

COUNCIL ASSESSMENT REPORT

Panel Reference	2018HCC042
DA Number	DA 101/2018
LGA	Muswellbrook Shire Council
Proposed Development	Biorefinery – High Technology Industry
Street Address	24 Carramerre Road, Muswellbrook
Applicant	Ethanol Technologies
Owner	Muswellbrook Shire Council
Date of DA lodgement	13 November 2018
Number of Submissions	Nil
Recommendation	Approval Subject to Conditions
Regional Development Criteria (Schedule 7 of the SEPP (State and Regional Development) 2011	<p>Council related development over \$5 million</p> <p>Council is the owner of the land subject to this development application and the proposed development has a CIV >\$5-million.</p>
List of all relevant s4.15(1)(a) matters	<ul style="list-style-type: none"> • Muswellbrook Local Environmental Plan 2009 • State Environmental Planning Policy No 33 Hazardous and Offensive Development • State Environmental Planning Policy No 44 Koala Habitat Protection • State Environmental Planning Policy No 55 Remediation of Land • State Environmental Planning Policy (State and Regional Development) 2011 • State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 • Muswellbrook Development Control Plan • Likely Environmental Impacts of the Development • The Public Interest
List all documents submitted with this report for the Panel's consideration	<ul style="list-style-type: none"> • Statement of Environmental Effects and Appendices (GHD Pty Ltd, October 2018) • RFI Response Letter (Hunter Pilot Refinery, 20 March 2019) • Architectural Plan-set Revision D (DRA Architects, 19 March 2019), submitted to Council 4 April 2019. The Architectural Plan-set includes the following plans: <ul style="list-style-type: none"> - Site Plan 18026A01 - Ground Floor Plan 18026A02 - First Floor Plan 18026A03 - Elevations 18026A04 - Elevations 18026A05 - Sections 18026A06 - Sections 18026A07 - 3D Overall 18026A08 - 3D Office Fittout 18026A09 • Section 4.15 Assessment Report (Muswellbrook Shire Council, 20 May 2019) • Recommended Conditions of Consent (Muswellbrook Shire Council, 20 May 2019)
Report prepared by	Hamish McTaggart
Report date	20 May 2019

Summary of s4.15 matters

Have all recommendations in relation to relevant s4.15 matters been summarised in the Executive Summary of the assessment report?

Yes

Legislative clauses requiring consent authority satisfaction

Have relevant clauses in all applicable environmental planning instruments where the consent authority must be satisfied about a particular matter been listed, and relevant recommendations summarized, in the Executive Summary of the assessment report?

Yes

e.g. Clause 7 of SEPP 55 - Remediation of Land, Clause 4.6(4) of the relevant LEP

Clause 4.6 Exceptions to development standards

If a written request for a contravention to a development standard (clause 4.6 of the LEP) has been received, has it been attached to the assessment report?

Not Applicable

Special Infrastructure Contributions

Does the DA require Special Infrastructure Contributions conditions (S7.24)?

Not Applicable

Note: Certain DAs in the Western Sydney Growth Areas Special Contributions Area may require specific Special Infrastructure Contributions (SIC) conditions

Conditions

Have draft conditions been provided to the applicant for comment?

Yes

Note: in order to reduce delays in determinations, the Panel prefer that draft conditions, notwithstanding Council's recommendation, be provided to the applicant to enable any comments to be considered as part of the assessment report

DEVELOPMENT ASSESSMENT REPORT

ADDRESS:	LOT: 22 DP: 1131270 24 Carramere Road MUSWELLBROOK
APPLICATION No:	101/2018
PROPOSAL:	Biorefinery – High Technology Industry
OWNER:	Muswellbrook Shire Council
APPLICANT:	Ethanol Technologies Po Box 166 DUNGOG NSW 2420
AUTHOR:	Mr H A McTaggart
REVIEWED BY:	Ms S Pope
DATE LODGED:	13 November 2018
DATE OF REPORT:	20 May 2019
CONSENT AUTHORITY:	Hunter Planning Panel
RECOMMENDATION:	Approval Subject to conditions

1. EXECUTIVE SUMMARY

The following is a summary of key points regarding the assessment of the development application:

- The proposed development involves the establishment of biorefinery for the purpose of the research and development of technologies for the production of ethanol from lignocellulosic material (grain crop stubbles, cotton stubble, cotton gin trash, timber residues sugar cane bagasse etc.). The facility would be operated on a cost recovery basis and its focus is on research and knowledge generation.
- The proposed development would not produce commercial quantities of ethanol. Ethanol produced at the premises would be re-used at the site.
- The production cycle lasts 28 day, with 4 production cycles per year. During the 28 day operational cycle, the premises would be staffed by up to 20 employees and would be operated 24 hours a day. Outputs from the operation of the premises would include:
 - **Ethanol**, the maximum amount of ethanol produced during an operational cycle would be 4.5 tonnes. Ethanol produced would be reused at the facility for heating/biomass drying.
 - **Lignin cake**, the maximum amount of lignin cake produced during an operational cycle would be 6.5 tonnes. The SoEE indicates an intention for this material to be disposed of by being added to a composting matrix as a source of carbon or applied directly to land.
 - **Wastewater**, the rate of wastewater generated during a 28 production cycle would be variable. The maximum amount of wastewater generated from the operation of the premises during the any single day of the 28 day operating period would be 3,000L a day. Wastewater would be disposed of into Council's sewage network after treatment via a trade waste system installed at the site.
 - **Biosolids** from wastewater treatment and fermentation processes. This material would be disposed of by licensed contractors to licensed waste management facility.
- The land subject is owned by Muswellbrook Shire Council. The estimated capital investment value (CIV) for the proposed development is \$26,016,045. As the proposed development is a development involving Council owned land with a CIV in excess of \$5-million the Hunter Regional Planning Panel is the consent authority for the proposed development.
- The proposed development is not 'designated development' or 'integrated development'.
- The proposed development was publically notified and advertised in accordance with the provisions of the Muswellbrook Development Control Plan between the 28 November 2018 and the 13 December 2018. No public submissions were received by Council in relation to the proposed development.
- Council Officers have completed an assessment of the proposed development against the relevant heads of consideration of Section 4.15 of the Environmental Planning Assessment Act 1979. This assessment recommends that the development application be approved subject to conditions of consent.
- Key findings of the Section 4.15 Assessment which inform this recommendation include:
 - The proposed development would be in accordance with the relevant provisions of the Muswellbrook LEP 2009.
 - The proposed development would be compatible with the requirements of relevant SEPPs.
 - The proposed development is compatible with the requirements of the Muswellbrook DCP and conditions of consent have been recommended to ensure the development is carried out in accordance with certain relevant DCP requirements.

- The assessment report has considered potential environmental impacts related to the proposed development. Based on this assessment Council Officers are satisfied that the proposed development is unlikely to have a significant adverse environmental impact.
- The proposed development is considered to be compatible with public interest and it would have positive social and economic impacts for the Muswellbrook LGA.

2. SITE DESCRIPTION

The proposed development relates to Lot 22 DP 1131270, with the street address 24 Carramere Road, Muswellbrook. This property was created in 2008 as part of a 23 Lot subdivision approved by Council under DA 266/2005.

The subject site is located at the eastern end of Carramere Road, which connects to Thomas Mitchel Drive, a local road which in turn connects to the New England and Golden Highway, both classified state roads.

The site forms part of the Thomas Mitchel Drive Industrial Area, a well-established hub of industrial activities. A number of industries and industrial warehouse buildings are located in this Industrial precinct. The site is located south west of the Muswellbrook township and north east of the Mount Arthur Coal Mine.

The subject site is zoned IN1 General Industry under Muswellbrook Local Environmental Plan (LEP) 2009. Land adjoining the site is predominately similarly zoned IN1 General Industry with E3 Environmental Management zoned land situated to the north east of the site.

Reticulated sewage and water infrastructure is available to the site.

A waterway, Ramrod Creek traverses the north eastern part of the site. Council does not have a flood study for this minor waterway, but the development site is well above the level of the banks of the creek. Council's mapping information also indicates that the subject land is not located in a bushfire prone area nor mine subsidence district.

The subject site is identified in the image below in context with its surrounds.



Image.1 (Site and Locality Plan, source: Council GIS System).

A search of Council's record system indicates the site was vacant since it was subdivided, until a development application was lodged for the carrying out a range of site works in 2017. This development application (DA 62/2017) was approved by Council on the 27 June 2017 and involved the installation of shipping containers, driveway access, temporary road and site levelling, erection of sheltered area and security fence. It is understood that these works were intended to prepare the land for future development such as that proposed under this development application. A construction certificate was issued by Council for the works on the 17 September 2018. At the date of this report the approved works are yet to be completed and an Occupation Certificate issued.

3. DESCRIPTION OF PROPOSAL

3.1 Description of the proposed development

The proposed development seeks to establish a bio-refinery at the site which is intended to be operated as a research and development facility related to the production of ethanol from biomass materials. The core function of the facility would be enabling the research and development of technologies and does not propose the production of ethanol on a commercial scale. The information accompanying the development applications indicates that ethanol produced by the facility would be re-used on-site only.

The establishment of the proposed facility would include the construction of the following buildings, and structures at the site:

- A multi-storey operational and administration building to include ground floor operational area and laboratories staff amenities, first aid room and laundry, first floor control room, administration area, offices, kitchen/lunch room and meeting rooms.
- Bunded material storage area to be located under the awning approved under DA 62/2017.
- Car parking area,
- Loading bays and vehicle manoeuvring hardstand,
- Security fencing,
- Retaining walls, and
- Temporary construction site office.

The image below is a 3D perspective submitted with the development application which provides a perspective of the building works proposed at the site.

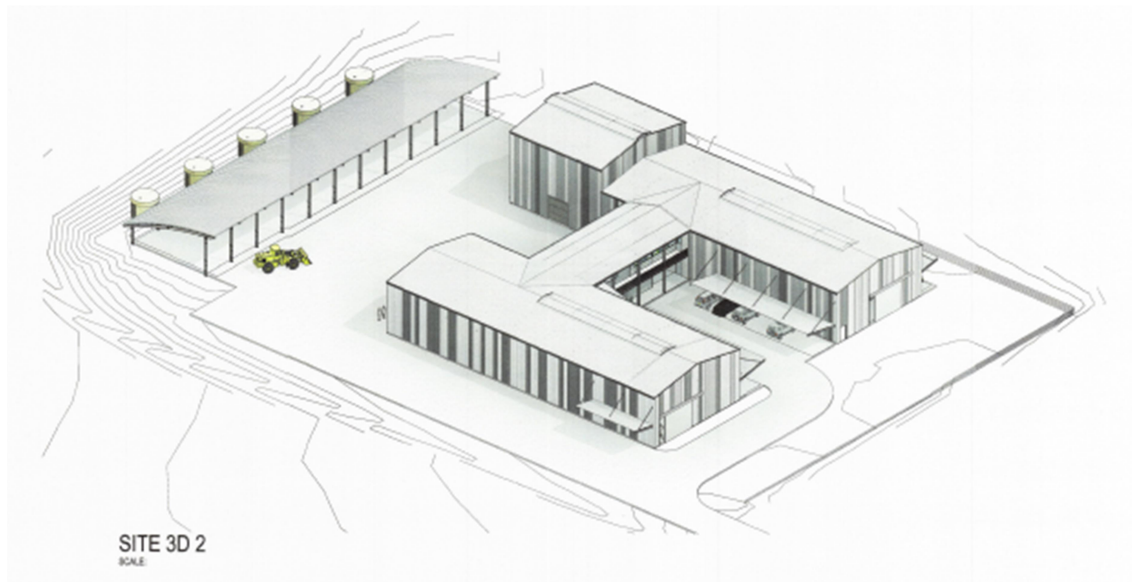


Image.2 (3D Site Image, DRA Architects)

In addition to these structures, an array of technical equipment and operational plant would need to be installed at the facility to support the operation of the premises and its research function. This equipment and plant would include:

- A skid steer loader,
- Forklift,
- Compressed air plant,
- Water purification and reverse osmosis equipment,
- Variable speed belt and screw conveying system,
- Grinding and size reduction equipment,
- Enclosed hoppers and bins,
- Tray and rotary drying equipment,
- Chemical resistant tanks and piping systems,
- Heat exchanges and chemical resistant evaporators,
- Chromatography systems,
- Filtration equipment,
- Fermentation vessels and equipment,
- Distillation equipment.

The Statement of Environmental Effects indicates that the production of ethanol at the facility would occur through a four-stage process (see below).

The maximum ethanol produced from a dry tonne of material would be 300L. Any ethanol produced would be consumed on-site for heat generation and biomass drying. An explanation of the plants operating processes has been included under the sub-headings below.

3.2 General Operating Parameters

The intensity of operations will not be constant, and it would operate in 'operational cycles'. These 'operational cycles' would occur a maximum of 4 times per year and would involve 28 production days and downtime to allow for equipment modification, re-stocking of material, planning and reporting.

During the 28 production days of the operational cycle, the facility would operate 24 hours a day and would be staffed by 20 staff members. While general staffing at the facility is expected to comprise an average of 10 staff members.

3.3 Ethanol Production Process

A brief description of the steps involved in the ethanol production process have been provided below based on the information contained in the preliminary hazard analysis submitted with the development application.

This description breaks the processing steps down into key process actions taken in 4 core phases of ethanol production and should be read in conjunction with the process flow chart should in figure.3 below.

Phase 1

The plant processes involved in phase 1 of ethanol production would be as follows:

- Unit process 1 – Biomass receiving
- Unit process 2 – Biomass drying
- Unit process 3 – Final size reduction
- Unit process 4 – Twin screw extrusion
- Unit process 5 – acid delivery system
- Unit process 6 – Homogenisation
- Unit process 7 – Hydrolysis reaction

This phase of production involves granulating the feedstock to less than 2mm, followed by drying to a moisture content of less than 10%. Feedstock is then impregnated with concentrated sulphuric acid using a twin-screw extruder, which forms a paste. The paste is diluted to a slurry containing less than 30% sulphuric acid and retreated (reactor) to release the sugars into solution. The completed output of phase 1 is the solution containing sugars and acid, sugars and lignin as a suspended solid.

Phase 2

The plant processes involved in phase 2 of ethanol production would be as follows:

- Unit process 8 – Filtration
- Unit process 9 – Fines filtration and O₂ removal
- Unit process 10 – SMB separation system
- Unit process 11 – Acid re-concentration

This phase involves clarifying the solution by removing the suspended lignin using a belt filter. The lignin cake is washed several times with process water, which results in a cake composing mostly lignin, with some unreacted feedstock and less than 1% residual sulphuric acid. The process water is then recycled internally.

The biorefinery will have small electric boilers for steam generation.

The acid/sugar solution would then go through a chromatography process to separate the acid and sugar. The acid component is re-concentrated and recycled to phase 1 of the process. The sugar solution is then used in phase 3 of the production process for fermentation.

Phase 3

The plant processes involved in phase 3 of ethanol production would be as follows:

- Unit process 12 – Media preparation
- Unit process 13 – 2nd generation fermentation

Phase 3 involves fermenting the sugars to ethanol using genetically modified yeast capable of consuming both 5- and 6- carbon sugars. The genetically modified yeast will be rendered unviable before leaving phase 3 by chemical and thermal treatment.

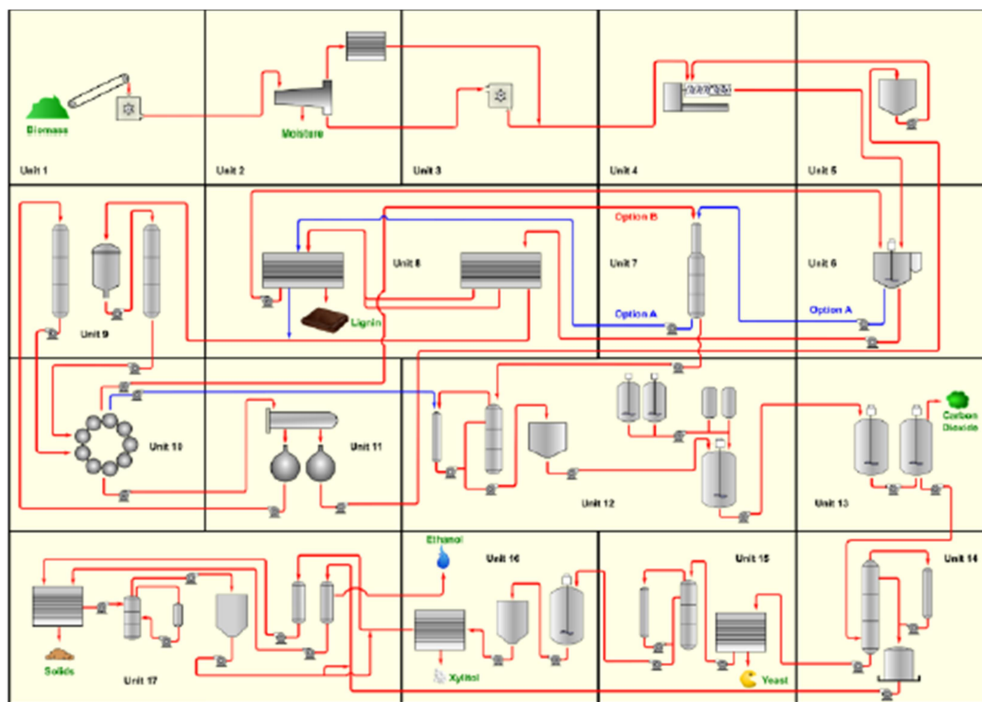
Phase 4

The plant processes involved in phase 4 of ethanol production would be as follows:

- Unit process 14 – stripping/distillation
- Unit process 15 – Yeast filtration and underflow conc.
- Unit process 16 – Crystal production
- Unit process 17 Waste treatment system

Phase 4 is an ethanol recovery and waste treatment process resulting in 96% ethanol and flocculated solids which are filtrated out. Fermentation product is diluted with potassium carbonate slurry resulting in phase separation of the ethanol component and simultaneous flocculation of the dissolved solids. The ethanol is decanted and flocculated solids filtered out. The potassium carbonate solution is re-concentrated to a slurry for recycle and the resulting condensate returned as process water.

The image/flow chart below provides a good overview of the process of ethanol production.



KEY:

- Unit Process 1 – Biomass Receiving
- Unit Process 2 – Biomass Drying
- Unit Process 3 – Final Size Reduction
- Unit Process 4 – Twin Screw Extrusion
- Unit Process 5 – Acid Delivery System
- Unit Process 6 – Homogenisation
- Unit Process 7 – Hydrolysis Reaction
- Unit Process 8 – Filtration Scheme
- Unit Process 9 – Fines Filtration and Oxygen Removal
- Unit Process 10 – SMB Separation System
- Unit Process 11 – Acid Reconcentration
- Unit Process 12 – Media Preparation
- Unit Process 13 – 2nd Generation Fermentation
- Unit Process 14 – Stripping/Distillation
- Unit Process 15 – Yeast Filtration and Underflow Conc.
- Unit Process 16 – Crystal Production
- Unit Process 17 – Waste Treatment System

Figure 3 (Biorefinery ethanol production process flow chart, source: Statement of Environmental Effects, GHD October 2018)

In addition to the ethanol produced by this process, there are two key waste streams, a lignin by-product and wastewater. The lignin would have the form of a brittle dark brown cake and dry inactive yeast cells. The applicant has indicated an intention for the lignin and yeast be disposed of by being added to a composting matrix as a source of carbon and applied to land. An estimated volume of up to 3,000L of wastewater per day could be produced by the premises during its 28 day operating cycle. This wastewater would be treated through a trade waste system and discharged into Council's sewage system.

The ethanol production process would involve the use of chemicals classified as dangerous goods and would produce ethanol, a material also classified as a type of dangerous goods. The preliminary hazard analysis indicates that the following dangerous goods would be stored and used at the site:

- Sulphuric acid
- Sodium hydroxide
- Hydrogen peroxide
- Ethanol

These materials would be stored on the site in eight (8) banded locations. The final volumes and locations of stores have not yet been determined; however the preliminary hazard analysis has put forward maximum storage volumes of dangerous goods for each of the storage areas. The table below identifies the maximum storage quantity of hazardous materials in each of the proposed banded areas and the bund containment volume. Banded area 7 and 8 are proposed to contain fermentation feedstocks including sugar solutions and feedstocks which are not defined as dangerous goods under the Australian Dangerous Goods Code.

Banded Area	Class	PG	Storage Quantity (kg)	Bund Containment Volume (L)
1	8, 5	II, II	8,000 and 2,000	16,000
2	8	II	6,000	30,000
3	8, 5	II, II	6,000 and 2,000	30,000
4	3	II	200	1,000
5	8, 3	II, II	2,000 and 4,500	24,000
6	8	II	2,000	30,000
7	TBA	TBA	TBA	2,000
8	TBA	TBA	TBA	30,000

TBA – to be assigned

Table.1 (Quantity of hazardous chemicals and banded areas, source: Preliminary Hazard Analysis VIRDIS Consultants July 2018, pg 18).

4. REFERRALS

4.1 Integrated Development/Concurrence Referrals

The proposed development was reviewed against the relevant provisions of Section 4.46 of the EP&A Act 1979 to identify whether the application was integrated development. Based on this review Council Officers are satisfied that the proposed development is not a type of integrated development which would require approval from an additional Government Agency under another Act.

The table below provides a summary of the integrated development criteria and the manner which it relates to the proposed development.

Table 2 – Integrated Development Provisions of the EP&A Act 1979

Relevant Legislation	Summary of matters requiring approval	Relationship to the proposed development	Approval Required
<i>Coal Mine Subsidence Compensation Act 2017</i>	The subdivision, alteration or erection of improvements to land within a mine subsidence district.	The land subject to this development application is not located within a mine subsidence district. Accordingly, the proposed development does not require any additional approval under the provisions of this Act.	NA
<i>Fisheries Management Act 1994</i>	Carry out dredging, works damaging or destroying marine vegetation and other	The proposed development does not involve the carrying out of any works that would	NA

	specified works that would create an obstruction to a specified water body.	directly affect a waterbody in a manner requiring approval under this Act.	
<i>Heritage Act 1977</i>	Carrying out work in relation to a heritage item listed on the State Heritage register which requires approval under Section 57 of this Act.	The proposed development does not relate to a State Heritage item and therefore does not require approval under this Act.	NA
<i>Mining Act 1992</i>	Granting a mining lease	The proposed development does not involve the granting of a mining lease and therefore does not require approval under this legislation.	NA
<i>National Parks and Wildlife Act 1974</i>	Granting an aboriginal impact permit.	<p>The statement of environmental effects submitted to Council indicates that the proposed development would not affect any known aboriginal sites or places. A search of the AHIMS database did identify an aboriginal site along Ramrod Creek on the property subject to this development application.</p> <p>The proposed development would not disturb this site or involve work in the immediate vicinity of Ramrod Creek. Based on the scope of the proposed works it is not anticipated that the proposed development would affect this site, nor is it likely that the development would disturb additional aboriginal sites noting that the portion of the property subject to this development application has been previously disturbed and made ready for development by the subdivision of the property and the carrying out of site works in preparation for the development under previous Council approvals.</p> <p>Further commentary is provided around these works and the likelihood for the development to impact any items of cultural significance under the heritage impact heading of this report.</p> <p>However, based on the information before Council</p>	NA

		and the historical development of the site Council Officers are satisfied that the proposed development would not have any impact on any known sites of cultural significance and is unlikely to disturb any unidentified sites. Accordingly, the proposed development is not considered to be integrated development requiring approval under this Act.	
<i>Petroleum (onshore) Act 1991</i>	Petroleum production lease.	This act relates to the production of petroleum under a petroleum production lease or prospecting title granted by the NSW Government. The production of ethanol from biomass is not considered to be petroleum production for the purpose of this Act.	NA
<i>Protection of the Environment Operations Act 1997</i>	Restricts the carrying out of a range of potentially polluting activities without the issue of an Environmental Protection License	<p>Schedule 1 of this Act identifies activities that require environmental protection licenses under this Act. Council has reviewed the range of scheduled activities and have determined that the development as proposed was not likely to require an Environmental Protection License.</p> <p>To confirm that the proposed development was not integrated development under this Act and to consider any potential environmental issues with the proposal the proposed development was referred to the NSW EPA. The NSW EPA provided a response confirming the facility did not require an Environmental Protection License under this Act.</p>	NA
<i>Roads Act 1993</i>	The carrying out of certain works or activities within a classified state road	The proposed development does not involve the connection to or the carrying out of works in relation to a state classified road and is therefore not integrated development for the purpose of this Act.	NA

<i>Rural Fires Act 1997</i>	The subdivision or use of land for a special fire protection purpose that is identified as bushfire prone land.	The land subject to this development application is not identified as bushfire prone land under Council's mapping information system. Accordingly, further consideration of the provisions of this Act is not required.	NA
<i>Water Management Act 2000</i>	Water use approvals, water management approvals and approvals to carry out works on water front land. Land within 40m of a watercourse	<p>The proposed development would be serviced by rainwater harvested at the site and via a connection to Council's reticulated water supply. Accordingly, the proposed development would not require an approval for the use of water under this Act.</p> <p>In addition, the proposed development would not involve approval under this Act for the carrying out of a development on waterfront land. The works proposed under this development application would be well clear of Ramrod Creek and would not encroach within the 40m waterfront land boundary of the creeks bank.</p>	NA

4.2 External Referrals

The development application was referred to the following external government agencies for comment/consideration:

NSW Environmental Protection Authority (EPA)

The proposed development was referred to the NSW EPA on the 30 November 2018. The proposed development was not considered to be integrated development, requiring referral to this authority, however given the scope of the proposed development and Council's involvement with the application as the land owner, the application was referred to this authority to provide additional transparency around the development assessment process.

A response to Council's referral was received dated 14 February 2019. In this response the NSW EPA confirmed that the development application was not integrated development and that the premises did not require licensing under the Protection of the Environment Operations Act 1997 and was outside the scope of their function to provide detailed comments on the development application for consideration with its assessment and determination.

4.3 Internal Referrals

The development application was referred to the following Council Sections and Officers for review and comment in relation to their areas of expertise:

Water and Waste

The proposed development was referred to Council's Water and Waste Division's Project Engineer on the 30 November 2018, to consider water and sewer service availability and capacity to service the proposed development.

Comments provided Water and Waste dated 18 December requested additional information in relation to the anticipated water usage of the facility. The applicant provided the additional information on 21 December 2018. This information was provided to Council's Water and Waste Project Engineer who raised no objection to the proposal. Comments provided indicate that Council's Water and Waste Division have previously issued a Notice of Requirements under the Water Management Act 2000 for the connection of the premises to services based on the preliminary site works development application (DA 62/2017). A new Notice of Requirements could be issued to supersede the previous Notice and account for any changes in water usage.

The recommended conditions of consent require the applicant to obtain a Notice of Requirements from the service provider.

Trade Waste Officer

The proposed development was referred to a Trade Waste Officer on the 30 November 2018 to consider matters related to the generation of trade waste by the proposed development.

In correspondence dated 22 February 2019 and 4 April 2019 the Trade Waste Officer indicated his satisfaction with the information provided and recommended the imposition of the following conditions should the development application be approved:

Prior to Construction Certificate being issued,

1. *A Commercial Liquid Trade Waste Application, Classification C form is required to be completed and signed by the property owner and submitted to Council for approval, including supply of relevant documentation including hydraulic plan*

Prior to Occupation Certificate being issued,

2. *An approved, appropriate sized waste water pre-treatment system is required to be installed, as per submitted plans*
3. *A water tap with hose connection and Reduced Pressure Zone Device (RPZD) is required to be installed within 3 meters of the pre-treatment system as per AS3500 Plumbing and Drainage, and commissioning and test records for this device submitted to Council.*

These recommended conditions of consent have been reviewed by the Assessing Officer and have informed the recommended conditions of consent.

Environmental Health Officer

The proposed development was referred to Council's Environmental Health Officer on the 30 November 2018 to consider aspects of the proposed development related to waste management and environmental pollution.

Comments were provided by Council's Environmental Health Officer in emails dated 21 February and 8 April 2019. Comments provided in the 21 February 2019 raised some queries in relation to the management of waste from the development which were communicated to the applicant and responded to in an email dated 3 April 2019.

In her 8 April 2019 email council's Environmental Officer indicates that she had no objection to the proposed development and recommends its approval, subject to a number of conditions. Her comments provided were as follows:

Recommendations:

I have a few concerns around noise generation from plant, and potential spills, however these have been addressed in the SoEE.

I have no objection to the development and recommend the following conditions:

1. All operation and construction measures listed in the SoEE prepared by GHD Pty Ltd dated October 2018, must be adhered to. This includes but is not limited to:

- noise and light pollution mitigation measures are to be implemented*
- adequate spill kits are required to be onsite and easily accessible*
- all chemicals and hazardous materials that are stored onsite are to be stored in a bunded area*
- any wash down of vehicles must be done in a manner that ensures the waste water is collected into the approved trade waste system*

2. All waste removed offsite must be taken to a lawful waste facility licenced to accept that waste.

3. standard condition "GG35"

4. A trade waste approval is required.

These recommended conditions of consent have been reviewed by the Assessing Officer and have informed the recommended conditions of consent.

Building Surveyor

The proposed development was referred to Council's Building Surveyor to consider any issues relating to the construction of the proposed development.

Council's Building Surveyor provided a response on 3 December 2018. These comments raised no objection to the proposed development and recommended the inclusion of a number of standard conditions of consent should the development application be approved by the Panel.

These recommended conditions of consent have been reviewed by the Assessing Officer and have informed the recommended conditions of consent.

Sustainability Team

The proposed development was referred to Council's Sustainability Team on the 30 November 2018 for review.

Council's Sustainability Officer provided comments on 7 December 2019. This correspondence indicated an interest in ensuring that construction and operational management procedures referenced in the applicants Statement of Environmental Effects be implemented through the carrying out of the development, in particular in relation to landscaping, sediment control and river turbidity tests.

These comments were reviewed by the Assessing Officer and have informed the recommended conditions of consent.

Community Infrastructure, Roads and Drainage

The proposed development was referred to Council's Community Infrastructure Roads and Drainage Team for comment on the 30 November 2018 to review potential impacts of the proposed development on Council's road and drainage infrastructure.

Council's Community Infrastructure Assistant Director and Chief Engineer provided a response to the referral on 15 May 2019.

This response did not raise any objection to the proposed development and put forward the following observations:

The submitted storm water plan is satisfactory after reviewing by Design Engineer. No Comments about the pavement Hold and Witness points will be applied during the construction required 48hrs notice for inspection. Only comment will be to ask for a vehicle swept path diagram for the largest vehicle expected at the ground. It seems that there is enough width for large vehicles movements but a swept path will formalise and also confirm the ability of maneuvering the large vehicle around the site.

Council's Community Infrastructure Assistant Director and Chief Engineer indicated that, given the size of the property and the amount of space available for vehicle manoeuvring, it would be acceptable for the requested turning circle information to be conditioned as a pre-construction certificate requirement.

5. Section 4.15 Assessment

This section of this report includes an assessment of the development application against the relevant heads of consideration prescribed by the Environmental Planning and Assessment Act 1979.

5.1 Section 4.15(1)(a)(i) The provisions of any Environmental Planning Instrument (EPI)

5.1.1 Muswellbrook Local Environmental Plan (LEP) 2009

The Muswellbrook LEP 2009 is the relevant local environmental planning instrument for the Muswellbrook Local Government Area (LGA). The provisions of the Muswellbrook LEP 2009 which relate to the proposed development have been considered under this section of the development assessment report.

Land Use Zoning and Permissibility

Prior to reviewing the proposed development against the land use table it is of relevance to classify the land use for which development consent is being sought.

In the documentation accompanying the development application, the applicant has indicated that the proposed development is best classified as a resource recovery facility. The Muswellbrook LEP 2009 provides the following definition for the resource recovery facility land use:

resource recovery facility means a building or place used for the recovery of resources from waste, including works or activities such as separating and sorting, processing or treating the waste, composting, temporary storage, transfer or sale of recovered resources, energy generation from gases and water treatment, but not including re-manufacture or disposal of the material by landfill or incineration.

The Muswellbrook LEP 2009 provisions also identify a resource recovery facility to be a sub-classification of the waste or resource management facility land use. The waste or resource management facility land use definition has been included below:

waste or resource management facility means any of the following:

- (a) a resource recovery facility,
- (b) a waste disposal facility,
- (c) a waste or resource transfer station,
- (d) a building or place that is a combination of any of the things referred to in paragraphs (a)–(c).

In view of the intended operation of the proposed development as a research facility, Council Officers are of the view that the proposed development would be better classified as a high technology industry. This view was formed noting that the principle purpose of the development was not the recovery of energy from waste resources, but the research and development of new technologies related to the production of ethanol and energy generation from agricultural produce, agricultural byproducts or green waste. The definitions of an industrial activity and high technology industry have been included below.

high technology industry means a building or place predominantly used to carry out an industrial activity that involves any of the following:

- (a) electronic or micro-electronic systems, goods or components,
- (b) information technology (such as computer software or hardware),
- (c) instrumentation or instruments of a scientific, industrial, technological, medical or similar nature,
- (d) biological, pharmaceutical, medical or paramedical systems, goods or components,
- (e) film, television or multi-media technologies, including any post production systems, goods or components,
- (f) telecommunications systems, goods or components,
- (g) sustainable energy technologies,
- (h) any other goods, systems or components intended for use in a science or technology related field,

industrial activity means the manufacturing, production, assembling, altering, formulating, repairing, renovating, ornamenting, finishing, cleaning, washing, dismantling, transforming, processing, recycling, adapting or servicing of, or the research and development of, any goods, substances, food, products or articles for commercial purposes, and includes any storage or transportation associated with any such activity.

Noting that the ethanol product from the operation of the plant is not being produced on a retail scale, and is intended to be reused at the site only, it was considered that the core production and research processes of the plant were better characterised as an industrial activity related to the research and development of sustainable energy technologies. Accordingly, the land use definition of a high technology industry was viewed as the land use terminology most related to the proposed development.

This has been adopted by Council as the relevant land use classification for the purpose of this development assessment.

However, Council Officers also acknowledge that there are aspects of the sites operation that are compatible with the resource management facility land use definition. The conclusive categorisation of the proposed development has presented some challenge given the unique nature of the proposed development and the research focus of its operation. In case the panel were to take a different view to Council in its assessment of the development application, and deemed the proposal as a resource recovery facility, Council Officers have reviewed the permissibility of both land uses under the provisions of the Muswellbrook LEP 2009 IN1 General Industry land use table. Under the provisions of this land use table development for both the purposes of resource recovery facilities and high technology industries are forms of development permitted with consent.

The land use table for the IN1 land use zone has been included below.

When reviewing the land use table it is important to note that the resource recovery facility land use definition is a sub-category of the waste or resource management facility land use and the high technology industry is a sub-category of the Industry land use definition, through the additional sub-category of light industries.

Zone IN1 General Industrial

1 Objectives of zone

- To provide a wide range of industrial and warehouse land uses.
- To encourage employment opportunities.

- To minimise any adverse effect of industry on other land uses.
- To support and protect industrial land for industrial uses.
- To recognise existing industries and to encourage the establishment of new industries so as to expand the local employment base, and to minimise any adverse effects of industry on residential communities.
- To accommodate larger industries or those which potentially could create nuisance in locations separated from residential areas but accessible to the workforce.
- To enable development that is associated with, ancillary to, or supportive of industry or industrial employees.

2 Permitted without consent

Nil

3 Permitted with consent

*Air transport facilities; Car parks; Community facilities; Crematoria; Depots; Environmental facilities; Environmental protection works; Flood mitigation works; Freight transport facilities; Garden centres; General industries; Hardware and building supplies; Heavy industrial storage establishments; Helipads; Industrial retail outlets; Industrial training facilities; **Industries**; Information and education facilities; Kiosks; Neighbourhood shops; Oyster aquaculture; Places of public worship; Public administration buildings; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor); Roads; Rural industries; Service stations; Sewerage systems; Sex services premises; Signage; Storage premises; Take away food and drink premises; Tank-based aquaculture; Timber yards; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Vehicle sales or hire premises; Warehouse or distribution centres; Waste or resource management facilities; Water supply systems; Wholesale supplies*

4 Prohibited

Pond-based aquaculture Any development not specified in item 2 or 3

Based on the above the proposed development is considered to be a form of development permitted with consent as a high technology industry (a sub-category of the industry land use).


General Muswellbrook LEP 2009

The following table considers the proposed development against the provisions of the proposed development relevant to the assessment of the proposed development.

Table 3 – Muswellbrook LEP 2009 provisions

<u>MUSWELLBROOK LEP 2009 CLAUSE PROVISIONS</u>	<u>PLANNING CONSIDERATION</u>	<u>COMPATIBLE WITH</u>
Part 2 Permitted or Prohibited Development		
2.3 Zone Objectives	<p>clause 2.3 (2) of the Muswellbrook LEP 2012 requires the following:</p> <p><i>The consent authority must have regard to the objectives for development in a zone when determining a development application in respect of land within the zone.</i></p> <p>The zone objectives for the IN1 General Industrial land use zone are as follows:</p> <ul style="list-style-type: none"> • To provide a wide range of industrial and warehouse land uses. • To encourage employment opportunities. • To minimise any adverse effect of industry on other land uses. • To support and protect industrial land for industrial uses. • To recognise existing industries and to encourage the establishment of new industries so as to expand the local employment base, and to minimise any adverse 	Yes

	<p><i>effects of industry on residential communities.</i></p> <ul style="list-style-type: none"> <i>To accommodate larger industries or those which potentially could create nuisance in locations separated from residential areas but accessible to the workforce.</i> <i>To enable development that is associated with, ancillary to, or supportive of industry or industrial employees.</i> <p><u>Planning Comment:</u> The proposed development would support employment opportunities and the research and development of technologies related to the carrying out of industrial activity at a location suited to this type of development.</p> <p>In view of these considerations the proposed development is considered to be compatible with the IN1 General Industrial land use zone objectives and the provisions of this Clause.</p>	
Part 4 Principle Development Standards Additional local provisions		
4.3 Height of Buildings	<p>The maximum building height for the land subject to is 15m.</p> <p>The plans indicate that the largest building proposed as part of this development would have a height of 10.3m at the eaves of its roof and 12m at its apex of its roof.</p>	Yes
4.4 Floor Space Ratio	<p>The Floor Space ratio map specifies a maximum floor space of 1:1 for the land subject.</p> <p>The proposed development involves the construction of a building on a small part of a lot with an area of 3.555ha. The floor space ration of the proposed development would be significantly less than 1:1.</p>	Yes
Part 7 Additional Local Provisions		
7.1 Terrestrial Biodiversity	<p>The land subject to this development application is not identified as biodiversity by the Muswellbrook LEP 2009 terrestrial biodiversity map. The below image illustrates Council's terrestrial biodiversity layer in relation to the site subject to the proposed development.</p>	NA

		
7.6 Earthworks	<p>Clause 7.6(3) provides a number of matters which a consent authority is required to consider prior to granting development consent to development involving earthworks. Each of the relevant matters have been listed and commented on below.</p> <p><i>(3) Before granting development consent for earthworks (or for development involving ancillary earthworks), the consent authority must consider the following matters:</i></p> <p><i>(a) the likely disruption of, or any detrimental effect on, drainage patterns and soil stability in the locality of the development,</i></p> <p><u>Planning comment:</u> the proposed development is not situated in any ridge lands or on land with distinctive drainage features. Accordingly, the proposed development is not anticipated to have significant implications in terms of site stability or stormwater management. To ensure the appropriate management of stormwater associated with the development conditions of consent have been drafted in relation to the carrying out of stormwater management works at the site.</p> <p><i>(b) the effect of the development on the likely future use or redevelopment of the land,</i></p> <p><u>Planning comment:</u> it is unlikely that the proposed development and earthworks would adversely impact the capacity of the site to be redeveloped in the future. The proposed earthworks would facilitate its development and operation.</p> <p><i>(c) the quality of the fill or the soil to be excavated, or both,</i></p> <p><u>Planning comment:</u> it is anticipated that the proposed development would reuse any fill materials excavated from the site and that imported materials would be minimal.</p>	Yes

	<p><i>(d) the effect of the development on the existing and likely amenity of adjoining properties,</i> <u>Planning comment:</u> The subject site is in an established industrial area and the carrying out of earthworks associated with the development is expected to have a negligible impact on the carrying out of industrial activities on adjoining properties.</p> <p><i>(e) the source of any fill material and the destination of any excavated material,</i> <u>Planning comment:</u> It is unlikely that a significant amount of fill would be transported to the site. To ensure that fill brought to the site is obtained from an appropriate facility and suitable for use a condition of consent has been included in the recommended notice of determination regarding the quality of fill.</p> <p><i>(f) the likelihood of disturbing relics,</i> <u>Planning comment:</u> The site subject has previously been disturbed at subdivision stage and through works carried out under the approved development application DA 62/2017. As such it is unlikely that previously unidentified aboriginal artefacts would be disturbed during the carrying out of the development. However, a condition of consent has been recommended to remind the developer of their responsibilities should any artefacts be uncovered through the carrying out of the approved works.</p> <p><i>(g) the proximity to, and potential for adverse impacts on, any waterway, drinking water catchment or environmentally sensitive area,</i> <u>Planning comment:</u> the proposed works would not occur on waterfront land and is not in a designated drinking water catchment.</p> <p>The matters for consideration prescribed by this clause have been considered above. The proposed development is not anticipated to present any significant issue in relation to any of these matters where appropriate conditions are imposed to manage the carrying out of the development as set out in the comments above.</p>	
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5.1.2 State Environmental Planning Policy No 33 Hazardous and Offensive Development:

The aims and objective of this State Environmental Planning Policy (SEPP) relate to identifying hazardous and offensive development and additional assessment considerations for the determination of this type of development.

To determine whether the proposed development would qualify as a hazardous or offensive development the applicant has engaged Vidris Consulting to prepared a Preliminary Hazard

Analysis (PHA). This PHA includes a screening test of the proposed development against hazardous development guidelines contained in the Department of Planning and Environments Hazardous Industry Planning Assessment Guidelines. The screening test identifies that the quantity of dangerous goods to be stored on site would not exceed the threshold quantities that would classify the premises as a potentially hazardous or offensive development and further consideration of the SEPP is not required.

5.1.3 State Environmental Planning Policy No 44 Koala Habitat Protection:

This SEPP aims to encourage the protection of areas of natural vegetation that provide habitat for koalas and applies to development applications in the Muswellbrook LGA with involve land with an area greater than 1ha.

Council staff have considered the likelihood the provisions of the SEPP and is satisfied that the land is unlikely to comprise a potential koala habitat within the meaning of the SEPP and that therefore further consideration of the SEPP and its provisions is not required.

5.1.4 State Environmental Planning Policy No. 55 – Remediation of Land

Under Clause 7 of this SEPP a consent authority must not consent to the carrying out of any development on land unless:

- (a) It has considered whether the land is contaminated, and*
- (b) If the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and*
- (c) If the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.*

The Assessing Officer has reviewed Council's property information records in relation to the subject site to determine the likelihood of the land being affected by any contamination requiring remediation under the SEPP. There is no record of any potentially contaminating activities having been carried out at the site. Council's records suggested that the land has remained vacant since its subdivision in 2008, with the exception of the development application approved by Council in 2017. Prior to the subdivision of the land it is understood that the land was used for agricultural purposes. Council Officers are satisfied that the land subject to this development application is unlikely to be subject to any contamination requiring remediation under this SEPP should the development application be approved.

5.1.5 State Environmental Planning Policy No.64 – Advertising and Signage

The information accompanying the proposed development does not indicate that advertising and signage is to be installed at the premises. Accordingly, further consideration of the proposed development against the provisions of the SEPP is not required. A condition of consent has been included in the recommended conditions of consent to make clear that no approval has been granted to the installation of any advertisement signage at the premises and that any such signage will require the submission of an additional development application.

5.1.6 State Environmental Planning Policy (Infrastructure) 2007

Clause 104 of the SEPP includes provisions for the referral of certain development identified as 'traffic generating development' to the NSW RMS. Schedule 3 of the SEPP identifies various types of development as traffic generating development including industrial development which is not connected to a classified state road that has a total area of 20,000m². The land subject to this development application has a total area of 3.55ha

(355,000m²). However, the proposed development does not involve the development of the entirety of the property and the application would establish an industrial building and operational area of 7,816m² only. This area for the development is less than the 20,000m² at which a development application would meet the classification of a traffic generating development and require referral to the NSW RMS. Accordingly, the proposed development has not been referred to the NSW RMS for consideration through the assessment of this development application.

5.1.7 State Environmental Planning Policy (State and Regional Development) 2011

Part 4 and Schedule 7 of the SEPP identifies types of development that are regionally significant development and require determination by a Planning Panel as the relevant consent authority. These types of development include Council related development with an estimated capital investment value greater than \$5-million.

The development proposed under this development application is considered to be Council related development as it would be carried out on land owned by Council. The estimated capital investment value of the development has been reported at \$26,016,045. Accordingly, the proposed development meets the criteria for Regionally Significant Development which requires determination by the Planning Panel.

Council staff have reviewed the proposed development against the criteria for State Significant development established by the SEPP and is satisfied that the proposed development does not meet the criteria for this type of development.

5.1.8 State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

This SEPP applies to the clearing of vegetation in non-rural areas and is applicable to the Muswellbrook LGA and the IN1 – General Industrial land use zone.

The site subject has previously been cleared for development under the site works approved by DA 62/2017, while the provisions of part 3 of the SEPP affect the clearing of vegetation to which a development control plan applies. Muswellbrook Shire Council does not have a development control plan that has provisions for the clearing of vegetation.

5.2 Section 4.15(1)(a)(ii) the provisions of any draft Environmental Instrument.

The proposed development does not relate to any draft environmental planning instrument. There are no draft EPIs relevant to the subject Application.

5.3 Section 4.15(1)(a)(iii) the provisions of any development control plan

The Muswellbrook Development Control Plan (DCP) is applicable to all development applications within the Muswellbrook Shire LGA. The provisions of the DCP as they relate to the proposed development have been considered under this section of the Section 4.15 Assessment under the headings below.

Sections of the DCP which do not relate to the proposed development have not been referenced in the comments below. Council's DCP can be viewed in full at Council's website.

Section 3 – Site Analysis

Council Officers are satisfied that the proponent has adequately considered the provisions of this Section and prepared the documentation accompanying the development application in accordance with the requirements of this Section.

Section 4 – Notification

Council has notified the proposed development in accordance with the minimum fourteen day notification requirements specified by this section of the DCP.

In accordance with these requirements the proposed development was advertised to neighbouring and potentially impacted properties between the 28 November and the 13 December 2018. A notice was also placed in the local newspaper, the Hunter Valley News, at the commencement of the notification period.

No submissions were received by Council from members of the public in relation to the proposed development throughout or after the conclusion of this notification period.

Section 10 Industrial Development

The table below measures the proposed development against the DCP controls specified by this Section of the DCP.

Table 4 – DCP Section 10 Industrial Development

MUSWELLBROOK SHIRE COUNCIL DCP SECTION 10 INDUSTRIAL DEVELOPMENT		
<u>DCP REQUIREMENTS</u>	<u>COMPLIES</u>	<u>PLANNING COMMENT</u>
<p>10.1 Setbacks</p> <p>This section of the DCP sets a minimum setback requirement of 10m for an industrial development from a front building boundary. The DCP provision also provides for circumstances under which Council may consider the variation of the 10m standard.</p>	Yes	The proposed development complies with the minimum 10m setback requirement specified by this section of the DCP.
<p>10.1.2 Building Design (i) & (ii)</p> <p>(i) <i>The façade of the building to the primary road frontage shall be constructed in a contrasting material to a height of 2.5 metres and returned along the side for a distance of 2 metres. (A change in the colour of the material is not adequate).</i></p> <p>(ii) <i>Council will consider deletion of the 2.5 metre brick or masonry wall along the frontage of the building as required above, if the applicant provides satisfactory relief and contrast materials</i></p>	NA	<p>The site subject to this development application is located at the end of Carramere Road. The proposed building is not orientated directly toward a road frontage and the principle building facade is orientated toward the boundary of a neighbouring property.</p> <p>Accordingly, the building proposed does not have a facade orientated toward the primary road frontage and compliance with the requirements of 10.1.2(i) and (ii) are not required.</p> <p>Council Officers have given consideration to the quality of the design of the development proposed. Council Officers are satisfied that the design would be generally compatible with the objectives of the DCP and in keeping with the design of other industrial development in the locality. The physical bulk of the development would be broken up through the H-shaped flood plan of the premises and the use of 4 types of colours in the metal sheet cladding for the development.</p>

<i>within the front façade to soften its visual appearance and form and reduce its bulk.</i>		
10.1.2 Building Design (iii) <i>(iii) External walls of buildings shall be profiled factory colour treated cladding or masonry material, or a combination of both with low reflective properties.</i>	Yes	The external walls of the proposed development would be clad in metal sheeting. Proposed colour schemes have been provided to Council. It is recommended that a standard Council condition of consent is imposed on any development consent restricting the use of materials that contravene this DCP provision.
10.1.2 Building Design (iv) & (v)	NA	The proposed development is not located in a prominent position and the installation of advertisement signage at the premises is not proposed. Accordingly, these provisions are not considered to be relevant to the assessment of this development application.
10.2.1 Drainage and Stormwater This section sets minimum provisions for stormwater management and drainage design.	Yes	A stormwater management plan has been prepared in relation to the proposed development and submitted by the applicant. Council's Community Infrastructure Department have reviewed the stormwater management plan and indicated that they are satisfied with the stormwater control measures proposed.
10.2.2 Landscaping	Yes - Compliance to be administered through conditions of consent	<p>A detailed landscaping plan has not been submitted to Council as part of the development application. However, Council Officers have reviewed the development site and proposed plans and are satisfied that there is adequate space at the site for landscaping to be provided to meet the objectives of this section of the DCP.</p> <p>Accordingly, it is recommended that conditions of consent be imposed on any Notice of Determination to require the applicant to prepare a landscaping plan in accordance with Council's requirements and that this vegetation screening be put in place through the carrying out of the development.</p>
10.2.3 Visual amenity with regard to car parking and operational areas	Yes – Compliance to be administered by a condition	<p>Council Officers are satisfied that the proposed car parking would comply with the siting requirements as they would be visibly and physically separated from the streetscape by the main building proposed.</p> <p>In relation to the car park construction it is recommended that a condition of consent be imposed on any development consent to require the car park area and accessible car parking spaces to be constructed in accordance with the relevant Australian Standards.</p>
10.2.4 Vehicle	Yes	The proposed development is considered to

Movements and Access		be compatible with the requirements of this section. The proposed development would have suitable vehicle access and adequate area for vehicle manoeuvring and vehicles to exit the site in a forward direction.
10.3.1 Water and Sewer	Yes	The proposed development would be connected to Council's sewage and water infrastructure. Council services could support the proposed development and it is recommended that standard conditions of consent be imposed in relation to service connections for the proposed development.

Section 13 – Flood Prone Land

Council's records suggests the development envelope is not affected by flooding. Accordingly, the provisions of this section of the DCP do not require further consideration in relation to the proposed development.

Section 14 – Outdoor Signage

The installation of any advertisement signage has not been proposed as part of this development application. Accordingly, the provisions of this section do not require further consideration in relation to the proposed development. To make clear that any future advertisement signage (excluding exempt development) requires approval from Council, it is recommended that a condition of consent be included in any notice of determination to bring this to the attention of the applicant.

Section 16 – Car Parking and Access

Council has considered the proposed development against the table of car parking requirements prescribed by this section and made the following observations:

- The DCP requires car parking spaces to be provided for this type of development at a rate of 1 space per 100m² of gross floor area or 1 space per 2 employees.
- The development application proposes a total of 14 off-street car parking spaces.
- The applicant's statement of environmental effects indicates that the premises would be staffed by a maximum of 20 staff members and would have an average operational team of 14 staff members.
- The 14 off-street car parking spaces proposed would exceed the minimum DCP requirements of 1 space per every 2 staff members (total of 10 based on the maximum operating staff).

To ensure the car parking spaces are constructed in accordance with general requirements of this section of the DCP it is recommended that a standard condition of consent is imposed relating to the construction of the proposed car parking and access areas in accordance with the requirements of the relevant Australian Standards.

Section 20 – Erosion and Sediment Control

This section of the DCP requires the preparation of an erosion and sediment control plan for development applications involving a disturbance area greater than 250m².

A sediment and erosion control plan has been prepared for the proposed development and submitted to Council as part of the stormwater management plans accompanying the development application.

This section of the DCP also requires a landscape plan and a water management plan to be

submitted for a development application with a disturbance footprint to the extent of that proposed by this application. The sediment and erosion control plan proposed deals with sediment control matters that would be required to be managed by a Water Management Plan (within the meaning of such a plan ascribed by the DCP), while it is recommended that a detailed landscape plan is required as a condition of consent should the development application be approved.

Council Officers are satisfied that the proposed development would comply with the provisions of this section where it is carried out in accordance with the provisions of the sediment control plan and conditions of consent are imposed relating to the provision of a Water Management Plan.

Section 23 – On-site Sewage Management Systems

The information accompanying the development application indicates that wastewater associated would be temporarily stored on-site for treatment, prior to being disposed of into Council's reticulated sewage system. The installation of such a system requires approval from Council in accordance with Section 68 of the Local Government Act 1993. Council's standard conditions relating to the installation of such a system have been included in the recommended conditions of consent.

Section 24 – Waste Minimisation and Management

The documentation accompanying the proposed development has provided a broad overview of the expected waste streams from the operation of the premises and the manner of disposal.

Unless Council has particular concerns in relation to the expected waste streams associated with the construction and operation of a development the preparation and submission of a site waste minimisation management plan is typically managed through a condition of consent. Council Officers are satisfied that this approach could be implemented with this development application and a condition imposed on any consent requiring the submission of a site waste minimisation plan prior to the issue of a Construction Certificate.

Section 25 – Stormwater Management

Council staff are generally satisfied with the proposed stormwater management plan and have guided the recommended conditions of consent related to stormwater infrastructure and plans.

Section 94A Contributions Plan 2009

Council's Section 94A Contribution Plan requires the payment of a development contribution at a rate of 1% of the total estimated value of a development for development applications with a value exceeding \$100,000.

However, Section 7.12 (former Section 94A) of the EP&A Act 1979 prevents Council's from charging such a contribution where a contribution has been charged under Section 7.11 (former Section 94) of the EP&A Act 1979.

A review of documentation related to the site and the subdivision of the land identified that a Section 94 contribution had been charged in relation to the site when it was developed as part of the subdivision approved by DA 266/2005. Accordingly, the provisions of Section 7.12 of the EP&A Act 1979 prevent a further contribution being levied against the development of the land under Council's Section 94A Contribution Plan should development consent be granted to this development application.

5.4 Section 4.15(1)(a)(iia) the provisions of any planning agreement

There are no existing planning agreements that relate to the subject site and the proposed development, nor has the applicant proposed to enter into a voluntary planning agreement as part of this development application.

5.5 Section 4.15(1)(a)(iv) the provisions of the regulations

These sections have been reviewed in relation to the proposed development and Council Officers are satisfied that there are no additional matters prescribed by Division 8 that have implications for the assessment and determination of this development application. While the recommended conditions of consent has been drafted to include the prescribed conditions of consent referenced by Division 8A relevant to the proposed development.

5.6 Section 4.15(1)(a)(v) the provisions of any coastal zone management plan

The land subject to this development application is not located within a coastal management zone or affected by a coastal management zone plan.

5.7 Section 4.15(1)(b) the likely impacts of that development

Likely environmental impacts associated with the proposed development have been considered and commented on under the sub-headings below.

Context and setting

The proposed development involves the construction of an industrial scale research orientated industry in an established industrial area. The height, bulk and scale of the facility would be compatible with existing environment and the design and appearance of pre-existing industrial premises in the adjoining locality.

Potential Impact on Adjacent Properties

The proposed development would be located in an established industrial area. It is unlikely that the proposed development would have any significant impact on the amenity or operability of any adjoining industrial enterprises, while there is a substantial buffer distance between the site and any sensitive residential land uses. Accordingly, Council Officers are satisfied that the premises is unlikely to have any significant impact on the amenity of adjoining properties where it is approved subject to the recommended conditions of consent.

Access and Transport

Vehicle access to the site would be available from an established road network that services the Muswellbrook Thomas Mitchel Drive industrial area. The site would have a direct connection to Carramere Road which in turn connects with Thomas Mitchel Drive, both of which are local roads under the control and management of Muswellbrook Shire Council. Thomas Mitchell Drive in turn communicates with the New England and Golden Highways which are part of the States regional transport network.

The information accompanying the proposed development has estimated that vehicle traffic would be as follows:

- **Construction:** Approximately 10 light vehicle movements per day and occasional heavy vehicle movements for deliveries.
- **General operation** light vehicle movements to and from the premises by staff. The site would typically staffed by 10 individuals with a maximum staff presence of 20 people during peak operation periods.
- **Operational heavy vehicle movements:** it is anticipated that an average number of 4 heavy vehicles would deliver biomass material to the site for use during any 28 day operational cycle. Operational cycles would occur four times per year.

The amount of vehicle movements proposed is considered to be reasonable and in keeping with the amount of vehicle traffic that could be expected for the development and operation of an industrial premises. Accordingly, it is considered that the proposed development can be supported from a vehicle access and traffic perspective.

Utilities

The site subject to this development application is located in an established industrial area and utility services are currently available in the locality. It would be necessary for the developer to carry out works to connect the development to sewer, water, telecommunications and electrical services through the carrying out of the development.

Heritage

The proposed development is not located in a heritage conservation area or situated in the vicinity of any State or Locally listed items of environmental heritage.

A search of the Aboriginal Heritage Information Management System (AHIMS) was carried out by the applicant in relation to the subject site. This search identified 14 aboriginal sites in the proximity of the development site. The sites identified were focused along the boundaries of Ramrod Creek and included a site located within the confines of the development site along Ramrod Creek.

Mitigation measures have been put forward by the applicant in their Statement of Environmental Effects around restricting access to the Ramrod Creek area during the carrying out of construction to prevent the disturbance of this area. Council staff are satisfied that the implementation of these mitigation measures would be acceptable for the management of any impact on the identified and potential cultural significant sites in that area.

In relation to the portion of the site to be developed under this development application Council Officers note the following in relation to the likelihood of aboriginal artefacts being disturbed during the carrying out of works:

- The land subject to this development application was created as a result of a 23 lot subdivision approved by Council under DA 266/2005. Investigations were carried out in relation to potential impacts of that development on items of cultural significance through the assessment and determination of that development application.
- The portion of the site to be developed under this development application is heavily disturbed as a result of the subdivision of the land and the making ready of the site for development.
- In 2017 a development application was approved for the carrying out of site works including earthworks at the property (DA 62/2017). Council is not aware of any information to suggest that items of archaeological significance were uncovered during the carrying out of these works.

In view of the above it is considered that the proposed development is unlikely to have an impact on items of cultural significance and it is recommended where the development is carried out in accordance with the mitigation measures put forward by the statement of environmental effects and recommended conditions of consent.

Water

The proposed development would be physically separated from the Ramrod Creek waterway. No works have been proposed within the creek area or on waterfront land in the immediate vicinity of the creek, while consideration has been given to the management of stormwater and the bunding of areas where chemicals are stored or used through the preparation of the proposed development. Accordingly, Council Officers are satisfied that the proposed development is unlikely to have a significant impact on this waterway where it is carried out in accordance with the proposed plans, and recommended conditions of consent.

Flora and Fauna

The applicant has completed due diligence searches of the Department of Environment and Energies Protected matters Search Tool, the Office of Environment and Heritages Atlas of NSW Wildlife Database and the Department of Primary Industries Freshwater Threatened Species Distribution Map to determine the likelihood of threatened species being present at the site or in the locality. The findings of these searches can be viewed the Statement of Environmental Effects accompanying the development application and its appendixes.

Based on the findings of these searches, the physical parameters of the site, its proximity to a developed industrial land and the works undertaken on the land related to its subdivision and preparation for industrial development Council Officers are satisfied that the proposal is unlikely to have any significant impact on threatened or endangered species of flora or fauna where it is carried out as proposed, and in accordance with the recommended conditions of consent.

Air Quality

The site proposed development is located in an industrial area and is substantially separated from nearby residential receptors.

Council Officers are satisfied that the proposed development is unlikely to emit pollution likely to be harmful to human health. However, Council Officers have observed that the agricultural produce/waste to be used in the operation of the premises would be located under a partially enclosed metal awning and understand that a wider range of material would be transported to the site for use in experimental bio-fuel production. The semi-enclosed storage of any light weight agricultural produce may not be sufficient to prevent materials from being blown off-site. To manage this issue, and prevent off-site pollution, a recommended condition of consent has been drafted relating to the secure storage of materials at the site.

Waste

It is expected that during the 28 day operating cycle of the premises (which is scheduled to occur 4 times a year) that the premises would produce 6.5 tonnes of lignin cake and wastewater at an estimated maximum volume of 3,000L of water a day.

The applicant has indicated that this lignin cake is intended to be disposed of through inclusion in compost mixes and/or application to land and the wastewater disposed of into Council's sewage system after filtration through a trade waste system.

Technological hazards

The proposed development would involve the carrying out of technology research and development at the site and dangerous goods would be stored at the site as part of its operation. The applicant has prepared a preliminary hazard analysis to consider technological hazards associated with the operation of the premises.

Social and Economic Impacts

The proposed development is considered likely to have positive social and economic outcomes. The development would establish a new industrial research facility in a well-established industrial area and would support employment, research, innovation and education opportunities in the Muswellbrook and wider regional area.

5.8 Section 4.15(1)(c) the suitability of the site for the development

The site subject to this development application is appropriately zoned for the proposed development and is situated in a well-established industrial locality. The subject land is not affected by any natural hazards or technological hazards which would affect the carrying out of the development.

5.9 Section 4.15(1)(d) any submissions made

The proposed development was publically notified and advertised between the 28 November 2018 and 13 December 2018. No submissions were received in relation to the proposed development.

5.10 Section 4.15(1)(e) the public interest.

It is considered that the carrying out of the proposed development would be compatible with the public interest where the development is carried out in accordance with the documentation submitted, and the recommended conditions of consent. The proposed development would provide additional employment, research and education opportunities and would establish a regionally significant research and development industry in the Muswellbrook LGA.

6. CONCLUSION

A comprehensive assessment of the proposed development against the relevant heads of consideration of Section 4.15 of the Environmental Planning and Assessment Act 1979 has been carried out. This assessment outlined in Section 5 of this report above. The following conclusions have been made on the basis of the findings of this assessment:

- The proposed development would be in accordance with the relevant provisions of the Muswellbrook LEP 2009.
- The proposed development would be compatible with the requirements of relevant SEPPs.
- The proposed development is compatible with the requirements of the Muswellbrook DCP and conditions of consent have been recommended to ensure the development is carried out in accordance with certain relevant DCP requirements.
- The assessment report has considered potential environmental impacts related to the proposed development. Based on this assessment, Council Officers are satisfied that the proposed development is unlikely to have a significant adverse environmental impact.
- The proposed development is considered to be compatible with public interest and it would have positive social and economic impacts for the Muswellbrook LGA.

Based on the findings of the section 4.15 assessment, it is recommended that the Hunter Planning Panel grant approval to DA 101/2019 involving the construction and operation of a pilot biorefinery and research hub at 24 Carramere Road Muswellbrook (Lot 22 DP 1131270) subject to conditions.