and Vibration Assessment prepared by Renzo Tonin Ron Rumble; Landscape Character and Visual Impact Assessment prepared by Conlon Group; and Blast Management Plan prepared by Core Consultants. 	
Site Drainage					
PO6	<p>The extractive industry provides on-site drainage that is designed, constructed and maintained so as to:-</p> <ol style="list-style-type: none"> avoid erosion; prevent pollution of groundwater and surface water; protect downstream water quality; provide opportunities to recycle water for reuse in processing, washing and/or screening materials, dust suppression and on product stockpiles, overburden stockpiles, revegetation or rehabilitation areas and wheel wash facilities. 	<p>AO6.1</p> <p>Banks and channels are constructed to divert stormwater run-off away from excavated areas.</p> <p>AO6.2</p> <p>Sediment basins are provided to detain stormwater run-off from disturbed areas such that there is no off-site discharge likely to cause environmental harm.</p> <p>AO6.3</p> <p>Bunding and treatment and disposal of industrial wastes are carried out such that no environmental harm is caused.</p> <p>AO6.4</p> <p>Lining or other suitable treatment of erosion-prone areas is established and maintained at discharge points.</p> <p>AO6.5</p> <p>Harvested water is re-used on the extractive industry site for a range of purposes including, but not limited to:-</p> <ol style="list-style-type: none"> processing, washing and/or screening materials; dust suppression and for use on product and overburden stockpiles; irrigation of revegetation and rehabilitation areas; and wheel wash facilities. 	<p>Complies with PO6</p> <p>A stormwater management system has been developed for the site and forms part of the Landfill Engineering Report prepared by ATC Williams. The stormwater management system includes key drainage and storage infrastructure to protect water quality, reduce runoff and peak flows and meet the environmental values for the site.</p> <p>As noted, the extraction activities will occur as part of the initial site works for to create the landfill base profile. The following provides an overview of the stormwater management practices for the Stage 1 works:</p> <ul style="list-style-type: none"> The Stage 1 footprint, being subject to construction works, would exist as a Site Stormwater catchment. This area would drain generally towards the south, as excavation works and associated earthworks progress. This stormwater would be directed to the south west to the existing HES Basin via a remnant drainage line through this portion of the site. The undeveloped portion of the site would be subject to some pre-development works (demolition of existing structures, removal of contaminated soils etc.) prior to use for stockpiling of excavated materials from Stage 1, with these stockpiles being shaped, stabilised and revegetated. Temporary sediment ponds and other erosion and sediment control/treatment measures will be required to manage stormwater quality during these construction works, prior to stockpile stabilisation and establishment of vegetation A portion of the subject site that exists to the north/north east of Stage 1, would remain as clean catchment. This sub-catchment area would be diverted around the northern edge of Stage 1 and down the eastern boundary, for release to the creekline traversing the southern portion of the site. Similarly, clean runoff from the completed landform of the existing landfill to the west would be directed to the south to the same 		

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review
				creekline at the point where the existing HES Basin currently discharges. Further information is provided within Section 7 of the submitted Landfill Engineering Report.	
Management of Blasting and Other Operations					
PO7	The extractive industry provides for blasting, crushing, screening and loading to be carried out safely and in accordance with best practice management standards so that disturbance to surrounding land uses is minor and that impacts from emissions are minimised.	AO7.1	Blasting and other operations are confined to the hours of operation identified in Table 9.3.7.3.1A (Extractive industry hours of operation) . Table 9.3.7.3.1A <u>Extractive Industry activity</u> <u>Hours of Operation</u> Blasting Operations: 9AM – 5PM Monday to Friday No operations Saturday, Sunday or public holidays Other Operations: 9AM – 6PM Monday to Friday. 7AM to 1PM Saturday No operations Sunday or public holidays	Complies with PO7 A Blast Management Plan has been prepared by ATP Consulting Engineers and is submitted as part of the development application package. Further a Noise and Vibration Assessment has been prepared by Renzo Tonin Ron Rumble, which notes that extraction activities are proposed to be carried out between the hours of 7am and 5pm Monday to Saturday. A range of mitigation measures and management controls are recommended within the abovementioned reports to ensure the operation of the development is in accordance with best practice management standards and minimises impacts to surrounding sensitive receptors.	
		AO7.2	Vibration levels do not exceed the relevant provisions contained in the Environmental Protection Act 1994.		
Public Safety					
PO8	Extractive industry operation areas are fenced to prevent unauthorised or accidental public entry.	AO8.1	Safety fence is provided to prevent unauthorised or accidental public access to the extractive industry site to the greatest extent practicable.	Complies with AO8.1 The site will be fenced to prevent unauthorised access outside of operating hours.	
		AO8.2	Public signage to warn of operations and safety hazards is provided to all boundaries of the site.	Complies with AO8.2 A Site Based Management Plan (SBMP) has been prepared by Sunshine Coast Council to document the operational and management practices associated with the landfill activity. The SBMP details site safety measures and proposed signage. In addition to the signage proposed within the SBMP, we expect a range of other signage will be installed to support the operation of the activity.	
Site Rehabilitation					
PO9	Rehabilitation of the extractive industry site provides:- (a) progressive/staged rehabilitation works; (b) appropriate clean-up works (taking particular account of areas of possible soil contamination); (c) agreed landform and soil profiles;	AO9	The extractive industry provides for all rehabilitation works to be undertaken in accordance with an approved expected final landform design and site rehabilitation plan.	Complies with AO9 The site will be rehabilitated through progressive landfill activities, which is to occur over five (5) stages. As successive areas of the final landform for the landfill are reached, each area would be subject to rehabilitation works.	

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review
	(d) suitable revegetation; and (e) establishment phase requirements.				
P10	Rehabilitation works for each operational stage are bonded to ensure the effective return of disturbed areas to acceptable land use suitability.	AO10	No acceptable outcome provided	PO10 – Not Applicable As noted, the proposed extractive industry activities on the site directly correlate to the site preparatory works necessary to create the landfill base profile. Unlike standard extractive industry activities, the rehabilitation of the site will occur as part of the natural consequence of landfill development. Therefore it is not considered necessary for a bond to be required for rehabilitation works.	
PO11	Rehabilitation allows for suitable use of any water bodies created through the extraction process, having regard to water quality, hydraulic conditions, land form and vegetation.	AO11.1 AO11.2	Rehabilitation is carried out to provide water quality of a standard that can support aquatic vertebrates and invertebrates. Fringes of water bodies are planted with wetland species such that a sustainable aquatic plant community is established.	PO11 – Not Applicable As noted, the proposed extractive industry activities on the site directly correlate to the site preparatory works necessary to create the landfill base profile. The water bodies created will continue to have a stormwater management function upon the completion of extractive industry activities.	
Additional Requirements for Extractive Industry in Precinct RUR-1 (Meridan Plains Extractive Resource Area) on Zone Map ZM63					
Master Planning and Rehabilitation Concepts					
PO12	The extractive industry is established, operated and rehabilitated in a manner that is generally in accordance with the development and rehabilitation concepts identified on:- (a) Figure 9.3.7A (Meridan Plains extractive resource area master plan); and (b) Figure 9.3.7B (Meridan Plains extractive resource area end use concept plan).	AO12	No Acceptable Outcome Provided	PO12 – Not Applicable The site is not located in Precinct RUR-1 on Zone Map ZM63.	
Avoidance of Constrained Areas and Staging of Extraction					
PO13	The <i>extractive industry</i> avoids constrained areas and utilises a staged approach to <i>site</i> development that provides for:- (a) the efficient exploitation of the Extractive Resource Area; (b) the progressive rehabilitation of the <i>site</i> such that the scenic values of the Mooloolah River <i>floodplain</i> are retained throughout the duration of the extraction; (c) the progressive creation of a lake system that at all times:-	AO13	The extractive industry provides for:- (a) the avoidance of exploitation in areas identified as 'Constrained Resource Area (Type A)' on Figure 9.3.7A (Meridan Plains extractive resource area master plan); (b) the avoidance of exploitation in areas identified as 'Constrained Resource Area (Type B)' on Figure 9.3.7A (Meridan Plains extractive resource area master plan) until such time as outstanding strategic coastal management, flooding and hydrological issues are investigated and resolved; (c) the avoidance of exploitation in any other part of the Extractive Resource Area determined (through further site assessment or referral agency advice) to have coastal management or other biophysical limitations making the	PO13 – Not Applicable The site is not located in Precinct RUR-1 on Zone Map ZM63.	

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review				
	<ul style="list-style-type: none"> (i) maintains or improves the integrity of the Mooloolah River and the flood storage capacity of the Mooloolah River <i>floodplain</i>; (ii) maintains, as far as practicable, the flow conveyance patterns of the Mooloolah River <i>floodplain</i>; and (iii) maintains or improves the quantity and quality of surface and groundwater in the catchment area; and (d) the avoidance or effective mitigation of any potential environmental harm. 		<ul style="list-style-type: none"> land unsuitable for extractive industry development; (d) development on the site to be staged such that not more than 30% of the surface area of the site is used for extractive industry at any particular time; and (e) development of a lake system with a configuration that is generally consistent with that shown on Figure 9.3.7B (Meridan Plains extractive resource area end use concept plan) and designed in accordance with:- <ul style="list-style-type: none"> (i) an approved lake management plan for the entire Extractive Resource Area; or (ii) if a lake management plan is yet to be approved for the entire Extractive Resource Area—a site specific lake management plan. <p>Note—<i>Council</i> may consider an alternative staging or lake configuration, provided that the development is otherwise consistent with this code and the intent of the end use concept depicted on Figure 9.3.7B (Meridan Plains extractive Resource area end use concept plan).</p>						
Buffers and Batter Stability Zones									
PO14	<p>The <i>extractive industry</i> provides for ecological and <i>landscape buffers</i>, visual screens and batter stability zones to conceal and/or setback operations and activities involved in the use from road <i>frontages</i>, <i>site boundaries</i>, incompatible uses on surrounding land, lakes, <i>waterways</i>, <i>wetlands</i>, ecologically important areas and <i>infrastructure corridors</i>, such that the <i>extractive industry</i>:-</p> <ul style="list-style-type: none"> (a) maintains or improves the integrity of the Mooloolah River and other <i>waterways</i>; (b) protects and reconnects <i>ecologically important areas</i>; (c) achieves a high standard of visual amenity from all scenic routes and significant viewpoints; (d) protects the functionality of transport and other <i>infrastructure corridors</i>; (e) prevents channel avulsion or erosion; and (f) avoids or effectively mitigates any potential environmental harm. 	AO14.1	<p>The <i>extractive industry</i> provides for the establishment of ecological and <i>landscape buffers</i>, visual screens and batter stability zones in accordance with Table 9.3.7.3.1B (Ecological and landscape buffers, visual screens and batter stability zones).</p> <p>Table 9.3.7.3.1B Ecological and landscape buffers, visual screens and batter stability zones</p> <table border="1"> <thead> <tr> <th>Column 1 Feature/ element</th> <th>Column 2 Ecological/landscape/visual buffer/batter stability zone</th> </tr> </thead> <tbody> <tr> <td>Mooloolah River and waterways</td> <td>60 metre wide (minimum) ecological buffer measured from the high or outer bank of the waterway to the top of the batter of any extraction area. The northern and southern boundaries of this ecological buffer are “smoothed” (i.e. they do not follow every bend in the river) as indicated in figures 9.3.7A and 9.3.7B. To remove any doubt, the distance is not less than 60m at any point, but could</td> </tr> </tbody> </table>	Column 1 Feature/ element	Column 2 Ecological/landscape/visual buffer/batter stability zone	Mooloolah River and waterways	60 metre wide (minimum) ecological buffer measured from the high or outer bank of the waterway to the top of the batter of any extraction area. The northern and southern boundaries of this ecological buffer are “smoothed” (i.e. they do not follow every bend in the river) as indicated in figures 9.3.7A and 9.3.7B. To remove any doubt, the distance is not less than 60m at any point, but could	PO14 – Not Applicable The site is not located in Precinct RUR-1 on Zone Map ZM63.	
Column 1 Feature/ element	Column 2 Ecological/landscape/visual buffer/batter stability zone								
Mooloolah River and waterways	60 metre wide (minimum) ecological buffer measured from the high or outer bank of the waterway to the top of the batter of any extraction area. The northern and southern boundaries of this ecological buffer are “smoothed” (i.e. they do not follow every bend in the river) as indicated in figures 9.3.7A and 9.3.7B. To remove any doubt, the distance is not less than 60m at any point, but could								

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review
			be up to 100m when "smoothed".		
		Native vegetation	50 metre wide (minimum) ecological buffer measured from the outer edge of the native vegetation to the top of the batter of any extraction area.		
		Bruce Highway – Caloundra Road Interchange	200 metre wide open landscape buffer measured from the planned final Bruce Highway and Caloundra Road boundaries to the top of the batter of any extraction area.		
		Multi Modal Transport Corridor	40 metre wide batter stability zone measured from the final MMTC Road Boundary to the top of the batter of any extraction area; and 200 metre wide interim visual screen.		
		Sippy Downs to Caloundra South Link	20 metre wide batter stability zone and visual screen measured from the final corridor boundary to the top of the batter of any extraction area.		
		Rainforest Drive to Claymore Road Link	20 metre wide batter stability zone and visual screen measured from the final corridor boundary to the top of the batter of any extraction area.		
		Honey Farm Road Link	20 metre wide batter stability zone and visual screen measured from the final corridor boundary to the top of the batter of any extraction area.		
		Water Supply Ring Tank	40 metre wide batter stability zone measured from the property boundary to the top of the batter of any extraction area.		
		Water supply and sewerage main pipelines	40 metre wide batter stability zone measured from the centreline of the pipe to the top of the batter of any extraction area.		
		Created water body / lake	20 metre wide batter stability zone measured from the top of the batter of any extraction area/lake to another extraction area/lake.		

Performance Outcomes	Acceptable Outcomes	Applicant Response	Cardno Information Request Review
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		<table border="1"> <tr> <td>Electricity transmission tower or other infrastructure service where not included within a road reserve</td> <td>20 metre wide batter stability zone measured from the outer extremity of the transmission tower or other infrastructure service to the top of a minimum 1:3 batter of any extraction area.</td> </tr> <tr> <td>External site boundary</td> <td>10m wide batter stability zone measured from the property boundary to the top of the batter of any extraction area, except where a lake traverses a property boundary and is part of a development site.</td> </tr> <tr> <td></td> <td></td> </tr> </table> <p>AO14.2</p> <p> The <i>extractive industry</i> provides for:- (a) that part of any <i>site</i> included within the Mooloolah River ecological <i>buffer</i> to be:- (i) rehabilitated to provide for bank stabilisation and buffering in accordance with:- (A) an approved final landform design and site rehabilitation plan for the entire Extractive Resource Area; or (B) if an approved final landform design and site rehabilitation plan is yet to be approved for the entire Extractive Resource Area—a site specific final landform design and site rehabilitation plan; and (ii) dedicated to Council as esplanade prior to the commencement of any extraction on the site; (b) that part of any site included within another ecological buffer, to be established prior to the commencement of any extraction on the site; (c) that part of any site included within the Bruce Highway-Caloundra Road open landscape buffer or the Multi- Modal Transport Corridor visual screen to be established for that purpose prior to the commencement of any extraction on the site; and (d) that part of any site included within another buffer or batter stability zone to be established for that purpose, at a time appropriate to the staging of the extraction. </p>	Electricity transmission tower or other infrastructure service where not included within a road reserve	20 metre wide batter stability zone measured from the outer extremity of the transmission tower or other infrastructure service to the top of a minimum 1:3 batter of any extraction area.	External site boundary	10m wide batter stability zone measured from the property boundary to the top of the batter of any extraction area, except where a lake traverses a property boundary and is part of a development site.				
Electricity transmission tower or other infrastructure service where not included within a road reserve	20 metre wide batter stability zone measured from the outer extremity of the transmission tower or other infrastructure service to the top of a minimum 1:3 batter of any extraction area.									
External site boundary	10m wide batter stability zone measured from the property boundary to the top of the batter of any extraction area, except where a lake traverses a property boundary and is part of a development site.									

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review				
			<p>Note—where land in the Mooloolah River Ecological Buffer is dedicated to Council as esplanade in accordance with AO14.2(a)(ii), Council will consider the granting of a temporary lease over part of the esplanade in order to provide for:-</p> <p>(a) any activity required to avoid or mitigate impacts on the environment (including approved rehabilitation work); and/or</p> <p>(b) any access required to allow maintenance of the Ecological Buffer or egress to an extraction area adjoining the Esplanade; and/or</p> <p>(c) any security measure required for public safety purposes and/or the security of extractive industry sites.</p>						
PO15	The extractive industry provides for ecological and landscape buffers, and visual screens and batter stability zones, to comprise of vegetation endemic to the area and to have a landscape character that is consistent with a coastal plain landscape, where rural scenery and pockets of local native vegetation are interspersed with screen planting and views over water.	AO15	No acceptable outcome provided	<p>PO15 – Not Applicable</p> <p>The site is not located in Precinct RUR-1 on Zone Map ZM63.</p>					
Transport/Infrastructure Corridors and Transport Routes									
PO16	The extractive industry protects existing transport and infrastructure corridors and provides for the establishment of new transport and infrastructure corridors.	AO16.1	<p>The extractive industry provides for the establishment of the identified transport and infrastructure corridors described in Table 9.3.7.3.1C (Transport and infrastructure corridor requirements) to be located within the future transport and infrastructure study area depicted on Figure 9.3.7A (Meridan Plains extractive resource area master plan).</p> <p>Table 9.3.7.3.1C Transport and infrastructure corridor requirements</p> <table border="1"> <thead> <tr> <th>Column 1 Transport/ infrastructure corridor</th> <th>Column 2 Land requirement</th> </tr> </thead> <tbody> <tr> <td>Sippy Downs to Caloundra South Link (Local government infrastructure)</td> <td>80 metre wide road reserve from Caloundra Road to Laxton Road and including the existing Honey Farm and Sattler Road Reserves.</td> </tr> </tbody> </table>	Column 1 Transport/ infrastructure corridor	Column 2 Land requirement	Sippy Downs to Caloundra South Link (Local government infrastructure)	80 metre wide road reserve from Caloundra Road to Laxton Road and including the existing Honey Farm and Sattler Road Reserves.	<p>PO16 – Not Applicable</p> <p>The site is not located in Precinct RUR-1 on Zone Map ZM63.</p>	
Column 1 Transport/ infrastructure corridor	Column 2 Land requirement								
Sippy Downs to Caloundra South Link (Local government infrastructure)	80 metre wide road reserve from Caloundra Road to Laxton Road and including the existing Honey Farm and Sattler Road Reserves.								

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review						
			<table border="1"> <tr> <td>Rainforest Drive to Claymore Road Link (Local government infrastructure)</td> <td>40 metre wide road reserve from Honey Farm Road to Laxton Road and including the existing unnamed Road Reserve.</td> </tr> <tr> <td>Honey Farm Road Link (Local government infrastructure)</td> <td>40 metre wide road reserve from Sippy Downs to Caloundra South Link to Rainforest Drive and including the existing Rainforest Road Reserve.</td> </tr> <tr> <td>Electricity transmission line or other infrastructure service where not included within a road reserve</td> <td>40 metre wide infrastructure corridor in an alignment and configuration that fulfils the functional requirements of the infrastructure/service provider.</td> </tr> </table>	Rainforest Drive to Claymore Road Link (Local government infrastructure)	40 metre wide road reserve from Honey Farm Road to Laxton Road and including the existing unnamed Road Reserve.	Honey Farm Road Link (Local government infrastructure)	40 metre wide road reserve from Sippy Downs to Caloundra South Link to Rainforest Drive and including the existing Rainforest Road Reserve.	Electricity transmission line or other infrastructure service where not included within a road reserve	40 metre wide infrastructure corridor in an alignment and configuration that fulfils the functional requirements of the infrastructure/service provider.		
Rainforest Drive to Claymore Road Link (Local government infrastructure)	40 metre wide road reserve from Honey Farm Road to Laxton Road and including the existing unnamed Road Reserve.										
Honey Farm Road Link (Local government infrastructure)	40 metre wide road reserve from Sippy Downs to Caloundra South Link to Rainforest Drive and including the existing Rainforest Road Reserve.										
Electricity transmission line or other infrastructure service where not included within a road reserve	40 metre wide infrastructure corridor in an alignment and configuration that fulfils the functional requirements of the infrastructure/service provider.										
		AO16.2	That part of any site required to accommodate a local government transport or other infrastructure corridor is dedicated to Council prior to the commencement of any extraction on the site.								
PO17	The extractive industry provides for the establishment and utilisation of identified transport routes, so as to provide for the efficient transport of extracted material from the Meridan Plains Extractive Resource Area in a manner that:- (a) is adequate for the type and volume of traffic to be generated; (b) does not create or worsen any traffic hazards; (c) minimises adverse effects on the amenity of the locality; (d) protects the inherent rural character and identity of the area; and (e) ensures that disturbance to surrounding land uses is minor and that impacts from emissions are minimised.	AO17	The extractive industry provides for the establishment of the transport routes in the configuration depicted on Figure 9.3.7A (Meridan Plains extractive resource area master plan) .	PO17 – Not Applicable The site is not located in Precinct RUR-1 on Zone Map ZM63.							
Lake and Site Management											
PO18	The extractive industry provides for the appropriate establishment and management of lakes	AO18	In partial fulfilment of Performance Outcome PO18:-	PO18 – Not Applicable The site is not located in Precinct RUR-1 on Zone Map ZM63.							

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review
	provided in accordance with Figure 9.3.7A (Meridan Plains extractive resource area master plan) in a manner that appropriately addresses potential environmental and flooding impacts.		<p>The extractive industry is established and operated in accordance with a lake management plan (supported by modelling) that:-</p> <ul style="list-style-type: none"> (a) considers the full development scenario for the Meridan Plains Extractive Resource Area and its external influences; and (b) identifies and addresses all environmental and flooding impacts and the measures to manage the potential impacts. <p>Note—a lake management plan is intended to be prepared for the entire area as well as individual sites.</p>		
Site Rehabilitation and End Use					
PO19	The extractive industry provides for the progressive rehabilitation of all areas subject to extractive industry operations to a stable and restored state such that the land is suitable for use in accordance with Figure 9.3.7B (Meridan Plains extractive resource area end use concept plan) .	<p>AO19.1</p> <p>The extractive industry provides for site rehabilitation to be carried out on a progressive basis at the conclusion of each stage of extraction, providing for:-</p> <ul style="list-style-type: none"> (a) clean-up works (taking particular account of areas of possible soil contamination); (b) minimisation of potential for erosion from the site and sediment transport across the site; (c) management of the quality of stormwater, water and seepage released from the site such that releases of contaminants are not likely to cause environmental harm; (d) management of any actual and potential acid sulfate soils in or on the site; (e) a stable final landform and soil profile; (f) local native vegetation suitable for establishment in the coastal plain to be planted, established and maintained; (g) management of weeds; and (h) public infrastructure (including pathways) to be provided in those areas dedicated as public open space. <p>AO19.2</p> <p>The extractive industry provides for all lakes created through the extraction process to achieve an end use water quality standard at least suitable for secondary contact recreation use with a self managing pH range of 5.0 to 8.5 and metal concentrations and hardness similar to background concentrations in the adjacent Mooloolah River (as at 2006).</p> <p>AO19.3</p> <p>The extractive industry provides for all rehabilitation works to be undertaken in accordance with an expected final landform design and site rehabilitation plan.</p> <p>Note—a final landform design and site rehabilitation plan is intended to be prepared for the entire area as well as individual sites.</p>	<p>PO19 – Not Applicable</p> <p>The site is not located in Precinct RUR-1 on Zone Map ZM63.</p>		

Performance Outcomes		Acceptable Outcomes		Applicant Response	Cardno Information Request Review
		AO19.4	The extractive industry provides for the long term management of any rehabilitated lands or lakes dedicated to Council as public open space or esplanade.		
Infrastructure Agreement					
PO20	<p>The extractive industry occurs in accordance with an infrastructure agreement made with the Council that:-</p> <ul style="list-style-type: none"> (a) incorporates the agreed plan of staging for extraction on the site; (b) provides for the establishment and maintenance of transport routes necessary to support development of the extractive resource area; (c) establishes the performance bonding arrangements for:- <ul style="list-style-type: none"> (i) the operation of the extractive industry in accordance with the lake management plan and site based management plan; (ii) the rehabilitation of the site in accordance with the final landform design and site rehabilitation plan; and (iii) the long term management of any rehabilitated lands or lakes dedicated to Council as public open space or esplanade; and (d) specifies any other obligation of the parties necessary to ensure the extraction, rehabilitation and ongoing maintenance of the extractive resource area. 	AO20	No acceptable outcome provided	<p>PO20 – Not Applicable</p> <p>The site is not located in Precinct RUR-1 on Zone Map ZM63.</p>	

560 Bli Bli Road and 18, 26, 40,
50, 66 Cooney Road, Bli Bli

APPENDIX

H

ECOLOGICAL ASSESSMENT

Ecological Impacts - Independent Assessment

Nambour Landfill Expansion

HRP17176



Prepared for
Sunshine Coast Council

3 May 2018

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1 Introduction

The existing Nambour Waste Facility is located on Cooney Road Bli Bli, and currently incorporates the Nambour Landfill (operational on Lots 1 & 2 RP208600), a Resource Recovery Centre and a Materials Recycling Facility.

Sunshine Coast Council propose to expand the existing landfill onto adjoining properties to the east, Lot 4 RP 803104, part of Lot 1 CG2584 and Lot 1 RP 202997. The current application comprises:

- > Preliminary Approval for a material change of use for an Environment Facility, Extractive Industry, High Impact Industry, Medium Impact Industry, Shop, Transport Depot and Utility Installation in accordance with the Sunshine Coast Waste Precinct Plan of Development; and a
- > Development permit for making a material change of use for utility installation (major utility - refuse disposal involving a landfill and ancillary activities), extractive industry (involving crushing, grinding, milling or screening), an undefined use (landfill gas power generation plant) and
- > Environmentally Relevant Activities (ERA's).
 - ERA 60 (1d) – Waste Disposal for operating a facility for disposing of, in a year, more than 200,000 tonnes of waste (regulated waste and any combination of general waste, limited regulated waste);
 - ERA16 (2b) – Extracting, other than by dredging, in a year, more than 100,000 tonnes but not more than 1,000,000 tonnes of material;
 - ERA16 (3b) – Screening, in a year, more than 100,000 tonnes but not more than 1,000,000 tonnes of material; and
 - ERA 33 – Crushing, grinding, milling or screening more than 5000 tonnes of material in a year (existing approval to be retained and expanded to Lot 4 on RP803104).

The land to which this application relates incorporates:

- > Lot 4 on RP803104;
- > Part of Lot 1 on CG2584;
- > Lots 1 and 2 on RP208600;
- > Lot 1 on RP202997; and
- > Lot 3 on SP193049.

This report details the findings of an independent assessment of the application undertaken by Cardno relating to ecological impacts and management related matters. Recommendations relating to the approval and conditioning of the application are included in Section 6.

2 Key Ecological Impact and Management Issues

While most of the proposed landfill expansion can be accommodated within areas of existing disturbance, with lower ecological value, the proposed expansion will result in impacts to areas of known ecological value.

Specifically it was noted that:

1. Approximately 1.3 hectares of vegetation would be cleared on Lot 1 on RP202997 and Lots 1 and 2 on RP208600 for leachate and landfill gas management purposes. A portion of this land:
 - a. is known to support habitat for the Tusked Frog; and
 - a. would require the diversion and reprofiling of the waterway to accommodate a 10 year ARI critical duration event
2. Approximately 5.6 hectares proposed to be cleared on Lot 4 on RP803104 for landfill purposes. An estimated two hectares of this has been groundtruthed as Koala habitat and regulated vegetation (RE 12.12.15/12.12.2) and contains threatened species habitat for Tusked Frog and Richmond Birdwing Butterfly.
3. Approximately 0.8 hectares of the clearing footprint on Lot 1 on RP202997 is mapped as being a wetland and within the watercourse.

The design and operation of the proposed Nambour Landfill facility must appropriately respond to these impacts so that ecologically important areas are protected, rehabilitated and enhanced and ecological connectivity is improved.

3 Review of Application Material

The application was supported by the following documents that contained information and analyses concerning the known and likely ecological impacts and the management or mitigation of same:

- > Flora and Fauna Assessment Nambour Resource Recovery Centre and Landfill Cooney Road, Bli Bli, prepared by Native Foresters on behalf of Sunshine Coast Council.
- > Flora and Fauna Assessment Cooney Road, Bli Bli, prepared by Native Foresters on behalf of Sunshine Coast Council.
- > Koala Survey and Habitat Assessment Cooney Road, Bli Bli, prepared by Native Foresters on behalf of Sunshine Coast Council.
- > Impact Management Plan for Tusked Frog, Richmond Birdwing Butterfly and Richmond Birdwing Vine Nambour Landfill Expansion prepared by Native Foresters on behalf of Sunshine Coast Council.
- > Appendix C - Assessment against Sunshine Coast Planning Scheme Codes of the Sunshine Coast Waste Precinct Town Planning Assessment Report (dated 26 June 2016) prepared by Urbis for the Sunshine Coast Regional Council.

A review of the submitted documents identified the following deficiencies in the information provided, resulting in the issue of requests for additional information as detailed below (note: numbering follows that of the formal Further Information Request dated 10 August 2017).

Issue

Lot 1 RP202997 is identified as containing Tusked Frog breeding habitat, and it is important that site development activities appropriately protect fauna and habitat from disturbance.

Information Required

19. Provide further information that demonstrates that the operation of the extension and specifically the Landfill gas and leachate management system area will not increase light spill to greater than 1 lux into areas of retained Tusked Frog breeding habitat.

Issue

PO8 of the *Biodiversity, waterways and wetlands code* requires ecologically important area to be restored and enhanced.

Information Required

20. Provide further detail on how the proposed development provides for ecologically important areas to be restored and enhanced so as to contribute towards a functional and connected network of viable habitat areas. Specifically, information is requested that demonstrates how the proposed development provides for rehabilitation or natural regeneration of the retained Ecologically Important Areas to the north of the proposed Landfill Gas and Leachate Management System Area and the area of localised creek channel diversion and fill to south of same, which is confirmed Tusked Frog Breeding habitat.

4 Review of Information Request Response Material

The following information was submitted by the Applicant in response to the Request for Further Information (Items 19 and 20) concerning ecology and related issues:

- > a Response to Information Request letter from Mark Rigby and Associates to the Chief Executive of the Sunshine Coast Regional Council dated 21 December 2017;

A review of the material submitted in response to the Request for Further Information indicated that the key items of concern raised in the Request for Further Information had been adequately addressed.

5 Compliance with Regulatory Requirements

The proposed development involves a Material Change of Use impacted areas mapped on the planning schemes Biodiversity, Waterway and Wetlands Overlay Maps and as such triggers assessment against the Biodiversity, Waterway and Wetlands Overlay Code of the Planning Scheme.

An assessment of the proposed development against the Biodiversity, Waterway and Wetlands Overlay Code of the Planning Scheme was provided in Appendix C - Assessment against Sunshine Coast Planning Scheme Codes of the Sunshine Coast Waste Precinct Town Planning Assessment Report (dated 26 June 2016) prepared by Urbis for the Sunshine Coast Regional Council.

A review of the original Biodiversity, Waterway and Wetlands Overlay Code compliance assessment and the amended RFI response was completed and the findings of that review are as follows.

- a) The proposed plan of development is generally consistent with the purpose of the Biodiversity, Waterway and Wetlands Overlay Code which seeks to ensure that development avoids or mitigates the potential impacts of the proposed development on ecologically important areas and ecological connectivity.
- b) It is recognised that certain aspects of the proposed development are not entirely consistent with the following performance outcomes of the Biodiversity, Waterway and Wetlands Overlay Code, PO1, PO5 and PO9

However, in respect of Point (b) above, the following findings were taken into consideration:

1. An Impact Management Plan (IMP) has been prepared for the proposed works. This document seeks to establish mitigation measures and procedures to ensure that immediate and long term impacts to the Tusked Frog, Richmond Birdwing Butterfly and Richmond Birdwing Vine are minimised and/or avoided where possible. It was the view of this independent assessment that the IMP, if implemented as prescribed would achieve this aim.
2. It was noted that there will be no direct impact to Richmond Birdwing butterfly breeding habitat from clearing activities onsite.
3. It was noted that the proposed landfill footprint was revised to ensure 100% of the stormwater runoff from the disturbed landfill area flows to the south, away from retained vegetation, particularly the rainforest community that contains the Richmond Birdwing Butterfly breeding habitat.
4. It was noted that despite the presence of mature, preferred koala food trees, high quality habitat and extensive search effort using a variety of recognised survey techniques no direct evidence was found of Koalas (scat) in the forested ridge within the survey area or within the southern section of Parklands Conservation Park. Notwithstanding this fact the proponent intends to provide exclusion fencing to prevent koala movement into areas of the site to be use for landfill purposes.
5. The Applicant would be prepared to submit to a reasonable and relevant condition of approval requiring the preparation and implementation of a holistic Site Restoration Plan following completion of clearing undertaken in accordance with other relevant approvals
6. The Applicant would be prepared to submit to a reasonable and relevant condition of approval requiring biodiversity offsets to be provided for impacts to matters of local environmental significance accordance with the: (i) the requirements for a biodiversity offset specified in Table 9.4.9.3.2 (Biodiversity offset requirements) of Section 9.4.9 (Vegetation management code); and (ii) the Planning scheme policy for biodiversity offsets.
7. The Queensland State Government has imposed a number of offset conditions relating to Significant Residual Impacts on Matters of State Environmental Significance, associated with the proposed development, specifically:
 - a. 1.3 ha of wetland of high ecological significance;
 - b. 4.8 ha of protected wildlife habitat, associated with the Tusked frog;
 - c. 3.5 ha of protected wildlife habitat, associated with the Richmond Birdwing Butterfly; and

- d. Specifically prohibited clearing of vegetation within the areas identified as Area A1 and A2 on the Technical Agency Response (Vegetation) Plan (TARP), reference no. TARP SDA-0717-040928, dated 12 January 2018.

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6 Recommendations

It is the overall view of this independent assessment that subject to the proposed avoidance, management, mitigation and offsetting actions detailed in Points 1 to 7 of Section 5 above and compliance with a number of recommended Conditions detailed below, the proposed development will be consistent with the overall objective of the Biodiversity, Waterway and Wetlands Overlay Code, despite only partial compliance with a number of Performance Objectives within the Code.

In accordance with the *Offsets Acts 2014* the assessment manager must consider any relevant offset condition that has already been imposed on an authority issued under another Act for the same or substantially the same prescribed impact and the same or substantially the same prescribed environmental matter.

The specific Conditions that are recommended, and the basis for same, are detailed below.

1. A fauna exclusion fence must be constructed in the location shown on MRA17-001 Figure 2 Rev B Dated April 2017 prepared by Mark Rigby & Associates and in accordance with Section 6.11.2 (a) of the Queensland Main Roads – Fauna Sensitive Road Design Manual Volume 2.
2. Vegetation must only be removed or disturbed in accordance with Section 4 of the approved Impact Management Plan – Cooney Road, Bli Bli Tusked Frog, Richmond Birdwing Butterfly and Richmond Birdwing Vine listed within this development approval.
3. All undisturbed land and reconstructed waterways on the subject site must be rehabilitated in accordance with an operational works approval and must include the removal of all weeds species listed in the following standards and legislation:
 - a. Invasive plants listing in the *Biosecurity Act 2014*
 - b. *Sunshine Coast Local Government Area Pest Management Plan 2012-2016*.

560 Bli Bli Road and 18, 26, 40, 50,
66 Cooney Road, Bli Bli

APPENDIX

I

BUSHFIRE HAZARD ASSESSMENT

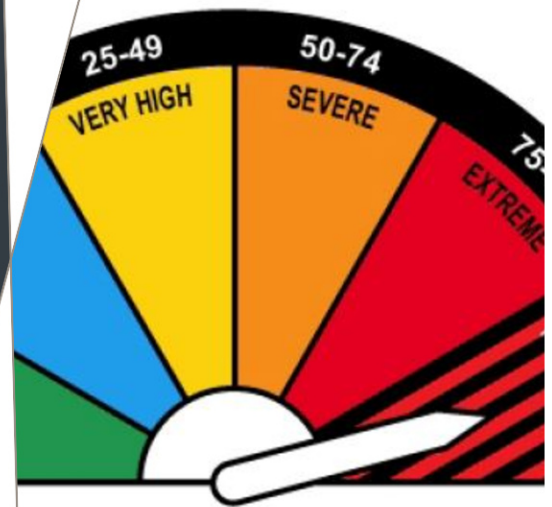
Bushfire Impact and Management Plan – Independent Assessment

Nambour Landfill Expansion

HRP17176

Prepared for
Sunshine Coast Regional Council

13 March 2018



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1 Introduction

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- > Development permit for making a material change of use for utility installation (major utility - refuse disposal involving a landfill and ancillary activities), extractive industry (involving crushing, grinding, milling or screening), an undefined use (landfill gas power generation plant) and
- > Environmentally Relevant Activities (ERA's).
 - ERA 60 (1d) – Waste Disposal for operating a facility for disposing of, in a year, more than 200,000 tonnes of waste (regulated waste and any combination of general waste, limited regulated waste);
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- > Part of Lot 1 on CG2584;
- > Lots 1 and 2 on RP208600;
- > Lot 1 on RP202997; and
- > Lot 3 on SP193049.

This report details the findings of an independent assessment of the application undertaken by Cardno relating to bushfire impacts and management related matters. Recommendations relating to the approval and conditioning of the application are included in Section 6.

2 Key Bushfire Impact and Management Issues

The northern and eastern extents of the Nambour Landfill site and the surrounding hills to the north and east are classified as Bushfire Prone (Medium-High Hazard) Areas pursuant to the Planning Scheme Bushfire Hazard Overlay Map. An isolated Bushfire Prone (Medium Hazard) Area is also present in the far south-west corner of the site.

The surrounding bushfire prone landscape also supports the following assets at risk in the event of a bushfire or a substantial change in the frequency/severity of bushfires:

- > a number of residential and commercial properties; and
- > Parklands Conservation Park and Parklands State Forest.

The presence of bushfire prone vegetation in the immediate vicinity of the Nambour Landfill facility poses the following management and operational risks:

- > a risk that operation of the landfill facility may be impacted by the occurrence of a bushfire within the surrounding bushfire prone vegetation; and
- > a risk that operations at the landfill facility may ignite a bushfire in the surrounding landscape with the potential for adverse impacts on people, property and the environment.

The design and operation of the proposed Nambour Landfill facility must appropriately respond to these risks so that people, property and the environment are not exposed to an unacceptable risk of harm.

3 Review of Application Material

The application was supported by the following documents that contained information and analyses concerning the bushfire hazards and risks:

- > Bushfire Hazard Assessment and Management Plan (Version 2, dated June 2017) – Nambour Landfill Expansion, Cooney Road, Bli Bli, prepared by North Coast Environmental Services (NCES) on behalf of Sunshine Coast Council.
- > Appendix C - Assessment against Sunshine Coast Planning Scheme Codes of the Sunshine Coast Waste Precinct Town Planning Assessment Report (dated 26 June 2016) prepared by Urbis for the Sunshine Coast Regional Council.

A review of the submitted documents identified the following key deficiencies in the information provided, resulting in the issue of requests for additional information as detailed below (note: numbering follows that of the formal Further Information Request dated 10 August 2017).

21. **Issue:** The submitted Bushfire Hazard Assessment and Management Plan (BHAMP) prepared by NCES does not address the potential for the proposed MCU to be a source of bushfire ignition and thereby have the potential to impact on surrounding community assets (i.e. people, property and the environment).

Further Information Requested: Provide an amended BHAMP that contains additional detail concerning:

- a) potential bushfire ignition sources (e.g. gas flares, green-waste stockpiles, workshops etc) associated with the proposed development;
- b) the location and nature of adjacent community assets that are at a risk of harm should a bushfire be ignited by activities proposed to be carried out within the expanded waste management facility; and
- c) specific risk mitigation measures, including work practices, to be implemented to ensure that an acceptable level of risk to community assets is maintained.

22. **Issue:** The submitted BHAMP prepared by NCES effectively treats the proposed expanded waste management facility as a single homogenous unit with respect to its vulnerability to bushfire. However the proposed facility is comprised of a number of distinct structures, infrastructure elements and uses that differ in respect of their vulnerability to bushfire attack.

Further Information Requested: Provide an amended BHAMP that contains additional detail concerning:

- a) the location and nature of on-site built assets and land use areas (e.g. combustible material stockpile or storage areas) that are vulnerable to harm due to bushfire smoke, ember, radiant heat and/or flame attack; and
- b) specific risk mitigation measures, including work practices, to be implemented to ensure that an acceptable level of risk to assets is maintained.

23. **Issue:** Sections 4 and 5 of the BHAMP (NCES REF: SCC 2017-03) provide a bushfire hazard assessment and not a risk assessment which considers the chance of something happening that will have an impact on objectives (AS/NZS ISO 31000:2009). It is measured in terms of consequences and likelihood.

Further Information Requested: In accordance with State Planning Policy - State Interest Guideline - Natural hazards, risk and resilience (DILGP, April 2016a), provide an amended BHAMP that contains a risk assessment generally in accordance with AS/NZS ISO 31000:2009 Risk Management methodology. At a minimum the amended BHAMP should contain an overall bushfire risk assessment, for both onsite waste facility assets and land uses and external community assets, detailing:

- a) the likelihood that each vulnerable asset or land use will be exposed to bushfire smoke, ember, radiant heat and/or flame attack taking into account its proximity to bushfire prone vegetation and likely bushfire behaviour; and
- b) the consequences for each asset or land use, in terms of human health, property loss and environmental degradation, if it is impacted by bushfire within or adjacent to the proposed development site.

The risk assessment should contain an assessment based on the assumption that all proposed risk mitigation measures, including work practices, detailed in the BHAMP are implemented to ensure that an acceptable level of risk to community assets is maintained.

24. Issue: Section 3 and 4 of the BHAMP (NCES REF: SCC 2017-03) provides a description of the vegetation within and adjacent to the proposed development site but does not provide some relevant information that should be contained within a bushfire management plan.

Further Information Requested: Provide an amended BHAMP that contains additional detail for each of the assessed vegetation types concerning:

- a) the vegetation hazard class to which vegetation community belongs and the associated fuel loads, after SPP – Natural Hazards, Risk and Resilience -Technical Manual - A 'fit for purpose' approach in undertaking natural hazard studies and risk assessments (2016b); and
- b) the Fire Management Guidelines associated with particular regional ecosystem types, sourced from the formal Regional Ecosystem Description Database.

25. Issue: Section 7.8 of the BHAMP prepared by NCES provides details concerning proposed Evacuation 'Triggers' and Procedures that:

- a) specifies that all staff of and visitors to the facility should assemble at the nominated assembly / refuge point if an uncontrolled bushfire is occurring within 10km of the facility; and
- b) specifies that the proposed waste facility should be immediately evacuated if an uncontrolled bushfire is occurring within 5km of the facility.

If implemented these measures have the potential to substantially interfere with operation of the waste facility under circumstances where a bushfire within the nominated evacuation trigger distances poses no direct threat to the facility or the risk can be appropriately managed.

It is also noted that designated and appropriately qualified and trained waste facility staff may need to remain on site to assist QFES personnel responding to a bushfire emergency.

Further Information Requested: Provide an amended BHAMP that contains a reconsidered and refined set of evacuation triggers.

In addition to the above key bushfire impact and management issues a number of minor issues were also identified and were the subject of a Request for Further Information as detailed below.

26. Issue: Section 1.2 of the BHAMP prepared by NCES refers to the Queensland State Planning Policy, July 2014 (SPP). However, the SPP in effect at the time that the BHAMP was prepared took effect on 29 April 2016 and was supported by a number of guidelines that were not in place to support the 2014 SPP, in particular State Planning Policy - state interest guideline - Natural hazards, risk and resilience (DILGP, April 2016a), and State Planning Policy – Natural Hazards, Risk and Resilience -Technical Manual - A 'fit for purpose' approach in undertaking natural hazard studies and risk assessments (2016b).

Further Information Requested: Submit an amended BHAMP that makes reference to and that is consistent with the SPP April 2016 and associated guidelines.

27. Issue: Section 5.2, Table 2 and Section 5.3. The presented slope values in degrees are inconsistent with previous descriptions of site topography presented in Sections 3.1 and 5.1 of the BHAMP.

Further Information Requested: Please confirm correct slope values and update the text and analysis presented in the BHAMP accordingly.

28. Issue: Section 5.4 of the BHAMP does not recognise the potential for the proposed facility to be exposed to ember attack and the potential for ignition of combustible materials contained within the site.

Further Information Requested: Provide an updated BHAMP that recognises the potential for ember attack and associated risk management responses.

29. Issue: Section 6.1 of the BHAMP prepared by NCES provides details concerning water supplies that are available external to the site.

Further Information Requested: Provide additional detail concerning the provision of an accessible water supply, for fire-fighting purposes, at relevant locations within the waste management facility.

30. Issue: Section 6.2 of the BHAMP prepared by NCES details the provision of a cul-de-sac fire trail.
- Further Information Requested: Provide justification for the proposed “cul-de-sac” fire trail as opposed to a “ring road” fire trail which is the preferred arrangement from a bushfire risk management perspective.
31. Issue: In section 6.5, Plate 9 and the text do not reflect the full extent of the proposed development site and the vegetation that will be retained therein.
- Further Information Requested: Provide an amended BHAMP that addresses this issue.
32. Issue: Section 7.8 of the BHAMP prepared by NCES makes reference to use of the Fire Danger Index (FDI) as a trigger for certain procedures as opposed to the Fire Danger Rating (FDR) system that is used by the QFES and Bureau of Meteorology to classify and advise the community of prevailing and predicted fire danger levels. It would appear from the subsequent text within the BHAMP that the intent is to use the FDR system as opposed to the FDI system.
- Further Information Requested: Please clarify that this is the intent and amend the BHAMP text accordingly.

4 Review of Information Request Response Material

The following information was submitted by the Applicant in response to the Request for Further Information (Items 21 to 32) concerning bushfire related issues:

- > a Response to Information Request letter from Mark Rigby and Associates to the Chief Executive of the Sunshine Coast Regional Council dated 21 December 2017;
- > Bushfire Hazard Assessment and Management Plan (Version 6, dated December 2017) – Nambour Landfill Expansion, Cooney Road, Bli Bli, prepared by North Coast Environmental Services on behalf of Sunshine Coast Council; and
- > Updated .

A review of the material submitted in response to the Request for Further Information indicated that:

- > most of the key items of concern raised in the Request for Further Information had been adequately addressed; and
- > the amended Bushfire Hazard Assessment and Management Plan (Version 6) still contains a number of minor technical issues considered to be of little relevance with respect to:
 - determining whether or not the proposal warrants approval/refusal from a bushfire hazard and risk management perspective; and
 - if approval is warranted, devising a set of reasonable and relevant conditions dealing with bushfire hazard and risk management issues.

5 Compliance with Regulatory Requirements

The proposed development involves a Material Change of Use in a designated Bushfire Prone Area and as such triggers assessment against the Bushfire Hazard Overlay Code of the Planning Scheme.

An assessment of the proposed development against the Bushfire Hazard Overlay Code of the Planning Scheme was provided in Appendix C - Assessment against Sunshine Coast Planning Scheme Codes of the Sunshine Coast Waste Precinct Town Planning Assessment Report (dated 26 June 2016) prepared by Urbis for the Sunshine Coast Regional Council.

An updated version of the Bushfire Hazard Overlay Code compliance assessment was not submitted as part of the Applicant's response to the Request for Further Information.

A review of the original Bushfire Hazard Overlay Code compliance assessment and the amended Bushfire Hazard Assessment and Management Plan (Version 6, dated December 2017) was completed and the findings of that review are as follows.

- a) The proposed plan of development is generally consistent with the purpose of the Bushfire Hazard Overlay Code which seeks to ensure that development avoids or mitigates the potential adverse impacts of bushfire on people, property, economic activity and the environment.
- b) The proposed plan of development if approved would, subject to compliance with a number of recommended Conditions detailed in Section 6 herein, achieve the overall outcomes of the Bushfire Hazard Overlay Code:
 - a. *development in areas at risk from bushfire hazard is compatible with the nature of the hazard;*
 - b. *the risk to people, property and the natural environment from bushfire hazard is minimised;*
 - c. *wherever practicable, community infrastructure essential to the health, safety and wellbeing of the community is located and designed to function effectively during and immediately after a bushfire event;*
 - d. *development does not result in a material increase in the extent or severity of bushfire hazard;*
 - e. *the loss of vegetation through inappropriately located development is minimised; and*
 - f. *development is sited and designed to assist emergency services in responding to any bushfire threat.*

Specifically it is recommended that Conditions be imposed to ensure that overall outcomes *b.* and *f.* are achieved by ensuring that the development makes provision for:

- > a fit for purpose water supply for fire suppression / asset protection purposes; and
 - > a perimeter fire trail along the interface between the proposed facility and adjoin areas of bushfire prone vegetation.
- c) The proposed plan of development if approved would, subject to compliance with a number of recommended Conditions detailed in Section ** herein, be consistent with the following relevant Performance Outcomes of the Bushfire Hazard Overlay Code: PO1, PO2, PO3, PO5, PO6, PO7, PO9 and PO10.

In respect of PO5 the applicant indicates that the proposed development does not involve the manufacture or bulk storage of hazardous materials. Hazardous materials is a term frequently used to cover one or more of:

- > hazardous chemicals;
- > hazardous substances;
- > dangerous goods;
- > hazardous or controlled waste materials; and
- > radioactive materials.

The proposed facility includes provision for green waste stockpiles, construction and demolition waste storage, and waste oil/household chemicals storage areas co-located with the Resource Recovery Centre/Site Office and associated structures. This location is situated outside of the 100m safety buffer to

adjacent areas of bushfire prone vegetation and as such is not located in a bushfire hazard area and thereby meets PO5.

6 Recommendations

The amended BHAMP (V6) adequately address the risks associated with:

- a) bushfire originating off-site on the specific assets (people, buildings, infrastructure and use areas) that form part of the proposed development; and
- b) bushfire being ignited by activities carried out on-site and then threatening community assets (people, property and environment) located adjacent to the proposed waste facility.

As such there are no reasonable grounds upon which to refuse the proposed development based on:

- a) the facility and its staff / clients being exposed to an unacceptable risk of harm in the event of a bushfire occurring in the locality; or
- b) operation of the facility being likely to cause an unacceptable increase in the risk of bushfire occurring in the surrounding landscape and impacting on the human, built and environmental assets located therein.

Notwithstanding, it is recommended that Conditions be attached to any approval of the proposed development to ensure that the facility is designed, constructed and operated in a manner that recognises and appropriately responds to bushfire hazards and risk.

The specific Conditions that are recommended, and the basis for same, are detailed below.

1. The development must be carried out in accordance with the Bushfire Hazard Assessment and Management Plan (Version 6, dated December 2017) listed within this development approval, with the exception of the following:
 - a) the provision of a “cul-de-sac” fire trail with a turning head, as suggested in Section 6.2 of BHAMP-V6, is not approved as it would unnecessarily result in an elevated risk of entrapment of fire crews;
 - b) the use of leachate water from the land-fill and treated waste water from the Nambour Sewage Treatment Plant, which are identified as potential water sources in Section 6.1 – Water Supply of BHAMP-V6, is not approved as insufficient information has been provided to demonstrate that these water sources are fit for purpose and the use of that water does not have the potential to adversely affect the health of fire fighters and/or the environment.
2. A Whole of Site Fire Management Plan (WSFMP) is to be prepared and submitted to Council for approval prior to the commencement of use. The WSFMP is to guide fire management during the construction and operational phases of development, as per recommendations of Section 10 of the BHAMP(V6), and is to include provision for:
 - a) ensuring adequate vehicular access is available at all times for fire suppression/management purposes around the entire perimeter of the landfill, including provision for a “ring road” to provide access/egress from at least two directions; and
 - b) ensuring a fit for purpose water supply is available at all times for fire suppression purposes.
3. A copy of the Bushfire Hazard Assessment and Management Plan (Version 6, dated December 2017), and any Council approved updates of same, and the Council approved WSFMP must be:
 - a) provided to the nearest Queensland Fire and Emergency authority; and
 - b) maintained at the waste management facility site office at all times.
4. Annual certification must be submitted to Council from an appropriately qualified person which certifies that the development has been constructed and is being operated in accordance with the Conditions of this approval.

560 Bli Bli Road and 18, 26, 40, 50,
66 Cooney Road, Bli Bli

APPENDIX

J

SARA CONCURRENCE AGENCY RESPONSE



Department of
**State Development,
Manufacturing,
Infrastructure and Planning**

Our reference: SDA-0717-040928

Your reference: MCU17/0142

27 April 2018

Chief Executive Officer
Sunshine Coast Regional Council
Locked Bag 72
SUNSHINE COAST MAIL CENTRE QLD 4560

Attention: Leanne Simpson

Dear Ms Simpson

Concurrence agency response—with conditions

26, 40, 50 and 66 Cooney Road, 586 and 602 Bli Bli Road, Bli Bli (Lot 1 on RP202997, Lot 1 and 2 on RP208600, Lot 1 on CG2584, Lot 4 on RP803104 and Lot 3 on SP193049)

(Given under section 285 of the *Sustainable Planning Act 2009*)

The referral agency material for the development application described below was received by the Department of Infrastructure, Local Government and Planning under section 272 of the *Sustainable Planning Act 2009* on 21 July 2017.

Applicant details

Applicant name: Sunshine Coast Regional Council
Applicant contact details: Locked Bag 72
SUNSHINE COAST MC QLD 4560
Alex.Patissier@sunshinecoast.qld.gov.au

Site details

Street address: 26, 40, 50 and 66 Cooney Road, 586 and 602 Bli Bli Road, Bli Bli
Lot on plan: Lot 1 on RP202997, Lot 1 and 2 on RP208600, Lot 1 on CG2584,
Lot 4 on RP803104 and Lot 3 on SP193049
Local government area: Sunshine Coast Regional Council

Application details

Proposed development: Preliminary Approval for Material Change of Use including to vary the planning scheme under section 242 of the Sustainable Planning Act 2009 (Environmental Facility, Extractive industry, High Impact Industry, Shop, Transport Depot and Utility Installation, in accordance with the Sunshine Coast Waste Precinct Plan of Development)

Development Permit for Material Change of Use (Utility Installation – Major Utility (Refuse disposal involving a landfill and ancillary activity), Extractive Industry, Undefined Use (Landfill gas power generation plant) including ERA60 (1)(d) – Waste disposal for operating a facility disposing of, in a calendar year, more than 200,000 tonnes of waste (regulated waste and any combination of general waste, limited regulated waste) ERA16(2)(b) – Extracting, other than by dredging, in a year, more than 100,000 tonnes but not more than 1,000,000 tonnes of material, ERA16(3)(b) – Screening, in a year, more than 100,000 tonnes but not more than 1,000,000 tonnes of material, ERA 33 – Crushing, grinding, milling or screening more than 500 tonnes of material in a year)

Referral triggers

The development application was referred to the department under the following provisions of the *Sustainable Planning Regulation 2009*:

Referral trigger	Schedule 7, Table 2, Item 1 – Environmentally relevant activities
	Schedule 7, Table 3, Item 1 – State-controlled road
	Schedule 7, Table 3, Item 2 – Development impacting on State transport infrastructure
	Schedule 7, Table 3, Item 10 – Clearing vegetation

Conditions

Under section 287(1)(a) of the *Sustainable Planning Act 2009*, the conditions set out in Attachment 1 must be attached to any development approval.

Reasons for imposing conditions

Under section 289(1) of the *Sustainable Planning Act 2009*, the department must set out the reasons for the decision to impose conditions. These reasons are set out in Attachment 2.

Further advice

The department offers advice about the application to the applicant—see Attachment 3.

Approved plans and specifications

The department requires that the following plans and specifications set out below and in Attachment 4 must be attached to any development approval.

Drawing/Report Title	Prepared by	Date	Reference no.	Version/Issue
Aspect of development: material change of use				
Landfill Engineering Report Proposed Infrastructure and Site Access	ATC Williams	05 June 2017	003	C
Landfill Engineering Report Stage 1 Platform	ATC Williams	05 June 2017	005	C
Landfill Engineering Report Stage 1 Landform and Stage 2 Platform	ATC Williams	05 June 2017	006	C
Landfill Engineering Report Stage 2 Landform and Stage 3 Platform	ATC Williams	05 June 2017	007	C

Landfill Engineering Report Stage 3 Landform and Stage 4 Platform	ATC Williams	05 June 2017	008	C
Landfill Engineering Report Stage 4 Landform and Stage 5 Platform	ATC Williams	05 June 2017	009	C
Landfill Engineering Report Stage 5 Landform (Final Landform)	ATC Williams	05 June 2017	010	C
Landfill Engineering Report Monitoring Plan	ATC Williams	05 June 2017	201	C
Proposed Leachate & Landfill Gas Management Area	Mark Rigby & Associates	June 2017	MRA 17-001 Figure 1	Final
Nambour Landfill Expansion Traffic Impact Assessment, Figure 3.1, Appendix A	Projex Partners	24 May 2017	103-189	B
Technical Agency Response (Vegetation) Plan	Department of Natural Resources, Mines and Energy (DNRME)	12 January 2018	TARP SDA-0717-040928	-, as amended in red

A copy of this response has been sent to the applicant for their information.

For further information, please contact Candace Mitchell, A/Senior Planning Officer, SARA SEQ North on 5352 9708, or email SEQNorthSARA@dilgp.qld.gov.au who will be pleased to assist.

Yours sincerely



Garth Nolan
Manager (Planning)

cc: Sunshine Coast Regional Council, Alex.Patissier@sunshinecoast.qld.gov.au
 enc: Attachment 1—Conditions to be imposed
 Attachment 2—Reasons for decision to impose conditions
 Attachment 3—Further advice
 Attachment 4—Approved Plans and Specifications

Our reference: SDA-0717-040928

Your reference: MCU17/0142

Attachment 1—Conditions to be imposed

No.	Conditions	Condition timing
Development Permit for Material Change of Use		
7.2.1 – Environmentally relevant activities—Pursuant to section 255D of the <i>Sustainable Planning Act 2009</i> , the chief executive administering the Act nominates the Director-General of the Department of Environment and Science to be the assessing authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following condition(s):		
1.	<p>Development authorised under this approval for the approved activities is limited to the area shown in the following plans/drawings:</p> <ul style="list-style-type: none"> • Landfill Engineering Report Proposed Infrastructure and Site Access prepared by ATC Williams dated 05 June 2017, plan reference number 003 and version C; • Landfill Engineering Report Stage 1 Platform prepared by ATC Williams dated 05 June 2017, plan reference number 005 and version C; • Landfill Engineering Report Stage 1 Landform and Stage 2 Platform prepared by ATC Williams dated 05 June 2017, plan reference number 006 and version C; • Landfill Engineering Report Stage 2 Landform and Stage 3 Platform prepared by ATC Williams dated 05 June 2017, plan reference number 007 and version C; • Landfill Engineering Report Stage 3 Landform and Stage 4 Platform prepared by ATC Williams dated 05 June 2017, plan reference number 008 and version C; • Landfill Engineering Report Stage 4 Landform and Stage 5 Platform prepared by ATC Williams dated 05 June 2017, plan reference number 009 and version C; • Landfill Engineering Report Stage 5 Landform (Final Landform) prepared by ATC Williams dated 05 June 2017, plan reference number 010 and version C; • Landfill Engineering Report Monitoring Plan prepared by ATC Williams dated 05 June 2017, plan reference number 201 and version C; and • Proposed Leachate & Landfill Gas Management Area prepared by Mark Rigby & Associates dated June 2017, plan reference number MRA 17-001 Figure 1, Final revision. 	At all times
2.	<p>Enter into an agreed delivery arrangement to deliver an environmental offset in accordance with the <i>Environmental Offsets Act 2014</i> to counterbalance the significant residual impacts on the matters of state environmental significance being:</p> <ul style="list-style-type: none"> • 1.3 hectares of wetland of high ecological significance (HES); • 4.8 hectares of protected wildlife habitat (tusked frogs – <i>Adelotus brevis</i>); and • 3.5 hectares of protected wildlife habitat (Richmond Birdwing butterfly - <i>Ornithoptera richmondia</i>). 	Prior to commencing any works that impact on the matter of state environmental significant
7.3.1 – State-controlled road and 7.3.2 – Development impacting on State transport infrastructure—Pursuant to section 255D of the <i>Sustainable Planning Act 2009</i> , the chief executive administering		

No.	Conditions	Condition timing
the Act nominates the Director-General of the Department of Transport and Main Roads to be the assessing authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following condition(s):		
3.	<p>(a) Road works comprising signalisation of the Bli Bli Road / Cooney Road intersection, must be provided generally in accordance with the layout shown in figure 3.1, page 6, Assessment of Bli Bli and Cooney Road Intersection, by Bitzios Consulting, in Appendix A of Nambour Landfill Expansion Traffic Impact Assessment, prepared by Projex Partners, dated 24 May 2017, Project No. 103-189; in particular:</p> <ul style="list-style-type: none"> • Left slip lanes on both the ingress and egress between Bli Bli Road and Cooney Road. <p>(b) The road works must be designed and constructed in accordance with the Department of Transport and Main Roads <i>Road Panning and Design Manual</i>.</p>	Prior to the expansion of the landfill use commencing
4.	<p>(a) Stormwater management of the development must ensure no worsening or actionable nuisance to the state-controlled road.</p> <p>(b) Any works on the land must not:</p> <ol style="list-style-type: none"> i. create any new discharge points for stormwater runoff onto the state-controlled road; ii. interfere with and/or cause damage to the existing stormwater drainage on the state-controlled road; iii. surcharge any existing culvert or drain on the state-controlled road; and iv. reduce the quality of stormwater discharge onto the state-controlled road. <p>(c) RPEQ certification must be provided to the development assessment team via North.Coast.IDAS@tmr.qld.gov.au within the Department of Transport and Main Roads, confirming that the development has been designed and constructed in accordance with parts (a) and (b) of this condition.</p>	<p>(a) At all times</p> <p>(b) At all times</p> <p>(c) Prior to the commencement of use</p>
7.3.10 – Clearing vegetation—Pursuant to section 255D of the <i>Sustainable Planning Act 2009</i> , the chief executive administering the Act nominates the Director-General of the Department of Natural Resources, Mines and Energy to be the assessing authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following condition(s):		
5.	All regulated vegetation can be cleared on the site except for the areas identified as Area A1 and A2 on the attached Technical Agency Response (Vegetation) Plan (TARP), reference no. TARP SDA-0717-040928, dated 12 January 2018.	At all times
6.	No clearing of vegetation is to occur within the areas identified as Area A1 and A2 on the attached Technical Agency Response (Vegetation) Plan (TARP), reference no. TARP SDA-0717-040928, dated 12 January 2018.	At all times
7.	No built structure is to be established, constructed or located within the areas identified as A1 and A2 on the attached Technical Agency Response (Vegetation) Plan (TARP), reference no. TARP SDA-0717-040928, dated 12 January 2018.	At all times

No.	Conditions	Condition timing
8.	Any person(s) engaged or employed to carry out the clearing of vegetation under this development approval must be provided with a full copy of this development approval, and must be made aware of the full extent of clearing authorised by this development approval.	At all times

Our reference: SDA-0717-040928

Your reference: MCU17/0142

Attachment 2—Reasons for imposing conditions

The reasons for this decision are:

- To ensure the development is carried out in the location and to the extent specified on the plans of development submitted with the application
- To ensure a conservation outcome is achieved where a significant residual impact is occurring on a prescribed environmental matter
- To ensure the road works on, or associated with, the state-controlled road network are undertaken in accordance with applicable standards
- To ensure that the impacts of stormwater events associated with development are minimised and managed to avoid creating any adverse impacts on the state transport corridor
- To ensure no vegetation clearing, as identified on the Technical Agency Response (Vegetation) Plan (TARP), occurs as a result of the material change of use
- To restrict any built structures from being located within the areas identified on the Technical Agency Response (Vegetation) Plan (TARP)
- To ensure compliance with the development approval is achieved

Our reference: SDA-0717-040928

Your reference: MCU17/0142

Attachment 3—Further advice

General advice	
1.	Clearing of vegetation has the potential to disturb the roots of the trees of proposed retained vegetation thereby resulting in the death of trees not approved to be cleared under this development approval. It is recommended clearing and excavation activities be undertaken in accordance with the 'Australian Standards for the Protection of Trees on Development Sites (AS4970-2009)' to avoid any consequential unauthorised clearing.
2.	<p>Under section 33 of the <i>Transport Infrastructure Act 1994</i>, written approval is required from the Department of Transport and Main Roads to carry out road works on a state-controlled road. Please contact the Department of Transport and Main Roads via North.Coast.IDAS@tmr.qld.gov.au (or phone 5451 0755), (please quote TMR17-022002) to make an application for road works approval. This approval must be obtained prior to commencing any works on the state-controlled road reserve.</p> <p>The approval process may require the approval of engineering designs of the proposed works, certified by a Registered Professional Engineer of Queensland (RPEQ). The road works approval process takes time – please contact Transport and Main Roads well in advance to ensure that gaining approval does not delay construction.</p> <p>The applicant is requested to submit the certification of completion from TMR once works are complete and prior to commencement of use as evidence of compliance with condition 3.</p>

Our reference: SDA-0717-040928

Your reference: MCU17/0142

Attachment 4—Approved plans and specifications

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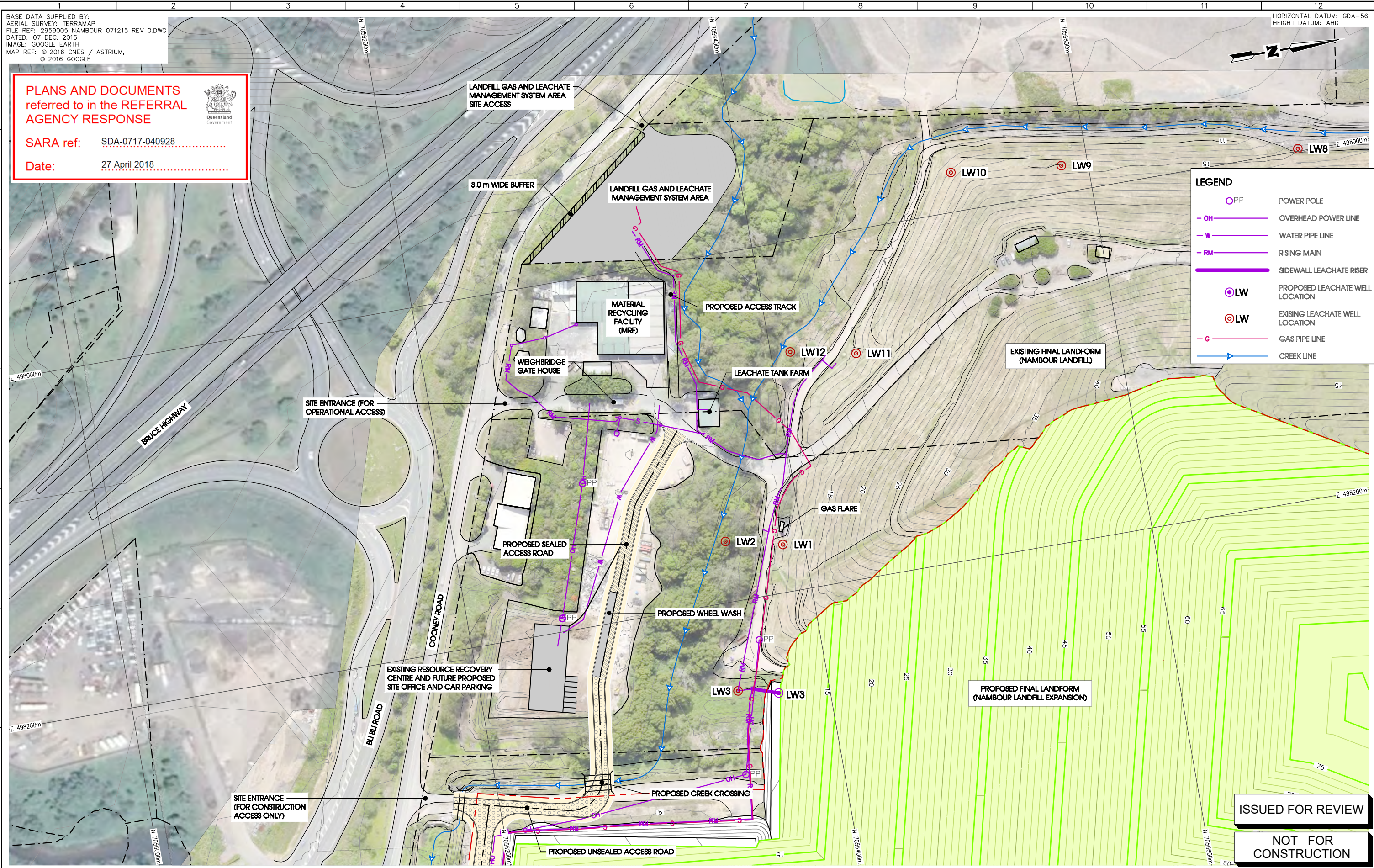
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PLANS AND DOCUMENTS
 referred to in the REFERRAL
 AGENCY RESPONSE

SARA ref: SDA-0717-040928
 Date: 27 April 2018



LEGEND	
○ PP	POWER POLE
— OH	OVERHEAD POWER LINE
— W	WATER PIPE LINE
— RM	RISING MAIN
—	SIDEWALL LEACHATE RISER
○ LW	PROPOSED LEACHATE WELL LOCATION
⊙ LW	EXISTING LEACHATE WELL LOCATION
— G	GAS PIPE LINE
—	CREEK LINE



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SUNSHINE COAST COUNCIL
NAMBOUR LANDFILL EXPANSION

LANDFILL ENGINEERING REPORT
PROPOSED INFRASTRUCTURE AND SITE ACCESS

003

SHEET SIZE A3 Rev. C

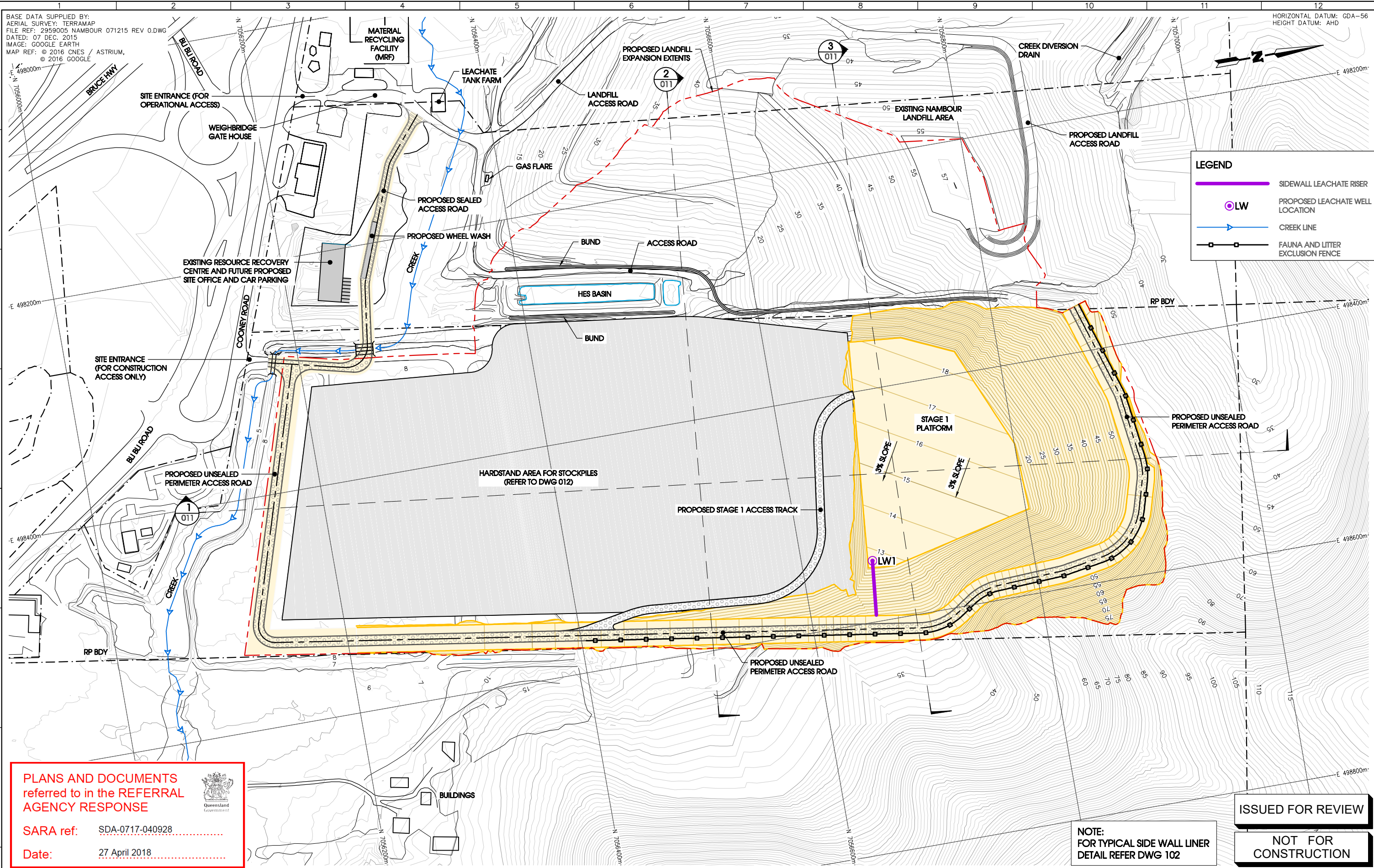
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 HEIGHT DATUM: AHD




LEGEND

- SIDEWALL LEACHATE RISER
- LW PROPOSED LEACHATE WELL LOCATION
- > CREEK LINE
- FAUNA AND LITTER EXCLUSION FENCE

PLANS AND DOCUMENTS referred to in the REFERRAL AGENCY RESPONSE

SARA ref: SDA-0717-040928

Date: 27 April 2018



NOTE:
 FOR TYPICAL SIDE WALL LINER
 DETAIL REFER DWG 102

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 NAMBOUR LANDFILL EXPANSION**

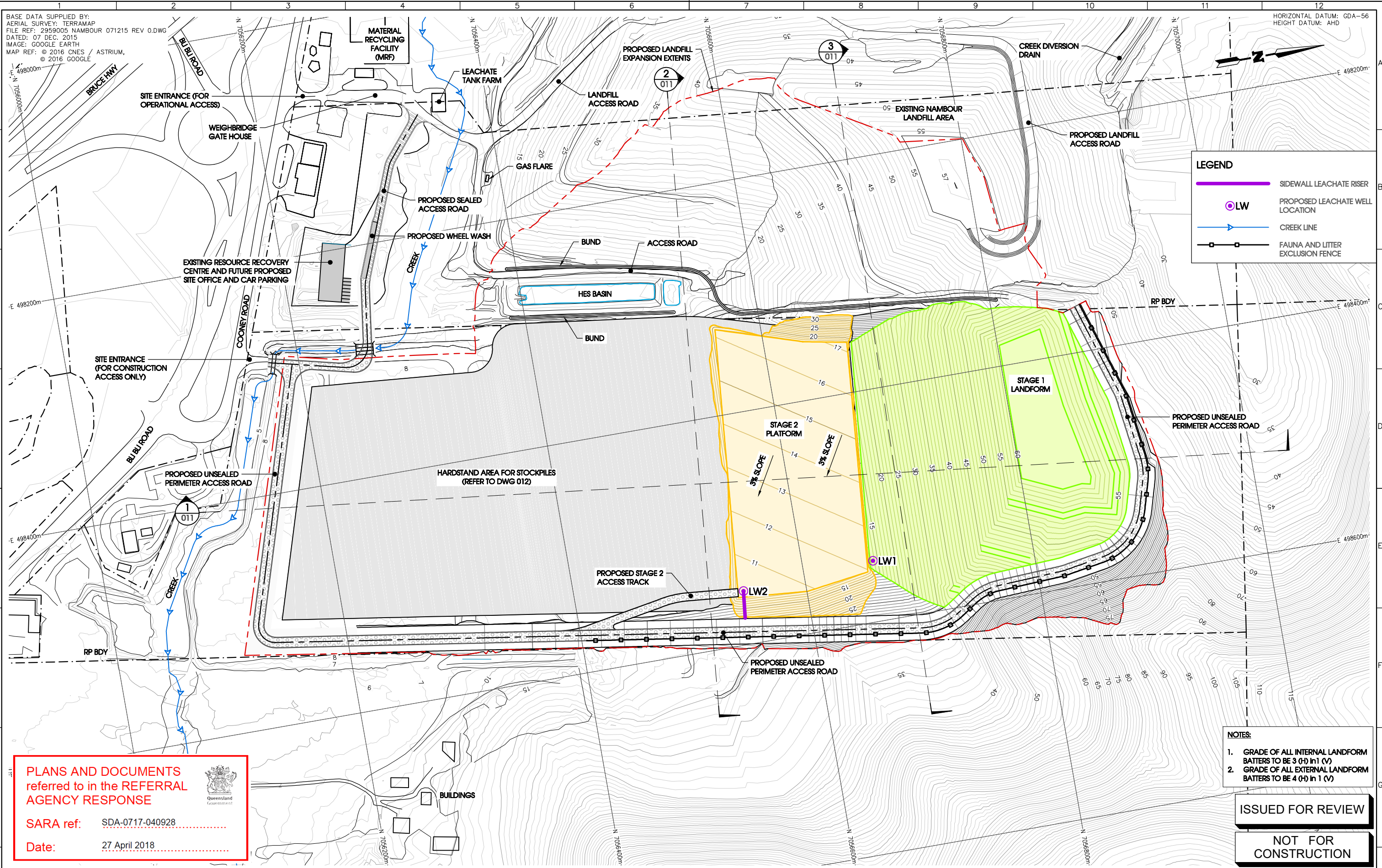
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 STAGE 1 PLATFORM**

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 HEIGHT DATUM: AHD



LEGEND

- SIDEWALL LEACHATE RISER
- PROPOSED LEACHATE WELL LOCATION
- CREEK LINE
- FAUNA AND LITTER EXCLUSION FENCE

- NOTES:**
1. GRADE OF ALL INTERNAL LANDFORM BATTERS TO BE 3 (H) IN 1 (V)
 2. GRADE OF ALL EXTERNAL LANDFORM BATTERS TO BE 4 (H) IN 1 (V)

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Date: 27 April 2018

Plotted Date: 18/05/17 Plotted Time: 21:21:37 Plotted By: Alchrah

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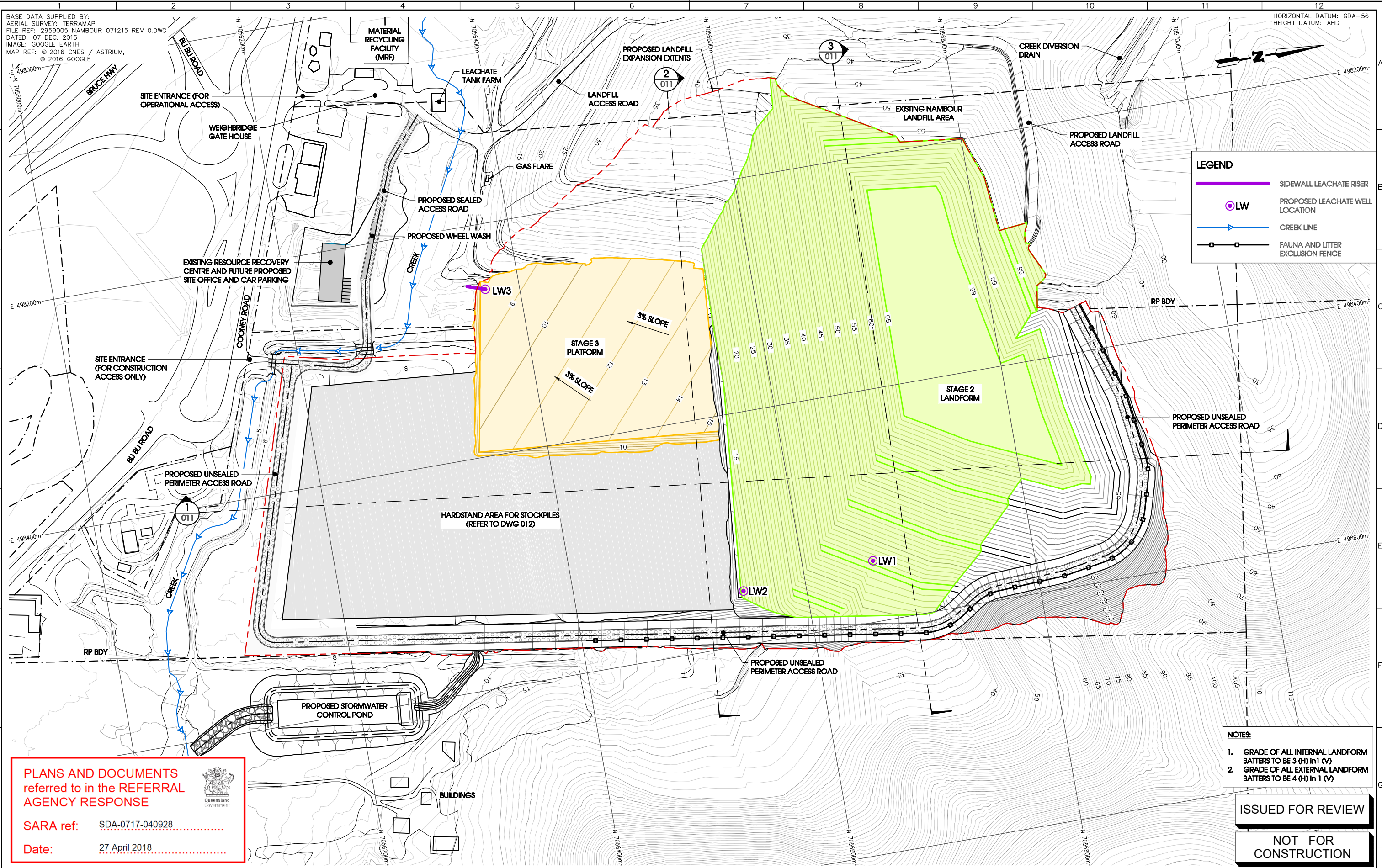
**LANDFILL ENGINEERING REPORT
 STAGE 1 LANDFORM
 AND STAGE 2 PLATFORM**

006

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 HEIGHT DATUM: AHD



LEGEND

- SIDEWALL LEACHATE RISER
- PROPOSED LEACHATE WELL LOCATION
- CREEK LINE
- FAUNA AND LITTER EXCLUSION FENCE

- NOTES:**
- GRADE OF ALL INTERNAL LANDFORM BATTERS TO BE 3 (H) IN 1 (V)
 - GRADE OF ALL EXTERNAL LANDFORM BATTERS TO BE 4 (H) IN 1 (V)

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A	ISSUED FOR REVIEW	12-05-17	AH	LR	AW

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JOB No. 116283-09
 DATE MAY 2017

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SUNSHINE COAST COUNCIL
NAMBOUR LANDFILL EXPANSION

LANDFILL ENGINEERING REPORT
STAGE 2 LANDFORM
AND STAGE 3 PLATFORM

007

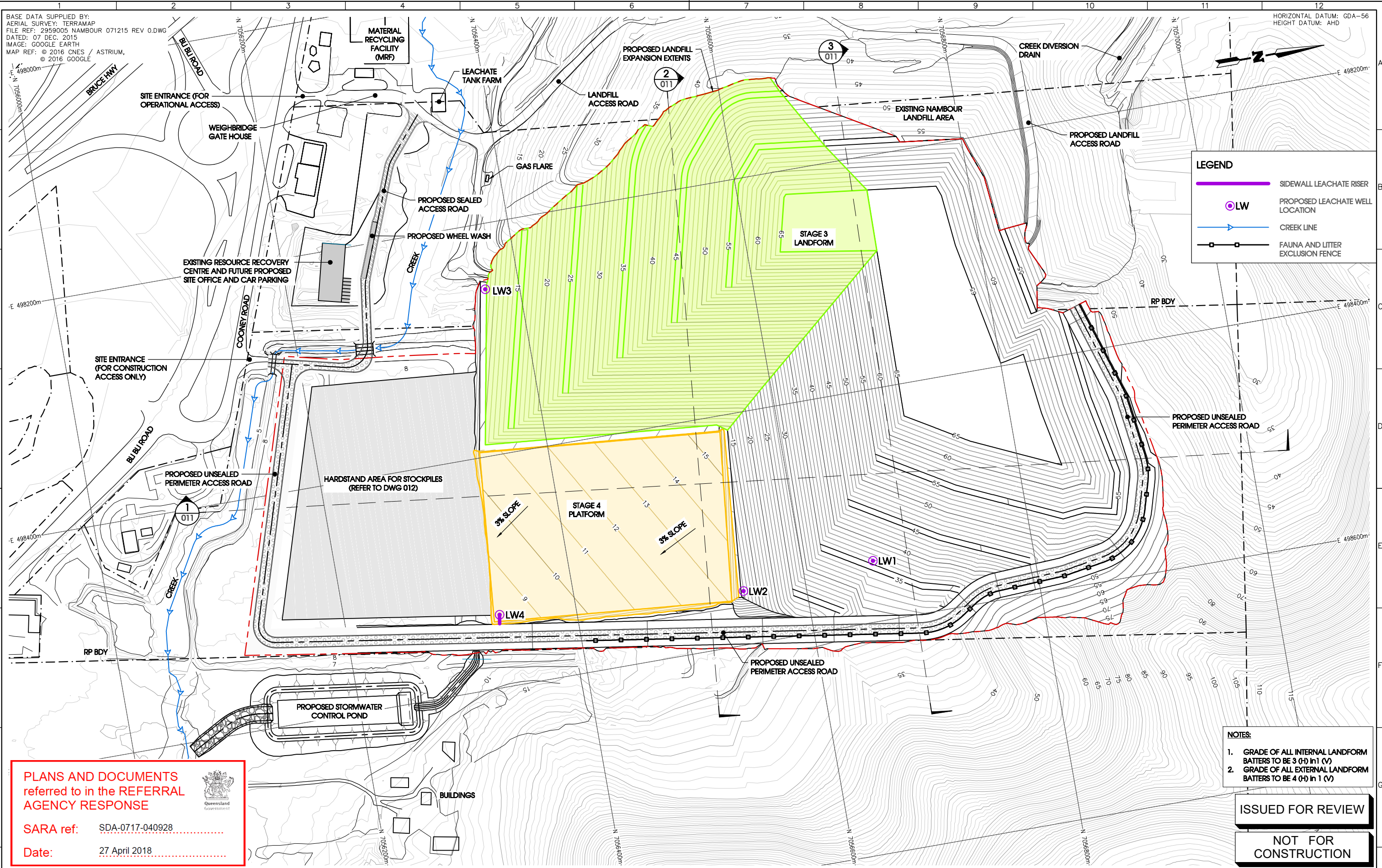
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SHEET 1 OF 1

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HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD



LEGEND

- SIDEWALL LEACHATE RISER
- LW PROPOSED LEACHATE WELL LOCATION
- CREEK LINE
- FAUNA AND LITTER EXCLUSION FENCE

- NOTES:**
- GRADE OF ALL INTERNAL LANDFORM BATTERS TO BE 3 (H) IN 1 (V)
 - GRADE OF ALL EXTERNAL LANDFORM BATTERS TO BE 4 (H) IN 1 (V)

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Date: 27 April 2018



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**SUNSHINE COAST COUNCIL
 NAMBOUR LANDFILL EXPANSION**

**LANDFILL ENGINEERING REPORT
 STAGE 3 LANDFORM
 AND STAGE 4 PLATFORM**

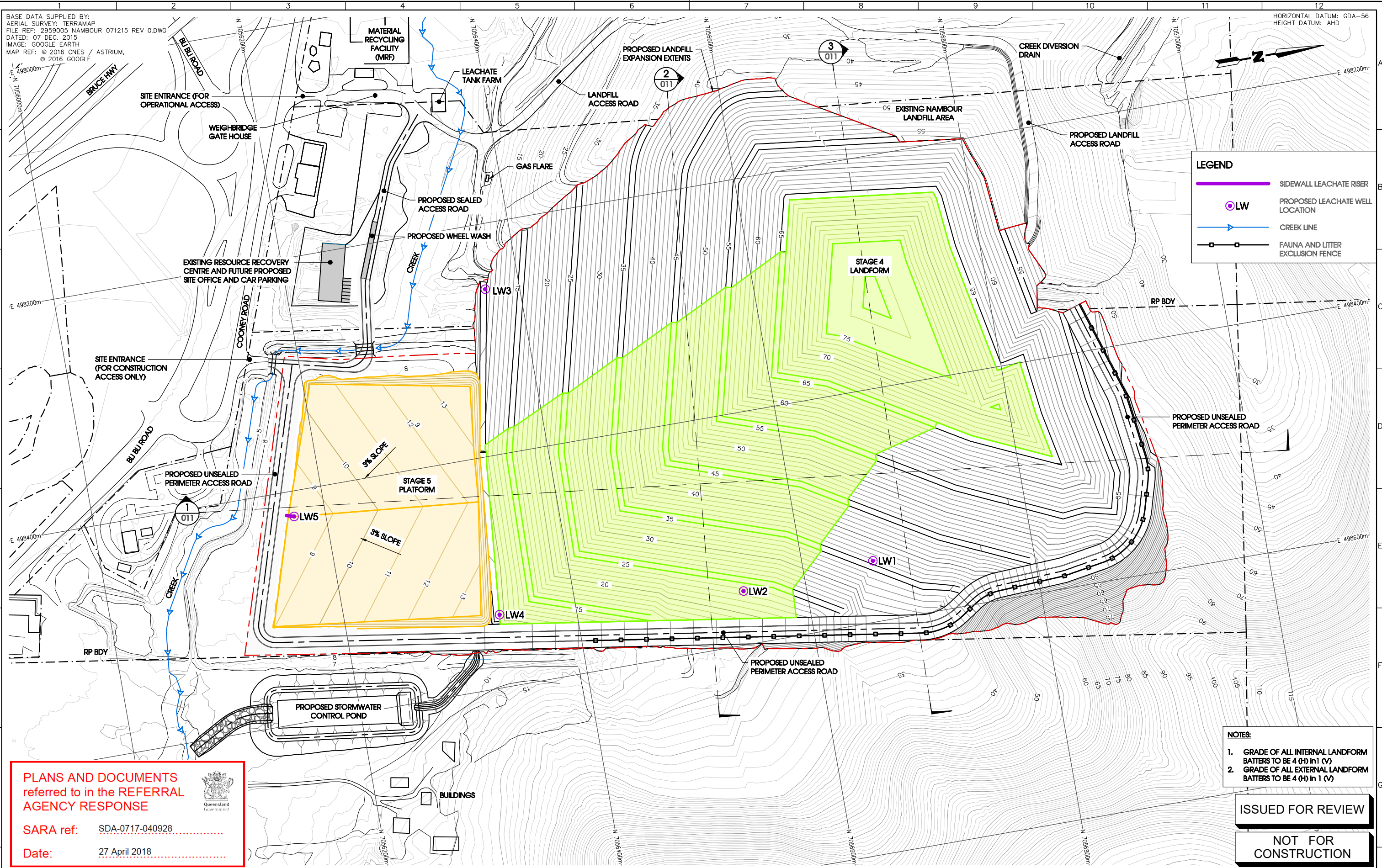
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 HEIGHT DATUM: AHD



LEGEND

- SIDEWALL LEACHATE RISER
- LW PROPOSED LEACHATE WELL LOCATION
- CREEK LINE
- FAUNA AND LITTER EXCLUSION FENCE

- NOTES:**
- GRADE OF ALL INTERNAL LANDFORM BATTERS TO BE 4 (H) IN 1 (V)
 - GRADE OF ALL EXTERNAL LANDFORM BATTERS TO BE 4 (H) IN 1 (V)

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PLANS AND DOCUMENTS referred to in the REFERRAL AGENCY RESPONSE

SARA ref: SDA-0717-040928

Date: 27 April 2018

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SCALE: 1 : 3000

JOB No. 116283-09
 DATE MAY 2017

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**SUNSHINE COAST COUNCIL
 NAMBOUR LANDFILL EXPANSION**

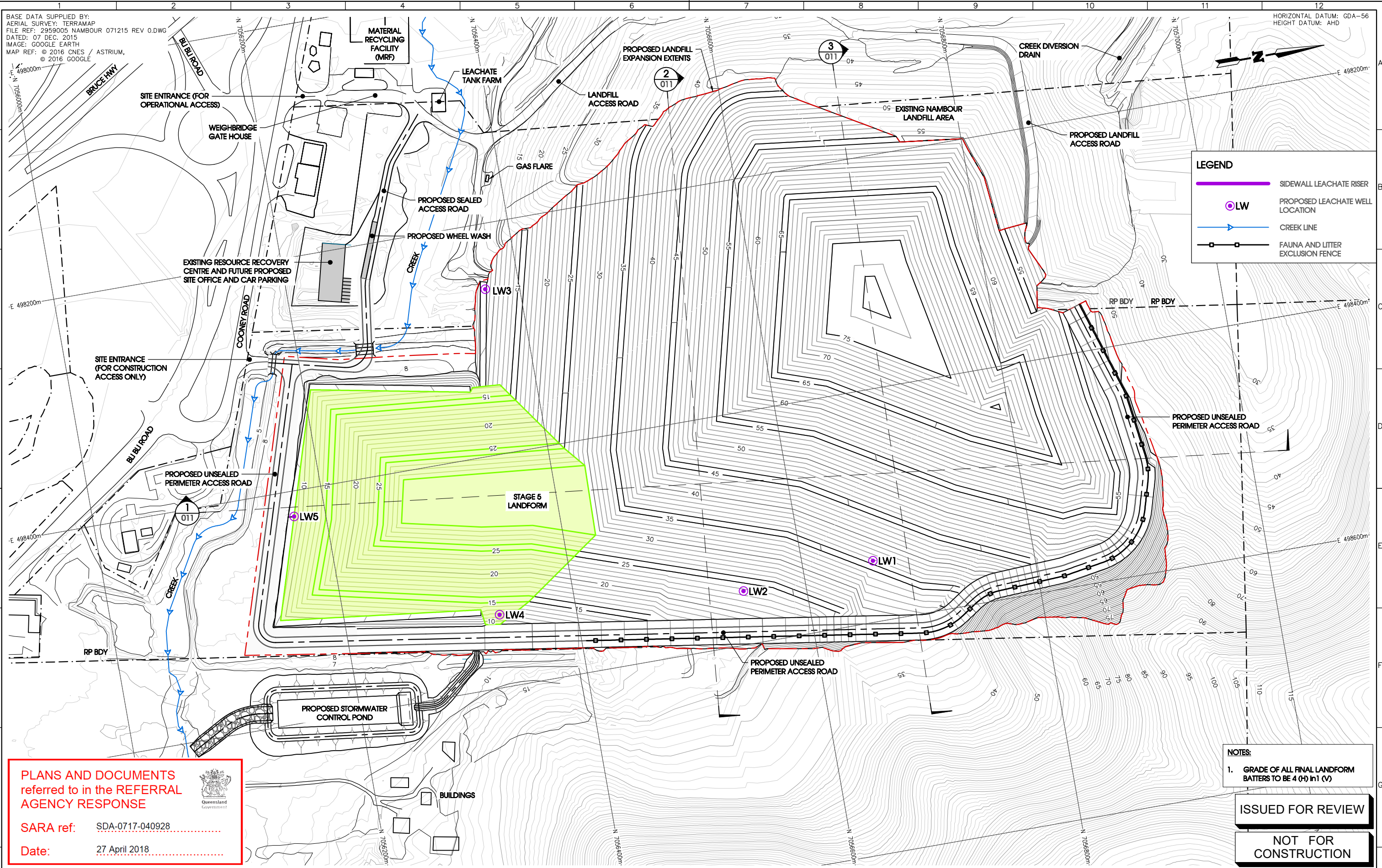
**LANDFILL ENGINEERING REPORT
 STAGE 4 LANDFORM
 AND STAGE 5 PLATFORM**

009

SHEET SIZE	A3	Rev.	C
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SHEET 1		OF 1	

BASE DATA SUPPLIED BY:
 AERIAL SURVEY: TERRAMAP
 FILE REF: 2959005 NAMBOUR 071215 REV 0.DWG
 DATED: 07 DEC. 2015
 IMAGE: GOOGLE EARTH
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HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD



LEGEND

- SIDEWALL LEACHATE RISER
- LW PROPOSED LEACHATE WELL LOCATION
- CREEK LINE
- FAUNA AND LITTER EXCLUSION FENCE

NOTES:
 1. GRADE OF ALL FINAL LANDFORM BATTERS TO BE 4 (H) IN 1 (V)

ISSUED FOR REVIEW

NOT FOR CONSTRUCTION

PLANS AND DOCUMENTS referred to in the REFERRAL AGENCY RESPONSE

SARA ref: SDA-0717-040928

Date: 27 April 2018

No.	DESCRIPTION	DATE	DRAWN	CHECK'D	APPR'D
C	ISSUED FOR REVIEW	05-06-17	AH	LR	AW
B	ISSUED FOR REVIEW	19-05-17	AH	LR	AW
A	ISSUED FOR REVIEW	12-05-17	AH	LR	AW

SCALE: 1 : 3000

JOB No. 116283-09
 DATE MAY 2017

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SUNSHINE COAST COUNCIL
NAMBOUR LANDFILL EXPANSION

LANDFILL ENGINEERING REPORT
STAGE 5 LANDFORM
(FINAL LANDFORM)

010

SHEET SIZE	A3	Rev.	C
SHEET 1 OF 1			

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Plotted Date: 18/05/17
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 Plotted By: Alchrah

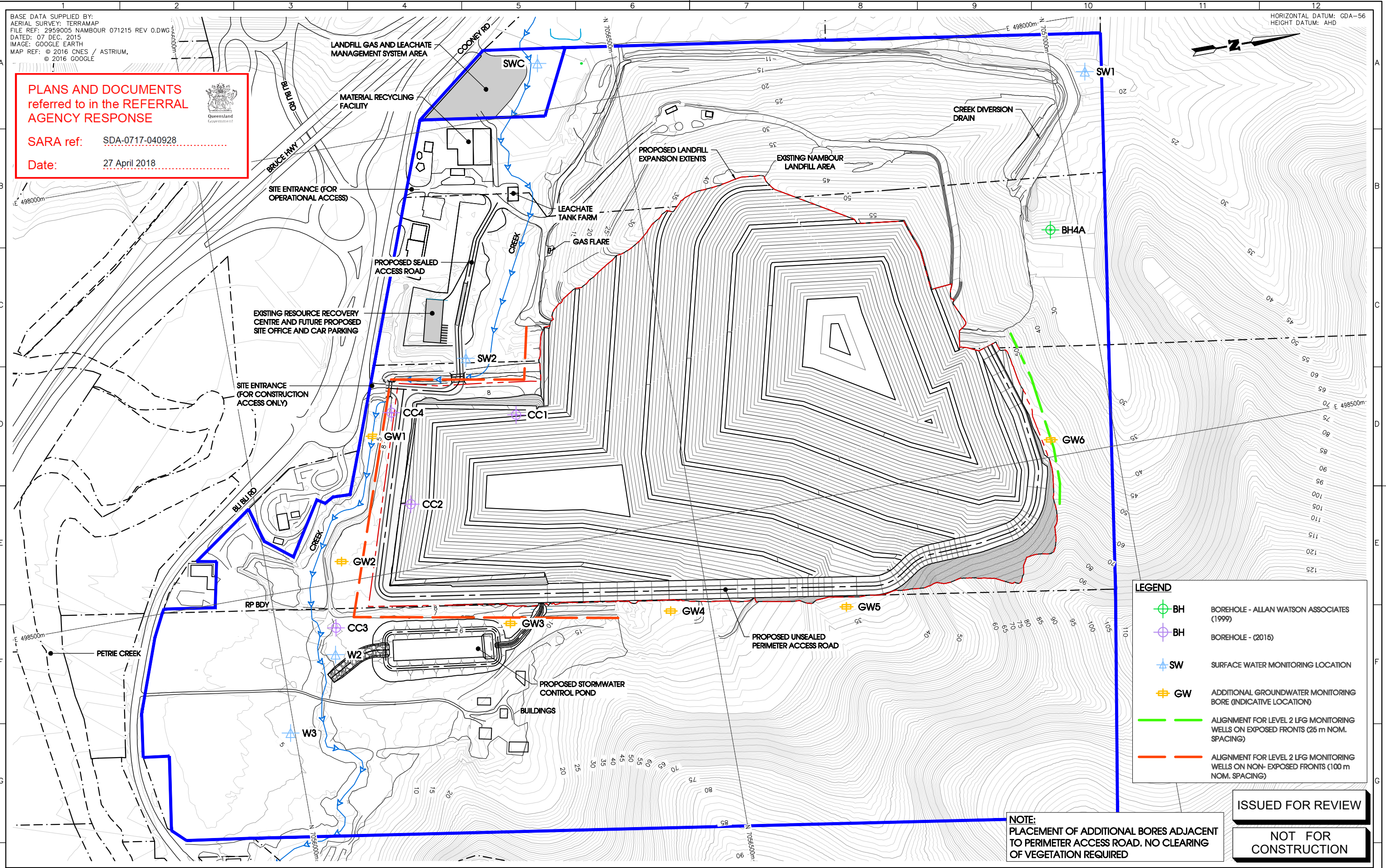
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HORIZONTAL DATUM: GDA-56
 HEIGHT DATUM: AHD

PLANS AND DOCUMENTS
 referred to in the REFERRAL
 AGENCY RESPONSE

SARA ref: SDA-0717-040928

Date: 27 April 2018



LEGEND	
	BH BOREHOLE - ALLAN WATSON ASSOCIATES (1999)
	BH BOREHOLE - (2016)
	SW SURFACE WATER MONITORING LOCATION
	GW ADDITIONAL GROUNDWATER MONITORING BORE (INDICATIVE LOCATION)
	ALIGNMENT FOR LEVEL 2 LFG MONITORING WELLS ON EXPOSED FRONTS (25 m NOM. SPACING)
	ALIGNMENT FOR LEVEL 2 LFG MONITORING WELLS ON NON- EXPOSED FRONTS (100 m NOM. SPACING)

NOTE:
 PLACEMENT OF ADDITIONAL BORES ADJACENT TO PERIMETER ACCESS ROAD. NO CLEARING OF VEGETATION REQUIRED

ISSUED FOR REVIEW

NOT FOR CONSTRUCTION

No.	DESCRIPTION	DATE	DRAWN	CHECK'D	APPR'D
C	ISSUED FOR REVIEW	05-06-17	AH	LR	AW
B	ISSUED FOR REVIEW	19-05-17	AH	LR	AW
A	ISSUED FOR REVIEW	12-05-17	AH	LR	AW

SCALE: 1 : 4000

JOB No. 116283-09
 DATE MAY 2017

DESIGN
 DRAWN AH
 CHECKED LR
 APPROVED AW

ATC Williams

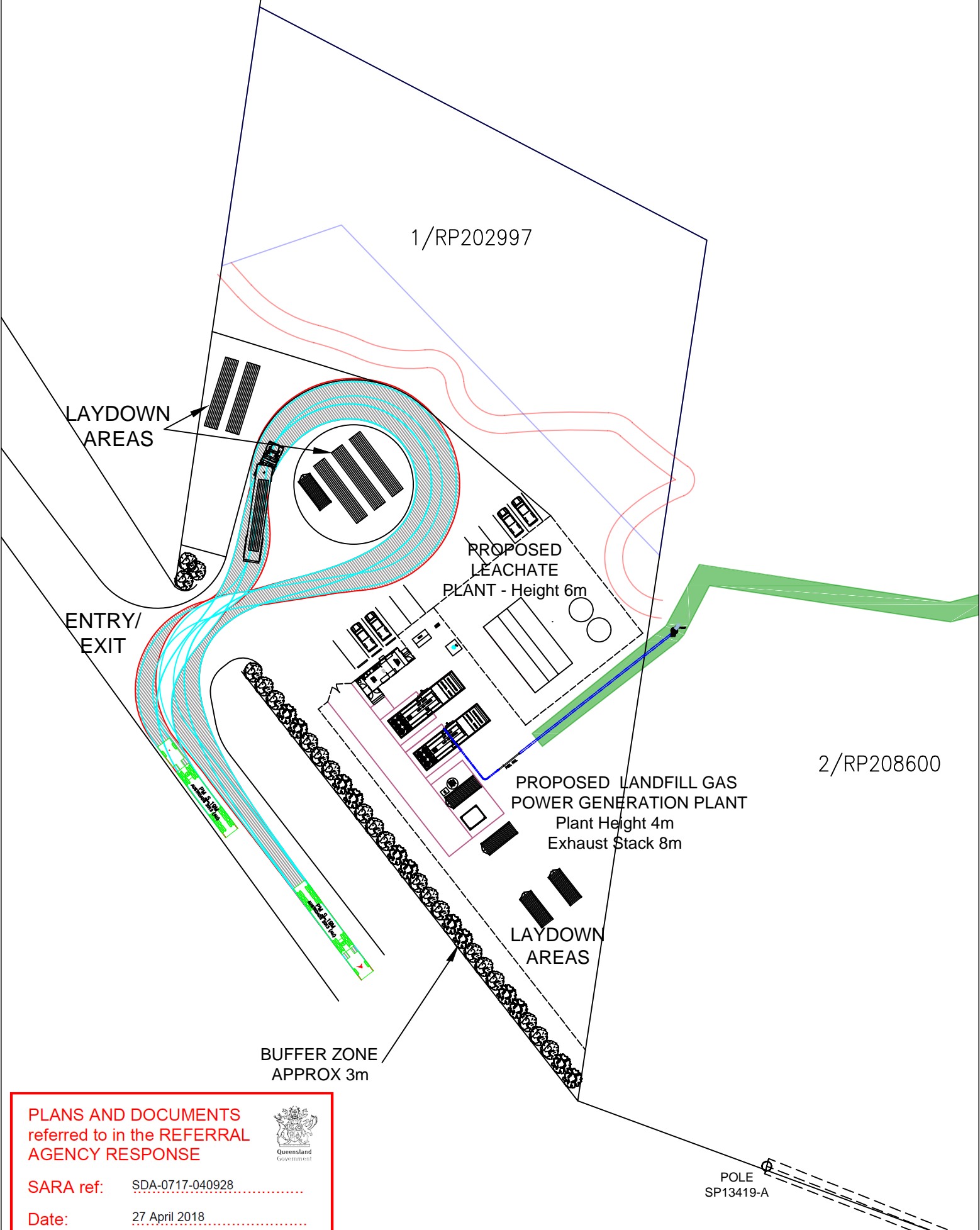
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SUNSHINE COAST COUNCIL NAMBOUR LANDFILL EXPANSION		201
LANDFILL ENGINEERING REPORT MONITORING PLAN		SHEET SIZE A3 Rev. C
		SHEET 1 OF 1


Plotted Date: 18/05/17 Plotted By: Alchrah
 Plotted Time: 22:18:02



PLANS AND DOCUMENTS
referred to in the REFERRAL
AGENCY RESPONSE

SARA ref: SDA-0717-040928

Date: 27 April 2018




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CLIENT	SUNSHINE COAST COUNCIL	JOB NUMBER	MRA 17- 001
PROJECT	NAMBOUR LANDFILL EXPANSION MCU DEVELOPMENT APPLICATION	DRAWING	FIGURE 1
TITLE	PROPOSED LEACHATE & LANDFILL GAS MANAGEMENT AREA		

DESIGNED	DRAWN	CHECKED	APPROVED	DATE	SCALE	LEVEL DATUM	SHEET SIZE	CAD FILE	ISSUE	REV
SI	SI	AR	MR	JUNE 2017	NTS		A4			FINAL

PLANS AND DOCUMENTS
referred to in the REFERRAL
AGENCY RESPONSE



SARA ref: SDA-0717-040928

Date: 27 April 2018

ProjexPartners

PROJECT MANAGEMENT | ENGINEERING | PLANNING

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Nambour Landfill Expansion
Traffic Impact Assessment
Project No. 103-189

Sunshine Coast Council

May, 2017

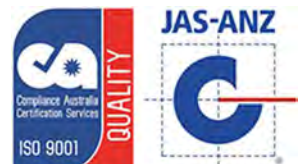
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1. INTRODUCTION

Sunshine Coast Council (SCC) propose to expand the existing Nambour Landfill facility located on Cooney Road, Bli Bli. The Nambour Landfill has been operational since 1989 and has a remaining lifespan of approximately ten to thirteen years. The waste facility currently incorporates the Nambour Landfill, a Resource Recovery Centre (RRC) and a Material Recycling Facility (MRF). Council propose to expand the existing Nambour Landfill onto the adjoining land parcels to the east, including Lot 4 RP 803104 and Lot 1 CG2584 and relocate leachate and gas management infrastructure to Lot 1 RP202997.

The purpose of this report is to assess the adequacy or upgrade requirements of the existing road network associated with the proposed Nambour Landfill expansion, and address the relevant State/Local codes in relation to traffic/transport. Specifically, assessments have been undertaken at the intersection of the Nambour Landfill access with Cooney Rd, the intersection of the proposed landfill gas power station site with Cooney Rd, and at the intersection of Cooney Rd with Bli Bli Rd.

1.1 Development Details

The Nambour Landfill site is located on Cooney Rd, Bli Bli and is adjacent to the Bruce Highway / Bli Bli Rd interchange. Refer locality maps in Figures 1.0 and 1.1. The proposal is for the expansion of the existing Nambour Landfill site to cater for future waste disposal demand for the Sunshine Coast Region, including the planned future closure of the Caloundra Landfill. Upon closure of the Caloundra Landfill it is intended to direct the following waste to Nambour:

- Council Hook trucks are required to transfer waste from the existing Caloundra waste transfer facility to the Nambour Landfill.
- Commercial vehicles previously utilising the Caloundra Landfill facility will be directed to the Nambour Landfill.
- Council Kerbside collection vehicles previously using the Caloundra Landfill will be redirected to the Nambour.

The Caloundra resource recovery centre and transfer station will remain open for use by vehicles other than the redirected commercial vehicles and kerbside collection vehicles.

The Nambour Landfill is planned to be expanded in 2027 and the Caloundra Landfill is planned to be closed 8 years later in 2035.

A landfill gas power generation plant and leachate treatment plant are also proposed to be established on the southern portion of Lot 1 RP202997. Access to this site will be via Cooney Road.

The landfill expansion development site is located within 25m of a state-controlled Rd (Bli Bli Rd and Bruce Hwy) and therefore triggers assessment by the State Assessment and Referral Agency (SARA).

The Nambour landfill expansion involves the excavation of approximately 400,000 tonnes of material. It is intended that this material will remain on site and therefore have no impact on external road network.



Figure 1.0: Nambour Landfill Expansion Locality Map



Figure 1.1: Locality Map

1.2 Surrounding road network details

The specifics of the site's surrounding road network are as follows:

- The site access is located on a local government road (Cooney Rd) that intersects Nambour-Bli Bli Rd approximately 300 m away.
- Cooney Rd is a two-way, two-lane road, posted at 60km/h.
- Nambour-Bli Bli Road is a State Controlled Road (SCR) (TMR Road ID 130) and is typically a 2-lane, 2-way road. In the area under assessment (refer highlighted area on Figure 2) the road has been widened to 4 lanes, starting at the Cooney Road intersection and through the Bruce highway/Nambour-Bli Bli Rd interchange roundabouts.
- Nambour-Bli Bli Road is posted at 60km/h at the Cooney Road intersection location and generally 80 km/h elsewhere.
- The intersection of Cooney Rd and Bli Bli Rd is currently un-signalised.
- A number of commercial/industrial activities are located in the vicinity of the proposed development and are serviced by Nambour - Bli Bli Road. The activities are anticipated to generate significant heavy vehicle traffic and are as follows:
 - The existing Nambour Landfill, Resource Recovery Centre (RRC) and a Material Recycling Facility (MRF) off Cooney Road;
 - Holcim Quarries, Cooney Road;
 - Downer Asphalt Plant, Cooney Road;
 - Nambour Sewerage Treatment Plant, Nambour - Bli Bli Road;
 - Claytons Towing Depot, Nambour – Bli Bli Road;
 - BP Depot & JC Hire, Nambour – Bli Bli Road;
 - TMR Material Depot, Nambour - Bli Bli Road;

2. ASSESSMENT OF NAMBOUR LANDFILL ACCESSES ON COONEY ROAD

2.1 Existing Traffic Volumes

For the purposes of this intersection analysis, the existing traffic volumes accessing the landfill have been obtained from Sunshine Coast Council records of vehicles using the Nambour Landfill from 1st March 2015 until 29th February 2016. Peak hour estimates were calculated based on 16% Annual Average Daily Traffic (AADT) as the highest percentage recommended by Austroads Guide to Traffic Management Part 6; Intersection, Interchanges and Crossings section 2.3.6.

Other than an adjacent quarry and asphalt plant, there are no other significant traffic generating properties on Cooney Road beyond the landfill. In order to estimate peak hour traffic volumes generated by the quarry and asphalt plant, telephone calls were made to these facilities and estimates were provided by them. The following estimates were provided:

2.1.1 Existing Nambour Landfill Traffic Generation Calculations

See below for an example of how traffic volumes have been calculated

Annually = 2016 vehicle no (taken from SCC records)
 = 92,041 vehicles
 AADT = $92,041 \div 365$
 = 253 vehicles
 Peak hour = 253×0.16
 = 41 vehicles

Table 2.0 Peak hour traffic estimates: Quarry and Asphalt Plant

	Estimated Traffic Volume	Peak Hour Estimate
Quarry (Holcim)	1 vehicle every minute	60
Asphalt Plant (Downer)	1 vehicle every 2 minutes	30

Existing peak hour turning movements at the intersection of Nambour Landfill and Cooney Road are shown in Figure 2.0.

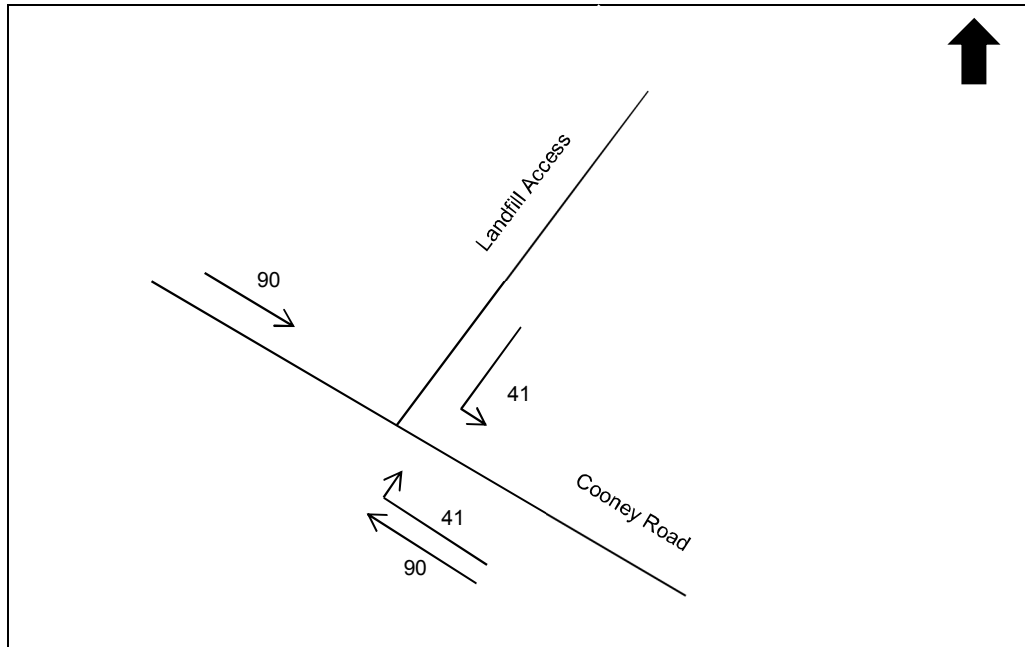


Figure 2.0: Existing Peak Hour Traffic Volumes

2.2 Future traffic generation

- Likely traffic volumes in Cooney Rd were estimated for various timeframes
 - 2027 – The planned opening of Nambour Landfill upgrade
 - 2035 – The forecast year for closure of the Caloundra Landfill.
 - 2045 – 10 year post forecast closure of the of Caloundra Landfill.
- All traffic generated by the closure of Caloundra Landfill (in 2035) has been added directly to the existing turning movements at the Nambour Landfill intersection.
- The additional traffic to the Nambour Landfill site generated by the closure of Caloundra Landfill has been obtained from Sunshine Coast Council records of vehicles using the Caloundra Landfill from 1st March 2015 until 29th February 2016.
- We understand that the estimated peak volumes for the quarry and asphalt plans are current operational maximums and any growth in these facilities will be subject to future development applications. As such, we have not grown the estimated traffic volumes for the quarry and asphalt plant for the timeframes noted above.
- Traffic volumes generated by the landfill gas power station and leachate treatment plant have been assumed to be negligible for the purposes of this analysis.
- Based on Council advice, it has been assumed that all material removed (i.e. approximately 400,000 Tonne) for the landfill expansion will be re-used on site for landfill development works and providing cover material for the ongoing operation of the landfill. If this decision changes it is understood that a separate road impact assessment will be required.
- Compounding Annual Growth Rates (CAGRs) have been taken from the attached Bitzios consulting report. It is understood that these figures have been taken from Resource Innovations Report 25 November 2016 titled "Landfill Airspace Estimation Caloundra & Nambour Landfills". The Resource Innovations report indicates Population forecasting utilised the Queensland government population estimates 2011-2036 at the SA2 statistical level for the Sunshine Coast Council Local Government Area (LGA).
- The following CAGR figures have been adopted for the Nambour Landfill:
 - 1.76% p.a (year 2016 - 2027)
 - 1.00% p.a (year 2027 - 2035).
 - 1.00% (year 2035 - 2045).
- The following CAGR figures have been adopted for the Caloundra Landfill (in line with closure dates):
 - 3.10% (year 2016 – 2035)
 - 2.37% (year 2035 – 2045)

Table 2.1 Peak Hour Traffic Generation – Cooney Road Quarry and Asphalt Plant

	2016	2027	2035	2045
Peak Hour Volume (in)	90	90	90	90
Peak Hour Volume (out)	90	90	90	90
Total	180	180	180	180

Table 2.2 Peak Hour Traffic Generation – Nambour Landfill Access

	2016	2027	2035			2045		
	Current	Nambour CAGR (1.76%)	Nambour CAGR (1.00%)	Caloundra CAGR (3.10%)	Total	Nambour CAGR (1.00%)	Caloundra CAGR (2.37%)	Total
Peak Hour Volume (in)	41	48	53	12	65	58	14	72
Peak Hour Volume (out)	41	48	53	12	65	58	14	72
Total	82	96			128			144

2.2.1 Landfill Traffic Generation Calculations

See below for an example of how traffic volumes have been calculated, in this case based on 2035.

Future traffic volumes due to Nambour CAGR (2035):

$$\begin{aligned}
 \text{Peak hour} &= 2016 \text{ peak hour traffic volume} \times \text{CAGR (2027)} \times \text{CAGR (2035)} \\
 &= 41 \times (1+0.0176)^{10} \times (1+0.0100)^9 \\
 &= 53 \text{ vehicles}
 \end{aligned}$$

Future direct traffic volumes (kerbside collection and commercial vehicles) due to Caloundra closure (2035):

$$\begin{aligned}
 \text{Annually} &= 2016 \text{ vehicle no} \times \text{CAGR} \\
 &= 11,937 \times (1+0.03100)^{19} \\
 &= 21,321 \text{ vehicles}
 \end{aligned}$$

$$\begin{aligned}
 \text{AADT} &= 21,321 \div 365 \\
 &= 59 \text{ vehicles}
 \end{aligned}$$

$$\begin{aligned}
 \text{Peak hour} &= 59 \times 0.16 \\
 &= 10 \text{ vehicles}
 \end{aligned}$$

Future waste transfer traffic volumes due to Caloundra closure (2035):

$$\begin{aligned}
 \text{Annually} &= \text{Caloundra water transfer vehicles} \times \text{CAGR} \\
 &= 1977 \times (1+0.03100)^{19} \\
 &= 3,531 \text{ vehicles}
 \end{aligned}$$

$$\begin{aligned}
 \text{AADT} &= 3,531 \div 365 \\
 &= 10 \text{ vehicles}
 \end{aligned}$$

$$\begin{aligned}
 \text{Peak hour} &= 10 \times 0.16 \\
 &= 2 \text{ vehicles}
 \end{aligned}$$

Development-generated peak hour traffic is shown in Figure 2.1.

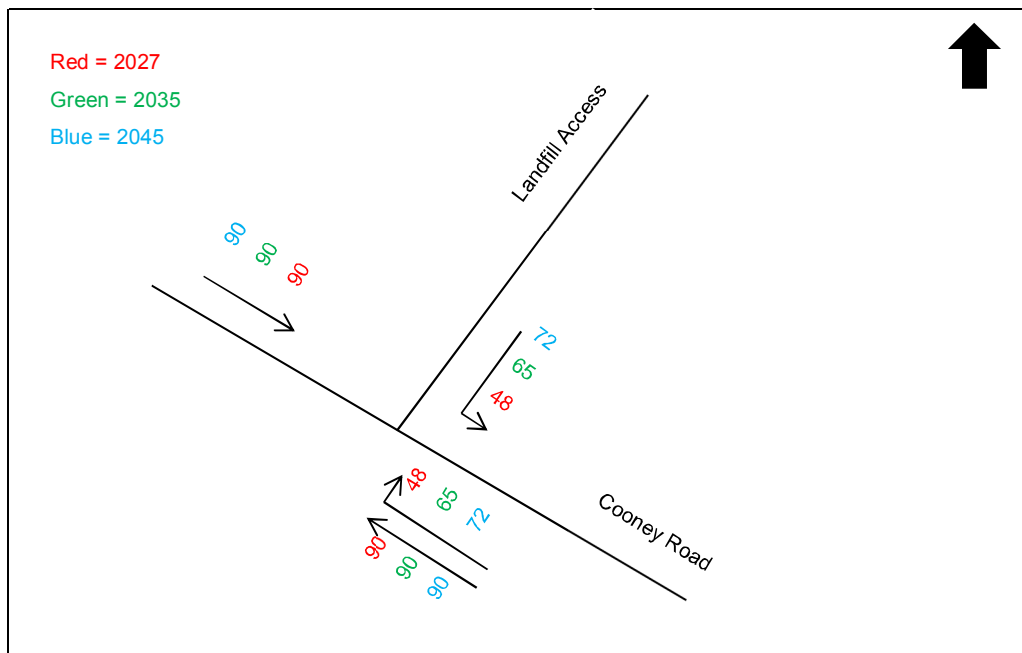


Figure 2.1 Development Generated Peak Hour Traffic Volumes

2.3 Intersection Analysis

An intersection analysis/warrant has been carried out in accordance with Austroads guidelines. Checks have been done for 2016, 2027, 2035 and 2045 traffic volumes. The results are shown in Figure 2.2.

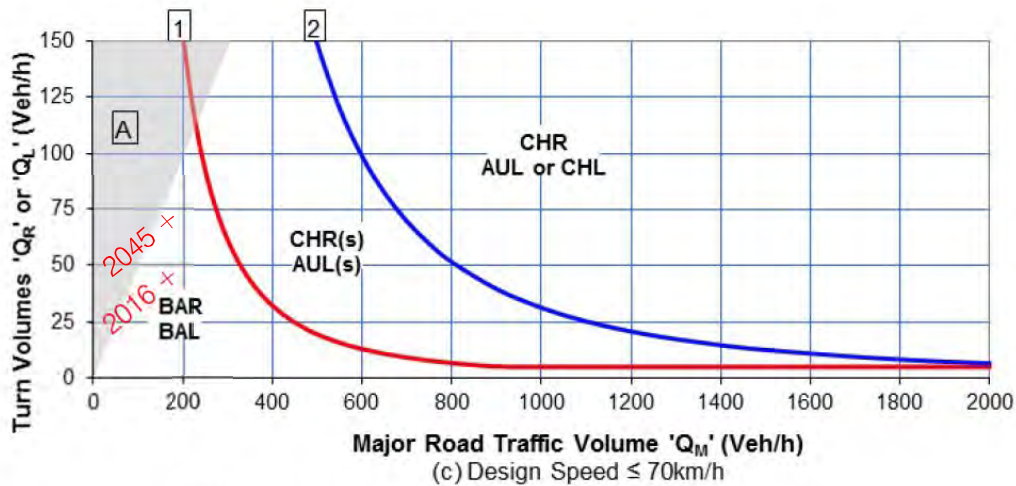


Figure 2.2 Intersection Warrants (from Supplement to Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections – Figure 4A-1c)

As demonstrated above, a Basic Right-turn Treatment (BAR) is recommended for access to the landfill site.

The current intersection at the landfill site appears to be a Simple Right (SR) turn arrangement. An unsealed shoulder appears to have been provided, however the longitudinal extent of the shoulder is insufficient to classify the existing intersection as a BAR. Google street view images of the current intersection suggest that vehicles are utilising the unsealed shoulder for right turn movements into the landfill. Refer to Figure 2.3 and 2.4. It is recommended that shoulder sealing be undertaken.

The access to the landfill gas power generation plant and leachate treatment plant (located at the southern portion of Lot 1 RP202997 on Cooney Road) is also recommended for a BAR intersection treatment with shoulder sealing.

This recommendation is based on the peak hour traffic volume estimates for the quarry and asphalt plant (90 vehicles per hour in total). Subject to future, detailed peak hour traffic analysis along Cooney Road and TMR approval, this intersection may be reclassified as a Simple Right (SR) turn arrangement if the peak hour traffic was shown to be less than 75 vehicles per hour. A SR intersection would not require shoulder widening on Cooney Road.



Figure 2.3: Existing landfill intersection (looking west)



Figure 2.4: Existing landfill intersection (looking east)

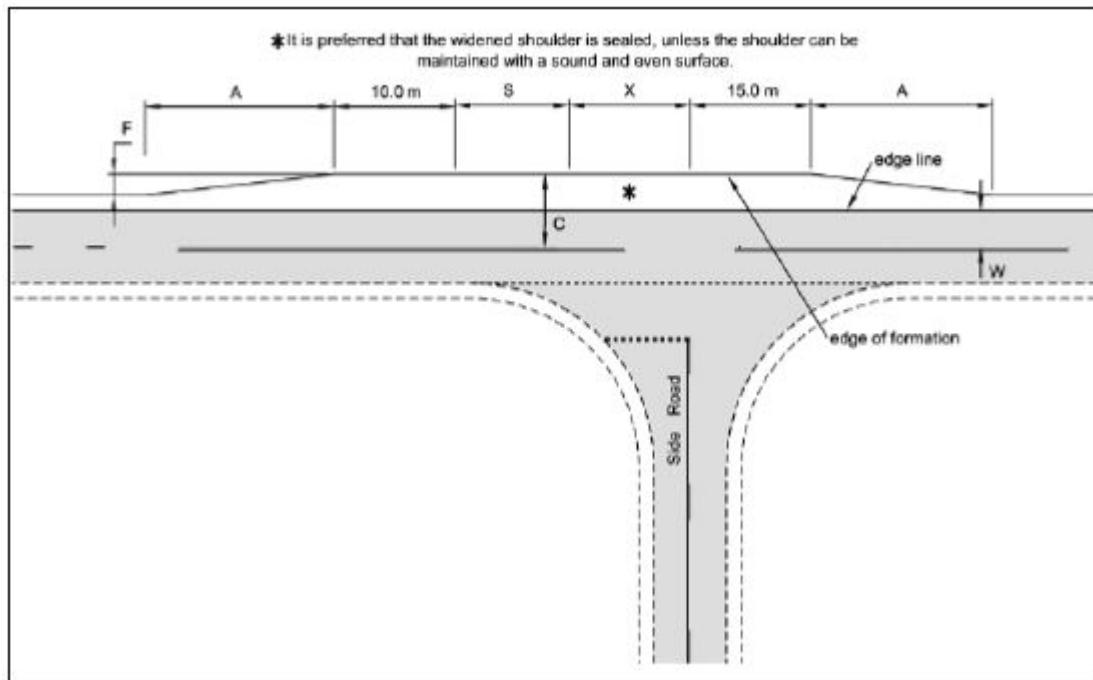


Figure 2.5: Basic Right (BAR) Turn Treatment

2.4 Safety Review

For detailed design, these existing intersections should be assessed for swept path turning manoeuvres of the appropriate design vehicle, which in this instance is considered to be a 19m long semi-trailer. Sight distance standards may also require vegetation clearing, minor earthworks and fence relocations on the approaches to these intersections. No other safety issues were identified, although a full road safety audit is recommended prior to completing detailed design.

3. ASSESSMENT OF BLI BLI ROAD AND COONEY ROAD INTERSECTION

Refer to the attached report by Bitzios Consulting (Appendix A).

Appendix A

Assessment of Bli Bli Road and Cooney Road Intersection by Bitzios Consulting

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Our Reference: P2423.004L

Your Reference:

19 May 2017

The Chief Executive Officer
Sunshine Coast Council
Locked Bag 72,
Sunshine Coast Mail Centre QLD 4560

Attention: **Alex Patissier**

Sent via email: Mark Rigby <mr Rigby@mraenvironmental.com.au>

Dear Mark

RE : NAMBOUR LANDFILL INTERSECTION ASSESSMENT

1.0 INTRODUCTION

1.1. Background

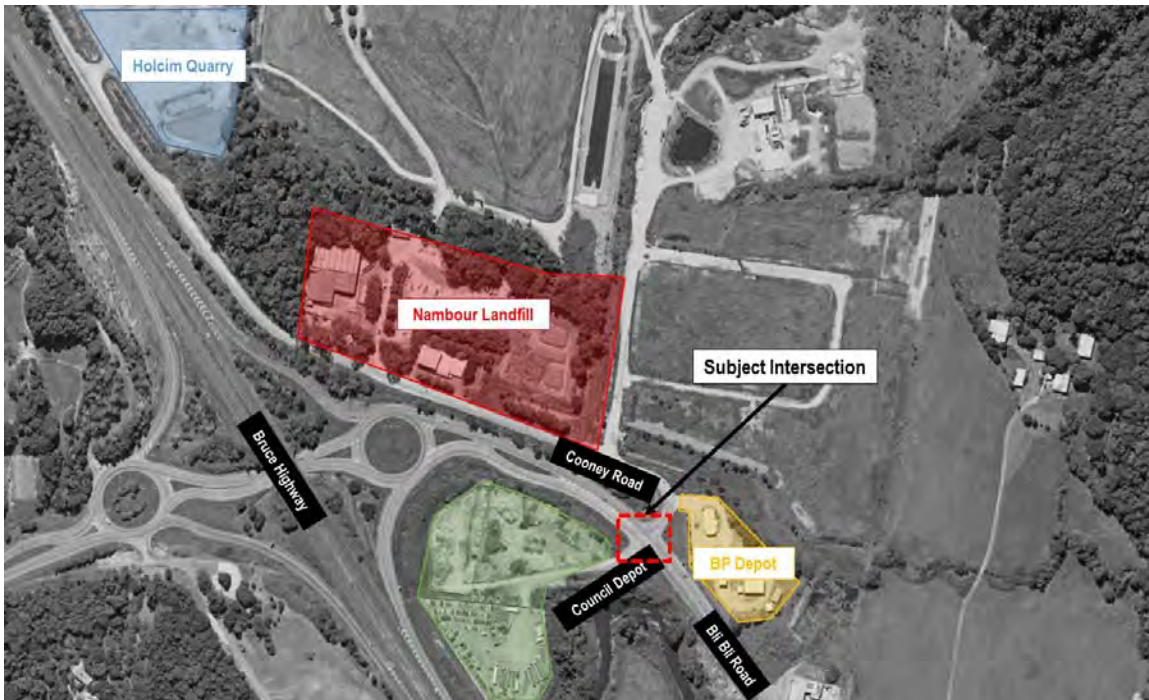
Bitzios Consulting has been commissioned by Sunshine Coast Regional Council to undertake an intersection assessment of the Bli Bli Road / Cooney Road priority controlled intersection to assist in determining the future infrastructure requirements associated with the Nambour Landfill expansion. It is also understood that the existing Caloundra Landfill on Pierce Avenue is being closed in the future (approx. year 2035) and that the demand associated with this Landfill will be transitioned to the Nambour Landfill expansion.

A preliminary meeting including Mark Rigby Associates (MRA), Sunshine Coast Regional Council (SCRC) and Transport and Main Roads (TMR) resulted in TMR requesting the following:

'... provide traffic counts for the intersection (particularly left turn in from Bli Bli Rd) and as an outcome Council will need to demonstrate the existing infrastructure is a safe environment to continue the use as a landfill.'

1.2. Bli Bli Road / Cooney Road Priority Controlled Intersection

The subject intersection is a four-way priority controlled intersection that affords access to the Nambour Landfill, Holcim Quarry and BP Depot in the north via Cooney Road and a Council Depot in the south via an informal driveway access. The intersection is located approximately 250m east of the Bli Bli Road / Bruce Highway interchange (Exit 208) as shown in Figure 1.1.



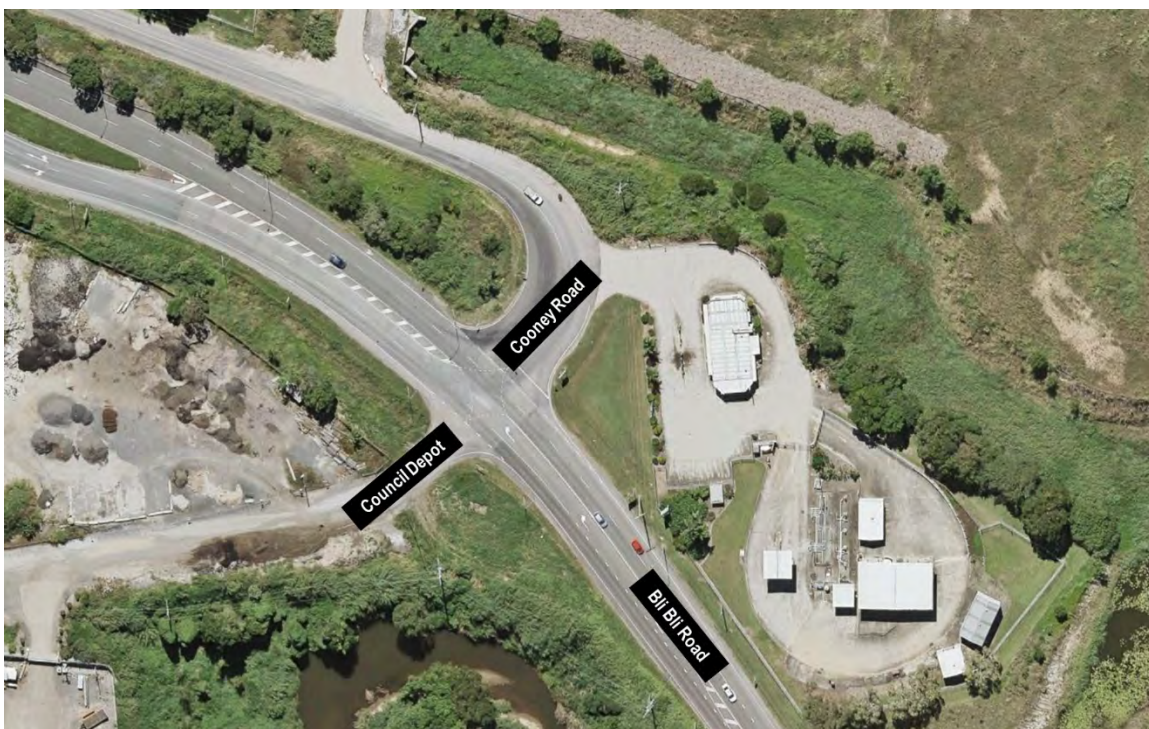
Source: Google Earth (QLD Globe)

Figure 1.1: Subject Site Location

2.0 EXISTING (2016) INTERSECTION ASSESSMENT

2.1. Existing (2016) Intersection Configuration

The existing configuration of the Bli Bli Road / Cooney Road intersection is shown in Figure 2.1. Approximately 135m east of the intersection, Bli Bli Road is a two-way two-lane road.



Source: Google Earth (QLD Globe)

Figure 2.1: Bli Bli Road / Cooney Road Priority Controlled Intersection Configuration

2.2. Existing (2016) Traffic Volumes

Traffic Data and Control (TDC) undertook 12-hour intersection traffic counts on Thursday 28th January 2016 and Saturday 30th January 2016. The results of the intersection Counts are provided within Attachment A.

Given that the commuter/intersection peaks were identified to have significantly greater background traffic volumes, commuter peaks have been considered as the “worst-case” scenarios for assessment. Figure 2.2 shows the AM and PM intersection peak traffic volumes for Thursday commuter peak and Saturday background traffic peak.

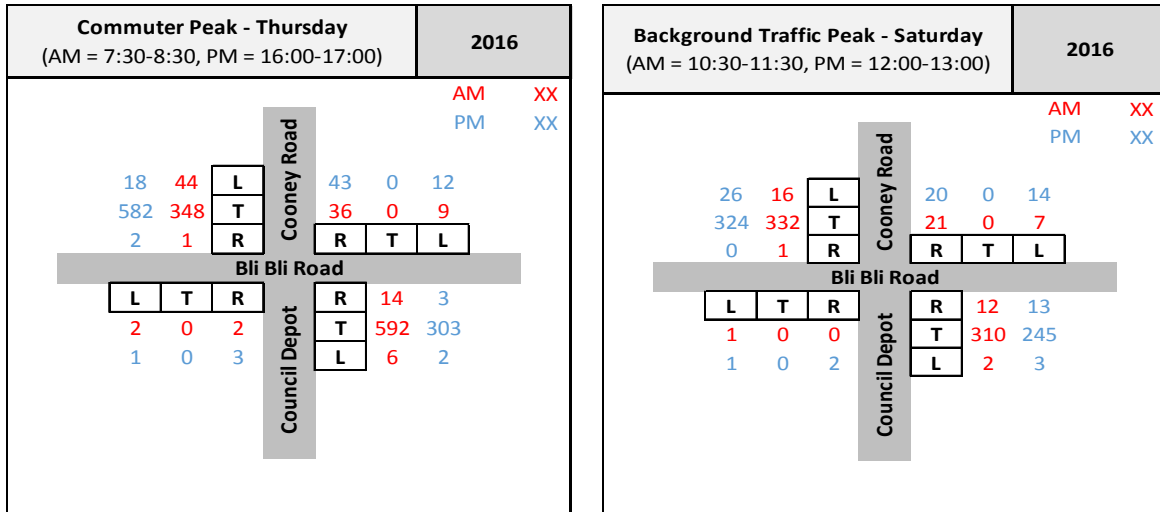


Figure 2.2: Intersection Peak Traffic Volumes

2.3. Existing (2016) Intersection Assessment

The Bli Bli Road / Cooney Road intersection was assessed using SIDRA Intersection Software (version 6.1). The intersection configuration used for the SIDRA modelling is shown in Figure 2.3. Based on the aerial imagery, Cooney Road near the intersection is wide enough to cater for two (2) approach lanes. As such, a 42m left-turn pocket has been included on Cooney Road approach leg.

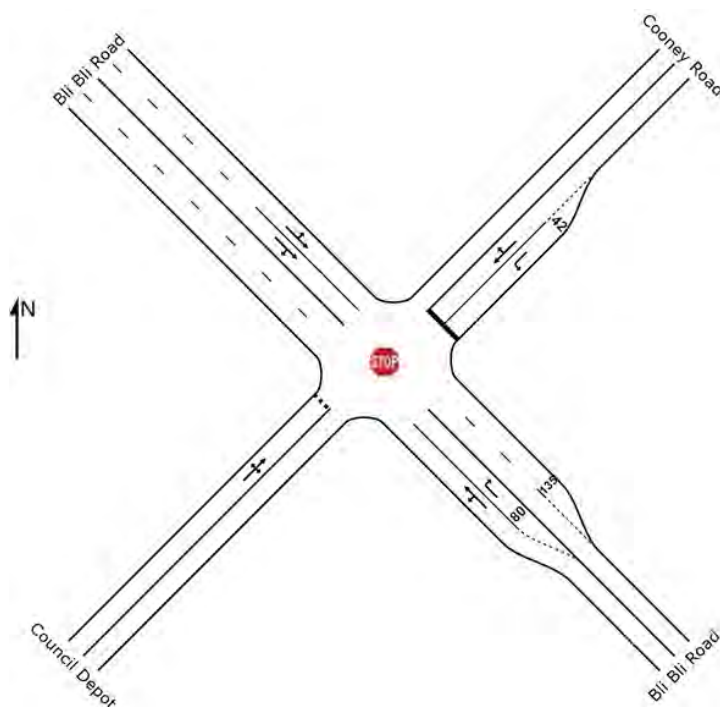


Figure 2.3: Bli Bli Road / Cooney Road Intersection Configuration

Key performance criteria (i.e. degree of saturation (DOS), average delay, Level of Service (LOS) and 95th %ile queue length) outputs from the SIDRA assessment are shown in Table 2.1 below.

Table 2.1: SIDRA Outputs Summary – Bli Bli Road / Cooney Road – Intersection Peaks

Approach	AM Peak				PM Peak			
	DOS	Av. Delay (s)	LOS	95%ile Queue (m)	DOS	Av. Delay (s)	DOS	95%ile Queue (m)
Thursday 28 th January 2016								
Bli Bli Road (SE)	0.345	0.3	NA	0.7	0.176	0.2	NA	0.2
Cooney Road (NE)	0.628	87.5	F	21.4	0.491	52.6	F	17.1
Bli Bli Road (NW)	0.136	0.8	NA	0.3	0.203	0.2	NA	0.3
Council Depot (SW)	0.045	34.8	D	1.4	0.040	31.3	D	1.2
Saturday 30 th January 2016								
Bli Bli Road (SE)	0.172	0.3	NA	0.4	0.137	0.5	NA	0.4
Cooney Road (NE)	0.090	17.7	C	2.3	0.074	14.5	B	1.9
Bli Bli Road (NW)	0.113	0.3	NA	0.1	0.114	0.4	NA	0.1
Council Depot (SW)	0.009	13.0	B	0.3	0.011	12.8	B	0.3

The SIDRA outputs demonstrate the subject intersection is currently operating satisfactorily from a capacity perspective, with Degree of Saturation (DOS) for each approach below the industry accepted 0.8 (i.e. LOS C) for priority controlled intersections. Queues for each approach are well within acceptable limits as well and do not result in any impacts to surrounding intersections. During the Thursday peak periods the minor approaches (i.e. Cooney Road and Council Depot) exhibit delays in excess of the industry accepted 25 seconds (i.e. LOS C) for priority controlled intersections (as shown in Figure 2.4).

From a road safety perspective delays exceeding 25 seconds at priority controlled intersections can result in drivers taking unnecessary risks and choosing smaller than usual gaps in traffic.

Based on our review of the intersection, there are no acceptable minor mitigation measures available and therefore it is recommended that the intersection be upgraded to either signals or a roundabout so it operates within acceptable performance parameters. A recommended upgrade option is provided within Section 3.0.

Table 5.14.1

Delay (HCM 2000) method for Level of Service definitions based on delay only (for vehicles)

Level of Service	Control delay per vehicle in seconds (d)		
	Signals (SIDRA standard default for roundabouts)	"SIDRA Roundabout LOS" method (1)	Sign Control
A	$d \leq 10$	$d \leq 10$	$d \leq 10$
B	$10 < d \leq 20$	$10 < d \leq 20$	$10 < d \leq 15$
C	$20 < d \leq 35$	$20 < d \leq 35$	$15 < d \leq 25$
D	$35 < d \leq 55$	$35 < d \leq 50$	$25 < d \leq 35$
E	$55 < d \leq 80$	$50 < d \leq 70$	$35 < d \leq 50$
F	$80 < d$	$70 < d$	$50 < d$

For Standard Left, Standard Right and New Zealand models in SIDRA INTERSECTION, this is the default LOS Method for vehicles.

Source: SIDRA Intersection 6.1 User Guide

Figure 2.4: Level of Service (LOS) Definitions Based on Delay

2.4. Crash Analysis

The existing Bli Bli Road / Cooney Road intersection does not provide protection for right-turning into Council Depot from Bli Bli Road. This is considered as a safety issue and could lead to rear end crashes.

Notwithstanding this, a review of the Qld Globe crash data between 2011 and 2014, presented in Figure 2.5 shows that there have been no crashes recorded within close proximity of the intersection in the past five (5) years. Prior to this a number of crashes were recorded at the subject intersection, however they were primarily single vehicle incidents.



Source: Google Earth (QLD Globe)

Figure 2.5: Crash Analysis Data (2011-2014)

3.0 IMPROVED INTERSECTION DESIGN

Based on the above analysis, it is understood that the subject intersection should be upgraded in the next few years to cater for the background traffic growth and additional demand resulting from the Nambour landfill expansion. In order to improve the efficiency and safety of the intersection, improvements would comprise either a roundabout or signalised intersection.

When considering the subject intersection's location within 250m of the Bli Bli Road / Bruce Highway interchange roundabout and the spatial land requirements for a roundabout given design volumes and design speeds, a roundabout is not considered to be the preferred option at this location. On this basis, a signalised intersection has been assessed as a recommended upgrade option.

As previously identified, the existing eastbound right-turn into Council Depot from Bli Bli Road is considered potential rear end crash safety issue. As a result, it is recommended that the intersection upgrade should include a dedicated right-turn pocket to facilitate movements into the Council Depot, which would also provide benefits in future-years when the site could be redeveloped to a more intensive land use.

During the options testing, it was determined that in order to manage the northbound queues on Bli Bli Road, a short (i.e. 30m) stand up lane should be provided, which would facilitate through and left turn movements.

The resultant signalised intersection layout is shown in Figure 3.1 and the proposed signal phasing for the intersection is shown in Figure 3.2.

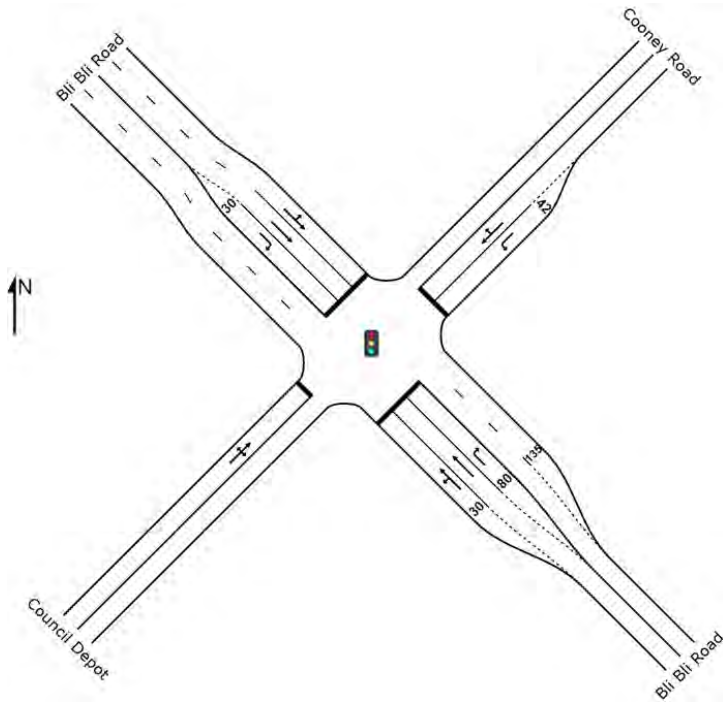


Figure 3.1: Recommended Intersection Upgrade Design

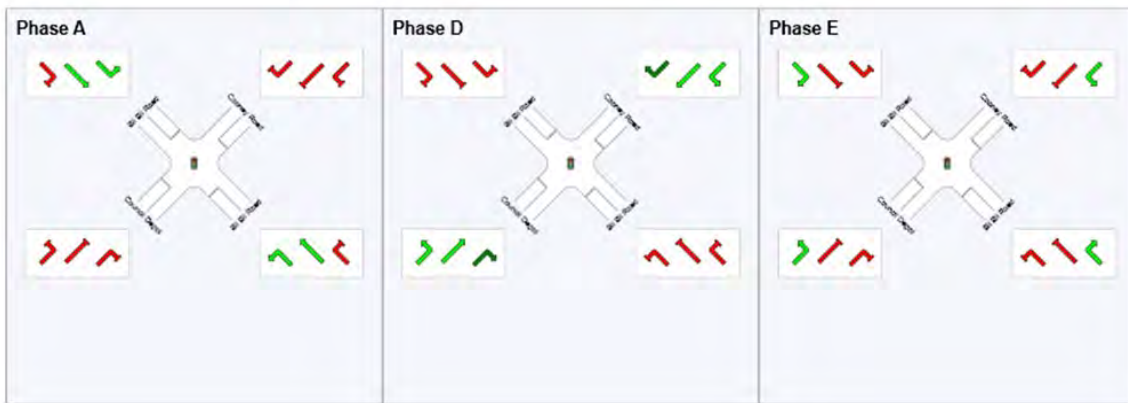


Figure 3.2: Proposed Signal Phasing

4.0 FUTURE-YEAR SCENARIO TESTING

4.1. Scenarios

To ensure that the recommended intersection upgrade will operate satisfactorily in the future and with the additional traffic associated with the closure of the Caloundra Landfill, detailed intersection assessments have been undertaken for the following future-year scenarios:

1. year 2026 (i.e. year of opening of Nambour Landfill upgrade);
2. year 2035 (i.e. year of transition from Caloundra Landfill to Nambour Landfill); and
3. year 2045 (i.e. 10-years post transition).

As determined in Section 2.0, the 'worst-case scenario' for the intersection is the Thursday AM commuter peak period and all further detailed intersection assessments have been undertaken for this period only. The anticipated year of opening is assessed as year 2026 however Bitzios has received advice that this may be year 2027. Irrespective of this, the difference in the analysis, results and conclusions for the year 2026 and 2027 are negligible.

4.2. Future-Year Traffic Volumes

The future background traffic growth for through traffic on Bli Bli Road for all scenarios was calculated by applying the compounding annual growth rate (CAGR) of the population forecasts for the 'Sunshine Coast Total' (provided by MRA and presented in Attachment B). Specifically, the CAGR's applied to the Bli Bli Road through traffic for each future scenario are shown in Table 4.1.

Table 4.1: Compounding Annual Growth Rates for Bli Bli Road (based on Sunshine Coast Total Population Forecasts)

	2016 – 2026	2026 - 2035	2035 – 2045
Population Increase (persons)	82,288	78,163	120,711
CAGR (% p.a.)	2.47%	2.1%	2.37%

Scenario 1 (Year 2026)

For Scenario 1, the Cooney Road two-way traffic volumes have been escalated based on the increase in total waste generation for the Nambour Landfill between 2016 and 2026 (sourced from the airspace forecasts provided within Attachment C). The CAGR was found to be 1.76% p.a.

The resultant traffic volumes used for the detailed intersection assessment of Scenario 1 are shown in Figure 4.1.

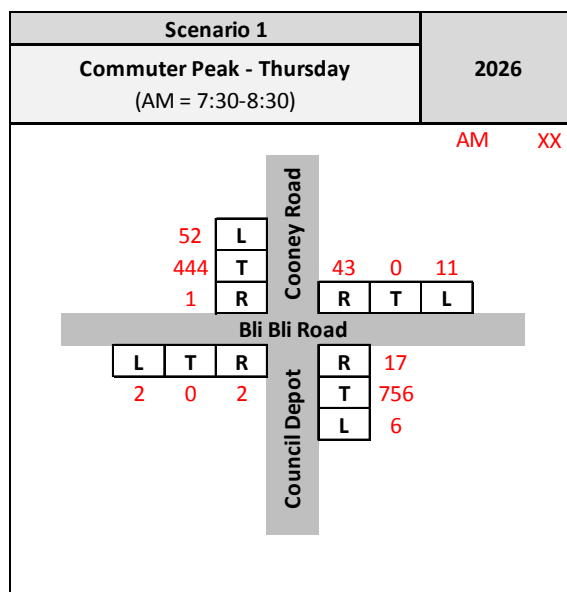


Figure 4.1: 2026 Intersection Volumes (10-years Post-Opening of Nambour Landfill Upgrade)

Scenario 2 (Year 2035)

For Scenario 2, the Cooney Road two-way traffic volumes are a combination of the escalated Nambour Landfill traffic volumes and the diverted Caloundra Landfill traffic volumes.

The Nambour Landfill (i.e. Cooney Road) traffic volumes for year 2035 were calculated using a 1.00% CAGR based on the increase of total waste generation to the Nambour Landfill between year 2026 and year 2035.

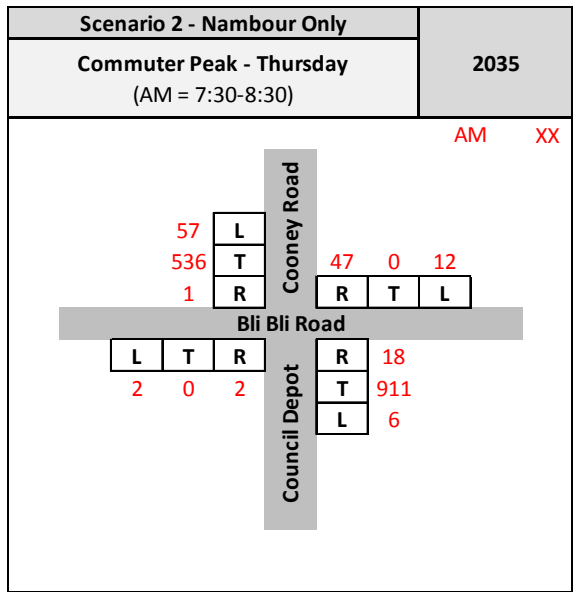


Figure 4.2: 2035 Intersection Volumes (Nambour Landfill Only)

In lieu of existing traffic volume data for the Caloundra Landfill, we have conservatively estimated its total two-way traffic volumes as based on the waste tonnage to vehicle trip ratio of the existing Nambour Landfill.

The intersection survey volumes for Cooney Road are noted to be a combination of the Nambour Landfill, Holcim Quarry and BP Depot. For the purpose of this assessment the total traffic on Cooney Road is assumed to represent the Nambour Landfill traffic volumes which is considered to be very conservative. As a result the Nambour Landfill generates a total of 103 two-way peak hour trips in the Thursday AM peak period and the Nambour Landfill generates in the order of 82,441 tonnes in year 2016 as shown in Table 4.2.

Table 4.2: Average Vehicle Load Size for Nambour Landfill

	Total Peak Hour Trips	Yearly Trips	Yearly Tonnage	Average Vehicle Load
Nambour Landfill	103 veh/h	375,950 veh	82,441 tonnes	0.2 tonnes / veh

The average vehicle load size has been calculated by factoring the existing peak hour trips to yearly trips using a peak to yearly factor of 3,650. The resultant average vehicle load is 0.2 tonnes / vehicle.

The average vehicle load size of the Nambour Landfill was used to estimate the Caloundra Landfill yearly trips to be in the order of 339,805 trips per year which equates to 93 peak hour trips in 2016. As the Caloundra Landfill volumes are only relevant in year 2035, the year 2016 peak hour volumes have been 'growthed-up' using the CAGR of the Caloundra Landfill waste generation between year 2016 and year 2035 of 3.1%. The resultant two-way peak hour volume for the Caloundra Landfill in year 2035 is 167 veh/h. This volume has been distributed to the subject intersection as per the existing Nambour Landfill volumes. Figure 4.3 shows the anticipated volumes associated with the Caloundra Landfill only (calculated volumes) and Figure 4.4 shows the total intersection volumes for Scenario 2 (i.e. Nambour + Caloundra) used for the detailed intersection assessment.

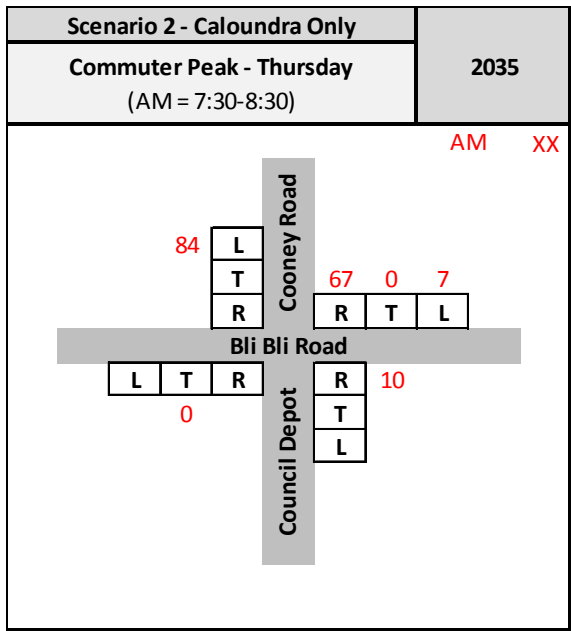


Figure 4.3: 2035 Caloundra Landfill Volumes (Calculated Volumes)

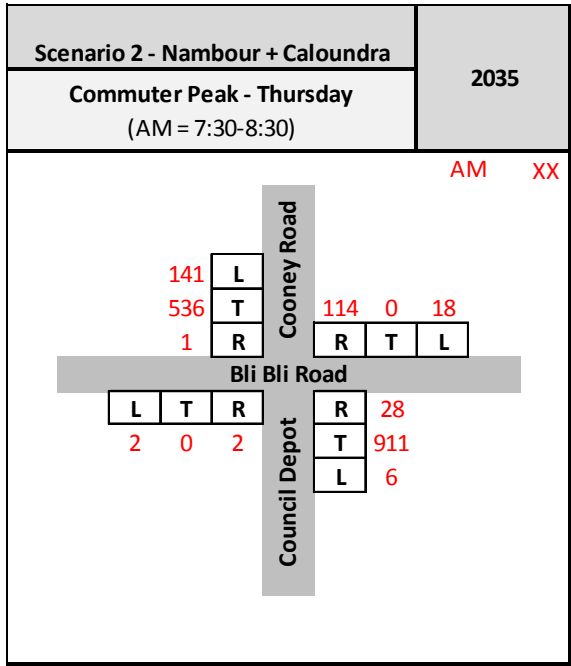


Figure 4.4: 2035 Intersection Volumes (Nambour Landfill + Caloundra Landfill)

Scenario 3 (Year 2045)

For Scenario 3, the Cooney Road two-way traffic volumes have been escalated based on the increase in total waste generation for the Nambour Landfill (including Caloundra demands) between 2035 and 2045. The CAGR was found to be 2.37% p.a.

The resultant traffic volumes used for the detailed intersection assessment of Scenario 3 are shown in Figure 4.5.

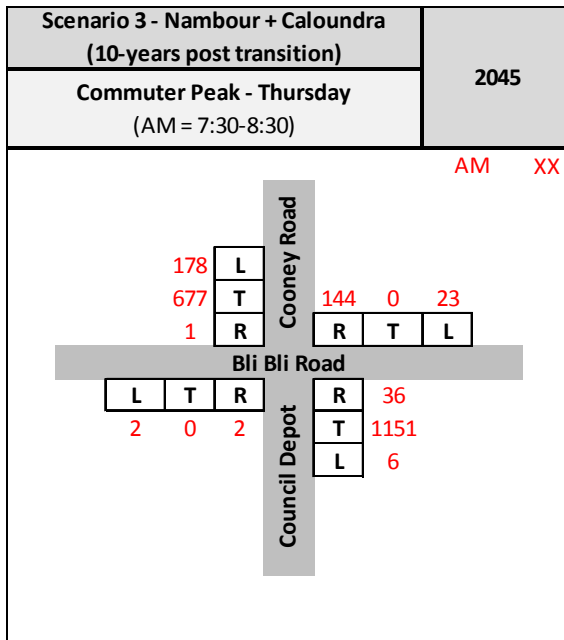


Figure 4.5: 2045 Intersection Volumes (Nambour Landfill + Caloundra Landfill)

4.3. Future-Year Intersection Assessment

The future-year intersection assessment has been undertaken using SIDRA Intersection software (version 6.1) based on the intersection configuration and signal phasing shown in Figure 3.1 and Figure 3.2 respectively. Key performance criteria (i.e. degree of saturation (DOS), average delay, Level of Service (LOS) and 95th %ile queue length) outputs from the SIDRA assessment are shown in Table 4.3 below.

Table 4.3: SIDRA Outputs Summary – Bli Bli Road / Cooney Road – Future-Year Intersection Scenarios

Approach	Thursday AM Peak			
	DOS	Av. Delay (s)	LOS	95%ile Queue (m)
Year 2026				
Bli Bli Road (SE)	0.579	13.1	B	57.5
Cooney Road (NE)	0.244	26.7	C	10.3
Bli Bli Road (NW)	0.418	12.4	B	41.9
Council Depot (SW)	0.025	25.1	C	1.1
Year 2035				
Bli Bli Road (SE)	0.728	13.8	B	80.5
Cooney Road (NE)	0.702	35.9	D	36.1
Bli Bli Road (NW)	0.479	11.7	B	64.5
Council Depot (SW)	0.030	30.7	C	1.4
Year 2045				
Bli Bli Road (SE)	0.898	32.8	C	193.2
Cooney Road (NE)	0.887	62.4	E	82.5
Bli Bli Road (NW)	0.473	10.8	B	104.0
Council Depot (SW)	0.030	46.0	D	2.3

The outputs shown above demonstrate that the upgraded intersection will operate satisfactorily and well within acceptable performance criteria in the year 2035, when the Caloundra Landfill is expected to close.

By 2045, the intersection is shown to still operate within capacity ($DOS < 0.9$), however lengthy average delays are exhibited on the minor intersection approaches (i.e. Cooney Road and Council Depot). This is considered acceptable based on the uncertainty surrounding traffic growth this far ahead in time and the intersection is considered appropriate to cater for the expected increase in traffic as a result of the Caloundra Landfill closure. In any event, further upgrades to the intersection could be possible if needed in 30 years' time.

5.0 FINDINGS AND RECOMMENDATIONS

In conclusion, the existing Bli Bli Road / Cooney Road priority controlled intersection was found to be operating within capacity, however lengthy delays outside industry accepted levels were identified for the minor approaches to the intersection (i.e. Cooney Road and Council Depot) based on existing 2016 traffic volumes.

However, based on the combination of background traffic growth and additional turning traffic due to the expansion of the landfill (and closure of the Caloundra landfill), the intersection needs to be upgraded and signals are the preferred configuration. A signalised intersection configuration as shown in Figure 3.1 will provide sufficient capacity for at least 25-30 years at the intersection and further options are available to augment additional capacity should this be required.

Yours faithfully



Steve Brooke
National Manager
Principal Traffic Engineer
BITZIOS CONSULTING

ATTACHMENT 1

TDC INTERSECTION COUNTS

ATTACHMENT 2

SUNSHINE COAST POPULATION FORECASTS

ATTACHMENT 3

AIRSPACE FORECASTS

Appendix B

Sunshine Coast Council Landfill Records



Tran By Product By Rate Summary (0070)

Print Date & Time: 10/04/2017 - 3:31:35PM

Date is between 1/03/2015 and 29/02/2016 AND Site equals Nambour

Site: Nambour

Nambour Landfill

Product C & D Mixed

Code: C & D MIXED

Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Large	398	398	159.20	0.00	13,388.72	1,337.28	14,726.00
Medium	2,356	2,363	590.75	0.00	47,260.00	4,726.00	51,986.00
Small	1,305	1,305	65.25	0.00	9,487.35	952.65	10,440.00
Weighed	225	0	186.26	0.00	27,263.18	2,726.26	29,989.44
Totals for product C & D Mixed (C & D MI)	4,284		1,001.46	0.00	97,399.25	9,742.19	107,141.44

Product C & D Recyclable

Code: C & D RECYCLABLE

Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Concrete Ute/trailer	770	770	385.00	0.00	5,597.90	562.10	6,160.00
Concrete Weighed	523	0	486.69	0.00	7,995.65	799.41	8,795.06
Totals for product C & D Recyclable (C & D)	1,293		871.69	0.00	13,593.55	1,361.51	14,955.06

Product C & I Green

Code: C & I GREEN

Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Large	1,689	1,690	676.00	0.00	30,724.20	3,075.80	33,800.00
Medium	3,558	3,562	890.50	0.00	48,585.64	4,844.36	53,430.00
Small	835	835	41.75	0.00	3,799.25	375.75	4,175.00
Weighed	403	0	473.22	0.00	21,526.26	2,149.10	23,675.36
Totals for product C & I Green (C & I GRE)	6,485		2,081.47	0.00	104,635.35	10,445.01	115,080.36

Product C & I Landfill

Code: C & I LANDFILL

Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Large	25	25	10.00	0.00	841.00	84.00	925.00
Medium	7	7	1.75	0.00	140.00	14.00	154.00
Weighed	39	0	39.78	0.00	5,848.64	584.86	6,433.50
Totals for product C & I Landfill (C & I LA)	71		51.53	0.00	6,829.64	682.86	7,512.50

Product C & I Mixed

Code: C & I MIXED

Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Large	2,350	2,354	941.60	0.00	79,188.52	7,909.48	87,098.00
Medium	3,597	3,597	899.25	0.00	71,940.00	7,194.00	79,134.00
Small	2,382	2,382	119.10	0.00	17,317.14	1,738.86	19,056.00
Weighed	391	0	308.79	0.00	45,349.15	4,534.88	49,884.03
Totals for product C & I Mixed (C & I MIX)	8,720		2,268.74	0.00	213,794.81	21,377.22	235,172.03

Tran By Product By Rate Summary (0070)

10/04/2017 - 3:31:35PM

Site: Nambour

Nambour Landfill

Product Capping Clay

Code: CAPPING CLAY

Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Cubic Meter	1	0	0.00	20.00	0.00	0.00	0.00
Weighed	1,044	0	26,571.00	0.00	0.00	0.00	0.00
Totals for product Capping Clay (CAPPING)	1,045		26,571.00	20.00	0.00	0.00	0.00

Product Clean Plasterboard**Code: PLASTERBOARD CLEAN**

<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Large	4	4	1.60	0.00	72.72	7.28	80.00
Medium	21	21	5.25	0.00	286.44	28.56	315.00
Small	14	14	0.70	0.00	63.70	6.30	70.00
Weighed	12	0	10.26	0.00	466.36	46.64	513.00
Totals for product Clean Plasterboard (PLA)	51		17.81	0.00	889.22	88.78	978.00

Product Clean Timber**Code: TIMBER CLEAN**

<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Medium	13	13	3.25	0.00	177.32	17.68	195.00
Small	4	4	0.20	0.00	18.20	1.80	20.00
Weighed	7	0	6.12	0.00	278.19	27.81	306.00
Totals for product Clean Timber (TIMBER)	24		9.57	0.00	473.71	47.29	521.00

Product Cleanfill**Code: CLEANFILL**

<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Special	158	0	1,785.36	0.00	0.00	0.00	0.00
Ute / Trailer	286	286	71.50	0.00	1,558.70	157.30	1,716.00
Weighed	1,537	0	14,203.18	0.00	77,489.12	7,749.04	85,238.16
Totals for product Cleanfill (CLEANFILL)	1,981		16,060.04	0.00	79,047.82	7,906.34	86,954.16

Product Commercial Recyclables**Code: COMMERCIAL RECYCLABLES**

<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Co mingled	90	0	124.30	0.00	0.00	0.00	0.00
Totals for product Commercial Recyclables (90		124.30	0.00	0.00	0.00	0.00

Site: Nambour**Nambour Landfill****Product Contract Collection****Code: CONTRACT: COLLECTION**

<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Compactors	465	0	2,025.54	0.00	0.00	0.00	0.00
Frontlift	1,749	0	15,440.92	0.00	0.00	0.00	0.00
Landfill Relocation	31	0	187.48	0.00	0.00	0.00	0.00
Public Place	805	0	2,313.98	0.00	0.00	0.00	0.00
Rear Lift	1,075	0	6,783.74	0.00	0.00	0.00	0.00
Side Lift	4,419	0	36,392.74	0.00	0.00	0.00	0.00
Tran: Buderim	1,479	0	9,366.96	0.00	0.00	0.00	0.00
Tran: Kenilworth	21	0	94.39	0.00	0.00	0.00	0.00
Tran: Mapleton	40	0	223.65	0.00	0.00	0.00	0.00
Tran: Yandina	33	0	159.27	0.00	0.00	0.00	0.00
Totals for product Contract Collection (CON	10,117		72,988.67	0.00	0.00	0.00	0.00

Product Dead Animals**Code: DEAD ANIMALS**

<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Contractor	1	0	0.12	0.00	0.00	0.00	0.00
Large >99kg	4	5	2.50	0.00	377.26	37.74	415.00
Medium 25 to 99kg	10	14	0.70	0.00	184.53	18.47	203.00
Small <25kg	57	269	5.38	0.00	1,100.49	110.01	1,210.50
Totals for product Dead Animals (DEAD AN	72		8.70	0.00	1,662.28	166.22	1,828.50

Product Declared Vegetation**Code: DECLARED VEGETATION**

<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Large	8	8	3.20	0.00	145.44	14.56	160.00
Medium	5	5	1.25	0.00	68.20	6.80	75.00
Small	4	4	0.20	0.00	18.20	1.80	20.00
Weighed	37	0	34.56	0.00	1,570.90	157.10	1,728.00
Totals for product Declared Vegetation (DE	54		39.21	0.00	1,802.74	180.26	1,983.00

Product Kilcoy Recyclables			Code: KILCOY RECYCLABLES				
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Weighed	207	0	373.56	0.00	0.00	0.00	0.00
Totals for product Kilcoy Recyclables (KILC	207		373.56	0.00	0.00	0.00	0.00

Product MRF Recyclables			Code: MRF RECYCLABLES				
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
AFTER HOURS	41	0	590.30	0.00	0.00	0.00	0.00
ALUMINIUM	13	0	226.52	0.00	0.00	0.00	0.00
COLOURED GLASS	284	0	8,468.64	0.00	0.00	0.00	0.00
FERROUS	27	0	581.48	0.00	0.00	0.00	0.00
MIXED PLASTICS	172	0	3,203.54	0.00	0.00	0.00	0.00
PAPER/CARDBOARD	634	0	12,896.65	0.00	0.00	0.00	0.00
REJC RECYCLABLES	65	0	828.50	0.00	0.00	0.00	0.00
Totals for product MRF Recyclables (MRF I	1,236		26,795.63	0.00	0.00	0.00	0.00

Site: Nambour Nambour Landfill

Product MSW Green			Code: MSW GREEN				
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Contract	89	0	570.52	0.00	0.00	0.00	0.00
Large	989	991	396.40	0.00	18,016.38	1,803.62	19,820.00
Medium	9,123	9,130	2,282.50	0.00	124,533.13	12,416.87	136,950.00
Small	3,348	3,352	167.60	0.00	15,251.56	1,508.44	16,760.00
Weighed	119	0	102.04	0.00	4,641.76	464.24	5,106.00
Totals for product MSW Green (MSW GRE	13,668		3,519.06	0.00	162,442.83	16,193.17	178,636.00

Product Municipal Solid Waste			Code: MSW				
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Large	533	533	213.20	0.00	17,930.12	1,790.88	19,721.00
Mattress non-recycle	6	7	0.18	0.00	0.00	0.00	0.00
Medium	8,663	8,665	2,166.25	0.00	173,300.00	17,330.00	190,630.00
Small	10,883	10,886	544.30	0.00	79,141.25	7,946.75	87,088.00
Weighed	53	0	41.52	0.00	6,077.06	607.66	6,684.72
Totals for product Municipal Solid Waste (M	20,138		2,965.45	0.00	276,448.43	27,675.29	304,123.72

Product Noosa Recyclables			Code: NOOSA RECYCLABLES				
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Rear Lift	104	0	493.98	0.00	0.00	0.00	0.00
Side Lift	1,473	0	6,646.79	0.00	0.00	0.00	0.00
Totals for product Noosa Recyclables (NOOS	1,577		7,140.77	0.00	0.00	0.00	0.00

Product Plasterboard Mixed			Code: PLASTERBOARD MIXED				
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Medium	1	1	0.25	0.00	13.64	1.36	15.00
Totals for product Plasterboard Mixed (PLA	1		0.25	0.00	13.64	1.36	15.00

Product Recyclables Incoming			Code: RECYCLABLES INCOMING				
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Comm Chemicals (20L)	10	17	0.00	0.00	1,159.08	115.92	1,275.00
Commercial Oil	43	50	4,970.00	0.00	970.82	97.18	1,068.00
E-waste	461	1,054	0.00	0.00	0.00	0.00	0.00
Fluorescent Lights	4	31	0.01	0.00	56.37	5.63	62.00
Mattress Foam	474	612	3.06	0.00	1,936.17	193.83	2,130.00
Mattress Rec @ TS	7	18	0.45	0.00	0.00	0.00	0.00
Mattress Spring	2,152	2,918	72.95	0.00	11,817.36	1,182.64	13,000.00
Soil	803	0	9,176.02	0.00	0.00	0.00	0.00
Totals for product Recyclables Incoming (RI	3,954		14,222.49	0.00	15,939.80	1,595.20	17,535.00

Site: Nambour

Nambour Landfill

Product	Recyclables Outgoing	Code:		RECYCLABLES OUTGOING			
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Gas Bottles	16	0	7.36	0.00	0.00	0.00	0.00
Mattresses	128	0	84.74	0.00	0.00	0.00	0.00
Totals for product Recyclables Outgoing (RE	144		92.10	0.00	0.00	0.00	0.00

Product	Regulated Outgoing	Code:		REGULATED OUTGOING			
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Chemicals	14	0	13.80	0.00	0.00	0.00	0.00
Oil	23	0	21.62	0.00	0.00	0.00	0.00
Tyre-4WD/L-Truck	8	643	19.29	0.00	0.00	0.00	0.00
Tyre-Car/Motorecycle	10	986	14.79	0.00	0.00	0.00	0.00
Tyre-Tractor<2m	4	9	1.80	0.00	0.00	0.00	0.00
Tyre-Tractor>2m	1	2	0.70	0.00	0.00	0.00	0.00
Tyre-Truck/Bobcat	9	111	8.88	0.00	0.00	0.00	0.00
Totals for product Regulated Outgoing (REC	69		80.88	0.00	0.00	0.00	0.00

Product	Regulated Waste	Code:		REGULATED WASTE			
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Application Fee	30	30	0.00	0.00	4,636.50	463.50	5,100.00
Contaminated Soil	1	0	0.60	0.00	146.36	14.64	161.00
Medium	8	8	2.00	0.00	160.00	16.00	176.00
Other	1	0	1.64	0.00	240.04	24.00	264.04
Small	21	21	1.05	0.00	152.67	15.33	168.00
Totals for product Regulated Waste (REGUI	61		5.29	0.00	5,335.57	533.47	5,869.04

Product	Sales Batteries	Code:		SALES: BATTERIES			
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Batteries	8	0	35.80	0.00	9,700.10	970.01	10,670.11
Totals for product Sales Batteries (SALES: B	8		35.80	0.00	9,700.10	970.01	10,670.11

Product	Sales Cardboard	Code:		SALES: BULK CARDBOARD			
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Cardboard	156	0	196.16	0.00	0.00	0.00	0.00
Totals for product Sales Cardboard (SALES	156		196.16	0.00	0.00	0.00	0.00

Product	Sales Metal	Code:		SALES: METAL			
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Ferrous	116	0	1,674.12	0.00	172,665.67	17,266.55	189,932.22
Non ferrous Mixed	12	0	29.84	0.00	13,647.83	1,364.76	15,012.59
Totals for product Sales Metal (SALES: ME	128		1,703.96	0.00	186,313.50	18,631.31	204,944.81

Site: Nambour

Nambour Landfill

Product	Sales Mulch	Code:		SALES: MULCH			
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Free Domestic Coarse	2,075	0	1,299.30	2,165.50	0.00	0.00	0.00
Single Grind <1000m	27	0	358.80	598.00	3,261.78	326.22	3,588.00
Single Grind <100m	153	0	588.30	980.50	8,024.89	802.61	8,827.50
Single Grind >1001m	3	0	147.00	245.00	890.92	89.09	980.01
Totals for product Sales Mulch (SALES: MU	2,258		2,393.40	3,989.00	12,177.59	1,217.92	13,395.51

Product	Sales Shop	Code:		SALES: SHOP			
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Arts/Crafts	8	8	0.00	0.00	7.10	0.70	7.80
Automotive	28	66	0.00	0.00	60.10	6.00	66.10
Books/Magazines	6	5	0.00	0.00	4.54	0.46	5.00
Electrical	10	10	0.00	0.00	9.19	0.91	10.10

Furniture	10	10	0.00	0.00	9.10	0.90	10.00
Gardening/Outdoor	84	89	0.00	0.00	80.48	8.02	88.50
Hardware/Machinery	10	18	0.00	0.00	15.92	1.58	17.50
Home Appliances	20	34	0.00	0.00	31.10	3.10	34.20
Homewares	27	28	0.00	0.00	25.64	2.56	28.20
Renovation/Building	23	24	0.00	0.00	21.83	2.17	24.00
Sports/Leisure	33	40	0.00	0.00	35.94	3.56	39.50
Toys	42	42	0.00	0.00	37.74	3.76	41.50
Totals for product Sales Shop (SALES: SHO)	301		0.00	0.00	338.68	33.72	372.40

Product SCC Recyclables

Code: SCC RECYCLABLES

<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
F/Lift Kunda Park	748	0	3,320.74	0.00	0.00	0.00	0.00
Front Lift	25	0	88.12	0.00	0.00	0.00	0.00
Public Place	453	0	1,427.48	0.00	0.00	0.00	0.00
Rear Lift	177	0	632.82	0.00	0.00	0.00	0.00
Side Lift	5,207	0	27,998.68	0.00	0.00	0.00	0.00
Totals for product SCC Recyclables (SCC RI)	6,610		33,467.84	0.00	0.00	0.00	0.00

Site: Nambour

Nambour Landfill

Product Scrap Metal

Code: SCRAP METAL

<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Fridges etc degassed	222	307	0.00	0.00	0.00	0.00	0.00
Fridges etc. not deg	948	1,073	0.00	0.00	3,300.68	329.32	3,630.00
iolar Kenilworth	4	0	12.14	0.00	535.74	53.56	589.30
iolar Mapleton	7	0	29.56	0.00	1,276.05	127.61	1,403.66
iolar Witta	3	0	17.38	0.00	760.40	76.04	836.44
iolar Yandina	2	0	9.32	0.00	429.93	42.99	472.92
Large	188	188	75.20	0.00	0.00	0.00	0.00
Medium	834	845	211.25	0.00	0.00	0.00	0.00
Small	3,325	3,389	169.45	0.00	0.00	0.00	0.00
Weighed	52	0	28.12	0.00	0.00	0.00	0.00
Totals for product Scrap Metal (SCRAP ME)	5,585		552.42	0.00	6,302.80	629.52	6,932.32

Product Transfer Landfill

Code: TRANSFER LANDFILL

<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Transfer Station	881	0	6,531.88	0.00	0.00	0.00	0.00
Totals for product Transfer Landfill (TRAN)	881		6,531.88	0.00	0.00	0.00	0.00

Product Tyres

Code: TYRES

<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
4WD / Truck	66	176	5.28	0.00	1,280.03	127.97	1,408.00
Car/Motorecycle	274	773	15.46	0.00	4,215.81	422.19	4,638.00
Tractor < 1m	4	5	1.00	0.00	545.45	54.55	600.00
Tractor > 1m	1	1	0.35	0.00	163.64	16.36	180.00
Truck / Bobcat	18	69	5.52	0.00	940.93	94.07	1,035.00
Tyres Retrieved @ TS	2	7	0.14	0.00	0.00	0.00	0.00
Totals for product Tyres (TYRES)	365		27.75	0.00	7,145.86	715.14	7,861.00

Product Weight Only

Code: WEIGHT ONLY

<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Refuse To Pay	24	0	0.00	24.00	0.00	0.00	0.00
Weighed	383	0	6,269.58	0.00	0.00	0.00	0.00
Totals for product Weight Only (WEIGHT C)	407		6,269.58	24.00	0.00	0.00	0.00

Totals for site Nambour

92,041	228,468.45	4,033.00	1,202,287.17	120,193.79	1,322,480.96
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GRAND TOTALS

92,041	228,468.45	4,033.00	1,202,287.17	120,193.79	1,322,480.96
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RPT0070.020

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Tran By Product By Rate Summary (0070)

Print Date & Time: 10/04/2017 - 3:49:15PM

Date is between 1/03/2015 and 29/02/2016 AND Site equals Caloundra

Site: Caloundra

Caloundra Landfill

Product		C & D Landfill		Code: C & D LANDFILL			
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Large	162	162	64.80	0.00	5,449.68	544.32	5,994.00
Medium	22	22	5.50	0.00	440.00	44.00	484.00
Weighed	703	0	1,761.36	0.00	257,823.89	25,782.23	283,606.12
Totals for product C & D Landfill (C & D L)		887	1,831.66	0.00	263,713.57	26,370.55	290,084.12

Product		C & D Mixed		Code: C & D MIXED			
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Large	404	404	161.60	0.00	13,590.56	1,357.44	14,948.00
Medium	1,028	1,028	257.00	0.00	20,560.00	2,056.00	22,616.00
Reload >2m3	2	2	0.00	0.00	454.54	45.46	500.00
Small	407	407	20.35	0.00	2,958.89	297.11	3,256.00
Weighed	441	0	748.54	0.00	109,651.23	10,964.99	120,616.22
Totals for product C & D Mixed (C & D MI)		2,282	1,187.49	0.00	147,215.22	14,721.00	161,936.22

Product		C & D Recyclable		Code: C & D RECYCLABLE			
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Concrete m3	2	0	2.00	2.00	32.72	3.28	36.00
Concrete Ute/trailer	1,682	1,684	842.00	0.00	12,242.69	1,229.31	13,472.00
Concrete Weighed	3,698	0	11,750.91	0.00	192,582.81	19,258.61	211,841.42
Totals for product C & D Recyclable (C & D)		5,382	12,594.91	2.00	204,858.22	20,491.20	225,349.42

Product		C & I Green		Code: C & I GREEN			
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Large	3,272	3,273	1,309.20	0.00	59,503.14	5,956.86	65,460.00
Medium	4,640	4,650	1,162.50	0.00	63,425.90	6,324.10	69,750.00
Small	1,344	1,344	67.20	0.00	6,115.20	604.80	6,720.00
Weighed	1,273	0	2,128.70	0.00	97,145.21	9,698.98	106,844.19
Totals for product C & I Green (C & I GRE)		10,529	4,667.60	0.00	226,189.45	22,584.74	248,774.19

Product		C & I Landfill		Code: C & I LANDFILL			
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Filtercake	171	0	1,165.94	0.00	170,651.26	17,065.08	187,716.34
Large	512	512	204.80	0.00	17,223.68	1,720.32	18,944.00
Medium	145	145	36.25	0.00	2,900.00	290.00	3,190.00
Weighed	1,447	0	4,176.14	0.00	611,344.40	61,134.56	672,478.96
Totals for product C & I Landfill (C & I LA)		2,275	5,583.13	0.00	802,119.34	80,209.96	882,329.30

Tran By Product By Rate Summary (0070)

10/04/2017 - 3:49:15PM

Site: Caloundra

Caloundra Landfill

Product		C & I Mixed		Code: C & I MIXED			
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Cubic metre	1	0	0.50	1.00	92.73	9.27	102.00

Large	2,422	2,424	969.60	0.00	81,543.34	8,144.66	89,688.00
Medium	4,331	4,337	1,084.25	0.00	86,740.00	8,674.00	95,414.00
Shop unsold	428	0	132.00	0.00	0.00	0.00	0.00
Small	2,556	2,568	128.40	0.00	18,669.46	1,874.54	20,544.00
Weighed	1,743	0	1,141.55	0.00	173,512.92	17,348.74	190,861.66
Totals for product C & I Mixed (C & I MIXI)	11,481		3,456.30	1.00	360,558.45	36,051.21	396,609.66

Produc Capping Clay		Code: CAPPING CLAY					
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Weighed	3,387	0	75,789.78	0.00	0.00	0.00	0.00
Totals for product Capping Clay (CAPPING)	3,387		75,789.78	0.00	0.00	0.00	0.00

Produc Clean Plasterboard		Code: PLASTERBOARD CLEAN					
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Large	2	2	0.80	0.00	36.36	3.64	40.00
Medium	14	14	3.50	0.00	190.96	19.04	210.00
Small	1	1	0.05	0.00	4.55	0.45	5.00
Totals for product Clean Plasterboard (PLA)	17		4.35	0.00	231.87	23.13	255.00

Produc Clean Timber		Code: TIMBER CLEAN					
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Large	4	4	1.60	0.00	72.72	7.28	80.00
Medium	20	20	5.00	0.00	272.80	27.20	300.00
Small	8	8	0.40	0.00	36.40	3.60	40.00
Weighed	16	0	15.04	0.00	683.64	68.36	752.00
Totals for product Clean Timber (TIMBER)	48		22.04	0.00	1,065.56	106.44	1,172.00

Produc Cleanfill		Code: CLEANFILL					
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Special	27	0	309.80	0.00	0.00	0.00	0.00
Ute / Trailer	1,073	1,073	268.25	0.00	5,847.85	590.15	6,438.00
Weighed	2,391	0	16,034.92	0.00	87,564.88	8,756.78	96,321.66
Totals for product Cleanfill (CLEANFILL)	3,491		16,612.97	0.00	93,412.73	9,346.93	102,759.66

Site: Caloundra Caloundra Landfill

Produc Contract Collection		Code: CONTRACT: COLLECTION					
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Compactors	346	0	2,004.92	0.00	0.00	0.00	0.00
Frontlift	1,226	0	10,338.96	0.00	0.00	0.00	0.00
Landfill Relocation	3,514	0	46,842.95	0.00	0.00	0.00	0.00
Public Place	1,488	0	4,316.28	0.00	0.00	0.00	0.00
Rear Lift	32	0	85.54	0.00	0.00	0.00	0.00
Side Lift	5,390	0	41,044.04	0.00	0.00	0.00	0.00
Tran: Beerwah	210	0	1,351.98	0.00	0.00	0.00	0.00
Tran: Buderim	7	0	44.74	0.00	0.00	0.00	0.00
Tran: Witta	97	0	598.76	0.00	0.00	0.00	0.00
Totals for product Contract Collection (CON)	12,310		106,628.17	0.00	0.00	0.00	0.00

Produc Dead Animals		Code: DEAD ANIMALS					
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Contractor	6	0	0.46	0.00	0.00	0.00	0.00
Large >99kg	16	16	8.00	0.00	1,207.20	120.80	1,328.00
Medium 25 to 99kg	39	46	2.30	0.00	606.28	60.72	667.00
Small <25kg	119	255	5.10	0.00	1,043.04	104.46	1,147.50
Vet Wildlife	5	0	0.88	0.00	0.00	0.00	0.00
Totals for product Dead Animals (DEAD AN)	185		16.74	0.00	2,856.52	285.98	3,142.50

Produc Declared Vegetation		Code: DECLARED VEGETATION					
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>

Medium	6	6	1.50	0.00	81.84	8.16	90.00
Small	1	1	0.05	0.00	4.55	0.45	5.00
Weighed	7	0	5.74	0.00	260.91	26.09	287.00
Totals for product Declared Vegetation (DE	14		7.29	0.00	347.30	34.70	382.00

Product MSW Green		Code: MSW GREEN					
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Contract	1,068	0	6,416.48	0.00	0.00	0.00	0.00
Large	1,813	1,818	727.20	0.00	33,051.24	3,308.76	36,360.00
Medium	12,173	12,189	3,047.25	0.00	166,257.81	16,577.19	182,835.00
Small	5,600	5,604	280.20	0.00	25,498.16	2,521.84	28,020.00
Weighed	197	0	179.25	0.00	8,300.86	830.14	9,131.00
Totals for product MSW Green (MSW GRE	20,851		10,650.38	0.00	233,108.07	23,237.93	256,346.00

Site: Caloundra Caloundra Landfill

Product Municipal Solid Waste		Code: MSW					
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Large	698	698	279.20	0.00	23,480.72	2,345.28	25,826.00
Mattress non-recycle	10	15	0.38	0.00	0.00	0.00	0.00
Medium	11,135	11,139	2,784.75	0.00	222,780.00	22,278.00	245,058.00
Small	18,439	18,491	924.55	0.00	134,430.08	13,497.92	147,928.00
Weighed	73	0	59.47	0.00	8,704.23	870.44	9,574.67
Totals for product Municipal Solid Waste (M	30,355		4,048.35	0.00	389,395.03	38,991.64	428,386.67

Product Recyclables Incoming		Code: RECYCLABLES INCOMING					
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Bric a Brac	1	2	0.00	0.00	0.00	0.00	0.00
Comm Chemicals (20L)	8	25	0.00	0.00	1,704.54	170.46	1,875.00
Commercial Oil	11	17	1,700.00	0.00	309.07	30.93	340.00
E-waste	1,140	1,440	0.00	0.00	0.00	0.00	0.00
Fluorescent Lights	10	145	0.03	0.00	263.65	26.35	290.00
Mattress Foam	401	1,150	5.75	0.00	1,708.92	171.08	1,880.00
Mattress Rec @ TS	23	144	3.60	0.00	0.00	0.00	0.00
Mattress Spring	1,125	4,123	103.08	0.00	17,526.22	1,753.78	19,280.00
Shop Recovery	273	0	49.89	0.00	0.00	0.00	0.00
Totals for product Recyclables Incoming (RE	2,992		1,862.34	0.00	21,512.40	2,152.60	23,665.00

Product Recyclables Outgoing		Code: RECYCLABLES OUTGOING					
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Foam	2	0	10.60	0.00	0.00	0.00	0.00
Gas Bottles	18	0	7.68	0.00	0.00	0.00	0.00
Totals for product Recyclables Outgoing (RE	20		18.28	0.00	0.00	0.00	0.00

Product Regulated Outgoing		Code: REGULATED OUTGOING					
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Chemicals	12	0	5.84	0.00	0.00	0.00	0.00
Oil	42	0	22.00	0.00	0.00	0.00	0.00
Tyre-4WD/L-Truck	12	467	14.01	0.00	0.00	0.00	0.00
Tyre-Car/Motorecycle	13	737	11.06	0.00	0.00	0.00	0.00
Tyre-Tractor<2m	2	5	1.00	0.00	0.00	0.00	0.00
Tyre-Tractor>2m	1	1	0.35	0.00	0.00	0.00	0.00
Tyre-Truck/Bobcat	11	334	26.72	0.00	0.00	0.00	0.00
Totals for product Regulated Outgoing (REC	93		80.98	0.00	0.00	0.00	0.00

Site: Caloundra Caloundra Landfill

Product Regulated Waste		Code: REGULATED WASTE					
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Application Fee	51	51	0.00	0.00	7,882.05	787.95	8,670.00

Asbestos	3	0	3.84	0.00	562.03	56.21	618.24
Contaminated Soil	21	0	184.00	0.00	26,936.76	2,693.68	29,630.44
Large	7	7	2.80	0.00	235.48	23.52	259.00
Medium	16	16	4.00	0.00	320.00	32.00	352.00
Small	23	23	1.15	0.00	167.21	16.79	184.00
Totals for product Regulated Waste (REGUI	121		195.79	0.00	36,103.53	3,610.15	39,713.68

Product Sales Batteries		Code: SALES: BATTERIES					
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Batteries	6	0	37.86	0.00	10,283.80	1,028.37	11,312.17
Totals for product Sales Batteries (SALES: F	6		37.86	0.00	10,283.80	1,028.37	11,312.17

Product Sales Cardboard		Code: SALES: BULK CARDBOARD					
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Cardboard	327	0	455.68	0.00	0.00	0.00	0.00
Totals for product Sales Cardboard (SALES	327		455.68	0.00	0.00	0.00	0.00

Product Sales Concrete		Code: SALES: CONCRETE					
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
~ 40 mm	69	0	1,079.10	981.00	20,511.67	2,051.33	22,563.00
~ 80 mm	30	0	2,404.00	2,404.00	43,709.05	4,370.91	48,079.96
Road base ~20mm	217	0	1,718.50	1,227.50	22,317.90	2,232.09	24,549.99
Totals for product Sales Concrete (SALES: C	316		5,201.60	4,612.50	86,538.62	8,654.33	95,192.95

Product Sales Metal		Code: SALES: METAL					
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Ferrous	244	0	2,865.26	0.00	290,936.30	29,093.61	320,029.91
Non ferrous Mixed	48	0	85.27	0.00	39,384.49	3,938.45	43,322.94
Totals for product Sales Metal (SALES: ME'	292		2,950.53	0.00	330,320.79	33,032.06	363,352.85

Product Sales Mulch		Code: SALES: MULCH					
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
ARG Mulch Fines	220	0	5,916.50	5,916.50	0.00	0.00	0.00
Free Domestic Coarse	2,764	0	2,661.00	4,435.00	0.00	0.00	0.00
Mulch Fines	169	0	399.20	499.00	340.91	34.09	375.00
Relocation / Free	10	0	14.40	18.00	0.00	0.00	0.00
Single Grind <1000m	30	0	232.20	387.00	2,110.98	211.02	2,322.00
Single Grind <100m	131	0	764.70	1,274.50	10,430.33	1,043.17	11,473.50
Totals for product Sales Mulch (SALES: MU	3,324		9,988.00	12,530.00	12,882.22	1,288.28	14,170.50

Site: Caloundra Caloundra Landfill

Product Sales Other		Code: SALES: OTHER					
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
ARG Soil Blend	14	0	33.00	55.00	0.00	0.00	0.00
Totals for product Sales Other (SALES: OTI	14		33.00	55.00	0.00	0.00	0.00

Product Sales Shop		Code: SALES: SHOP					
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Sports/Leisure	1	0	0.00	0.00	0.09	0.01	0.10
Totals for product Sales Shop (SALES: SHO	1		0.00	0.00	0.09	0.01	0.10

Product Scrap Metal		Code: SCRAP METAL					
<u>Rate</u>	<u>Items</u>	<u>Qty</u>	<u>Net</u>	<u>C/M</u>	<u>\$ ex GST</u>	<u>GST</u>	<u>\$ inc GST</u>
Fridges etc degassed	664	797	0.00	0.00	0.00	0.00	0.00
Fridges etc. not deg	1,183	1,308	0.00	0.00	4,828.26	481.74	5,310.00
iolar Beerwah	34	0	173.24	0.00	7,503.46	750.35	8,253.81
iolar Kenilworth	1	0	3.78	0.00	158.45	15.85	174.30
iolar Witta	14	0	70.28	0.00	3,043.62	304.35	3,347.97
iolar Yandina	2	0	7.72	0.00	322.07	32.21	354.28

Large	735	735	294.00	0.00	0.00	0.00	0.00
Medium	1,183	1,183	295.75	0.00	0.00	0.00	0.00
Other White Goods	1	1	0.00	0.00	0.00	0.00	0.00
Small	4,332	4,332	216.60	0.00	0.00	0.00	0.00
Weighed	245	0	185.50	0.00	0.00	0.00	0.00
Totals for product Scrap Metal (SCRAP ME	8,394		1,246.87	0.00	15,855.86	1,584.50	17,440.36

Product		Code: TRANSFER LANDFILL					
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Borrow Pit	267	0	2,248.32	0.00	40,878.50	4,087.90	44,966.40
Recovery Pad	251	0	1,680.14	0.00	0.00	0.00	0.00
Transfer Station	1,977	0	6,234.64	0.00	0.00	0.00	0.00
Totals for product Transfer Landfill (TRAN:	2,495		10,163.10	0.00	40,878.50	4,087.90	44,966.40

Product		Code: TRANSFER RESOURCES					
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Ferrous	578	0	230.58	0.00	0.00	0.00	0.00
Ferrous Cal Trailer	120	581	174.30	0.00	0.00	0.00	0.00
Mulch m3	8	0	9.60	16.00	0.00	0.00	0.00
Totals for product Transfer Resources (TRA	706		414.48	16.00	0.00	0.00	0.00

Site: Caloundra

Caloundra Landfill

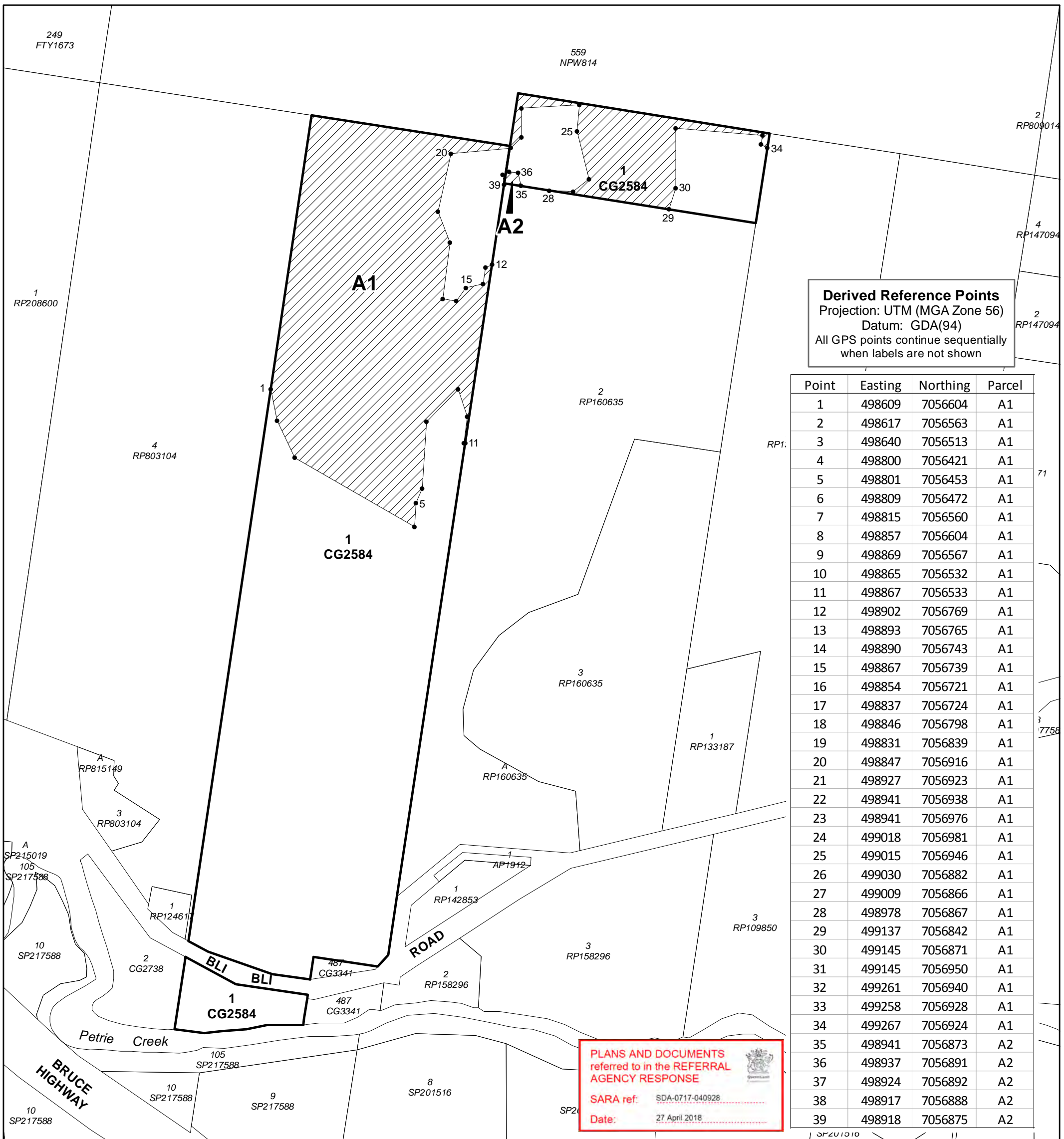
Product		Code: TYRES					
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
4WD / Truck	71	215	6.45	0.00	1,563.64	156.36	1,720.00
Car/Motorecycle	222	720	14.40	0.00	3,926.87	393.13	4,320.00
Tractor < 1m	4	8	1.60	0.00	872.72	87.28	960.00
Truck / Bobcat	31	272	21.76	0.00	3,709.12	370.88	4,080.00
Totals for product Tyres (TYRES)	328		44.21	0.00	10,072.35	1,007.65	11,080.00

Product		Code: WEIGHT ONLY					
Rate	Items	Qty	Net	C/M	\$ ex GST	GST	\$ inc GST
Refuse To Pay	19	0	0.00	19.00	0.00	0.00	0.00
Weighed	2,296	0	64,539.71	0.00	0.00	0.00	0.00
Totals for product Weight Only (WEIGHT C	2,315		64,539.71	19.00	0.00	0.00	0.00
Totals for site Caloundra	125,238		340,333.58	17,235.50	3,289,519.49		328,901.26

3,618,420.75

GRAND TOTALS	125,238	340,333.58	17,235.50	3,289,519.49	328,901.26	3,618,420.75
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Report End



PLANS AND DOCUMENTS referred to in the REFERRAL AGENCY RESPONSE

SARA ref: SDA-0717-040928

Date: 27 April 2018

SCALE 1:5000 @ A3 paper size



Projection: UTM (MGA Zone 56) Datum: GDA94

Note: Derived Reference Points are provided to assist in the location of the Technical Agency Response boundaries. Responsibility for locating these boundaries lies solely with the landholder and delegated contractor(s).

The property boundaries shown on this plan are APPROXIMATE ONLY. They are NOT an accurate representation of the legal boundaries.

Note: This plan must be read in conjunction with Technical Agency Response SDA-0717-040928

LEGEND

- Derived Reference Points for GPS
- Subject Lot(s)
- ▨ Area A1 & A2 - Specific conditions apply - **conditions 5, 6 and 7**

Technical Agency Response (Vegetation) Plan
Plan of all Area A in Lot 1 on CG2584



CENTRE: IPSWICH
 LOCALITY OF BLI BLI

REGION: SOUTH
 LOCAL GOVT: SUNSHINE COAST

Map Reference: 9444

Compiled from: DCDB, PVMP & NRMO Notes

File Reference: eLVAS 2017/003572

Prepared by: LMO

Date: 12 January 2018

TARP
SDA-0717-040928
 Sheet 1 of 1

560 Bli Bli Road and 18, 26, 40, 50, 66
Cooney Road, Bli Bli

APPENDIX

K

DEPARTMENT OF ENVIRONMENT AND
ENERGY CONTROLLED ACTION
DECISION



Mr Michael Whittaker
Chief Executive Officer
Sunshine Coast Regional Council
Sunshine Coast Mail Centre
SUNSHINE COAST QLD 4560

Dear Mr Whittaker

**Decision on referral
Nambour Landfill Expansion, Cooney Road, Bli Bli, Queensland**

Thank you for submitting a referral under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This is to advise you of my decision about the proposed action to expand the existing Nambour Landfill facility located on Cooney Road, Bli Bli, Queensland.

As a delegate of the Minister for the Environment and Energy, I have decided that the proposed action is not a controlled action. This means that the proposed action does not require further assessment and approval under the EPBC Act before it can proceed.

A copy of the document recording this decision is enclosed. This document will be published on the Department's website.

Please note that this decision relates only to the specific matters protected under Chapter 2 of the EPBC Act. This decision does not affect any requirement for separate state or local government environment assessment and approvals of the proposed action.

The Department has an active audit program for proposals that have been referred under the EPBC Act. The audit program aims to ensure that proposals are implemented as planned. Please note that your project may be selected for audit by the Department at any time and all related records and documents may be subject to scrutiny. Information about the Department's compliance monitoring and auditing program is enclosed.

If you have any questions about the referral process or this decision, please contact the project manager, Lanbin Guo, by email to lanbin.guo@environment.gov.au, or telephone (02) 6274 2520 and quote the EPBC reference number shown at the beginning of this letter.

Yours sincerely

James Barker
Assistant Secretary
Assessments and Governance Branch

21 June 2017



Notification of

REFERRAL DECISION – not controlled action

Nambour Landfill Expansion, Cooney Road, Bli Bli, Queensland (EPBC 2017/7946)

This decision is made under Section 75 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Proposed action

Person proposing to take the action Sunshine Coast Regional Council

ABN: 37 876 973 913

proposed action To expand the existing Nambour Landfill facility located on Cooney Road, Bli Bli, Queensland; as described in the referral received by the Department on 12 May 2017 [See EPBC Act referral 2017/7946]

Referral decision: Not a controlled action

status of proposed action The proposed action is not a controlled action.

Person authorised to make decision

Name and position James Barker
Assistant Secretary
Assessments and Governance Branch

signature

date of decision

21 / 6 / 2017