INITIAL ADVICE
STATEMENT (IAS) FOR

SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT

APRIL 2019

Kalfresh Pty Ltd

IAS prepared by 3cubed consulting

Prepared By	Alissa Roxburgh / Elizabeth Cruice
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Chris Cooper
Principal Designer
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icubed consulting
innovation ingenuity inspiration
ABN 89 106 675 156
Level 2, 39 Sherwood Road
Toowong, Qld 4066

mail@icubed.com.au
www.icubed.com.au

P +61 7 3870 8888

1 Executive Summary

The Scenic Rim Agricultural Industrial Precinct (SRAIP) aims to create a formal hub for fresh and frozen food production in a highly-productive agricultural region 84km south-west of the Brisbane CBD.

The proposed Rural Enterprise Precinct at Kalbar, would enable Australian food businesses to base themselves where the raw ingredients are grown, allowing fresh food to be delivered to customers faster; reducing food miles; improving operational efficiencies; and responding to market demand for trusted, value-add food and beverage products.

Locating food production and manufacturing businesses in the heart of a productive rural community has clear benefits for the farming sector, and for Australian food manufacturers.

The SRAIP is proposed by leading Australian vegetable farming and processing business, Kalfresh Pty Ltd (Kalfresh), and is earmarked for a 39.2 hectare parcel of quality flat land fronting the Cunningham Highway at Kalbar in the Scenic Rim.

The site adjoins Kalfresh's existing operating site and is located in a rural community whose agricultural history dates back to the 1870s. The geographic position and topography of the proposed site provides the ideal conditions for a large-scale Rural Enterprise Precinct, in particular proximity to existing regional and state-wide transport networks, and the availability of water from the nearby Lake Moogerah.

Agriculture is the Scenic Rim's largest business sector, representing 26.7 per cent of total businesses in the region, with an annual turnover of $252.7 million (Scenic Rim Regional Council Economic Brief 2017).

Preliminary figures indicate the SRAIP would deliver strong investment and jobs growth for the region, attracting approximately $10 million of investment during the construction phase and creating 67 FTE jobs. Once operational, the SRAIP would generate approximately $350 million annual revenue and about 1618 FTE jobs supported by this application for the completed project.

The purpose of this Initial Advice Statement (IAS) is to assist the Co-ordinator General in determining whether the project should be declared a 'co-ordinated project' under Part 4 of the *State Development and Public Works Organisation Act 1971* (*SDPWO Act 1971*) (State of Queensland, 1971) and the level of assessment required.

The approval pathway for this project is largely determined, with the majority of studies which will be utilised to inform a future Impact Assessment Report (IAR) partially started, or completed. It has been determined that most of the project's potential impacts will be construction related, and a Preliminary Project Construction Environmental Management Plan (PCEMP) will be developed as part of an IAR.

The capacity of existing infrastructure is able to accommodate a Rural Enterprise Precinct, with potential limited upgrades required to ensure capacity on some of the infrastructure. Further to this, a number of approvals will be sought to realise the Project, of which the key approval is obtaining a coordinated project declaration under the *SDPWO Act 1971*.

The SRAIP would enable agricultural diversification, and would create new opportunities for innovation for existing and future state-wide rural industries, opening up new markets to producers and related support industries. The SRAIP would also provide a base for related industries and businesses.

The Scenic Rim is ideally-located between Brisbane, Beaudesert, Ipswich and Toowoomba and is identified in the *ShapingSEQ 2017* Plan as being a priority agricultural area, with a 'reputation as one of the most fertile farmland areas in the world, and its role as Australia's food bowl, growing the most diverse range of commercial fruit and vegetables in Australia.'

Australian fresh food production and food manufacturing is growing increasingly competitive. Producers and food manufacturers face significant increases in their operating costs and must drive savings through improved efficiencies and by utilising more of their crops. Food processing and value-adding is the best way to deliver additional value to farmers and to the communities where they operate.

Food processing, such as freezing, cutting, juicing and cooking, enables producers to sell more of their crop, creating demand for the product in its own right, and also as an ingredient in other products. Rising transportation costs, and a consumer focus on food miles, strengthens the argument for co-location of food production and manufacturing.

At the heart of this proposal to create the SRAIP is a desire to strengthen and diversify the regional economy and social structure by creating opportunities for growth and innovation. The establishment of the SRAIP would have flow-on benefits for the Kalbar, and wider Scenic Rim communities, through new opportunities for skilled employment, training, and improved long-term financial security through the creation of sustainable jobs for local residents.

A significant benefit of the SRAIP proposal, is the co-location of food processing businesses alongside a proposed Bio-Energy Facility, capable of transforming food and urban waste into renewable energy through anaerobic digestion.

This renewable energy would be used to power the precinct businesses in a Circular Economy Model which has been proven in agricultural regions in the UK and Europe, and is beneficial for the environment, regional economies and urban centres facing waste challenges.

The SRAIP proposal is founded on the belief that the region has the capacity, location, and natural resources to take advantage of the growing demand for Australian produce. Kalfresh is committed to promoting sustainable growth in food production, which will attract new skills and social diversification to the region, aligning with the Scenic Rim Regional Council's guiding principles (*Scenic Rim Community Plan 2011-2026*).

Under current legislative arrangements, the Precinct component of the project requires assessment under the provisions of *ShapingSEQ South East Queensland Regional Plan 2017* (State of Queensland, 2017), in which the proposed development is envisioned through newly-released guideline provisions. The provisions are framed to allow local governments the ability to advocate for Rural Enterprise Precincts in

the *ShapingSEQ 2017*, yet there is no proponent-driven mechanism to do so when Local Governments are unable to take on the responsibility through existing statutory planning scheme.

Due to the regional and state-wide benefits of the SRAIP, and the complexity surrounding the legislative approval processes, Kalfresh has determined that the SRAIP would benefit from a declaration as a Co-ordinated Project by the Co-ordinator General under Part 4 of the *SDPWO Act 1971*.

The Scenic Rim Agricultural Industrial Precinct has the potential to deliver significant economic and social benefits to the region and surrounding areas and will create valuable opportunities for diversification and continued business growth to Queensland-based food manufacturing businesses by the co-location of compatible businesses in a purpose-built precinct.

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2 Introduction

2.1 Background

The Scenic Rim is ideally-located between the major urban hubs of Brisbane and Toowoomba, and is identified in the *ShapingSEQ 2017* Regional Plan as being a priority agricultural area, with a 'reputation as one of the most fertile farmland areas in the world, and its role as Australia's food bowl, growing the most diverse range of commercial fruit and vegetables in Australia (State of Queensland, ShapingSEQ 2017).'

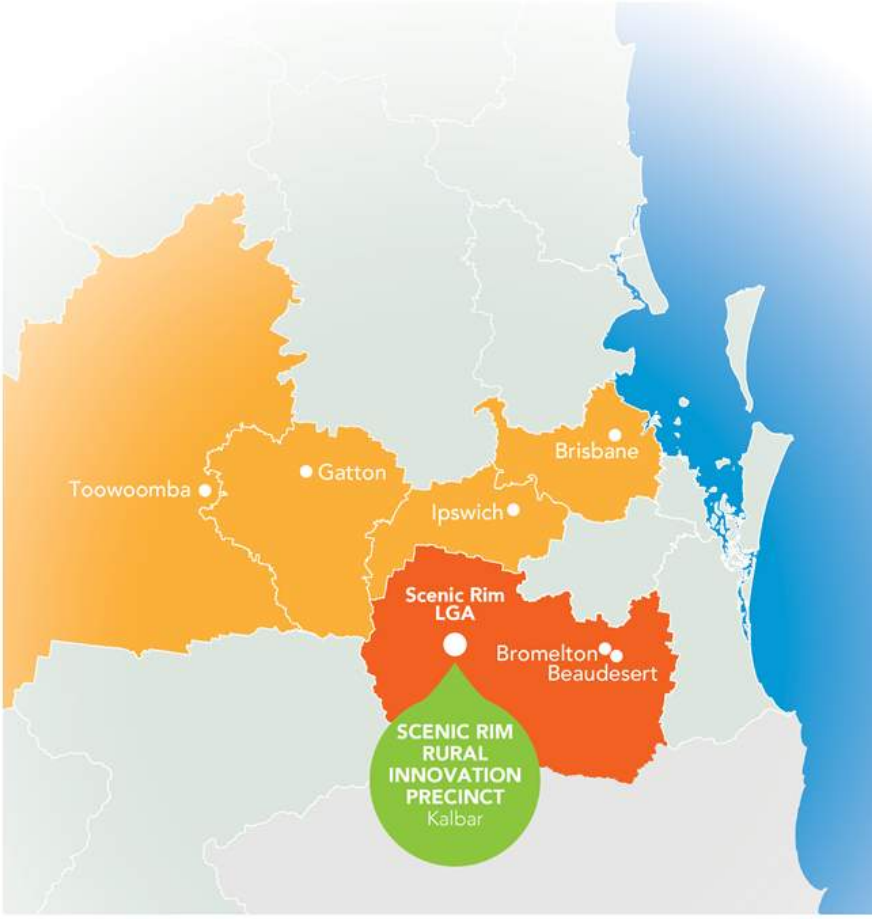


Figure 1 Regional Location of *Scenic Rim Agricultural Industrial Precinct*
Source: Kalfresh:2019

The Fassifern Valley is ideally suited to large scale rural production, with a history in agricultural production dating from the 1870s. The proposed Scenic Rim Agricultural Industrial Precinct (SRAIP) site, on the Cunningham Highway at Kalbar in Fassifern Valley, has been utilised for agricultural production and rural industry since the early 1900's. The fertile alluvial creek flats, coupled with secure, reliable water from the Moogerah Dam, make this a highly-productive farming region.

The Kalfresh business was established on the current site in 1992. The existing operations utilise a vertically-integrated business model to control all elements of the production process, from seed to shelf. At the heart of the business success is the proximity of the processing and packing facility to the paddocks where produce grows. This approach is predicated on a desire to produce fresher products faster, and transport them to customers shortly after harvest. In 2015 Kalfresh expanded operations to include a

value-adding arm to the business, enabling more of the crop to be utilised, while responding to market demand for pre-prepared fresh vegetables.

The concept of SRAIP was born out of a need for growth within the existing business and driven by the unique opportunity to create regional growth through the integration and consolidation of a diverse range of rural production activities and rural industries in one centralised locality.

Most significantly, the SRAIP will:

- Encourage stable, year-round, employment in a region of low job growth or diversity;
- Enable the diversification of rural industry activities in the region;
  - Encourage the diversification and intensification of rural production activities in the region through demand and opportunities created for expansion;
  - Reduce regional waste of food by-products and;
  - Reduce the carbon footprint of end products.

Rural Enterprise Precincts are permissible under the *ShapingSEQ South East Queensland Regional Plan 2017* (State of Queensland, 2017) legalisation; however, the primary intention of the guideline's documentation is set up to assist Local Governments achieve this outcome. Where there are limited resources within a Local Government, the ability to realise such a rural enterprise precinct is extremely limited.

The Scenic Rim Agricultural Industrial Precinct is of strategic regional significance and has complex local and state approval requirements in order to be realised in a timely manner. Thus, an Impact Assessment Report (IAR) approach under the *State Development and Public Works Organisation Act 1971 (SDPWO Act 1971)* is seen as the most prudent pathway to deliver this project.

Purpose and Scope of the IAS

The purpose of this Initial Advice Statement (IAS) is to assist the Coordinator-General in determining whether the project should be declared a 'coordinated project' under Part 4 of the *SDPWO Act* 1971 and the level of assessment required. The IAS identifies the potential Scenic Rim Agricultural Industrial Precinct impacts (positive and negative) to be investigated in detail as part of an IAR.

Kalfresh is seeking a coordinated project declaration from the Coordinator-General for the proposed Scenic Rim Agricultural Industrial Precinct as an IAR under section 26(b) of the SDPWO Act 1971, based on the following key factors:

- The Project has complex local and State government approval requirements
- The Project is of strategic significance to Queensland
- The Project is expected to provide significant regional economic and social benefits, capital investment and employment opportunities
- The Project does not trigger an EIS assessment given its smaller scale and lower associated environmental risks which are well understood.

The purpose and scope of this IAS is to:

- Support an application to the Coordinator-General to declare the Scenic Rim Agricultural Industrial Precinct as a 'coordinated project for an IAR';
- Provide information that may assist the Coordinator-General to determine if an IAR process is appropriate for the SRAIP; and
- Inform stakeholders and the general public of the Scenic Rim Agricultural Industrial Precinct proposal.

2.2 Assumptions

The following assumptions were made in the development of this report:

- Environmental values established through the Commonwealth of Australia and Queensland Government supplied mapping and data reviewed in desktop assessment reflect actual site conditions unless ground truthing has been conducted;
- Workforce demands for construction workforce requirements for the Coordinator General's process are based on post approval experience;
- Workforce demands for operational requirements for the proposed development are based on numbers gained from Queensland Treasury Input-Output (I-O) employment multiplier modelling. This will be subject to further review based on the outcomes of the final development plans to be completed for the proposal; and
- Gross economic output for the full development is based on the assumption that the entire Scenic Rim Agricultural Industrial Precinct can be developed as per the concept plan.

3 The Proponent

Kalfresh Pty Ltd (Kalfresh) is an Australian rural agricultural production company, established in 1992 with the vision of uniting local growers under one brand. Kalfresh has since become one of Queensland's leading vegetable production companies, boasting state-of-the-art processing and packaging systems at the Kalbar facility.

Kalfresh is a vertically-integrated vegetable farming, processing and marketing business, run by generational farmers who innovate and push boundaries to remain sustainable and grow healthy, nutrient-rich crops with minimal impact on the environment.

Kalfresh grows and supplies fresh produce directly to distribution centres for major supermarkets and food service customers in Australia and overseas.

Kalfresh grows and sells both conventional and certified organic vegetables - carrots, onions, pumpkins, green beans, grape and gourmet tomatoes, capsicums, corn and baby capsicums. Kalfresh utilises four (4) unique growing regions throughout Queensland:

- Fassifern Valley in the Scenic Rim Regional Council
- Lockyer Valley in the Lockyer Valley Regional Council
- Bowen in Whitsundays Regional Council
- Stanthorpe in Southern Downs Regional Council

Kalfresh controls the entire paddock to plate journey – from seed selection to transport. The business employs about 600 people (directly and indirectly) at peak production times and sells about 40,000 tonnes of produce, sourced from more than 1,220 hectares in four growing regions. This geographic diversity enables water security and the ability to produce crops year-round. Kalfresh also exports about 1,300 tonnes of vegetables annually, to New Zealand, Asia and the Middle East, in business valued at nearly $2 million.

Kalfresh, alongside its partners in government, share a mutual goal to continue to strengthen the regional economic and social diversification of the region by seeking opportunities for growth and innovation. Kalfresh is driven to meet the evolving needs of both customers and consumers in food production which supports the State Governments general intention in *ShapingSEQ 2017* to generate additional sustainable jobs and infrastructure.

Agriculture occupies 88.4 per cent of Queensland, with 57,000 people employed in Agriculture, Forestry and Fishing. Another 46,700 people are employed in Food & Timber Processing. Horticulture is worth $4.5 billion to the Queensland economy, while agriculture is the second largest export commodity earner, contributing more than $16.8 billion to the state economy. (Source: *QLD Agricultural Snapshot 2018*, Department of Agriculture & Fisheries). In the Scenic Rim, the Agriculture, Forestry & Fishing sector is the largest, representing 26.7 per cent of total businesses in the region, with a turnover of $252.7 million. (SRRC Economic Brief 2017).

At the heart of the SRAIP proposal is the belief that the region has the capacity, location, and natural resources to take advantage of the growing demand for Australian produce. Kalfresh, together with its development partners, is committed to promoting sustainable growth in food production, which will attract new skills and social diversification to the region, aligning with the Scenic Rim Regional Council's guiding principles, outlined in the *Scenic Rim Community Plan 2011-2026*.

This plan highlights the need for development to sustain rural industry, maintain local employment, support the right to farm and help rural industries to prosper, innovate and adapt. It also promotes the need to encourage local investment and support local business by creating conditions that attract business and industry that is compatible with the Scenic Rim lifestyle and environment.

The precinct, with its strategic location to raw produce and availability of affordable utilities, has the potential to offer real, long-term social and economic outcomes for the local population.

Social diversification will be achieved through the necessary migration of skilled workers to the area. Food production jobs require a mixed skill set and will offer both local and migratory job opportunities, collectively they will bring much-needed employment, skills and knowledge to the region.

Refer to Appendix D - Statement of Kalfresh's Capability to Complete IAS and Pre-feasibility Assessment for further details.

4 Nature of the Proposal

4.1 Scope of the Project

Kalfresh intends to create a fully integrated agricultural processing precinct (the SRAIP) at the existing Kalbar operating base, 6200-6206 Cunningham Highway, Kalbar, 4 km west of Kalbar, and 84kms south-west of Brisbane City.

Kalfresh proposes to create a place where primary and secondary high value rural activities are located within close proximity to each other to create opportunities not realised in the typical food-to-retailer system.

The SRAIP proposal provides for approximately forty (40) hectares of developable land for rural industrial infrastructure primarily for the packing and production of high-value secondary produce and the ancillary services and infrastructure required to operate such a precinct. High value cropping land will be maintained surrounding the site to the east, north and south of the site. This proposal is consistent with the provisions for a rural enterprise precinct as detailed within the *ShapingSEQ: Rural Precincts Guidelines*.

The existing Kalfresh operations will remain on the site and be expanded to meet the market demand for fresh produce.

This report requests that the **Phase 1 – Planning and Environmental Approvals** are assessed under a coordinated projects designation. This is due to the complexity of the required approvals from the Commonwealth, State and Local Authorities to facilitate the **Phase 2 to 5** processes required for the additional approvals, construction, and operation of the precinct on the proposed site (which will occur outside the Coordinated projects designation). More details of the key components are provided below:

Phase 1 - Planning and Environmental Approvals

- Coordinated project assessment including:
  - A Material Change of Use: Variation Approval to vary the *Boonah Shire Council Planning Scheme 2006*[1] to establish the overriding need of the development for the community;
  - Applicable water, transport and electricity permits; and
  - Applicable environmental approvals as detailed in Section 9 below.

Post designation processes will include:

Phase 2 - Planning and Environmental Approvals

[1] The *Scenic Rim Regional Planning Scheme* is expected to be released in late 2019. Due to the timing of this IAS, all references to the applicable local planning instrument will be to the *Boonah Shire Council Planning Scheme 2006*.

- Reconfiguration of a Lot application under the amended *Boonah Shire Council Planning Scheme 2006*[1] to facilitate the proposed rural industrial subdivision. This is further detailed in Section 9.2 below;

Phase 3 - Ground Works and Construction of the Subdivision including the roadworks and associated infrastructure development as further detailed in Figure 6;

- All applicable and appropriate Operational Works applications under the provisions of the *Boonah Shire Council Planning Scheme 2006*[1] to facilitate the subdivision;
- The works required to facilitate the construction of the subdivision, including, but not limited to:
  - Groundworks including excavation and filling;
  - Infrastructure placement, including applicable utility pipelines and other infrastructure;
  - Internal Roadworks; and
  - landscaping arrangements including the Cunningham Highway frontage and internal street tree placement as required.

Phase 4 - Planning and Environmental Approvals for Individual Precinct Users including but not limited to:

- Material Change of Use and applicable Operational Works Approvals for individual Lot users under the applicable local planning scheme[1];
- Individual Building Approvals applicable to facilitate the construction of the individual buildings.

Phase 5 - Building Works including:

- Construction of the Anaerobic Digestor as detailed in Section 4.3.2.1 below;
- Construction of remaining buildings and structures.

The proposed SRAIP concept design is shown in **Figure 6** and discussed further in section 4.3.2 below.

4.2 Summary of Project Benefits

The project will draw food processing and manufacturing businesses to one site in a regional community, enabling the production of fresher food products, faster and at competitive value to enable access to more markets.

- **Diversification of rural industry and rural production activities in the region**, through;
  - Creating continuous demand for food production in the local region;
  - Attracting interest and investment to the region;
  - Creating downward pressure on production costs to enable a variety of crops and food production activities that are unable to be realised commercially under the current system e.g. Reduced transportation costs and reduction of "food miles";
  - Enabling production of fresher food products, faster;

- Provide certainty to landholders, industry and the community about the future planning intent for ongoing investment in agriculture.

- **Food Waste Reduction,** through;
  - Reuse of crop offcuts, which benefits the local and wider region by;
    - Creating a feed stock source, which would otherwise be financially unviable to send back to the region once in Brisbane City, thus reducing landfill;
    - Creating another food source for human or pet consumption i.e. juicing, ready-made meals and salads, pet food;
    - Production of energy through Anaerobic Digester/s.
  - Reduction in transportation costs to transfer crops multiple times across the region to reach the retailers;
  - Diversion of organic (food and garden) waste from the surrounding area to produce a higher value compost product.
- **Employment Opportunities** through;
  - Creating direct year-round (not seasonal) demand from food production operations, in a rural area which typically has a low employment rate;
  - Creation of indirect employment through the local economy spending from employees living and migrating to live with the local region i.e. trades, retailers.
- **Social Opportunities** through;
  - Increased opportunities for regular employment and an increase in the number of employees living and migrating to the local region;
  - Stabilisation of existing local and regional services, including the potential for higher numbers of enrolments in local schools and supporting community services such as the local lions and rotary groups.
- **Better Utilisation of Local Infrastructure, particularly water**
  - Land in the Fassifern Valley has access to the reliable Lake Moogerah. This reliable water source underpins the region's horticultural production and the ROI of this water infrastructure is high.

If the project is supported, the proposal will consist of an estate covering approximately 40 hectares with allotments ranging in size from 4,000m^2 to 20 hectares that are under freehold title with a communal arrangement for provision of utility services. Refer to Appendix A for Scenic Rim Agricultural Industrial Precinct Concept layout.

4.3 Land Use

4.3.1 *Existing Regional Land Use*

The existing land use within and around the Scenic Rim Agricultural Industrial Precinct is predominantly rural, characterised largely by cropping within the localities of Kalbar, Boonah, and Aratula. The largest nearby townships include Kalbar to the east (with a long history of horticultural production), the large regional city of Beaudesert to the east, and Ipswich to the north.

Small settlements are located throughout the region, including the towns of Harrisville to the north and Aratula to the south of the Scenic Rim Agricultural Industrial Precinct. Alongside Boonah, both towns will likely provide day-to-day services for the Precinct both during construction and operation. Services within these towns include a general store, primary school, post office, entertainment venues and some overnight and short-stay accommodation. The State's capital, Brisbane, is located approximately 84 km to the north-east and is the closest major city. Brisbane is directly accessible from the Scenic Rim Agricultural Industrial Precinct via the Cunningham Highway and Ipswich Motorway.

The nature of land use in the general locality has not changed significantly over time, apart from the development of several quarries dispersed throughout the region, and this is likely to continue due to the rural protections afforded under the *ShapingSEQ 2017* (State of Queensland, 2017) plan to protect and enhance rural production in the Regional Landscaping and Rural Production Areas.

The parent parcel of the proposed SRAIP land is currently utilised for a mix between cropping purposes and an isolated rural industrial development partially over three (3) lots, and supports the current rural production and processing industries of Kalfresh's existing operations. Refer to Figure 2, Figure 3 and Figure 13. The land is relatively flat falling gently away from the Cunningham Highway before rising sharply to the rear of the property, being intersected by an overland flow path which is subject to periodic flooding events, none of which have affected the current operation of built infrastructure onsite. The project area is mostly clear of native vegetation, with some scattered vegetation found to the rear of the area, and is not mapped as state significant.

Services available to the site and the current operations by Kalfresh are electricity and telecommunications. A registered Sub Artesian Facility (RN138334) exists on the site which may be used for existing agricultural purposes (State of Queensland, 2018). Sewerage is contained onsite in treatment systems, for appropriate disposal. Stormwater drains towards the overland flow path which traverses the rear of the site.

Access to the site is via an existing access point from Cunningham Highway, which bounds the subject site to the east. This point of access is considered a known constraint to the growth of the operational capacity of the existing operations, and thus the proposed Scenic Rim Agricultural Industrial Precinct would rectify this matter with a formalised point of access further north of the existing access via an agreement with the neighbour to the North-West.

Historical onsite land uses include the following:

- Service Centre;
- Vegetable processing refer to Figure 4 and Figure 5 below;
- Grain;
- Milling;
- Milk production; and
- Urban designation under superseded Planning Schemes.

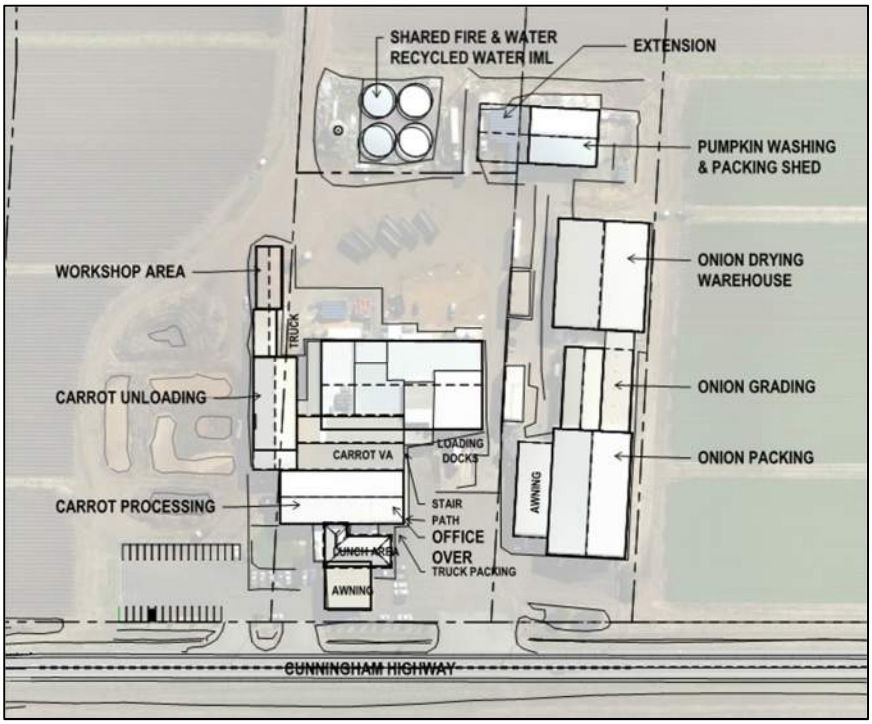


Figure 2 Existing Kalfresh Facilities Layout

Source: i3 consulting: 2019

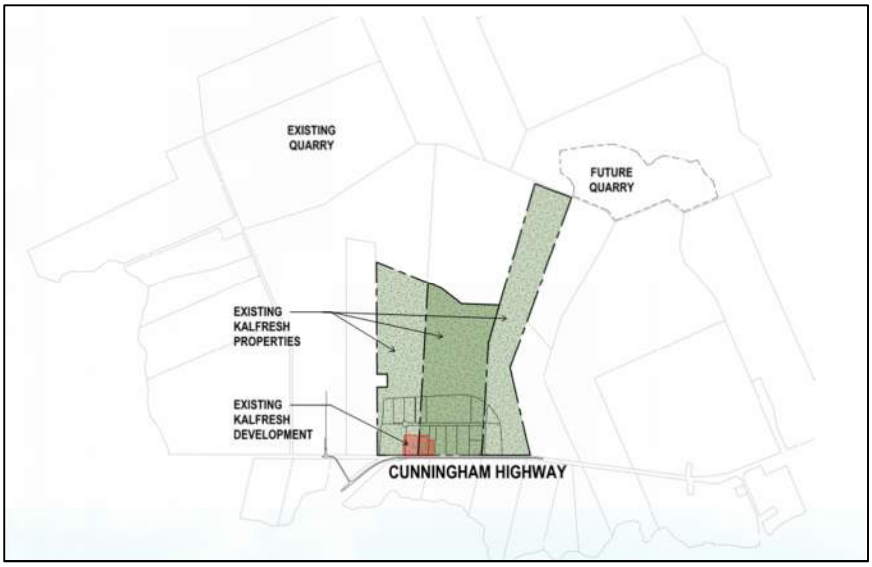


Figure 3 Existing and Proposed Kalfresh Properties

Source: i3: 2019

Figure 4 Historic Photographs showing Land Uses. Circa : 1990

Source: Kalfresh: c.1990

Figure 5 Historic Photographs showing Urban and Agricultural Uses. Circa – 1990

Source: Kalfresh: c.1990

4.3.2 *Proposed Land Use*

The proposed land use for the precinct will be further refined in consultation with market experts and scoping of potential operators.

Once designation is finalised, it is proposed that the project area will be further reconfigured into viable rural industrial lots through a reconfiguration of a lot application as per the specific requirements of the operators ranging from 4,000m^2 – 20ha. Kalfresh will put to the market that potential precinct operators utilise the locally and regionally sourced, high value agricultural produce for the secondary preparation and distribution by the operators, as these types of enterprises meet Kalfresh's goals of providing year-round employment prospects for residents as well as encouraging migration of skilled workers to the region.

Kalfresh faces its own expansion requirements, with the current business constrained by inadequate servicing and limited space for growth on the existing site. Just as Kalfresh is facing this challenge, so are other rural industrial suppliers, producers and processors.

As seen in

Table **1 Proposed elements of the proposal**

, Figure 6 and Figure 13 below and Appendix A - Concept Plans, ultimately the SRAIP will consist of the following proposed uses within the precinct:

- **Food and Beverage Production Areas**- with design features generally in line with the current operation. The food and beverage production areas will be allocated the bulk of the site, allowing for allotments with a minimal size of 1-5 hectares, with the ability to go up to 20 hectares depending on individual end-user requirements. Each site will be serviced with all appropriate connections, including grey and black wastewater removal, road and internal power connections.
- **Rural Industrial Support Services**- allowing for rural and industrial service industries requiring a smaller development parcel with a minimal allotment size of 4,000m^2. It is currently proposed that the rural support services will be located on the corner blocks to enhance the visual amenity of the rural enterprise precinct. All sites will be connected to the internal sewerage services to be piped to the proposed irrigation area to the west of the site, with all other appropriate connections provided.
- **Research and Development and Tourism Areas**- separate areas will house an office style building with the future ability to provide specialised spaces for test kitchens, laboratories, administration and distribution offices and data centres. Truck parking facilities will be available. A future museum showcasing the farming lifestyle and food production history of the region with an affiliated Café and Farmgate Market Shop will be on a separate lot on the primary corner of the precinct, and will provide a diversification of the land-uses and local economies and encourage tourism and day trippers to the area.

- **Ancillary Services and Development Infrastructure**- all required services for the SRAIP will be provided as part of the proposed development. Infrastructure uses include:
  - Co-generation facility utilising anaerobic digestion to treat the onsite sewerage producing biogas to be utilised to power the proposed cold store units within the SRAIP and digestate to be fed back onto the Kalfresh and affiliated farms;
  - All applicable connections, including power, water, sewerage, telecommunications and transport links.

Kalfresh intends to establish a Scenic Rim Agricultural Industrial Precinct which will enable a range of rural industry uses to occur including, but not limited to Figure 6 below and the following table;

Table 1 Proposed elements of the proposal

PROPOSED USE	INDICATIVE LOTS	CURRENT PLANNING DEFINITION	PLANNING COMMENT
Food and Beverage Production Area • Vegetable and certified Organic Washing, Packing & Processing • Snacking Vegetable Production • Hard Produce Production & Storage • Frozen Vegetable Processing and cross docking • Herb Production & Packing • Dehydrated Food Products • Sauce Manufacture • Pickling Facility • Juice Production • Baby Food Production • Dairy Goods Production • Hydroponic Lettuce House	**5, 6, 8, 9, 16, 11, 12, 13, 14, 15, 16, 17, 19.**	**Agriculture** "the growing and harvesting of crops, pastures, flowers, fruit, vegetables or any plants or trees, other than for domestic purposes, including the storage packing and sale of product grown on the same site or farm. The term also includes farm forestry, plantation forestry, the clearing of land, irrigation and drainage works and other physical improvements used in conjunction with agriculture and any extractive industry carried on in conjunction with agriculture where no material is sold or removed from the site." **Industry** (a) use of any premises for any of the following operations: (i) any manufacturing process whether or not such process results in the production of a finished article; **Wholesale Nursery** "any premises used for cultivating, storing or displaying seedlings, plants flowers, shrubs and domestic trees for sale to	As the primary land-use over the project site, this use will be concentrated over the central portion of the site and provide a well-designed frontage to the Cunningham Highway in line with the community's expectation of what the SRAIP will look like and the requirements of the Boonah Shire Council Planning Scheme 2006. Appropriate landscaping and diversification of building types and finishes creates a vibrant streetscape and a point of interest along the Cunningham Highway.

PROPOSED USE	INDICATIVE LOTS	CURRENT PLANNING DEFINITION	PLANNING COMMENT
		others who resell it. A wholesale nursery does not sell direct to the public."	
Rural Industrial support services • Packaging sales & storage • Forklift maintenance & sales • Rural Equipment/tractor sales & servicing • Farm supplies depot • Crate & Pallet depot & supply • Electrical & Mechanical Maintenance • Equipment Technicians • Storage Bay Hire • Safety Equipment & Support	**1,3,4**	**Industry:** "(ii) the breaking up or dismantling of any goods or any goods or any articles for trade, sale or gain, as ancillary to any business;" and "(iii) repairing and servicing of articles including vehicles, machinery, buildings or other structures, laundering of articles but not including on-site work on buildings or other structures"	As a subordinate proposed land-use within the SRAIP, smaller minimal allotment sizes are required. Due to this requirement, it is anticipated that the rural industrial support services will be located on the internal corner blocks to enhance the visual amenity of the rural enterprise precinct. The rural industry support services will effectively act as place markers for the precinct, and will incorporate a high level of streetscape landscaping and design.
Research and Development and Tourism Areas • Marketing and administration service Office • Transport Distribution Office • Data Centre • Lab Testing and test kitchen -R&D • Farm & Food Production Museum • Café	**2, 7**	**Industry**: "(b) when conducted on as ancillary use and on land upon which any of the above operations are carried out" And "any work of administration or accounting in connection with such operations." **Tourist facility** "premises used for providing entertainment, recreation or similar facilities including accommodation for use mainly by the touring or holidaying public. The term includes a winery where the wine is manufactured from grapes grown on the same site" **Food premises** "a restaurant for the regular supply to the public of	As a subordinate land-use within the SRAIP, and ancillary to the current onsite operations, a diversification to the industrial land-uses is required to facilitate an administration and R&D centre. It is anticipated that the distribution centre will be located within the rear section of the precinct and not fronting the Cunningham Highway, which ensure a high level of design for the overall precinct. All appropriate streetscaping and landscaping will be incorporated as applicable. A proposed farm and food production museum, café and farmgate market shop provide a destination stop on the Cunningham Highway and provides a place marker for

PROPOSED USE	INDICATIVE LOTS	CURRENT PLANNING DEFINITION	PLANNING COMMENT
• Farmgate Market Shop		substantial meals. The term includes cafes, bistros, tearooms, takeaway, fast food and drive through facilities." **Shop** "any premises used or intended for displaying or offering goods for sale to members of the public. The term includes the incidental storage on the same premises but does not include any other use otherwise defined in this scheme."	travellers on the Highway and local community member.
Ancillary Services and Development Infrastructure • Anaerobic Digester/ Bio Energy Facility • Connections and utility infrastructure	**10,18**	**Utilities - Local** undertakings for the supply of water, electricity or gas or the provision of telephone, sewerage or drainage services provided	As an ancillary land use to the operations of the SRAIP, the Anaerobic Digester and service allotments will be located on the far eastern and western allotments of the precinct. This is to ensure an equitable level of access for all the proposed uses. Screening from the Cunningham Highway and as appropriate will be incorporated into the streetscape and landscaping design.

Preliminary assessments have found the proposed integrated rural industries envisioned for the site would be feasible. Initial feasibility assessment by a commercial-industrial land market expert highlights the site's proximity to raw ingredients, major transport routes and the Bromelton SDA are advantageous and attractive to rural industrial tenants.

Kalfresh has been involved in preliminary discussions with leading food retailers and manufacturers, regarding the opportunity to develop a frozen fresh food factory within the precinct. The location is ideal as it is close to the source of the fresh vegetables, major transport routes and retail DCs. Indicative developed employment opportunities in such a facility are for fifty (50) new positions.

The development of a frozen and fresh food facility would lead to significant opportunities for local farmers, who would increase their production to supply raw product to the new facility.

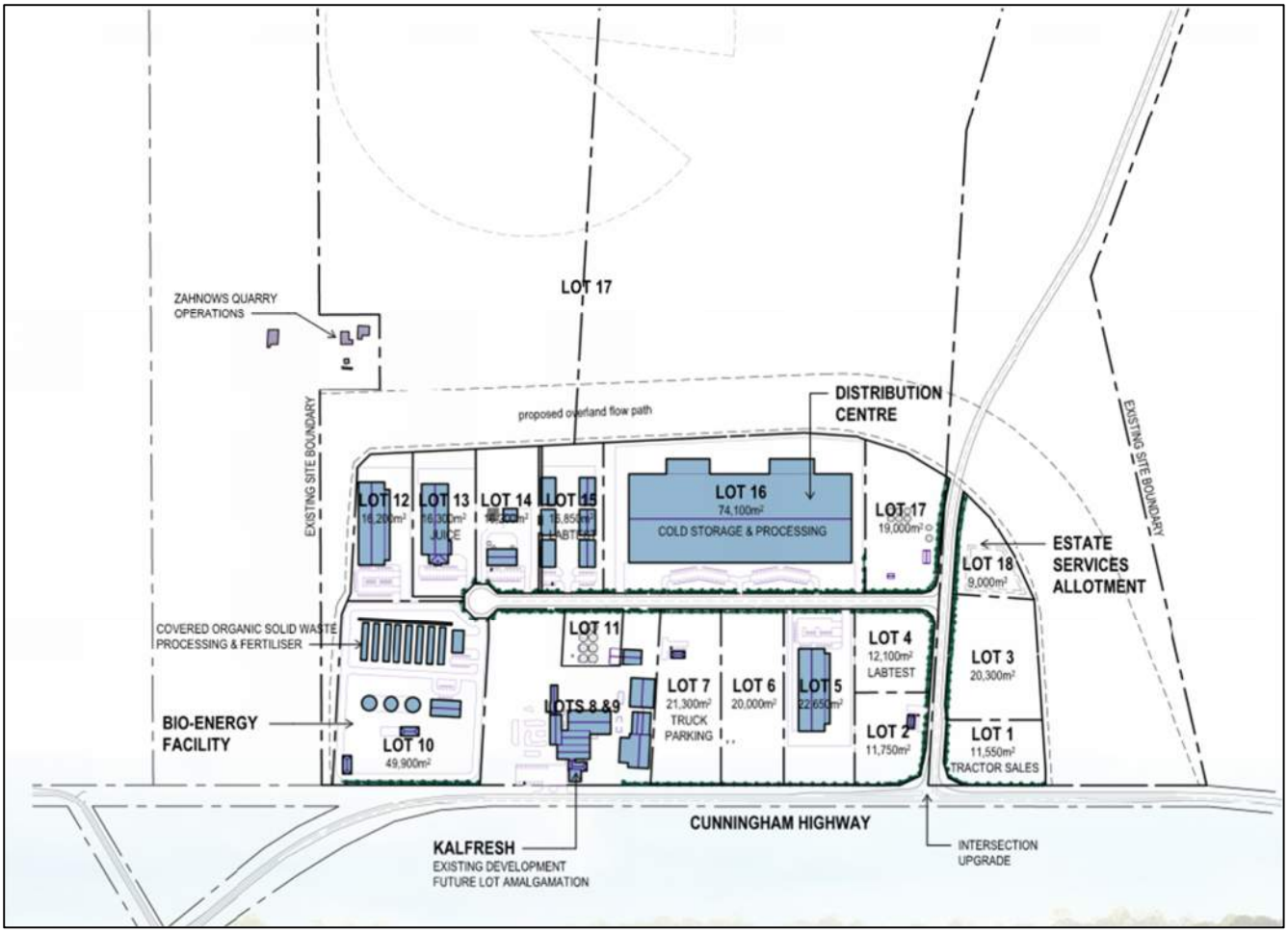


Figure 6 Conceptual layout - Indicative Building Planning

Source: i3: 2019

4.3.2.1 Onsite Utility Infrastructure

In Europe and the UK, the co-location of anaerobic digestors (AD) and farms is common and proven.

Kalfresh key personnel have been working on a proposal for a Bio-Energy Facility for the past four years, undertaking extensive consultation with leading companies in waste, energy and food manufacturing sectors.

Kalfresh has undertaken a number of fact-finding missions to international AD facilities, where agriculture, food production and waste-to-energy facilities are successfully co-located.

Kalfresh has entered a preliminary agreement with a leading Australian company in the waste sector.

The co-location of an AD facility has many benefits. It enables the diversion of urban waste to renewable energy, which can be utilised to power businesses in the SRAIP, and be fed back to the energy grid.

The proposed inclusion of an AD will divert food production waste from landfill to energy production, as well as diverting urban waste from cities via an agreement with a leading Australian waste business. Waste received to the proposed SRAIP AD would be converted into energy in the form of electricity for communal use by precinct operators, the Kalfresh plant, and the wider community.

A proposed 2MW AD facility is capable of diverting approximately 48,910 tonnes of landfill per annum to waste. Scalability to 10MW has been built in to the design and planning of the AD with a 10MW having the potential to divert up to 244,500 tonnes of landfill per annum[2].

AD produces large quantities of biogas, which comprises of methane and carbon dioxide (the methane fraction can be stored, pressurised and used to generate power). Digestate production is another by-product of the process which can be safely used as a commercial grade organic fertiliser, providing another commercial arm to the development.

It is anticipated that energy produced by the facility will power the existing Kalfresh Vegetable Processing Facility, and excess power will be sent to other sites in the SRAIP or the grid. Scalability to 10MW has been built in to the design and planning of the AD with a 10MW having the potential to divert up to 244,500 tonnes of landfill per annum[3].

As seen in Figure 7, the facility will consist of the following:

- 1 x 3500-4500m^3 AD Reactors approximately 20-25m diameter x 8-10m height (Increased to 2 or 3 at long-term scale);
- 2 to 3 Pre-mixing tanks (a minimum of 100m^3 to a maximum of 300m^3/ tank); and
- 1 x digestate storage tank >14,000m^3 (20-40m diameter, 8-10m height); and

[2] Aquatec Maxcon

[3] (Aquatec Maxcon, 1999)

- Centre Pivot area to the west of the project site (refer to Figure 8, Figure 9, Figure 11 and Appendix A- SK02 for further details).

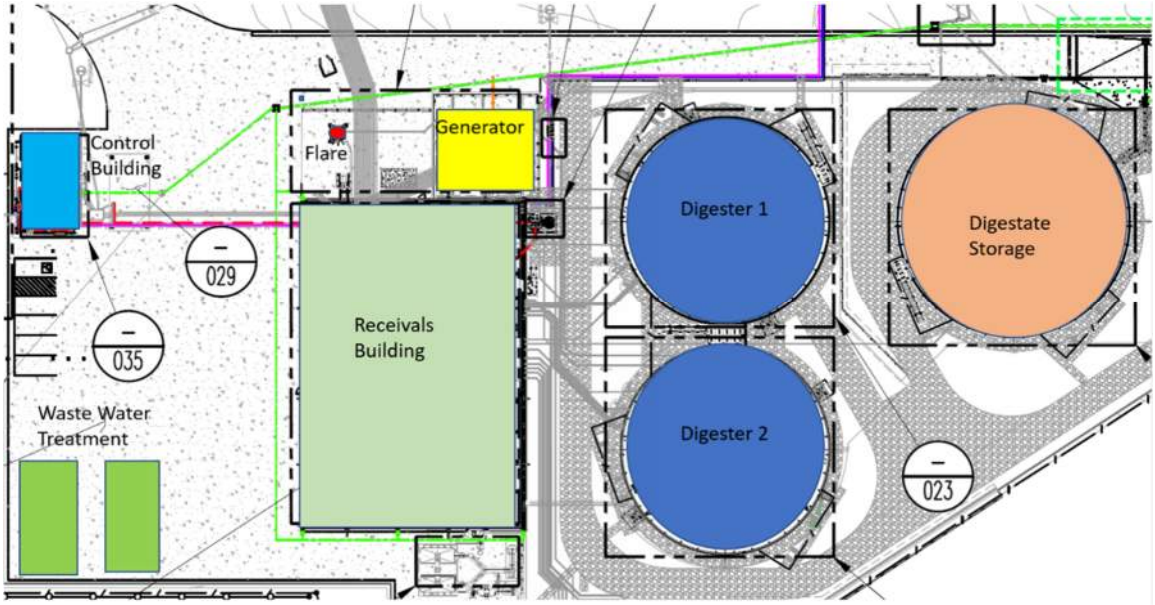


Figure 7 Conceptual Layout – Bio-generation Facility[4]

Source: Aquatec Maxcon; 2019

Figure 8 Indicative Centre Pivot detail

Source: Kalfresh: 2019

[4] Blackwater system as currently proposed with additional capacity as required.

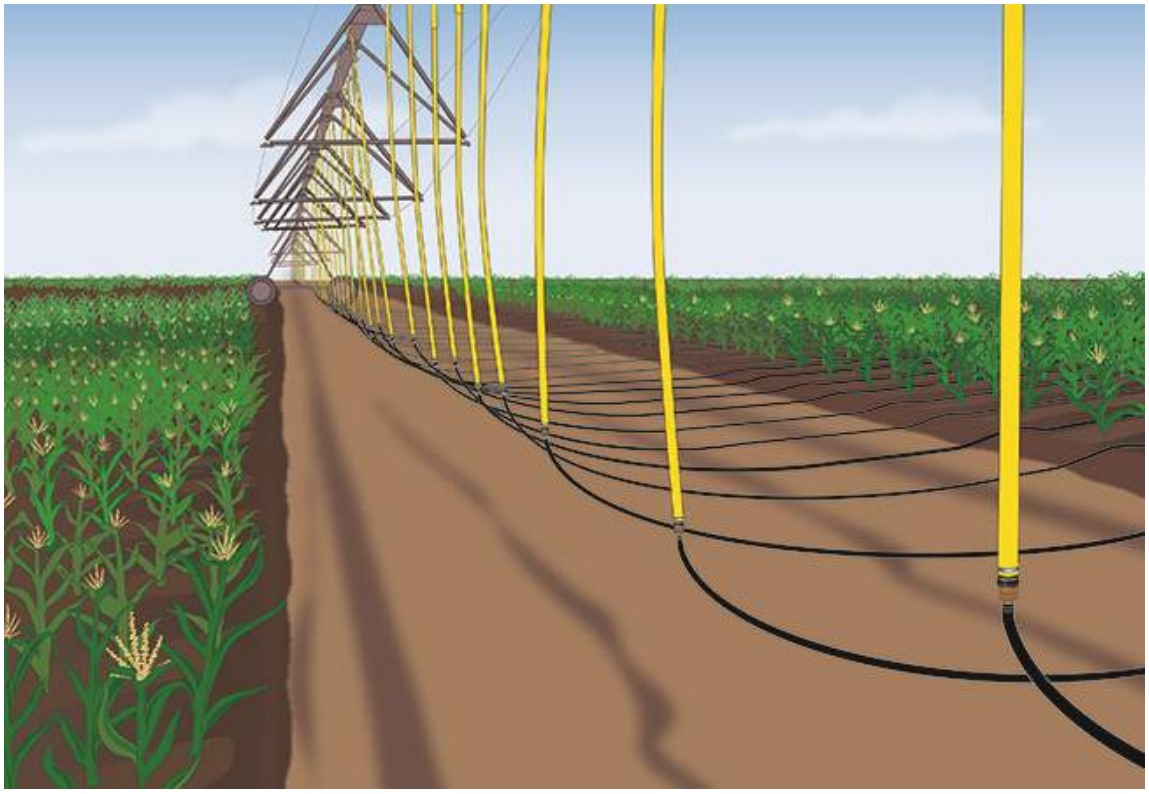


Figure 9 Indicative Centre Pivot with Dripline detail.

Source: Kalfresh; 2019

4.3.2.2 Digestate

After the mixture of organic feedstocks goes through the AD, the wastewater slurry is known as the digestate. It contains all the components that aren't consumed in biogas production. The digestate has a high agronomical value containing 2-5% dry matter, including organic carbon, plant macro-nutrients and micro-nutrients and humic substances. Pasteurised (sterilised) digestate will be applied directly to agricultural land as a fertiliser replacement or further processed to produce commercialised solid and liquid fertiliser products so it can be better marketed and more efficiently transported for external markets.

The proposed SRAIP is expected to generate between 100-200 tonnes of digestate per day (~100-200 m^3/day). A portion of this will be applied directly on to Kalfresh farms. The anticipated off-site market for the digestate will be farmers in the Fassifern region (>20km radius from Kalfresh).

4.3.2.3 Covered Organic Waste Processing and Fertiliser (Gore Cover)

As seen in Figure 6, it is proposed to include a covered organic waste processing and fertiliser production system incorporating a GORE cover system. It consists essentially of three components:

- Aeration;
- Control; and
- The membrane cover (refer to Figure 10 below).

The three components interact to produce a composting system capable of processing quantities from 2,000 to over 200,000 tonnes/year, in a variety of feed stocks including and not limited to; green waste, food waste, biosolids, animal manures, fish and animal waste and municipal solid waste.

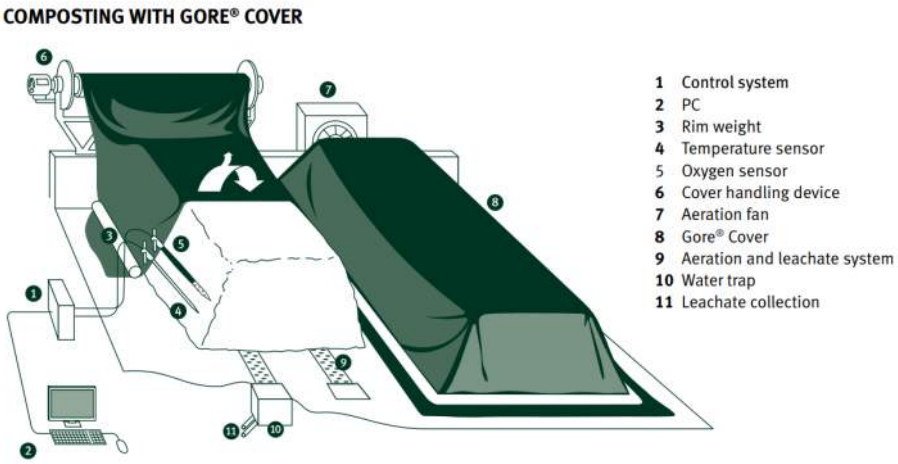


Figure 10 Proposed Organic Waste Processing and Fertiliser Production System

Source: W.L. Gore & Associates; 2012

It has been determined by W. L. Gore & Associates Inc that the pore size built in the Gore cover of approximately 0,2 µ is an effective barrier against spores and microbes (microbes are further destroyed by the heat generated during the treatment process. Further comparative tests (carried out by W. L. Gore & (W.L. Gore & Associates Inc, 2012) Associates Inc) indicate the system reduces the output of bio-aerosols by > 99%[5], thus ensuring that plant workers and nearby residents are well protected.

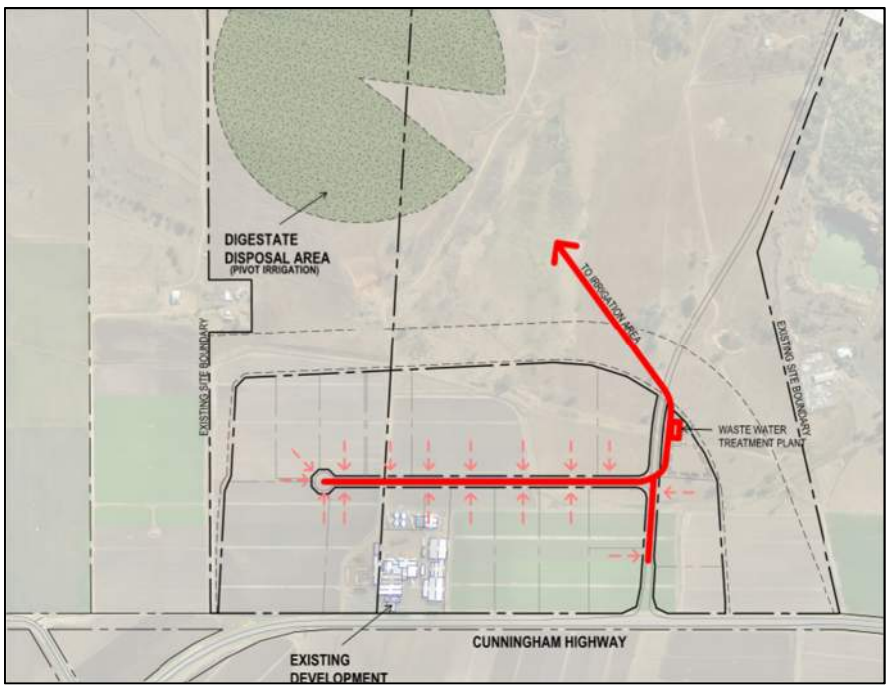


Figure 11 Indicative Wastewater Disposal Area

Source: i3; 2019

[5] Source: https://www.gore.com/products/gore-cover-for-organic-waste-treatment?view=section38041

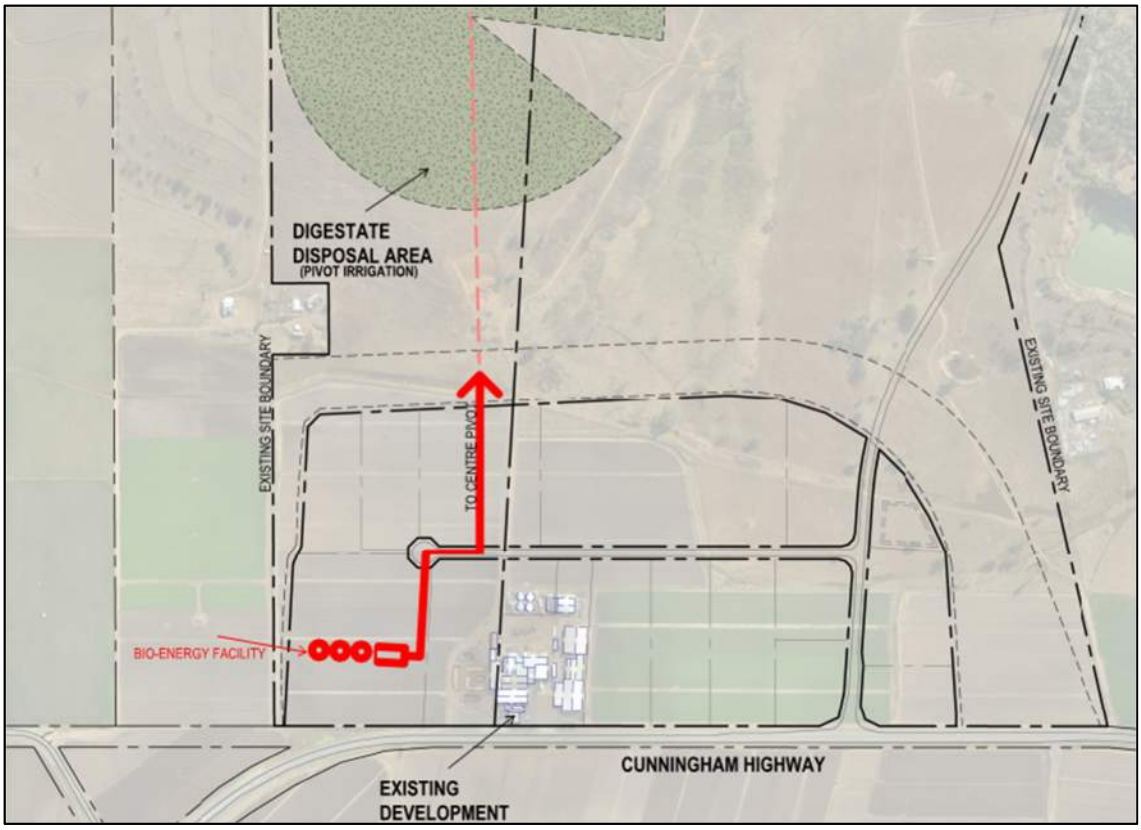


Figure 12 Indicative Biofuel Distribution

Source: i3; 2019

Figure 13 - Proposed Scenic Rim Agricultural Industrial Precinct

Source: i3; 2019

4.4 Project Need, Justification and Alternatives Considered

4.4.1 *Project Pre-Feasibility Assessment*

Project Commercial Viability

The commercial viability of the project is underpinned by demand from businesses to locate their operations at the Scenic Rim Agricultural Industrial Precinct. As the site will be approximately 40 hectares, the land sales will need to be at a level to cover the costs of developing the precinct. A breakeven analysis has been completed which sets out the amount of land required to be sold and the rate it is to be sold.

Initial development costs are approximately $10 million to get the site to a stage where land can be sold to interested parties. Further development costs will then be required depending on the type of business. Based on recent experience, a further investment of between $5 and $10 million to create a food processing business could develop a business that derives sales between $20 million and $50 million.

Investment interest from large external food and produce companies has already been indicated at this initial phase. Even without a large name business, there is interest from local and regional businesses looking to move operations out of built-up areas and closer to primary food production areas.

Financial Contribution

The proposed Scenic Rim Agricultural Industrial Precinct by **Kalfresh does not require any Government funding assistance** as is demonstrated in Appendix D, Kalfresh Capability to Complete Statement and Pre-feasibility Assessment.

4.4.2 *Project Objectives and Priorities of Government Policies and Strategies*

Rural enterprise precincts are defined as areas within the Regional Landscape and Rural Production Area or Investigation Area that are created—subject to particular administrative arrangements—to improve the implementation of a range of regional policies under the *ShapingSEQ 2017,* and to develop innovative planning approaches that assist in managing regional landscape values at a local level.

One of the main advantages of creating a Rural Enterprise Precinct is the ability to facilitate the development of an area capable of sustaining rural industry and further develop regional agricultural activities to ensure diversity and value adding industries within a local base.

The Project is aligned with a number of national, state and regional/local agreements and policies which provide for action on food reliability, climate change and the development of renewable energy infrastructure as stated in Table 2, below:

Table 2 SRAIP Alignment with Federal, State and Local Government Policies

RELEVANT QUEENSLAND GOVERNMENT POLICY/STRATEGY/DIRECTION	SRAIP ACTIVITY AND OBJECTIVES ALIGNMENT
Advance Queensland Biofutures 10 Year Roadmap and Action Plan	- SRAIP onsite Anaerobic Digester, biotechnology and bioproducts - Kalfresh meets roadmap criteria by identifying as a mature and modern agribusiness with well-established supply chains from farm gate to Tier 1 Supermarkets. - Kalfresh is an early adopter of this technology with established supply chains for feedstock
Jobs Now, Jobs for the Future-Queensland Government Employment strategy	- SRAIP offers a solution to improve the short- and long-term economic prosperity of a regional community through the growth of a workforce that aligns with global opportunities, meets local food industry and employer needs and strengthens skills, capabilities and resilience of local employees.
Governing for Growth: Economic Strategy and Action Plan	- SRAIP operators will contribute to a more competitive business environment in Australia. Including Infrastructure - better planning, delivery of infrastructure and greater opportunities for private sector investment. - The SRAIP will capitalise on the efficiencies and competitive advantage created through the co-location and scale of the SRAIP alongside one of Australia's largest food producing regions. Growing and attracting further private sector investment in to the region Kalfresh can ensure economic returns are realised by the local community through job creation.
Waste Management and Resource Recovery Strategy Directions Paper	- Investment in infrastructure including the Anaerobic Digester will divert approximately 48,000T of landfill per year. - Precinct creates the necessary opportunity for Kalfresh to invest and innovate its recycling activities to include renewable energies. The disposal of landfill without an incentive to recover resources has meant the AD model was not commercially viable for Kalfresh. - Incorporation of competitive gate fees for landfill means will progress biofuel as a solution to the Precinct's energy requirements.
Waste – Everyone's responsibility: Queensland Waste Avoidance and Resources Productivity Strategy 2014-2024	- Meets clear priorities for landfill diversion including *"improving regional access to waste technologies through appropriate planning and industry placement" "Encouraging local reuse and markets for re-usable products to increase waste opportunities in regional areas* and *"Creating certainty for industry development through infrastructure mapping and use of regulatory tools and reforms"* such as the landfill levy. The SRAIP AD supports all the above.
DSDMIP Strategy 2018-2020	- DSDMIP identify regional disparity as a strategic risk. The SRAIP works to address this through Diversifying regional infrastructure, investment and skills. The location of the SRAIP and AD infrastructure in the Scenic Rim addresses the above risk and supports DSDMIP strategies to:

RELEVANT QUEENSLAND GOVERNMENT POLICY/STRATEGY/DIRECTION	SRAIP ACTIVITY AND OBJECTIVES ALIGNMENT
	o Develop growth strategies and provide support for emerging industries with high-growth potential – through the development of food processing facilities and bio technologies. o Support traditional and transitioning industries to maintain and increase productivity – by supporting traditional agricultural practices to capitalise on global food markets and food processing technologies. o Ensure the sustainability of our communities and industries by balancing economic growth and development with protecting our environment, including early adoption and development of anaerobic digestion as a renewable energy source with the added benefit of diverting landfill o Build the economic capacity and capability of regional and disadvantaged communities. The SRAIP will attract private sector investment to the Scenic Rim and create new sustainable jobs.
The Queensland Plan – Queenslanders' 30-year vision	- Addresses several priorities for how residents see the future for growth in regional communities. The SRAIP does this through. o Collaborating productively and making the most of Kalfresh's comparative economic advantage through working together across industries and sectors, and across regions. o Working towards becoming the number one reliable and safe food bowl of Asia. Queensland leads the Asian region in food production and crop diversification by investing in research and development across the water supply and agricultural sectors. o Maximising agricultural production through safe and sustainable farming practices. Kalfresh consistently generates new industries and export opportunities throughout Asia.
The Queensland agriculture and food research, development and extension 10-year roadmap	- SRAIP contributes to the roadmap by o providing high-quality, safe food and agricultural products which are affordable and available year-round o Increasing exports and growth in regional jobs o Increasing innovation and commercialisation o Identifying and promoting agriculture and food RD&E opportunities o Support the existing sector to grow and develop new business

4.4.3 *Project Alternatives*

Production Alternatives

Alternative food processing precincts exist in various locations across Australia. The majority of these are to facilitate the animal processing industries, with the majority of land uses dedicated to the following processes:

- beef abattoir;
- pork abattoir;
- chicken abattoir;
- milk plant;
- rendering; and
- truck wash.

The production alternatives are generally carried out in response to consumer demand and generally dependent on the economies of scale associated with the industry. The production alternatives are generally considered more intensive land uses, with emissions that may impact offsite land uses and receiving environments. **The proposed development does not propose any high impact food processing industries as detailed above, which is in keeping with the agricultural production activities already being conducted in close proximity to the project site.**

Locational Alternatives

Alternative locations for siting the project are limited due to the following factors:

- Land zoning and availability of sufficient unconstrained, land;
- Limited availability of direct highway access, transport infrastructure and linkages;
- Existing and future water security
- Other infrastructure availability (sufficient water, electricity);
- Receiving environment;
- Waste management;
- Workforce services and support business;
- Social amenity impacts;
- Strategic potential;
- Proximity to farm.

Having consideration to the above factors makes alternative siting of the Precinct difficult. The proposed location of the Scenic Rim Agricultural Industrial Precinct on a site bordering the Cunningham Highway and surrounded by high-quality horticultural cropping land, meets these criteria and is therefore considered to be suitable for what is being proposed.

Do Nothing Alternative

Should the Project not proceed, private investment into the State of Queensland to the value of approximately $291 million will not be recognised. Up to 1618 potential local job opportunities and further

diversification to regional industries will also not be recognised in an area with limited industrial employment options.

The "do nothing alternative" ultimately means this opportunity for growth and sustained industry viability will be lost to Queensland. Queensland horticulture and agricultural production will fall behind and doing nothing prevents SEQ producers reducing the production costs of supplying the value-added fresh food demanded by their key customers. Additionally, the "do nothing alternative" will prevent the promotion of National Food Security by failing to encourage diversification within the SEQ regional agricultural market.

4.4.4 *Key Project Benefits*

Construction of the proposed project will be a significant economic development within the Scenic Rim region and Queensland, and will enable regional producers to respond to consumer trends for locally-produced, healthy, convenient ingredients. The construction of the project, in conjunction with the existing agricultural and rural developments, will increase the infrastructure diversification within the SEQ region and will result in increasingly resilient and diversified food supplies.

Additionally, the establishment of the Precinct will enable a new scale of development for the "local regional" strategic and synergistically placed industry. The location of the Bromelton State Development Area (SDA) approximately 43km to the east of the proposed site with its designation of transportation connections and larger scale heavier industrial development is considered a logistical asset which will assist and complement the proposed development.

Locating food production and manufacturing businesses close to where the raw ingredients are produced is a specific logistical benefit of the proposed SRAIP's location. The volume and value of agricultural produce in the Scenic Rim presents a unique economic opportunity for prospective precinct tenants. It is proposed that an economic needs analysis will be completed for the IAR component, and will detail the local, regional and state economic need.

This proposal for the SRAIP is based on the premise that the objective of all businesses in the region is to build on the established reputation and agricultural capability of the area. Kalfresh believes this objective can be achieved by enhancing the ability of producers, and those in the supply chain, to more efficiently deliver processed foods through the coordination and synergistic placement of complementary businesses involved in the production and processing of agricultural produce. Food processors and manufacturers need to grow and adapt to consumer demand for Australian ready-to-eat products and the Precinct gives these businesses a much-needed competitive advantage.

It is anticipated that the precinct will provide and enhance active channels for business transactions that exist between local growers, food processing tenants, food packaging and freight companies. As seen in Section 4.3.2 above, the SRAIP will feature specialised infrastructure, industrial and rural services designed to meet food processing tenants operational requirements. Co-location with fit for purpose infrastructure

and raw ingredients is the only way input and output efficiencies can be fully realised for all businesses involved in the food processing supply chain.

4.4.4.1 Existing Industry

The SRAIP will be a significant economic development for the Scenic Rim Region and Queensland as a whole, and will enable regional producers to respond to consumer trends for locally-produced, healthy, convenient ingredients. Kalfresh has identified that the construction of the project, in conjunction with the existing onsite agricultural and rural industries, will increase the infrastructure diversification within the southern SEQ region and will result in increasingly resilient and diversified food supplies that meets growing national and global demand for Australian-grown and produced food and drinks.

The Regional Development Australia Ipswich and West Moreton (RDAIWM) Road Map 2016 – 2020 identifies six economic development themes to guide its work including the need for new food processing facilities, increased export capabilities and leadership role in food innovation and technology. Kalfresh has already identified the need for food processing facilities and plays an active leadership role in the Scenic Rim regions economic development as a major producer, food processor and employer.

4.4.4.2 Transport Options

The location of the Bromelton State Development Area (SDA) approximately 43km to the east of the proposed site with its designation of transportation connections and larger scale heavier industrial development is considered a logistical asset which will assist and complement the proposed development. Kafresh currently utilises Bromelton rail infrastructure for the receipt of produce.

However, due to the delicate nature of the vegetables grown and processed at Kalfresh, the reliance on rail infrastructure is not a feasible option for the transportation of the value-added vegetables. For this reason, road transport is the only feasible option for efficient distribution from Kalfresh. Due to this reliance on road transportation methods, and proximity to the farming centres, the current location (as proposed) is advantageous (refer to Figure 14 below).

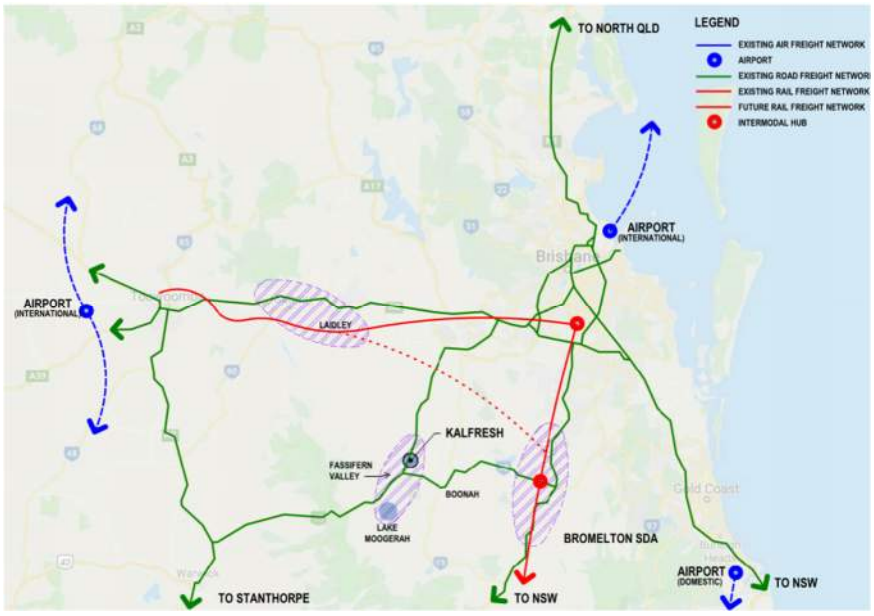


Figure 14 Regional Transport Links and Freight Logistics

Source: i3: 2019

4.5 Components, developments, activities and infrastructure that constitute the project to be declared coordinated

As detailed above in section 4.1 above, activities to enable the proposed SRAIP include;

- Designation of the proposed development in line with the *ShapingSEQ 2017* as a rural enterprise precinct;
- A Material Change of Use: Variation approvals under the *Boonah Shire Council Planning Scheme 2006*[6] to allow;
  - The Scenic Rim Agricultural Industrial Precinct within its own set structure plan parameters, including;
    - land uses and lot size controls, such as freehold subdivision with a minimum lot size of 4,000m^2;
    - transport connections, such as the creation of a new intersection (that caters for future activities) for access to Cunningham Highway in conjunction with the neighbouring land parcel to the north-west of the site;
    - service infrastructure locations i.e. water, sewer disposal, road, telecommunications and electricity;
    - water management; and
    - environmental and cultural heritage management
- All other applicable environmental approvals associated as detailed in Section 9.1 below.

4.6 External Infrastructure Requirements

Mains power will be required to support construction activities. This will be supplied through the use of the existing electricity infrastructure available to the site. Further investigation by Energex is currently underway to ensure a sufficient available supply for the proposed land use.

Potable water is available for construction for site utilities and to support construction activities. This will be supplied through the potential use of existing bore water as appropriate. Water requirements can be scaled to meet any increase in demand during construction.

The Scenic Rim Agricultural Industrial Precinct can be accessed directly via the Cunningham Highway, which is an identified State Controlled Road. Currently, there are no other access points to the site. All construction traffic will use the Cunningham Highway to access the project site. It is anticipated that the majority of the construction traffic will come from a north-easterly direction from Ipswich/Brisbane. A Traffic Impact Assessment has been completed to determine the impacts of the proposed development on the existing road network as part of the Impact Assessment Report (refer to Appendix C of this report).

4.7 Timeframes for the Project

The timeline for the project is dependent upon many variables including the ultimate demand for each site once earthworks are completed. The first stage of the earthworks for the SRAIP will be the access road to the Cunningham Highway and the proposed Quarry located to the North West of the SRAIP. This will commence following the approval of the Quarry which is estimated to be late 2019/early 2020.

Table 3 Approximate delivery program

PHASE	DELIVERY PROGRAM	Q1-Q2 2019	Q3-Q4 2019	Q1-Q2 2020	Q3-Q4 2020	Q1-Q4 2021	Q3-Q4 2021
Phase 1	IAS						
Phase 1	IAR						
Phase 2	Reconfiguration of a Lot						
Phase 3	Groundworks and construction works						
Phase 4	Individual Planning and Environmental Approvals						
Phase 5	Digester Development						
Phase 5	Digestor Construction						
Phase 5	Building Construction						

4.8 Construction and Operational Processes

Construction of the project will involve the following works:

- Preparation of the site including vegetation clearing as appropriate, levelling to develop access tracks, hardstand areas, internal roads and project office areas and perimeter fence construction;
- Upgrading if required of local road network to facilitate construction traffic;
- Creation of access points and internal road layout;
- Creation of earthworks and underground infrastructure;
- Construction of buildings and ancillary developments including carparking;
- Connection of utilities as required; and
- Onsite landscaping.

4.9 Workforce requirements during construction and operation

Workforce numbers for the initial and developed construction and operation phase of the development are detailed in Table 4 and Table 5.

Table 4 . Anticipated workforce requirements
Phase 3 - Ground Works and Construction of Subdivision (Approx. $10M)

PHASE 3- GROUND WORKS AND CONSTRUCTION OF THE SUBDIVISION	DIRECT JOBS *	DIRECT + INDIRECT JOBS**	TOTAL
CAPEX SUMMARY			
PART A - EARTHWORKS	9.60	22.24	$3,320,000
PART B - ROADWORKS (13M ROADWAY)	12.21	24.79	$3,700,000
PART C - STORMWATER DRAINAGE	4.72	9.58	$1,430,000
PART D - SEWERAGE RETICULATION	2.09	4.24	$633,000
PART E- WATER SUPPLY RETICULATION	1.89	3.85	$574,000
PART F - ANCILLARY	1.13	2.30	$343,000
COST OF WORKS	**31.64**	**67.00**	**$10,000,000**

**Queensland Treasury: - Guidelines for estimating the full-time equivalent (FTE) jobs directly supported by capital works – as at February 2018 (multiplier 3.3)*

***Queensland Treasury Office of Economic and Statistical Research Technical Note June 2011 - Construction Jobs Direct and Indirect (multiplier 6.7)*

The above estimate includes employment directly supported by construction expenditure, as well as employment supported in the industries supplying goods and services to the construction industry.

Table 5 Anticipated workforce requirements - Building Works Construction Post Approval (Approx. $291M)

Indicative Lots	Proposed Use	Direct Jobs *	Direct + Indirect Jobs**	TOTAL
5,6,8,9,16,11,12,13,14,15,16,17,19	Food and Beverage	841.50	1,708.50	$255,000,000
1,3,4	Rural Industry Services	38.61	78.39	$11,700,000
2,7	Support Services	14.52	29.48	$4,400,000
10,18	Ancillary Services	66.00	134.00	$20,000,000
	GRAND TOTAL	**960.63**	**1950.37**	**$291,100,000**

**Queensland Treasury: - Guidelines for estimating the full-time equivalent (FTE) jobs directly supported by capital works – as at February 2018 (multiplier 3.3)*

***Queensland Treasury Office of Economic and Statistical Research Technical Note June 2011 - Construction Jobs Direct and Indirect (multiplier 6.7)*

Table 6 Anticipated workforce requirements once precinct fully operational Preliminary Revenue Analysis (Approx. $350M Revenue)

INDICATIVE LOTS	FULLY OPERATIONAL PRECINCT	DIRECT JOBS *	INDIRECT JOBS**	TOTAL REVENUE
5,6,8,9,16,11,12,13,14,15,16,17,20	Food and Beverage	1,147.25	315.00	$315,000,000
1,3,4	Rural Industry Services	75.66	19.55	$22,550,000
2,7	Support Services	24.96	6.45	$6,450,000
10,18	Ancillary Services	23.22	6.00	$6,000,000
	GRAND TOTAL	**1,271.09**	**347.00**	**$350,000,000**

* and ** *.id Consulting Demographic Resources 2019, Scenic Rim Regional Council Economic Profile and Impact Summary of SRRIP agricultural sales.*

Though difficult to predict, once operational precinct operators will create significant employment and workforce demands in the region. These have been estimated using Economic Impact Modelling provided by .id Consulting.

Input-Output (I-O) modelling has been used to determine how a change in output (sales) in Agriculture will impact on all other sectors of the Scenic Rim economy by modelling the flow-on effects across different industries.

It is important to note; different industries have different flow on effects. Adding jobs in agriculture will add value to that sector, but also to the other industries related to the supply chain, including suppliers and wholesalers, and service industries, such as retail, food services and administration.

The direct addition of $350 million in sales annually in the agriculture sector would result in an additional 1,271 direct jobs and 347 indirect jobs, using a Type 1 employment multiplier of 1.26.

The combination of all direct, industrial and consumption effects would result in a total estimated increase of 1,618 jobs located in the Scenic Rim Regional Council. This represents a Type 2 Employment multiplier of 1.28.

Employment impacts from the SRAIP would not be limited to the local economy. Modelling indicates industrial and consumption effects would flow outside the region, creating a further 994 jobs. The combined effect of economic multipliers in the Scenic Rim Regional Council and the wider Australian economy is estimated to be the addition of 2,612 jobs.

4.10 Economic Indicators

Capital costs for the development of the site will be in the order of $10 million for groundworks and construction of the subdivision (Phase 3). Fully developed, operational revenue from production will be in the order of $350 million per annum with production value of the initial output dependant on market conditions.

Common modelling approaches that may be acceptable for the identification of economic impacts include input–output (I-O) modelling. For the purposes of this section I-O modelling offers a sound approach to assessing the economic value of the Precinct. Using a ratio of average employment supported per $1million of final demand for construction services to develop the Scenic Rim Rural Innovation Precinct has been calculated using the Queensland Treasury, Office of Economic and Statistical Research Technical Note (June 2011). Page 18. Further economic modelling will be carried out as the development of the Precinct progresses.

More generally, it is anticipated that recent changes to "Country of Origin" labelling laws will further drive demand for frozen vegetable production and food manufacturing Precincts close to origin. Whilst not an indicator it does provide the necessary market stimulus to drive food manufacturing at a local level. The Precinct will transport fresh and frozen food directly from the farm gate to both domestic and export markets through the development of the Precinct's manufacturing and logistical infrastructure.

Flow-on employment opportunities will likely be industries associated with the following:

- Distribution (transport and distribution companies),
- Industrial specialist companies (specialised freezing and packaging support companies),
- Animal husbandry companies (through the proposed feed mill) and
- Agricultural supply industries (fertilisers and chemical suppliers, machinery suppliers and associated supply industries).

4.11 Economic Effects

The value-adding businesses earmarked for the Precinct will have a turnover of approximately $350 million and will create more than 1618 direct and indirect jobs. This would positively impact the nearby towns of Kalbar, Aratula and Boonah through increased demand for business services and employment opportunities.

There are opportunities for complementary industries within the Scenic Rim, particularly during the design and construct phase. These include, Transport Services, Building & Concrete Supplies, Design, Development & Construction services.

Total capital costs for the Groundworks and Construction (Phase Three) of the subdivision is approximately $10 million.

Initial figures indicate that capital costs for full development of the SRAIP would be approximately $290 million, representing a significant opportunity for Scenic Rim businesses.

Equally, the SRAIP will likely service markets in Queensland, interstate and overseas. Flow-on value will be felt by industries and businesses in other parts of Queensland, particularly those associated with food manufacturing and production and will generate significant local demand for fresh produce in South-East Queensland.

4.11.1 *Agricultural Inputs*

The Ipswich and West Moreton region – around 13,000 km^2 – encompasses the Local Government Areas of Ipswich, Lockyer Valley, Scenic Rim and Somerset and has some of Queensland's most significant areas of developable industrial land and master-planned communities, near ports, road and rail networks. The region produces over $783 million worth of agricultural *commodities (Australian Bureau of Statistics. 7503.0 Value of Agricultural Commodities Produced 2015-2016 (SA)*. The Scenic Rim also has a reputation as one of the most fertile farmland areas in the world, and its role as Australia's food bowl, growing the most diverse range of commercial fruit and vegetables in Australia, is well known.

The following provides a summary of gross agricultural volumes produced and number of agricultural businesses in the region. Potential Precinct tenants including juicing operations, frozen food facilities, prepared meal production and dairy processing will benefit from reduced food miles by cutting unnecessary shipping and handling of produce and decreased lag times between harvest and production through their proximity to the raw ingredients.

Vegetables

Production	Ipswich		Lockyer Valley		Scenic Rim		Somerset		Consolidated	
	Volume	Nº Biz	Volume	Nº Biz	Volume	Nº Biz	Volume	Nº Biz	Volume	Nº Biz
Vegetables – Beans (kg)	60,000	1	9,225,958	11	1,377,682	8	326,717	4	10,990,357	25
Vegetables – Broccoli (kg)	0	0	13,176,516	23	0	0	141,734	2	13,318,250	26
Vegetables – Cabbage (t)	0	0	16,812	23	1	1	1,096	6	17,909	31
Vegetables – Capsicums (kg)	0	0	44,971	3	0	0	5,983	1	50,954	5
Vegetables – Carrots (t)	0	0	5,058	6	36,506	12	0	0	41,564	18
Vegetables – Cauliflowers (t)	0	0	8,214	18	0	0	115	2	8,329	20
Vegetables – Green peas (kg)	0	0	0	0	889	1	8,698	2	9,587	4
Vegetables – Lettuce (kg)	0	0	24,817,628	25	0	0	401,722	5	25,219,350	30
Vegetables – Melons (t)	0	0	2,909	16	13	3	316	6	3,238	25
Vegetables – Mushrooms (kg)	12,379	1	21,580	1	0	0	0	0	33,959	2
Vegetables – Onions (t)	0	0	12,108	20	11,536	7	688	4	24,331	32
Vegetables – Potatoes (t)	0	0	19,573	18	63	1	140	2	19,776	22
Vegetables – Pumpkins (t)	62	2	12,178	45	2,843	17	1,519	18	16,602	81
Vegetables – Sweet Corn (t)	1,176	1	37,180	15	1,515	4	590	2	40,461	22
Vegetables – Tomatoes (t)	30	1	3,129	5	68	4	588	6	3,815	16

Reference Australian Bureau of Statistics – 7121.0 Agricultural Commodities, SA2, Australia, 2015-2016.

Broadacre

Production	Ipswich		Lockyer Valley		Scenic Rim		Somerset		Consolidated	
	Volume	Nº Biz	Volume	Nº Biz	Volume	Nº Biz	Volume	Nº Biz	Volume	Nº Biz
Hay – Total area (ha)	347	17	2,812	129	4,940	209	2,560	91	10,659	446
Hay – Total production (t)	2,584	17	42,035	129	38,551	209	22,867	91	106,038	446
Cereal crops for grain or seed – Total area (ha)	190	10	2,661	93	1,251	68	1,085	49	5,187	220
Cereal crops for grain or seed – Total prod. (t)	562	10	13,656	93	6,944	68	5,574	49	26,736	220
Cereal crops – Barley for grain (t)	247	4	1,555	28	1,214	26	677	12	3,693	70
Cereal crops – Maize for grain (t)	0	0	5,694	12	4,437	17	3,635	19	13,766	48
Cereal crops – Oats for grain (t)	0	0	4	1	68	2	29	2	101	5
Cereal crops – Sorghum for grain (t)	288	5	3,810	33	512	11	767	10	5,377	59
Cereal crops – Wheat for grain (t)	27	1	2,458	16	713	11	467	6	3,665	34
Non–cereal crops – Chickpeas (t)	0	0	221	3	72	2	0	0	293	5
Non–cereal crops – Mung beans (t)	0	0	97	4	119	4	0	0	216	8
Non–cereal crops – Oilseeds (t)	0	0	363	11	1,243	23	68	2	1,674	36
Non–cereal crops – Other pulses (t)	0	0	15	1	230	4	17	1	262	6
Non–cereal crops – Peanuts (kg)	0	0	0	0	0	0	142,962	4	142,962	4
Non–cereal crops – Sugar cane (t)	0	0	0	0	4,372	1	0	0	4,372	1
Fruit and nuts – Grapes for wine (t)	0	0	2	1	5	2	10	4	17	7

Livestock

Production	Ipswich		Lockyer Valley		Scenic Rim		Somerset		Consolidated	
	Number	Nº Biz	Number	Nº Biz	Number	Nº Biz	Number	Nº Biz	Number	Nº Biz
Poultry and Eggs – Total poultry (a)	118,622	6	1,431,639	26	3,250,597	62	1,980,264	29	6,781,123	124
Live poultry – Layers	25	2	18,838	12	300	22	40,135	11	59,298	47
Live poultry – Total meat poultry	118,467	2	1,401,600	2	3,249,450	18	1,938,460	7	6,707,977	30
Hen egg production – human consumption (doz)	130	2	11,202	12	847	22	1,670	11	13,848	47
Cattle – Total (b)	9,841	54	15,101	164	108,017	487	84,236	284	217,195	988
Dairy cattle (b)	997	4	2,686	16	20,152	65	3,875	22	27,709	106
Meat cattle (b)	8,844	50	12,415	148	87,865	422	80,361	262	189,486	882
Sheep (c)	1	1	500	9	1,298	24	294	12	2,094	47
Pigs (d)	0	0	6,410	6	2,911	12	2,347	9	11,668	26
Goats	5	2	42	2	114	7	403	5	564	17
Beehives	1	1	583	6	1,978	18	12	2	2,574	28
All other livestock n.e.c. (e)	140	17	817	49	2,084	144	3,123	85	6,164	295

Reference Australian Bureau of Statistics – 7121.0 Agricultural Commodities, SA2, Australia, 2015-2016.

4.12 Financing Requirements and Implications

The project will be funded by Kalfresh, with the potential for a joint venture with other private investors. The initial funding strategy includes a number of aspects, including the sale of land and a proposed partnership arrangement for the earthworks of the site.

Proposed partnership for the earthworks & highway access to the site

Kalfresh has entered an agreement with a neighbouring property owner, who operate in the construction materials and mining sector. The agreement would enable Kalfresh and the proposed SRAIP to utilise a new access intersection to the Cunningham Highway, by way of an easement.

Refer to **Figure 6** – Proposed Scenic Rim Agricultural Industrial Precinct, proposed Development Concept Site Plan and Refer Appendix D1 Capability to Complete (Inclusion A) and D2 Prefeasibility Assessment (Inclusions A, B & C).

Initial sale of land for the Anaerobic Digester

Kalfresh has entered into a Memorandum of Understanding (MOU) with a major waste company to build an Anaerobic Digester (AD) as set out earlier in the IAS. This proposed facility will be located on a lot south of the existing Kalfresh processing site and will be the first sale of land for the precinct.

Potential Anchor Tenants

During the initial feasibility for the proposed SRAIP, a large amount of work has been completed by the proponent to understand the needs of prospective tenants and owners. During this process, a number of parties have been identified as potential tenants / owners, including a leading Australian food processing business and a leading Australian cold store facility business. Preliminary discussions have been conducted.

A large Australian commercial-industrial real estate business has also been engaged during the process and has identified a number of parties who could be approached, should the SRAIP be declared a "coordinated project".

Refer to Appendix D – Statement of Kalfresh Capability to Complete IAR and Prefeasibility Assessment, including specific details about project costings.

5 Location of Key Project Elements

5.1 Location

The six (6) parent parcels on which the proposed Scenic Rim Agricultural Industrial Precinct will be located, encompasses a total site area of 39.25 hectares (refer to Appendix A), and are described as;

- Lot 2 on SP192221;
- Lot 3 on SP192221;
- Lot 4 on SP192221;
- Lot 2 on RP20974;
- Lot 1 on RP216694; and
- Lot 2 on RP44024.

Nearby townships to Scenic Rim Agricultural Industrial Precinct comprise of Kalbar, which is located approximately 4.26km east, Aratula which is located approximately 4.64km south, and Boonah which is located approximately 11.34 km south east.

Being on the Cunningham Highway, NSW and Sydney markets are regularly accessed. Refer to Figure 15 and
Figure 16 for locational details.

It is ideally located on the Cunningham Highway, which enables ease of access to primary production areas and subsequent markets, being 84km to Brisbane City and within the food producing regions of;

- Fassifern Valley;
- Lockyer Valley;
- Stanthorpe;
- Darling Downs;
- Bowen.

Figure 15 - Regional Location of proposed development (approx. proposed development site boundary in red)
Source: Google Earth, 2018

LOCATION	DISTANCE
Port of Brisbane	114km
Brisbane Airport	97km
Brisbane CBD	84km
Proposed Coles DC Redbank	57km
Woolworths DC Larapinta	74km
Coles DC Heathwood	74km
Bromelton Intermodal Hub	43km

Figure 16 – Scenic Rim Agricultural Industrial Precinct proximity to markets

Source: Kalfresh, 2019

5.2 Tenure

5.2.1 *Tenure*

The land tenure of the Scenic Rim Agricultural Industrial Precinct is freehold. Exceptions to this are:

- Easement No 601520822, Easement A on RP216694;
- Easement No 710032457, Easement B on SP192221.

Kallium Pty Ltd[6], and its related entity Kalfresh Pty Ltd, are considered the freehold land owners for these properties (see Figure 17 below). See Appendix D.

[6] Kallium Pty Ltd and Kalfresh Pty Ltd are related entities and are wholly owned by Kalfresh Holdings.

5.2.2 *Local Government Planning and Regional Plan Designations*

Local government and regional planning designations are provided in Table 7 below. Project GIS data in ESRI shapefile format (GDA94) will be provided electronically on submission of the IAS.

Table 7 List of Local Planning and Regional Plan Designations

ASPECT	DESCRIPTION
Regional Activity Centres	Ipswich approximately 40.6km north east of the site with a population of 52,119 (Australian Bureau of Stastistics, 2016) Warwick approximately 61.2km south west of the site with a population of 12,222 (Australian Bureau of Stastistics, 2016)
Community Activity Centres	Kalbar approximately 4.2 km east of the site with a population of 1,093 (Australian Bureau of Stastics, 2016) Aratula approximately 4.6 km south of the site with a population of 453 (Australian Bureau of Statsics , 2016)
Key natural features	There is regulated Category B (remnant) vegetation, Category C (high value regrowth vegetation) on the western portion of the subject site. A drainage feature is located on the western boundary of the project area.
Planning Scheme	Boonah Shire Planning Scheme 2006 (Scenic Rim Regional Council, 2006)
Planning Scheme zone	Rural
Regional Plan	ShapingSEQ. ((State of Queensland, 2017)
Regional Plan Designation	Agricultural Resource Area (State of Queensland, 2017)

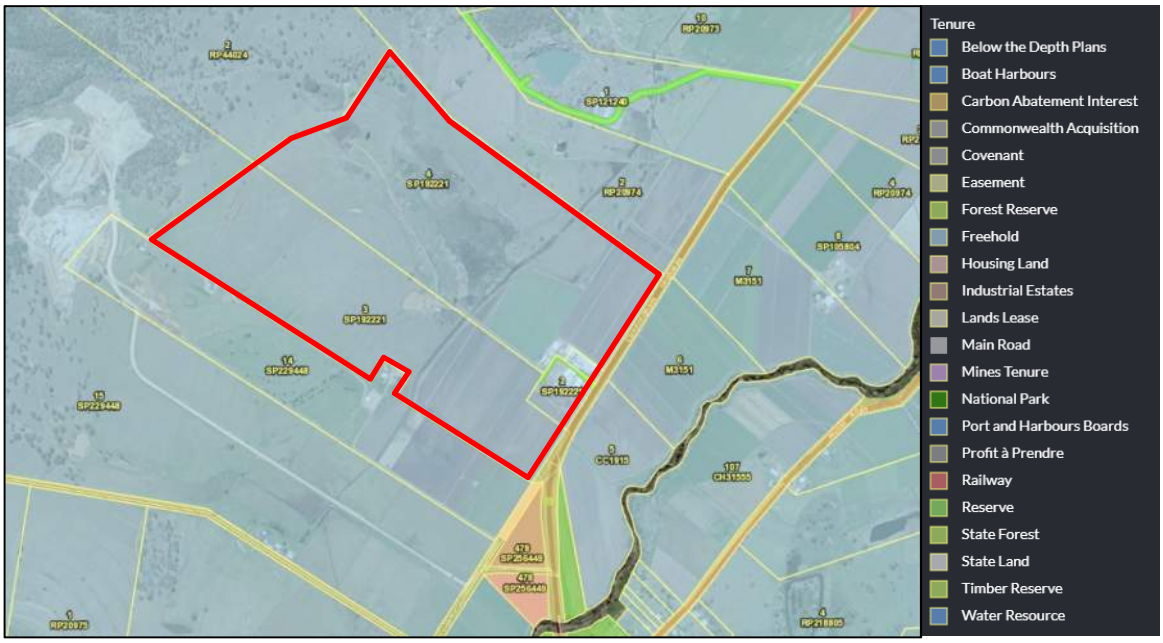


Figure 17 Proposed Scenic Rim Agricultural Industrial Precinct land tenure (subject site depicted in red)
Source: Queensland Globe (State of Queensland, 2018)

6 Description of the Existing Environment

The following sections have been developed primarily through desktop assessment of readily available mapping (Commonwealth and Queensland State Databases). Some site-specific investigations have been completed or are planned as part of this investigation and are detailed in the Pre-feasibility and Capability Statements in Appendix D.

6.1 Natural Environment

The following briefly describes the existing local and regional natural environment relevant to the Scenic Rim Agricultural Industrial Precinct project.

6.1.1 *Land*

Topography

The Scenic Rim Agricultural Industrial Precinct is characterised by predominately flat land orientated with a relatively steep rise in a western portion of the site. Generally, the proposed agricultural industrial precinct is located on the eastern portion of the site adjacent to the Cunningham Highway.

Survey mapping has been completed for the site and has shown that the site ranges in height from 90 m AHD in the east of the project area, to 170 m AHD in the north west of the subject site ((State of Queensland, 2018). The topography of the site is compatible with the requirements of the proposed development.

Soils

Assessment of soil and land mapping available from the Australian Soil Resource Information System (ASRIS) (CSIRO, 2016), Department of Natural Resources, Mines and Energy (DNRM&E) and the Department of Agricultural and Fisheries (DAF) showed that the Scenic Rim Agricultural Industrial Precinct is predominantly comprised of dark cracking soils in association with many other clays (Commonwealth Scientific and Industrial Research Organisation , 2014).

Contaminated Land

Due to the historical use of the site for cropping and rural industry activities, a desktop due diligence was carried out by way of searching the Environmental Management Register and Contaminated Land Register, maintained by the Department of Environment and Science (DES). As seen in Appendix B, the proposed site has not been included on either the Environmental Management Register or the Contaminated Land Register.

State, Federal, or Internationally Significant Land

A preliminary search of the State, Commonwealth, and International mapping available by desktop search failed to identify the proposed Scenic Rim Agricultural Industrial Precinct project site as being of significance.

6.1.2 *Water*

Groundwater

There is a sub-artesian facility registered RN138334 located on the eastern boundary of Lot 2 on SP192221 (State of Queensland, 2018). It is not anticipated that the proposed development will impact on the registered bore or the groundwater in the area, given operation needs and activities.

Key Water Features

The site is traversed by an unnamed feature and a series of associated ephemeral hydrological features which drains in a north to south direction towards Warrill Creek system and eventually into the Bremer River. Climatic conditions within the Study Area cause the abovementioned creeks to be ephemeral in nature, flowing only in times of sufficient rainfall.

The Queensland Government (Development Assessment Mapping System) 2018 "waterways for waterway barrier work" mapping identifies the sites features as "moderate" risk. (See Figure 18) waterway (State of Queensland, 2018).

The *Water Act 2000* identifies the features as watercourse, while the remaining ephemeral hydrological features are mapped as "drainage features" (State of Queensland, 2000).

The Department of Environment and Science 2018, Map of Referable Wetlands indicates that the proposed development site does not contain any referable wetlands (State of Queensland, 2018).

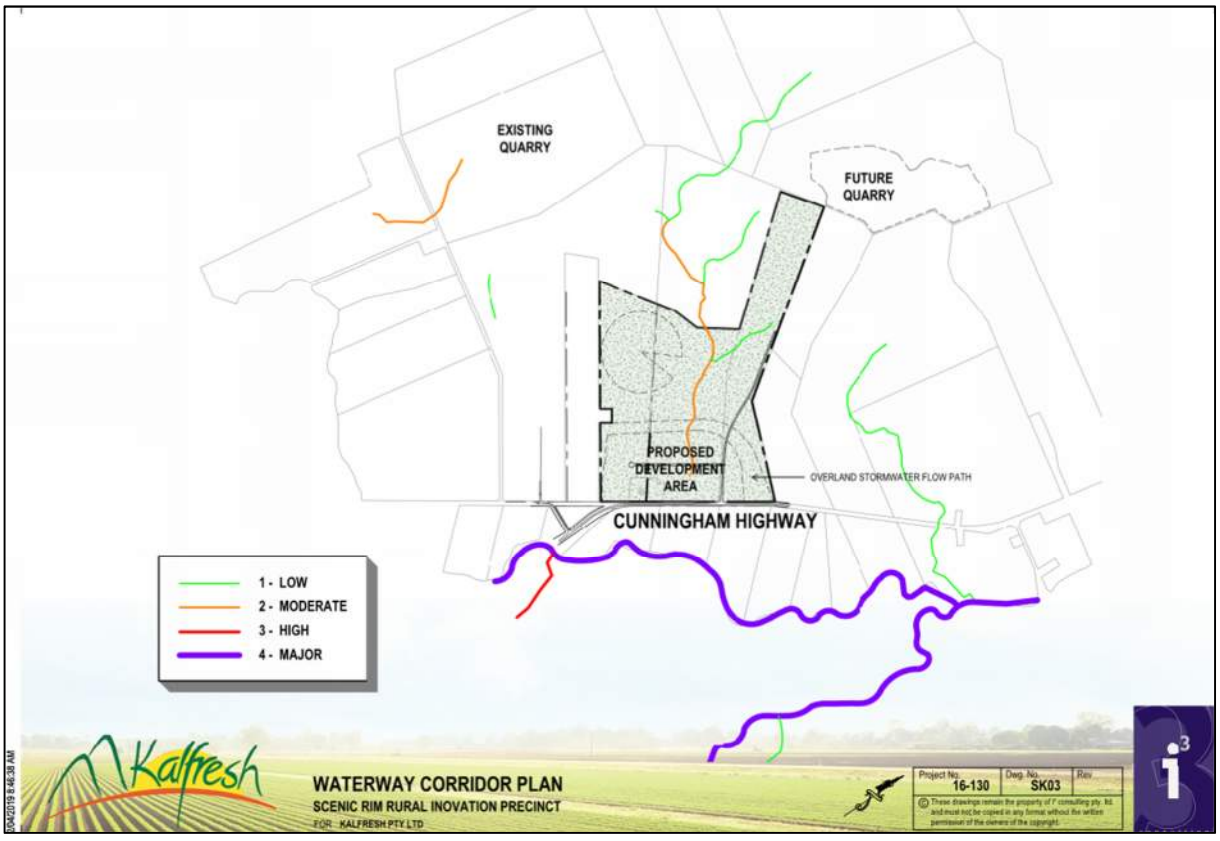


Figure 18 Queensland waterways for waterway barrier works
Source: Department of State Development, Manufacturing, Infrastructure and Planning; 2018; i3 consulting; 2019

Flood Risk

The Queensland Reconstruction Authority (QRA), with the support of DNRM&E, has undertaken a State-wide mapping exercise to establish interim mapping of floodplains at a sub-basin level. This mapping exercise resulted in the development of the 'Interim Floodplain Assessment Overlay' (Queensland Department of Natural Resources and Mines, 2013), which is generally used by Local Government to provide flooding mapping for code requirements. The mapping is not based on a particular flood event/magnitude, nor does it represent the Probable Maximum Flood (PMF) which is commonly derived through detailed flood studies to identify the extent of the floodplain. The mapping is generally based on various landform datasets that represent or indicate previous inundation.

Aurecon completed a 1% Annual Exceedance Probability (AEP) flood modelling for both the 6 and 12-hour duration events which were identified as being critical duration events in terms of peak water surface levels within the sub-model area. Overall maximum flood level maps have been generated by combining peak results for both of the above durations. Refer to Figure 20 and Figure 21 for pre and post development flooding impacts (Aurecon, 2017).

The flood behaviour post development has similar characteristics to preconditions, which are summarised below;

- Peak depths in the diversion channel range from approximately 1.0m to 1.25m;
- Peak velocities in the diversion channel range from approximately 0.5m/s to 1.0m/s;
- The peak depth-velocity product within the diversion channel is approximately 1.0;
- Flowpaths through the site exhibit similar peak depth and velocity characteristics under both the pre and post development cases.

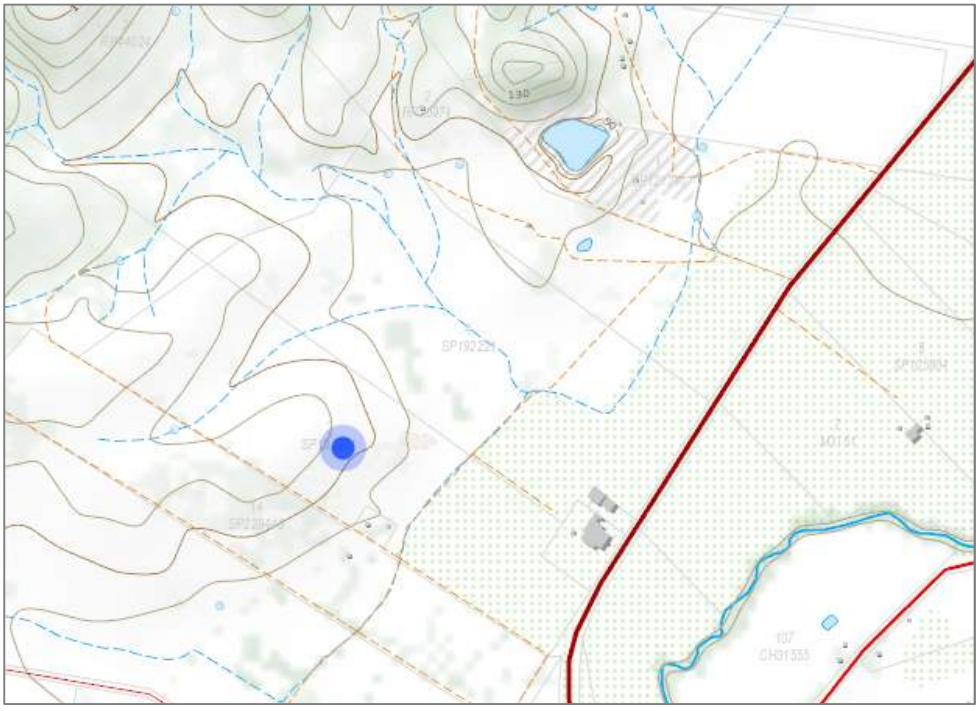


Figure 19 Queensland Reconstruction Authority mapping over the site
Source: Queensland Reconstruction Authority, FloodCheck Mapping; 2018

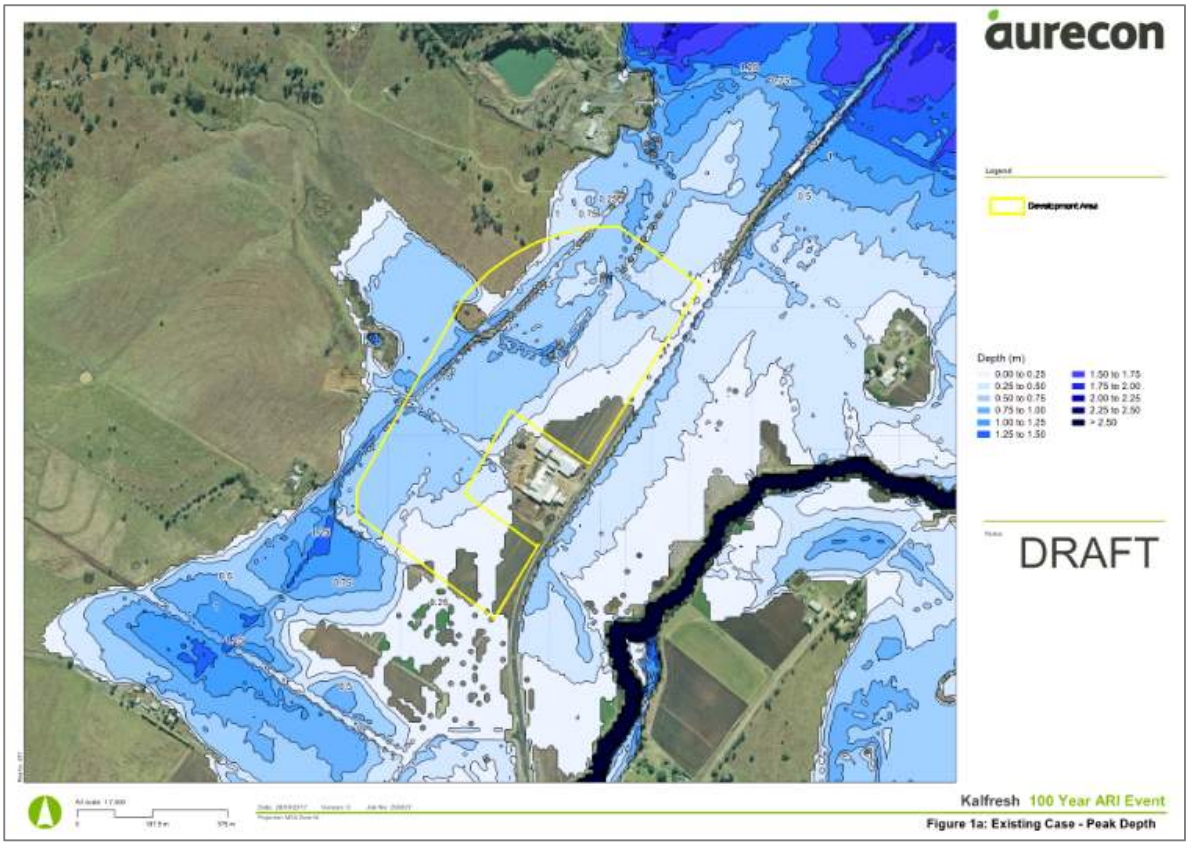


Figure 20 Existing flooding levels at for 100-year ARI event over Scenic Rim Agricultural Industrial Precinct project site. Source: Aurecon; 2017

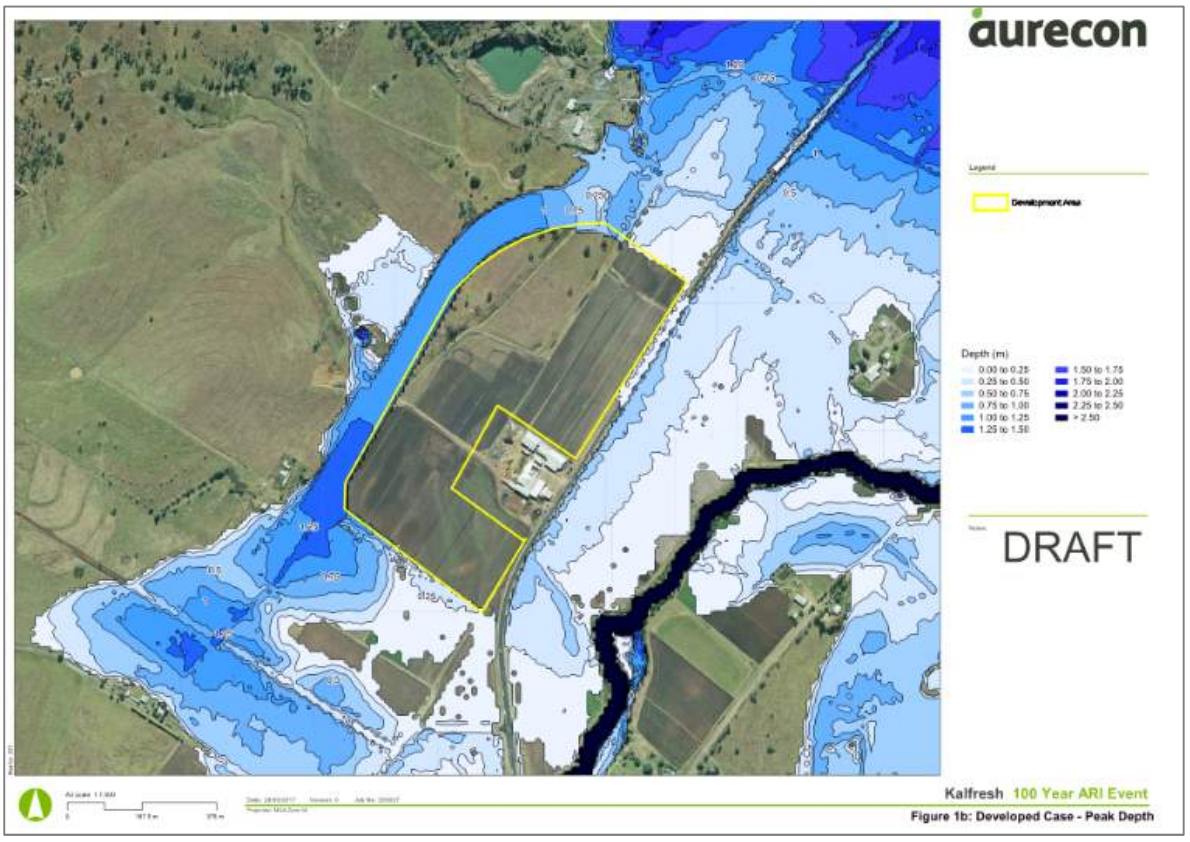


Figure 21 Future flooding levels for 100-year ARI event over Scenic Rim Agricultural Industrial Precinct project site. Source: Aurecon; 2017

6.1.3 *Air*

The Scenic Rim Agricultural Industrial Precinct is not located within any current mapped airshed. It is assumed that primary contributors to emissions generated within the Scenic Rim Agricultural Industrial Precinct would be the emissions from any future aerobatic digester and any feed mill. Emissions from other proposed operations are likely, but not anticipated to significantly impact the environment, given that they can be mitigated appropriately to meet air quality standards commiserate with surrounding environmental and land use expectations.

6.1.4 *Ecosystems*

Vegetation mapped by the State as Regrowth C, and Remnant Category B, generally aligns with the vegetation found onsite as part of the preliminary desktop assessment conducted for this assessment. The regrowth vegetation extent is yet to be ground truthed, but it is generally accepted that little is expected to change from the State mapping introduced in March 2018 (State of Queensland, 2018).

It can be noted that only a small portion of the project area contains vegetation which is dispersed unsystematically throughout the subject site. The current mapped habitat values onsite are not identified as state significant as regulated by the Department of Natural Resources, Mines and Energy (DNRME).

A complete ecological assessment will be undertaken as part of the Impact Assessment Report if a coordinated project is declared.

6.1.5 *Flora and Fauna*

Fauna

Desktop Fauna assessment was undertaken in December 2018 and determined that there were no records on the WildNet conservation significant sightings database on the proposed subject site (State of Queensland, 2018). It should be noted that there is a recorded sighting of Phascolarctos cinereus (Koala) on the lot directly adjacent to the southern boundary of the site (refer to Figure 22), and a recorded sighting of a red tailed tropicbird to the north of the site (State of Queensland, 2018).

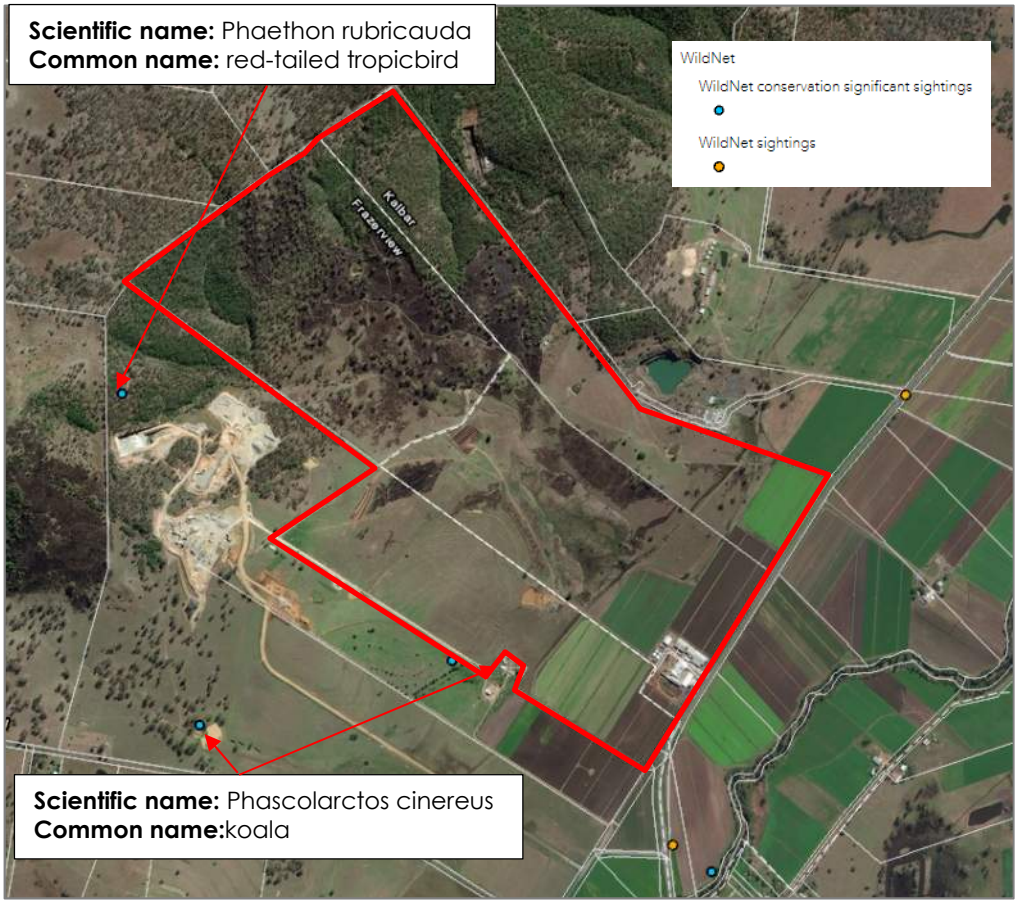


Figure 22 Wildnet Conservation Significant sightings showing subject site boundary (in Red)

Source: Queensland Government, Biomaps, 2019

The DoE's *EPBC Act* Protected Matters Search Tool (Commonwealth of Australia, 2019) identifies the following invasive fauna species within 1 km of the site:

Birds

- Anthochaera Phrygia (Regent Honeyeater);
- Botaurus poiciloptilus (Australasian Bittern);
- Calidris ferruginea (Curlew Sandpiper);
- Dasyornis brachypterus (Eastern Bristlebird);
- Erythrotriorchis radiatus (Red Goshawk);
- Geophaps scripta scripta (Squatter Pigeon (southern));
- Grantiella picta (Painted Honeyeater);
- Lathamus discolour (Swift Parrot);
- Numenius madagascariensis (Eastern Curlew, Far Eastern Curlew);
- Poephila cincta cincta (Southern Black-throated Finch;
- Rostratula australis (Australian Painted-snipe);
- Turnix melanogaster (Black-breasted Button-quail).

Fish

- Maccullochella peelii (Murray Cod).

Mammals

- Chalinolobus dwyeri (Large-eared Pied Bat, Large Pied Bat);
- Dasyurus maculatus maculatus (SE mainland population) (Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population));
- Petauroides Volans (Greater Glider);
- Petrogale penicillate (Brush-tailed Rock-wallaby);
- Phascolarctos cinereus (combined populations of Qld, NSW and the ACT (Koala);
- Potorous tridactylus tridactylus (Long-nosed Potoroo);
- Pseudomys novaehollandiae (New Holland Mouse, Pookila);
- Pteropus poliocephalus (Grey-headed Flying-fox).

Reptiles

- Delma torquata (Adorned Delma, Collared Delma);
- Furina dunmalli (Dunmall's Snake).

Pests

- Acridotheres tristis (Common Myna, Indian Myna);
- Anas platyrhynchos (Mallard);
- Carduelis carduelis (European Goldfinch);
- Columba livia (Rock Pigeon, Rock Dove, Domestic Pigeon);
- Lonchura punctulate (Nutmeg Mannikin);
- Passer domesticus (House Sparrow);
- Streptopelia chinensis (Spotted Turtle-Dove);
- Sturnus vulgaris (Common Starling);
- Rhinella marina (Cane Toad);
- Bos Taurus (Domestic Cattle);
- Canis lupus familiaris (Domestic Dog);
- Felis catus (Cat, House Cat, Domestic Cat);
- Lepus capensis (Brown Hare);
- Mus musculus (House Mouse);
- Oryctolagus cuniculus (Rabbit, European Rabbit);
- Rattus norvegicus (Brown Rat, Norway Rat);
- Rattus rattus (Black Rat, Ship Rat);
- Sus scrofa (Pig);
- Vulpes Vulpes (Red Fox, Fox).

Flora

The majority of the vegetation mapped on the subject site is identified as Category X. There is limited amount of vegetation identified as Regrowth C, and Remnant Category B, which generally aligns with the stands of vegetation found on the North-West portion of the subject site (refer to Figure 23 below). It should be noted that the development as proposed will not impact on the mapped vegetation and will be limited as proposed is shown Figure 13. The extent of state significant vegetation is yet to be ground truthed, but it is generally accepted that little is expected to change from the State mapping introduced in March 2018 (State of Queensland, 2018).

It can be noted that a significant portion of the land has been historically cleared to facilitate the onsite agricultural use of the site. There is limited native vegetation on the project site, consisting of isolated trees shrubs, and it is not anticipated that clearing this vegetation will impact on the onsite habitat values. (State of Queensland, 2018).

The south eastern lots within the project area have been identified within the protected Plants Flora Survey Trigger Map (refer to Figure 24). Any clearing of native vegetation identified within the trigger map may need a clearing permit if mapping is verified.

Ecological Assessments will be completed as part of IAR for this proposed development.

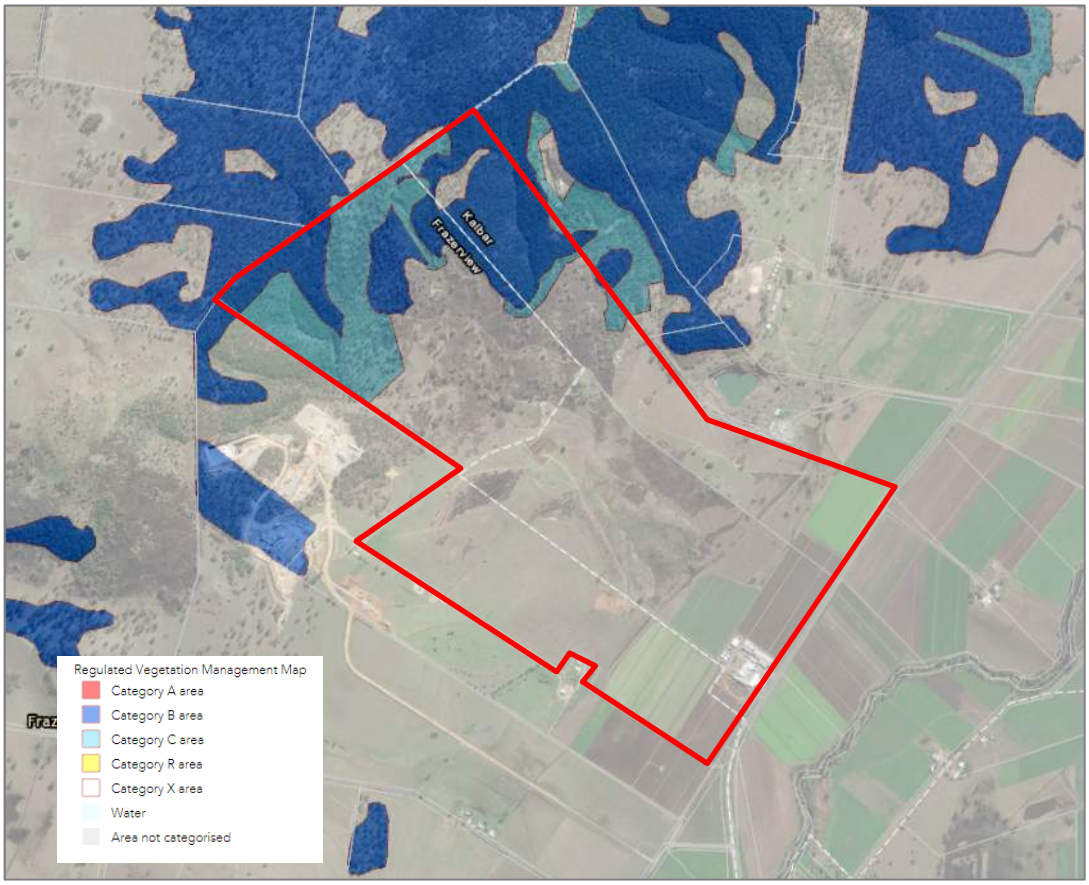


Figure 23 Proposed site showing mapped regulated vegetation on the project site (boundary shown in red). Source: State of Queensland; Biomaps; 2019

Figure 24 Protected Plants Flora Survey Trigger Map (Subject site boundary in Red)
Source: State of Queensland; 2019

DoE (2019) EPBC Act Protected Matters Search Tool (Australian Government, 1999) identifies the following listed threatened flora species as relevant within 1 km of the site:

- Dichanthium setosum (bluegrass);
- Lychnothamnus barbatus (a green alga);
- Macadamia integrifolia (Macadamia Nut, Queensland Nut Tree, Smooth-shelled Macadamia, Bush Nut, Nut Oak;
- Thesium austral (Austral Toadflax, Toadflax).

Weeds

The DoE (2019) *EPBC Act* Protected Matters Search Tool identifies the following invasive flora species within 1 km of the site

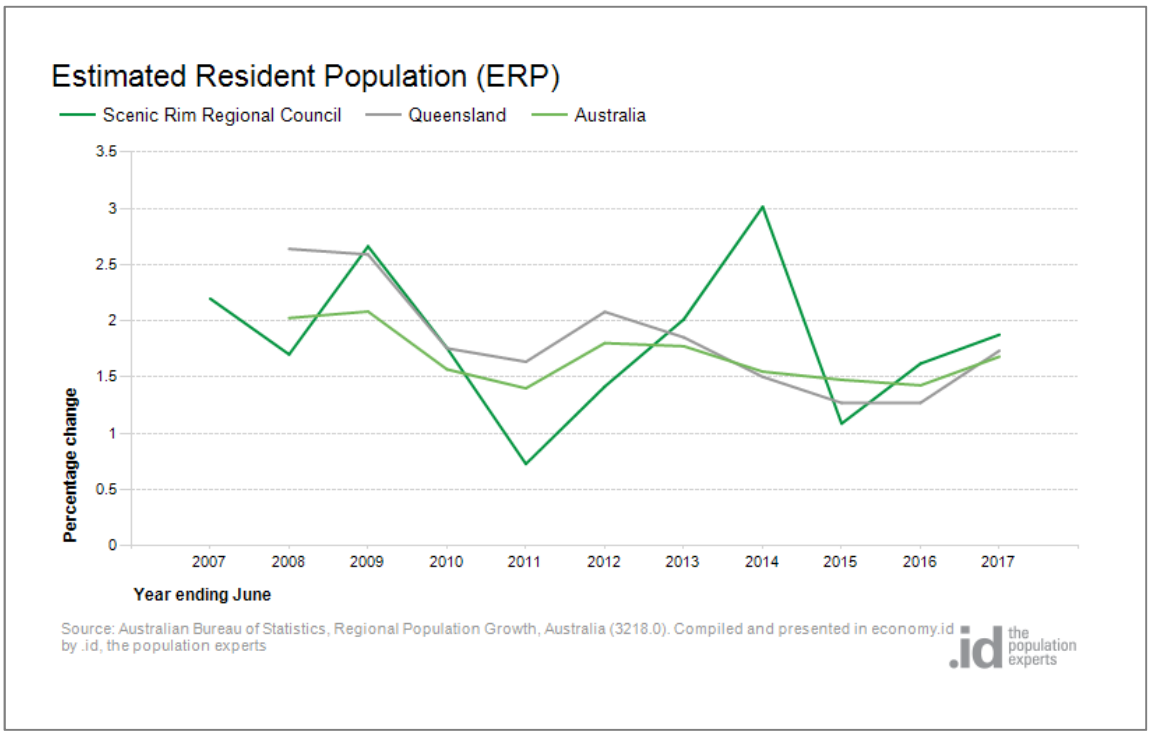
- Asparagus africanus (Climbing Asparagus-fern);
- Asparagus plumosus (Climbing Asparagus-fern);
- Cabomba caroliniana (Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba);
- Chrysanthemoides monilifera (Bitou Bush, Boneseed);
- Dolichandra unguis-cati (Cat's Claw Vine, Yellow Trumpet Vine, Cat's Claw;
- Creeper, Funnel Creeper) ;
- Lantana camara (Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage);
- Parkinsonia aculeate (Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean);
- Parthenium hysterophorus (Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed);
- Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii (Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow);
- Salvinia molesta (Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed);
- Senecio madagascariensis (Fireweed, Madagascar Ragwort, Madagascar Groundsel);
- Solanum elaeagnifolium (Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo).

6.2 Social and Economic Environment

Estimated Residential Population

According to the Australian Bureau of Statistics (2018), it was recorded that 1,093 people resided in the state suburb of Kalbar (Australian Bureau of Statistics, 2017). This is an increase of 9.9 per cent or 99 people recorded in the 2011 census. The estimated residential population (ERP) average for the Scenic Rim Regional Council area is higher than both the Queensland and Australian ERP (refer to Table 8 below).

Table 8 Scenic Rim Regional Council Estimated Residential Population



Percent indigenous population

Aboriginal and/or Torres Strait Islander people made up 4.8 per cent of the population (2016 census). This is an increase from 3.2 per cent of the population or 20 people (2011 census; ABS).

Median Age

The Median Age of the suburb of Kalbar is 41 in 2016 (ABS; 2019) compared to Queensland reported median age of 37. The median age in the suburb or Kalbar has increased by three (3) years compared to 1 year for Queensland's reported median age for the same period.

Unemployment rate

Unemployment in the suburb of Kalbar was reported as 3.3 per cent compared to the Queensland's reported rate of 7.6%. This is the same unemployment rate as reported in the 2011 census.

Median weekly household income

The median total household income in 2016 in the suburb of Kalbar was reported as $1,133/ week compared to Queensland's reported weekly household $1,402. This is a weekly increase of $142 / week as reported in 2011.

Schools

There is one (1) Prep to Year 6 school within Kalbar (Kalbar State School). The area falls within the catchment for Boonah State High School. Enrolments at Kalbar State School have declined from 228 in 2014 to 221 in 2018 (Queensland Education Department; 2018). Enrolments at Boonah State High School have increased significantly from 557 in 2014 to 672 in 2018 (Queensland Education Department , 2018).

Hospitals

There are two (2) hospitals in the Scenic Rim Regional Council Area, the Beaudesert Hospital and the Boonah Health Service. The combination of the two services allow for a full medical service within the region.

Ambulance, Fire and Police

Other community facilities in Kalbar include the Kalbar police station and the Kalbar Rural Fire Brigade. The nearest Ambulance Station is in Boonah.

Positive growth in employment, residents and incomes all are anticipated by the proposed Scenic Rim Agricultural Industrial Precinct. No identifiable negative impacts to the social and/or economic situation of Kalbar or the immediate region is anticipated from the proposed development.

6.2.1 *Accommodation and Housing*

The percent of unoccupied dwellings in the suburb of Kalbar (Australian Bureau of Statistics, 2017) was reported as 7.7% (32 dwellings), compared to the Queensland unoccupied dwelling rate of 10.6% (195, 570). These figures have not taken into account the recent residential lot development in the area.

Accommodation throughout the region will grow to match the development needs of the Scenic Rim Agricultural Industrial Precinct.

6.2.2 *Cultural Heritage (Indigenous and Non-Indigenous)*

A desktop Indigenous cultural heritage assessment has indicated that the traditional owners of the mapped region are the Yuggera Ugarapul people. A search of the cultural heritage database resulted in no Aboriginal or Torres Strait Islander cultural heritage site points or polygons recorded in your specific search area (State of Queensland, 2019).

A search of the QLD heritage Register indicates that there are no listed heritage properties on or adjacent to the project area.

Any matters of cultural heritage identified throughout the planning and construction phase of the development will be managed in accordance with the *Aboriginal Cultural Heritage Act 2003* (State of Queensland, 2003).

6.3 Built Environment

Local and Regional Infrastructure

According to the Draft Scenic Rim Planning Scheme, there is no mapped local or regional infrastructure mapped over the project site, apart from the Cunningham Highway which adjoins the south-eastern property boundary of the proposed development (Scenic Rim Regional Council, 2018). Refer to Figure 25. Access to the highway is required, with the existing access arrangement to be relocated further north to create a safer entry and egress.

It is not anticipated that the proposed development will have a significant impact on the mapped infrastructure. A traffic impact assessment will be undertaken to assess this matter as part of the IAR.

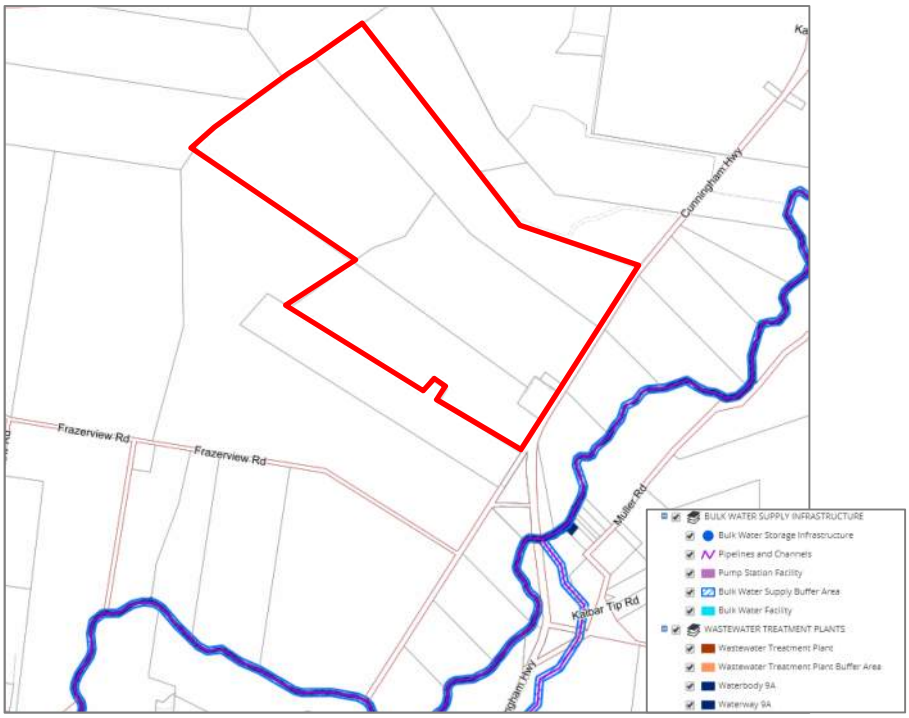


Figure 25 Local and regional Infrastructure as mapped within the Draft Scenic Rim Planning Scheme (indicative subject site boundary shown in red).
Source: Draft Scenic Rim Planning Scheme

Existing Coordinated Projects

The Coordinated project mapping (refer to Figure 26 below) shows that there are two (2) coordinated projects in proximity to the proposed Rural Enterprise Precinct (State of Queensland, 1971), being:

- Wyaralong Dam - Approved with Conditions in 2008 (Blue indicator)
- Inland Rail - Calvert to Kagaru – EIS Active (Red indicator)

It is not anticipated that the proposed development will impact on the identified projects in any way.

Figure 26 Coordinated Projects Map (approximate project location indicated with blue star)
Source: State of Queensland; 2018

6.4 Traffic and Transport

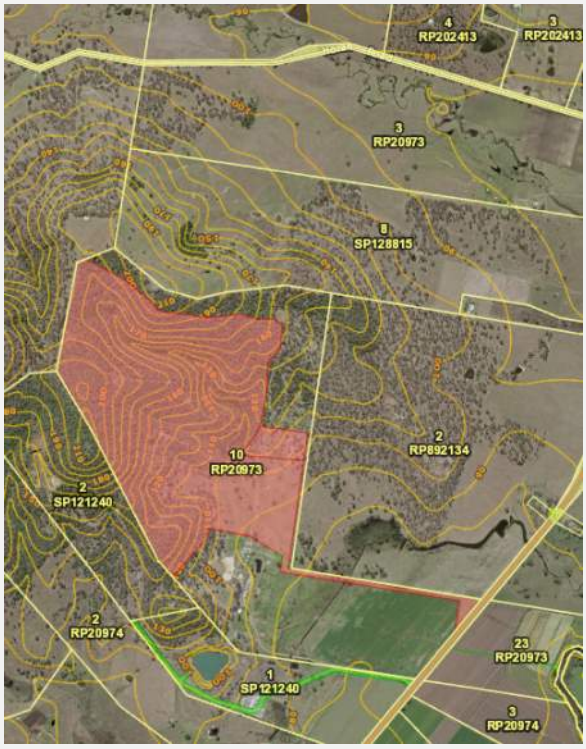
A search of the Department of Main Roads website has indicated that there are currently no plans to upgrade the Cunningham Highway in the vicinity of the project site.

A traffic impact assessment will be undertaken to assess the proposed impacts of the Scenic Rim Agricultural Industrial Precinct as part of the IAR.

6.5 Land Use and Tenures

The regional surrounding land uses for the area are identified in Table 9 below:

Table 9 Surrounding land uses

North Agricultural and Environmental Management land uses are located north of the proposed development site. The majority of the lots are considered to be for agricultural land-uses and are zoned rural. There are small areas utilised for mining or managed resource protection purposes. The agricultural land uses have been mapped under the strategic cropping land trigger map.	
South Agricultural land uses (cropping and grazing) dominate the land use to the south of the site and is zoned rural. All of the lots are considered to be for agricultural land uses. The agricultural land uses have been mapped under the Strategic cropping land trigger map.	

East

Land use to the east of the site is dominated by the Cunningham Highway and associated easement.

Agricultural land associated with irrigated seasonal horticulture is located further east and zoned Rural.

The agricultural land uses have been mapped under the Strategic cropping land trigger map.

West

Land use to the east of the site is predominately rural grazing in nature and is generally zoned rural.

There is a scheduled key resource area (KRA 141) adjacent to the western boundary of the site which is utilised for Quarry Rock and (minor sand and gravel).

The agricultural land uses have been mapped under the Strategic cropping land trigger map.

Image Source: State of Queensland; 2018

Figure 27 Rural Zoning Map in relation to the site boundary (in red)
Source: SRRC- Boonah Shire Council Planning Scheme: 2018

6.5.1 *The Scenic Rim Region*

The existing and historical land use on the region is of an agricultural nature, characterised largely by cattle production and cropping. Regionally, cattle, onions, potato and carrot production have historically been the predominant industries within the Scenic Rim Regional Council area, with the largest nearby township of Kalbar servicing these industries.

The township of Kalbar is located east of the site which services a diversified range of agricultural industries. The region is characterised by small settlements located throughout the region, including the town of Aratula which is the closest community to the site (4.5km south of the site). It is anticipated that Kalbar will provide the day-to-day services for the proposed development both during construction and operation including general store, primary school, entertainment venues and some overnight and short-stay accommodation options.

The State's capital, Brisbane, is located approximately 84 km north-east from the Project Site and is the closest major city. Brisbane is directly accessible from the Project Site via the Cunningham Highway and Ipswich Motorway.

Significant national parks and reserves in proximity of the study area include the following:

- The Moogerah Peaks National Park (6.8 km South-West); and
- Main Range National park (13.5km west).

6.5.2 *Key Local and Regional Land Tenures*

As shown in

Figure 17, the bulk of the surrounding land tenures properties is freehold tenure.

6.5.3 *Native Title*

As decided on the 4th August 2017 by the Native Title Tribunal, Native Title has been deemed not be extinguished over non-freehold land in the region. It has been identified that the Yuggera Ugarapul People satisfies all of the conditions in s190B and s190C of the Native Title Act 1993 (Cth).

6.6 Planning Instruments, Government Policies

This Project triggers review of the following legislative instruments:

6.6.1 *Commonwealth policy and legislation*

National Strategy for Ecologically Sustainable Development (NSESD)

The NSESD was ratified by the Council of Australian Governments in 1992 in response to the signing of the Rio Declaration and Agenda 21 at the United National Commission on Economic Development. The NSESD has as its goal '*development that improves the total quality of life, both now and in the future, in a way that maintains ecological processes on which life depends'* (Australian Government, 1992).

Environment Protection and Biodiversity Conservation Act 1999

The *EPBC Act* establishes a process for Environmental assessment and approval of proposed actions that have, will have or are likely to have a significant impact on MNES or on Commonwealth land. MNES are outlined in the EPBC Act to include:

- Places of National Heritage;
- The world heritage values of a declared World Heritage area;
- The ecological character of Ramsar wetlands of international importance;
- Listed migratory species;
- Listed threatened species and ecological communities;
- Nuclear actions;

- Commonwealth marine areas;
- Great Barrier Reef Marine Park; and
- Water resources – protection from coal seam gas development and large coal mining operations.

According to the EPBC Act Policy Statement 1.1 – Significant Impact Guidelines (Department of the Environment 2013), a "significant impact" is an impact which is important, notable, or of consequence, having regard to its context or intensity. The likelihood of an action having a significant impact depends on the sensitivity, value, and quality of the environment affected, and on the intensity, duration, magnitude and geographic extent of the impacts. Further, a significant impact is considered "likely" if it is a real or not a remote possibility; it is not necessary for a significant impact to have greater than a 50% chance of happening.

Consideration of the potential impact of the Project on a range of MNES is provided in Section 7.6. This assessment relates primarily to listed threatened species, threatened ecological communities and listed migratory species. Given its location, the Project is unlikely to have any impact on World Heritage areas, places of National Heritage, Ramsar wetlands, Commonwealth Marine areas or the Great Barrier Reef Marine Park. Furthermore, it does not constitute a nuclear action, coal seam gas development or coal mining operation.

A further ecological impact assessment of the site will determine if the EPBC Act is triggered for the proposed Scenic Rim Agricultural Industrial Precinct.

Native Title Act 1993

The *Native Title Act 1993 (NT Act)* was introduced to address the implications of the Mabo High Court decision, which dismissed the notion of "terra nullius" and recognised the prior rights of indigenous Australians as being similar to those of indigenous groups in other parts of the world. The NT Act set up a process through which indigenous Australian groups can lay claim to pre-existing ownership (native title) rights over areas in Australia and the Torres Strait

Native title claims are then assessed by the National Native Title Tribunal, which makes a decision on the merits of the claim, and (depending on the decision) may place the claim on the National Native Title Register. Successful native title claims are required to exhibit:

That the indigenous group has maintained a traditional connection with the land since 1788.

That the interests of the indigenous group have not been "extinguished" by inconsistent acts (for example, the granting of freehold title). (Commonwealth of Australia, 1993)

As stated in section 5.2.3 The Yuggera Ugarapul People have a current native title claim over the Project site area.

6.6.2 *State Legislation*

Development of the Project will be undertaken subject to the requirements of State legislation. The following sections describe the potential State triggers and approval requirements for the Project.

Aboriginal Cultural Heritage Act 2003 and Torres Strait Islander Cultural Heritage Act 2003

With reference to sections 23(1) of the *Aboriginal Cultural Heritage Act 2003 (ACH Act)* and *Torres Strait Islander Cultural Heritage Act 2003*, a person who carries out an activity must take all reasonable and practicable measures to ensure the activity does not harm Aboriginal and Torres Strait Islander cultural heritage, which is implied to be the cultural heritage duty of care.

A search of the Department of Aboriginal and Torres Strait Islander Partnerships (DATSIP) database identified the Yuggera Ugarapul people as the Aboriginal Parties for the Study Area (State of Queensland, 2003).

Further actions under the duty of care provisions of the *Aboriginal Cultural Heritage Act 2003 (ACH Act)*, will require the involvement of the Yuggera Ugarapul people where required. There is no current indication from topography to online searches, that any cultural heritage artefacts are present over the Project site area.

Biosecurity Act 2016

The *Biosecurity Act 2016* provides a framework for the effective Biosecurity system for Queensland to minimise risk and respond to impacts in a timely and effective way. The act provides a legislative framework to manage the risks associated with the development and operation of infrastructure and service industries, including power, communication, shipping and water supplies.

Potential triggers of the proposed development on this legislation may involve regulation activities involving biosecurity matters and carriers. Specific requirements under this legislation may include the provisions of a barrier fence around the perimeter of the proposed development.

Environmental Offsets Act 2014

The *Environmental Offsets Act 2014* aim is to counterbalance the significant residual impacts of activities through the use of appropriate Environmental offsets on prescribed Environmental matters.

The *Environmental Offsets Regulation 2014* provides details on prescribed activities regulated under existing legislation and prescribed Environmental matters to which the Act applies.

Environmental Protection Act 1994

The *Environmental Protection Act 1994* (EP Act) is the principal Environmental regulatory framework for Environmental management and protection in Queensland. The EP Act objective is to protect the natural environment and associated ecological systems and processes while allowing for continued sustainable development. To achieve this, the EP Act regulates activities that will or may have the potential to cause Environmental harm.

The EP Act requires the Project's potential Environmental impacts to be assessed and that measures be proposed to avoid or minimise any adverse impacts.

The EP Regulation supports and supplements the Environmental assessment process outlined under the EP Act. It also specifies environmentally relevant activities (ERAs) that require approval, associated thresholds, specific approval details and reporting requirements.

Fisheries Act 1994

Section 3 of the Fisheries Act 1994 (Fisheries Act) provides for the use, conservation and enhancement of the community's fisheries resources and fish habitats in a way that seeks to:

a. Apply and balance the principles of ecologically sustainable development; and

b. Promote ecologically sustainable development.

The Fisheries Act, in conjunction with the *Planning Act 2016* (Planning Act), regulates the construction or raising of a barrier across waterways (including partial barrier) that may limit or further limit fish passage (waterway barrier works).

Waterway barrier work is assessable development under the Planning Act unless it complies with accepted development criteria, under schedule 7, part 3, item 6 of the *Planning Regulation 2016*.

Land Act 1994

The *Land Act 1994* (Land Act) provides the framework for State land, such as leasehold, roads and reserves and their subsequent management.

Under Chapter 4, Part 4 of the Land Act, a permit to occupy is required for the occupation of a reserve, road or area of unallocated State land.

Nature Conservation Act 1992

The *Nature Conservation Act 1992* provides a framework for biota in Queensland to be declared and protected in the following categories:

- Extinct in the wild;
- Endangered;
- Vulnerable; or
- Least concern.

The Act also provides a legislative framework for the declaration of protected areas which aims to provide protection of the biological diversity of native wildlife while providing recognition of interest and cooperative involvement in the conservation of protected areas by Aborigines and Torres Strait Islanders.

The assessment of the proposed development will take into the provisions of the *Nature Conservation Act 1992* if they apply to the development site.

The Planning Act 2016

The purpose of *The Planning Act 2016* (Planning Act) is to achieve ecological sustainability in Queensland through a system of land use planning (planning), development assessment and related matters. The Act works in association with many other acts detailed in this report to coordinate development assessment. The Planning Act:

- Manages the process by which development takes place, including ensuring the process is accountable, effective and efficient and delivers sustainable outcomes;
- Manages the effects of development on the environment (including managing the use of premises);
- Coordinates and integrates planning at local, regional and state levels.

The assessment of the Project will consider the State Planning Policy (including the Queensland Plan, Powering Queensland Plan and the Agricultural Precinct State Code), and the *ShapingSEQ 2017*, which applies to the area in which the Project is located (State of Queensland, 2016).

Queensland Heritage Act 1992

The *Queensland Heritage Act 1992* (Heritage Act) ensures protection of recognised State significance heritage areas that are placed on the Queensland Heritage Register. Local Heritage registers are established by relevant Local authorities and are protected under this Act.

State Development and Public Works Organisation Act (SDPWO) 1971

The SDPWO Act 1971 provides for state planning and development through a coordinated system of public works organisation, for environment coordination and of related purposes to facilitate large projects in Queensland. The Project seeks to be declared a 'coordinated project' by the Coordinator-General for which an EIS or IAR is required (State of Queensland, 1971).

The preparation of an IAR or EIS in accordance with Part 4 of the Queensland SDPWO Act 1971 also satisfies the requirements of Section 8 of the Commonwealth EPBC Act.

In this instance an IAR is seen as the necessary application for the proposed development.

Vegetation Management Act 1999

The *Vegetation Management Act 1999* regulates and establishes the vegetation management framework for Queensland which applies to all vegetation other than the following:

- State forests;
- National parks;
- Forest reserves; and
- Certain other tenures defined under the Forestry Act 1959 and the Nature Conservation Act.

Generally, the clearing of vegetation to which the Vegetation Management Act 1999 applies is "assessable development" under the *Planning Act 2016* and will require a development approval in accordance with that Act, unless an exemption under the Planning Regulation 2016 applies to the clearing.

Waste Reduction and Recycling Act 2011

The main objectives of the Act in relation to waste management are to:

- Promote waste avoidance and reduction;
- Reduce the overall impact of waste generation;
- Promote resource recovery and efficiency actions;
- Promote the sustainable use of natural resources;
- Encourage the use of recovered resources; and
- Ensure a shared responsibility between government, business and industry and the community.

The Act is supported by the *Waste Reduction and Recycling Regulation 2011*, which provides mechanisms to achieve the objectives of the Act.

Water Act 2000

The *Water Act 2000* provides a legislative framework for the sustainable management of water resources through the planning, allocation and use of water and the protection of riverine areas through ensuring the following:

- Sustains the health of ecosystems;
- Water quality; and
- Water-dependent ecological processes and biological diversity associated with watercourses, lakes, springs, aquifers and other natural water systems, including, where practicable, reversing degradation that has occurred.

There are defined watercourses under the *Water Act 2000* mapped on the proposed site. The potential impacts of the proposed development will on the defined watercourses will be discussed in the forthcoming IAR, including any proposals to undergo determination of the onsite features for assessment under the provisions of the Water Act 2000.

Queensland Agricultural Precinct Code and Planning Guidelines

The Agricultural Precinct state code, supported by its planning guideline, provides a consistent, coordinated, whole-of-government approach to the assessment and regulation of Agricultural Precinct development across Queensland. The code and guideline will facilitate quality renewable energy outcomes whilst protecting communities from any adverse impacts as a result of Agricultural Precinct development.

The code and guideline will support the role of the Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP), via the State Assessment and Referral Agency (SARA), as the assessment manager for all Agricultural Precinct proposals in Queensland.

The purpose of the Agricultural Precinct state code is to protect individuals, communities and the environment from adverse impacts as a result of the construction, operations of Agricultural Precinct development.

ShapingSEQ 2017

SEQ is a globally competitive, fast-growing region offering great lifestyles. Approximately 75,000 new residents are expected to call SEQ home each year as the region's population grows from 3.5 million to 5.3 million over the next 25 years. Projections indicate this will result in more than 30,000 new dwellings each year, and the creation of about one million new jobs.

The Queensland Government and key stakeholders have long recognised the need for coordinated planning across the region to manage this growth sustainably, and ensure our prosperity and liveability. This is reflected in the Regional Frameworks for Growth Management developed in the 1990s, and in the statutory regional plans released in 2005 and 2009.

The SEQ regulatory provisions ensure that land use planning and development throughout the region support ShapingSEQ's desired regional growth pattern, goals, elements and strategies.

The SEQ regulatory provisions apply to the following areas in the region:

- Regional Landscape and Rural Production Area;
- Rural Living Area;
- SEQ development areas.

The SEQ regulatory provisions are used in the development assessment process, and also in preparing or amending a local government planning instrument such as a planning scheme; in particular, ensuring levels of assessment are aligned.

The desired regional outcomes in the *ShapingSEQ 2017* articulate the preferred direction for the development and land-use outcomes including infrastructure development utilising existing infrastructure corridors to expand the regions capacity to contribute to the state's economy (State of Queensland, 2017).

ShapingSEQ Rural enterprise precincts guideline

Although not a statutory document within its own right, its function is to guide the preparation and implementation of rural enterprise precincts under the *ShapingSEQ 2017*.

A Rural Enterprise Precinct will promote and/or protect specified rural activities and natural assets, which are anchored by an existing or future rural activity that encourages investment and support from clustering similar or compatible land uses that would otherwise be assessed against the regulatory provisions.

Rural Enterprise Precincts are intended to facilitate the co-location of existing concentrations of rural uses with complementary activities, specifically to;

- Enable rural industries to diversify, adjust, and innovate;

- Attract and co-locate different types of value-adding activities;
- Place land-use controls on activities within a precinct, and embed planning strategies and actions that remove or minimise land use conflicts;
- Promote and incentivise productive activities whilst preserving landscape character and protecting natural assets;
- Provide certainty to landholders, industry and the community about future planning intent for ongoing investment in agriculture.

Rural Enterprise Precincts represent a significant intensification of development compared to that which is usually anticipated in the Regional Landscape and Rural Production Area (RLRPA), and accordingly will be subject to high levels of scrutiny by the department and other agencies on the following elements:

- Appropriate access to, or the ability for the development to be serviced by, infrastructure suitable to the proposed use of the rural enterprise precinct;
- Proposed Rural Enterprise Precinct is consistent with the characteristics of the site and surrounding land uses;
- Area proposed for the rural enterprise precinct is not affected by hazards such as bush fire, coastal erosion, flooding or landslide;
- There is demonstrated economic, social or environmental need for the development proposed within the rural enterprise precinct;
- The Rural Enterprise Precinct will have social, economic or environmental benefits for the community;
- The above outweighs any detrimental impacts with respect to environmental values, fragmentation of land in the RLRPA and locating urban development outside the Urban Footprint.

6.6.2.1 Other State legislation

It is important to note that in accordance with Schedule 3 of the Planning Regulation, there may be State approvals required for a range of activities associated with the development of the Project. The exact details of these likely approvals cannot be determined until further project information is available at the detailed design stage.

The Project Site is subject to a range of State Interests expressed in the Queensland State Planning Policy. The site is also subject to regional planning frameworks and local planning schemes. These planning instruments contain objectives around ecologically sustainable development and the generation of renewable energy. It should be noted that the Project is generally consistent with these objectives and will facilitate the ongoing use of the land for rural purposes.

State Policy Objectives

The construction of the Kalfresh Anaerobic Digester (AD) (bio fuel converted to electricity to meet power requirements of precinct residents) supports **the Advance Queensland Biofutures 10 Year Roadmap and**

Action Plan to build biotechnology and bioproducts. It does this by meeting the Roadmap criteria *for identifying the need for mature and modern agribusiness with well-established supply chains from farm gate to Tier 1 Supermarkets.* Kalfresh are an early adopter of this technology with established supply chains for feedstock.

***Jobs Now, Jobs for the Future* is the Queensland Government's employment strategy**. The strategy states "Queensland's regions are critical to our prosperity and liveability. Every region is different and needs different action to grow jobs" The SRAIP offers a solution to improving the economic prosperity of a regional community through the growth of a workforce that aligns with global opportunities, meets local food industry and employer needs and strengthens skills, capabilities and resilience of local employees.

Governing for Growth: Economic Strategy and Action Plan identifies the following priorities:

- Economy - creating the most competitive business environment in Australia;
- Infrastructure - better planning, delivery of infrastructure and greater opportunities for private sector investment; and
- Regions - capitalising on Queensland's unique assets and projects that boost regional economies.

The SRAIP supports these priorities through capitalising on the efficiencies and competitive advantage created through the co-location and scale of the SRAIP alongside one of Australia's largest food producing regions. Growing and attracting further private sector investment into the region Kalfresh can ensure economic returns are realised by the local community through job creation.

On 20 March 2018, the Queensland Government announced it was developing a comprehensive new strategy underpinned by a waste disposal levy to increase recycling and recovery and create new jobs. **The Waste Management and Resource Recovery Strategy Directions Paper** highlights several priorities which the SRAIP Precinct meets. The investment in infrastructure including the Anaerobic Digester is estimated to divert approximately 48,000 tonnes of landfill per year.

Policy mechanisms such as the waste disposal levy and resource recovery targets set out in the directions paper provide an opportunity for Kalfresh to invest and innovate their recycling activities to include renewable energies. The disposal of landfill without an incentive to recover resources has meant the AD model was not commercially viable for Kalfresh. The incorporation of competitive gate fees for landfill means Kalfresh is now able to progress biofuel as a solution to the Precincts energy requirements.

The market signal provided by the waste levy generates certainty for Kalfresh to invest in new bio technologies that support large food processing plant requirements and plays a part in Queensland's growing resource recovery industry.

Waste – Everyone's responsibility: Queensland Waste Avoidance and Resources Productivity Strategy 2014-2024 maps out clear priorities for landfill diversion including "improving regional access to waste technologies through appropriate planning and industry placement" "Encouraging local reuse and markets for re-usable products to increase waste opportunities in regional areas "Creating certainty for

industry development through infrastructure mapping and use of regulatory tools and reforms" such as the landfill levy. The Kalfresh AD supports all the above.

The DSDMIP Strategy 2018-2020 clearly states regional disparity as a strategic risk. Including *"Diversity of infrastructure, investment and skills, increasing urbanisation and Queensland's vast* geography *creates challenges in ensuring development opportunities in regional communities".*

The location of the SRAIP and AD infrastructure in the Scenic Rim addresses the above risk and supports DSDMIP strategies to.

- Develop growth strategies and provide support for emerging industries with high-growth potential – *through the development of food processing facilities and bio technologies;*
- Support traditional and transitioning industries to maintain and increase productivity – *by supporting traditional agricultural practices to capitalise on global food markets and food processing technologies;*
- Ensure the sustainability of our communities and industries by balancing economic growth and development with protecting our environment – *early adoption and development of anaerobic digestion as a renewable energy source with the added benefit of diverting landfill; and*
- Build the economic capacity and capability of regional and disadvantaged communities – *the SRAIP will attract private sector investment to the Scenic Rim and create new sustainable jobs.*

The Queensland Plan – Queenslanders' 30-year Vision sets out several priorities for how residents see the future for growth in regional communities. The SRAIP supports to following goals identified in the vision.

- Regions collaborating productively and making the most of their comparative economic advantage through working together across industries and sectors, and across regions;
- Number one reliable and safe food bowl of Asia;
- Queensland leads the Asian region in food production and crop diversification by investing in research and development across the water supply and agricultural sectors. Our agricultural production is maximised through safe and sustainable farming practices. We consistently generate new industries and export opportunities throughout Asia.

The Queensland agriculture and food research, development and extension 10-year roadmap and action plan states the government's vision for agriculture and food Research, Development & Extension (RD&E) and clarifies how they will capitalise on the state's competitive advantages and realise the opportunities for growth. The SRAIP serves to deliver on the following identified priorities:

- high-quality, safe food and agricultural products which are affordable and available year-round;
- increased exports and growth in regional jobs.

To meet these challenges, the roadmap identified 14 actions, which target the following 3 key areas:

- increase innovation and commercialization;

- identify and promote agriculture and food RD&E opportunities;
- support the existing sector to grow and develop new business.

6.6.3 *Local Government Planning Requirements*

The ***Boonah Shire Council Planning Scheme 2016*** was originally adopted by the former Boonah Shire Council and came into effect on 31 March 2006. It should be noted that the *Draft Scenic Rim Planning Scheme* will replace the existing planning schemes that apply to the former Beaudesert Shire, Boonah Shire and Ipswich City council areas within the Scenic Rim Local Government Area. The *Boonah Shire Planning Scheme 2006* was prepared under the provisions of the *Integrated Planning Act 1997* which was Queensland's primary legislation to achieve 'ecological sustainability'. It is recognised within the broad strategies of the planning scheme that the following is achieved:

(i) The rural character of the Shire is maintained and development within the towns and villages is consistent with the Shire's and individual locality's character;

(ii) Fundamental to this rural character is the recognition and maintenance of the agricultural industries and rural base of the Shire and the protection of the ongoing operation of these industries.

It is therefore considered that the intent of the *Boonah Shire Council Planning Scheme 2016* is reflected by the proposed SRAIP.

The *Draft Scenic Rim Regional Council Planning Scheme* describes the Council's Plans for the future direction of the Scenic Rim Regional Council Area, and is due to be gazetted in late 2019. The *Draft Scenic Rim Regional Council Planning Scheme* provides direction for community planning and aspirations, whilst ensuring the needs of the state and the regional community are incorporated. More specifically it:

- Identifies the strategic outcomes for the area;
- Includes measures that facilitate achieving the strategic outcomes;
- Identifies the preferred growth pattern;
- Coordinates and integrates community, state and regional interests;
- Includes a local government infrastructure plan (LGIP).

Currently, development in the area is assessed against the *Boonah Shire Planning Scheme 2006*.

7 Potential Project Impacts

The identification of the known potential impacts detailed in this section have been detailed as accurately and with as much certainty as possible. Kalfresh has utilised its considerable local knowledge and industry experience with the positive and adverse impacts of the development of The Scenic Rim Agricultural Industrial Precinct to inform Section 7 of this report.

The predicted impacts outlined in Section 7 are based on ongoing planning and development for the Project, which began in 2017. Various iterations of potential layout of the Precinct have taken into account the evolving potential environmental constraints, opportunities to improve onsite and road safety, and operational requirements both onsite and offsite. The current layout has considered the best options to date that balances the operational viability of the project against the known environmental and social impacts of the development.

7.1 Natural Environment

7.1.1 *Land*

There is an increased risk of soil erosion and degradation as a result of the construction phase of the proposed development.

Onsite loss, albeit minimal, of mapped Strategic Cropping land to facilitate the development is anticipated. No offsite loss is anticipated as a result of this development.

The project site is suitable for both the Project and ongoing agricultural uses, with the surrounding land use being predominately agricultural and associated light agricultural industry. Agricultural industrial precinct developments can successfully co-function with most agricultural uses, and it is anticipated that the existing agricultural practices will continue adjacent to the proposed site.

Further mitigation measures are detailed in Section 8 below of this IAS report.

7.1.2 *Water*

Surface Water

It is anticipated that the construction, operation and decommissioning phase of the project may impact on the quality and quantity of stormwater discharges from the site.

There is an increased temporary risk of surface water discharge into the Bremer River Catchment.

There is an increased temporary risk of sediment and pollutant loads from the site to the Bremer River Catchment, especially during the construction phase of the proposed development.

There is an increased risk of onsite flooding as a result of this development. Flood mitigation measures have been detailed in Section 8 below.

Potential impacts associated with the project could be appropriately managed by implementing a range of standard mitigation measures during the various phases of the project as detailed within Section 8 below.

Additionally, a site-based stormwater management plan will be developed to ensure the project meets the requirements under *Water Sensitive Urban Design Engineering Guidelines*. The Project is not anticipated to have any adverse long term or irreversible impacts on the overall condition of the Bremer River catchment.

7.1.3 *Flora and Fauna*

Fauna

There is a low risk of reduced connectivity for on and off-site habitat values resulting from the proposed development.

A search of the WildNet database has indicated that there are sightings of significant faunal species in proximity to the subject site, but none on the project site. It is therefore anticipated that there is a low risk to the identified species as a result of this development.

There is a low risk of an introduction of invasive species and disease as a result of this development.

Flora

The existing native flora on the project site is limited to individual trees and shrubs with the majority of the native vegetation being historically cleared to facilitate the agricultural activities on the site. There is a low risk of increased loss of biodiversity as a result of clearing the "Category X" regional habitat vegetation on site.

It is currently proposed to clear no more than ten (10) individual trees to facilitate the proposed development. While it is not anticipated that clearing of the site to facility the development will impact on any listed species in the *Nature Conservation (Wildlife Management) Regulation 2006*, a flora survey will be conducted for inclusion in the IAR.

There is a risk of the introduction of invasive weed species and disease as a result of this development.

Potential impacts associated with the project could be appropriately managed by implementing a range of standard mitigation measures during the various phases of the project as detailed within Section 8 as below.

7.2 Amenity, including noise, air quality, vibration, lighting, urban design and visual aesthetics

Activities to be completed within the construction and operational phase of the development have the potential to generate impacts to the existing rural amenity through the following:

- Noise and vibration (through construction machinery, and distribution vehicles)

- Air quality – it is currently projected that the construction period may last approximately between 1-5 years, involving earthworks and supporting infrastructure construction works through to the commissioning and operation of buildings and businesses. Drawing on similar projects the following activities could impact on the air quality associated with the site:
    - Construction of site laydown areas and components to accommodate site offices and associated ancillary buildings;
    - Use of civil engineering plant and other vehicles for the:
        - construction of new road and manoeuvring areas;
        - excavation of cable trenches;
        - laying of electricity and communications cables.
    - Construction of foundations;
    - The delivery of buildings and associated materials.
        - Construction of the buildings and other facilities;
        - Construction and operational vehicular movements to and from the project site.
    - Other air quality issues may arise from the proposed future activities of the Scenic Rim Agricultural Industrial Precinct, such as the digester and distribution centre. All activities will be assessed based on merit of meeting standard air quality levels for the locality, which can be written into the agricultural enterprise development controls, thus controlling and mitigating these potential impacts;
- Visual aesthetics including bulk and scale of industrial form to increase presence within the rural landscape.

It is not anticipated that the impacts to the existing rural amenity will be significant due to the limited sensitive receptors in proximity to the site, and the ability to reduce and/or mitigate impacts that may arise.

7.3 Social Environment - Potential Beneficial and Adverse Impacts

It is anticipated that the project will have an overall positive economic stimulus within the region. Benefits include increases in the construction phase employment and upskilling of the existing workforce, income and business development within the local centres and surrounding area. Positive operational impacts are anticipated to include business development and the potential for increased agricultural based tourism opportunities in the region. There are no negative long-term impacts on land values anticipated to result from the construction or operation of the Project.

The proposed development, in an existing, recognised agricultural region, is anticipated to benefit the State's economy through increased agricultural production, better utilisation of agricultural outputs and

inputs, diversification and local and regional job creation resulting in secondary and territory benefits to the wider community.

7.4 Economic Effects

Value-add businesses earmarked for the Scenic Rim Agricultural Industrial Precinct would have a combined turnover of approximately $350 million and create more than 1,618 FTE jobs for the region.

These businesses and jobs both direct and indirect would contribute significantly to the local region of Kalbar, Aratula and Boonah in terms of increased demand for business services and employment opportunities. Opportunities for existing complimentary industries within the Scenic Rim include transport services, building and concrete supplies, design and development and construction to be involved in the initial phase of the project. Total capital costs for the land development of the Precinct is to be in the order of $10 million.

As the remaining lots of the Precinct are developed by subsequent third-party investors and food manufacturers, it is expected that existing industries will be in a better position to service/supply subsequent developments. Further capital costs for full development of the Precinct are expected to be approx. $291million.

For a small community, such as the Scenic Rim, this is hugely significant to local businesses and industries servicing the Precincts development and operational requirements. Equally, the Precinct will likely service markets in Queensland, interstate and internationally. Logistical, transport and further processing requirements for manufactured foods will therefore not be limited to the Scenic Rim and will advance State Policy for the economic development of South-East Queensland.

Flow on value will be to other industries associated with food manufacturing, including growers and will generate significant local demand for fresh produce in one of Australis's largest vegetable growing regions.

7.5 Built Environment

Construction phase

Potential construction impacts caused by the Project are likely to consist of two elements to the road network being:

- Impacts to pavement condition;
- Impacts to traffic operation.

The potential impacts during the construction phase on both pavement condition and traffic operation are likely to be along the following roads: Boonah Fassifern Road, Cunningham Highway, and the Ipswich Motorway. It is anticipated that these impacts will be temporary in nature.

Operational phase

Scenario planning of a fully operational Precinct would see an operational workforce peak at over 1,618 FTE for the region.

It is anticipated that further traffic impact assessment will be required for the construction and operational phase of the development and any residual impacts which may remain after the implementation of agreed mitigation measures with DTMR are expected to be negligible and not significant over the construction period.

7.6 MNES Under the EPBC Act

A matters of national environmental significance (MNES) search was completed for the site, as summarised in Figure 28 below. It should be noted that the mapping did not show any identified matters of concern.

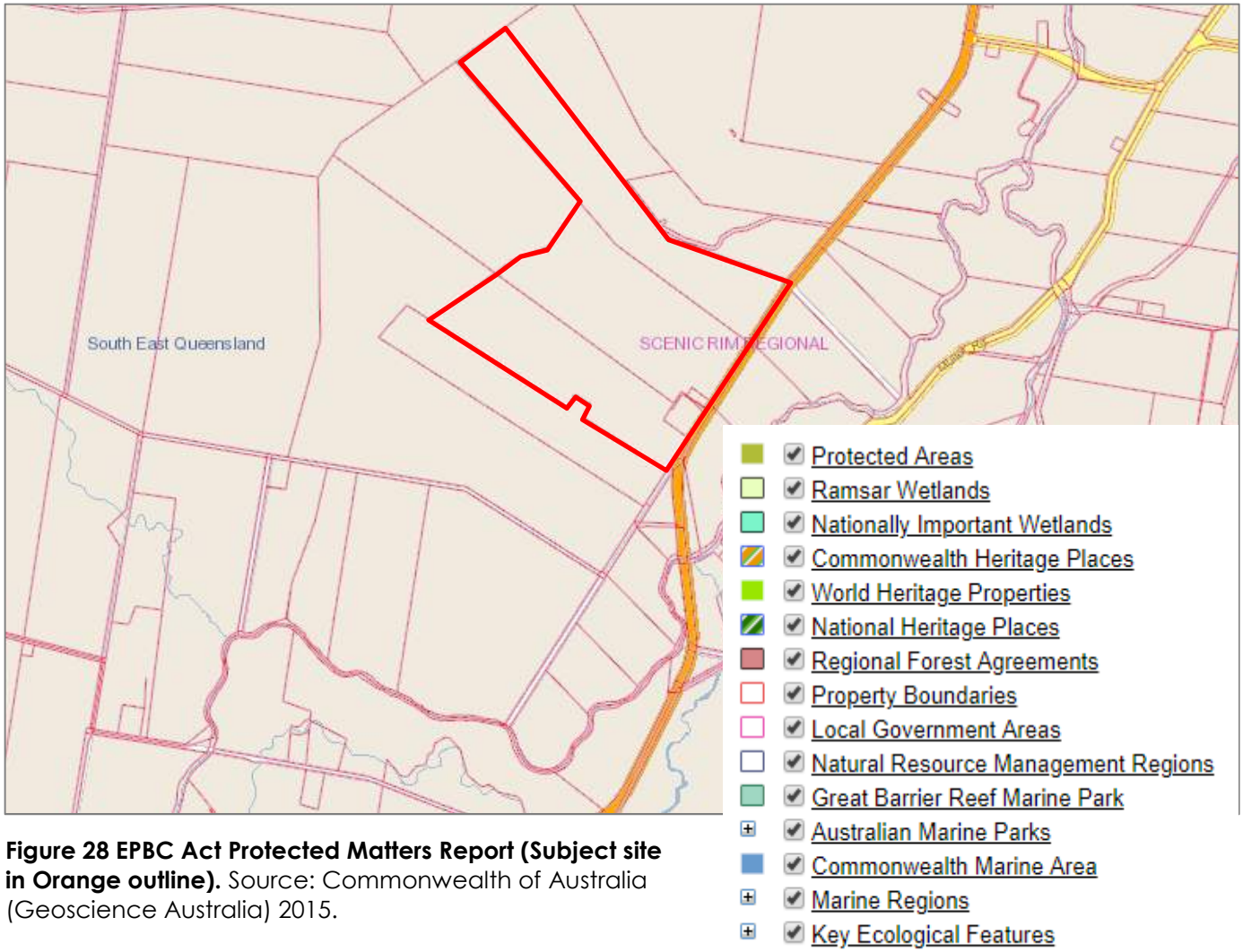


Figure 28 EPBC Act Protected Matters Report (Subject site in Orange outline). Source: Commonwealth of Australia (Geoscience Australia) 2015.

8 Environmental Management and Mitigation Measures

8.1 Natural Environment

An onsite environmental assessment report will be commissioned as part of the IAR process for the proposed Rural Enterprise Precinct. Mitigation of potential environmental impacts is a vital part of the IAR process, and Kalfresh is committed to ensuring all mitigation measures are in line with the industry best practice or greater.

There are limited anticipated impacts to the existing onsite ecological values. Anticipated risks to fauna movement and habitat can be avoided by designing and siting the required transport networks and other operational buildings on the site if technical assessment identifies this as a requirement. It should be noted that proposed development has been sited to avoid the known onsite MSES and it is not anticipated that either the construction or operational phase of the development will impact on this area.

Where impacts from the proposed project are identified, the following mitigation hierarchy will be adopted during the construction/ commissioning phase which has been based on a serious of essential, sequential steps that must be taken throughout the construction/ commissioning phase. These are:

- Avoidance – measures taken to avoid creating impacts from the outset. For example, placement of the precinct to avoid clearing of any mapped vegetation. Avoidance is recognised as the easiest, cheapest and most effective way of reducing potential negative impacts;
- Minimisation – measures taken to reduce the intensity and/or extent of impacts that cannot be completely avoided. Examples include such measures as reducing noise and vibration activities, dust generation and visual aesthetic buffering, and minimising effects of flooding;
- Rehabilitate / restore – measures taken to improve degraded or removed ecosystems following exposure to impacts that cannot be completely avoided or minimised. For example, replanting endemic grass and vegetation species to stabilise bare soils along waterway embankment;
- Offset – measures taken to compensate for any residual, adverse impacts after full implementation of the previous three steps of the mitigation hierarchy. This is highly unlikely to be the outcome for this project.

A series of management plans will be developed for both the construction/commissioning phase of the development once the extent of environmental impacts is understood. These plans will be detailed below.

8.1.1 *Construction/ Commissioning Phase*

Management plans, for both construction and operation, will be developed once the full extent of all of the potential environmental impacts have been determined. Historically, these have included:

- Construction Environmental Management Plan (CEMP): After having identified all of the environmental/ social issues that could form the proposed development, detailed mitigation measures will be developed and presented in an CEMP prior to commencement of construction to ensure environmental values are protected;
- Traffic management plan;
- Cultural heritage management plan (if required):
- Waste management plan; and
- Hazard, risk, health and safety management plan.

A site-specific Erosion and Sediment Control Plan (ESCP) will be prepared as part of an overarching CEMP prior to the commencement of construction. Particular issues that the ESCP will consider include:

- Surrounding terrain;
- Scheduling of work activities to avoid, where possible, the exposure of soils during the wet season;
- Temporary stockpiling of material within natural clearings until an on-site use is identified;
- Stabilisation of exposed surfaces, post-construction and post-decommissioning; and
- Maintaining temporary erosion and sediment control measures in place, post-construction, until the site is stabilised.

Construction work activities within and/or adjacent to waterways would be avoided as much as feasibly possible to ensure disturbance to those waterways and adjacent riparian areas is minimised.

Any topsoil retained for rehabilitation activities will be stockpiled on site in a manner that conserves the native seedbank, soil structure and nutrient value. This will include instating a temporary cover crop on stockpiles that are to be stored for a significant period of time.

It is expected that implementation and maintenance of standard erosion and sediment controls would minimise the likelihood of material migrating off site.

8.1.2 *Operational Phase*

During the operational phase of the project, a land rehabilitation program in line with industry best practice will be established progressively to reinstate a suitable soil profile and re-establish vegetative cover in areas no longer utilised as part of the construction phase as appropriate.

Ecological monitoring and surveys of faunal movements across the site (including mortality rates during construction and operational phases) will be regularly conducted and early erosion detection will be included as part of the overall site maintenance program. Casual observation of listed faunal species will be encouraged through the CEMP. A groundwater monitoring program may be developed for all Project stages which identifies suitable drawdown thresholds to allow for early identification of groundwater drawdown below the identified thresholds. The CEMP will detail the required air quality mitigation measures.

8.2 Built Environment

A Preliminary Road Use Management Plan (PRUMP) will be developed for the Project at the detailed design stage in consultation with the relevant authorities, including Department of Transport and Main Roads (DTMR) and emergency services such as the Queensland Police Service. The assessments conducted for the project will form the basis for the development of various strategies in managing the potential transport impacts from the construction phase of this project, all of which will be documented in the PRUMP. As the Project progresses, if any assessment is revised or additional assessment is undertaken (if required by DTMR or affected regional councils), the PRUMP will be updated to effectively capture the changes.

The PRUMP will also include strategies to deal with safe temporary access to/from public roads and construction sites as well as safe decommissioning of any stockpile sites over the construction phase of the Project. Temporary and permanent traffic arrangements will also be developed (if required) and included as part of the Traffic Management Plans (TMP) that will be implemented during the various stages of the Project. The framework for the PRUMP will be in accordance with the 'Guideline for preparing a Road Use Management Plan' (DTMR, 2012).

8.3 Cultural Heritage Management Plan (Indigenous)

Discussions with the Aboriginal and cultural heritage representatives, being the Yuggera Ugarapul people, to deliver a Cultural Heritage Management Agreement or Plan to manage any artefacts found onsite may occur prior to construction and will form part of the consultation activities during the IAR. Findings from assessments will inform the layout, but are not anticipated to significantly alter the outcome.

8.4 Non-Indigenous Cultural Heritage Management

There is no identified non-indigenous cultural heritage on the subject site. However, should archaeological deposits be uncovered during construction, an immediate 'Stop Works' process will be carried out in accordance with the *Queensland Heritage Act 1992*.

8.5 Greenhouse Gas Management Plan

It is anticipated that greenhouse gas (GHG) emissions may result from proposed operations. Because of this, a formal greenhouse gas management plan may be provided, with the following greenhouse gas mitigation actions proposed as a minimum for this project;

CEMP will outline all potential avoidance measures for excessive GHG emissions. These may include the following:

- Requirement for lighting with sensors;
- Provisions of passive solar design in all site offices;

- Location of laydown areas to minimise required distances;
- The use of materials during construction with lower embodied energy emissions;
- Monitoring and recording of emissions if required;
- The use of recycled materials where available; and
- Establishment of construction and operational recycling and waste reduction schemes.

8.6 Waste Management

Waste material during construction will be managed in accordance with the CEMP, and waste management will be in accordance with the prescribed Environmental Authority (EA).

An Anaerobic Digester has been proposed to manage the green waste generated from operations onsite. The details of this digester will be detailed within the IAR.

Once operational, general waste from this development will be generated from the office. Office waste will be general rubbish including putrescible waste, and recyclable material which are to be placed into bins and collected for disposal.

8.7 Hazard and Risk, and Health and Safety

As the proposed development is not located within any mapped bushfire hazard areas, it is anticipated that the proposed development will not result in an increased bushfire risk.

Modelled flood risk to the proposed onsite operations has resulted in a decrease in post development water levels to the east of the site, but slight increases in the water levels to the west. Opportunities to design provisions for flood pathways though the proposed development have been recommended by Aurecon, and will be investigated further in the detailed design phase of this development to balance the flood impacts in the area and reduce afflux to properties to the west of the site (refer to Appendix C of this report).

No other hazard or risk to health and safety has been identified as part of preliminary scoping for this project.

8.8 Environmental Management

Refer to Section 8.1 above for details regarding the proposed environmental management of the project.

9 Approvals Required for the Project

Following the release of this report, the proponent will be required to obtain statutory approvals from state and local government agencies before the project can proceed. The following Table provides a list of approvals required for the project to proceed.

Table 8 Approvals required for the project to proceed

RELEVANT APPROVALS AND LEGISLATIVE TRIGGERS LEGISLATION	AUTHORITY	COORDINATED PROJECT ASSESSMENT *UNDER PART 4 PROCESS OF THE SDPWO ACT 1971*
- Planning Act 2016 - ShapingSEQ and Rural Enterprise Precinct Guidelines - Boonah Shire Council Planning Scheme 2006 **Development Permit for a Material Change of Use for Variation Approval**	DSDMIP SRRC	Yes
- Planning Act 2016 - Boonah Shire Council Planning Scheme 2006 **Development Permit for Operational Works for Civil Works**	SRRC	No
- Water Act 2000 Water licence/permit **Riverine Protection Permit to excavate or place fill in a watercourse or lake**	DNRME	Yes, if required
- Planning Act 2016 - Shaping SEQ and Rural Enterprise Precinct guidelines - Boonah Shire Council Planning Scheme 2006 **Development permit for Reconfiguration of a lot approval** **Development permit for material change of Use for Industrial uses (individual tenant MCU approvals)**	DSDMIP SRRC	No - refer to Section 9.2 below
- EPBC Act 2000 Sections 18 and 18A (Listed threatened species and communities Sections 20 and 20A (Listed migratory species) **EPBC Act Referral – controlled action or not a controlled action**	Commonwealth DoEE	Yes
- Planning Regulation 2016, Schedule 10, Part 6, Division 4 - Fisheries Act 1994 (Qld) **Development Permit - Operational Works for constructing or raising waterway barrier works**	DSDMIP DAF	Yes

RELEVANT APPROVALS AND LEGISLATIVE TRIGGERS LEGISLATION	AUTHORITY	COORDINATED PROJECT ASSESSMENT *UNDER PART 4 PROCESS OF THE SDPWO ACT 1971*
- Nature Conservation (Wildlife Management) Regulation 2006, Chapter 4, Part 2, Division 4 **Development Permit for clearing of protected plants**	DES	Yes
- Vegetation Management Act 1999 **Clearing of native vegetation**	DNRME	Yes
- Aboriginal Cultural Heritage Act 2003 **Cultural Heritage Management Plan**	DATSIP	No
- Environmental Protection Act 1994 - Environmental Protection Regulation 2008 **ERA 53 Organic Material Processing (b) by anaerobic digestion** **ERA 63 (b) sewerage treatment > 100 but not more than 1500 EP** **ERA 64 Water treatment (10ML)**	DES	Yes
- Transport Infrastructure Act 1994 **Infrastructure related referrals - State Transport generally**	TMR	Yes
- Electricity Act 1994 **Infrastructure related referrals - state electricity entities**	DNRME	No

9.1 Key Approval Assessments for Scenic Rim Agricultural Industrial Precinct Project

The State Development Assessment Provisions (SDAP) are a key element of Queensland's planning system. The State Assessment and Referral Agency (SARA) is the agency responsible for the state's assessment of development applications.

The State Development Assessment Provisions (SDAP), are prescribed in the *Planning Act 2016*, and contain matters the chief executive of the *Planning Act 2016* may have regard to when assessing a development application.

The Queensland Government identified the need for a consistent, coordinated, whole-of-government approach to assessing agricultural developments across the state. Generally, local governments are the assessment manager for agricultural development; however, few local government planning schemes included planning provisions that address the complex characteristics specific to agricultural precincts.

As such, the *ShapingSEQ Rural Precincts Guideline* is the primary planning assessment tool for the preparation and implementation of rural enterprise precincts as provided under the *Shaping SEQ* and *Planning Regulations 2017*. The intent of the *ShapingSEQ Rural Precincts Guideline* is to:

- Encourage investment and support clustering of similar or compatible land uses that would otherwise be assessed against the regulatory provisions;
- Provide certainty to landholders, industry and the community about future planning intent for ongoing investment in agriculture;
- Identify necessary infrastructure and service needs;
- Leverage competitive advantage;
- Attract interest and investment to an area; and
- To facilitate development that complements or benefits rural and regional landscape values through simpler approval processes and/or modified subdivision limits.

The SRAIP meets the intent of the *ShapingSEQ* policy through the following:

- The proposed precinct will encourage investment through the development and co-location of different types of value-adding activities around a vegetable processing facility, allowing the proposed rural industries to diversify, adjust, and innovate in response to the market in a timely manner. The proposed development has been designed to identify alternative economic uses of rural land with a long-term view for rural sustainability by ensuring the potential land-uses do not result in soil degradation, impacts on water resource catchments, air pollution, or adverse amenity and noise impacts for nearby residents;
- It has been identified that the proposed SRAIP will create new employment opportunities in the Scenic Rim regional area (refer 4.9 above);
- The proposal to include the placement of land-use controls on activities within a precinct, and embed planning strategies and actions that remove or minimise land use conflicts through a Material Change of Use: Variation Approval, against the provisions of the *Boonah Shire Council Planning Scheme 2006*[7] to ensure certainty for future investors in the precinct and provision of a modified approvals process for future land uses;
- The proposed SRAIP will include all applicable infrastructure and service requirements for the future land users, while promoting rural productive activities and preserving landscape character through the protection of on-site natural assets;
- The location of the SRAIP (between the major distribution centres of Brisbane and Ipswich, Bromelton, and Warwick) gives the proposed site a logistical competitive advantage.

[7] Or other Local Government Authority applicable planning tool at the time of application, e.g., once gazetted, the *Scenic Rim Regional Planning Scheme*.

Additional to this, the location of the proposed SRAIP in the Fassifern Valley provides ready access to the vegetables for further processing and production;

- All land use conflicts can be adequately managed and the SRAIP has been designed to minimise the fragmentation of the rural land.

Furthermore, the proposed SRAIP is in line with the provisions of the Shaping SEQ Rural Precincts Guidelines:

- The proposed development does not include any provisions to facilitate the development of residential land uses;
- The proposed development does not facilitate urban activity or development that does not support the rural economy or natural environment. The provision of Rural industrial services is intended to support the potential land users and the rural economy;
- The proposed SRAIP will not promote the growth of any rural town or villages due to the distance from the centre of Kalbar (approximately 4km west), no provisions for residential land uses in the proposal.

9.2 Post Designation Assessment & Approvals for the Scenic Rim Agricultural Industrial Precinct Project

If designation is achieved, Kalfresh will proceed with the Reconfiguration of a Lot (RoL) Application under Section 21 of the Planning Regulations 2017 within the provisions of the variation approval achieved during the coordinated project assessment.

Once the RoL application (including all required operational works permits and other applications) is finalised, earthworks and construction of the subdivision will be completed in line with the conditions of the RoL application.

It is then anticipated that additional Material Change of Use (MCU) applications against the provisions of either the Scenic Rim Regional Council Planning Scheme or the Boonah Shire Council Planning Scheme (but in line with the variation approval). The additional MCU applications will be completed by the individual tenants and will be as required by their individual circumstance.

10 IAR Supporting Information

The following supporting information is provided to assist with the declaration of the Project as a coordinated project for which an IAR is applicable under section 26(1)(b) of the *SDPWO Act 1971*.

Limited concerns of effects on environment

As demonstrated in previous meetings with DSDMIP and DNRME, Kalfresh has been working towards gaining appropriate development approval. Due to the existing agricultural practices on the site, including the existing historical agricultural industrial activities, there would be no significant, anticipated environmental impacts as a result of this development. Any identified impacts would be mitigated, or controlled, to meet acceptable standards.

Initial public consultation

No formal community consultation has occurred for this Project, but will commence if declared a Coordinated Projects. It should; however, be noted that Kalfresh has presented to a full council meeting of the Scenic Rim Regional Council regarding the intention to submit an IAS. A letter of support from the Scenic Rim Regional Council is included in Appendix C of this report.

Consistent with established Environmental policy, guidelines and standards

Refinement of the layout is required prior to formal lodgement of an IAR (Refer to Appendix A). However, preliminary assessment suggest that the proposed development is capable of achieving the guidelines and standards to reduce the impacts where possible, under the following;

- *Vegetation Management Act 1999;*
- Compliance against the provisions within the Act;
- Planning Act 2016;
- Compliance against provisions within the ShapingSEQ 2017 framework when considering the intent of the Rural Enterprise Precinct Guidelines;
- Draft Scenic Rim Regional Council Planning Scheme and the *Boonah Shire Planning Scheme 2006;*
- Compliance against relevant Codes and Overlay Maps;
- *Water Act 2000;*
- *Aboriginal Cultural Heritage Act 2003;*
- Furthering discussions with the Yuggera Ugarapul People representatives to formalise management of country;
- *Environmental Protection and Biodiversity Conservation Act 2000;*
- *Nature Conservation Act 1992.*

Measures to avoid or mitigate potential negative impacts of the project are well understood and widely practised.

Revising infrastructure, road layout and proposed warehouse configurations around environmental land constraints, such as waterways and topography is a common occurrence to obtain Project approvals which minimise environmental harm.

Impacts readily managed within an established condition-setting framework.

Habitat loss and waterway pollutants are known impacts that are readily managed in projects of a similar nature. Other impacts including traffic are similarly known conditions that form part of renewable energy development approvals.

11 Costs and Benefits Summary

11.1 Local, State and National Economies

The project is anticipated to have a positive economic stimulus within the region. Measurable benefits from similar projects include positive impacts on regional employment (including up-skilling of existing industry sectors), income and business development. It is not expected that long-term impacts on land values will result from the development of the Project.

Decommissioning will result in a return of the site to agricultural uses.

11.2 Natural and Social Environments

No MNES and/or MSES are expected to be significantly impacted by the proposed development. The project has been designed to accommodate the existing infrastructure and key natural features in the design and will be constructed and operated in accordance with industry best practice.

The key outstanding impact to be addressed is ensuring the sustainable management of stormwater and surface water entering and leaving the site. Kalfresh will undertake more detailed stormwater and surface water management investigations to facilitate the development and demonstrate that there will be no up or down stream impacts from the proposed development on the receiving environment.

The existing social makeup of the Kalbar community shows a vibrant, but aging population. The project has potential to provide a greater employment diversity, with the potential to upskill existing vegetable growing backgrounds (ABS; 2019).

Ultimately, this type of development is required in this location to allow more efficient use of the existing and future vegetable production in the region, and make use of the readily available transport and community infrastructure available to the area.

12 Community and Stakeholder Consultation

A number of consultation activities have been undertaken by Kalfresh to date. Consultation has largely included the following stakeholders:

- Directly affected land owners;
- Local, State and Commonwealth Government regulators;
- Neighbouring property owners and relevant local groups; and
- Relevant infrastructure providers.

A number of consultation events have been undertaken with the Scenic Rim Regional Council and State Government stakeholders to discuss the Project in a pre-lodgement forum and to better understand the position on the proposed project. State Government regulators consulted include:

- Coordinator-General;
- Department of State Development, Manufacturing, Infrastructure and Planning ;
- Department of Natural Resource, Mines and Energy;
- Energex.

Kalfresh will further consult and engage with stakeholders and the local community in accordance with regulatory requirements and in consideration of relevant guidelines. This includes local, Queensland and Commonwealth Government authorities, potentially affected neighbours, local communities and special interest groups in the Project area.

A Consultation Action Plan (CAP) will be developed as part of the IAR; however, Kalfresh has commenced early engagement with the local community through their work within the community. The CAP will be aligned with the engagement approach of the International Association of Public Participation (IAP2), including the core values and spectrum of public participation.

The CAP provides for communications and community engagement activities (factsheets, website, information sessions, etc.) during the Project's lifecycle, including an IAR and post IAR processes. Community feedback will be managed and enquiries will be tracked.

In addition, the Scenic Rim Community and interested parties will have the opportunity to provide feedback. A public consultation report will be included in the IAR, which will identify how the CAP was implemented and will present a summary of results of the IAR consultation process.

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14 Glossary, Acronyms and Abbreviations

AADT	Annual Average Daily Traffic
ACH Act	Aboriginal Cultural Heritage Act 2003 (Qld)
ACMA	Australian Communications and Media Authority
AHD	Australian Height Datum
ANZECC	Australian and New Zealand Environment and Conservation Council
ARG	Agency Reference Group
AS	Australian Standard
ASRIS	Australian Soil Resource Information System
BMP	Bushfire Management Plan
BoM	Bureau of Meteorology
CASA	Civil Aviation Safety Authority
CCC	Community Consultative Committee
CE	Critically Endangered
CEMP	Construction Environmental Management Plan
CHMP	Cultural Heritage Management Plan
CID	Community Infrastructure Designation
CID Guidelines	Guidelines about Environmental Assessment and Public Consultation Procedures for Designating Land for Community Infrastructure
CLR	Contaminated Land Register
CO	Carbon monoxide
CO2	Carbon Dioxide
CO2-e	Carbon Dioxide Equivalent
CSG	Coal Seam Gas
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAB	Digital Audio Broadcasting
DAF	Department of Agriculture and Fisheries
DAMS	Development Assessment Mapping System
DATSIP	Department of Aboriginal and Torres Strait Islander Partnerships
db(A)	An expression of the relative loudness of sounds in air as perceived by the human ear.
DES	Department of Environment and Science
DEWS	Department of Energy and Water Supply
DoEE	Department of the Environment and Energy
DNRME	Department of Natural Resources, Mines and Energy
DNWFDG	Draft National Agricultural Precinct Development Guidelines (EPHC, 2010)
DRO	Desired Regional Outcome
DSDMIP	Department of State Development, Manufacturing, Infrastructure and Planning
EA	Environmental Authority
EIS	Environmental Impact Statement
Electricity Act	Electricity Act 1994 (QLD)
EMI	Electromagnetic Interference
EMP	Environmental Management Plan
EMR	Electromagnetic Radiation
EP Act	Environmental Protection Act 1994 (Qld)
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Cth)
EPC	Engineering, Procurement and Construction
EPC	Exploration Permit (Coal)
EPHC	Environment Protection and Heritage Council
EPP (Noise)	Environmental Protection (Noise) Policy 2008 (Qld)
EPP (Water)	Environmental Protection (Water) Policy 2009 (Qld)
EP Regulation	Environmental Protection Regulation 1994 (Qld)
ERA	Environmentally Relevant Activity
ESCP	Erosion and Sediment Control Plan
EV	Environmental Values

EVNT	Endangered, Vulnerable or Near Threatened
Fisheries Act	Fisheries Act 1994 (QLD)
FPC	Foliage Projective Cover
GAB	Great Artesian Basin
GDA	Geocentric Datum of Australia
GDE	Groundwater Dependent Ecosystems
GHG	Greenhouse Gas
GWh	Gigawatt Hours
ha	Hectare
HVR	High Value Regrowth
IAS	Initial Advice Statement
IEC	International Electrotechnical Commission
IPCC	Intergovernmental Panel on Climate Change
kL	Kilolitre
km	Kilometres
kV	Kilovolt
LC	Least Concern
LGA	Local Government Areas
LGC	Large-scale Generation Certificates
LNG	Liquefied Natural Gas
LP Act	Land Protection (Pest and Stock Route Management) Act 2002 (Qld)
LRET	Large-scale Renewable Energy Target
L90	Background noise level
m	Metres
m/s	Metres per second
MCU	Material Change of Use
MLES	Matters of Local Environmental Significance
MNES	Matters of National Environmental Significance
MSES	Matters of state Environmental Significance
MW	Megawatt
NC Act	Nature Conservation Act 1992 (Qld)
NCWR	Nature Conservation (Wildlife) Regulation 2006 (QLD)
NEM	National Electricity Market
NOx	Mono-nitrogen oxides
NSESD	National Strategy on Ecological Sustainable Development
NT Act	Native Title Act 1993 (Cth)
OC	Of Concern
PA2016	Planning Act 2016 (QLD)
PM2.5	Particulates of 2.5 microns fraction
PM10	Particulates of 10 microns fraction
PMF	Probable Maximum Flood
PMST	Protected Matters Search Tool
PR 2016	Planning Regulation 2016 (QLD)
QH Act	Queensland Heritage Act 1992 (Qld)
QHR	Queensland Heritage Register
QRA	Queensland Reconstruction Authority (QRA)
RE	Regional Ecosystem
RET	Australian Government's Renewable Energy Target
ROC	Record of Contact
ROP	Resource Operations Plan
RUMP	Road Use Management Plan
SARA	State Assessment and Referral Agency
SAT	Strategic Assessment Technique
SBRC	Scenic Rim Regional Council
SCR	State-Controlled Road

SDAP	State Development Assessment Provisions
SDPWO Act 1971	State Development and Public Works Organisation Act 1971 (QLD)
SEVT	Semi-evergreen Vine Thicket
SLA	Statistical Local Area
SPP	State Planning Policy
SRAIP	Scenic Rim Agricultural Industrial Precinct
TEC	Threatened Ecological Communities
The Project	Scenic Rim Agricultural Industrial Precinct
The Project Site	The corridor in which the Project will be located
The Study Area	The land available for development,
TMP	Traffic Management Plan
TMR	Department of Transport and Main Roads
TV	Television
UNFCCC	United Nations Framework Convention on Climate Change
UXO	Unexploded Ordnance
V	Vulnerable
VOC	Volatile organic compounds
VM Act	Vegetation Management Act 1999 (Qld)
Water Act	Water Act 2000
Water Regulation	Water Regulation 2002 (QLD)

Appendix A - Concept Plans

See attached document

APPENDIX A

CONCEPT PLANS

SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT

APRIL 2019

Kalfresh Pty Ltd

IAS prepared by 3cubed consulting

PROPOSED DEVELOPMENT CONCEPT SITE PLAN

Scenic Rim Agricultural Industrial Precinct

FOR **KALFRESH PTY LTD**

Project No.	Dwg. No.	Rev
16-130	SK01	A

i³ consulting

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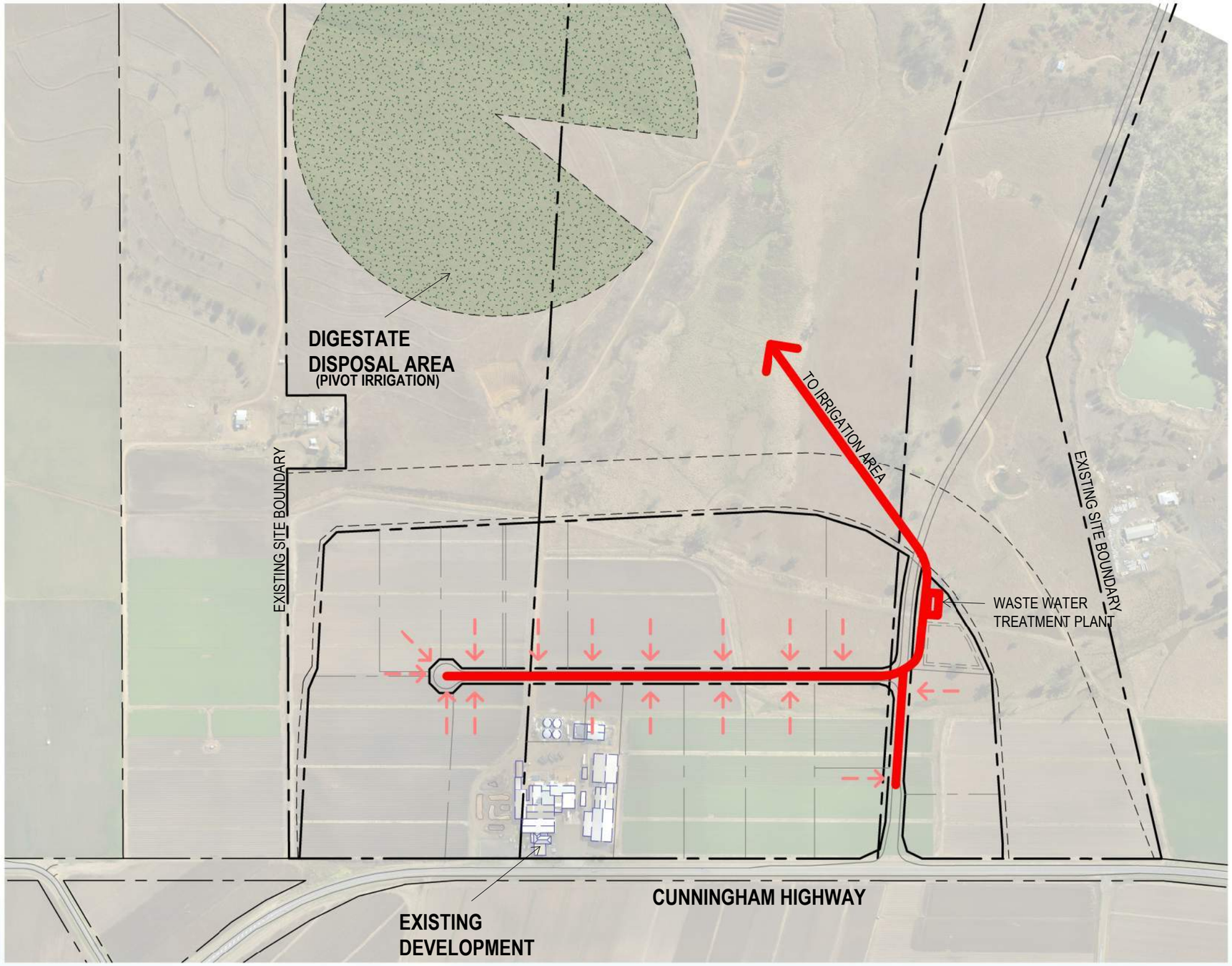

CONCEPT LAYOUT - SEWER

Scenic Rim Agricultural Industrial Precinct

FOR **KALFRESH PTY LTD**

Project No.	Dwg. No.	Rev
16-130	SK02	A

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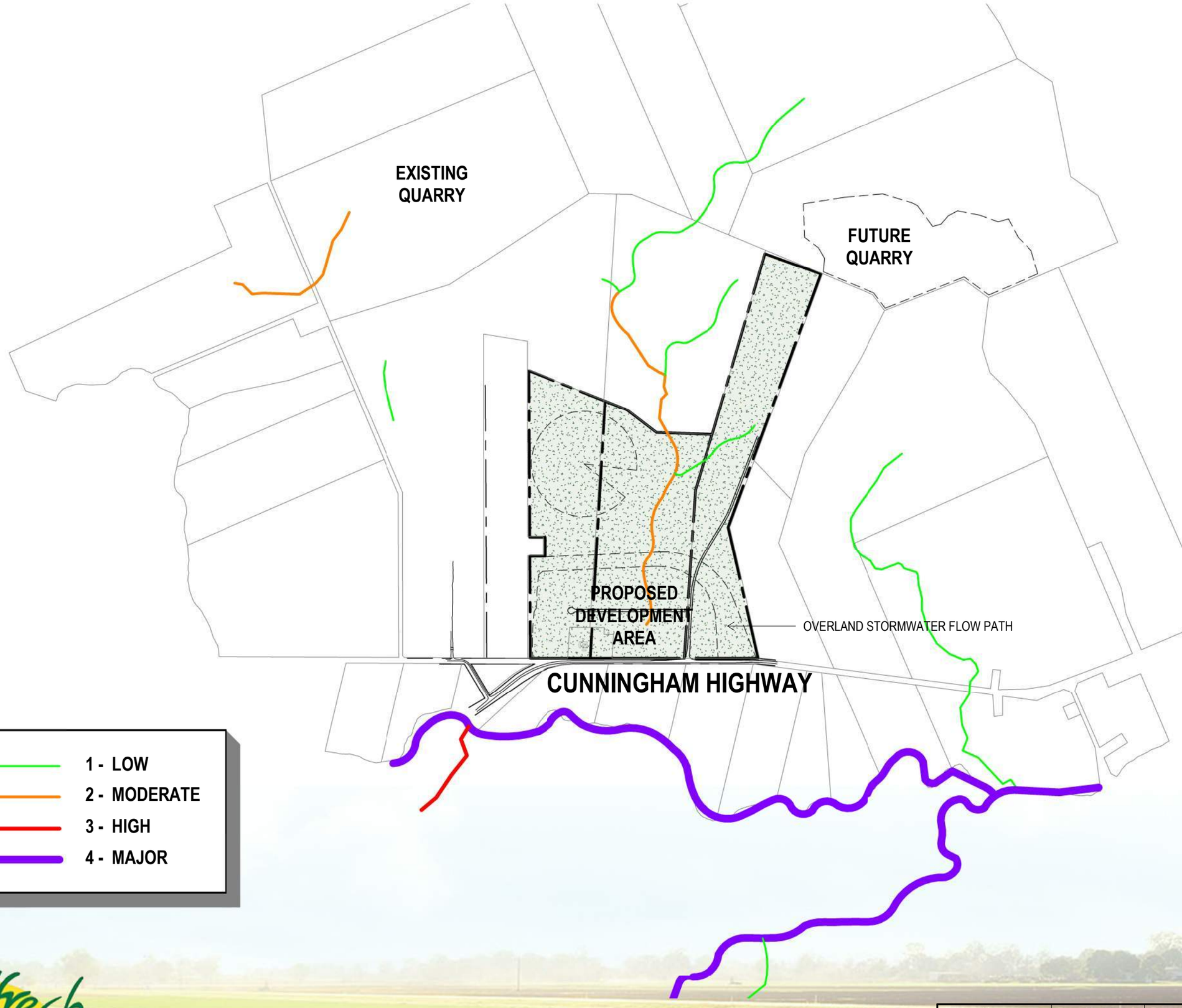

WATERWAY CORRIDOR PLAN

Scenic Rim Agricultural Industrial Precinct

FOR **KALFRESH PTY LTD**

Project No.	Dwg. No.	Rev
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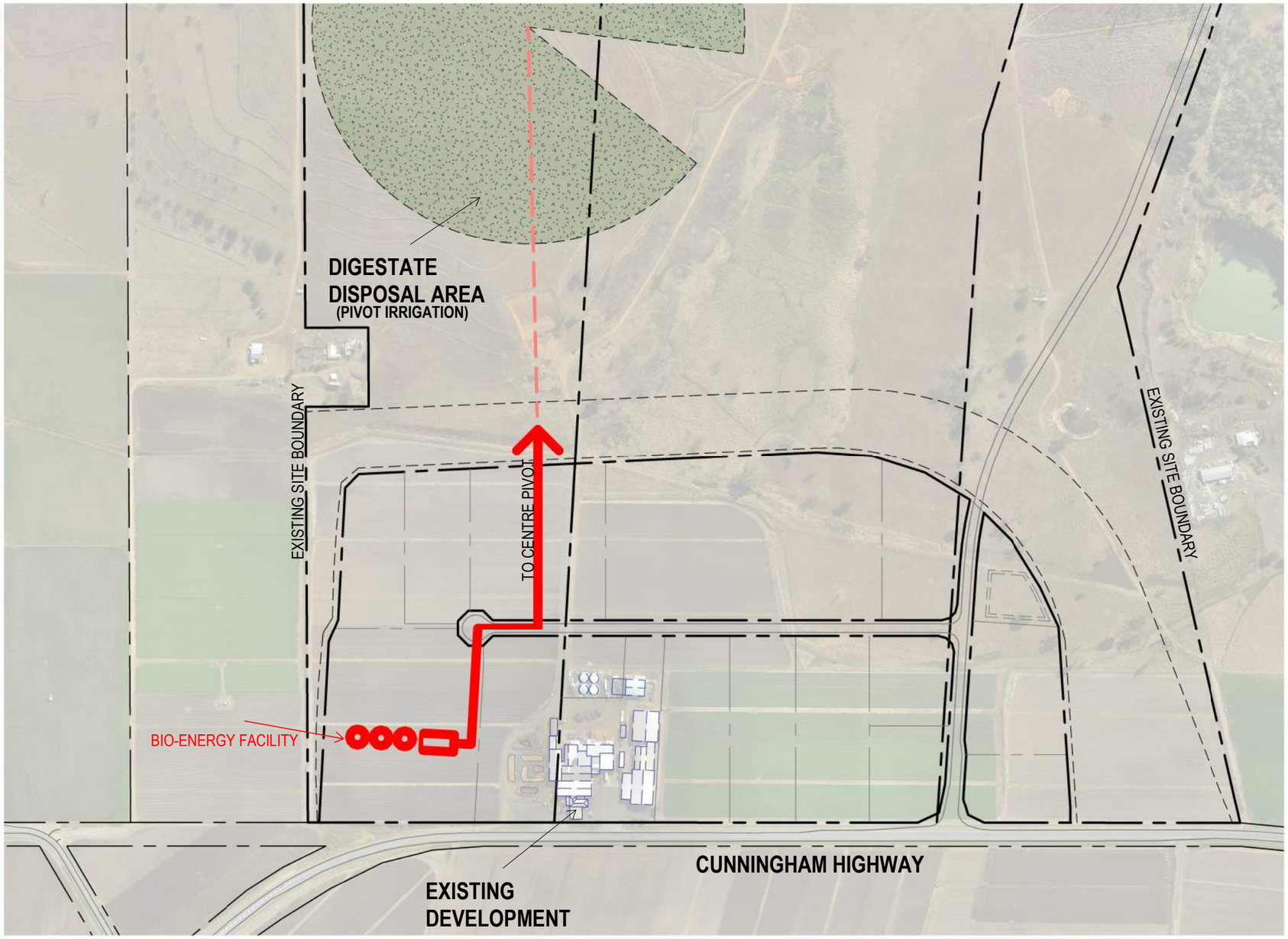

CONCEPT LAYOUT - BIO-ENERGY DISTRIBUTION

Scenic Rim Agricultural Industrial Precinct

FOR **KALFRESH PTY LTD**

Project No.	Dwg. No.	Rev
16-130	SK04	A

i³ consulting

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CONCEPT LAYOUT - WATER SERVICES

Scenic Rim Agricultural Industrial Precinct

FOR **KALFRESH PTY LTD**

Project No.	Dwg. No.	Rev
16-130	SK05	A

i³ consulting

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EXISTING SITE BOUNDARY

EXISTING SITE BOUNDARY

BIO-ENERGY FACILITY

CUNNINGHAM HIGHWAY

KALFRESH
EXISTING DEVELOPMENT

OTHER PROCESSING FACILITIES

CONCEPT LAYOUT - WATER REUSE

Scenic Rim Agricultural Industrial Precinct

FOR **KALFRESH PTY LTD**

Project No.	Dwg. No.	Rev
16-130	SK06	A

i³ consulting

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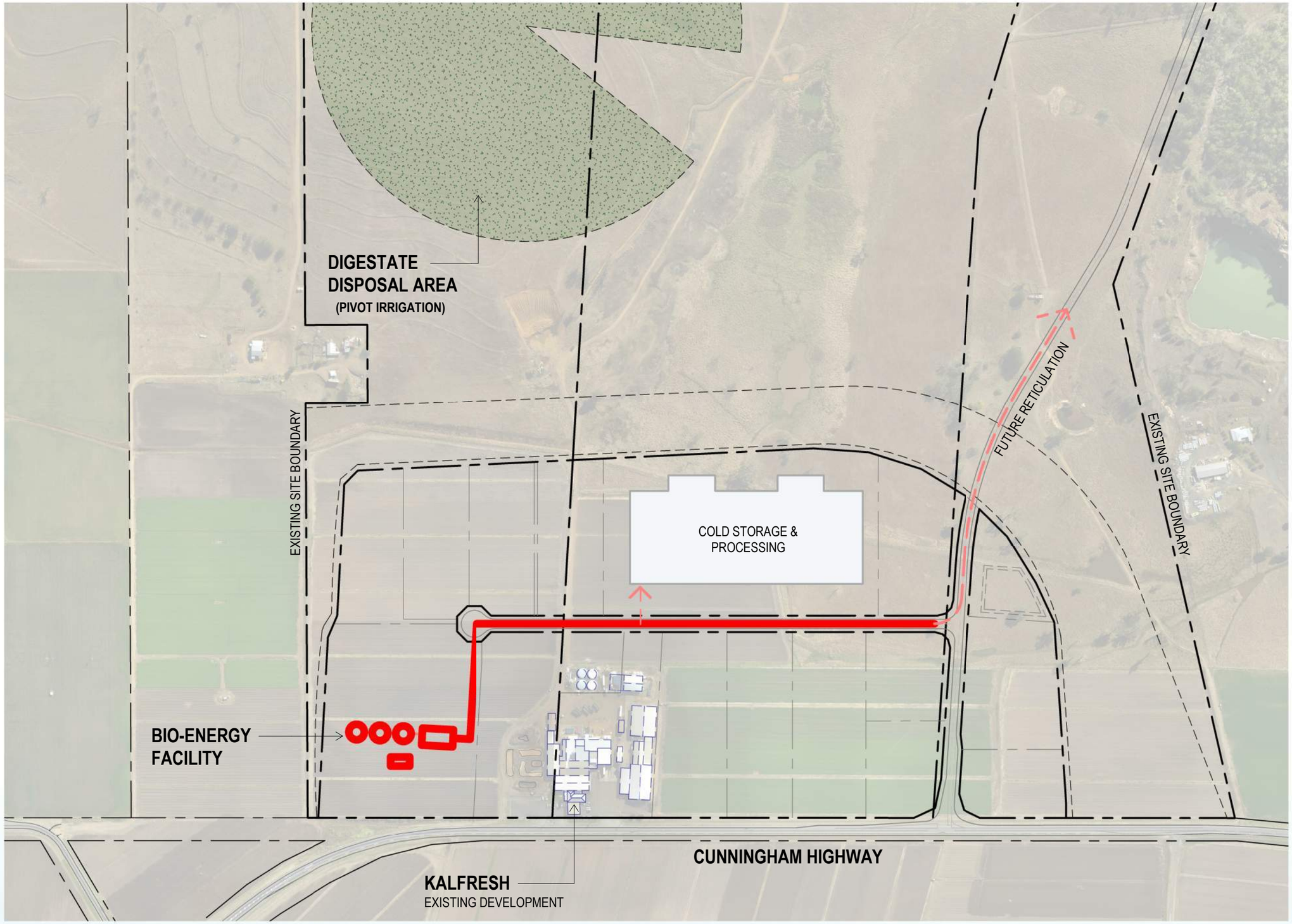

CONCEPT LAYOUT - COGENERATRION

Scenic Rim Agricultural Industrial Precinct

FOR **KALFRESH PTY LTD**

Project No.	Dwg. No.	Rev
16-130	**SK07**	**A**

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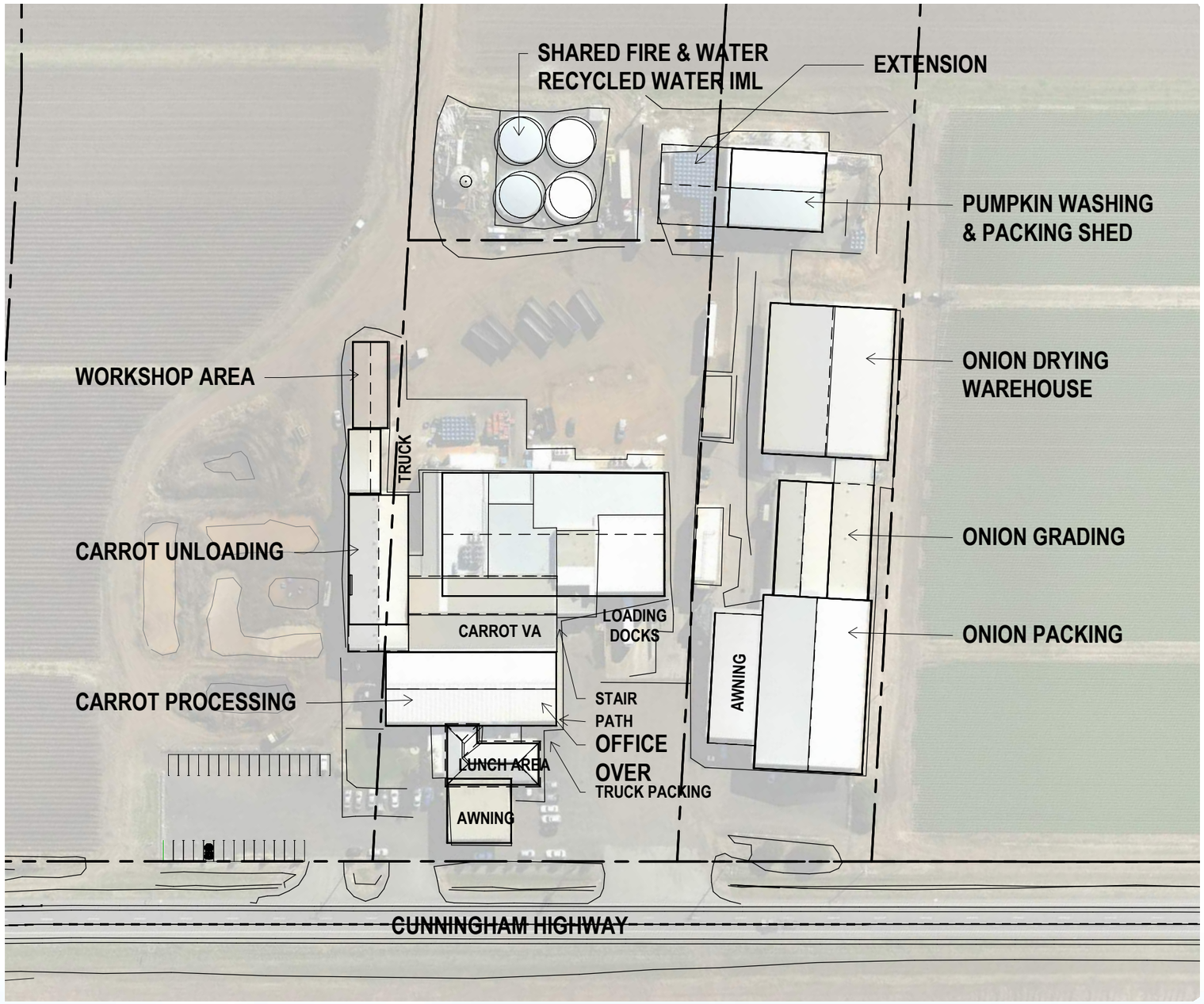

EXSTING KALFRESH FACILITIES LAYOUT

Scenic Rim Agricultural Industrial Precinct

FOR **KALFRESH PTY LTD**

Project No.	Dwg. No.	Rev
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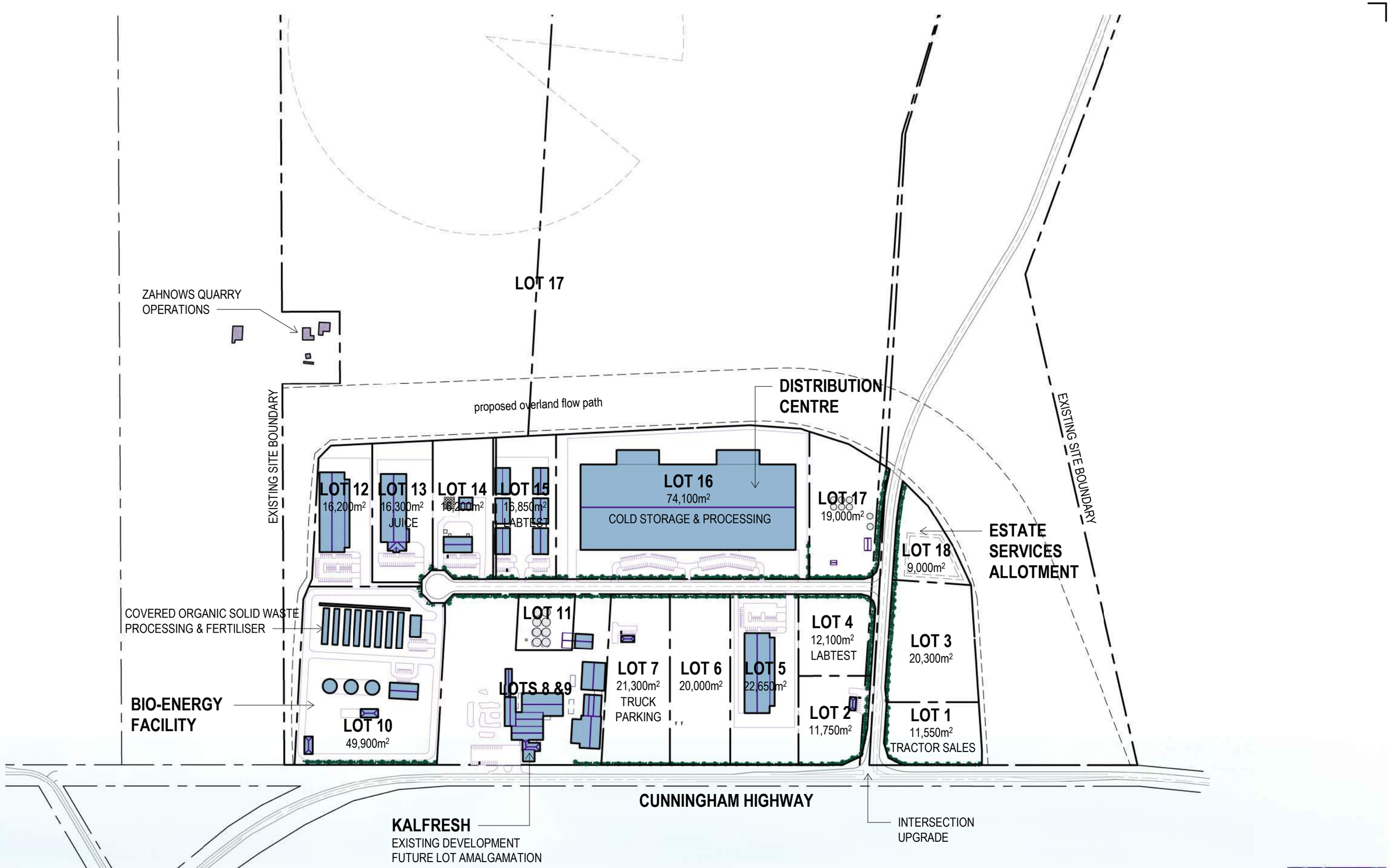

CONCEPT LAYOUT - BUILDING PLANNING

Scenic Rim Agricultural Industrial Precinct

FOR **KALFRESH PTY LTD**

Project No.	Dwg. No.	Rev
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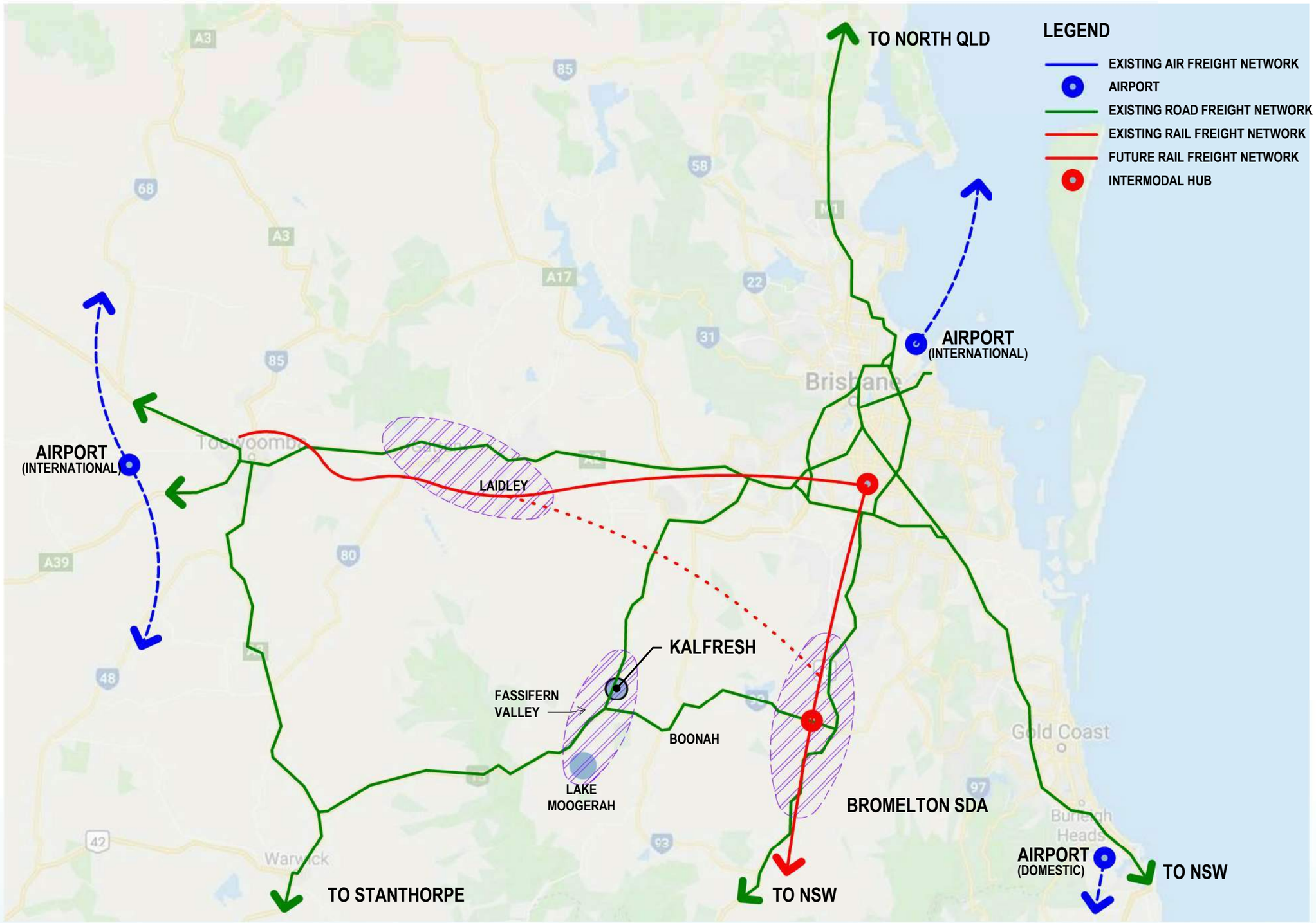

FREIGHT LOGISTICS

Scenic Rim Agricultural Industrial Precinct

FOR **KALFRESH PTY LTD**

Project No.	Dwg. No.	Rev
16-130	SK10	A

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Appendix B - Searches and Mapping

See attached document

APPENDIX B

SEARCHES AND MAPPING

SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT

APRIL 2019

Kalfresh Pty Ltd

IAS prepared by 3cubed consulting

CURRENT TITLE SEARCH

NATURAL RESOURCES, MINES AND ENERGY, QUEENSLAND

Request No: 30226503
Search Date: 13/12/2018 14:34 **Title Reference: 50639548**
Date Created: 04/12/2006

Previous Title: 13457226
14912097
17143179

REGISTERED OWNER

Dealing No: 718460951 13/12/2017

KALLIUM PTY LTD A.C.N. 100 406 157

ESTATE AND LAND

Estate in Fee Simple

LOT 2 SURVEY PLAN 192221
Local Government: SCENIC RIM

EASEMENTS, ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by
   Deed of Grant No. 10162049 (POR 38)

2. EASEMENT No 601520822 (J397875E) 04/03/1988
   benefiting
   PART OF THE LAND
   OVER EASEMENT A ON RP216694

3. EASEMENT No 710032457 20/10/2006 at 09:53
   burdening the land to
   LOTS 3 AND 4 ON SP192221
   OVER EASEMENT B ON SP192221

4. MORTGAGE No 718460952 13/12/2017 at 11:59
   NATIONAL AUSTRALIA BANK LIMITED A.B.N. 12 004 044 937

ADMINISTRATIVE ADVICES - NIL
UNREGISTERED DEALINGS - NIL

CERTIFICATE OF TITLE ISSUED - No

Caution - Charges do not necessarily appear in order of priority

** End of Current Title Search **

Requested By: D-ENQ CITEC CONFIRM

CURRENT TITLE SEARCH

NATURAL RESOURCES, MINES AND ENERGY, QUEENSLAND

Request No: 30341017
Search Date: 08/01/2019 15:14 **Title Reference: 17143178**
Date Created: 16/05/1988

Previous Title: 13450036

REGISTERED OWNER

Dealing No: 709758160 10/07/2006

KALLIUM PTY LTD A.C.N. 100 406 157

ESTATE AND LAND

Estate in Fee Simple

LOT 1 REGISTERED PLAN 216694
Local Government: SCENIC RIM

EASEMENTS, ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by
   Deed of Grant No. 10162049 (POR 38)

2. EASEMENT No 601520822 (J397875E) 04/03/1988
   BURDENING THE LAND
   TO LOT 2 ON RP216694
   OVER EASEMENT A ON RP216694

3. MORTGAGE No 709758161 10/07/2006 at 13:10
   NATIONAL AUSTRALIA BANK LIMITED A.B.N. 12 004 044 937

ADMINISTRATIVE ADVICES - NIL
UNREGISTERED DEALINGS - NIL

CERTIFICATE OF TITLE ISSUED - No

Caution - Charges do not necessarily appear in order of priority

** End of Current Title Search **

Requested By: D-ENQ CITEC CONFIRM

CURRENT TITLE SEARCH

NATURAL RESOURCES, MINES AND ENERGY, QUEENSLAND

Request No: 30226506
Search Date: 13/12/2018 14:34 **Title Reference: 50639549**
Date Created: 04/12/2006

Previous Title: 14912097

REGISTERED OWNER

Dealing No: 718449455 07/12/2017

KALLIUM PTY LTD A.C.N. 100 406 157

ESTATE AND LAND

Estate in Fee Simple

LOT 3 SURVEY PLAN 192221
Local Government: SCENIC RIM

EASEMENTS, ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by
   Deed of Grant No. 11102099 (POR 38)
   (POR 41)
   (POR 42)
   (POR 49)
   (POR 309)
   (POR 37)
   (POR 43)

2. EASEMENT No 710032457 20/10/2006 at 09:53
   benefiting the land over
   EASEMENT B ON SP192221

3. MORTGAGE No 717739437 22/12/2016 at 12:10
   LUBECK PTY LTD A.C.N. 010 013 537 TRUSTEE
   UNDER INSTRUMENT 717739437

ADMINISTRATIVE ADVICES - NIL
UNREGISTERED DEALINGS - NIL

CERTIFICATE OF TITLE ISSUED - No

Caution - Charges do not necessarily appear in order of priority

** End of Current Title Search **

Requested By: D-ENQ CITEC CONFIRM

CURRENT TITLE SEARCH

NATURAL RESOURCES, MINES AND ENERGY, QUEENSLAND

Request No: 30226505
Search Date: 13/12/2018 14:34 **Title Reference: 50639550**
Date Created: 04/12/2006

Previous Title: 17143179

REGISTERED OWNER

Dealing No: 718449455 07/12/2017

KALLIUM PTY LTD A.C.N. 100 406 157

ESTATE AND LAND

Estate in Fee Simple

LOT 4 SURVEY PLAN 192221
Local Government: SCENIC RIM

EASEMENTS, ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by
   Deed of Grant No. 10162049 (POR 38)

2. EASEMENT No 601520822 (J397875E) 04/03/1988
   BENEFITING THE LAND
   OVER EASEMENT A ON RP216694

3. EASEMENT No 710032457 20/10/2006 at 09:53
   benefiting the land over
   EASEMENT B ON SP192221

4. MORTGAGE No 717739437 22/12/2016 at 12:10
   LUBECK PTY LTD A.C.N. 010 013 537 TRUSTEE
   UNDER INSTRUMENT 717739437

ADMINISTRATIVE ADVICES - NIL
UNREGISTERED DEALINGS - NIL

CERTIFICATE OF TITLE ISSUED - No

Caution - Charges do not necessarily appear in order of priority

** End of Current Title Search **

Requested By: D-ENQ CITEC CONFIRM

CURRENT TITLE SEARCH

NATURAL RESOURCES, MINES AND ENERGY, QUEENSLAND

Request No: 30226507
Search Date: 13/12/2018 14:34 **Title Reference: 16090157**
Date Created: 27/02/1981

Previous Title: 12189065

REGISTERED OWNER

Dealing No: 718449455 07/12/2017

KALLIUM PTY LTD A.C.N. 100 406 157

ESTATE AND LAND

Estate in Fee Simple

LOT 2 REGISTERED PLAN 20974
Local Government: SCENIC RIM
LOT 2 REGISTERED PLAN 44024
Local Government: SCENIC RIM

EASEMENTS, ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by
   Deed of Grant No. 11102099 (POR 47)
   (POR 39)
   (POR 40)
   (POR 41)
   (POR 42)
   (POR 48)
   (POR 49)
   (POR 309)

2. MORTGAGE No 717739437 22/12/2016 at 12:10
   LUBECK PTY LTD A.C.N. 010 013 537 TRUSTEE
   UNDER INSTRUMENT 717739437

ADMINISTRATIVE ADVICES - NIL
UNREGISTERED DEALINGS - NIL

CERTIFICATE OF TITLE ISSUED - No

Caution - Charges do not necessarily appear in order of priority

** End of Current Title Search **

Requested By: D-ENQ CITEC CONFIRM

CURRENT TITLE SEARCH

NATURAL RESOURCES, MINES AND ENERGY, QUEENSLAND

Request No: 30428909
Search Date: 22/01/2019 10:18 **Title Reference: 16090157**
Date Created: 27/02/1981

Previous Title: 12189065

REGISTERED OWNER

Dealing No: 718449455 07/12/2017

KALLIUM PTY LTD A.C.N. 100 406 157

ESTATE AND LAND

Estate in Fee Simple

LOT 2 REGISTERED PLAN 20974
Local Government: SCENIC RIM
LOT 2 REGISTERED PLAN 44024
Local Government: SCENIC RIM

EASEMENTS, ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by
   Deed of Grant No. 11102099 (POR 47)
   (POR 39)
   (POR 40)
   (POR 41)
   (POR 42)
   (POR 48)
   (POR 49)
   (POR 309)

2. MORTGAGE No 717739437 22/12/2016 at 12:10
   LUBECK PTY LTD A.C.N. 010 013 537 TRUSTEE
   UNDER INSTRUMENT 717739437

ADMINISTRATIVE ADVICES - NIL
UNREGISTERED DEALINGS - NIL

CERTIFICATE OF TITLE ISSUED - No

Caution - Charges do not necessarily appear in order of priority

** End of Current Title Search **

Requested By: D-ENQ CITEC CONFIRM

terramap
CONSULTING CADASTRAL & ENGINEERING SURVEYORS
Unit 12, 178-182 Redland Bay Road
Capalaba, QLD 4157
www.terramap.com.au
Ph 32451611 Fax 32451944
reception@terramap.com.au

icubed consulting

SURVEYOR:	AS
DATE OF SURVEY:	25/05/16
CONTOUR INTERVAL:	0.25m
LEVEL DATUM:	AHD DERIVED
ORIGIN:	PSM 138439 RL98.236
MERIDIAN:	MGA Zone 56

Aerial Contour Survey of Part Lot 1-4 on SP192221 & Lot 1 on RP216694 6206 Cunningham Hwy, Kalbar

Rev	DATE	By	AMENDMENT
0	07/06/16	AS	ORIGINAL ISSUE

DRAWN:	07/06/16
CHECKED:	07/06/16
APPROVED:	07/06/16
DRAWING NUMBER:	4247/003
REV	0

Australian Government
Department of the Environment and Energy

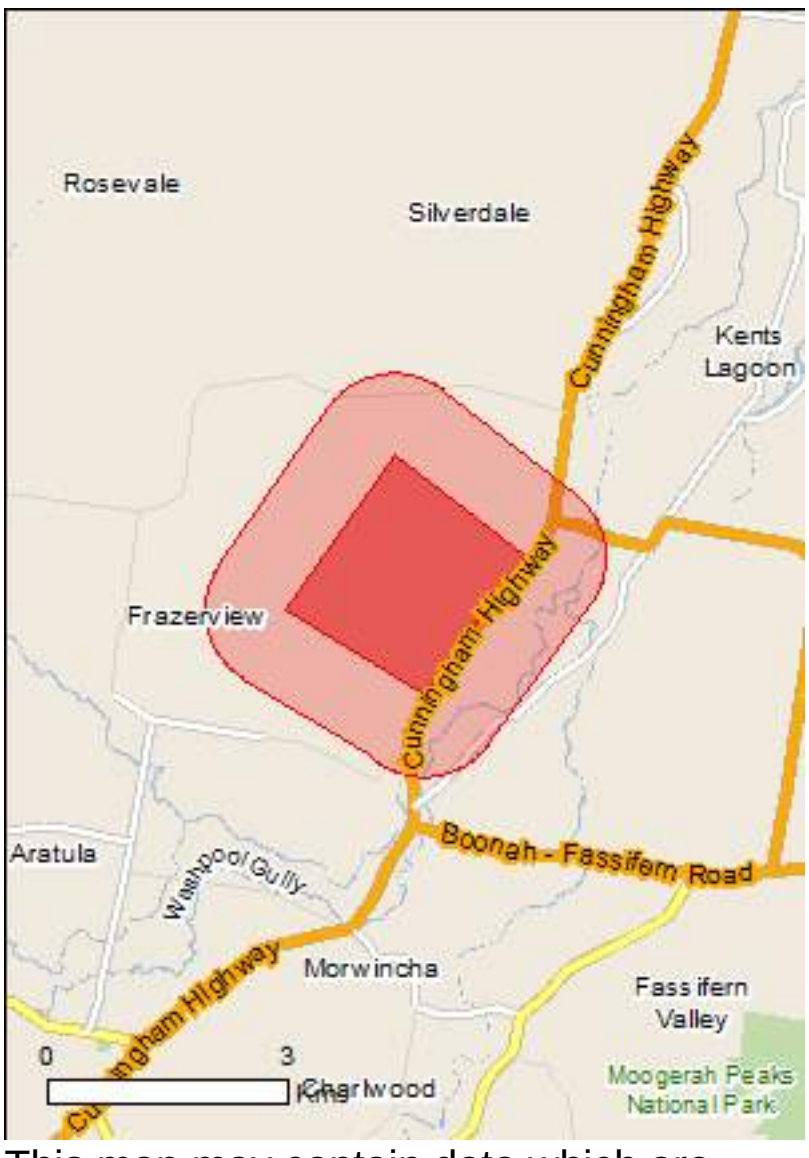
EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

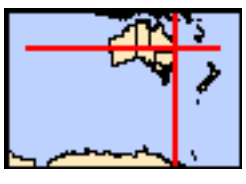
Report created: 26/03/19 16:08:17



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

Coordinates

Buffer: 1.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	2
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	30
Listed Migratory Species:	16

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	22
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	33
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar) [Resource Information]

Name	Proximity
Moreton bay	50 - 100km upstream
Moreton bay	50 - 100km upstream

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Lowland Rainforest of Subtropical Australia	Critically Endangered	Community likely to occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community may occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour may occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Cyclopsitta diophthalma_coxeni Coxen's Fig-Parrot [59714]	Endangered	Species or species habitat may occur within area
Dasyornis brachypterus Eastern Bristlebird [533]	Endangered	Species or species habitat may occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Geophaps scripta_scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat may occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat may occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Poephila cincta cincta		
Southern Black-throated Finch [64447]	Endangered	Species or species habitat may occur within area
Rostratula australis		
Australian Painted-snipe, Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Turnix melanogaster		
Black-breasted Button-quail [923]	Vulnerable	Species or species habitat likely to occur within area
Fish		
Maccullochella peelii		
Murray Cod [66633]	Vulnerable	Species or species habitat may occur within area
Mammals		
Chalinolobus dwyeri		
Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat likely to occur within area
Dasyurus maculatus maculatus (SE mainland population)		
Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area
Petauroides volans		
Greater Glider [254]	Vulnerable	Species or species habitat may occur within area
Petrogale penicillata		
Brush-tailed Rock-wallaby [225]	Vulnerable	Species or species habitat likely to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)		
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Potorous tridactylus tridactylus		
Long-nosed Potoroo (SE mainland) [66645]	Vulnerable	Species or species habitat may occur within area
Pseudomys novaehollandiae		
New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat likely to occur within area
Pteropus poliocephalus		
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Plants		
Bulbophyllum globuliforme		
Miniature Moss-orchid, Hoop Pine Orchid [6649]	Vulnerable	Species or species habitat may occur within area
Cupaniopsis tomentella		
Boonah Tuckeroo [3322]	Vulnerable	Species or species habitat likely to occur within area
Dichanthium setosum		
bluegrass [14159]	Vulnerable	Species or species habitat likely to occur within area
Lychnothamnus barbatus		
a green alga [64479]	Endangered	Species or species habitat likely to occur within area
Macadamia integrifolia		
Macadamia Nut, Queensland Nut Tree, Smooth-	Vulnerable	Species or species

Name	Status	Type of Presence
shelled Macadamia, Bush Nut, Nut Oak [7326]		habitat may occur within area
Thesium australe		
Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area
Reptiles		
Delma torquata		
Adorned Delma, Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area
Furina dunmalli		
Dunmall's Snake [59254]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Cuculus optatus		
Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundapus caudacutus		
White-throated Needletail [682]		Species or species habitat likely to occur within area
Monarcha melanopsis		
Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus		
Spectacled Monarch [610]		Species or species habitat may occur within area
Motacilla flava		
Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca		
Satin Flycatcher [612]		Species or species habitat likely to occur within area
Rhipidura rufifrons		
Rufous Fantail [592]		Species or species habitat likely to occur within area
Migratory Wetlands Species		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii		
Latham's Snipe, Japanese Snipe [863]		Species or species

Name	Threatened	Type of Presence
		habitat may occur within area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus		
Osprey [952]		Species or species habitat may occur within area
Tringa nebularia		
Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Anseranas semipalmata		
Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba		
Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis		
Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii		
Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster		
White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area

Name	Threatened	Type of Presence
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat likely to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat known to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Asparagus africanus Climbing Asparagus, Climbing Asparagus Fern		Species or species

Name	Status	Type of Presence
[66907]		habitat likely to occur within area
Asparagus plumosus Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
Cabomba caroliniana Cabomba, Fanwort, Carolina Watershield, Fish Grass, Washington Grass, Watershield, Carolina Fanwort, Common Cabomba [5171]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Dolichandra unguis-cati Cat's Claw Vine, Yellow Trumpet Vine, Cat's Claw Creeper, Funnel Creeper [85119]		Species or species habitat likely to occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area
Parthenium hysterophorus Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area
Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo [12323]		Species or species habitat likely to occur within area
Reptiles		
Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area
Ramphotyphlops braminus Flowerpot Blind Snake, Brahminy Blind Snake, Cacing Besi [1258]		Species or species habitat may occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-27.94724 152.580264,-27.939127 152.565158,-27.923657 152.57726,-27.933895 152.591937,-27.947619 152.580607,-27.947392 152.580521,-27.94724 152.580264

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

Department of the Environment
GPO Box 787
Canberra ACT 2601 Australia
+61 2 6274 1111

Department of Environment and Science (DES)
ABN 46 640 294 485
400 George St Brisbane, Queensland 4000
GPO Box 2454, Brisbane QLD 4001, AUSTRALIA
www.des.qld.gov.au

SEARCH RESPONSE
ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Alissa Roxburgh
Level 2, 39 Sherwood Road
Toowong QLD 4066

Transaction ID: 50507989 EMR Site Id: 18 January 2019
Cheque Number:
Client Reference:

This response relates to a search request received for the site:
Lot: 1 Plan: RP216694
6200 CUNNINGHAM HWY
KALBAR

EMR RESULT

The above site is NOT included on the Environmental Management Register.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

ADDITIONAL ADVICE

All search responses include particulars of land listed in the EMR/CLR when the search was generated.
The EMR/CLR does NOT include:-

1. land which is contaminated land (or a complete list of contamination) if DES has not been notified
2. land on which a notifiable activity is being or has been undertaken (or a complete list of activities) if DES has not been notified

If you have any queries in relation to this search please phone 13QGOV (13 74 68)

Administering Authority

Department of Environment and Science (DES)
ABN 46 640 294 485
400 George St Brisbane, Queensland 4000
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www.des.qld.gov.au

SEARCH RESPONSE

ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Alissa Roxburgh
Level 2, 39 Sherwood Road
Toowong QLD 4066

Transaction ID: 50507990 EMR Site Id: 18 January 2019
Cheque Number:
Client Reference:

This response relates to a search request received for the site:
Lot: 2 Plan: RP20974
CUNNINGHAM HWY
KALBAR

EMR RESULT

The above site is NOT included on the Environmental Management Register.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

ADDITIONAL ADVICE

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SEARCH RESPONSE
ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Alissa Roxburgh
Level 2, 39 Sherwood Road
Toowong QLD 4066

Transaction ID: 50508494 EMR Site Id: 22 January 2019
Cheque Number:
Client Reference:

This response relates to a search request received for the site:
Lot: 2 Plan: RP44024
CUNNINGHAM HWY
FRAZERVIEW

EMR RESULT

The above site is NOT included on the Environmental Management Register.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

ADDITIONAL ADVICE

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SEARCH RESPONSE
ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Alissa Roxburgh
Level 2, 39 Sherwood Road
Toowong QLD 4066

Transaction ID: 50507993 EMR Site Id: 18 January 2019
Cheque Number:
Client Reference:

This response relates to a search request received for the site:
Lot: 2 Plan: SP192221
6206 CUNNINGHAM HWY
KALBAR

EMR RESULT

The above site is NOT included on the Environmental Management Register.

CLR RESULT

The above site is NOT included on the Contaminated Land Register.

ADDITIONAL ADVICE

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SEARCH RESPONSE

ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Alissa Roxburgh
Level 2, 39 Sherwood Road
Toowong QLD 4066

Transaction ID: 50507992 EMR Site Id: 18 January 2019
Cheque Number:
Client Reference:

This response relates to a search request received for the site:

Lot: 3 Plan: SP192221
CUNNINGHAM HWY
FRAZERVIEW

EMR RESULT

The above site is NOT included on the Environmental Management Register.

CLR RESULT

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ADDITIONAL ADVICE

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ENVIRONMENTAL MANAGEMENT REGISTER (EMR)
CONTAMINATED LAND REGISTER (CLR)

Alissa Roxburgh
Level 2, 39 Sherwood Road
Toowong QLD 4066

Transaction ID: 50507991 EMR Site Id: 18 January 2019
Cheque Number:
Client Reference:

This response relates to a search request received for the site:
Lot: 4 Plan: SP192221
CUNNINGHAM HWY
KALBAR

EMR RESULT

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CLR RESULT

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2. land on which a notifiable activity is being or has been undertaken (or a complete list of activities) if DES has not been notified

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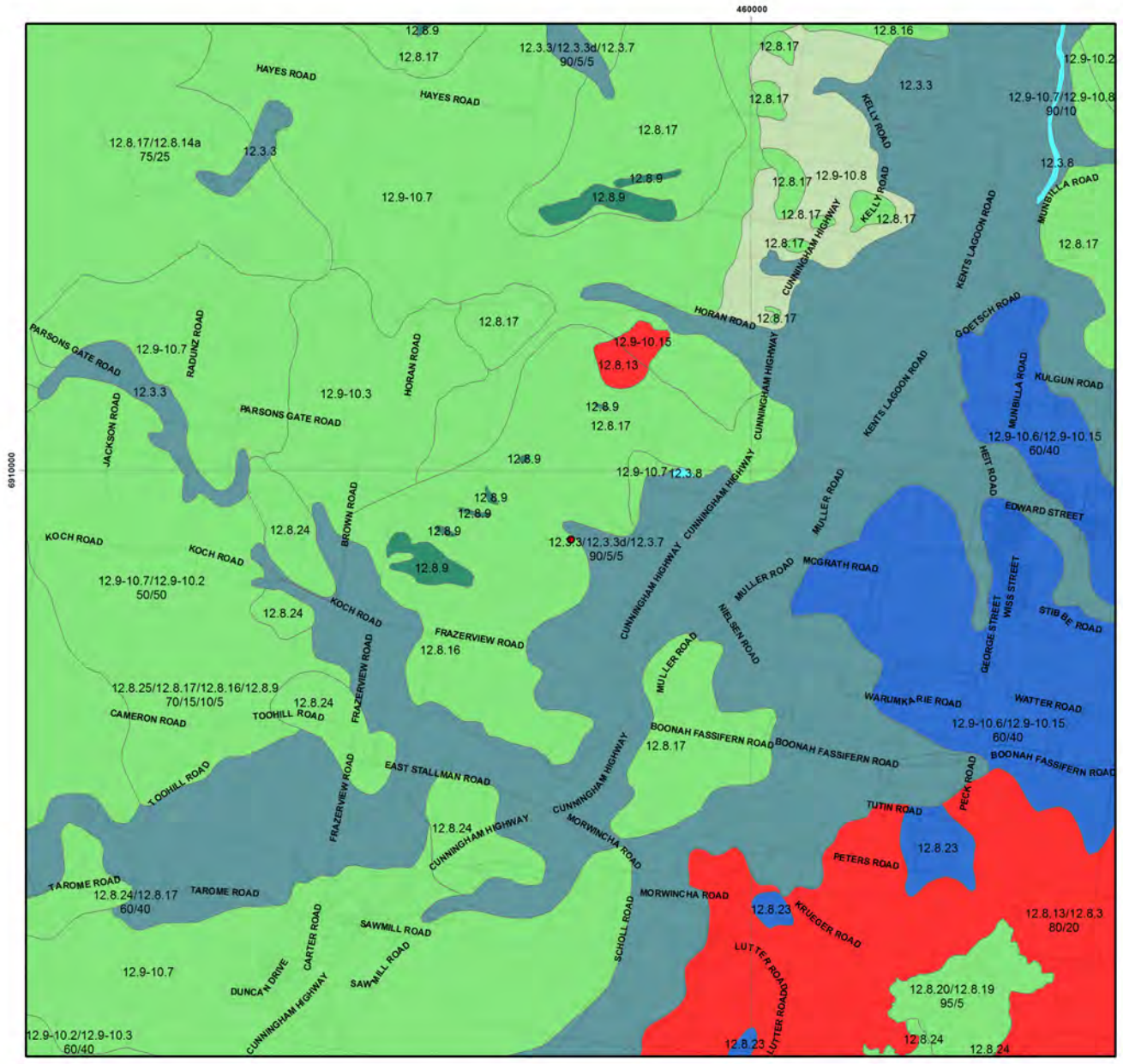
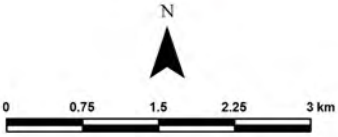
Administering Authority



Pre-clearing Regional Ecosystems coloured by Broad Vegetation Groups

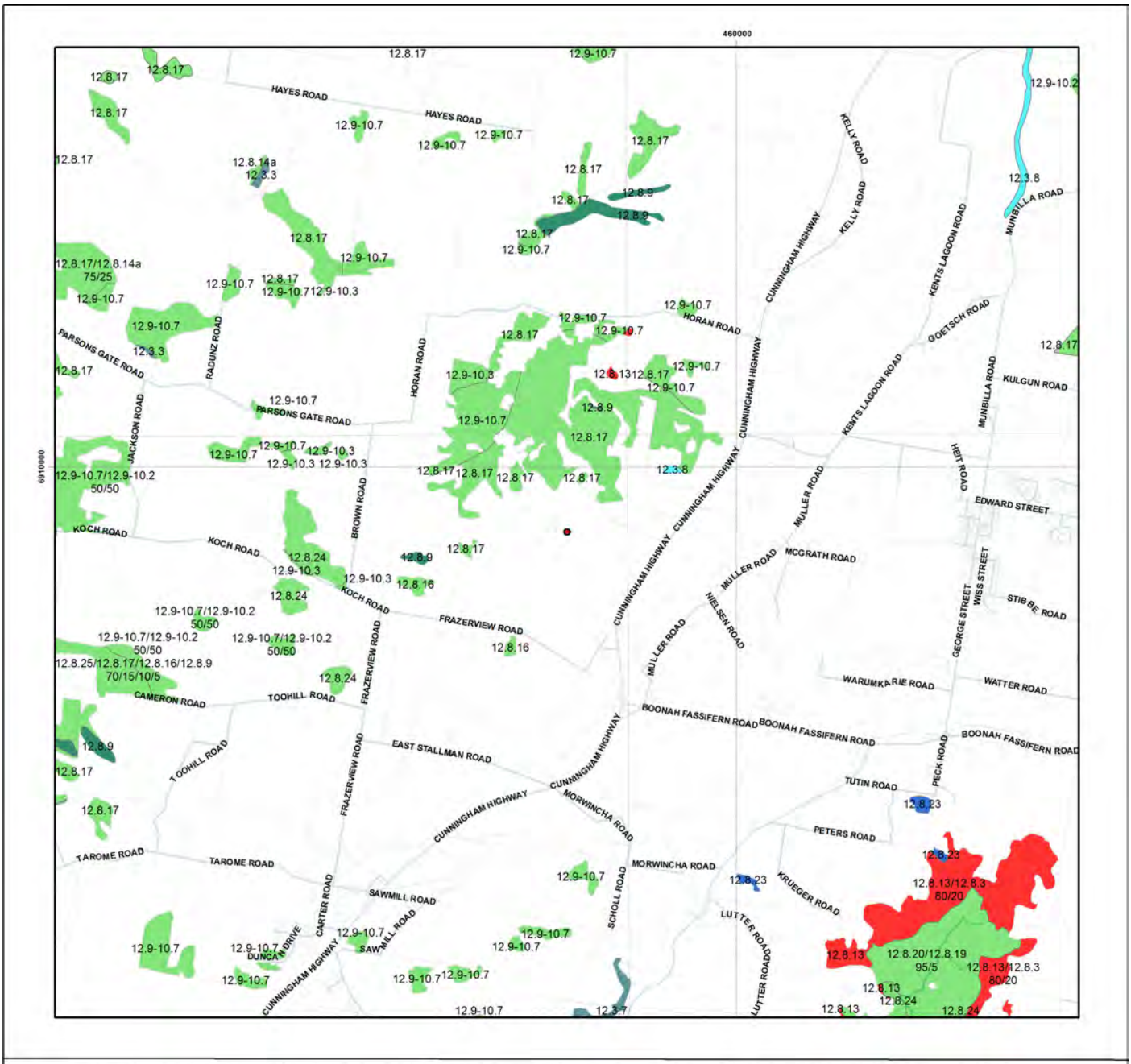
Broad Vegetation Groups
BVG5M Description (BVG1M codes)

- Coordinates
- 1. Rainforests and scrubs (1-7b)
- 2. Wet eucalypt open forests (8-8b)
- 3. Eucalypt woodlands to open forests (mainly eastern Qld) (9-15b)
- 4. Eucalypt open forests to woodlands on floodplains (16-16d)
- 5. Eucalypt dry woodlands on inland depositional plains (17-18d)
- 6. Eucalypt low open woodlands usually with spinifex understorey (19-19d)
- 7. Callitris woodland - open forests (20a)
- 8. Melaleuca open woodlands on depositional plains (21-22c)
- 9. Acacia aneura (mulga) dominated open forests, woodlands and shrublands (23-23b)
- 10. Other acacia dominated open forests, woodlands and shrublands (24-26a)
- 11. Mixed species woodlands, open woodland - (inland bioregions) includes wooded downs (27-27c)
- 12. Other coastal communities or heaths (28-29b)
- 13. Tussock grasslands, forblands (30-32b)
- 14. Hummock grasslands (33-33b)
- 15. Wetlands (swamps and lakes) (34-34g)
- 16. Mangroves and saltmarshes (35-35b)
- Water
- Cadastral Boundaries



This product is projected into GDA 1994 MGA Zone 56

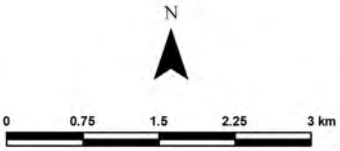
Broad Vegetation Groups (BVG) of Queensland are applied by look up table to the regional ecosystem vegetation communities. Each polygon is coloured by the dominant BVG5M and the component regional ecosystems labelled. Where more than one regional ecosystem occurs, the percentage of each is labelled.
Regional ecosystem mapping over the majority of Queensland is produced at a scale of 1:100,000. At this scale, the minimum remnant polygon area is 5 hectares or minimum remnant width of 75 metres. Regional ecosystem linework reproduced at a scale greater than 1:100,000, except in designated areas, should be used as a guide only. The precision of polygon boundaries or positional accuracy of linework is 100 metres.
Regional ecosystems are defined as vegetation communities in a bioregion that are consistently associated with a particular combination of geology, landform and soil. The label consists of 3 components: bioregion, land zone, and vegetation community – the dominant canopy species. e.g.: RE 12.3.3. Descriptions of REs are found online. Use the search term "Regional Ecosystem Framework".
Regional ecosystem mapping at 1:100,000 map scale is derived from the following sources: 1:80,000 B&W 1960's aerial photography, Landsat TM imagery, geology, soils, land systems data, field survey and historical records.



Remnant 2017 Regional Ecosystems coloured by Broad Vegetation Groups

Broad Vegetation Groups
BVG5M Description (BVG1M codes)

- Coordinates
- 1. Rainforests and scrubs (1-7b)
- 2. Wet eucalypt open forests (8-8b)
- 3. Eucalypt woodlands to open forests (mainly eastern Qld) (9-15b)
- 4. Eucalypt open forests to woodlands on floodplains (16-16d)
- 5. Eucalypt dry woodlands on inland depositional plains (17-18d)
- 6. Eucalypt low open woodlands usually with spinifex understorey (19-19d)
- 7. Callitris woodland - open forests (20a)
- 8. Melaleuca open woodlands on depositional plains (21-22c)
- 9. Acacia aneura (mulga) dominated open forests, woodlands and shrublands (23-23b)
- 10. Other acacia dominated open forests, woodlands and shrublands (24-26a)
- 11. Mixed species woodlands, open woodland - (inland bioregions) includes wooded downs (27-27c)
- 12. Other coastal communities or heaths (28-29b)
- 13. Tussock grasslands, forblands (30-32b)
- 14. Hummock grasslands (33-33b)
- 15. Wetlands (swamps and lakes) (34-34g)
- 16. Mangroves and saltmarshes (35-35b)
- Non-remnant vegetation, cultivated or built environment
- Water
- Cadastral Boundaries



This product is projected into GDA 1994 MGA Zone 56

Broad Vegetation Groups (BVG) of Queensland are applied by look up table to the regional ecosystem vegetation communities. Each polygon is coloured by the dominant BVG5M and the component regional ecosystems labelled. Where more than one regional ecosystem occurs, the percentage of each is labelled.

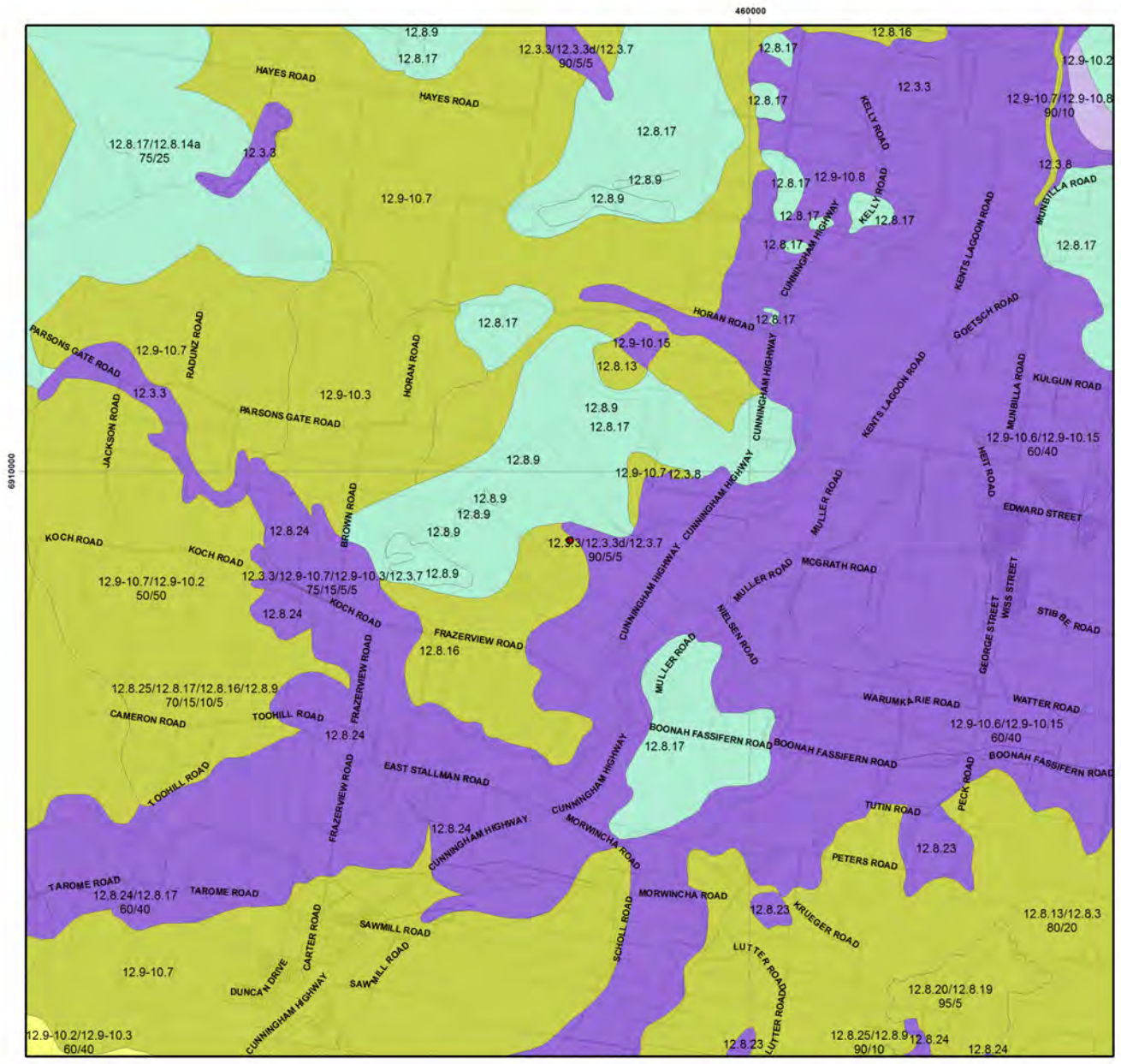
Regional ecosystem mapping over the majority of Queensland is produced at a scale of 1:100,000. At this scale, the minimum remnant polygon area is 5 hectares or minimum remnant width of 75 metres. Regional ecosystem linework reproduced at a scale greater than 1:100,000, except in designated areas, should be used as a guide only. The precision of polygon boundaries or positional accuracy of linework is 100 metres.

Regional ecosystems are defined as vegetation communities in a bioregion that are consistently associated with a particular combination of geology, landform and soil. The label consists of 3 components: bioregion, land zone, and vegetation community – the dominant canopy species. e.g.: RE 12.3.3. Descriptions of REs are found online. Use the search term "Regional Ecosystem Framework".

Regional ecosystem mapping at 1:100,000 map scale is derived from the following sources: 1:80,000 B&W 1960's aerial photography, Landsat TM imagery, geology, soils, land systems data, field survey and historical records.

Remnant woody vegetation is defined as vegetation that has not been cleared or vegetation that has been cleared but where the dominant canopy has >70% of the height and >50% of the cover relative to the undisturbed height and cover of that stratum and is dominated by species characteristic of the vegetation's undisturbed canopy.

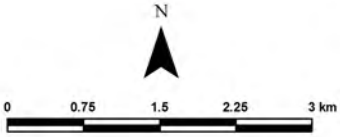
Non-remnant vegetation includes regrowth and disturbed native vegetation.



Pre-clearing Regional Ecosystems

Biodiversity Status

- Coordinates
- Endangered - Dominant vegetation
- Endangered - Sub-dominant
- Of Concern - Dominant
- Of Concern - Sub-dominant
- No concern at present
- Water
- Cadastral Boundaries

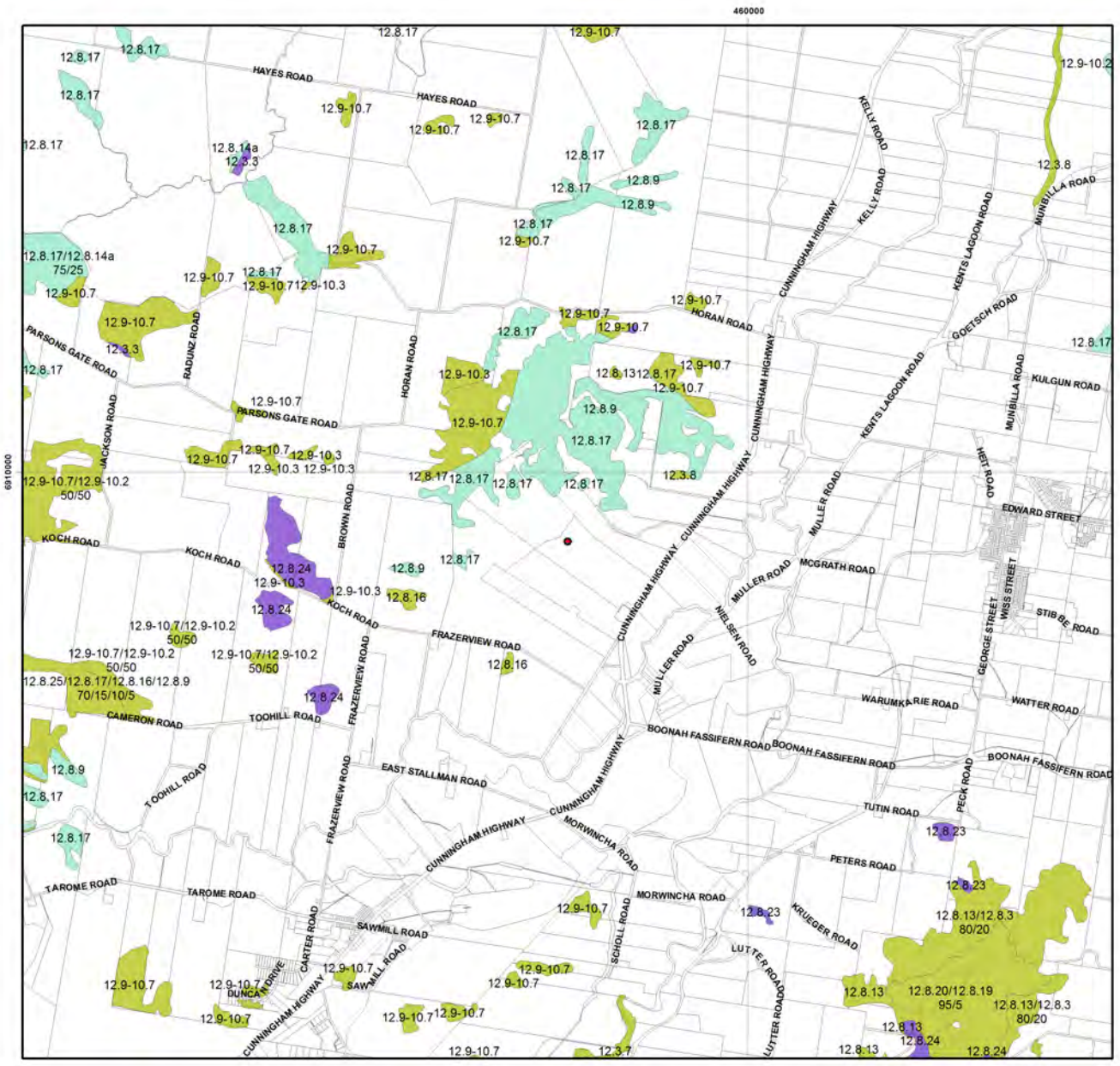


This product is projected into GDA 1994 MGA Zone 56

Regional ecosystem mapping over the majority of Queensland is produced at a scale of 1:100,000. At this scale, the minimum remnant polygon area is 5 hectares or minimum remnant width of 75 metres. Regional ecosystem linework reproduced at a scale greater than 1:100,000, except in designated areas, should be used as a guide only. The precision of polygon boundaries or positional accuracy of linework is 100 metres.

Regional ecosystems are defined as vegetation communities in a bioregion that are consistently associated with a particular combination of geology, landform and soil. The polygons are labelled by regional ecosystem (RE); where more than one RE occurs, the percentage of each is labelled. The label consists of 3 components: bioregion, land zone, and vegetation community – the dominant canopy species. e.g.: RE 12.3.3. Descriptions of REs are found online. Use the search term "Regional Ecosystem Framework".

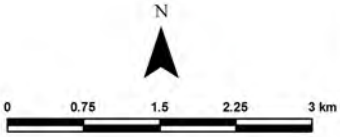
Regional ecosystem mapping at 1:100,000 map scale is derived from the following sources: 1:80,000 B&W 1960's aerial photography, Landsat TM imagery, geology, soils, land systems data, field survey and historical records.



Remnant 2017 Regional Ecosystems

Biodiversity Status

- Coordinates
- Endangered - Dominant vegetation
- Endangered - Sub-dominant
- Of Concern - Dominant
- Of Concern - Sub-dominant
- No concern at present
- Non-remnant vegetation, cultivated or built environment
- Plantation
- Water
- Cadastral Boundaries



This product is projected into GDA 1994 MGA Zone 56

Regional ecosystem mapping over the majority of Queensland is produced at a scale of 1:100,000. At this scale, the minimum remnant polygon area is 5 hectares or minimum remnant width of 75 metres. Regional ecosystem linework reproduced at a scale greater than 1:100,000, except in designated areas, should be used as a guide only. The precision of polygon boundaries or positional accuracy of linework is 100 metres.

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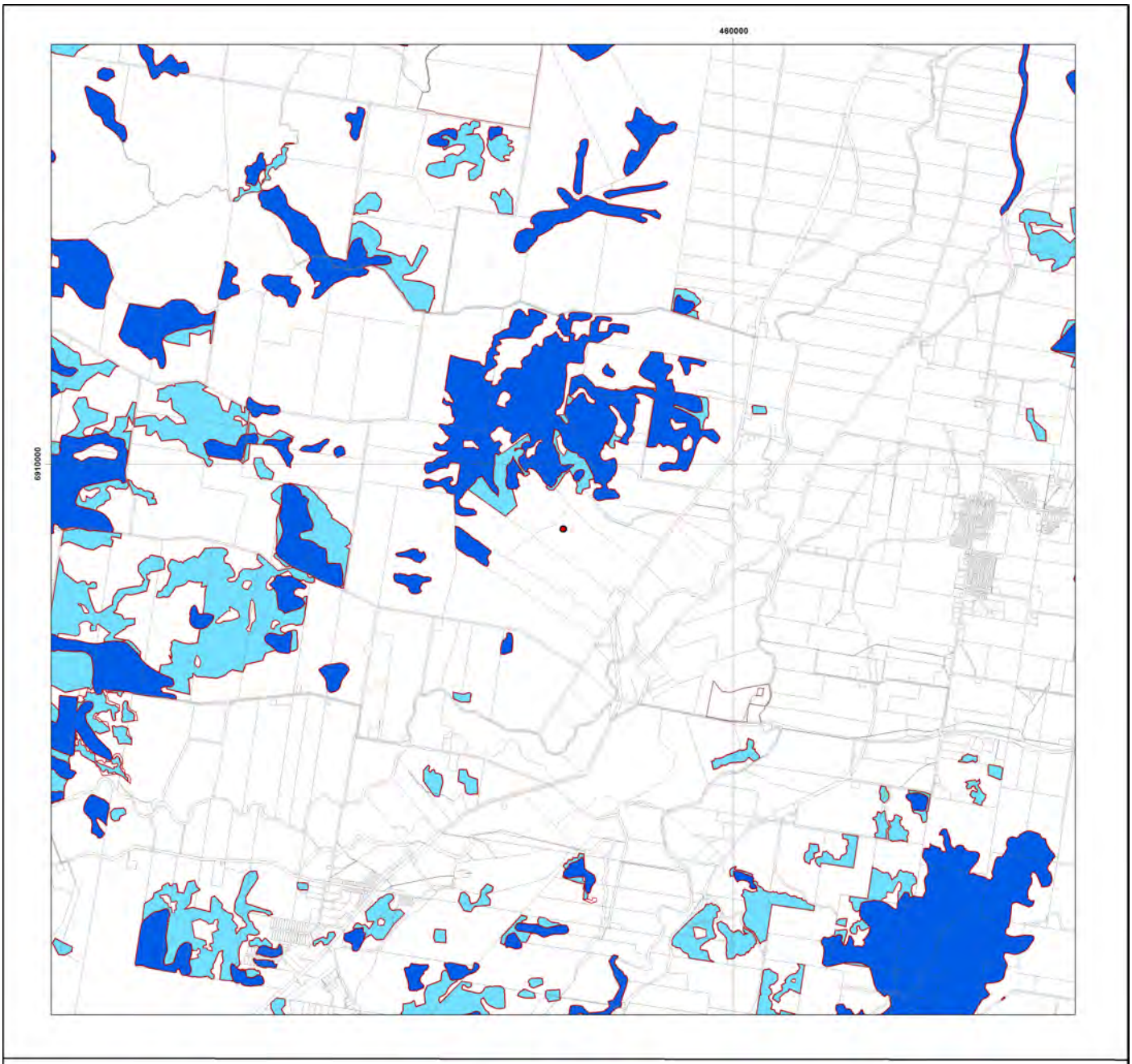
Non-remnant vegetation includes regrowth and disturbed native vegetation.



Regulated Vegetation Management Map

Legend

- Coordinates
- Category A area (Vegetation offsets/compliance notices/VDecs)
- Category B area (Remnant vegetation)
- Category C area (High-value regrowth vegetation)
- Category R area (Reef regrowth watercourse vegetation)
- Category X area (Exempt clearing work on Freehold, Indigenous and Leasehold land)
- Water
- Area not categorised
- Cadastral line
  Property boundaries shown are provided as a locational aid only

N

0 675 1,350 2,025 2,700 3,375 m

This product is projected into:
GDA 1994 MGA Zone 56

Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Natural Resources, Mines and Energy makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

Additional information required for the assessment of vegetation values is provided in the accompanying "Vegetation Management Supporting map". For further information go to the web site: www.dnrme.qld.gov.au or contact the Department of Natural Resources, Mines and Energy.

Digital data for the regulated vegetation management map is available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

This map is updated on a monthly basis to ensure new PMAVs are included as they are approved.

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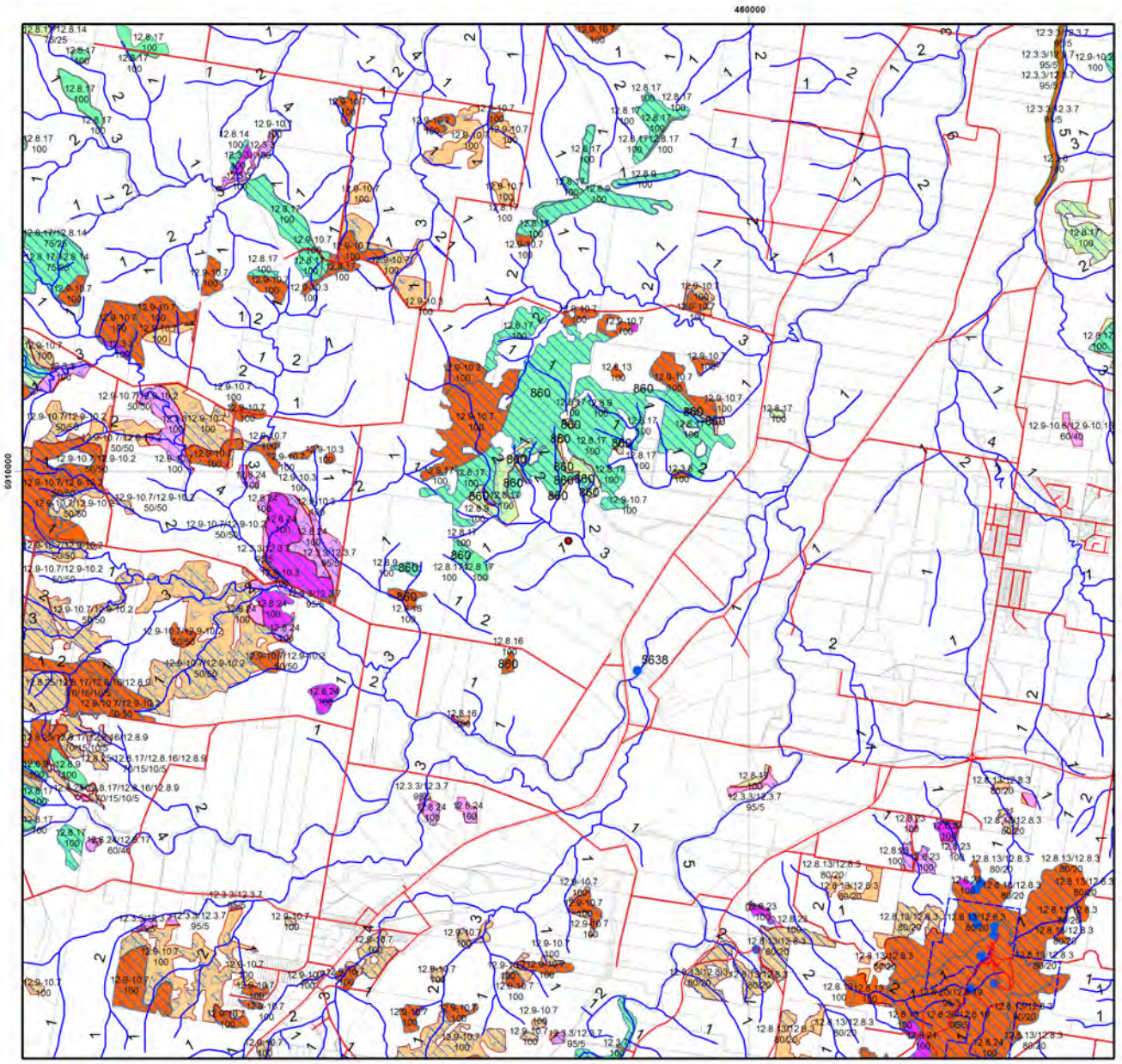

Vegetation Management Supporting Map

Legend

- Coordinates
- Category A or B area containing endangered regional ecosystems
- Category A or B area containing of concern regional ecosystems
- Category A or B area that is a least concern regional ecosystem
- Category A or B area under Section 20AH
  These areas are edged in yellow and filled with the remnant RE Status
- Category C area containing endangered regional ecosystems
- Category C area containing of concern regional ecosystems
- Category C area that is a least concern regional ecosystem
- Category C area under Section 20AI
  These areas are edged in purple and filled with the remnant RE Status
- Non Remnant
- Water
- Wetland on the vegetation management wetlands map
- Essential habitat on the essential habitat map
- Essential habitat species record
- Watercourses and drainage features on the vegetation management watercourse and drainage features map
  (Stream order shown as black number against stream where available)
- Roads
- National Parks, State Forest and other reserves
- Cadastral line
  Property boundaries shown are provided as a locational aid only

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LOCALITY DIAGRAM

N

0 480 960 1,440 1,920 2,400 m

This product is projected into:
GDA 1994 MGA Zone 56

Labels for Essential Habitat are centred on the area of enquiry.

Regional ecosystem linework has been compiled at a scale of 1:100 000, except in designated areas where a compilation scale of 1:50 000 is available. Linework should be used as a guide only. The positional accuracy of RE data mapped at a scale of 1:100 000 is +/- 100 metres.

Disclaimer:
While every care is taken to ensure the accuracy of this product, the Department of Natural Resources, Mines and Energy makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which you might incur as a result of the product being inaccurate or incomplete in any way and for any reason.

Additional information may be required for the purposes of land clearing or assessment of a regional ecosystem map or PMAV applications. For further information go to the web site: www.dnrme.qld.gov.au or contact the Department of Natural Resources, Mines and Energy.

Digital data for the vegetation management watercourse and drainage feature map, vegetation management wetlands map, essential habitat map and the vegetation management remnant and regional ecosystem map are available from the Queensland Spatial Portal at http://www.information.qld.gov.au/

Vegetation Management Act 1999 - Extract from the essential habitat database

Essential habitat is required for assessment under the:

- State Development Assessment Provisions - State Code 16: Native vegetation clearing which sets out the matters of interest to the state for development assessment under the *Planning Act 2016*; and
- Accepted development vegetation clearing codes made under the *Vegetation Management Act 1999*

Essential habitat for one or more of the following species is found on and within 1.1 km of the identified subject lot/s on the accompanying essential habitat map.

This report identifies essential habitat in Category A, B and Category C areas.

The numeric labels on the essential habitat map can be cross referenced with the database below to determine which essential habitat factors might exist for a particular species.

Essential habitat is compiled from a combination of species habitat models and buffered species records.

The Department of Natural Resources, Mines and Energy website (http://www.dnrme.qld.gov.au) has more information on how the layer is applied under the State Development Assessment Provisions - State Code 16: Native vegetation clearing and the *Vegetation Management Act 1999*.

Regional ecosystem is a mandatory essential habitat factor, unless otherwise stated.

Essential habitat, for protected wildlife, means a category A area, a category B area or category C area shown on the regulated vegetation management map-

1) that has at least 3 essential habitat factors for the protected wildlife that must include any essential habitat factors that are stated as mandatory for the protected wildlife in the essential habitat database; or

2) in which the protected wildlife, at any stage of its life cycle, is located.

Protected wildlife includes endangered, vulnerable or near-threatened native wildlife prescribed under the *Nature Conservation Act 1992*.

Essential habitat in Category A and/or Category B and/or Category C

Label	Scientific Name	Common Name	NCA Status	Vegetation Community	Altitude	Soils	Position in Landscape
860	Phascolarctos cinereus	koala	V	SEQ: Open eucalypt forest and woodland that has: a) multiple strata layers containing Eucalyptus, Corymbia, Angophora, Lophostemon or Melaleuca trees that-at 1.3 metres above the ground-have a diameter both greater and less than 30 centimetres; and b) at least 1 of the following species: Eucalyptus tereticornis, E. fibrosa, E. propinqua; E. umbra, E. grandis, E. microcorys, E. tindaliae, E. resinifera, E. populnea, E. robusta, E. nigra, E. racemosa, E. crebra, E. exserta, E. seeana, Lophostemon confertus, L. suaveolens, Melaleuca quinquenervia. Outside SEQ: Open eucalypt forest and woodland that contains Eucalyptus &/or Corymbia spp. Tree species used for food varies across State and can include Eucalyptus tereticornis, E. camaldulensis, E. coolabah; E. drepanophylla, E. platyphylla, E. orgadophilla, E. thozetiana, E. melanophloia, E. populnea, E. melliodora, E. dealbata, E. microtheca, E. crebra, E. exserta, E. blakelyi, E. papuana, Corymbia tessellaris, C. citriodora, Melaleuca quinquenervia, M. leucadendra.	Sea level to 1000m.	None	Riparian areas, plains and hill/escarpment slopes.

Label	Regional Ecosystem (mandatory unless otherwise specified)
860	SEQ: 11.3.2, 11.3.4, 11.3.25, 11.3.26, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.9.9, 12.2.5, 12.2.6, 12.2.7, 12.2.8, 12.2.10, 12.3.2, 12.3.3, 12.3.4, 12.3.5, 12.3.6, 12.3.7, 12.3.9, 12.3.10, 12.3.11, 12.3.14, 12.3.18, 12.3.19, 12.3.20, 12.5.1, 12.5.2, 12.5.3, 12.5.4, 12.5.6, 12.5.7, 12.5.10, 12.5.12, 12.8.1, 12.8.8, 12.8.9, 12.8.11, 12.8.12, 12.8.14, 12.8.16, 12.8.17, 12.8.20, 12.8.24, 12.8.25, 12.9-10.1, 12.9-10.2, 12.9-10.3, 12.9-10.4, 12.9-10.5, 12.9-10.7, 12.9-10.8, 12.9-10.11, 12.9-10.12, 12.9-10.14, 12.9-10.17, 12.9-10.18, 12.9-10.19, 12.9-10.21, 12.9-10.25, 12.9-10.26, 12.9-10.27, 12.9-10.28, 12.9-10.29, 12.11.2, 12.11.3, 12.11.5, 12.11.6, 12.11.7, 12.11.8, 12.11.9, 12.11.14, 12.11.16, 12.11.17, 12.11.18, 12.11.22, 12.11.23, 12.11.24, 12.11.25, 12.11.26, 12.11.27, 12.11.28, 12.12.2, 12.12.3, 12.12.5, 12.12.6, 12.12.7, 12.12.8, 12.12.9, 12.12.11, 12.12.12, 12.12.14, 12.12.15, 12.12.23, 12.12.24, 12.12.25, 12.12.28. Outside SEQ: 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.8, 4.3.10, 4.3.11, 4.4.1, 4.5.3, 4.5.5, 4.5.6, 4.5.8, 4.5.9, 4.7.1, 4.7.7, 4.7.8, 4.9.6, 4.9.10, 4.9.12, 4.9.17, 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5, 6.3.7, 6.3.8, 6.3.9, 6.3.11, 6.3.12, 6.3.17, 6.3.18, 6.3.22, 6.3.24, 6.3.25, 6.4.1, 6.4.2, 6.4.3, 6.4.4, 6.5.1, 6.5.2, 6.5.3, 6.5.5, 6.5.6, 6.5.7, 6.5.8, 6.5.9, 6.5.10, 6.5.11, 6.5.13, 6.5.14, 6.5.15, 6.5.16, 6.5.17, 6.5.18, 6.5.19, 6.6.2, 6.7.1, 6.7.2, 6.7.5, 6.7.6, 6.7.7, 6.7.9, 6.7.11, 6.7.12, 6.7.13, 6.7.14, 6.7.17, 6.9.3, 7.2.3, 7.2.4, 7.2.7, 7.2.11, 7.3.7, 7.3.8, 7.3.9, 7.3.12, 7.3.13, 7.3.14, 7.3.16, 7.3.19, 7.3.20, 7.3.21, 7.3.25, 7.3.26, 7.3.39, 7.3.40, 7.3.42, 7.3.43, 7.3.44, 7.3.45, 7.3.47, 7.3.48, 7.3.50, 7.5.1, 7.5.2, 7.5.3, 7.5.4, 7.8.7, 7.8.8, 7.8.10, 7.8.15, 7.8.16, 7.8.17, 7.8.18, 7.8.19, 7.11.5, 7.11.6, 7.11.13, 7.11.14, 7.11.16, 7.11.18, 7.11.19, 7.11.20, 7.11.21, 7.11.31, 7.11.32, 7.11.33, 7.11.34, 7.11.35, 7.11.37, 7.11.41, 7.11.42, 7.11.43, 7.11.44, 7.11.45, 7.11.46, 7.11.47, 7.11.48, 7.11.49, 7.11.50, 7.11.51, 7.12.4, 7.12.5, 7.12.17, 7.12.21, 7.12.22, 7.12.23, 7.12.24, 7.12.25, 7.12.26, 7.12.27, 7.12.28, 7.12.29, 7.12.30, 7.12.33, 7.12.34, 7.12.35, 7.12.51, 7.12.52, 7.12.53, 7.12.54, 7.12.55, 7.12.56, 7.12.57, 7.12.58, 7.12.59, 7.12.60, 7.12.61, 7.12.62, 7.12.63, 7.12.65, 7.12.66, 7.12.69, 8.1.5, 8.2.3, 8.2.6, 8.2.7, 8.2.8, 8.2.11, 8.2.12, 8.2.13, 8.2.14, 8.3.1, 8.3.2, 8.3.3, 8.3.5, 8.3.6, 8.3.8, 8.3.10, 8.3.11, 8.3.13, 8.5.1, 8.5.2, 8.5.3, 8.5.5, 8.5.6, 8.5.7, 8.9.1, 8.10.1, 8.11.1, 8.11.3, 8.11.4, 8.11.5, 8.11.6, 8.11.8, 8.11.10, 8.11.12, 8.12.4, 8.12.5, 8.12.6, 8.12.7, 8.12.8, 8.12.9, 8.12.12, 8.12.14, 8.12.20, 8.12.22, 8.12.23, 8.12.25, 8.12.26, 8.12.27, 8.12.29, 8.12.31, 8.12.32, 9.3.1, 9.3.2, 9.3.3, 9.3.4, 9.3.5, 9.3.6, 9.3.7, 9.3.8, 9.3.10, 9.3.11, 9.3.13, 9.3.14, 9.3.15, 9.3.16, 9.3.17, 9.3.19, 9.3.20, 9.3.21, 9.3.22, 9.3.27, 9.4.1, 9.4.2, 9.4.3, 9.5.1, 9.5.3, 9.5.4, 9.5.5, 9.5.6, 9.5.7, 9.5.8, 9.5.9, 9.5.10, 9.5.11, 9.5.12, 9.5.15, 9.5.16, 9.5.17, 9.7.1, 9.7.2, 9.7.3, 9.7.4, 9.7.5, 9.7.6, 9.8.1, 9.8.2, 9.8.3, 9.8.4, 9.8.5, 9.8.9, 9.8.10, 9.8.11, 9.8.13, 9.10.1, 9.10.3, 9.10.4, 9.10.5, 9.10.7, 9.10.8, 9.11.1, 9.11.2, 9.11.3, 9.11.4, 9.11.5, 9.11.7, 9.11.10, 9.11.12, 9.11.13, 9.11.14, 9.11.15, 9.11.16, 9.11.17, 9.11.18, 9.11.19, 9.11.21, 9.11.22, 9.11.23, 9.11.24, 9.11.25, 9.11.26, 9.11.28, 9.11.29, 9.11.30, 9.11.31, 9.11.32, 9.12.1, 9.12.2, 9.12.3, 9.12.4, 9.12.5, 9.12.6, 9.12.7, 9.12.10, 9.12.11, 9.12.12, 9.12.13, 9.12.14, 9.12.15, 9.12.16, 9.12.17, 9.12.18, 9.12.19, 9.12.20, 9.12.21, 9.12.22, 9.12.23, 9.12.24, 9.12.25, 9.12.26, 9.12.27, 9.12.28, 9.12.29, 9.12.30, 9.12.31, 9.12.32, 9.12.33, 9.12.35, 9.12.36, 9.12.37, 9.12.38, 9.12.39, 9.12.44, 10.3.2, 10.3.3, 10.3.5, 10.3.6, 10.3.9, 10.3.10, 10.3.11, 10.3.12, 10.3.13, 10.3.14, 10.3.15, 10.3.17, 10.3.20, 10.3.27, 10.3.28, 10.4.3, 10.4.9, 10.5.1, 10.5.2, 10.5.4, 10.5.5, 10.5.7, 10.5.8, 10.5.9, 10.5.10, 10.5.11, 10.5.12, 10.7.1, 10.7.2, 10.7.3, 10.7.4, 10.7.5, 10.7.9, 10.7.10, 10.7.11, 10.7.12, 10.9.2, 10.9.3, 10.9.5, 10.10.1, 10.10.3, 10.10.4, 10.10.5, 10.10.7, 11.2.1, 11.2.5, 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.3.5, 11.3.6, 11.3.7, 11.3.9, 11.3.10, 11.3.12, 11.3.13, 11.3.14, 11.3.15, 11.3.16, 11.3.17, 11.3.18, 11.3.19, 11.3.21, 11.3.23, 11.3.25, 11.3.26, 11.3.27, 11.3.28, 11.3.29, 11.3.30, 11.3.32, 11.3.33, 11.3.35, 11.3.36, 11.3.37, 11.3.38, 11.3.39, 11.4.2, 11.4.3, 11.4.7, 11.4.8, 11.4.9, 11.4.10, 11.4.12, 11.4.13, 11.5.1, 11.5.2, 11.5.3, 11.5.4, 11.5.5, 11.5.7, 11.5.8, 11.5.9, 11.5.12, 11.5.13, 11.5.14, 11.5.17, 11.5.18, 11.5.20, 11.5.21, 11.7.1, 11.7.2, 11.7.3, 11.7.4, 11.7.6, 11.7.7, 11.8.1, 11.8.2, 11.8.4, 11.8.5, 11.8.8, 11.8.11, 11.8.12, 11.8.14, 11.8.15, 11.9.1, 11.9.2, 11.9.3, 11.9.5, 11.9.6, 11.9.7, 11.9.9, 11.9.10, 11.9.11, 11.9.13, 11.9.14, 11.10.1, 11.10.2, 11.10.3, 11.10.4, 11.10.5, 11.10.6, 11.10.7, 11.10.9, 11.10.11, 11.10.12, 11.10.13, 11.11.1, 11.11.2, 11.11.3, 11.11.4, 11.11.6, 11.11.7, 11.11.8, 11.11.9, 11.11.10, 11.11.11, 11.11.12, 11.11.13, 11.11.14, 11.11.15, 11.11.16, 11.11.17, 11.11.19, 11.11.20, 11.12.1, 11.12.2, 11.12.3, 11.12.5, 11.12.6, 11.12.7, 11.12.8, 11.12.9, 11.12.10, 11.12.13, 11.12.14, 11.12.15, 11.12.16, 11.12.17, 11.12.19, 11.12.20, 13.3.1, 13.3.2, 13.3.3, 13.3.4, 13.3.5, 13.3.7, 13.9.2, 13.11.1, 13.11.2, 13.11.3, 13.11.4, 13.11.5, 13.11.6, 13.11.8, 13.11.9, 13.12.1, 13.12.2, 13.12.3, 13.12.4, 13.12.5, 13.12.6, 13.12.8, 13.12.9, 13.12.10.

Appendix C - Completed Impact Assessments & SRRC Letter of Support

See attached document

APPENDIX C

COMPLETED IMPACT ASSESSMENTS & SRRC LETTER OF SUPPORT

SCENIC RIM AGRICULTURAL INDUSTRIAL PRECINCT

APRIL 2019

Kalfresh Pty Ltd

IAS prepared by 3cubed consulting

Aurecon Australasia Pty Ltd

ABN 54 005 139 873
Level 14, 32 Turbot Street
Brisbane QLD 4000
Locked Bag 331
Brisbane QLD 4001
Australia

T +61 7 3173 8000
F +61 7 3173 8001
E brisbane@aurecongroup.com
W aurecongroup.com

Memorandum

To	**Nick Canto, Travis Smith**	From	**Glen Mellor**
Copy	**Trinity Graham**	Reference	**255027**
Date	**5 April 2017**	Pages (including this page)	**7**
Subject	**Kalfresh hydraulic assessment**		
Attachments	**Figures 1a, 1b, 2a, 2b and 3**		

Nick and Travis

We are pleased to provide the following memorandum documenting our completed hydraulic investigation of the proposed Kalfresh subdivision and development.

1 Study overview

Aurecon has undertaken a hydraulic assessment of the site of the Kalfresh subdivision and development for I³ Consulting Pty Ltd. The site is located on Lots 3 and 4, SP192221 and Lot 2, RP20974 in Kalbar adjacent to the Cunningham Highway and is situated in the Warrill Creek floodplain. The site extents and location are shown in Figure i below.

The proposed reconfiguration of the site incorporates a 38Ha fill platform which is raised above the 1% AEP flood level. The development incorporates a diversion drain approximately 70m wide to the north of the subdivision site to convey overbank flow from Warrill Creek and mitigate impacts associated with the development.

Existing land use in the vicinity of the site is generally intensive cropping land with sparsely located rural residences and farm structures. A major farm distribution centre is located within by the site envelope.

Existing flooding characteristics and development impacts have been assessed using a two-dimensional TUFLOW hydraulic model of the existing and proposed developed case scenarios for the 1% AEP event.

2 Data

The following datasets were utilised in the hydraulic assessment:

- Warrill Creek flood model and component files – provided by Aurecon/SRRC
- Existing survey design tin incorporating updated survey of the Cunningham Highway and local access road – provided by I³ Consulting
- Kalfresh site design surface tin –provided by I³ Consulting

3 Methodology

The TUFLOW hydraulic assessment was undertaken using a sub-model developed from the existing regional Warrill Creek model which was previously developed by Aurecon for Scenic Rim Regional

Council (SRRC). The sub- model incorporates 1% AEP inflow hydrographs derived from the regional Warrill Creek flood model.

The extent of the sub-model is shown in Figure i.

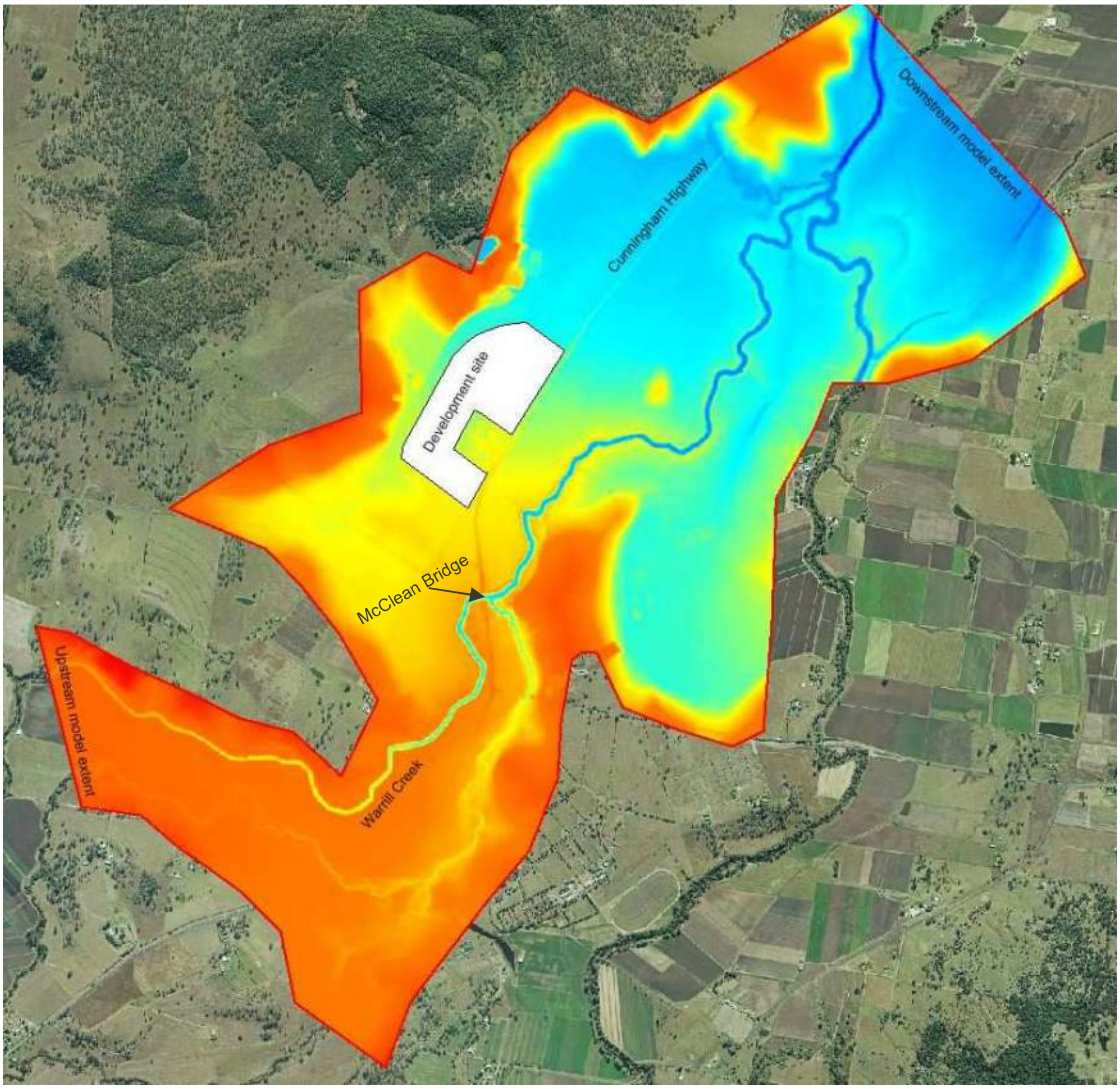

Figure i | Kalfresh model overview

The Warrill Creek model was originally developed to investigate flooding throughout the greater Warrill Creek system and, as such, it was based on a relatively coarse 20m grid cell resolution. Refinements were therefore made to the grid resolution and other model features for the Kalfresh sub-model as follows:

- Decreased grid cell size to 10m cell as agreed in our initial meeting in January 2017. This resolution is considered optimal in providing a balance of model run times and appropriate definition of the model topography at the site, recognising that flooding conditions at the site are generally characterised by broad, shallow flowpaths through the Warrill Creek floodplain.
- Improved definition of local topographic features including the Cunningham Highway, access roads and drainage near the Kalfresh site based on survey provided by I³ Consulting in February 2017.

TUFLOW modelling was undertaken for the 1% AEP event for both existing and proposed developed conditions in order to provide an understanding of pre and post development flooding conditions.

4 Model Results

1% AEP flood modelling was undertaken for both the 6 and 12 hour duration events which were identified as being critical duration events in terms of peak water surface levels within the sub-model area. Overall maximum flood level maps have been generated by combining peak results for both of the above durations.

Model results showing peak depth and velocity at the proposed Kalfresh site are shown for both the existing case in Figures 1a, 1b, 2a and 2b (attached). Afflux mapping is also provided in and is shown in Figure 3 attached.

4.1 Existing case results

Existing case model results indicate broad shallow overland flow paths in the proposed development site area during peak 1% AEP flooding. Overtopping of the Warrill Creek main watercourse occurs over the northern bank Highway to the south of McClean Bridge which is located approximately 500m south of the site. Under these conditions, water then flows through the proposed development site and surrounding properties in a north-easterly direction. The flow path is partially constrained by the Cunningham highway embankment. Flood waters then overtop the Cunningham Highway in an easterly flow direction approximately 500m north east of the site via a floodway before re-joining the main Warrill Creek watercourse.

4.2 Development case results

Under the developed case scenario, the flood behaviour has similar characteristics as described above. Key developed case flood features are summarised below:

- Peak depths in the diversion channel range from approximately 1.0m to 1.25m.
- Peak velocities in the diversion channel range from approximately 0.5m/s to 1.0m/s.
- The peak depth-velocity product within the diversion channel is approximately 1.0. Figure iii shows flood vulnerability curves as per the *Technical flood risk management guideline: Flood hazard* published by EMA (2013). Peak 1% AEP flood conditions in the proposed diversion drain equate to H3/H4 hazard classification, indicating that the area would be generally unsafe for access by people and vehicles during peak flooding conditions.

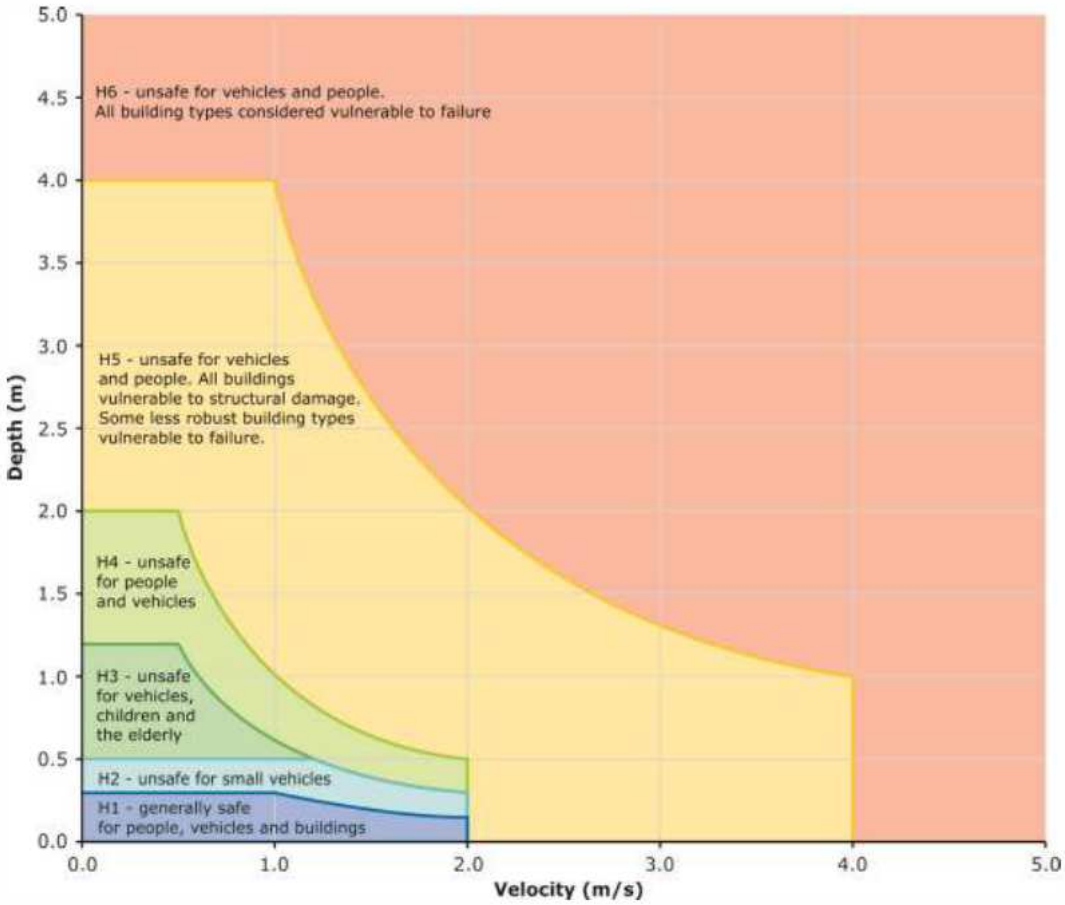

Figure ii | Flood hazard vulnerability curves - ***Source: Technical flood risk management guideline: Flood hazard - Figure 6 - EMA***

- Flowpaths through the site exhibit similar peak depth and velocity characteristics under both the pre and post development cases.

4.3 Development impacts

Development impacts in terms changes in of peak water levels (afflux) and flood extents are shown in Figure 3. Overall, hydraulic impacts are limited the properties immediately adjacent to the site. Key impacts are summarised in Table 1.

Table 1 | 1% AEP Hydraulic impacts

Location	Description of impact	Image (Enlargement from Figure 3)
Lot 014, SP229448	Increase in peak water levels of approximately 0.09m, potentially impacting farm structures. No significant change to flood extents predicted near farm structures.	
Lot 1, SP121240	Increase in peak water levels of approximately 0.10m, potentially impacting farm structures. No significant change to flood extents predicted near farm structures.	

It is noted that there is a small area of afflux shown adjacent to the site at the Cunningham Highway in Figure 3. This is attributed to the limitations of the 10m grid resolution in defining the table drain running parallel to the Cunningham highway at this location. Under the developed case scenario, this table drain would be maintained, allowing water overtopping the road from Warrill Creek to the east to be conveyed to the north as per the Existing Case flow direction. Local runoff from the site would be conveyed to the north and would not enter this table drain. The Developed Case model results are therefore not considered to result in reduced flood immunity for the Cunningham Highway.

It is further noted there appears to an existing farm embankment or similar feature to the immediate north of the site that affects the distribution of flow in this area. This feature is shown below in Figure iiiii which an enlargement of Figure 3 at the northern site extent.

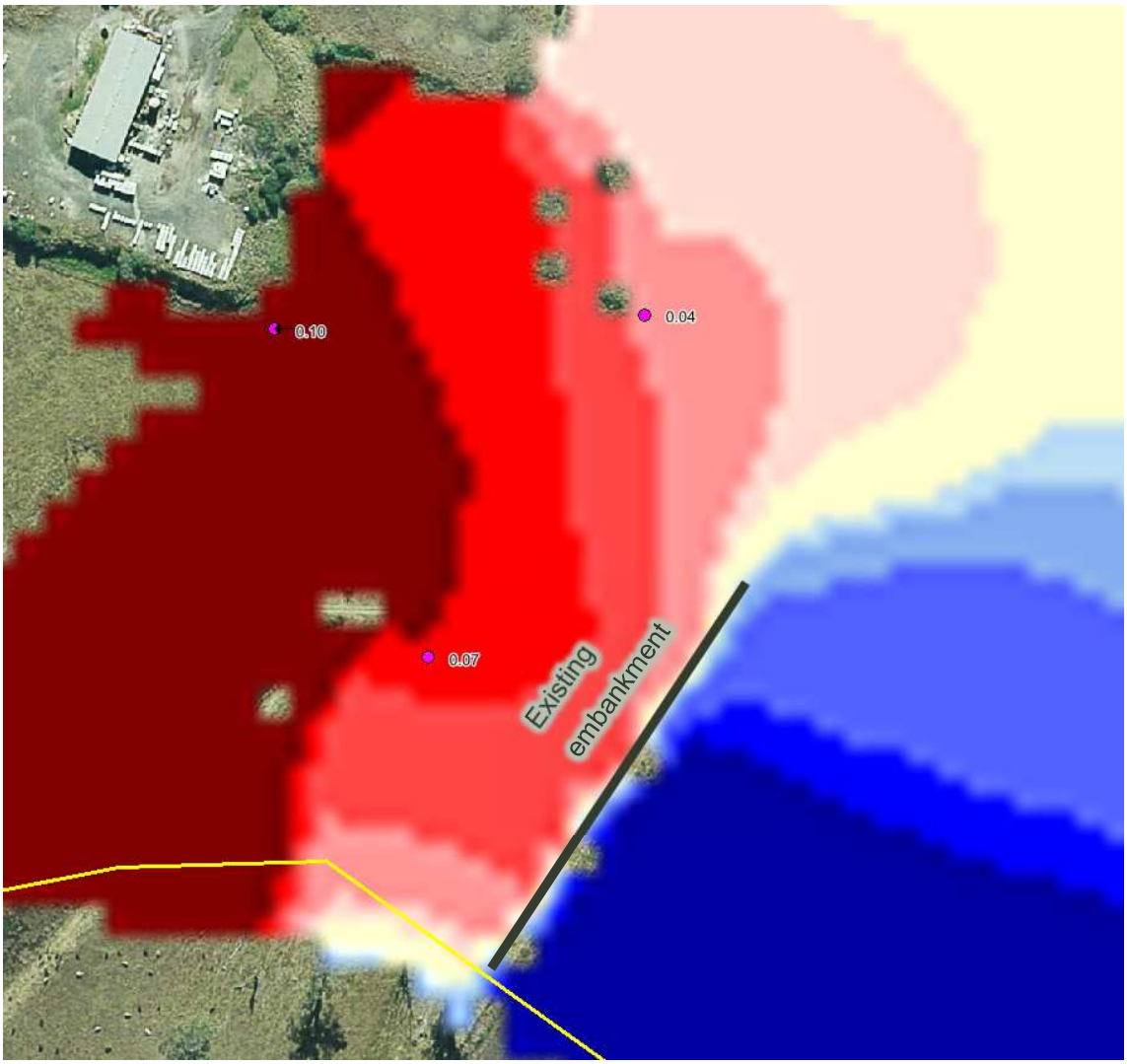

Figure iii | 1% AEP afflux – Northern site extents

Peak 1% AEP model results indicate that the feature shown above results in a decrease in post development water levels to the east and an increase to the West. Opportunities to provide openings through this feature could be investigated in the interests of balancing flood impacts in this area and reducing afflux at Lot 1, SP121240 as shown in Table 1.

Conclusions

Conclusions from the hydraulic assessment are summarised as follows

- Peak 1% flooding conditions for both the existing and developed case configurations of the Kalfresh site are characterised by broad, shallow flowpaths (typically < 1.0m deep) with relatively low peak velocities (typically < 1.5m/s)
- Afflux associated with peak 1% AEP flooding conditions is likely to affect properties immediately adjacent to the site including Lot 014, SP229448 and Lot 1, SP121240. Model results indicate peak 1% AEP afflux of up to 0.1m in these adjacent properties.

- The peak depth x velocity product within the diversion channel is approximately 1.0. Provision may be require to manage access to the diversion drain during major flooding events due to the potential to reach H3/H4 hazard categorisation under peak 1% AEP flooding conditions.
- The development as represented in the TUFLOW model is not expected to result in adverse flood impacts on the Cunningham Highway
- Opportunities to provide openings through the embankment to the north of the site could be investigated in the interests of balancing flood impacts in this area and reducing afflux at Lot 1, SP121240 as shown in Table 1.

Assumptions & Limitations

- Hydraulic modelling presented in this report is based on 10 m grid hydraulic model. This model resolution may not be representative of features such as small local drainage channels, culverts and drains
- Accuracy of the modelling is limited to that of the underlying topographic datasets.

References:

Emergency Management Australia (EMA) Emergency Management Handbook Series - Technical flood risk management guideline: Flood hazard (2013)

PROPOSED FRAZERVIEW QUARRY

HORAN ROAD, FRAZERVIEW

TRAFFIC IMPACT ASSESSMENT

22 JANUARY 2019

PREPARED FOR

WAGNERS INVESTMENTS PTY LTD

PEKOL TRAFFIC & TRANSPORT

CTEE
CENTRE FOR TRANSPORT ENERGY & ENVIRONMENT

DOCUMENT CONTROL RECORD

DOCUMENT	
Report Title:	Horan Road, Frazerview Traffic Impact Assessment
Client:	Wagner Investments Pty Ltd
Project Number:	18-442

REV	PURPOSE	DATE	AUTHOR	REVIEWER	APPROVED	SIGNED
A	DRAFT	DEC-18	CMB	AAP	AAP (RPEQ 5286	
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C	FINAL	JAN-19	CMB	AAP	AAP (RPEQ 5286	

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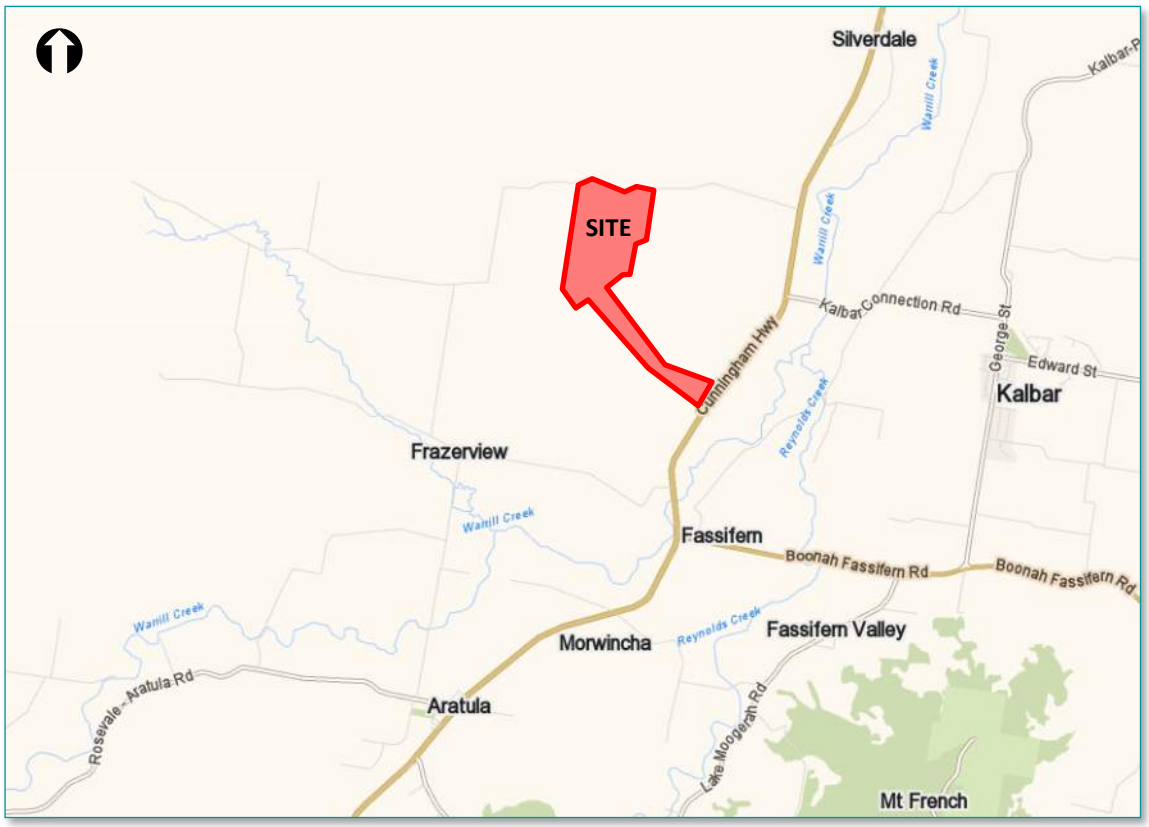
1.0 INTRODUCTION

1.1 Background

In July 2018, Pekol Traffic and Transport (PTT) was commissioned by Ausrocks on behalf of Wagners Investments Pty Ltd to undertake a traffic impact assessment for a proposed hard-rock quarry at Horan Road, Frazerview and Cunningham Highway, Kalbar. The location of the subject site is shown on Figure 1.1.

Figure 1.1: SITE LOCALITY



1.2 Aim

The aim of this assessment is to evaluate the proposed development in terms of its access arrangments, safety and impact on the surrounding road network.

1.3 Scope of Report

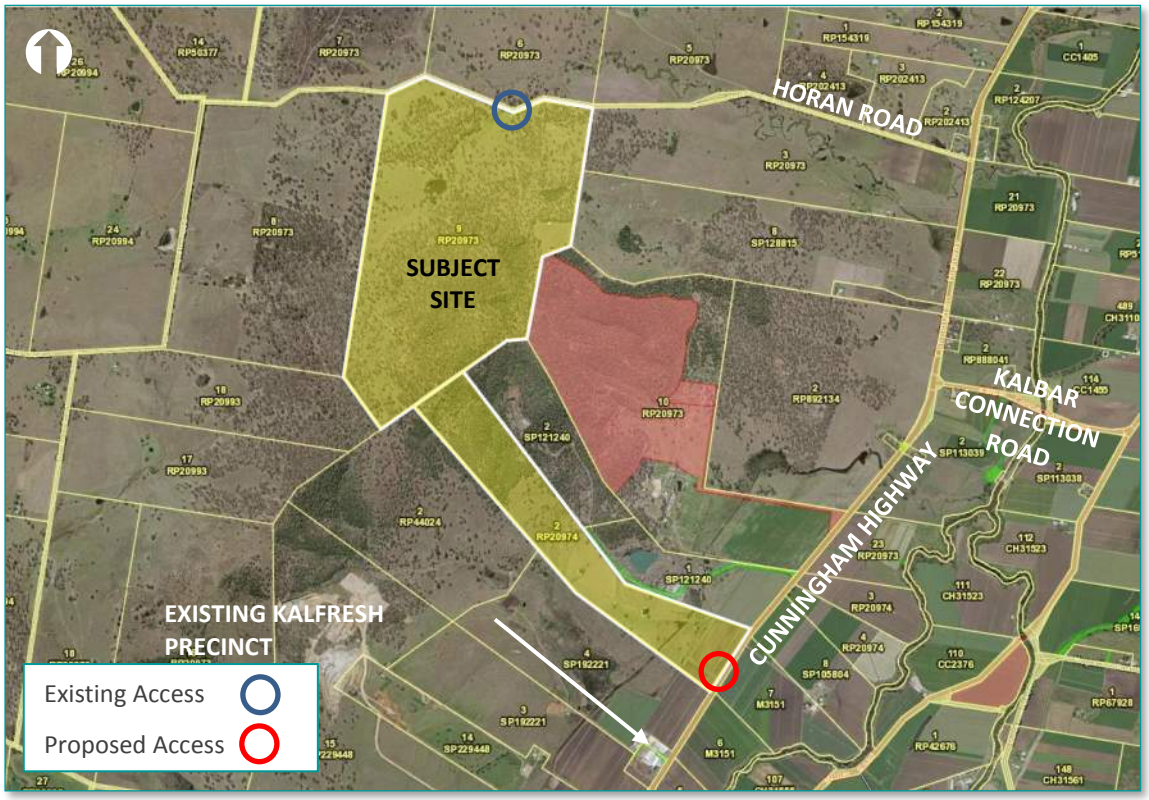
This report begins by summarising the characteristics of the existing road network and traffic operations (Chapter 2), followed by a description of the scope and scale of the proposed development, including a consideration of the access operations, traffic generation, and distribution of development traffic (Chapter 3). Proposed upgrades to the local road network are identified in Chapter 4 with a road safety assessment included at Chapter 5. The report concludes with a summary of key findings (Chapter 6).

2.0 EXISTING CONDITIONS

2.1 Subject Site

The subject site is located at Horan Road, Frazerview and Cunningham Highway, Kalbar. It is formally identified as Lot 9 on RP20973 (quarry site) and Lot 2 on RP20974 (haul road access) and includes a total area of 215.6 hectares. An aerial view of the subject site is shown in Figure 2.1.

Figure 2.1: SUBJECT SITE



The subject site is bounded as follows:

- to the north by Horan Road
- to the south and west by rural land
- to the east by rural land and the Cunningham Highway

The subject site is zoned as "Rural" according to the Boonah Shire Planning Scheme 2006 (the current planning scheme for this area of the Scenic Rim). The surrounding area accommodates predominantly rural uses.

2.2 Existing Use

The subject site currently accommodates low intensity rural / agricultural uses.

2.3 Access

As shown in Figure 2.1, the subject site has an existing access on Horan Road. There is no existing access along the site frontage with the Cunningham Highway.

2.4 Road Network

Key attributes of the surrounding road network are summarised in Table 2.1.

Table 2.1: ROAD NETWORK ATTRIBUTES

ATTRIBUTE	CUNNINGHAM HIGHWAY	HORAN ROAD
Road Hierarchy	Highway	Rural Collector Road
Cross-section	Undivided, with a 3.5m wide traffic lane and a 2.0m wide sealed shoulder in each direction	Undivided with single lane sealed and unsealed sections
Surface	Bitumen	Part Bitumen and Part Gravel
Kerb and Channel	No	No
Speed Limit (km/h)	100	100[1]
Jurisdiction	DTMR	Scenic Rim Regional Council
Predominant Land Use	Rural	Rural

The Cunningham Highway forms part of the state-controlled road network and is administered by the Department of Transport and Main Roads (DTMR). It is an important trade and freight route to and from Brisbane and therefore carries a large proportion of heavy vehicle traffic, including b-doubles.

In the vicinity of the subject site, it has a pavement width of approximately 11.0m comprising a single lane of traffic and a sealed shoulder in each direction. The posted speed limit on the Cunningham Highway adjacent to the site is 100km/hr.

Horan Road is a rural collector road that runs west from a priority-controlled (stop sign) T-intersection with the Cunningham Highway. It has sections which have a single lane sealed cross-section (ie a sealed width of 4.0 – 4.5m with unsealed shoulders for vehicle passing) and unsealed sections with a carriageway width of approximately 6.0m.

There is a crest immediately to the north of the intersection of the Cunningham Highway and Horan Road, which restricts sight distance in this direction.

[1] There is no posted speed on Horan Road so the default speed limit for a non-built up area applies (ie 100km/h). However, operating speeds are likely to be significantly less than 100km/h.

2.5 Traffic Volumes

We have obtained 2017 average annual daily traffic (AADT) data from DTMR for the Cunningham Highway from a nearby counter site (identification number 10014). This counter site is located approximately 3km to the north of the subject site frontage with the Cunningham Highway (or 700m north of the intersection with Horan Road). The data shows that the 2017 AADT volumes on this section of the Cunningham Highway were as follows:

- 2,600 vehicles per day (vpd) travelling in the northbound direction (with 29% heavy vehicles)
- 2,620 vpd travelling in the southbound direction (with 27% heavy vehicles)
- 5,220 vpd two-way (with 28% heavy vehicles)

In terms of peak hour volumes on Cunningham Highway, the AADT data indicates that the Monday – Saturday peak hour is approximately 9% of the bidirectional AADT flow (comprising 8% in the northbound direction and 10% southbound). Based on this data, we estimate that the 2017 peak hour volumes are as follows:

- 210 vehicles per hour (vph) travelling in the northbound direction
- 260 vpd travelling in the southbound direction
- 470 vph two-way

2.6 Kalfresh Precinct

Kalfresh is an existing vegetable processing business located at 6206 Cunningham Highway, Kalbar (formally identified as Lot 2 and 4 on SP192221, and Lot 1 on RP216694). As shown at Figure 2.2, the Kalfresh precinct has a three existing points of access to / from the Cunningham Highway. None of these existing driveways are supported by any auxiliary turn treatments on the Cunningham Highway.

Figure 2.2: KALFRESH PRECINCT

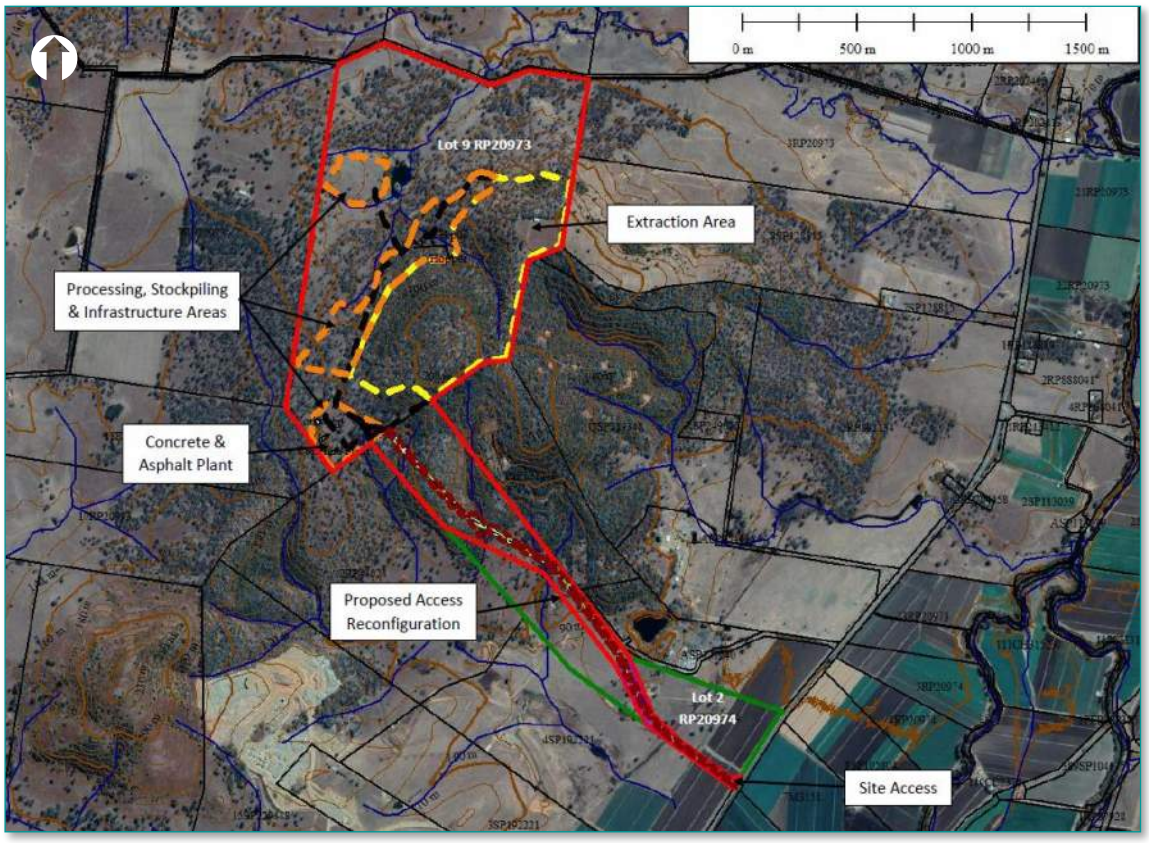
3.0 PROPOSED DEVELOPMENT

3.1 Development Details

It is proposed to obtain development approval for a hard-rock quarry with a maximum extraction rate of up to 1,200,000 tonnes per annum of trachyandesite (suitable for road base, aggregates, rail ballast etc). The extraction areas would be split into two stages and there would be on-site concrete batching and asphalt manufacturing plants.

The proposed hours of operation for the quarry are six days (Monday to Saturday) a week from 6:00am to 6:00pm, with possible seven days a week (ie Monday to Sunday) and 24-hour operations during periods of peak demand. The indicative on-site layout of operations is shown in Figure 3.1 and included in Appendix B.

Figure 3.1: SITE LAYOUT



3.2 Access

Location and Arrangements

The quarry would be accessed from a new intersection on the Cunningham Highway via a boundary realignment through Lot 2 on RP20974. The proposed intersection on the Cunningham Highway would be located at chainage 53.8km, approximately 1.8km north of Boonah-Fassifern Road and 2.0km south of Kalbar Connection Road. The form and design of the intersection is discussed in more detail in Section 4.0.

The proposed access on the Cunningham Highway would be utilised by all quarry traffic including both light and heavy vehicles. The existing site access via Horan Road would be retained for emergency access only.

In addition to serving the quarry, the new intersection would also provide access to the existing Kalfresh precinct located at 6206 Cunningham Highway. The Kalfresh precinct has three existing points of access to the Cunningham Highway, none of which are supported by any auxiliary turn treatments. The use of the new site access intersection by traffic from the Kalfresh precinct would have a safety benefit in terms of:

- rationalising access to the state-controlled road
- reducing the use of substandard access and replacing it with a much higher standard access (with significantly greater sight distance and auxiliary turn treatments)

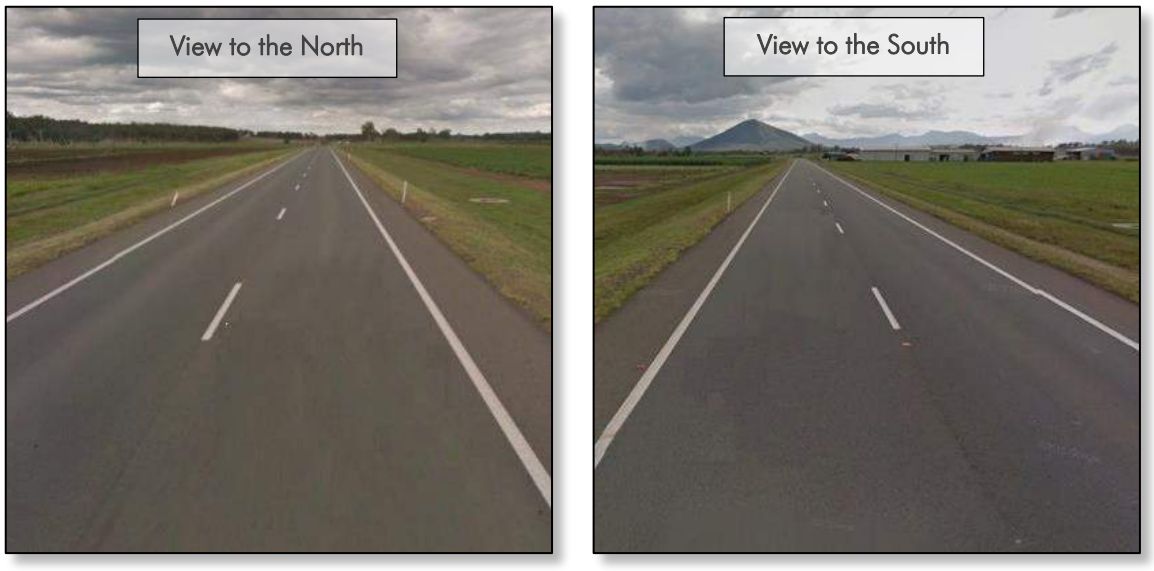
It is understood that Kalfresh would enter into a legal agreement with Wagners to formalise the use of the site access road. The connection to Kalfresh would need to have sufficient separation from the access intersection with the Cunningham Highway (ie greater than 50m) and would be the subject of detailed design. However, this does not form part of this application.

Sight Distance

Based on a design speed of 110km/h, the minimum approach sight distance (ASD) is calculated to be 209m for cars and 241m for trucks (adopting a driver reaction time of 2.5 seconds). Similarly, the minimum safe intersection sight distance (SISD) is calculated to be 300m for cars and 367m for trucks (adopting a driver reaction time of 2.5 seconds).

The proposed access is located on a straight section of the Cunningham Highway with a flat grade. We estimate that the available sight distances at the new intersection would be well in excess of 500m in both directions (as shown in Figure 3.2). Therefore, available sight distance at the site access would comfortably exceed the desirable minimum SISD values from the Austroads (2017) "Guide to Road Design Part 4A: Unsignalised and Signalised intersections" and achieve sufficient sight distance for drivers approaching and entering the intersection.

Figure 3.2: SIGHT DISTANCE – SITE ACCESS DRIVEWAY LOCATION



3.3 Traffic Generation

Quarry Traffic

The daily and peak hour traffic generation for the quarry has been estimated based on the expected annual production levels, the hours and days of operation and average truck capacity, as outlined in Table 3.1.

Table 3.1: ESTIMATED QUARRY TRUCK VOLUMES

OPERATING DETAILS	MAXIMUM PRODUCTION
Annual Production	1,200,000 tonnes/year
Days per year operation (Monday – Saturday)	300 days/year
Hours per day operation	12 hours/day
Average truck payload	32 tonnes/truck
Average daily truck numbers	250 two-way movements (125 arrivals and 125 departures)
Average peak hour truck numbers	22 two-way truck movements (11 arrivals and 11 departures)
Staff daily traffic movements (20 employees)	40 two-way movements (20 arrivals and 20 departures)
Staff peak-hour traffic movements (20 employees)	20 two-way movements (16 arrivals and 4 departures in the morning with 4 arrivals and 16 departures in the evening peak hour)

It is expected that there would be some peaks and troughs associated with the haulage of quarry materials to / from the site. However, it has been assumed that truck movements would be uniform throughout the day.

has been assessed as a uniform flow throughout the day; The on-site concrete batching and asphalt manufacturing plants are not expected to result in any significant traffic generation in their own right. This is because the majority of inputs will come internally (ie from the quarry) and the outputs essentially replace raw materials with processed products. Therefore, additional movements would be limited to occasional deliveries (eg sand).

Existing Kalfresh Traffic

The existing traffic generation of the Kalfresh precinct has been estimated (by others) as follows:

- 416 daily two-way traffic volumes
- 42 peak-hour two-way traffic volumes

It is expected that the traffic generated by the Kalfresh precinct would have a heavy vehicle proportion in the order of 20%.

3.4 Traffic Distribution

The majority of extracted material would be transported via the Cunningham Highway towards Ipswich and Brisbane with a 90%:10% north:south split anticipated. In terms of staff trips, these are expected to drawn from the local area with a 50%:50% north:south split.

The traffic associated with the existing Kalfresh precinct is also expected to have a 50%:50% north:south split.

3.5 Vehicle Types

The Cunningham Highway is part of the Performance Based Standards (PBS) Level 2B network, which permits vehicles up to 30m in length. It is expected that the largest vehicles to access the quarry would be a 25 - 26m long B-double vehicle. However, 30m long A-double vehicles may also be used to haul quarry material.

All heavy vehicles travelling to and from the subject site are expected to be within legal loading limits and would be restricted to the approved multi-combination network. Therefore, no permits for the use of the state-controlled road network are anticipated to be required.

4.0 ACCESS DESIGN

4.1 Warrants for Auxiliary Turn Lanes

We have undertaken an assessment of the appropriate turn treatments by applying the warrants set out in the DTMR Road Planning Design Manual (RPDM) and the Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections. The assessment of the warrants is based on the Normal Design Domain (NDD) criteria for a road with a design speed of greater than or equal to 100 km/h.

We have estimated the peak hour volumes on Cunningham Highway using the 2017 AADT data as outlined in Section 2.5. The peak hour traffic volumes for the Cunningham Highway have been estimated for the predicted opening year (2020) and future year (2030) using a 2.0% background compounding growth rate (as detailed in Section 5.2).

The value of the major road peak hour traffic volume parameter (Q_M) for both the left and right turns at 1,200,000 tonnes production level and incorporating Kalfresh traffic have been calculated as follows:

2020 Peak Hour		2030 Peak Hour	
Q_L:	24 veh/h	Q_L:	24 veh/h
Q_M (left):	220 veh/h	Q_M (left):	270 veh/h
Q_R:	32 veh/h	Q_R:	32 veh/h
Q_M (right):	515 veh/h	Q_M (right):	625 veh/h

Figure 4.1: WEEKDAY PEAK – FUTURE YEAR TRAFFIC VOLUMES

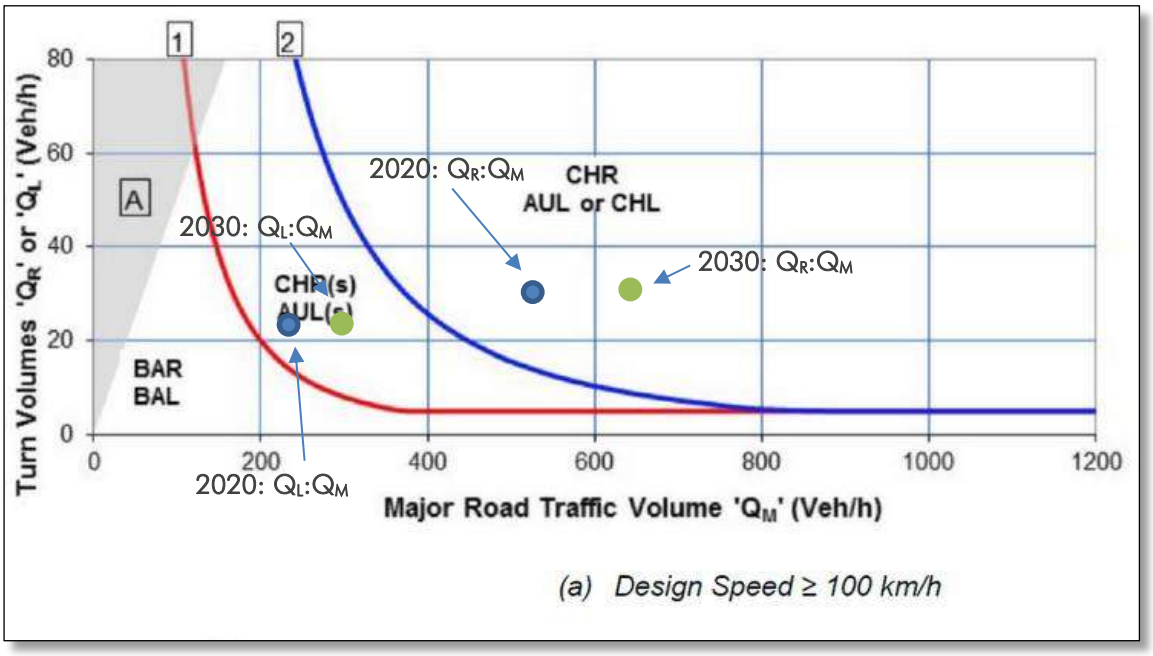


Figure 4.1 demonstrates that for both the opening (2020) and design year (2030) intersection operations, a short auxiliary left turn lane (AUL(S)) and full-length channelised right turn lane (CHR) treatments are warranted.

However, given the significant number of heavy vehicles making a left turn from the Cunningham Highway into the new access road, it is considered that an offset rural channelised left-turn lane (CHL) treatment (as detailed in the RPDM Supplement to the Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections) would perform better than a typical AUL treatment. This treatment improves the sight distance for vehicles turning (right) out of the minor road and would enhance intersection safety.

4.2 Acceleration Lanes

Section 2.3.5 of Austroads Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings deals with determining the need for acceleration lanes and confirms that there are no simple numerical warrants for their provision. Typically, they are only provided where:

- insufficient gaps exist for vehicles to enter a traffic stream
- turning volumes are high (eg 300 to 500 vehicles per hour)
- the observation angle falls below the requirements of the minimum gap sight distance model (for example, inside of horizontal curves)
- heavy vehicles pulling into the traffic stream would cause excessive slowing of major road vehicles

Therefore, we must turn our attention to a subjective assessment of the four dot points listed above. In the subject case, the first three requirements are not met, and it is questionable whether the movement of trucks from the subject site onto the Cunningham Highway would result in the excessive slowing of major road traffic. This is because of:

- the low number of truck movements anticipated per hour (ie less than 20 noting that the heavy vehicle movements associated with Kalfresh are existing)
- the moderate traffic volumes on the adjacent section of the Cunningham Highway
- the excellent sight distance available at the access in both directions
- the significant gaps available for trucks to turn onto the Cunningham Highway without impeding other vehicles

However, the development would generate a significant number of quarry trucks turning left from the subject site and travelling northbound on the Cunningham Highway (ie 110 trucks per day and 10 trucks per hour). Therefore, it is considered that a channelised left turn (CHL) treatment (on the minor road) with an acceleration lane in the northbound direction would be appropriate.

The quarry is predicted to generate a much lower number of quarry trucks turning right from the subject site and travelling southbound on the Cunningham Highway (ie 12 trucks per day and one truck per hour). At these levels, the truck movements are not expected to result in the excessive slowing of vehicles travelling in the southbound direction.

However, in order to accommodate the potential future expansion of the Kalfresh precinct (without the need for future intersection upgrades), a southbound acceleration lane (provided via a rural seagull treatment) has been incorporated into the intersection design.

Based on the Austroads requirements for new acceleration lanes to provide sufficient length to allow heavy vehicles to accelerate to a speed no less than 20km/h less than the mean free flow speed (ie 100km/h), both acceleration lanes would need to be in the order of 910m (based on a flat grade).

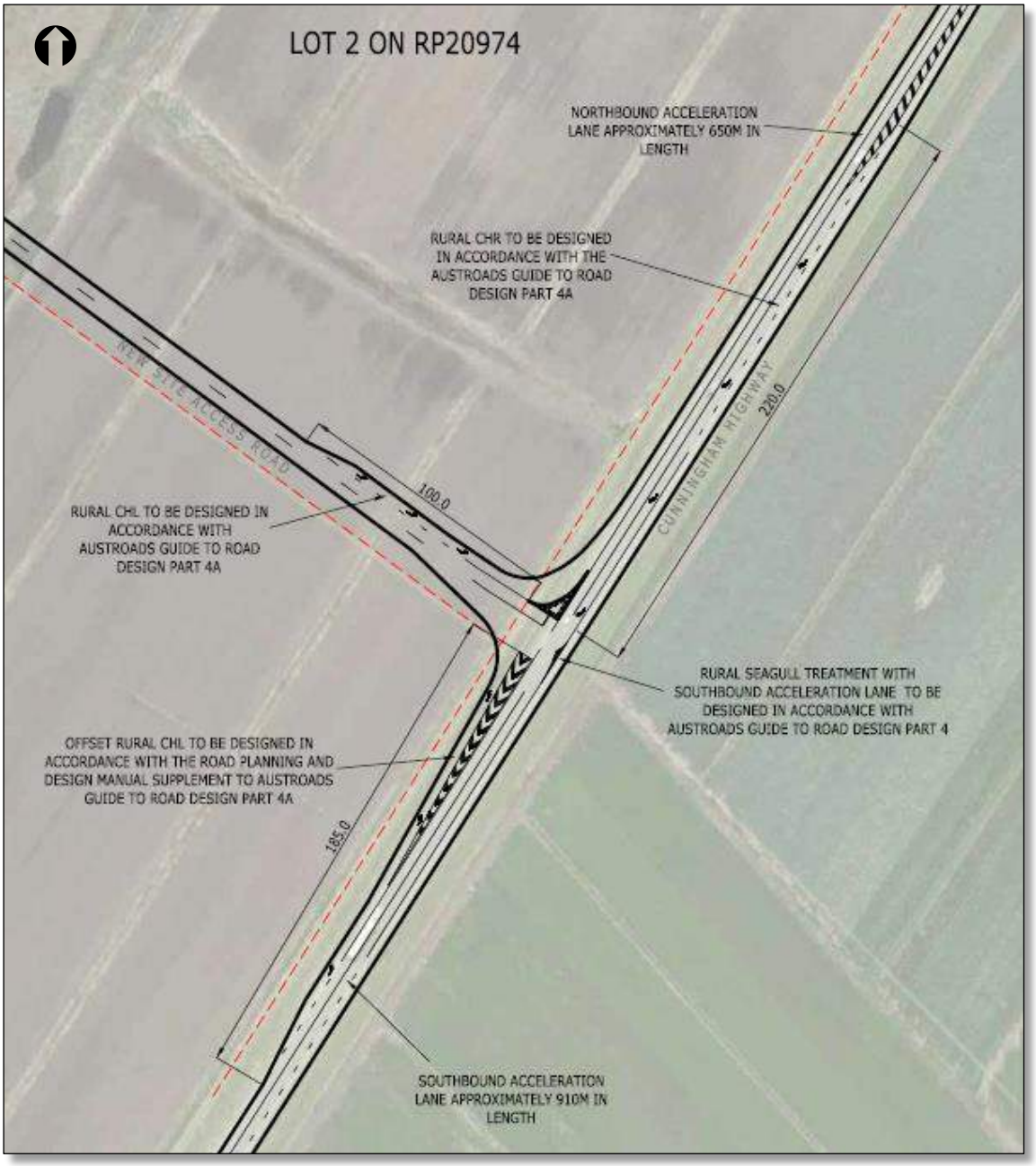
To the north, an acceleration length in the order of 650m could be achieved. The available length is limited by the existing AUL(S) associated with the site access to 6066 and 6089 Cunningham Highway. To the south, the full 910m could be provided, with the acceleration lane terminating before the CHR treatment at Frazerview Road.

Based on the above, the site access intersection with the Cunningham Highway would incorporate the following auxiliary treatments:

- an (rural) offset channelised left turn (CHL)
- a (rural) full-length channelised right turn deceleration lane (CHR)
- a (rural) channelised left turn (CHL) with a northbound acceleration lane
- a (rural) seagull treatment with a southbound acceleration lane

The design of the turn treatments would be in accordance with the RPDM and the Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections. A concept functional layout plan is shown in Figure 4.2 and attached in Appendix C.

Figure 4.2: CUNNINGHAM HWY / SITE ACCESS CONCEPT FUNCTIONAL LAYOUT



5.0 TRAFFIC OPERATIONS

5.1 Development Staging

It is standard practice when analysing future year traffic operations to adopt a ten-year design horizon from the year of full occupation. Therefore, the following development staging has been adopted:

- Traffic Data: 2017
- Development Application: 2019
- Opening Year: 2020
- Opening plus 10 years (Design Year): 2030

5.2 Background Traffic Growth

A background traffic growth rate of 2.0% per annum has been adopted. This is consistent with the historical growth in the average annual daily traffic (AADT) volumes on this section of the Cunningham Highway (attached in Appendix B) over the past five years. The application of this rate equates to a 29% increase in traffic volumes between 2017 and the 2030 design year.

5.3 Traffic Generation and Distribution

The traffic generation and distribution of the proposed quarry and existing Kalfresh traffic is estimated in Section 3.3 and 3.4 respectively.

5.4 Access Intersection Performance

A SIDRA analysis of the Cunningham Highway / Site Access priority-controlled intersection was undertaken using the intersection layout as shown in Figure 5.1. This layout is based on the proposed intersection concept plan shown in Figure 4.2. The results of these analyses are attached in Appendix D, and are summarised in Table 5.1

Table 5.1: CUNNINGHAM HIGHWAY / SITE ACCESS INTERSECTION OPERATIONS

PEAK HOUR & SCENARIO	DOS	95% QUEUE (VEH)	CRITICAL MOVEMENT
Weekday Morning Peak			
2020 Post Development	19%	0.2	North: Cunningham Highway - Ahead
2030 Post Development	23%	0.2	North: Cunningham Highway - Ahead
Weekday Evening Peak			
2020 Post Development	19%	0.2	North: Cunningham Highway - Ahead
2030 Post Development	23%	0.2	North: Cunningham Highway - Ahead

Figure 5.1: SIDRA REPRESENTATION OF SITE ACCESS LAYOUT

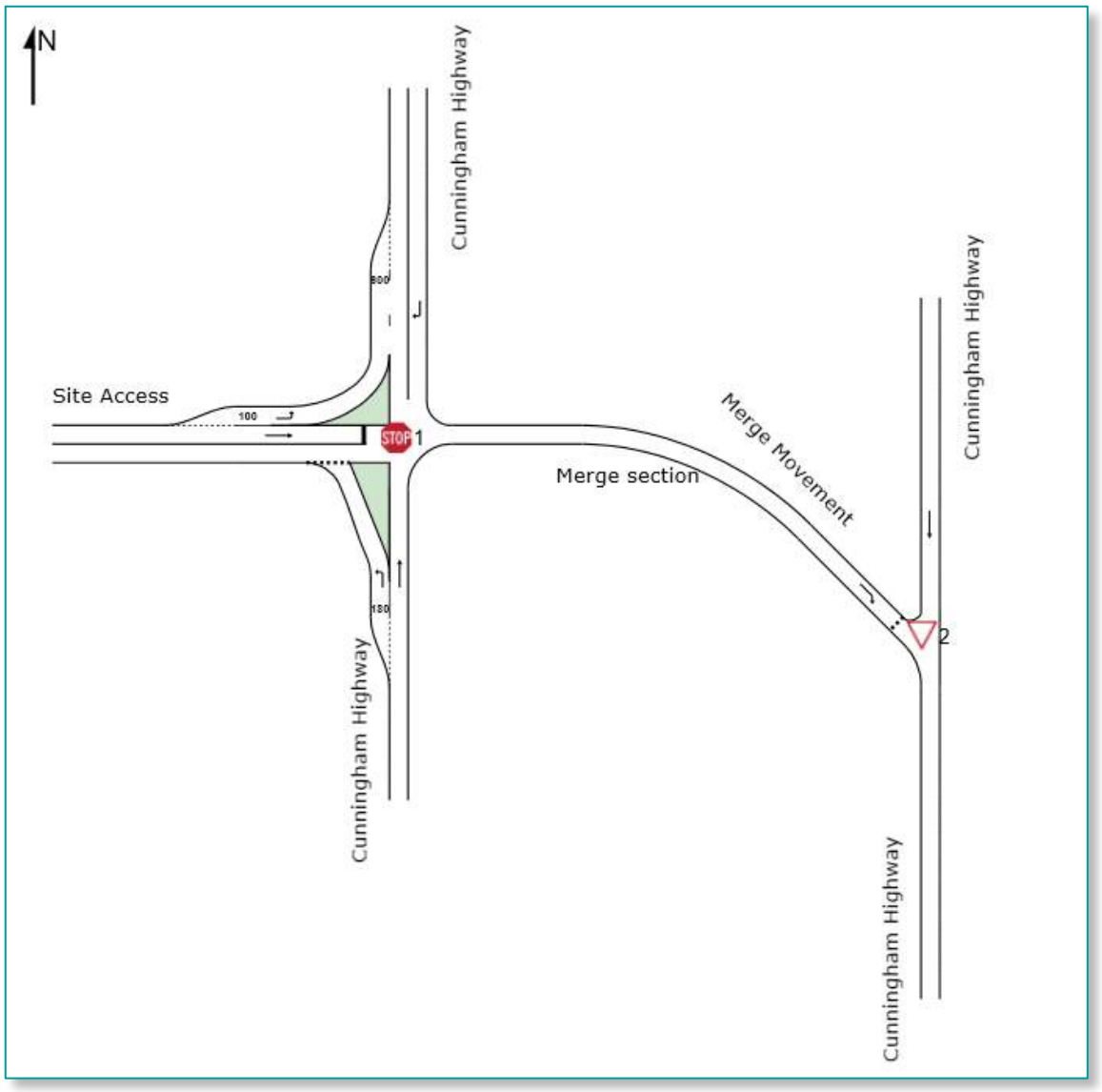


Table 5.1 demonstrates that the Cunningham Highway / Site Access intersection is expected to experience "excellent" operations during all periods. In all post-development scenarios, the 95th percentile queue lengths are predicted to be minimal.

6.0 ROAD SAFETY ASSESSMENT

6.1 Crash History

The road safety data has been obtained and assessed to determine the crash history on the external road network in proximity to the proposed site access intersection and the existing Kalfresh access. As shown in Figure 6.1, there were four crashes recorded in the vicinity of the site access intersection. These crashes are summarised as follows:

1. 2001: a vehicle struck another vehicle travelling in the same direction while overtaking (hospitalisation)
2. 2005: a single vehicle veered off the Cunningham Highway on a bend (property damage)
3. 2005 a single vehicle car hit an object (minor injury)
4. 2011: a vehicle struck another while leaving a driveway (minor injury)

There have been no reported crashes on this section of the Cunningham Highway since 2012.

Figure 6.1: CRASH HISTORY

It is typically accepted as a rule of thumb that a crash rate of one crash per year over a five-year period indicates that a safety issue is present. Therefore, the reported crash data does not indicate that there is an existing significant road safety issue along this section of the Cunningham Highway.

6.2 Risk Assessment

A road safety risk assessment has been undertaken in accordance with the DTMR Guide to Traffic Impact Assessment (GTIA). The GTIA outlines that:

> *"Safety is not readily quantifiable as efficiency and is scored based on expert opinion on the changes to likelihood and / or consequence of a risk being realised. The condition of road cannot be defined absolutely as being safe or unsafe. Rather, road safety is a relative measure benchmarked against an existing condition or an acceptable risk threshold."*

The traffic safety risks were identified and then scored using the risk scoring matrix outlined in the GTIA as shown in Figure 6.2. These identified risks relate to the increase in traffic movements at the new site access associated with the proposed development.

Figure 6.2: SAFETY RISK SCORE MATRIX

		Potential consequence				
		Property only (1)	Minor injury (2)	Medical treatment (3)	Hospitalisation (4)	Fatality (5)
Potential likelihood	Almost certain (5)	M	M	H	H	H
	Likely (4)	M	M	M	H	H
	Moderate (3)	L	M	M	M	H
	Unlikely (2)	L	L	M	M	M
	Rare (1)	L	L	L	M	M

L: Low risk
M: Medium risk
H: High risk

The outcomes of the risk assessment are identified in Table 6.1 and are discussed.

Table 6.1: ROAD SAFETY RISK ASSESSMENT

RISK ITEM	EXISTING – WITHOUT DEVELOPMENT			PROPOSED – WITH DEVELOPMENT			MITIGATION MEASURES
	Likelihood	Consequence	Risk	Likelihood	Consequence	Risk	
Traffic turning left into Site Access – potential rear-end collisions	-	-	-	1	4	M	Offset CHL turn treatment recommended
Traffic turning right into Site Access – potential rear-end and side-swipe collisions	-	-	-	3	4	M	CHR turn treatment recommended
Traffic turning left from Site Access – potential side-swipe collisions and rear-end collisions due to speed differential	-	-	-	3	4	M	Minor road CHL with acceleration lane recommended
Traffic turning right from Site Access – potential side-swipe collisions and rear-end collisions due to speed differential	-	-	-	1	4	M	Seagull treatment with acceleration lane recommended

L: Low, M: Medium, H: High

The proposed site access intersection would have CHR and CHL turn treatments, with both northbound and southbound acceleration lanes, as outlined in Section 4.0 of this report. These treatments are consistent with the outcomes of the risk assessment in Table 6.1. Therefore, no further mitigation measures have been identified beyond the intersection treatments recommended.

The risk assessment presented in Table 5.1 over-estimates the road safety impact of the development as it does not take into account the reduction of vehicle turn movements at the existing Kalfresh accesses. These accesses have no auxiliary turn treatments and the proposal represents a road safety improvement by reducing the intensification of use of a substandard access.

7.0 CONCLUSIONS

7.1 Conclusions

A proposed hard-rock quarry at Horan Road, Frazerview has been evaluated in terms of its site access arrangements and impact on the surrounding road network. The main points to note are:

- the proposed quarry would have a maximum production level of 1,200,000 tonnes of material per annum and would incorporate on-site concrete batching and asphalt manufacturing plants
- the quarry would be accessed from a new intersection on the Cunningham Highway via a boundary realignment through Lot 2 on RP20974
- in addition to serving the quarry, the new intersection would also provide access to the existing Kalfresh precinct
- the available sight distance at the site access comfortably exceeds minimum requirements from Austroads
- the predicted traffic generation is estimated to be as follows:
  - proposed quarry (1,200,000 tonnes pa): 240 daily movements and 36 peak hour movements
  - existing Kalfresh precinct: 416 daily movements and 42 peak hour movements
- it is predicted that 90% of the extracted material would be transported to the north towards Brisbane and Ipswich, with 10% transported to the south
- the largest truck type to access the proposed quarry is expected to be a 25-26m long B-double vehicle, but may include 30 – 36m A-double vehicles in the future
- the proposed development is not expected to have a major adverse impact on traffic operations on the surrounding road network
- the reported crash data does not indicate that there is an existing significant road safety issue along this section of the Cunningham Highway
- the proposed development is not expected to have a major adverse impact on the safety of the surrounding road network

7.2 Recommendations

Based on our review, it is recommended that the Cunningham Highway / Site Access intersection incorporates the following treatments (as indicated in the concept functional layout plan shown in Figure 4.2 and attached in Appendix C):

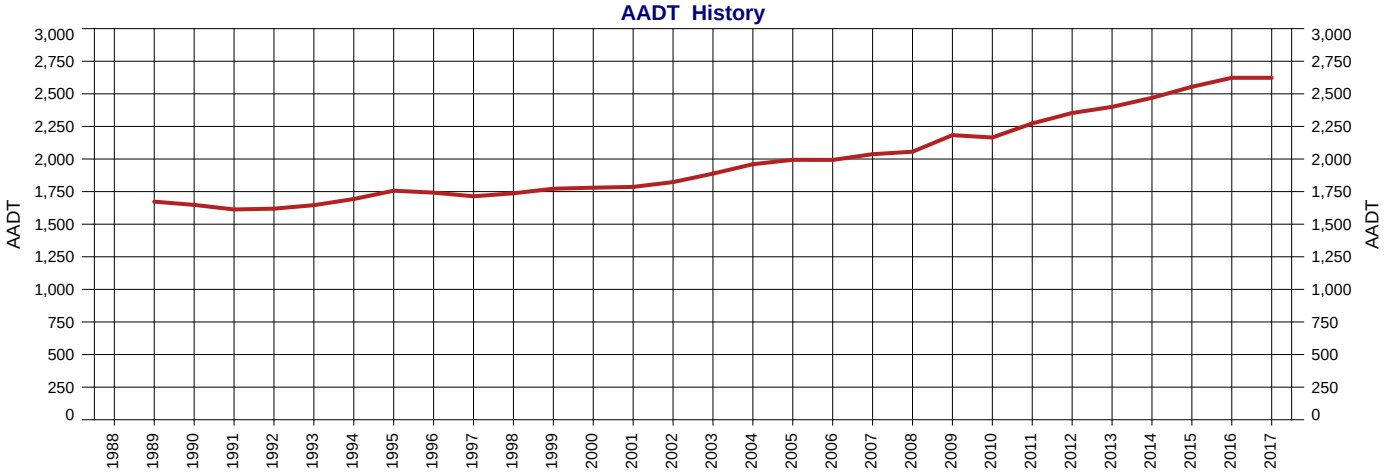
- an (rural) offset channelised left turn (CHL)
- a (rural) full-length channelised right turn deceleration lane (CHR)
- a (rural) channelised left turn (CHL) with a northbound acceleration lane
- a (rural) seagull treatment with a southbound acceleration lane

APPENDIX A
CUNNINGHAM HIGHWAY AADT DATA

Area	410 - South Coast District
Road Section	17B - CUNNINGHAM HIGHWAY (IPSWICH - WARWICK)
Site	10014 - 1.77km Nth of Kalbar Connection Rd
Thru Dist	50.06
Type	P - Permanent
Stream	T1 - Thru traffic in Lane 1 -in gazettal dirn

Year	2017	Growth last Year	0.00%
AADT	2,623	Growth last 5 Yrs	2.08%
Avg Week Day	2,623	Growth last 10 Yrs	2.50%
Avg Weekend Day	2,596		

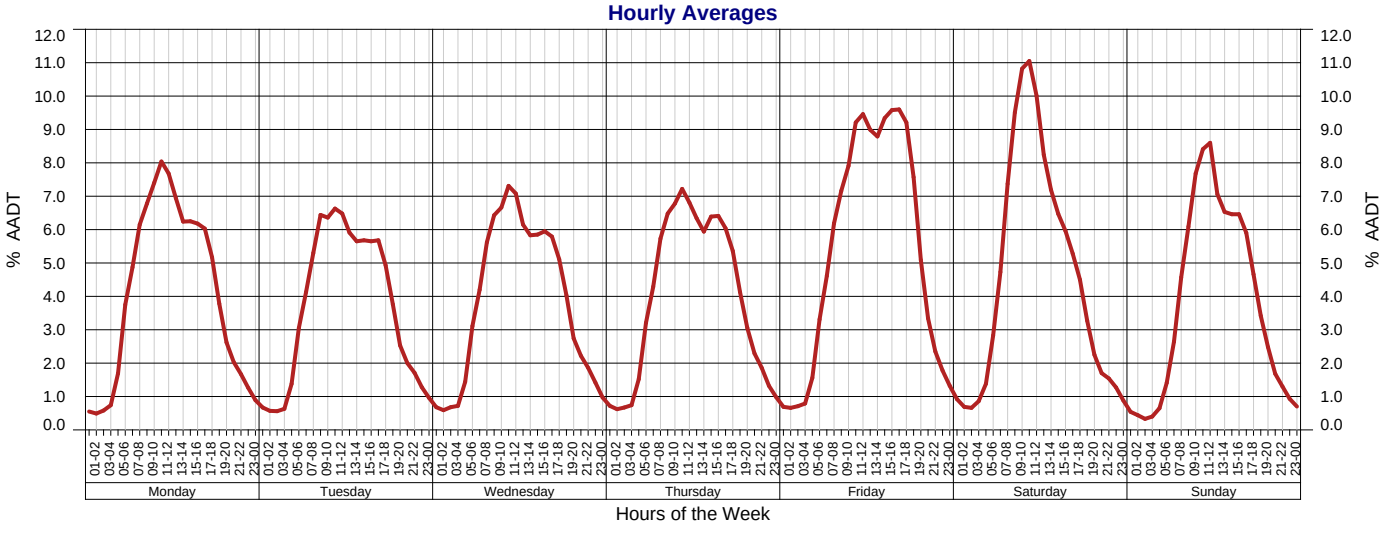
AADT History



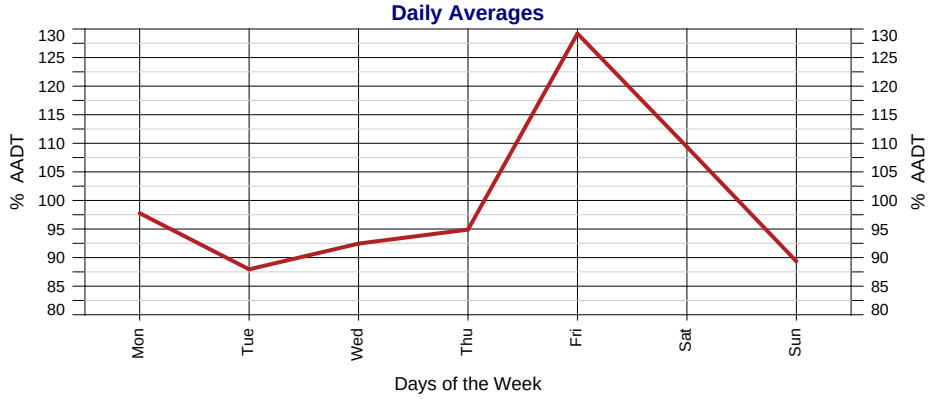
Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2017	2,623	0.00%	2.08%	2.50%
2016	2,623	2.70%	2.89%	2.89%
2015	2,554	3.44%	3.13%	2.81%
2014	2,469	2.87%	2.79%	2.61%
2013	2,400	2.00%	2.93%	2.52%
2012	2,353	3.52%	3.11%	2.59%
2011	2,273	4.99%	2.81%	2.43%
2010	2,165	-0.82%	1.87%	2.00%
2009	2,183	6.18%	2.53%	2.37%
2008	2,056	0.93%	1.43%	1.75%
2007	2,037	2.21%	1.91%	1.85%
2006	1,993	-0.05%	2.02%	1.68%
2005	1,994	1.73%	2.59%	1.77%
2004	1,960	3.81%	2.49%	1.68%
2003	1,888	3.57%	1.82%	1.32%

Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2002	1,823	2.07%	1.20%	1.01%
2001	1,786	0.34%	0.72%	0.89%
2000	1,780	0.45%	0.58%	0.93%
1999	1,772	2.01%	0.73%	0.90%
1998	1,737	1.34%	0.63%	
1997	1,714	-1.61%	0.76%	
1996	1,742	-0.85%	1.64%	
1995	1,757	3.78%	1.97%	2.01%
1994	1,693	2.86%	0.78%	2.01%
1993	1,646	1.67%		2.18%
1992	1,619	0.37%		2.26%
1991	1,613	-2.12%		2.38%
1990	1,648	-1.49%	3.44%	2.88%
1989	1,673		4.79%	3.25%
1988				

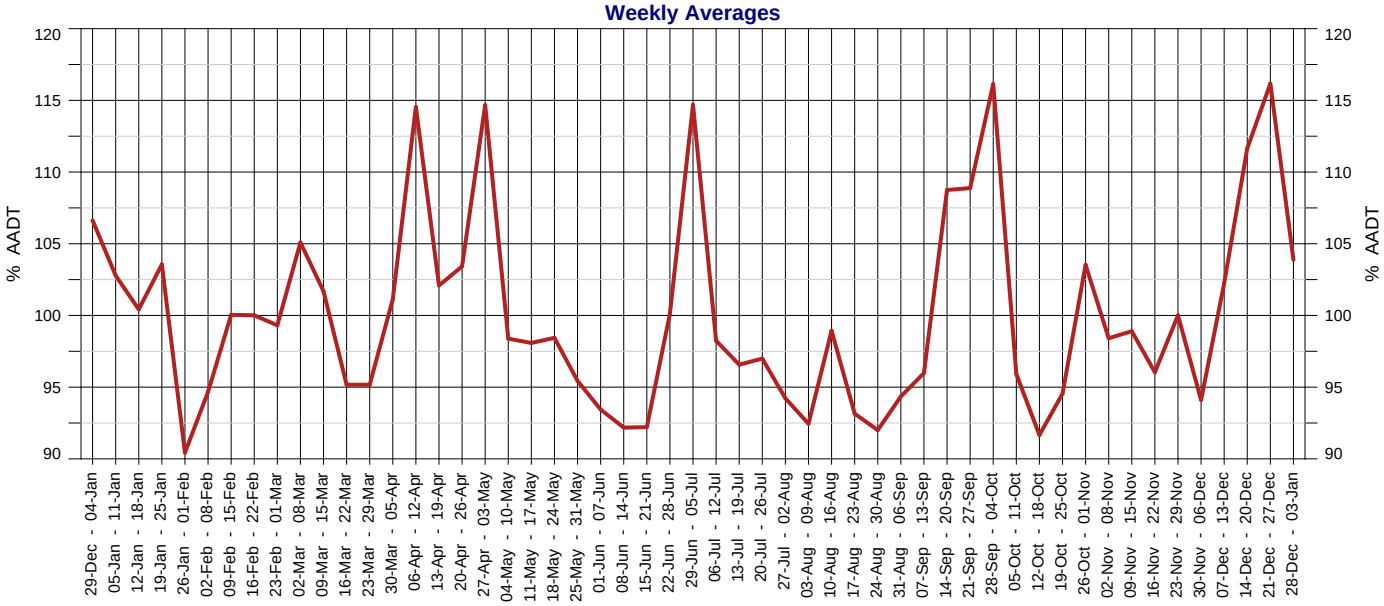
Hourly Averages



Daily Averages



Weekly Averages



2017 Calendar

January

M	T	W	T	F	S	S
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

February

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28					

March

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

April

M	T	W	T	F	S	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

May

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

June

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

July

M	T	W	T	F	S	S
31					1	2
3	4	5	6	7	8	9
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17	18	19	20	21	22	23
24	25	26	27	28	29	30

August

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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

September

M	T	W	T	F	S	S
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4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

October

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30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

November

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		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

December

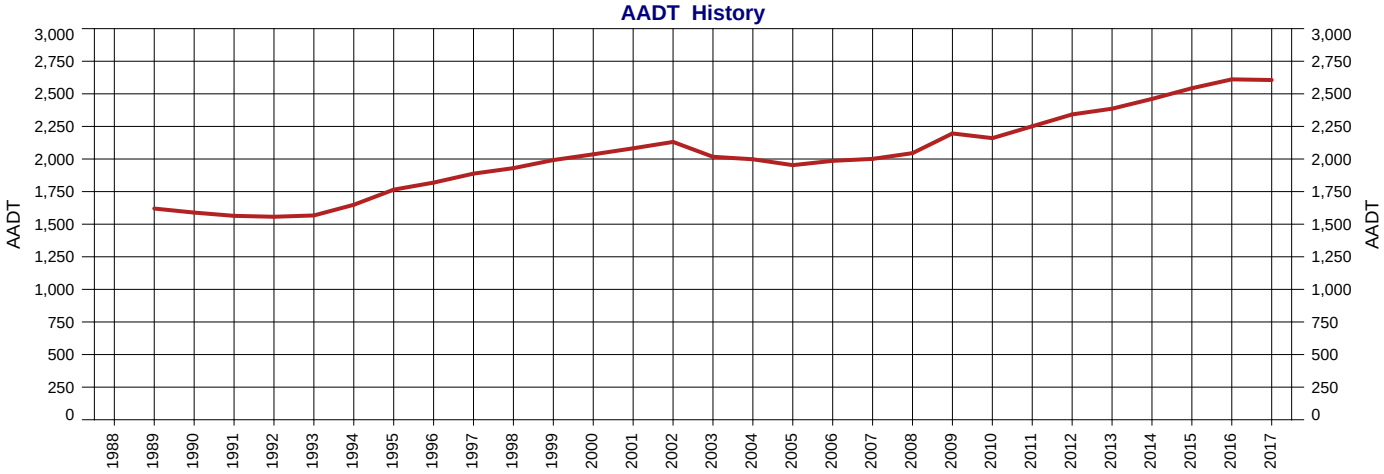
M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Days on which traffic data was collected.

Area	410 - South Coast District
Road Section	17B - CUNNINGHAM HIGHWAY (IPSWICH - WARWICK)
Site	10014 - 1.77km Nth of Kalbar Connection Rd
Thru Dist	50.06
Type	P - Permanent
Stream	T2 - Thru traffic in Lane 2 -against gazettal

Year	2017	Growth last Year	-0.19%
AADT	2,606	Growth last 5 Yrs	2.03%
Avg Week Day	2,475	Growth last 10 Yrs	2.50%
Avg Weekend Day	2,892		

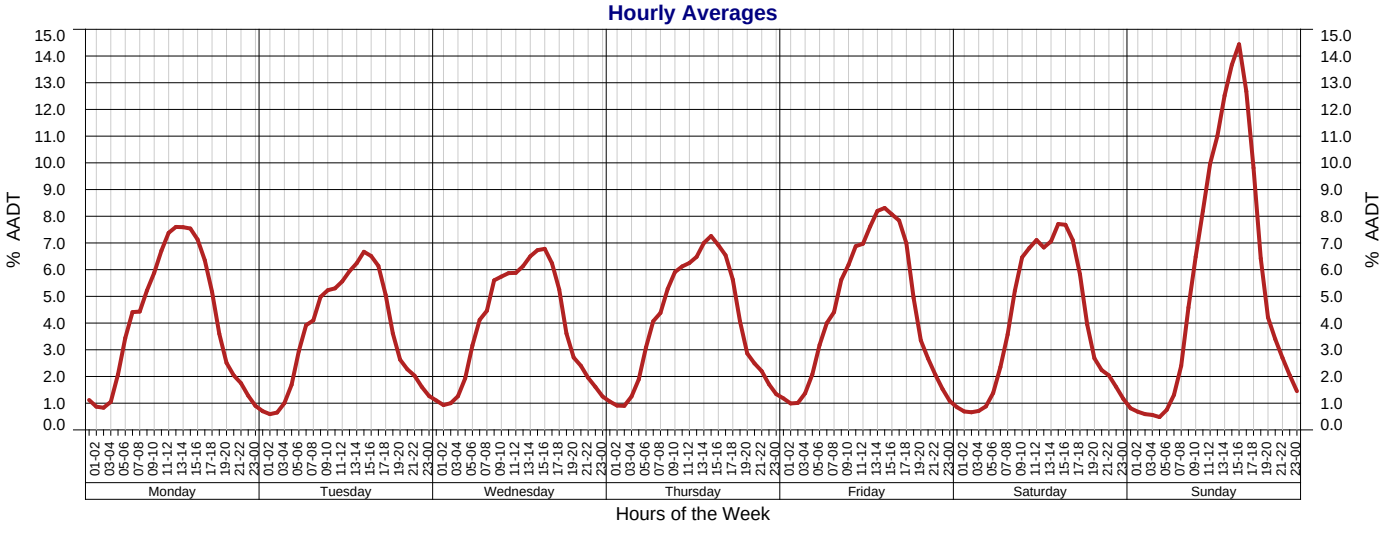
AADT History



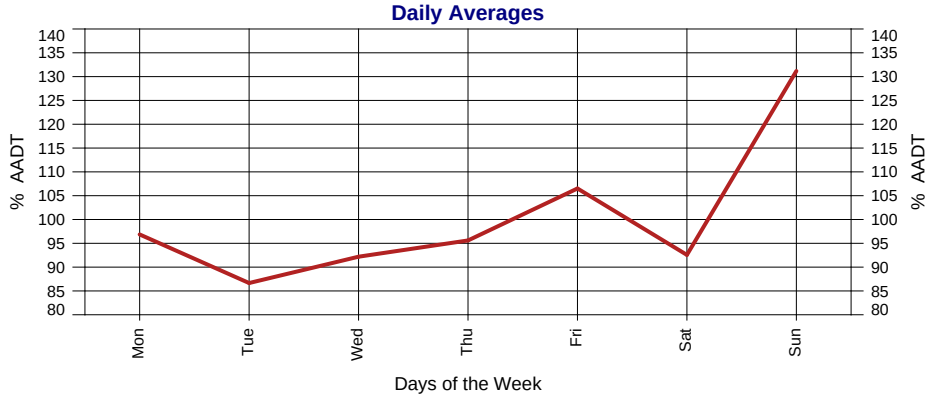
Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2017	2,606	-0.19%	2.03%	2.50%
2016	2,611	2.67%	2.94%	2.91%
2015	2,543	3.33%	3.16%	2.87%
2014	2,461	3.14%	2.74%	2.61%
2013	2,386	1.88%	2.83%	2.30%
2012	2,342	4.04%	3.18%	1.98%
2011	2,251	4.21%	2.72%	1.39%
2010	2,160	-1.64%	2.14%	0.82%
2009	2,196	7.38%	2.77%	1.12%
2008	2,045	2.20%	0.69%	0.22%
2007	2,001	0.76%	-0.52%	0.08%
2006	1,986	1.69%	-1.01%	0.22%
2005	1,953	-2.25%	-1.47%	0.28%
2004	1,998	-0.94%	-0.58%	1.06%
2003	2,017	-5.35%	0.23%	1.74%

Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2002	2,131	2.35%	2.43%	3.04%
2001	2,082	2.26%	2.59%	3.11%
2000	2,036	2.21%	2.80%	3.06%
1999	1,992	3.21%	3.40%	2.91%
1998	1,930	2.22%	3.85%	
1997	1,888	3.79%	4.25%	
1996	1,819	3.06%	3.80%	
1995	1,765	7.03%	3.12%	3.06%
1994	1,649	5.23%	1.03%	2.73%
1993	1,567	0.64%		2.56%
1992	1,557	-0.45%		2.83%
1991	1,564	-1.57%		3.12%
1990	1,589	-1.91%	4.86%	3.63%
1989	1,620		6.54%	3.83%
1988				

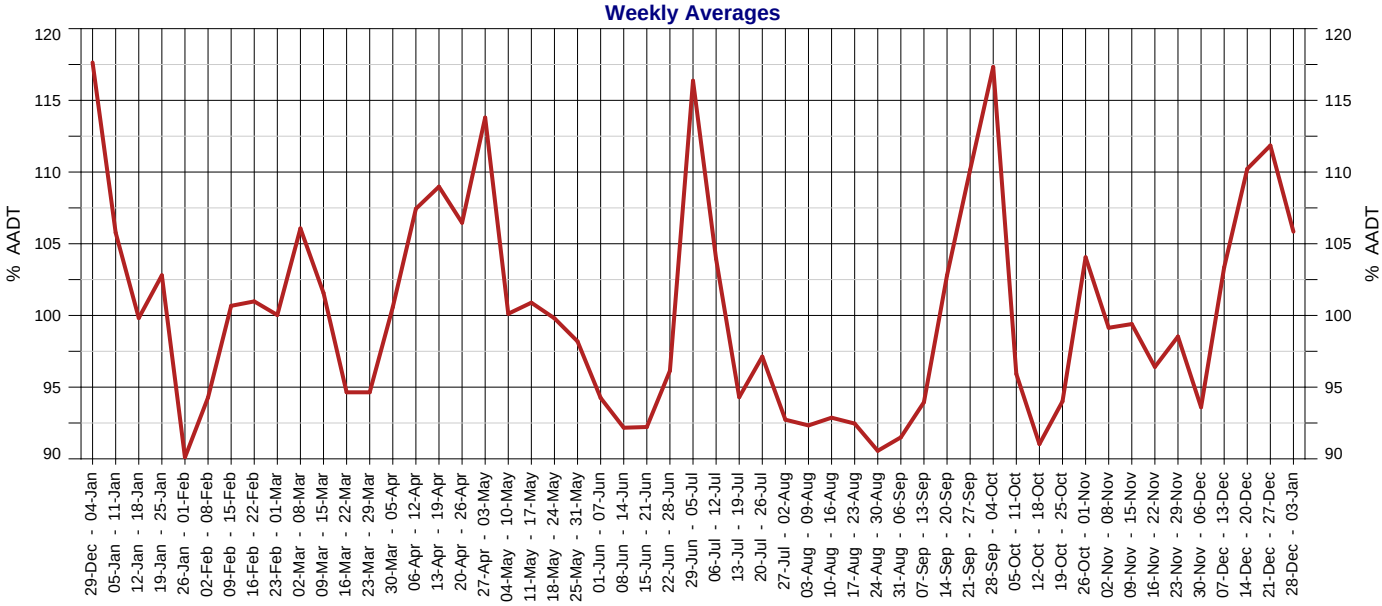
Hourly Averages



Daily Averages



Weekly Averages



2017 Calendar

January

M	T	W	T	F	S	S
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16	17	18	19	20	21	22
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February

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March

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April

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24	25	26	27	28	29	30

May

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29	30	31				

June

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19	20	21	22	23	24	25
26	27	28	29	30		

July

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17	18	19	20	21	22	23
24	25	26	27	28	29	30

August

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14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

September

M	T	W	T	F	S	S
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18	19	20	21	22	23	24
25	26	27	28	29	30	

October

M	T	W	T	F	S	S
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

November

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

December

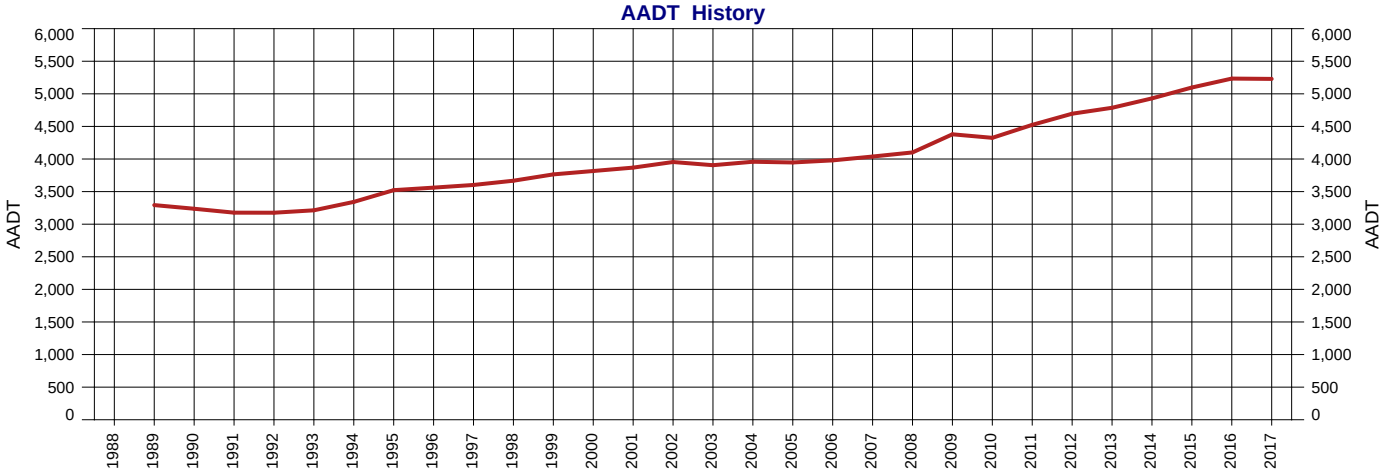
M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Days on which traffic data was collected.

Area	410 - South Coast District
Road Section	17B - CUNNINGHAM HIGHWAY (IPSWICH - WARWICK)
Site	10014 - 1.77km Nth of Kalbar Connection Rd
Thru Dist	50.06
Type	P - Permanent
Stream	TB - Bi-directional traffic flow

Year	2017	Growth last Year	-0.10%
AADT	5,229	Growth last 5 Yrs	2.06%
Avg Week Day	5,124	Growth last 10 Yrs	2.50%
Avg Weekend Day	5,490		

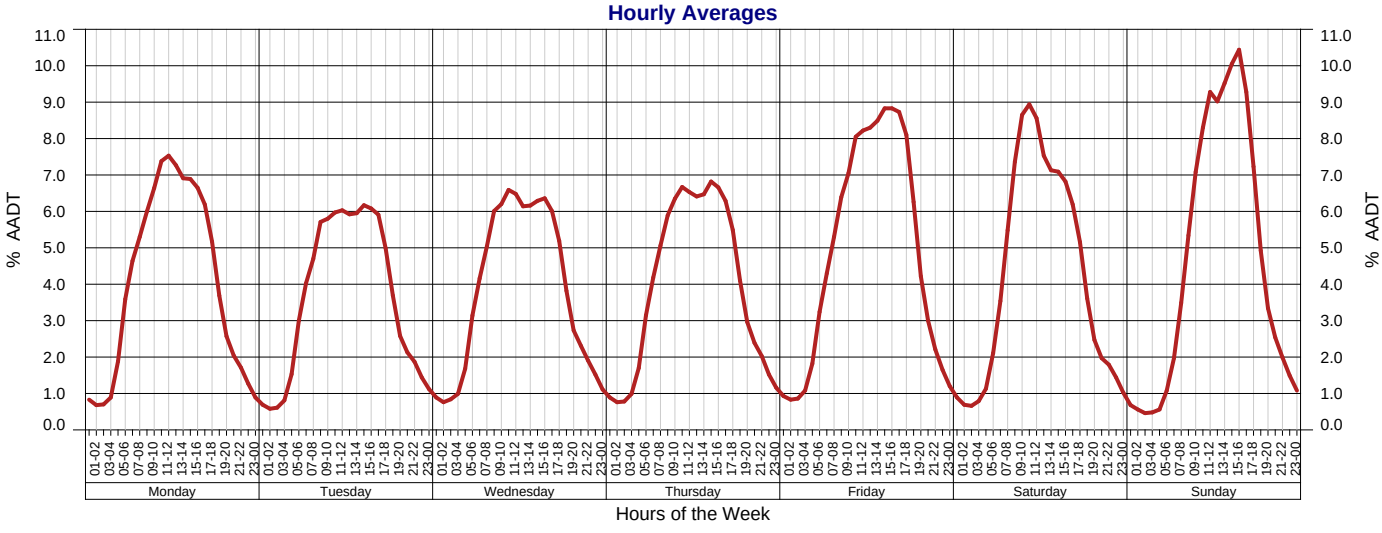
AADT History



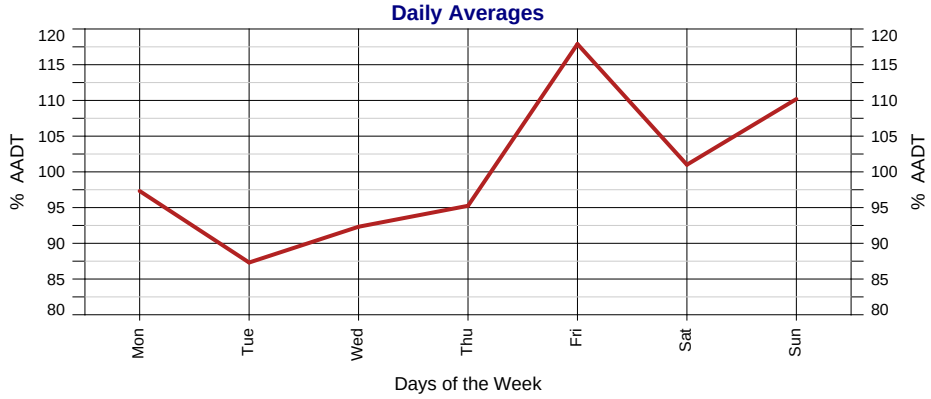
Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2017	5,229	-0.10%	2.06%	2.50%
2016	5,234	2.69%	2.91%	2.90%
2015	5,097	3.39%	3.15%	2.84%
2014	4,930	3.01%	2.77%	2.61%
2013	4,786	1.94%	2.88%	2.41%
2012	4,695	3.78%	3.15%	2.27%
2011	4,524	4.60%	2.77%	1.89%
2010	4,325	-1.23%	2.00%	1.39%
2009	4,379	6.78%	2.65%	1.72%
2008	4,101	1.56%	1.06%	0.96%
2007	4,038	1.48%	0.66%	0.94%
2006	3,979	0.81%	0.44%	0.92%
2005	3,947	-0.28%	0.48%	1.01%
2004	3,958	1.36%	0.88%	1.36%
2003	3,905	-1.24%	0.98%	1.53%

Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2002	3,954	2.22%	1.85%	2.06%
2001	3,868	1.36%	1.70%	2.03%
2000	3,816	1.38%	1.73%	2.02%
1999	3,764	2.65%	2.10%	1.92%
1998	3,667	1.80%	2.26%	
1997	3,602	1.15%	2.52%	
1996	3,561	1.11%	2.72%	
1995	3,522	5.39%	2.54%	2.52%
1994	3,342	4.01%	0.90%	2.36%
1993	3,213	1.16%		2.36%
1992	3,176	-0.03%		2.54%
1991	3,177	-1.85%		2.74%
1990	3,237	-1.70%	4.12%	3.24%
1989	3,293		5.63%	3.53%
1988				

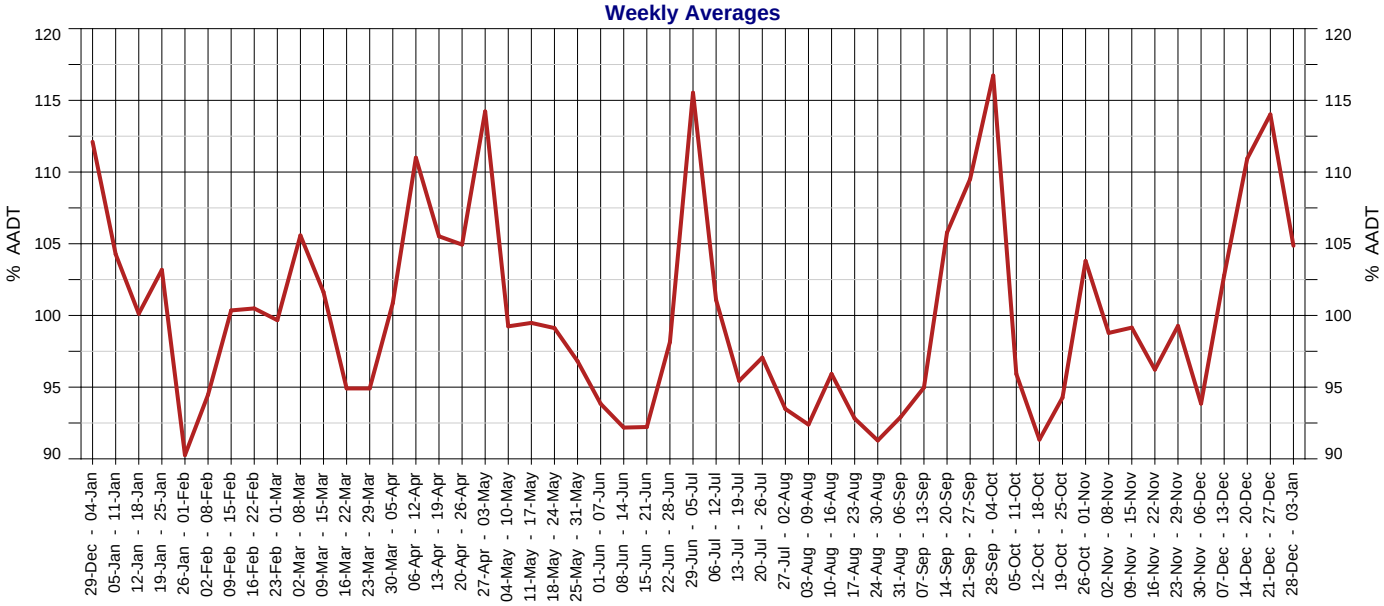
Hourly Averages



Daily Averages



Weekly Averages



2017 Calendar

January

M	T	W	T	F	S	S
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

February

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28					

March

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

April

M	T	W	T	F	S	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

May

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

June

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

July

M	T	W	T	F	S	S
31					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

August

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

September

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

October

M	T	W	T	F	S	S
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

November

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

December

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Days on which traffic data was collected.

Annual Volume Report

Displays AADT history with hourly, daily and weekly patterns by Stream in addition to annual data for AADT figures with 1 year, 5 year and 10 year growth rates.

Annual Average Daily Traffic (AADT)
Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT History
Displays the years when traffic data was collected at this count site.

Area
For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitian District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Avg Week Day

Average daily traffic volume during the week days, Monday to Friday.

Avg Weekend Day
Average daily traffic volume during the weekend.

Calendar
Days on which traffic data was collected are highlighted in green.

Gazettal Direction
Is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

Growth Percentage

Represents the increase or decrease in AADT, using a exponential fit over the previous 1, 5 or 10 year period.

Hour, Day & Week Averages
The amount of traffic on the road network varies depending on the time of day, the day of the week and the week of the year. The ebb and flow of the volume of traffic travelling through a site over a period of time forms a pattern. The Hour, Day and Week Averages are used in the calculation of AADT.

Road Section
Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site
The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Stream or Site Stream
The lane number in which the vehicles are travelling.

TB	Traffic flow in both directions
TG	Traffic flow in gazettal direction
TA	Traffic flow against gazettal direction
T1, T3, T5, T7...	Traffic flow in gazettal direction at lane level
T2, T4, T6, T8...	Traffic flow against gazettal direction at lane level

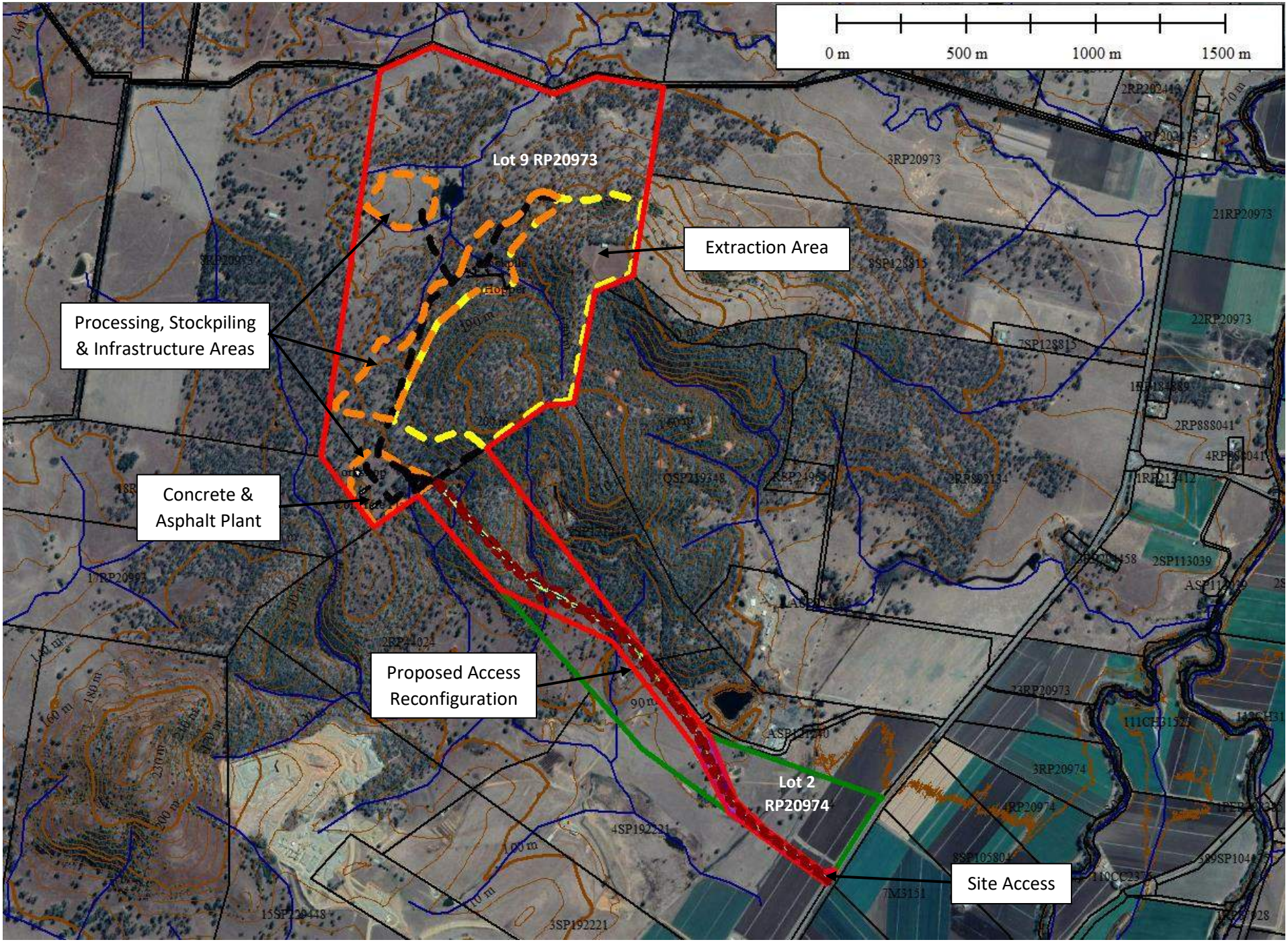
Thru Dist or TDist

The distance from the beginning of the Road Section, in kilometres.

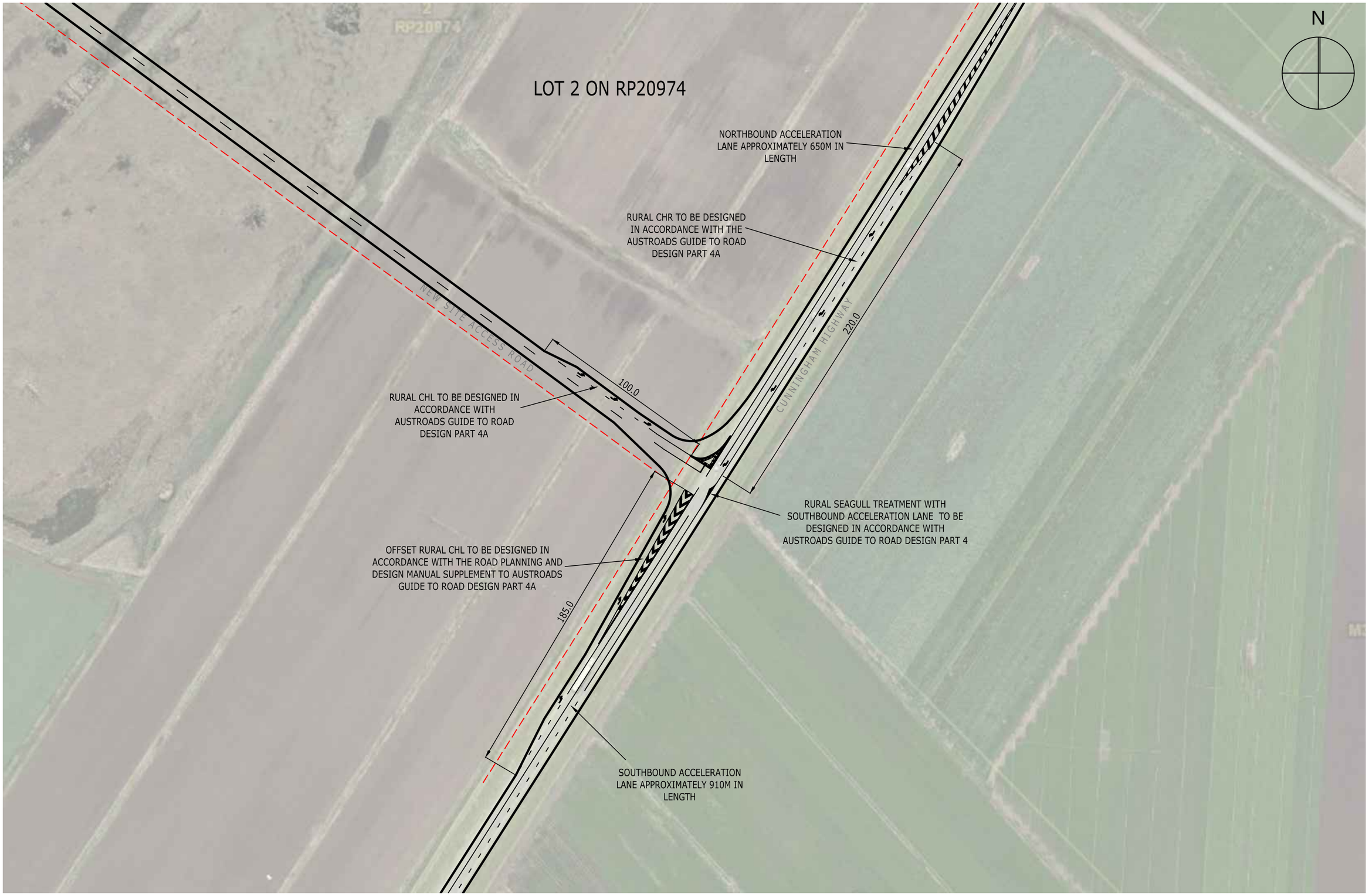
Type
There are two types of traffic counting sites, Permanent and Coverage. Permanent means the traffic counting device is in place 24/7. Coverage means the traffic counting device is in place for a specified period of time.

Year
Current year or years chosen. A separate report will be produced for each year selected.

APPENDIX B
QUARRY SITE LAYOUT


0 m
500 m
1000 m
1500 m
Lot 9 RP20973
Extraction Area
Processing, Stockpiling & Infrastructure Areas
Concrete & Asphalt Plant
Proposed Access Reconfiguration
Lot 2 RP20974
Site Access

APPENDIX C
CONCEPT SITE ACCESS INTERSECTION FUNCTIONAL LAYOUT



PEKOL TRAFFIC & TRANSPORT
ABN 96 067 593 962
P 07 3839 6771 WWW.PTT.COM.AU
Level G 67 St Pauls Tce Spring Hill Q 4000

REV.	AMENDMENTS	DRN	DATE
-	INITAL LAYOUT	CB	17/12/2018
A	SEAGULL TREATMENT WITH ACCELERATION LANE	CG	11/01/2018

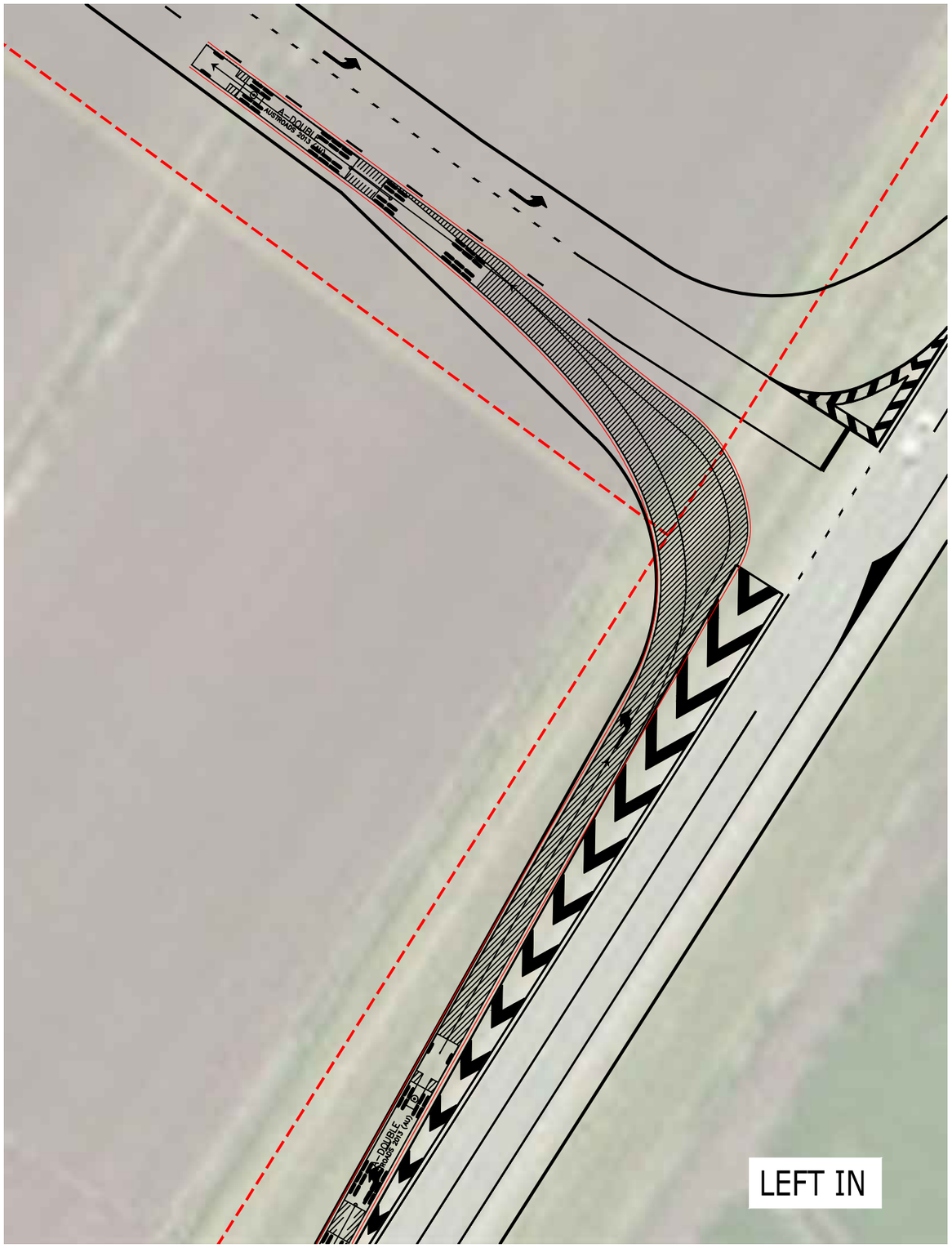
PROJECT TITLE: HORAN ROAD, FRAZERVIEW

DRAWING TITLE: PROPOSED CUNNINGHAM HIGHWAY ACCESS

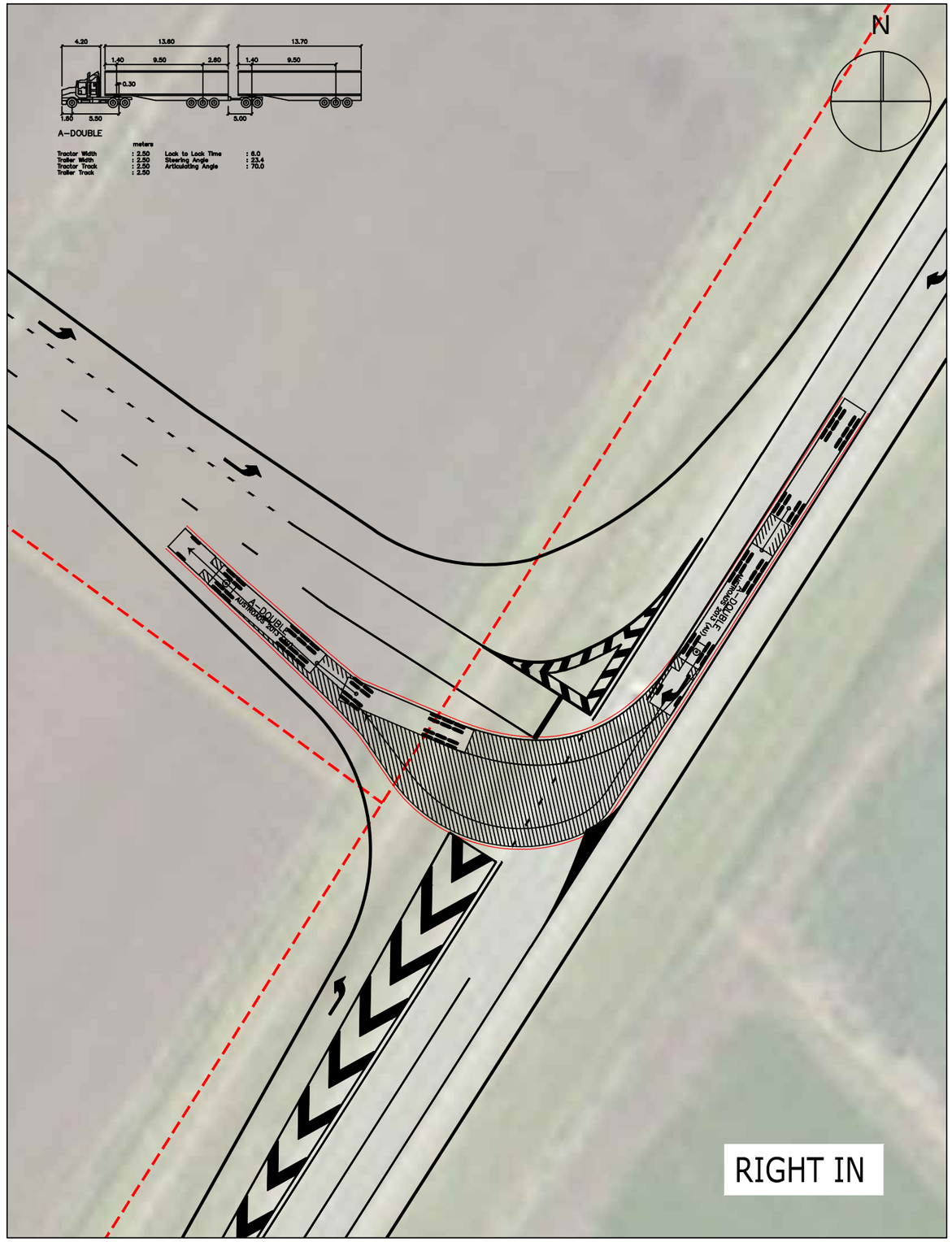
CLIENT: WAGNERS

DATE:	SCALE:	DRAWN:	APPROVED:
11/01//2018	1:1500@A3	CG	CB

DRAWING NO.	REV	JOB NO.
SK-001	A	18-442



LEFT IN



RIGHT IN

PEKOL TRAFFIC & TRANSPORT
ABN 96 067 593 962
P 07 3839 6771 WWW.PTT.COM.AU
Level G 67 St Pauls Tce Spring Hill Q 4000

REV.	AMENDMENTS	DRN	DATE

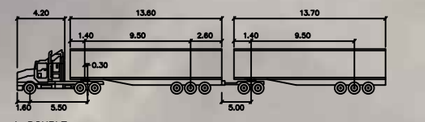
PROJECT TITLE: HORAN ROAD, FRAZERVIEW

DRAWING TITLE: A DOUBLE ENTRY

CLIENT: WAGNERS

DATE:	SCALE:	DRAWN:	APPROVED:
11/01//2018	1:500@A3	CG	CB

DRAWING NO.	REV	JOB NO.
SK-002		18-442



A–DOUBLE

meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 23.4
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

LEFT OUT

RIGHT OUT

REV.	AMENDMENTS	DRN	DATE

PEKOL TRAFFIC & TRANSPORT
ABN 96 067 593 962
P 07 3839 6771 WWW.**PTT**.COM.AU
Level G 67 St Pauls Tce Spring Hill Q 4000

PROJECT TITLE:
HORAN ROAD, FRAZERVIEW

DRAWING TITLE:
A DOUBLE EXIT

CLIENT: WAGNERS

DATE:	SCALE:	DRAWN:	APPROVED:
11/01//2018	1:500@A3	CG	CB

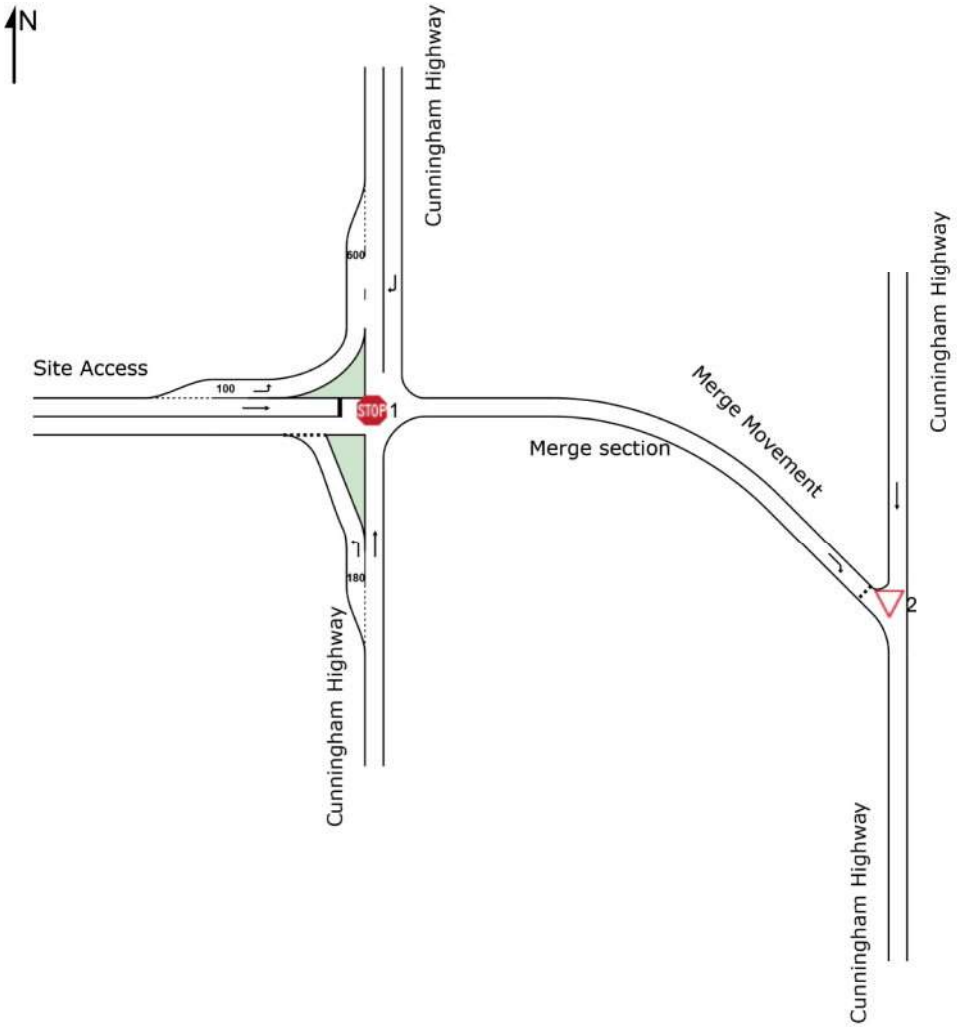
DRAWING NO.	REV	JOB NO.
SK-003		18-442

APPENDIX D
SIDRA INTERSECTION ANALYSIS

NETWORK LAYOUT

Network: N101 [2020 AM]

Two-Stage (Seagull) Crossing
Network Category: (None)



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
▽2	NA	2020 AM (Stage 2 Merge)
STOP 1	NA	2020 AM (Stage 1 for Merge)

LANE SUMMARY

Site: 1 [2020 AM (Stage 1 for Merge)]

Staged crossing Stage 1 (Minor Road)
Site Category: (None)
Stop (Two-Way)

Lane Use and Performance

	Demand Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total	HV						Veh	Dist				
	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
South: Cunningham Highway													
Lane 1	25	40.0	1311	0.019	100	6.2	LOS A	0.1	0.7	Short	180	0.0	NA
Lane 2	233	40.0	1548	0.150	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	258	40.0		0.150		0.6	LOS A	0.1	0.7				
North: Cunningham Highway													
Lane 1	34	40.0	1097	0.031	100	7.3	LOS A	0.1	1.2	Full	200	0.0	0.0
Approach	34	40.0		0.031		7.3	NA	0.1	1.2				
West: Site Access													
Lane 1	19	40.0	1445	0.013	100	6.0	LOS A	0.0	0.0	Short	100	0.0	NA
Lane 2	9	40.0	473	0.020	100	14.2	LOS B	0.1	0.7	Full	500	0.0	0.0
Approach	28	40.0		0.020		8.7	LOS A	0.1	0.7				
Intersection	320	40.0		0.150		2.0	NA	0.1	1.2				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 2 [2020 AM (Stage 2 Merge)]

Two-Stage (Seagull) Crossing. Stage 2: Merge (acceleration) lane.

Site Category: (None)
Giveway / Yield (Two-Way)

Lane Use and Performance

	Demand Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist m		m	%	%
North: Cunningham Highway													
Lane 1	293	40.0	1548	0.189	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	293	40.0		0.189		0.0	NA	0.0	0.0				
NorthWest: Merge Movement													
Lane 1	9	40.0	679	0.014	100	7.9	LOS A	0.0	0.4	Full	500	0.0	0.0
Approach	9	40.0		0.014		7.9	LOS A	0.0	0.4				
Intersection	302	40.0		0.189		0.3	NA	0.0	0.4				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 1 [2020 PM (Stage 1 for Merge)]

Staged crossing Stage 1 (Minor Road)
Site Category: (None)
Stop (Two-Way)

Lane Use and Performance

	Demand Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total	HV						Veh	Dist				
	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
South: Cunningham Highway													
Lane 1	9	40.0	1334	0.007	100	6.1	LOS A	0.0	0.3	Short	180	0.0	NA
Lane 2	233	40.0	1548	0.150	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	242	40.0		0.150		0.3	LOS A	0.0	0.3				
North: Cunningham Highway													
Lane 1	19	40.0	1097	0.017	100	7.3	LOS A	0.1	0.7	Full	200	0.0	0.0
Approach	19	40.0		0.017		7.3	NA	0.1	0.7				
West: Site Access													
Lane 1	34	40.0	1445	0.023	100	6.0	LOS A	0.0	0.0	Short	100	0.0	NA
Lane 2	25	40.0	497	0.051	100	13.9	LOS B	0.2	1.9	Full	500	0.0	0.0
Approach	59	40.0		0.051		9.4	LOS A	0.2	1.9				
Intersection	320	40.0		0.150		2.4	NA	0.2	1.9				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 2 [2020 PM (Stage 2 Merge)]

Two-Stage (Seagull) Crossing. Stage 2: Merge (acceleration) lane.

Site Category: (None)
Giveway / Yield (Two-Way)

Lane Use and Performance

	Demand Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist m		m	%	%
North: Cunningham Highway													
Lane 1	293	40.0	1548	0.189	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	293	40.0		0.189		0.0	NA	0.0	0.0				
NorthWest: Merge Movement													
Lane 1	25	40.0	679	0.037	100	8.0	LOS A	0.1	1.1	Full	500	0.0	0.0
Approach	25	40.0		0.037		8.0	LOS A	0.1	1.1				
Intersection	318	40.0		0.189		0.7	NA	0.1	1.1				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 1 [2030 AM (Stage 1 for Merge)]

Staged crossing Stage 1 (Minor Road)
Site Category: (None)
Stop (Two-Way)

Lane Use and Performance

	Demand Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total	HV						Veh	Dist				
	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
South: Cunningham Highway													
Lane 1	25	40.0	1311	0.019	100	6.2	LOS A	0.1	0.7	Short	180	0.0	NA
Lane 2	284	40.0	1548	0.184	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	309	40.0		0.184		0.5	LOS A	0.1	0.7				
North: Cunningham Highway													
Lane 1	34	40.0	1013	0.033	100	7.7	LOS A	0.1	1.3	Full	200	0.0	0.0
Approach	34	40.0		0.033		7.7	NA	0.1	1.3				
West: Site Access													
Lane 1	19	40.0	1445	0.013	100	6.0	LOS A	0.0	0.0	Short	100	0.0	NA
Lane 2	9	40.0	416	0.023	100	15.5	LOS C	0.1	0.8	Full	500	0.0	0.0
Approach	28	40.0		0.023		9.2	LOS A	0.1	0.8				
Intersection	372	40.0		0.184		1.8	NA	0.1	1.3				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 2 [2030 AM (Stage 2 Merge)]

Two-Stage (Seagull) Crossing. Stage 2: Merge (acceleration) lane.

Site Category: (None)
Giveway / Yield (Two-Way)

Lane Use and Performance

	Demand Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist m		m	%	%
North: Cunningham Highway													
Lane 1	357	40.0	1548	0.231	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	357	40.0		0.231		0.0	NA	0.0	0.0				
NorthWest: Merge Movement													
Lane 1	9	40.0	606	0.016	100	8.6	LOS A	0.0	0.5	Full	500	0.0	0.0
Approach	9	40.0		0.016		8.6	LOS A	0.0	0.5				
Intersection	366	40.0		0.231		0.3	NA	0.0	0.5				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 1 [2030 PM (Stage 1 for Merge)]

Staged crossing Stage 1 (Minor Road)
Site Category: (None)
Stop (Two-Way)

Lane Use and Performance

	Demand Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total	HV						Veh	Dist				
	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
South: Cunningham Highway													
Lane 1	9	40.0	1334	0.007	100	6.1	LOS A	0.0	0.3	Short	180	0.0	NA
Lane 2	284	40.0	1548	0.184	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	294	40.0		0.184		0.2	LOS A	0.0	0.3				
North: Cunningham Highway													
Lane 1	19	40.0	1013	0.019	100	7.7	LOS A	0.1	0.7	Full	200	0.0	0.0
Approach	19	40.0		0.019		7.7	NA	0.1	0.7				
West: Site Access													
Lane 1	34	40.0	1445	0.023	100	6.0	LOS A	0.0	0.0	Short	100	0.0	NA
Lane 2	25	40.0	437	0.058	100	15.2	LOS C	0.2	2.1	Full	500	0.0	0.0
Approach	59	40.0		0.058		9.9	LOS A	0.2	2.1				
Intersection	372	40.0		0.184		2.1	NA	0.2	2.1				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

LANE SUMMARY

Site: 2 [2030 PM (Stage 2 Merge)]

Two-Stage (Seagull) Crossing. Stage 2: Merge (acceleration) lane.

Site Category: (None)
Giveway / Yield (Two-Way)

Lane Use and Performance

	Demand Flows		Cap.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	Total veh/h	HV %	veh/h	v/c	%	sec		Veh	Dist m		m	%	%
North: Cunningham Highway													
Lane 1	357	40.0	1548	0.231	100	0.0	LOS A	0.0	0.0	Full	500	0.0	0.0
Approach	357	40.0		0.231		0.0	NA	0.0	0.0				
NorthWest: Merge Movement													
Lane 1	25	40.0	606	0.042	100	8.7	LOS A	0.1	1.2	Full	500	0.0	0.0
Approach	25	40.0		0.042		8.7	LOS A	0.1	1.2				
Intersection	382	40.0		0.231		0.6	NA	0.1	1.2				

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Lane LOS values are based on average delay per lane.
Minor Road Approach LOS values are based on average delay for all lanes.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

When contacting Council please ask for
Tony Magner
Tel: 07 5540 5111
Ref: ST/mc
07/01/003

SCENIC RIM
Regional Council

82 Brisbane Street
PO Box 25
BEAUDESERT QLD 4285

Tel 07 5540 5111
Fax 07 5540 5103

mail@scenicrim.qld.gov.au
www.scenicrim.qld.gov.au

ABN: 45 596 234 931

31 May 2017

Chief Executive Officer
Kalfresh Pty Ltd
PO Box 104
KALBAR QLD 4309

Email: david@kalfresh.com.au

Dear Sir

Agricultural Industrial Area, Cunningham Highway

Council refers to your presentation on 15 May 2017 in relation to a potential future agricultural industry precinct adjacent to the Kalfresh development on the Cunningham Highway, Aratula. The presentation, while providing a background to the proposal, also sought a response from Council in relation to its in-principle support for the project.

Council's position for a number of years has been to support an agricultural industry precinct along the Cunningham Highway. This support has been generally provided for within the Boonah Shire Planning Scheme 2006 and more specifically contained within the Overall Outcomes for the Rural Zone. To this effect, several of the overall outcomes identify the following:

- 4.9(2)(f) - Industries related to the rural and agricultural activities of the Shire are important for sustaining and enhancing the local economy over time.
- 4.9(2)(h) - Rural related industries are encouraged to be located between Aratula and Silverdale along the Cunningham Highway.

Council continues to be supportive, however in relation to the specifics of your proposed site please be advised that Council would assess each proposal on its merits accounting for any benefits, impacts, or constraints of the proposed development. This would include an assessment of the planning need for the proposal, which will include the consideration of such matters as the need for the precinct to be located outside of an urban area, potential impacts on industrial land supply for the western region, need for the quantum of land proposed in the rural industry precinct, and whether the rural production benefits that the proposal brings to the region outweigh the development of Good Quality Agricultural Land.

I trust the above clarifies Council's position on this matter. Should you have any further queries regarding the above please do not hesitate to contact the Regional Service Directorate on telephone 5540 5111.

Yours faithfully

Craig R Barke
CHIEF EXECUTIVE OFFICER

Appendix D - Statement of Kalfresh Capability to Complete IAR & Prefeasibility Assessment

See attached document (**NOT FOR PUBLICATION**)