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RPS Australia East Pty Ltd ABN 44 140 292 762  
A member of the RPS Group Plc

5 September 2018

Attn: Mr David Munro  
Etheridge Shire Council  
PO Box 12  
Georgetown QLD 4871  
Australia

**Our ref:** PR141398-1  
**Via:** Email

Dear David,

### **Georgetown Industrial Land Masterplan: L77866**

We refer to the above matter and have pleasure in submitting our preferred Masterplan (along with the two alternative options) for Council's consideration, refer **Appendix A**. Premise Engineering have also prepared high level cost estimates to deliver Area 'A' overall, as well as the agricultural components proposed within Area 'A' provided for reference as **Appendices B & C** respectively. We provide the following advice and information to assist Council when considering these documents.

## **1 Background**

In recent years, Etheridge Shire Council has been investigating the potential to develop the Gilbert River area as a major irrigated agricultural precinct. There is the potential that the area will yield up to 40,000 has of land suitable for irrigated production of a range of crop, including cotton, legumes and grains.

Should this potential be realised, it is expected that demand will emerge for an increase in industrial land to service increasing demands associated with the increases in agricultural production. In order to be in a position to respond to and support this potential increase in demand for industrial land, Council has initiated negotiations with the Queensland Department of Natural Resources and Mines to acquire an area of unused road reserve on the western boundary of the town of Georgetown. The intent is to develop an industrial precinct able to accommodate a range of land uses that could emerge as a result of the potential expansion of agricultural activities in the region.

Whilst these negotiations are proceeding, Council commissioned RPS to prepare a Masterplan of the proposed industrial precinct. This Masterplan was required to identify and assess constraints and opportunities which effect the site, and to then prepare a concept plan that would provide direction for the future development of the land in such a way as to meet a number of target objectives, including:

- Optimisation of the full potential of the land;
- Incorporation of common design features so as to create an aesthetically pleasing outcome; and
- Provision for easy and free-flowing traffic movement, particularly taking into consideration the expectation of significant volumes of heavy vehicle movement within the precinct, likely to include B-Double and Road Train configuration.

## 2 Site Requirement Assessment

### 2.1 Overview

Council's Study Brief identified a number of facilities and potential end uses that emerge for land that should be accommodated/provided for within the industrial precinct. These included:

- A cotton gin, for the processing of raw cotton grown in the region
- A weighbridge, for use by a range of haulage users,
- Grain storage facilities, likely in the form of silos,
- Cattle holding yards, for the short-term spelling of cattle either in transit or awaiting transport,
- A range of industrial lots of various size, to provide flexibility to accommodate specific site requirements of individual end users,
- A road system able to accommodate heavy, multi-trailer transport vehicles,
- Areas of open space, to provide passive recreation and amenity benefits to workers etc

In addition to these facilities, the RPS Study Team have identified the potential demand for a heavy vehicle wash-down facility, particularly given the general increase in awareness of /sensitivity to biosecurity issues in the primary industry sector.

Before "putting pen to paper" on the Masterplan, members of the study team, including Dr Margaret Jewell (Premise Agriculture) undertook research on a range of issues likely to influence the detailed design and layout of the precinct. Issues that were investigated included:

- Revision of common industrial land use requirements within a range of planning instruments, including the current Etheridge Shire Planning Scheme as well as other planning schemes and policies, and
- Research into typical siting arrangements (especially site area requirements) for the specific land use facilities identified in Council's brief.

The results of this research are summarised in the following sections of this report.

### 2.2 Cotton Gin

Cotton gins in Australia have been historically located in regional cotton growing areas, to reduce transport costs associated with processing. Mechanically harvested cotton is pressed into large round modules or rectangular blocks and transported to a cotton gin for initial processing. RPS notes that the size requirements for cotton gins have gradually reduced in recent years given that the way in which cotton is stored in modules. Modern modules are compacted to limit the degree of yield and quality loss in cotton, thus reducing required storage area.

Processing of the cotton strips the cotton lint from the seeds, with cottonseed representing approximately 50% of the ginned cotton's weight. Cotton fibre represents approximately 40% of ginned cotton's weight and the remaining 10% is a waste product comprising mostly organic matter. Dr Jewell has indicated that further advances in the waste composting processes have reduced the required area needed for waste disposal and management, and estimates that approximately 10 ha would be required. Whilst there have been reductions made, it is safe to assume that waste product management would require a sizeable area. RPS have examined the following two (2) existing cotton gins to provide a point of reference.

- Emerald Cotton Gin, which currently operates on a site of approximately 19 ha; and
- Dalby Cotton Gin, which currently operates on a site of approximately 10 ha.

Estimates of allotment size for establishing a cotton gin are based upon a number of factors, including:

- Cotton production area and yields;
- Demand for the establishment of a cotton gin; and
- Land suitability studies, including soil analysis.

Based upon these findings, the study team has adopted 10 ha as an appropriate site area able to accommodate a commercial-size cotton gin (noting that, under the preferred option Masterplan layout, there is the ability to easily expand this site area, should the need arise).

## 2.3 Cattle Holding Yards

Well-designed cattle yards are essential for the efficient and safe handling of stock. It is noted that the main component of cattle holding yards are the receiving and holding yards and it is possible to construct the nucleus of the facility that can be added to as cattle numbers and operations demand.

Dr Jewell has advised that as a guide, for a typical 1,000 head in transfer yard (1.75m<sup>2</sup> per head) and a further 1,000 head capacity in spelling yards (4.0m<sup>2</sup> per head), including gateways / lanes and drainage channels, requires approximately 1 ha. Based on an entire facility inclusive of yards, roads, commodities storage, office, effluent ponds, truck wash, weighbridge etc. it is estimated that 15-20 ha would be considered adequate. Furthermore, it is noted that each additional 1,000 head of capacity within the facility, does not result in a significant increase in area requirements.

On the assumption that weighbridge and washdown facilities would be provided as “common user” facilities separate to the actual holding yards, the preferred option Masterplan (Option 5) provides for a site area of 12.5 to 14 ha’s for cattle holding yards. The study team are of the view that this would be sufficient to meet any anticipated demands (albeit with the ability to expand onto other areas within the precinct if demand warrants).

## 2.4 Grain Storage Silos

Grain silos play a significant role within regional Australia as storage facilities. Generally located in close proximity to existing rail corridors they are an integral part of the Australia agricultural landscape. Demand use and marketing of bulk storage product will dictate the number of silos required within Etheridge Shire. Premise has determined that approximately 10 to 30 ha’s of area will be required for proposed silo development, based on existing silos located in other rural locations. Based on the assumption that grain stored within the silos is for cattle consumption, it is likely that the estimated area required for the proposed development would be closer to 10 ha.

## 2.5 Industrial Allotments

The provision of industrial allotments with the Industrial Precinct of Etheridge Shire will be wholly dependent upon the demand and the availability of suitably positioned and sized allotments. The proposed configuration of any future land uses must be flexible to accommodate a range of proposed users whilst ensuring compliance with the Planning Scheme. However, the preferred option Masterplan provides for lot sizes ranging upwards from 5,000 sq. mtrs, again with the flexibility to be able to amend lot configuration to meet specific site requirements of particular end users.

### 3 Masterplanning Process

As part of the process of preparing the Masterplan for the Georgetown industrial precinct, the study team undertook a desk-top analysis of available site data. Due to limited data availability and time constraints, this analysis was limited to;

- Analysis of existing LiDAR (aerial laser survey) data over the eastern portion of the site,
- Broader-scale topographic mapping over the balance of the site, and
- Review of aerial imagery of the site, particularly to identify drainage paths, areas of vegetation etc.

Whilst this level of analysis provides a reasonable degree of confidence to allow broad-scale masterplanning to proceed, it will be necessary to complete a range of more detailed site studies/investigations before proceeding with more detailed design. These are likely to include:

- Topography and slope analysis, to determine suitability of the site for proposed land use options and to guide planning and design considerations so as to minimise environmental, visual and amenity impacts associated with any proposed development;
- Drainage analysis, including hydraulic and hydrologic design requirements, so as to provide guidance for site selection in terms of suitability and proposed land uses. Hydraulic analysis will be required to design either pipes or overland flows systems and hydrologic design component will assess the catchment area and the run-off coefficients for the site, which is of particular concern in relation to proposed use for cattle holding yards, namely effluent ponds and wastes disposal areas of cotton gins;
- Geology and soils analysis, which will be of particular interest in relation to the creation of any proposed cattle holding facility, given the need to construct effluent ponds and water storages. Soil suitability will influence the configuration of such uses and indicate the site's susceptibility to erosion and potential sediment issues;
- Vegetation assessment, by way of detailed Vegetation Mapping resources, to determine whether the presence of any remnant vegetation will impact upon the site. The visual character and spatial definition of the site will be impacted by the amount and type of vegetation;
- Visual analysis, to determine potential impacts of any proposed land uses upon existing development, whether rural or urban; and
- Provision of and accessibility to infrastructure and services will determine the potential environmental and economic impacts of any proposed development.

## 4 Masterplan Outcomes

Utilising the results of the fore-mentioned research and site analysis, RPS proceeded with preparation of the masterplan for the site. As part of this process, we developed and investigated a total of five options, refer **Appendix A**. After comparative review of each option, we decided to discard the first two options, on the grounds they were unrealistic, and then proceeded with refinement of the remaining three options. A summary of relevant features of each of these remaining options is provided in the following sections of this report.

### 4.1 Option 3

Relevant features, assumptions and design provisions that have been factored into Option 3 include:

1. Stormwater quality will be managed on-site by each user;
2. A combination of Lidar sourced contours and Department of Natural Resources, Mines and Energy sourced information;
3. Creek centrelines are approximate only and mapped from DNRM&E sourced information. RPS have provisioned for 20 metre buffers to the minor drainage corridors and 30 metres buffer to Four Mile Creek. More detailed investigation is required to determine stream order categories and buffer widths;
4. Drainage corridors are preserved either via easement or dedication to Council;
5. All design options look to minimise crossing drainage corridors and optimising the developable area on each lot;
6. Clustering of smaller lots around Four Mile Creek and at the entrance roads. Larger lots are located at the edges to reduce servicing / infrastructure costs e.g. roads / water / power;
7. Manoeuvring by larger B-doubles will occur on-site;
8. All roads are a minimum 25-metre-wide, with an 11 metres pavement. This may need to increase to 30m to facilitate cost effective stormwater design/management via swale drainage;
9. The major East / West road aligns with a drainage corridor. Creates some one side lots;
10. STP located at the lowest part of Four Mile Creek. It is assumed that the initial lots will have on-site sewer due to the development costs of an STP;
11. A major park node is located along Four Mile Creek and centred in Area B to allow optimised access for all industrial users. A small secondary park node is planned in Area A. A pedestrian connection will connect the major park node, the secondary park node to Racecourse Road, Racecourse and back to Georgetown;
12. Area A is assumed to be the initial staged delivery of the industrial area, minimising development costs;
13. A weigh bridge is located along the entry road to allow safe access / movements from the Highway (Gulf Development Road);
14. Clustering of the Cotton Ginnery, silos, and cattle holding yards;
15. Allotment sizes are flexible and can be altered to suit future user groups; and
16. Area A entrance road is aligned with a small drainage corridor and terminated by the secondary park node

## 4.2 Option 4

In addition to retaining many of the feature, assumptions and design provisions incorporated into Option 3, Option 4 provides for the following design changes/refinements:

1. The major East / West road has been realigned to ensure maximum allotment efficiency via an efficient road network;
2. Improved road safety via reduced road lengths, terminating at Four Mile Creek;
3. Relocated STP and Park node; and
4. Improved drainage solutions with reconfigured allotment layout in Area B.

## 4.3 Option 5

Option 5 retains many of the features, assumptions and design provisions that have been factored into Option 4, but has further refined Option 4 by incorporating: -

1. Improved road safety via reduced road lengths and alignment in Area A, terminating at Four Mile Creek; and
2. Area A road alignment is positioned to allow drainage connection to a smaller drainage corridor leading to Four Mile Creek.
3. Reduced length of one sided road/expanded road to ensure maximum return on infrastructure and lot yield.

We confirm the view of the study team that Option 5 – Drawing 141398-08, represents the preferred layout for the industrial precinct that best meets the study brief and optimises potential for the future development of the land into a major industrial node that will support and reinforce the evolution of Etheridge Shire into a major primary industry and agricultural production and processing area in the north.

We present the plan for Council consideration and would welcome the opportunity to provide further advice or assistance to advance this project.

Yours Sincerely,

**RPS**



Matthew Bolton  
Principal Urban Designer

# Appendix A

## Design Options 1-5

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**DRAFT**

Permit to Occupy  
Lot 1 PER203471

Permit to Occupy  
Lot A AP5872

**GULF DEVELOPMENTAL ROAD**

**ROAD RESERVE**

**AREA B**  
approx 199.3 ha

**AREA A**  
approx 77.5 ha

**COTTON GINNERY**

**CATTLE HOLDING YARD**

**SILOS**

Permit to Occupy  
Lot 1 PER203471

**ROAD RESERVE**

**GB70  
Racecourse**

**RACECOURSE RD**

**Legend**

- Site Boundary
- Strata Parcel
- Active Open Space
- Passive Open Space
- Watercourse
- Watercourse Buffer (20m)
- Potential Road Connection
- Temporary cul-de-sac allowing future connection to Area B
- Potential Pedestrian Movement Path
- Primary Access Point
- Weighbridge location along entrance road promoting safe access into the site
- Primary Active Open Space Node
- Secondary Active Open Space Node
- Sewerage Treatment Plant  
(To be constructed in conjunction with the development of Area B. Lots contained within Area A will utilise interim on-site sewerage.)
- Gullies to be filled to achieve a suitable developable level

**Yield Breakdown**

>5000m <sup>2</sup>	3
5001m <sup>2</sup> - 1ha	8
1ha - 5ha	45
5ha - 10ha	6
>10ha	7
<b>Total Allotments</b>	<b>69</b>

**IMPORTANT NOTE**  
This plan was prepared as a concept base plan only and accuracy of all aspects of the plan have not been verified.  
All lots, areas and dimensions are approximate only. Subject to relevant studies, Survey, Engineering and Government approvals.  
No reliance should be placed on the plan and RPS Australia East Pty Ltd accepts no responsibility for any loss or damage suffered howsoever arising to any person who may use or rely on this plan.

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**RPS**

SCALE 1 : 5000 @ A1

DATE : 23 AUG 2018    DWG NAME : 141398-2    DWG # : 141398-4

**ETHERIDGE SHIRE INDUSTRIAL INVESTIGATION AREA - CONCEPT ALLOTMENT LAYOUT - OPTION 1**  
ETHERIDGE SHIRE COUNCIL

**DRAFT**

Permit to Occupy  
Lot 1 PER203471

Permit to Occupy  
Lot A AP5872

**GULF DEVELOPMENTAL ROAD**

**ROAD RESERVE**

**AREA B**  
approx 189.3 ha

**AREA A**  
approx 77.5 ha

**COTTON GINNERY**

**CATTLE HOLDING YARD**

**SILOS**

Permit to Occupy  
Lot 1 PER203471

**ROAD RESERVE**

**GB70**  
Racecourse

**RACECOURSE RD**

**GB86**  
Airstrip

**Legend**

- Site Boundary
- Strata Parcel
- Active Open Space
- Passive Open Space
- Watercourse
- Watercourse Buffer (20m)
- Potential Road Connection
- Temporary cul-de-sac allowing future connection to Area B
- Potential Pedestrian Movement Path
- 1 Primary Access Point
- 2 Weighbridge location along entrance road promoting safe access into the site
- 3 Primary Active Open Space Node
- 4 Secondary Active Open Space Node
- 5 Sewerage Treatment Plant  
(To be constructed in conjunction with the development of Area B. Lots contained within Area A will utilise interim on-site sewerage.)
- 6 Gullies to be filled to achieve a suitable developable level
- 7 Potential easement dedication of drainage corridor

**Yield Breakdown**

>5000m <sup>2</sup> .....	3
5001m <sup>2</sup> - 1ha .....	9
1ha - 5ha .....	45
5ha - 10ha .....	7
>10ha .....	5
<b>Total Allotments .....</b>	<b>69</b>

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Lot 1 PER203471

Permit to Occupy  
Lot A AP5872

**GULF DEVELOPMENTAL ROAD**

**ROAD RESERVE**

**ROAD RESERVE**

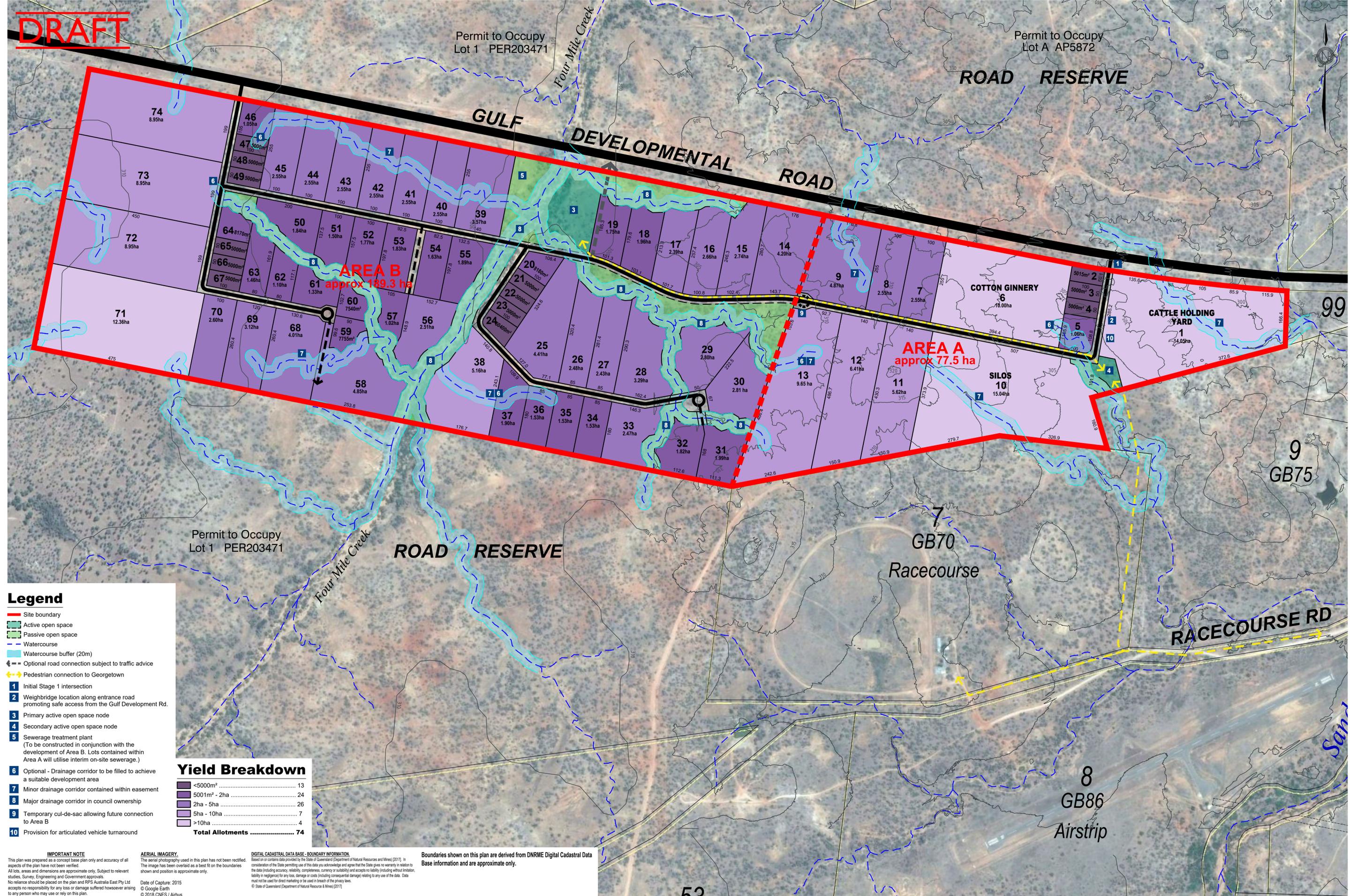
**GB70 Racecourse**

**RACECOURSE RD**

**GB86 Airstrip**

**AREA B**  
approx 189.3 ha

**AREA A**  
approx 77.5 ha



- Legend**
- Site boundary
  - Active open space
  - Passive open space
  - Watercourse
  - Watercourse buffer (20m)
  - Optional road connection subject to traffic advice
  - Pedestrian connection to Georatown
  - 1** Initial Stage 1 intersection
  - 2** Weighbridge location along entrance road promoting safe access from the Gulf Development Rd.
  - 3** Primary active open space node
  - 4** Secondary active open space node
  - 5** Sewerage treatment plant  
(To be constructed in conjunction with the development of Area B. Lots contained within Area A will utilise interim on-site sewerage.)
  - 6** Optional - Drainage corridor to be filled to achieve a suitable development area
  - 7** Minor drainage corridor contained within easement
  - 8** Major drainage corridor in council ownership
  - 9** Temporary cul-de-sac allowing future connection to Area B
  - 10** Provision for articulated vehicle turnaround

**Yield Breakdown**

<span style="background-color: #800080; width: 10px; height: 10px;"></span> <5000m <sup>2</sup> .....	13
<span style="background-color: #800080; width: 10px; height: 10px;"></span> 5001m <sup>2</sup> - 2ha .....	24
<span style="background-color: #800080; width: 10px; height: 10px;"></span> 2ha - 5ha .....	26
<span style="background-color: #800080; width: 10px; height: 10px;"></span> 5ha - 10ha .....	7
<span style="background-color: #800080; width: 10px; height: 10px;"></span> >10ha .....	4
<b>Total Allotments .....</b>	<b>74</b>

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Lot A AP5872

**GULF DEVELOPMENTAL ROAD**

**ROAD RESERVE**

**AREA B**  
approx 189.3 ha

**AREA A**  
approx 77.5 ha

**COTTON GINNERY**

**CATTLE HOLDING YARD**

**SILOS**

**GB70**  
Racecourse

**GB86**  
Airstrip

**GB75**

- Legend**
- Site boundary
  - Active open space
  - Passive open space
  - Watercourse
  - Watercourse buffer (20m)
  - Optional road connection subject to traffic advice
  - Pedestrian connection to Georgetown
  - 1** Initial Stage 1 intersection
  - 2** Weighbridge location along entrance road promoting safe access from the Gulf Development Rd.
  - 3** Primary active open space node
  - 4** Secondary active open space node
  - 5** Sewerage treatment plant (To be constructed in conjunction with the development of Area B. Lots contained within Area A will utilise interim on-site sewerage.)
  - 6** Optional - Drainage corridor to be filled to achieve a suitable development area
  - 7** Minor drainage corridor contained within easement
  - 8** Major drainage corridor in council ownership
  - 9** Temporary cul-de-sac allowing future connection to Area B
  - 10** Provision for articulated vehicle turnaround

**Yield Breakdown**

<5000m <sup>2</sup>	15
5001m <sup>2</sup> - 2ha	32
2ha - 5ha	24
5ha - 10ha	7
>10ha	4
<b>Total Allotments</b>	<b>82</b>

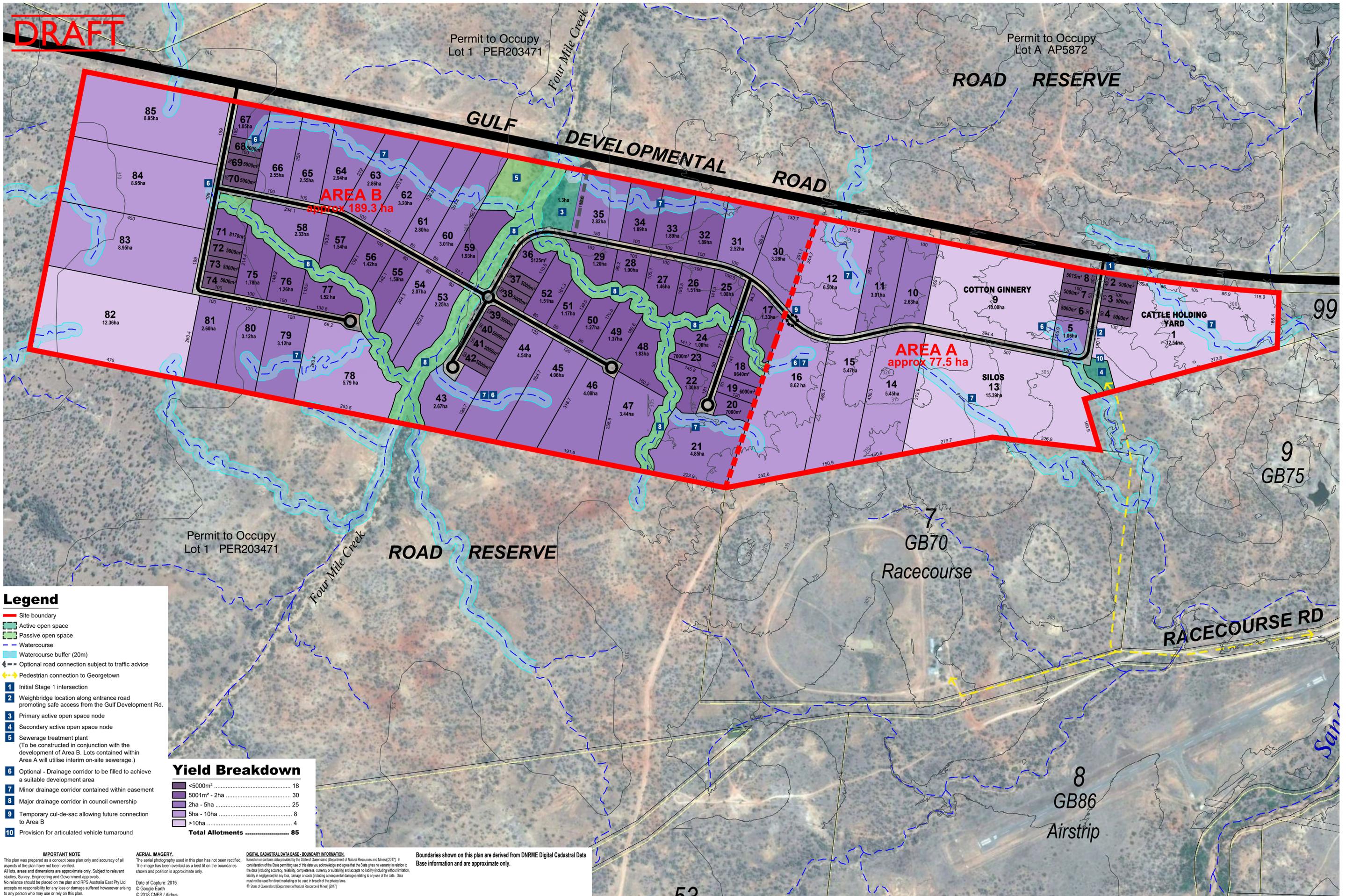
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**DRAFT**



- Legend**
- Site boundary
  - Active open space
  - Passive open space
  - Watercourse
  - Watercourse buffer (20m)
  - Optional road connection subject to traffic advice
  - Pedestrian connection to Georatown
  - 1 Initial Stage 1 intersection
  - 2 Weighbridge location along entrance road promoting safe access from the Gulf Development Rd.
  - 3 Primary active open space node
  - 4 Secondary active open space node
  - 5 Sewerage treatment plant (To be constructed in conjunction with the development of Area B. Lots contained within Area A will utilise interim on-site sewerage.)
  - 6 Optional - Drainage corridor to be filled to achieve a suitable development area
  - 7 Minor drainage corridor contained within easement
  - 8 Major drainage corridor in council ownership
  - 9 Temporary cul-de-sac allowing future connection to Area B
  - 10 Provision for articulated vehicle turnaround

**Yield Breakdown**

<5000m <sup>2</sup>	18
5001m <sup>2</sup> - 2ha	30
2ha - 5ha	25
5ha - 10ha	8
>10ha	4
<b>Total Allotments</b>	<b>85</b>

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# Appendix B

## Estimate of Costs

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**ESTIMATE OF COSTS**  
**SUMMARY PAGE**  
 REV B 05/09/2018

Section	Description	Totals
A	EARTHWORKS	\$ 173,800.00
B	ROADWORKS	\$ 7,250,225.00
C	STORMWATER DRAINAGE	\$ 1,450,000.00
D	WATER RETICULATION	\$ 1,947,175.00
F	SERVICES CONDUITS	\$ 330,000.00
G	ELECTRICAL & COMMUNICATIONS	\$ 1,751,000.00
	PROFIT AND OVERHEADS	\$ 645,000.00
	SITE ALLOWANCE	\$ 1,548,000.00
<b>SUB-TOTAL (EX GST)</b>		<b>\$ 15,095,200.00</b>
<b>G.S.T (10%)</b>		<b>\$ 1,509,520.00</b>
<b>TOTAL (INCL GST)</b>		<b>\$ 16,604,720.00</b>
E	SEWER RETICULATION (Incl GST)	\$ 2,243,560.00

This high level estimate of cost of construction is based on RPS Concept Masterplan Option 5.

The information contained herein is for the use of the client only, and Premise Townsville Pty Ltd, and its officers and employees, assume no responsibility for interpretations made or use of the information.

The estimate of cost may be affected by changes in statutory requirements of the local authority or state agencies.

A EARTHWORKS

Item	Description	Unit	Quantity	Rate	Master Plan
1	<b>Clearing and grubbing including vegetation clearing, demolition and removal of existing structures, fences, etc to allow construction of all works</b>				
(a)	Roads only	Ha	14.7	\$ 4,000.00	\$ 58,800.00
2	<b>General earthworks including level 1 control to AS3798</b>				
(a)	Cut to fill on site	m <sup>3</sup>	8,800	\$ 10.00	\$ 88,000.00
(b)	Imported fill	m <sup>3</sup>	1,800	\$ 15.00	\$ 27,000.00

**TOTAL A EARTHWORKS**

**\$ 173,800.00**

**B ROADWORKS**

Item	Description	Unit	Quantity	Rate	Master Plan
<b>1</b>	<b>Subgrade treatment</b>				
(a)	Roll, grade and trim pavement bed	m <sup>2</sup>	102,415	\$ 3.00	\$ 307,245.00
<b>2</b>	<b>Gravel pavement (Provisional quantity)</b>				
(a)	Base, unbound pavement, Type 2, Subtype 2.1, 300mm thick	m <sup>3</sup>	26,000	\$ 120.00	\$ 3,120,000.00
(b)	Sub-base, unbound pavement, Type 2, Subtype 2.3, 300mm thick	m <sup>3</sup>	26,000	\$ 90.00	\$ 2,340,000.00
<b>3</b>	<b>Supply and application of prime coat including preparation of surface</b>				
(a)	Prime, grade AMC00, spray rate 0.9L/m2,	m <sup>2</sup>	52,785	\$ 3.00	\$ 158,355.00
<b>4</b>	<b>Supply and application of bitumen seal coat including preparation of surface</b>				
(a)	Seal, grade AMC00, spray rate 0.9L/m2, cover aggregate 10mm, 350m2/m3	m <sup>2</sup>	52,785	\$ 10.00	\$ 527,850.00
(b)	Seal, grade CL170, spray rate 1.0L/m2, cover aggregate 14mm, 200m2/m3	m <sup>2</sup>	52,785	\$ 15.00	\$ 791,775.00
<b>5</b>	<b>Pavement marking</b>				
(a)	Linemarking complete including RRPM's	Lump Sum	1	\$ 5,000.00	\$ 5,000.00

**TOTAL B ROADWORKS**

**\$7,250,225.00**

C STORMWATER DRAINAGE

Item	Description	Unit	Quantity	Rate	Master Plan
1	<b>Supply, lay and joint culverts, including trench excavation, sand bedding and surround to trenches, cast in situ base slab, crusher dust under roads and disposal of spoil as specified for reinforced concrete box culverts:</b>				
(a)	Small structure	Each	2	\$ 50,000.00	\$ 100,000.00
(b)	Medium structure	Each	2	#####	\$ 300,000.00
(c)	Large structure	Each	1	#####	\$ 350,000.00
(d)	Major structure	Each	1	#####	\$ 500,000.00
2	<b>Supply and construct cast in situ concrete headwall, wingwall and apron to match the following RCBC sizes</b>				
(a)	Small structure	Each	4	\$ 2,500.00	\$ 10,000.00
(b)	Medium structure	Each	4	\$ 10,000.00	\$ 40,000.00
(c)	Large structure	Each	2	\$ 25,000.00	\$ 50,000.00
(d)	Major structure	Each	2	\$ 50,000.00	\$ 100,000.00

**TOTAL C STORMWATER DRAINAGE**

**\$1,450,000.00**

**D WATER RETICULATION**

Item	Description	Unit	Quantity	Rate	Master Plan
1	<b>uPVC water mains Class 16 including excavation and disposal of spoil, bedding and surround, supply, lay, joint, backfill, test, sterilise and flush and including DICL special pipes, bends and fittings including anchor blocks and crusher dust backfill of trenches for mains under road pavements</b>				
(a)	DN150	m	5,865	\$ 95.00	\$ 557,175.00
2	<b>Supply and install pump station including ancillary works</b>				
(a)	Pump station including ancillary works (location to be confirmed)	Each	1	\$ 250,000.00	\$ 250,000.00
(b)	Water main from pump station to reservoir	m	2,000	\$ 120.00	\$ 240,000.00
(c)	Reservoir	Each	1	\$ 900,000.00	\$ 900,000.00

**TOTAL D WATER RETICULATION**

**\$ 1,947,175.00**

E SEWER RETICULATION

Item	Description	Unit	Quantity	Rate	Master Plan
1	<b>DN150 uPVC sewer mains Class SN8 including excavation and disposal of spoil, bedding and overlay, supply, lay, joint, backfill and test and crusher dust backfill of trenches for mains under road pavements</b>				
(a)	Depth up to 3.0m	m	6,610	\$ 160.00	\$ 1,057,600.00
2	<b>Sewer Manholes including excavation and disposal of spoil</b>				
(a)	Depth up to 3.0m	Each	104	\$ 4,250.00	\$ 442,000.00
3	<b>Supply and install pump station including ancillary works</b>				
(a)	Package Treatment Plant	Each	1	\$ 150,000.00	\$ 150,000.00
(b)	Lift station including ancillary works	Each	1	\$ 300,000.00	\$ 300,000.00
(c)	Rising main	m	750	\$ 120.00	\$ 90,000.00

**TOTAL E SEWER RETICULATION**

**\$ 2,039,600.00**

**F SERVICES CONDUITS**

Item	Description	Unit	Quantity	Rate	Master Plan
1	<b>Conduit trench excavation and backfill in two stages where necessary for Ergon and Communications conduits including compaction, marker tape, crusher dust backfill under roads and disposal of spoil</b>				
(a)	Trench for 150/125/100/80mm dia or multiple conduits	m	6,000	\$ 30.00	\$ 180,000.00
2	<b>Communications conduits including bedding and surround, supply, lay, joint, seal, draw chords, bends, backfill and kerb markers</b>				
(a)	100mm dia	m	6,000	\$ 15.00	\$ 90,000.00
3	<b>NBN Co. pits including excavation, bedding and surround, supply, install and backfill</b>				
(a)	Type C5	Each	100	\$ 600.00	\$ 60,000.00

**TOTAL F SERVICES CONDUITS**

**\$ 330,000.00**

Note: Ergon conduits will be sharing trenches with Communications conduits in the footpath as well as for road crossings. Quantities are provisional until the Ergon & Communications designs are available.

**G ELECTRICAL & COMMUNICATIONS**

Item	Description	Unit	Quantity	Rate	Master Plan
<b>1</b>	<b>Communications cabling by NBN Co or Telstra</b>				
(a)	NBN Co per lot charge (provisional)	Lots	85	\$ 600.00	\$ 51,000.00
<b>2</b>	<b>General works</b>				
(a)	Allowance per lot for elcetricity supply	Each	85	\$ 20,000.00	\$ 1,700,000.00

**TOTAL G ELECTRICAL & COMMUNICATIONS**

**\$ 1,751,000.00**

# Appendix C

## High Level Costing of Agricultural Components

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Our Ref: RPS-0049/180256

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05 September 2018

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Dear Matthew

**RE: Etheridge Shire Industrial Precinct Masterplan – High Level Costing of the Agricultural Components; Cotton Ginney, Grain Storage Facility and Holding Yards**

Premise has undertaken a high-level cost assessment of the proposed agricultural components outlined in the Etheridge Shire Industrial Precinct Masterplan. The three components that have been assessed are the Cotton Ginney, Grain Storage Facility and Holding Yards. The estimated costs are provided in Table 1.

*Table 1: Anticipated costs of agricultural components for the proposed Etheridge Shire industrial precinct.*

Facility	High Level Cost	General Cost Assumptions
Cotton Ginney	\$25.0 million	Processing 200,000 bales in 120 days
Grain Storage Facility	\$4.0 million	Bulk silo storage capacity of 30,000 t
Holding Yards	\$2.6 million	2,000 head facility, consisting of: - 1,000 head capacity transfer yards & - 1,000 head capacity spelling yards

Costs have been generated based on Premise's industry experience and are for high level budgetary purposes only.

Yours sincerely

**Margaret Jewell**  
Manager South West Queensland and Agriculture  
Premise