STATEMENT OF ENVIRONMENTAL EFFECTS

APPLICATION TO MODIFY PROJECT APPROVAL MP06_0228
SHOALHAVEN STARCHES EXPANSION PROJECT

MODIFICATION APPLICATION No. 20 (Mod 20)
(MADE PURSUANT TO S.4.55(1A) OF THE ENVIRONMENTAL PLANNING & ASSESSMENT ACT)

PROPOSED ALTERATIONS AND ADDITIONS TO EXISTING CO_2 PLANT

Supagas
Lot 143 DP 1069758
220 Bolong Road, Bomaderry

Prepared for

Supagas

August 2021

COWMAN STODDART PTY LTD

Statement of Environment Effects

Project	Application to Modify Project Approval MP06_0228, Shoalhaven Starches Expansion Project (Modification Application No. 20 (Mod 20)) – Proposed Alterations and Additions to CO_2 Plant
Address	220 Bolong Road, Bomaderry
Our ref:	17/49
Prepared by	Stephen Richardson
Final	5 August 2021

Town Planning, Agricultural & Environmental Consultants

Stephen Richardson, M.App.Sc., BTP, Grad. Dip. Env. Mgt, RPIA
Stuart Dixon, B. Urb. & Reg. Plan., RPIA
Angela Jones, BA Hons, MSc., MSSA

Associates: Peter Cowman, B.Sc.Agr., MAIA
Toni Wearne, BA (Hist.), Grad. Dip. Urb. & Reg. Plan.

PIA Registered Planner — Planning Institute Australia

Nowra: 31 Kinghorne Street, Nowra NSW 2541 (02) 4423 6198
Wollongong: 166 Keira Street, Wollongong NSW 2500 (02) 4208 2205
Email: info@cowmanstoddart.com.au

PO Box 738, Nowra NSW 2541
Fax: (02) 4423 1569
www.cowmanstoddart.com.au

Cowman Stoddart Pty Ltd

COWMAN STODDART PTY LTD

CONTENTS

FIGURES

ANNEXURES

EXECUTIVE SUMMARY

Shoalhaven Starches is a member of the Manildra Group of companies. The Manildra Group is a wholly Australian owned business and the largest processor of wheat in Australia. It manufactures a wide range of wheat based products for food and industrial markets both locally and internationally.

The Shoalhaven Starches factory located on Bolong Road, Bomaderry produces a range of products for the food, beverage, confectionary, paper and motor transport industries including starch, gluten, glucose and ethanol.

Project Approval MP06_0228 was granted by the Minister for Planning on the 28th January 2009 for the Shoalhaven Starches Expansion Project. This approval also encapsulated previous approvals for the site into one overall approval for the site (at that time).

The Shoalhaven Starches Expansion Project sought to increase ethanol production at the Bomaderry plant in a staged manner from 126 million litres per year to 300 million litres per year. To accomplish the increase in ethanol production, this project required a series of plant upgrades and increase in throughput of raw materials, principally flour and grain.

On the 7th August 2018 the Independent Planning Commission granted a Modification Approval (Mod 15) to Project Approval MP06_0228 enabling Supagas to construct a Carbon Dioxide (CO_2) Plant adjacent to the former Dairy Farmers factory site that now belongs to the Manildra Group of companies and which forms part of the Shoalhaven Starches operations. The site is located at 220 Bolong Road Bomaderry (Lot 143 DP 1069758).

Supagas have now established the CO_2 Plant on the subject land in accordance with Mod 15. This facility takes CO_2 from the Shoalhaven Starches operations and processes this gas to food grade quality for the food and beverage market. CO_2 taken directly from Shoalhaven Starches operations reduces emissions from their operations and eventually up to 100 tonnes per day when the plant is fully operational.

Supagas seek to install additional storage vessels and associated plant on the site to increase storage capability to enable:

1. Improved storage volume capacity of liquid CO_2 product during planned and unplanned outages.
2. Better batching/quarantining of product and quality control.
3. Better availability of product during high demand periods.

This Statement of Environmental Effects (SEE) has been prepared in support of this Modification Application.

Plans of the Modification Proposal are included in **Annexure 2**.

The Shoalhaven Starches Expansion Project was a 'transitional Part 3A Project" for the purposes of Schedule 6A of the Environmental Planning & Assessment Act. As of the 1st March 2018 the transitional arrangements for former Part 3A projects have been discontinued. The discontinuation of the transitional arrangements for Part 3A projects and concept plans means that modifications are assessed through the State Significant Development (SSD) pathway. As such this Modification Application is made pursuant to Section 4.55(1A) of the Environmental Planning & Assessment Act 1979.

The preparation of this SEE has been undertaken following consultation with the DPIE, the EPA, Workcover and Shoalhaven City Council.

The SEE is supported by the following expert assessments:

- An Air Quality Impact Assessment prepared by GHD (**Annexure 3**). GHD conclude that air quality impacts (odours and other pollutants) are not anticipated and there is no expected increase to the cumulative levels in the local area.
- An Environmental Noise Impact Assessment by Harwood Acoustics (**Annexure 4**) finds that the level of noise emission from the operation of the facility will meet the Noise Limits prescribed under Environment Protection Licence 21178 at all receptor locations without the need for noise controls.
- A Flood Compliance Report prepared by WMAwater (**Annexure 5**) concludes the existing and proposed works will not significantly increase the 1% AEP, PMF or Extreme event flood levels on lands outside those owned by Shoalhaven Starches. Consequently, WMAwater advise it is not necessary to consider the cumulative effects of existing / proposed works as there is no significant incremental increase because of these works.
- A Preliminary Hazard Analysis (PHA) undertaken by Pinnacle Risk Management (**Annexure 6**) that assesses the risks associated with the proposed modifications and provides a comparison against relevant risk criteria. The PHA demonstrates the Modification Proposal will comply with all risk criteria. The PHA also concludes that societal risk, area cumulative risk and environmental risk will be acceptable.

The Modification Application will not involve changes to the size, scale or intensity of the existing Supagas or Shoalhaven Starches operations. The modification proposal will not result in any increases in overall production rates from the site, nor will it involve any significant changes in level of impacts arising from the approved development.

The SEE concludes that the proposed modifications will have minimal environmental impacts; and the development to which Project Approval MP06_0228 as modified by the Modification Application relates, will be substantially the same development as the development for which this consent was originally granted and before that consent as originally granted was modified.

1.0 INTRODUCTION

Project Approval MP06_0228 was granted by the Minister for Planning on the 28th January 2009 for the Shoalhaven Starches Expansion Project. This approval also encapsulated previous approvals for the site into one overall approval for the site (at that time).

The Shoalhaven Starches Expansion Project sought to increase ethanol production at the Bomaderry plant in a staged manner from 126 million litres per year to 300 million litres per year. To accomplish the increase in ethanol production, this project required a series of plant upgrades and increase in throughput of raw materials, principally flour and grain.

Following the Minister's determination, Shoalhaven Starches have been implementing and commissioning works in accordance with this approval.

On the 7th August 2018, the Independent Planning Commission granted a Modification Approval (Mod 15) to Project Approval MP-06_0228 enabling Supagas to construct a Carbon Dioxide (CO_2) Plant adjacent to the former Dairy Farmers factory site that now belongs to the Manildra Group of companies and which forms part of the Shoalhaven Starches operations. The site is located at 220 Bolong Road Bomaderry (Lot 143 DP 1069758).

Supagas have now established the CO_2 Plant on the subject land in accordance with Mod 15. This facility takes CO_2 from the Shoalhaven Starches operations and processes this gas to food grade quality for the food and beverage market. CO_2 taken directly from Shoalhaven Starches operations will eventually reduce emissions from their operations by up to 100 tonnes per day when the plant is fully operational.

Supagas seek to install additional storage vessels and associated plant on the site to increase storage capability to enable:

1. Improved storage volume capacity of liquid CO_2 product during planned and unplanned outages.
2. Better batching/quarantining of product and quality control.
3. Better availability of product during high demand periods.

The Modification Application will not involve changes to the size, scale or intensity of the existing Shoalhaven Starches operations. The modification proposal will not result in any increases in production rates from the site, nor will it involve any changes in level of impacts arising from the approved development.

The Modification Application is made pursuant to Section 4.55(1A) of the Environmental Planning & Assessment Act. This SEE has been prepared in support of the Modification Application.

The SEE has been prepared following consultation with the:

- DPIE;
- EPA;
- Workcover
- Shoalhaven City Council

Responses from the above government agencies that have been received at the time of preparing this SEE are included as **Annexure 1** to this SEE.

The Modification Application is supported by plans included in **Annexure 2**, and the following expert assessment reports:

- Air Quality Assessment prepared by GHD Pty Ltd (**Annexure 3**) which concludes that air quality impacts (odours and other pollutants) are not anticipated and there is no expected increase to the cumulative levels in the local area.
- An Environmental Noise Impact Assessment by Harwood Acoustics (**Annexure 4**) finds that the level of noise emission from the operation of the facility will meet the Noise Limits prescribed under Environment Protection Licence 21178 at all receptor locations without the need for noise controls.
- A Flood Compliance Report prepared by WMAwater (**Annexure 5**) concludes the existing and proposed works will not significantly increase the 1% AEP, PMF or Extreme event flood levels on lands outside those owned by Shoalhaven Starches. Consequently, WMAwater advise it is not necessary to consider the cumulative effects of existing / proposed works as there is no significant incremental increase because of these works.
- A Preliminary Hazard Analysis prepared by Pinnacle Risk Management (**Annexure 6**) that assesses the risks associated with the proposed modifications and provides a comparison against relevant risk criteria. The PHA demonstrates the Modification Proposal will comply with all risk criteria. The PHA also concludes that societal risk, area cumulative risk and environmental risk will be acceptable.

It is considered that the Modification Proposal will not have any significant adverse environmental impacts and, the modified development to which Project Approval MP06_0228 relates, will be substantially the same development as the development for which this consent was originally granted and before that consent as originally granted was modified.

2.0 SITE AND SURROUNDS

2.1 LOCAL AND REGIONAL CONTEXT

The works associated with this modification application are all located at 220 Bolong Road, Bomaderry (Lot 143 DP 1069758) on the former Dairy Farmers' factory site. This parcel of land comprises an area of 5.777 ha.

The subject site contains a factory complex previously occupied by the Dairy Farmers dairy factory. The subject site is now owned by the Manildra Group of Companies, which includes Shoalhaven Starches. The factory building has subsequently been used as a meat works by Argyle Meats, although this use has subsequently ceased operations.

The existing CO_2 Plant has been established in accordance with Mod 15 adjacent to the former Dairy Farmers' factory on a patch of land located between the eastern property boundary and the paved truck circulation area which adjoins the eastern side of the meat processing plant.

The subject site has access to Bolong Road. The existing access driveway for 220 Bolong Road, on which the CO_2 Plant will be located, comprises separate ingress and egress driveways with a central median. The driveway provides access to the factory site, and car park located to the front of the existing factory complex.

The western portion of 220 Bolong Road comprises a wastewater treatment plant associated with the former dairy factory consisting of treatment plant, storage dams and tanks. Further to the west of this site is the Shoalhaven Starches factory site.

The town of Bomaderry is located within 1 km to the west of the subject lots, and Nowra urban area is situated approximately 2 km to the south-west.

Figure 1 shows a site locality plan.

Located to the north of the 'subject site is the Shoalhaven Starches Environmental Farm.

To the east of the subject site is another industrial site, Boweld Constructions, a heavy engineering factory site. Further afield to the east is farm land and the former Paper Mill site (now also owned by the Manildra Group of Companies).

The Shoalhaven River is located to the south of the site across an existing private railway line.

Aerial photographs of the locality and the site, along with key components of the proposal are shown in **Figures 2 and 3**.

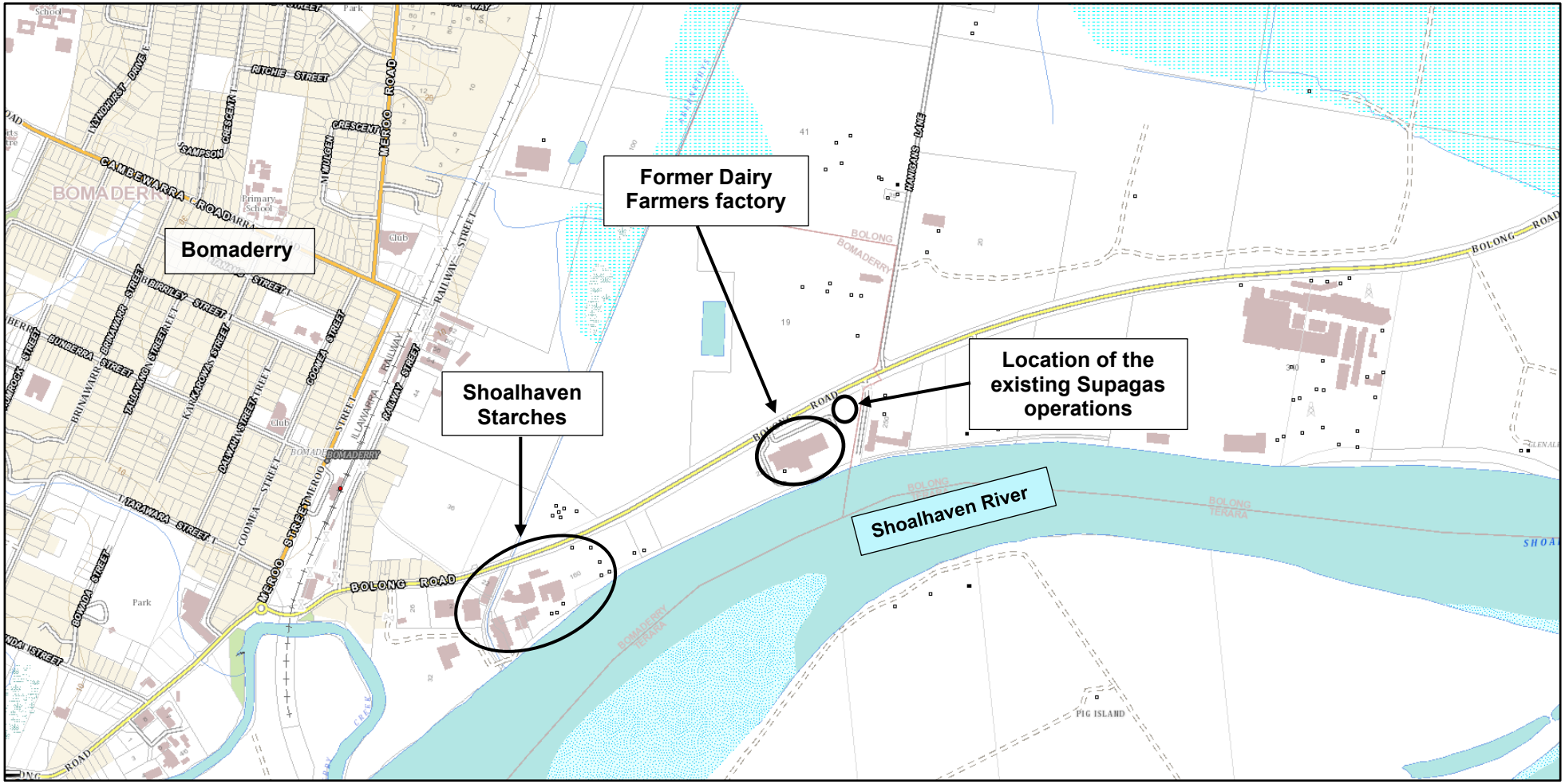

Figure 1: Site locality plan.

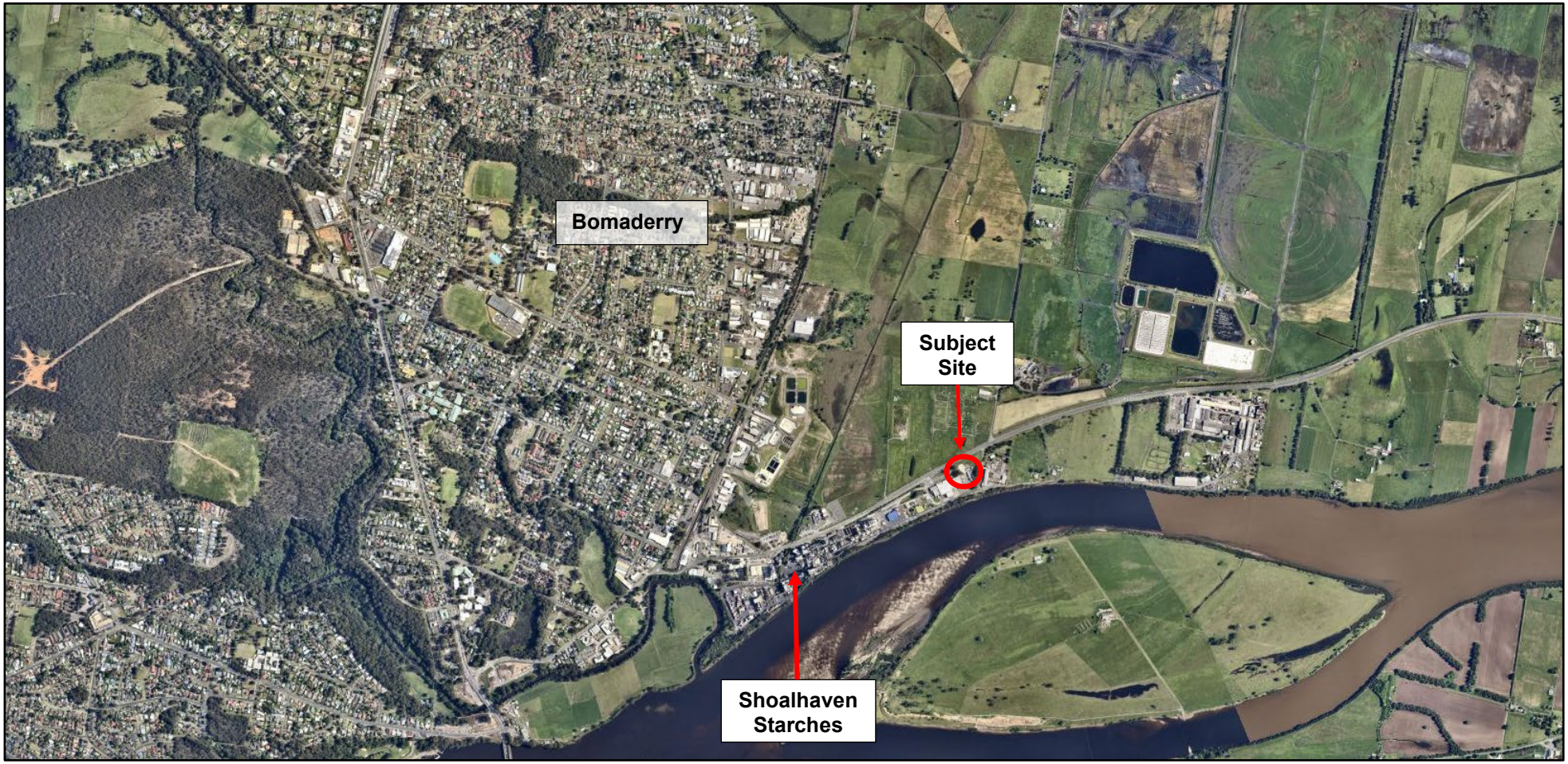

Figure 2: Aerial photograph of the locality.

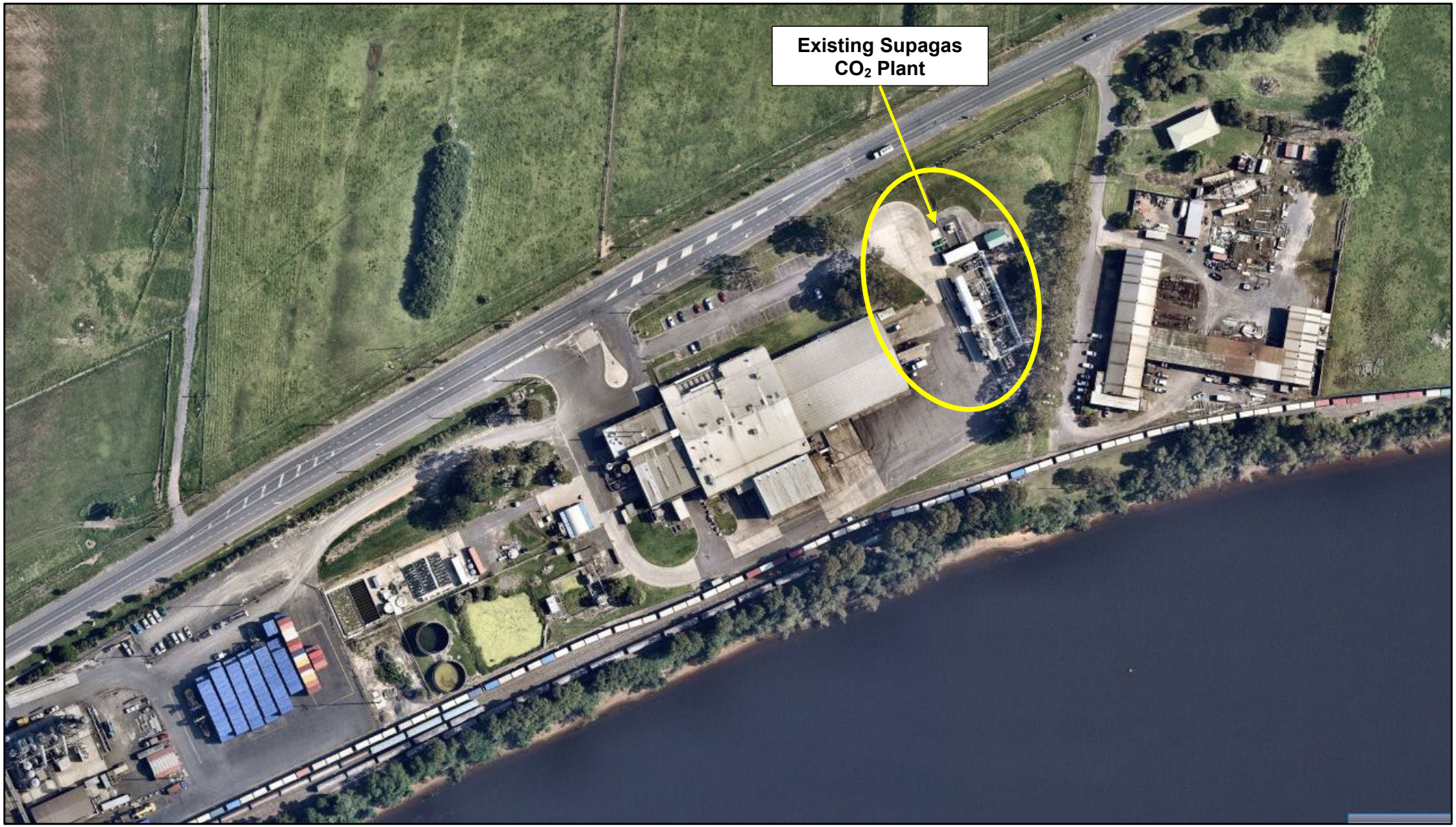

Figure 3: Aerial photograph of site.

3.0 BACKGROUND

3.1 OVERALL PRODUCTION PROCESSES

The production process at the Shoalhaven Starches plant has developed over a number of years. Originally the plant was primarily concerned with the production of starch and gluten from flour. However, the Company has pursued a number of technological innovations particularly with respect to reducing the environmental impacts of the Company's operations. As a result, Shoalhaven Starches has been moving towards a "closed" system of production. Essentially this entails the efficient use of end products to ensure wastage is reduced to a minimum.

The first step in the production process is the delivery of flour and grain, by rail, from the Company's flour mills at Manildra, Gunnedah and Narrandera. The trainloads are brought into the plant via the switching yard at Bomaderry.

The Company received approval from the Minister for Planning for the erection of flour mills on site to enable the milling of part of the Company's flour requirements to be processed directly on the site. One flour mill has now been commissioned and the second flour mill is yet to be built. The remainder of the Company's flour requirements will continue to be sourced from the Company's off-site flour mills.

Flour is transferred via storage to the "wet end" of the plant where fresh water is added. The subsequent mixing and separation process produces starch and gluten.

The gluten is dried to enable it to be packaged and distributed as a high protein food additive for human consumption. This product is then taken from the site after packaging for both local and export markets. Starch is used for fermentation and distillation to produce ethanol.

The starch that is separated from the flour is either dried or remains in liquid form. The dried and liquid starch is sold to the paper and food industries. The starch is used for food, cardboard, paper and other industrial purposes. Liquid starch is used in the ethanol production process.

Starch is also used in the production of syrups on the site. The syrups plant products include glucose and brewer's syrup. These are used for foods, chocolates, confectionery, beer, soft drinks and fruit juice. The syrups plant products can also be used in the ethanol process.

The waste products from the starch, gluten and syrup production processes are combined to feed the fermentation and distillation stage of ethanol production. The outputs are fuel,

industrial and beverage grade ethanol. Industrial grade ethanol is used in producing pharmaceuticals, printer's ink and methylated spirits.

Ethanol production results in some liquid and solid by-products, which are processed through the stillage recovery process plant (which was approved as part of PRP No. 7 in 2005). The solids in the stillage are recovered as DDGS (Dried Distillers Grains Syrup), dried and sold as a high protein cattle feed with the remaining water used for irrigation. The waste water resulting from the ethanol production is treated in the wastewater treatment plant and is re-used in the Starch Plant and the surplus is irrigated onto Shoalhaven Starches Environmental Farm to the north of Bolong Road. This farm land is used for fodder crops, pasture and cattle grazing.

CO_2 gas is emitted from the above process and expelled through a number of flue structures (stacks) for the Starches factory. The existing Supagas CO_2 Plant captures and further processes these CO_2 gas emissions to food grade quality further reducing greenhouse gas emissions from the Shoalhaven Starches operations.

The CO_2 Plant takes CO_2 directly from the Shoalhaven Starches operations and processes this gas to food grade quality for the food and beverage market. By taking the CO_2 directly from the Shoalhaven Starches factory operations, CO_2 emissions under present operations are reduced by up to almost 50 tonnes per day and eventually up to 100 tonnes per day when fully operational in accordance with the Mod 15 approval.

3.2 THE SUPAGAS CO2 PLANT OPERATIONS

On the 7th August 2018 the Independent Planning Commission granted a Modification Approval (Mod 15) to Project Approval MP-06_0228 to enable Supagas to construct a CO_2 Plant on the subject site.

The Supagas operation takes CO_2 from the Shoalhaven Starches operations and then processes this gas to food grade quality for the food and beverage market.

Supagas takes CO_2 with a purity of approximately 92% from the Shoalhaven Starches operations and processes this gas into food grade CO_2 (> 99.99% purity) suitable for food and hospitality markets around Australia.

The flue gas is taken directly from the Shoalhaven Starches CO_2 flue therefore reducing CO_2 emissions by up to 50 tonnes per day during the initial stage of operations and up to 100 tonnes per day when fully operational.

The CO_2 Plant approved under Mod 15 effectively comprises 3 phases over multiple sites.

The first phase involves preliminary treatment of the raw CO_2 at the Shoalhaven Starches factory site to the east of the subject site and the collection of the CO_2 and its transfer by underground pipe to the subject site. Phase 2 involves further processing the preliminary treated raw CO_2 by the CO_2 Plant. Phase 3 involves storage and distribution of the final processed CO_2 product to customers. Further breakdown of each phase is as follows:

Phase 1 – Preliminary Treatment of Raw CO_2

Raw CO_2 gas is fed through an above ground pipe extending from a connection to the CO_2 flue stacks to the raw CO_2 treatment site which is contained and located directly south of the CO_2 stacks. The above ground pipe is connected directly into a cold water scrubber which dehumidifies the warm, moist CO_2 exiting the raw gas feed and primarily removes water and alcohol from this feed stream. A blower then channels the CO_2 gas through the underground pipeline towards the CO_2 Plant on the subject site. Any residual alcohol from the cold water scrubber process is captured and reused by the Shoalhaven Starches factory operations.

Phase 2 – CO_2 Treatment Process

The preliminary treated raw CO_2 gas upon reaching the CO_2 treatment plant by underground pipe is initially compressed by the CO_2 Compressor. The CO_2 compressor takes the dry CO_2 from the cold water scrubber and raises the CO_2 pressure to 1950 KPa. Any water condensate is then directed to the Shoalhaven Starches water treatment plant.

The next step involves the removal organic sulphides. This active ingredient is removed when spent and sent for disposal at an authorised facility.

The CO_2 is then fed through a CAT OX system (similar to a car exhaust) and all traces of Hydrocarbons are burnt into moisture and CO_2. This system runs at 330 degrees. The final process involves the de-hydration unit wherein CO_2 is further dried to a point where its moisture content is reduced to less than 20 parts per million. Again, any water condensate from this process is directed to Shoalhaven Starches waste water treatment plant. Some water saturated CO_2 gas is released into the atmosphere from the drying process.

The remaining process involves liquefying the gaseous CO_2. The liquid CO_2 is fed over a molecular sieve which absorbs any nitrogen oxide (NOx). This is changed out approximately every 9 months and disposed of in accordance with statutory requirements. The liquified CO_2 is then directed to storage. Some CO_2 rich non-condensed liquefier gas is vented and water saturated air discharged during this process.

Phase 3 – Storage and Distribution of the final CO_2 Product

The liquified CO_2 (final product) is currently stored in two tanks (one, 100 tonne and one, 200 tonne storage tank providing a total storage capacity of 300 tonnes), awaiting dispatch.

The CO_2 is then transferred (as required) from the CO_2 tanks into road tankers and then distributed to the market either by:

- B-doubles capable with a capacity of 30 tonnes; and
- Single tankers with a capacity of 20 tonnes.

The trucks enter and load on the weigh bridge and are weighed prior to leaving the site.

A process flow diagram is shown in **Figure 4** below.

Waste

Waste generated from the CO_2 Plant is minimal, as in itself, the plant will eventually be reducing up to 100 tonnes of CO_2 gas emissions per day by recycling it into a consumable product for the hospitality and retail industry when completed in accordance with the Mod 15 approval.

All waste waters from the processes are directed to the Shoalhaven Starches Wastewater Treatment Plant.

Residual alcohol from the cold scrubber process are captured and reused by Shoalhaven Starches.

Trade wastes, such as active ingredients (minimal anticipated), are disposed of by an authority facility in accordance with required regulations.

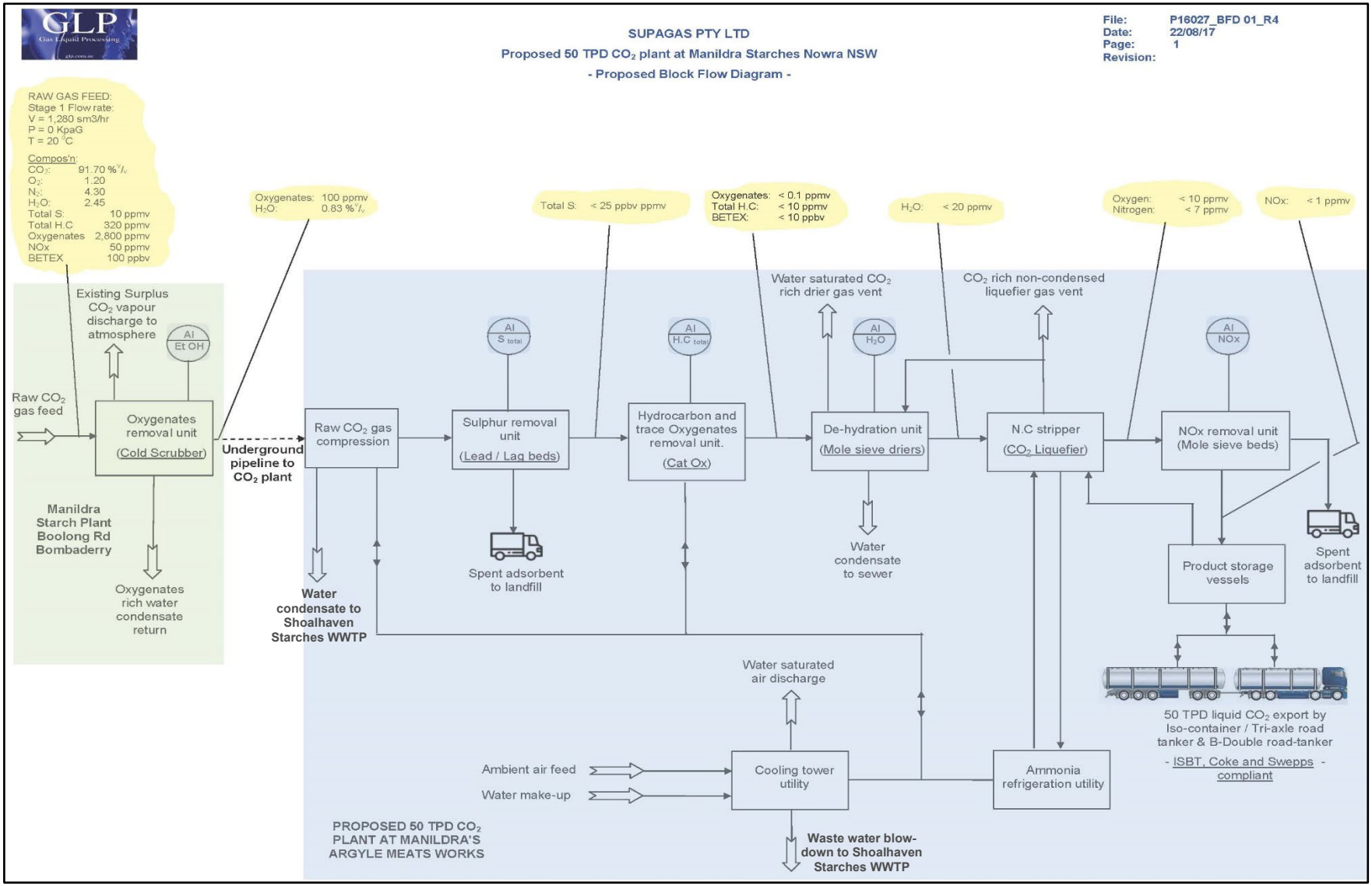

Figure 4: Process Flow Diagram – CO_2 Plant Facility.

3.3 RECENT DEVELOPMENT AND APPROVAL HISTORY

3.3.1 Project Approval MP 06_0228

On the 28th January 2009, the then Minister for Planning, issued Project Approval MP 06_0228 for the Shoalhaven Starches Expansion Project.

The primary objective of the Shoalhaven Starches Expansion Project was to increase the Company's ethanol production capacity to meet the expected increase in demand for ethanol primarily, arising from the then NSW Government's mandate to increase ethanol content by volume in petrol in NSW from 2% to 6% from October 2011, by upgrading the existing ethanol plant.

The approval, subject to certain conditions, enabled Shoalhaven Starches to increase ethanol production in a staged manner at its Bomaderry Plant from 126 million litres per year to 300 million litres per year.

To accomplish the increase in ethanol production, the Project Approval enabled Shoalhaven Starches to upgrade plant and increase throughput of raw materials, principally comprising flour and grain.

In addition, as part of the Project Approval, Shoalhaven Starches were required to undertake comprehensive odour reduction measures for both the existing factory site and the works associated with the Expansion Project.

The Project Approval enabled a staged implementation of the expansion project. Under the approval up to 200 million litres of ethanol will be able to be produced at the Bomaderry Plant and eventually increased up to 300 million litres.

The Project Approval also enabled the biological treatment of waste waters from the factory site and the re-use of over half the treated wastewater within the factory processes, with the remainder irrigated onto the Company's Environmental Farm. The Project Approval also consolidated all previous approvals into the one approval so that there would be essentially one approval for the site.

3.3.2 Approval History following MP 06_0228

DA 10/1843 – Upgrade Vehicle Entrance (Former Dairy Farmers Factory Site)

Project Approval MP 06_0228 required vehicle access points to the Bomaderry site to be upgraded to the satisfaction of Council and the RMS. The subsequent upgrading works included the construction of a concrete median along the centre of Bolong Road to the east of Abernethy's drain in such a manner that prevented vehicles travelling east along Bolong Road turning right into the central vehicle access point to the Shoalhaven Starches

site and prevented vehicles turning right out from this access point and travelling east along Bolong Road.

These works also prevented vehicles turning right out from the BOC Carbon Dioxide Plant located opposite the Shoalhaven Starches site. Shoalhaven Starches therefore sought approval from Shoalhaven City Council to upgrade the former Dairy Farmers site vehicular access and relocate the access to enable vehicles to enter Access Point 2 from the east. These works would also allow vehicles wishing to travel west from BOC Carbon Dioxide Plant to leave this site to first travel east; by allowing vehicles to travel to the former Dairy Farmers Factory Complex and using the upgraded access to turn around before travelling west along Bolong Road.

RA 11/1002 Interim Packing Plant

Following Project Approval MP 06_0228 Shoalhaven Starches also obtained a separate development approval to use an existing factory building located at 22 Bolong Road (Lot 21 DP 100265) as an Interim Packing Plant from Shoalhaven City Council (RA 11/1002 dated 26th October 2011). This Interim Packing Plant operates in conjunction with the Company's existing Packing Plant which is located within the existing factory site.

DA 11/1855 – Widening of Driveway

A further development application (DA 11/1855) was submitted to Shoalhaven City Council on the 4th August 2011 seeking approval to widen the driveways serving 22 Bolong Road Bomaderry (ie. the site of the Interim Packing Plant) to accommodate semi-trailers. This development application was approved by Shoalhaven City Council on the 24th August 2011.

DA 13/1713 – Demolition of Dimethyl Ether Plant

On the 5th July 2013 Shoalhaven Starches submitted a development application to Shoalhaven City Council seeking the demolition of a Dimethyl Ether Plant on the site. This development application was approved by Shoalhaven City Council on the 15th July 2013.

DA 14/2161 – Additional Two (2) Grain Silos

On the 19th September 2014 Shoalhaven Starches submitted a development application to Shoalhaven City Council seeking development consent to erect two additional grain silos on the factory site within the vicinity of the existing Flour Mill, to provide security of raw material storage and supply when there are closures of the Illawarra rail line serving the Shoalhaven Starches site. Shoalhaven City Council approved this development application on the 27th April 2017.

DA 16/1827 – Demolition of Existing Air Compressor Shed

On the 7th July 2016 Shoalhaven Starches submitted a development application to Shoalhaven City Council seeking the demolition of an existing air compressor shed on the site. This development application was approved by Shoalhaven City Council on the 29th July 2016.

Other Approvals

There have been other approvals that have been issued by Shoalhaven City Council that are associated with the Shoalhaven Starches operations, but which do not directly relate to the operations of Shoalhaven Starches including:

- DA 11/1936 – Algae Demonstration Plant for evaluation of algae production and processing for alternative fuel and CO_2 sequestration. Proponent - Algae Tec Pty Ltd at 220 Bolong Road (former Dairy Farmers factory site).
- DA 14/1327 – Alterations to existing building (former Dairy Farmers Factory Building) and re-use as a meat processing plant. Proponent – Candal Investments Pty Ltd at 220 Bolong Road (former Dairy Farmers factory site).
- DA 15/1892 – Installation of Liquid Oxygen Vessel (6,000L). Proponent – Argyle Prestige Meats Ltd at 220 Bolong Road (former Dairy Farmers factory site).

Recent Modification Applications

Project Approval MP 06_0228 has also been the subject of the following recent modifications applications (**Table 1**).

Table 1

Summary of Recent Modification Applications (2015 – 2017)

Modification	*Summary of Modifications*
Modification 11	• Reducing the number of approved DDGS Dryers from six to four. • A minor modification to the footprint of the four DDG dryers. • Relocation of the cooling towers in the DDG Plant. • A Mill Feed Silo and structure to feed DDG dryers. • Expanded use of the existing coal and woodchip storage area within the SS Environmental farm. • The addition of two biofilters to cope with the increased number of DDG Dryers. • A forklift maintenance building adjacent to the relocated DDG dryers, along with a container preparation area adjacent to the relocated DDG Dryers.

Table 1 (continued)

Modification	*Summary of Modifications*
Modification 12	Modifications to the existing Ethanol Distillery Plant to increase the proportion of 'beverage" grade ethanol that is able to be produced on the site. This modification will enable increased flexibility in terms of the range of types of ethanol produced at the site (ie. between fuel, industrial and beverage grade ethanol) to meet market demands; and modify the type and location of the Water Balance Recovery Evaporator that has been previously approved under Mod. 2 adjacent to the Ethanol Plant.
Modification 13	• Modification of boilers 2 and 4, with the conversion of boiler 4 from gas fired to coal fired. • Installation of an additional baghouse on boiler 6.
Modification 14	Modifications to the former paper mill site.
Modification 15	Construction of the Supagas CO_2 plant at the former Dairy Farmer factory site. (*The Mod associated with this Modification Application*)
Modification 16	• Installation of a third flour mill C within the existing flour mill B building. • Undertaking modifications to flour mills A and B. • The construction of a new industrial building adjoining the Starch Dryer No. 5 building containing: – The new product dryer; – Plant and equipment associated with the processing of specialised speciality products. • Addition to Starch Dryer No 5 building to house a bag house for this dryer – Conversion of two existing gluten dryers (1 and 2) to starch dryers. – Additional sifter for the interim packing plant. – Construction of a coal-fired co-generation plant to the south of the existing boiler house complex. The co-generation plant will house a new boiler (No. 8). – Construction of lime silos: The lime injection system will consist of two storage silos and associated equipment for injecting powdered lime into each of the coal fired boilers. – Relocation of the existing boiler no. 7 to the northern side of the overall boiler house complex. – Construction of an indoor electrical substation on the northern side of Bolong Road. – Construction of an additional rail intake pit for the unloading of rail wagons. – Extension of the existing electrical substation located within the main factory area.
Modification 17	• Relocation of Baghouse for Starch Dryer No. 5. • Installation of Service Lift adjacent to Starch Dryer No. 5. • Elevating Service Conduit extending from factory site on southern side of Bolong Road to approved packing plant on northern side of Bolong Road above ground. • Use of woodchips as fuel source in Boilers 2 and 4. • Modification to condition 14J(e) – Amendment to design specification for silencers to exhaust fans for Flour Mill B. • The increase in the building footprint of Product Dryer Building (PDB). • The increase in the building footprint of the Specialty Products Building (SPB) which adjoins the PDB building.

Table 1 (continued)

Modification	*Summary of Modifications*
	• The provision of additional bulk chemical storage to the south of the PDB and SPB buildings. • Demolition of part of the existing Maintenance Office and Stores to facilitate the extension of the PDB and SPB buildings to the west. • Repurposing the remaining part of the Maintenance building to provide staff amenities and Plant Operation Control Rooms. • To facilitate internal truck movements associated with the amendments to the SPB, existing car parking (48 spaces) currently located to the north and west of the Maintenance building will be relocated to an existing approved car parking located on the north side of Bolong Road. • Extend the sifter room situated on top of the interim packing plant. • Install a Product Dryer (No. 9) within the footprint of the SPB as approved under Mod 16.
Modification 18	• Relocation of Approved Gas Fired Boiler and other Associated Works to Facilitate Production of 'Hand Sanitiser' Alcohol in response to COVID 19 Crisis.
Modification 19	• Modifications to the existing Ethanol Distillery to increase the proportion of 'beverage' grade ethanol that is able to be produced on the site. This modification will enable an increase in capacity of the plant to produce an additional 100 ML per year of beverage grade ethanol. The proposal will not however involve an increase in the overall ethanol production at the site above the current approved 300 ML per year. • In addition to the above this Modification Application also sought approval for ancillary works associated with the approved Product Dryer and Specialty Product Buildings located to the west of Abernethy's Creek. • The construction of a cable stay pipe bridge across Abernethy's Creek to supply power and product to these buildings. • The construction of three (3) product silos above the existing interim packing plant. The construction of these three (3) silos necessitated the relocation of an approved electrical substation that was approved (but not constructed) below and within the footprint of where it was proposed to site the proposed product silos. This electrical sub-station is to be relocated to a position on the northern side (Bolong Road frontage) of the Starch Dryer No. 5 building. • The relocation of six (6) approved but not yet constructed, and the construction of an additional ten (10) product storage Creek. T • The northern most of these two sets of tanks will require the slight re-alignment of the approved but not yet constructed gantry that is to be constructed across this location. • It was also proposed to extend the existing car park located within the western part of the site in a south-westerly direction to provide an additional thirty-one (30) car parking spaces for staff and contractors.

4.0 CONSULTATION

Prior to the preparation of this SEE consultation has been undertaken with:

- Department of Planning, Industry and Environment;
- Environmental Protection Authority (EPA);
- Workcover
- Shoalhaven City Council (SCC);

A meeting was held between staff from DPIE, Shoalhaven Starches and Cowman Stoddart on the 12th June 2020. Following that meeting DPIE staff agreed that issues outlined in the Scoping Submission submitted to the Department seeking their formal requirements for the preparation of this SEE should be addressed as part of this Modification Application.

Written consultation was undertaken separately with the EPA, Workcover and SCC. The following is a summary of the responses made by government agencies to this proposal at the time of preparing this report.

Environmental Protection Authority

> *"I refer to an email you sent on 23 February 2021 requesting EPA's comments on the proposed modification to MP06_0228. The modification would allow the existing Supagas CO_2 plant located on Bolong Road and within the Shoalhaven Starches complex to install additional storage vessels to increase CO_2 storage capacity.*
>
> *The EPA has reviewed the scoping document for the proposed modification. The EPA considers that the scoping document has identified the necessary assessments to be prepared to support the modification application. This includes the preparation of an Air Quality Impact Assessment, a Noise Impact Assessment, and a Preliminary Hazard Analysis. These assessments must be undertaken in accordance with the EPA's appropriate standards and guidelines.*
>
> *The EPA advises that both the Air Quality Impact Assessment and the Noise Impact Assessment will need to include an assessment of cumulative impacts from the CO_2 plant, Shoalhaven Starches premises, and other surrounding industry. In addition, the Noise Impact Assessment should consider any annoying noise characteristics, including low frequency noise, in accordance with Fact Sheet C of the Noise Policy for Industry (2017).*

Comment

The SEE is supported by:

- An Air Quality Assessment prepared by GHD (**Annexure 3**).
- An Environmental Noise Impact Assessment prepared by Harwood Acoustics (**Annexure 4**).

Shoalhaven City Council

Floodplain Engineering Comments/Requirements:

1. *No serious concern in relation to flood. It is noted from the submitted letter (Reference No. 17/49) that according to the WMA report the proposed works do not significantly increase the 1% AEP or PMF flood level on other properties. Flood related development controls (Chapter G9, Shoalhaven Development Control Plan 2014) need to be assessed appropriately.*

Comment

The SEE is supported by a Flood Compliance Assessment addressing the provisions of Chapter G9 of the *Shoalhaven Development Control Plan 2014* prepared by WMAwater. This assessment addresses flood issues associated with this proposal, including compliance with the requirements of this chapter of the DCP.

5.0 PROPOSED MODIFICATION TO PROJECT APPROVAL MP06_0228

Supagas seek approval to modify the existing CO_2 Plant located on the subject site to enable the installation of additional storage vessels and associated plant on the site to increase storage capability. The Modification proposal will involve the following additional storage vessels and plant:

1. Installation of two (2) 150 tonne capacity Liquid CO_2 storage vessels. Each vessel will be 17.2 m high and 3.8 m diameter.
2. Installation of the above Liquid CO_2 storage vessels will require the relocation of a set of existing ambient vaporisers.
3. Installation of an additional NO_x removal bed to accommodate the expected longer running period of the plant. Vessel dimensions are 2.4 m high x 0.92 m diameter.
4. Interconnecting pipework from the process to the new equipment.
5. Concrete bases for the above equipment items. This will include piling due to the substandard grade of the existing soil.

Figure 5 below outlines the works associated with this Modification Proposal.

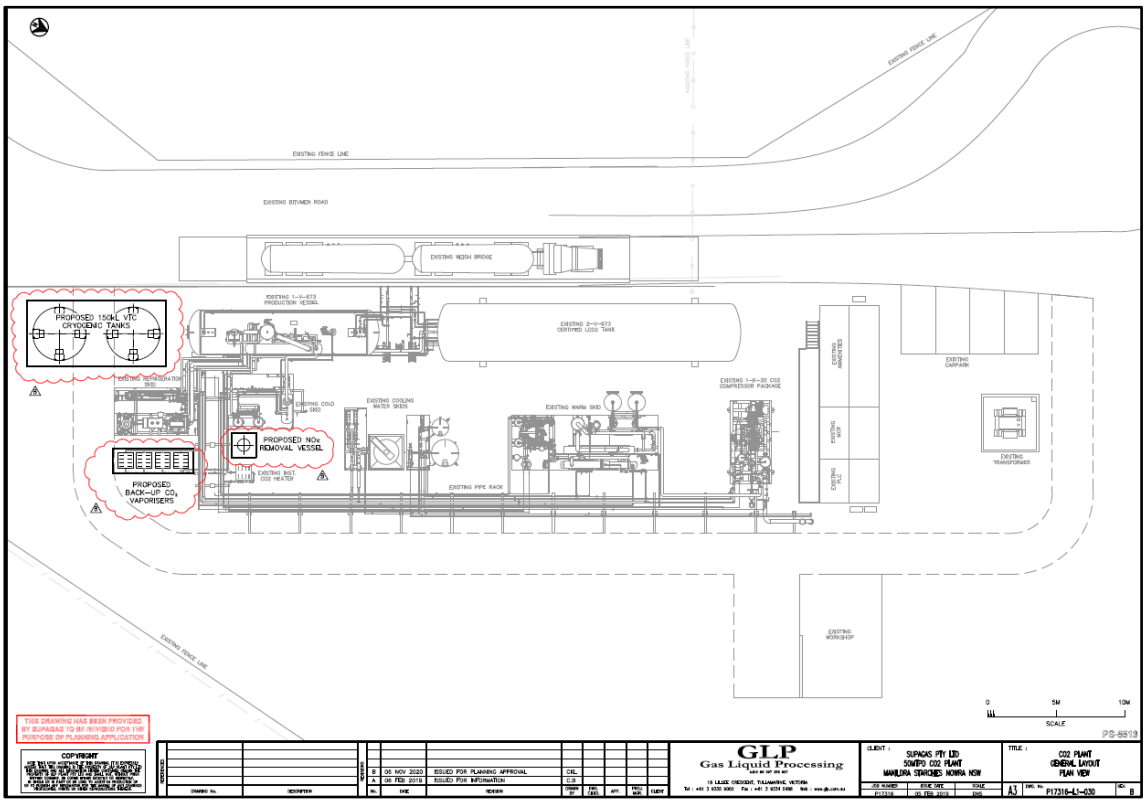

Figure 5: Works associated with Modification Proposal.

The following are the primary objectives of the proposed works:

Improved storage volume capacity of liquid CO_2 product during planned and unplanned outages.

The existing plant requires scheduled maintenance to be undertaken to equipment such as compressors, refrigeration system, valves, absorption media changeover and vessel inspections. The company's experience to date has been that such scheduled maintenance activities requires the plant to cease operations for up to seven (7) consecutive days. During this period production ceases.

In addition to the above the plant has also experienced unexpected breakdowns which have also caused production to cease.

The additional storage capacity associated with this proposal will provide buffer storage of finished product enabling improved supply to customers to continue when planned and unplanned stoppages to production occur.

Reduced Plant Fatigue and Damage

At present production at the site is required to cease approximately every 10 days as the existing storage vessels become full.

The frequent stopping and starting of production processes places strain on the CO_2 plant including the main raw gas blower, CO_2 compressor and refrigeration system. In addition, the hydrocarbon removal reactor and associated heat exchangers cycle through a large temperature range of 370^{o}C every time the plant needs to restart. This causes metal degradation over time and the eventual failure of equipment.

The additional storage capacity associate with this proposal will enable the plant to operate over longer periods reducing the need for constant stopping and re-starting of processing operations. Such will significantly reduce the potential for plant fatigue.

Better batching/quarantining of product and quality control.

At present the existing plant has one (1) Production Vessel and one (1) Certified Product Vessel. The Certified Product Vessel contains product that has been certified for distribution following quality purity testing. Distribution from this vessel can only occur once quality purity tests have been carried out. Only when such testing has been carried out can the batched product be distributed to the market.

Additional storage vessels will enable:

- better quarantining and testing of final product before releasing to the market.

- the isolation of a vessel in case of product quality issues without affecting overall product distribution.

Better availability of product during high demand periods.

Additional storage will also enable improved supply during high demand periods such as:

- When commercial competitors experience planned or unplanned cessation to their operations and are unable to supply product. This results in increased demand for Supagas product.
- Change in seasonal demand by customers (such as increased demand by beverage customers during the summer; and by wine customers during vintage season).

Under the Mod 15 approval, the Supagas operation was envisaged to produce up to 100 tonnes per day of liquid CO_2 product. At present, production is within the order of 35 to 40 tonnes per day. The proposed works will enable improved efficiencies to the existing operations but will not result in operations exceeding the approved production rates from the subject site envisaged under Mod 15.

The CO_2 Plant approved under Mod 15 will eventually be able to process up to 100 tonnes of CO_2 per day. The current CO_2 Plant that has been established on the subject site comprises only part of the overall plant originally envisaged by Mod 15, and at present is able to process up to 50 tonnes of CO_2 per day. This Modification Proposal will not result in any increase in production capacity from the existing CO_2 Plant above that which is presently occurring.

Plans of the works associated with this Modification are included in **Annexure 2**.

6.0 SECTION 4.55(1A) OF THE EP&A ACT

This application is made pursuant to Section 4.55(1A) of the Environmental Planning & Assessment (EP&A) Act.

Section 4.55(1A) of the EP&A Act reads:

> *4.55 Modification of consents—generally*
>
> *(1A)* ***Modifications involving minimal environmental impact.*** *A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if—*
>
> *(a) it is satisfied that the proposed modification is of minimal environmental impact, and*
>
> *(b) it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which the consent was originally granted and before that consent as originally granted was modified (if at all), and*
>
> *(c) it has notified the application in accordance with—*
>
> *(i) the regulations, if the regulations so require, or*
>
> *(ii) a development control plan, if the consent authority is a council that has made a development control plan that requires the notification or advertising of applications for modification of a development consent, and*
>
> *(d) it has considered any submissions made concerning the proposed modification within any period prescribed by the regulations or provided by the development control plan, as the case may be.*
>
> *Subsections (1), (2) and (5) do not apply to such a modification.*

Fundamentally an application made pursuant to Section 4.55(1A) must demonstrate that: the proposed modification will have minimal environmental impact; and the development to which the consent as modified relates is substantially the same development as the development for which consent was originally granted and before that consent as originally granted was modified.

Such an assessment would typically need to appreciate both the qualitative and quantitative aspects of the development being compared in its proper context as described by Bignold J at paragraphs 54 to 56 in *Moto Projects (No.2) Pty Ltd v North Sydney C [1999] NSWLEC 280*. This judgment includes the following comments:

> *54. The relevant satisfaction required by* ***s 96(2)(a)*** *to be found to exist in order that the modification power be available involves an ultimate finding of fact based upon the primary facts found. I must be satisfied that the modified development is substantially the same as the originally approved development.*

> *55. The requisite factual finding obviously requires a comparison between the development, as currently approved, and the development as proposed to be modified. The result of the comparison must be a finding that the modified development is "essentially or materially" the same as the (currently) approved development.*
>
> *56. The comparative task does not merely involve a comparison of the physical features or components of the development as currently approved and modified where that comparative exercise is undertaken in some type of sterile vacuum. Rather, the comparison involves an appreciation, qualitative, as well as quantitative, of the developments being compared in their proper contexts (including the circumstances in which the development consent was granted).*

The *Modifying an Approved Project* draft guidelines produced as part of the *Draft Environmental Impact Assessment Guidance Serie*s by the NSW Department of Planning and Environment in June 2017, provides some guidance when assessing modifications of State Significant Development:

> *For SSD, a proponent must demonstrate that the change, if carried out, would result in a development that would be substantially the same development as the original development. In order to draw this conclusion, a proponent must have regard to the following considerations, which have been established through decisions of the NSWLEC:*
>
> - *''Substantially'' means ''essentially or materially'' or ''having the same essence.''*
> - *A development can still be substantially the same even if the development as modified involves land that was not the subject of the original consent (provided that the consent authority is satisfied that the proposal is substantially the same).*
> - *If the development as modified, involves an ''additional and distinct land use'', it is not substantially the same development.*
> - *Notwithstanding the above, development as modified would not necessarily be substantially the same solely because it was for precisely the same use as that for which consent was originally granted.*
> - *To determine whether something is ''substantially the same'' requires a comparative task between the whole development as originally approved and the development as proposed to be modified. In order for the proposal to be ''substantially the same'', the comparative task must:*
>   - *result in a finding that the modified development is ''essentially or materially'' the same*
>   - *appreciate the qualitative and quantitative differences in their proper context*
>   - *in addition to the physical difference, consider the environmental impacts of proposed Modification Applications to approved developments.*

> ***''Substantially'' means ''essentially or materially'' or ''having the same essence.''***

Comments:

It is considered the modification proposal will be substantially the same as that approved and is development that could be considered "*materially the same as that previously approved".* Furthermore, it is considered that the modifications proposed are of the same '*essence'* as the approved development given that:

- the proposal maintains the current land use approved at the site and does not seek to alter the over-riding character of development;
- the proposed built form will be substantially the same as that already approved, in that development is to consist of industrial structures, plant and equipment located within the general confines of the existing Supagas facility;
- The proposed modifications do not represent a significant expansion of the of Supagas footprint and the modifications will be located within the Supagas part of the overall site; and
- The proposed structures maintain the same form as that approved with due consideration given in the Modification Application to relevant issues pertaining to air quality, noise, hazard and flood impacts.
- The proposal does not seek to increase overall production from the CO_2 Plant, nor will it involve the generation of any additional significant environmental impacts.

> ***A development can still be substantially the same even if the development as modified involves land that was not the subject of the original consent (provided that the consent authority is satisfied that the proposal is substantially the same).***

Comment

The proposal does not involve land that was not the subject of the approval which was in place at the time that the Shoalhaven Starches Expansion Project site transitioned from the Transitional Part 3A provisions to being assessed as State Significant Development .

> ***If the development as modified, involves an ''additional and distinct land use'', it is not substantially the same development.***

Comment

The proposal does not involve an *''additional and distinct land use'.* None of the proposed works associated with this modification represent an additional and distinct land use. Whilst this modification proposal involves a number of individual components these modifications all relate to existing approved development on the site.

Notwithstanding the above, development as modified would not necessarily be substantially the same solely because it was for precisely the same use as that for which consent was originally granted.

Comment

This Modification Application only seeks to modify elements that have already been approved and will not change the scale or use of these aspects.

To determine whether something is ''substantially the same'' requires a comparative task between the whole development as originally approved and the development as proposed to be modified. In order for the proposal to be ''substantially the same'', the comparative task must:

- ***result in a finding that the modified development is ''essentially or materially'' the same***
- ***appreciate the qualitative and quantitative differences in their proper context***
- ***in addition to the physical difference, consider the environmental impacts of proposed Modification Applications to approved developments.***

Comment

Quantitatively, the proposal does not represent any increases in production in the terms of processing of CO_2 from the site.

The qualitative elements of the proposal demonstrate that the environmental and amenity impacts of the modification proposal are limited and justifies this proposal being considered as a modification.

This proposal will not expand the overall footprint of the approved operations. The proposed works associated with this modification proposal are located within the subject site. The proposed development will have a limited additional visual impact. The bulk, character and scale of the structures associated with this modification application will not be dissimilar to that of other industrial type development associated with the existing Shoalhaven Starches operations. Furthermore, the proposed works will be sited within proximity of similar structures of a similar nature. The works will be sited in the midst of the existing factory complex and will be viewed within this context.

The SEE is supported by the following expert assessments:

- An Air Quality Assessment by GHD which concludes that air quality impacts (odours and other pollutants) are not anticipated and there is no expected increase to the cumulative levels in the local area.

- An Environmental Noise Impact Assessment by Harwood Acoustics concludes the level of noise emission from the modified proposal will meet noise limits prescribed under EPL 21178 without the need for noise controls.
- A Flood Compliance Report by WMAwater concludes the existing and proposed works will not significantly increase the 1% AEP, PMF or Extreme event flood levels on lands outside those owned by Shoalhaven Starches. Consequently, WMA Water advise it is not necessary to consider the cumulative effects of existing / proposed works as there is no significant incremental increase because of these works.
- A Preliminary Hazard Analysis (PHA) prepared by Pinnacle Risk Management demonstrates the Modification Proposal will comply with all risk criteria; and also societal risk, area cumulative risk and environmental risk will be acceptable.

The proposal will not comprise any qualitative or quantitative changes in overall production from the site. The proposal essentially seeks to improve the level of storage on the site to improve production efficiencies.

The modified proposal represents a scale of development that will be commensurate with the bulk, scale and character of the approved and existing development.

As is evident from the expert consultant assessments that support the Modification Application the Modification Proposal will not result in any significant qualitative or quantitative environmental impacts when compared to the approved development.

It is our view that the development is substantially the same as approved Project. As such the modification proposal is considered consistent with provisions of Section 4.55(1A) of the Act in this instance.

Given the above circumstances it is our view that the modification proposal; will have not result in any significant adverse environmental impact when compared to the original approved development; and the development as modified by this modification application will be substantially the same development as the development for which consent was originally granted having regard to both the qualitative and quantitative elements of that development.

7.0 SECTION 4.15(1)(A) – ENVIRONMENTAL PLANNING PROVISIONS

In determining an application made pursuant to Section 4.55 of the EP&A Act the consent authority must take into consideration such of the matters referred to in Section 4.15(1) as are of relevance to the development the subject of the application.

7.1 ENVIRONMENTAL PLANNING INSTRUMENTS

7.1.1 State Environmental Planning Policies

Table 2 details State Environmental Planning Policies (SEPP) that apply to the land and whether they are applicable to the proposal.

Table 2

State Environmental Planning Policies that Apply to the Subject Site

State Environmental Planning Policy	***Applicable Yes/No***
State Environmental Planning Policy (Affordable Rental Housing) 2009 (pub. 2009-07-31)	No
State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 (pub. 2004-06-25)	No
State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 (pub. 2008-12-12)	No
State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 (pub. 2004-03-31)	No
State Environmental Planning Policy (Infrastructure) 2007 (pub. 2007-12-21)	Yes
State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 (pub. 2007-02-16)	No
State Environmental Planning Policy (Miscellaneous Consent Provisions) 2007 (pub. 2007-09-28)	No
State Environmental Planning Policy No 1-Development Standards |(pub. 1980-10-17)	No
State Environmental Planning Policy No 21-Caravan Parks (pub. 1992-04-24)	No
State Environmental Planning Policy No 30-Intensive Agriculture (pub. 1989-12-08)	No
State Environmental Planning Policy No 33-Hazardous and Offensive Development (pub. 1992-03-13)	Yes
State Environmental Planning Policy No 36-Manufactured Home Estates (pub. 1993-07-16)	No
State Environmental Planning Policy No 50-Canal Estate Development (pub. 1997-11-10)	No
State Environmental Planning Policy No 55-Remediation of Land (pub. 1998-08-28)	Yes

Table 2 (continued)

State Environmental Planning Policy	*Applicable Yes/No*
State Environmental Planning Policy No 62-Sustainable Aquaculture (pub. 2000-08-25)	No
State Environmental Planning Policy No 64-Advertising and Signage (pub. 2001-03-16)	No
State Environmental Planning Policy No 65-Design Quality of Residential Apartment Development (pub. 2002-07-26)	No
State Environmental Planning Policy No 70-Affordable Housing (Revised Schemes) (pub. 2002-05-01)	No
State Environmental Planning Policy (Primary Production and Rural Development) 2019	No
State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017: Subject Land (pub. 2017-08-25)	No
State Environmental Planning Policy (Coastal Management) 2018	Yes

SEPP – Infrastructure

This SEPP aims to facilitate the effective delivery of infrastructure across the state and that appropriate agencies are made aware of and are given an opportunity to make representations in respect of certain development, including traffic generating developments. Division 17 relates to Road and Traffic infrastructure while Schedule 3 of the SEPP outlines traffic generating development which requires referral to Roads and Maritime Services (RMS). The proposal does not trigger the criteria in this Schedule that would warrant the development application being referred to the Traffic for NSW (TfNSW), and therefore the provisions of this SEPP would not apply to this proposal.

Schedule 3 includes the following criteria that may have relevance to this proposal:

Development purpose	***Column 1: Size or capacity – site with access to any road***	***Column 2 Size or capacity—site with access to classified road or to road that connects to classified road (if access within 90m of connection, measured along alignment of connecting road)***
Car parks	200 or more car parking spaces	50 or more car parking spaces
Industry	20,000m^2 in site area or (if the site area is less than the gross floor area) gross floor area	5,000 m^2 in site area or (if the site area is less than the gross floor area) gross floor area
Any other purpose	200 or more motor vehicles per hour	50 or more motor vehicles per hour

The modification proposal does not specifically trigger the above criteria. Under these circumstances the TfNSW is not required to be notified of this proposal.

SEPP No.33 – Hazardous and Offensive Development

The objectives of SEPP No. 33 are set out in clause 2 of the SEPP and include:

(a) to amend the definitions of hazardous and offensive industries where used in environmental planning instruments, and

(b) to render ineffective a provision of any environmental planning instrument that prohibits development for the purpose of a storage facility on the ground that the facility is hazardous or offensive if it is not a hazardous or offensive storage establishment as defined in this Policy, and

(c) to require development consent for hazardous or offensive development proposed to be carried out in the Western Division, and

(d) to ensure that in determining whether a development is a hazardous or offensive industry, any measures proposed to be employed to reduce the impact of the development are taken into account, and

(e) to ensure that in considering any application to carry out potentially hazardous or offensive development, the consent authority has sufficient information to assess whether the development is hazardous or offensive and to impose conditions to reduce or minimise any adverse impact, and

(f) to require the advertising of applications to carry out any such development.

The Modification Proposal is supported by a Preliminary Hazard Analysis prepared by Pinnacle Risk Pty Ltd in accordance with the provisions of this SEPP (**Annexure 6**). Pinnacle Risk have undertaken a review of the works associated with this current Modification Proposal and assessed and compared the proposed works against relevant risk criteria.

SEPP (Coastal Management) 2018

This SEPP seeks to promote an integrated and co-ordinated approach to land use planning in the coastal zone in a manner consistent with the objects of the *Coastal Management Act 2016* by:

a) managing development in the coastal zone and protecting the environmental assets of the coast, and

b) establishing a framework for land use planning to guide decision-making in the coastal zone, and

c) mapping the 4 coastal management areas which comprise the NSW coastal zone, in accordance with the definitions in the Coastal Management Act 2016.

This Policy applies to land within the coastal zone. Section 5 of the *Coastal Management Act 2016* provides that the ***coastal zone*** means the area of land comprised of the following coastal management areas:

a) the coastal wetlands and littoral rainforests area,

b) the coastal vulnerability area,

c) the coastal environment area,

d) the coastal use area.

Part 2 of the Coastal Management SEPP stipulates the Development Controls for Coastal Management Areas. Division 1 outlines the controls to be applied to development in the Coastal Wetlands and Littoral Rainforests Area.

Coastal Wetlands and Littoral Rainforests Area.

Mapping supporting the SEPP outlines the subject land is not mapped as containing coastal wetlands or littoral rainforest.

Coastal Environment Area

Division 3 of the SEPP stipulates the controls to be applied to development in the Coastal Environment Area.

The subject land is mapped under the NSW Coastal Management SEPP Mapping as being located within the Coastal Environment Area as seen below in **Figure 6**.

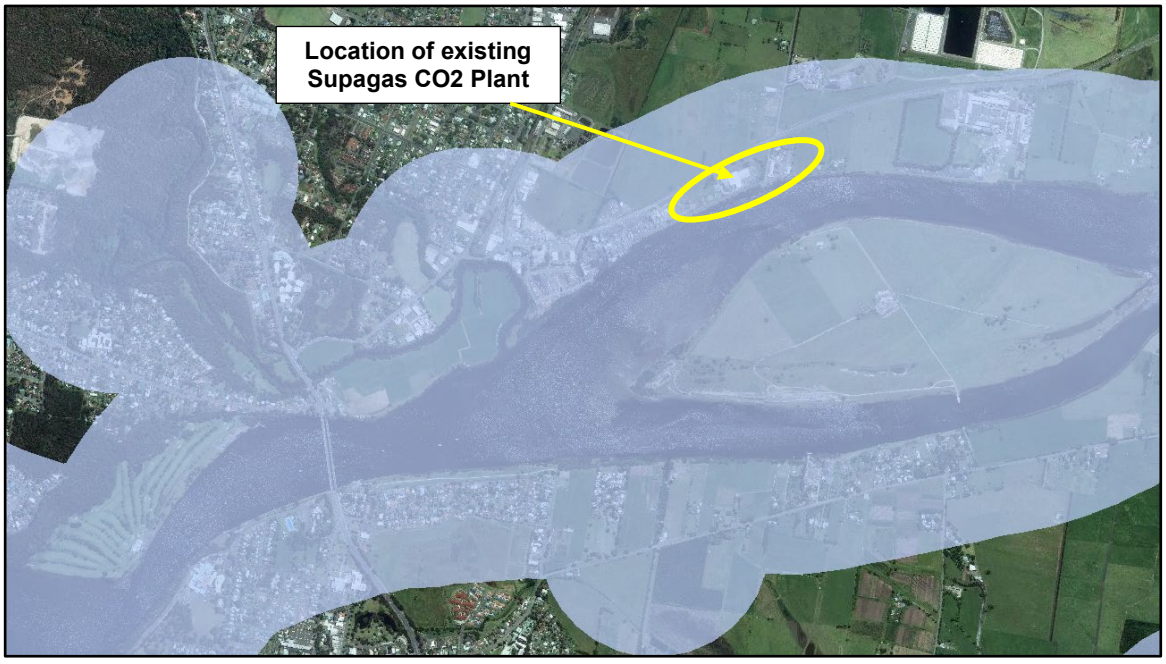

Figure 6: NSW Coastal Management SEPP: Coastal Environment Area Map.

Clause 13 of the SEPP specifies matters that must be considered in determining development applications on land within the Coastal Environment Area. Clause 13 reads:

1) Development consent must not be granted to development on land that is within the coastal environment area unless the consent authority has

considered whether the proposed development is likely to cause an adverse impact on the following:

a) the integrity and resilience of the biophysical, hydrological (surface and groundwater) and ecological environment,

b) coastal environmental values and natural coastal processes,

c) the water quality of the marine estate (within the meaning of the Marine Estate Management Act 2014), in particular, the cumulative impacts of the proposed development on any of the sensitive coastal lakes identified in Schedule 1,

d) marine vegetation, native vegetation and fauna and their habitats, undeveloped headlands and rock platforms,

e) existing public open space and safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,

f) Aboriginal cultural heritage, practices and places,

g) the use of the surf zone.

2) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:

a) the development is designed, sited and will be managed to avoid an adverse impact referred to in subclause (1), or

b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or

c) if that impact cannot be minimised—the development will be managed to mitigate that impact.

Comment:

- The proposal is not near a headland or rock platform and as such does not impact on public access to these areas.
- The proposal will not adversely impact on the visual amenity and scenic qualities of the coast.
- The proposal involves works within an existing developed industrial site and is unlikely to impact on items of Aboriginal cultural heritage.
- The proposal involves works within an existing developed industrial site and will not impact upon the integrity or resilience of the biophysical or ecological environment.
- The proposal will incorporate erosion and sediment control measures to minimise impact on the water quality of the adjoining watercourses.
- The proposal will not involve any significant adverse impact on marine or native vegetation.
- The proposed development is not located within close proximity to the surf zone and will not impact on coastal environmental values or natural coastal processes.

Coastal Use Area

Division 4 of the SEPP specifies the controls to be applied to development in the Coastal Use Area. The subject land is also within the Coastal Use zone as seen below in **Figure 7**. As such the provisions which apply to this mapping are relevant to the proposed development.

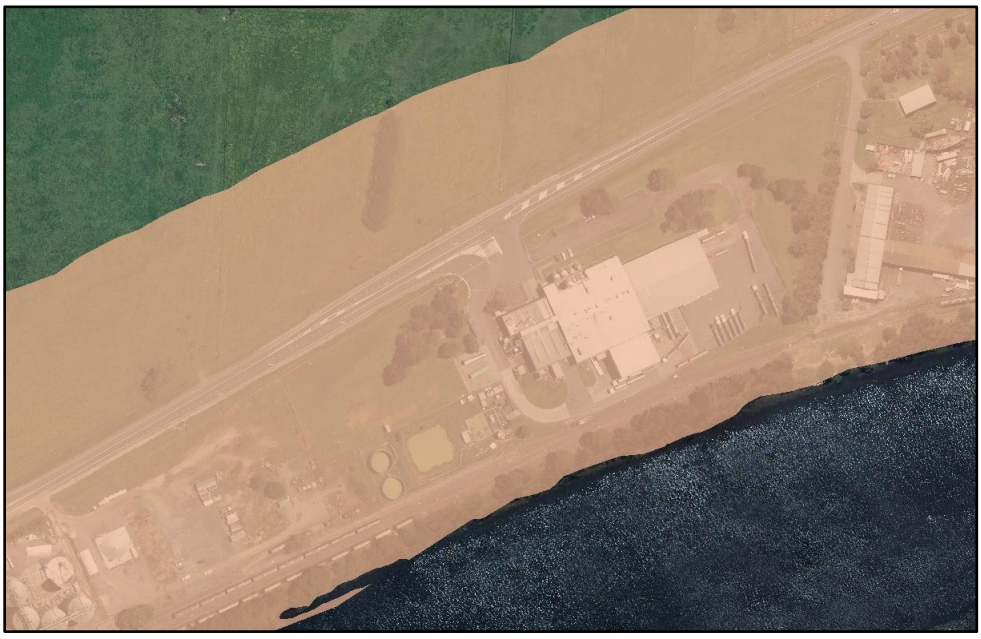

Figure 7: NSW Coastal Management SEPP: Coastal Use Area Map.

Clause 14 of the SEPP specifies matters that must be considered in determining development applications on land within the Coastal Use Area. Clause 14 reads:

> *(1) Development consent must not be granted to development on land that is within the coastal use area unless the consent authority:*
>
> *(a) has considered whether the proposed development is likely to cause an adverse impact on the following:*
>
> *(i) existing, safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,*
>
> *(ii) overshadowing, wind funneling and the loss of views from public places to foreshores,*
>
> *(iii) the visual amenity and scenic qualities of the coast, including coastal headlands,*
>
> *(iv) Aboriginal cultural heritage, practices and places,*
>
> *(v) cultural and built environment heritage, and*
>
> *(b) is satisfied that:*
>
> *(i) the development is designed, sited and will be managed to avoid an adverse impact referred to in paragraph (a), or*

(ii) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or

(iii) if that impact cannot be minimised—the development will be managed to mitigate that impact, and

c) has taken into account the surrounding coastal and built environment, and the bulk, scale and size of the proposed development.

Comment:

- The proposal will not impact on existing safe access to the foreshore. The proposal is not near a beach, headland or rock platform and as such does not impact on public access to these areas.
- The works associated with this modification proposal will not cause overshadowing of the foreshore area or wind funnelling. The development will not block views from public places. The proposal will not adversely impact on the visual amenity and scenic qualities of the coast.
- As detailed above, the proposal will not adversely impact on Aboriginal cultural heritage and places.
- The works associated with this modification proposal are of a bulk, scale and size that are consistent with existing industrial development on the site and will not create an adverse visual impact in this locality.

Under these circumstances the proposal is considered to be consistent with the objectives and provisions of the Coastal Management SEPP.

SEPP No. 55 - Remediation of Land

SEPP 55 aims to essentially promote the remediation of contaminated land for the purposes of reducing the risk of harm to human health and the environment. In particular clause 7 of the SEPP requires that a consent authority must not consent to any development unless:

- it has considered whether the land is contaminated;
- if the land is contaminated whether the land is suitable in its contaminated state (or will be suitable after remediation for the purpose for which development is proposed; and
- if the land requires remediation to be made suitable, it is satisfied that the land will be remediated before the land is used for that purpose.

Furthermore, if a change of use of land for residential purpose is proposed, where:

- there is no knowledge (or incomplete knowledge) of past uses;
- on which it would have been lawful to carry out such past uses during any period in respect of which there is no knowledge (or incomplete knowledge).

The consent authority is required to consider a report detailing the findings of a preliminary investigation of the land.

A Phase 1 Site Contamination Assessment was undertaken by Coffey's as part of the original Mod 15 project given the provisions of this SEPP. With respect to the site of the CO_2 Plant Coffey's concluded that this area of the site of the CO_2 Plant "*had generally a low likelihood for being affected by contamination that would pose an unacceptable risk to human health or the environment under the proposed development scenario*." Given these circumstances it is not considered necessary that a further assessment be undertaken with respect to this issue for this Modification Proposal.

7.1.2 Local Environmental Plan

Shoalhaven Local Environmental Plan 2014

The parcels of land associated with this modification application are zoned IN1 General Industrial under the provisions of the Shoalhaven LEP 2014 (refer **Figure 8**).

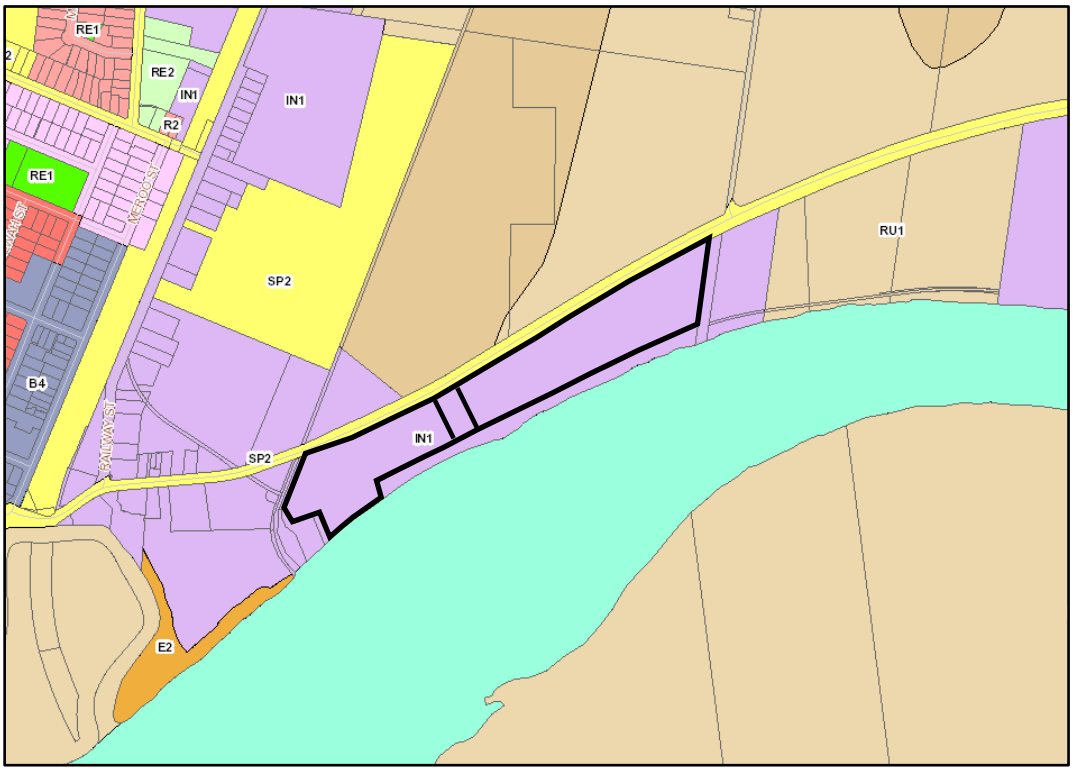

Figure 8: Extract of zoning map under the SLEP 2014.

The objectives of the IN1 zone are:

- *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 allow a diversity of activities that do not significantly conflict with the operation of existing or proposed development.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of workers in the area.*

It is our view that the proposal is consistent with these objectives as the proposal involves modifications to an existing industrial facility.

"*General industries*" are permissible within the IN1 zone subject to consent (**Table 3**). The proposal involves modifications to an existing industrial development and is therefore permissible with consent.

Table 3
Land Use Permissibility – IN1 Zone (Shoalhaven LEP 2014)

Permitted without consent	Nil.
Permitted with consent	Bulky goods premises; Depots; Freight transport facilities; **General industries**; Industrial training facilities; Kiosks; Light industries; Markets; Neighbourhood shops; Roads; Take away food and drink premises; Timber yards; Warehouse or distribution centres
Prohibited	Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Child care centres; Correctional centres; Crematoria; Eco-tourist facilities; Educational establishments; Environmental facilities; Exhibition villages; Extractive industries; Farm buildings; Forestry; Function centres; Health services facilities; Highway service centres; Home-based childcare; Home businesses; Home occupations; Home occupations (sex services); Information and education facilities; Marinas; Mooring pens; Moorings; Office premises; Open cut mining; Places of public worship; Registered clubs; Residential accommodation; Respite day care centres; Restricted premises; Retail premises; Sex services premises; Tourist and visitor accommodation; Water recreation structures; Wharf or boating facilities.

The SLEP 2014 also has a number of specific provisions that apply to the land. The implications that these provisions have in relation to this proposal are discussed in **Table 4** below:

Table 4
Shoalhaven Local Environment Plan Provisions

SLEP 2014 Clause	*Provisions*	*Comments*
Clause4.3 *Height of Buildings*	*(1) The objectives of this clause are as follows:* *(a) to ensure that buildings are compatible with the height, bulk and scale of the existing and desired future character of a locality,* *(b) to minimise visual impact, disruption of views, loss of privacy and loss of solar access to existing development,* *(c) to ensure that the height of buildings on or in the vicinity of a heritage item or within a heritage conservation area respect heritage significance.* *(2) The height of a building on any land is not to exceed the maximum height shown for the land on the Height of Buildings Map.* *(2A) If the Height of Buildings Map does not show a maximum height for any land, the height of a building on the land is not to exceed 11 metres.*	Although there is no maximum height specified for the subject land, Clause 4.3(2A) imposes a maximum building height of 11 m where no specific height limit is designated. The proposal will involve the erection of storage vessels with heights of 17.376 m high and therefore above the 11 metres height limit by 6.376 m. Under these circumstances this SEE is supported by a Written Request made pursuant to Clause 4.6 (**Annexure 7**) justifying non-compliance with this maximum building height limit.
Clause 4.6 *Exceptions to development standards*	*(1) The objectives of this clause are as follows:* *(a) to provide an appropriate degree of flexibility in applying certain development standards to particular development,* *(b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.* *(2) Development consent may, subject to this clause, be granted for development even though the development would contravene a development standard imposed by this or any other environmental planning instrument. However, this clause does not apply to a development standard that is expressly excluded from the operation of this clause.* *(3) Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating:* *(a) that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and*	The proposal will involve the erection of storage vessels with heights of 17.376 m high and therefore above the 11 metres height limit by 6.376 m. As the proposed works will be built within the existing industrial complex it is not expected that the new development will have an undue effect due to its height. This Modification Application is supported by a Clause 4.6 Written Request justifying a departure to Clause 4.3(2A) under the specific circumstances of this case.

Table 4 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
4.6 continued	*(b) that there are sufficient environmental planning grounds to justify contravening the development standard.* *(4) Development consent must not be granted for development that contravenes a development standard unless:* *(a) the consent authority is satisfied that:* *(i) the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and* *(ii) the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out, and* *(b) the concurrence of the Director-General has been obtained.* *(5) In deciding whether to grant concurrence, the Director-General must consider:* *(a) whether contravention of the development standard raises any matter of significance for State or regional environmental planning, and* *(b) the public benefit of maintaining the development standard, and* *(c) any other matters required to be taken into consideration by the Director- General before granting concurrence.* *(6) Development consent must not be granted under this clause for a subdivision of land in Zone RU1 Primary Production, Zone RU2 Rural Landscape, Zone RU3 Forestry, Zone RU4 Primary Production Small Lots, Zone RU6 Transition, Zone R5 Large Lot Residential, Zone E2 Environmental Conservation, Zone E3 Environmental Management or Zone E4 Environmental Living if:* *(a) the subdivision will result in 2 or more lots of less than the minimum area specified for such lots by a development standard, or*	

Table 4 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
4.6 continued	*(b) the subdivision will result in at least one lot that is less than 90% of the minimum area specified for such a lot by a development standard.* *Note. When this Plan was made it did not include all of these zones.* *(7) After determining a development application made pursuant to this clause, the consent authority must keep a record of its assessment of the factors required to be addressed in the applicant's written request referred to in subclause (3).*	
Clause 5.10 *Heritage Conservation*	*(1) The objectives of this clause are:* *(a) to conserve the environmental heritage of Shoalhaven; and* *(b) to conserve the heritage significance of heritage items and heritage conservation areas including associated fabric, settings and views; and* *(c) to conserve archaeological sites; and* *(d) to conserve Aboriginal objects and Aboriginal places of heritage significance.* *(2) Development consent is required for any of the following:* *(a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):* *(i) a heritage item,* *(ii) an Aboriginal object* *(iii) a building, work, relic or tree within a heritage conservation area,* *(b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,*	There are no heritage items within the subject land, and the subject site is not located within a heritage conservation area. The site is a highly disturbed industrial site that has been used for industrial purposes for decades.

Table 4 (continued)

<table>
<tr><th>SLEP 2014 Clause</th><th>Provisions</th><th>Comments</th></tr>
<tr><td>5.10 continued</td><td>
(c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being,
discovered, exposed, moved damaged or destroyed,
(d) disturbing or excavating an Aboriginal place of heritage significance,
(e) erecting a building on land:
(i) on which a heritage item is located or that is within a heritage conservation area;
(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,
(f) subdividing land:
(i) on which a heritage item is located or that is within a heritage conservation area, or
(ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.
</td><td></td></tr>
<tr><td>Clause 7.1
Acid sulphate soils</td><td>
(1) The objective of this clause is to ensure that development does not disturb, expose or drain acid sulphate soils and cause environmental damage.
(2) Development consent is required for the carrying out of works described in the Table to this subclause on land shown on the Acid Sulphate Soils Map as being of the class specified for those works, except as provided by this clause.
<table>
<tr><th>Class of Land</th><th>Works</th></tr>
<tr><td>1</td><td>Any works.</td></tr>
<tr><td>2</td><td>Works below the natural ground surface.
Works by which the water table is likely to be lowered.</td></tr>
</table>
</td><td>
All of the subject site is identified as potentially containing acid sulphate soils. Mod 15 was supported by an Acid Sulphate Soils Assessment undertaken by Coffey Geosciences (“Coffey’s”). Coffey’s concluded that:
Based on the geological site setting, previous and current results, it is possible that ASS could be intersected at depths greater than 3m to 4m below the ground surface for infrastructure on the southern side of Bolong Road. Acid sulphate soils could be shallower and more sporadic on the northern side of Bolong Road for the proposed pipeline.
We recommend that an acid sulphate soil management plan be prepared for the project
</td></tr>
</table>

Table 4 (continued)

<table>
<tr><th>SLEP 2014 Clause</th><th>Provisions</th><th>Comments</th></tr>
<tr><td>7.1 continued</td><td>
<table>
<tr><td>3</td><td>Works more than 1 metre below the natural ground surface.
Works by which the watertable is likely to be lowered more than 1 metre below the natural ground surface.</td></tr>
<tr><td>4</td><td>Works more than 2 metres below the natural ground surface.
Works by which the watertable is likely to be lowered more than 2 metres below the natural ground surface.</td></tr>
<tr><td>5</td><td>Works within 500 metres of adjacent Class 1, 2, 3 or 4 land that is below 5 metres Australian Height Datum by which the watertable is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land.</td></tr>
</table>
(3) Development consent must not be granted under this clause for the carrying out of works unless an acid sulphate soils management plan has been prepared for the proposed works in accordance with the Acid Sulphate Soils Manual and has been provided to the consent authority.
(4) Despite subclause (2), development consent is not required under this clause for the carrying out of works if:
(a) a preliminary assessment of the proposed works prepared in accordance with the Acid Sulphate Soils Manual indicates that an acid sulphate soils management plan is not required for the works, and
(b) the preliminary assessment has been provided to the consent authority and the consent authority has confirmed the assessment by notice in writing to the person proposing to carry out the works.
(5) Despite subclause (2), development consent is not required under this clause for the carrying out of any of the following works by a public authority (including ancillary work such as excavation, construction of access ways or the supply of power):
(a) emergency work, being the repair of the works of the public authority required to be carried out urgently because the works have been damaged, have ceased to function or pose a risk to the environment or to public health and safety,
</td><td>which could involve some upfront testing (particularly along the proposed pipeline route) or testing at the time of excavation. The plan should be prepared in accordance with the relevant sections of the 1998 ASS Manual prepared by ASSMAC. The detail of the plan can be refined based on the likely volumes to be extracted. For small volumes a simple work plan may be sufficient.

Avoidance is a preferred strategy and Supagas should consider construction methodologies that avoid disturbing ASS, such as use of screw piles (if structurally suitable). An environmental consultant with suitable experience in identifying and managing ASS should be appointed to oversee any excavation that could intersect acid sulphate soils and carry out assessment and provide management advice at that time.

The proposed works are to be located essentially within the same area of the site that was investigated by this assessment by Coffey's. In light of these earlier findings, it is considered that no further assessment is required in relation to the proposed modification works, however the recommendations of the previous assessment will still be applicable to the proposed modification works.</td></tr>
</table>

Table 4 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
7.1 continued	*(b) routine management work, being the periodic inspection, cleaning, repair or replacement of the works of the public authority (other than work that involves the disturbance of more than 1 tonne of soil).* *(c) minor work, being work that costs less than $20,000 (other than drainage work).* *(6) Despite subclause (2), development consent is not required under this clause to carry out any works if:* *(a) the works involve the disturbance of less than 1 tonne of soil, and* *(b) the works are not likely to lower the watertable.*	
Clause 7.3 *Flood Planning*	*(1) The objectives of this clause are as follows:* *(a) to minimise the flood risk to life and property associated with the use of land,* *(b) to allow development on land that is compatible with the land's flood hazard, taking into account projected changes as a result of climate change,* *(c) to avoid significant adverse impacts on flood behaviour and the environment.* *(2) This clause applies to land at or below the flood planning level.* *(3) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development:* *(a) is compatible with the flood hazard of the land, and* *(b) will not significantly adversely affect flood behaviour resulting in detrimental increases in the potential flood affectation of other development or properties, and* *(c) incorporates appropriate measures to manage risk to life from flood, and*	The application is supported by a Flood Compliance Report prepared by WMAwater (**Annexure 5**) which concludes the existing and proposed works will not significantly increase the 1% AEP, PMF or Extreme event flood levels on lands outside those owned by Shoalhaven Starches. Consequently, WMAwater advise it is not necessary to consider the cumulative effects of existing / proposed works as there is no significant incremental increase because of these works.

Table 4 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
7.3 continued	*(d) will not significantly adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of riverbanks or watercourses, and* *(e) is not likely to result in unsustainable social and economic costs to the community as a consequence of flooding, and* *(f) will not affect the safe occupation or evacuation of the land.* *(4) A word or expression used in this clause has the same meaning as it has in the Floodplain Development Manual (ISBN 0 7347 5476 0) published by the NSW Government in April 2005, unless it is otherwise defined in this Plan.* *(5) (Repealed)*	
Clause 7.4 *Coastal Risk Planning*	*(1) The objectives of this clause are as follows:* *(a) to avoid significant adverse impacts from coastal hazards,* *(b) to ensure uses of land identified as coastal risk are compatible with the risks presented by coastal hazards,* *(c) to enable the evacuation of land identified as coastal risk in an emergency,* *(d) to avoid development that increases the severity of coastal hazards.* *(2) This clause applies to the land identified as "Coastal Risk Planning Area" on the Coastal Risk Planning Map.* *(3) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that the development:* *(a) will avoid, minimise or mitigate exposure to coastal processes, and* *(b) is not likely to cause detrimental increases in coastal risks to other development or properties, and* *(c) is not likely to alter coastal processes and the impacts of coastal hazards to the detriment of the environment, and*	The *Coastal Risk Planning Map* that accompanies the SLEP 2014 does not identify the subject land as a "*Coastal Risk Planning Area"*. The provisions of this clause therefore do not apply to the subject site.

Table 4 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
7.4 continued	*(d) incorporates appropriate measures to manage risk to life from coastal risks, and* *(e) is likely to avoid or minimise adverse effects from the impact of coastal processes and the exposure to coastal hazards, and* *(f) provides for the relocation, modification or removal of the development to adapt to the impact of coastal processes and coastal hazards, and* *(g) has regard to the impacts of sea level rise.* *(4) A word or expression used in this clause has the same meaning as it has in the NSW Coastal Planning Guideline: Adapting to Sea Level Rise (ISBN 978-1-74263-035-9) published by the NSW Government in August 2010, unless it is otherwise defined in this clause.* *(5) In this clause:* ***coastal hazard** has the same meaning as in the Coastal Protection Act 1979.*	
Clause 7.5 Terrestrial Biodiversity	*(1) The objective of this clause is to maintain terrestrial biodiversity, by:* *(a) protecting native flora and fauna,* *(b) protecting the ecological processes necessary for their continued existence, and* *(c) encouraging the recovery of native flora and fauna, and their habitats.* *(2) This clause applies to land:* *(a) identified as "Biodiversity—habitat corridor" or "Biodiversity—significant vegetation" on the Terrestrial Biodiversity Map, and* *(b) situated within 40m of the bank (measured horizontally from the top of the bank) of a natural waterbody.* *(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider:* *(a) whether the development is likely to have:*	The Terrestrial Biodiversity Map that accompanies the SLEP 2014 does not identify the subject land as including areas of Biodiversity - habitat corridor and/or Biodiversity - significant vegetation. Given the nature of the site the proposal is unlikely to have any adverse impacts on the ecological value of the land.

Table 4 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
7.5 continued	*(i) any adverse impact on the condition, ecological value and significance of the fauna and flora on the land, and* *(ii) any adverse impact on the importance of the vegetation on the land to the habitat and survival of native fauna, and* *(iii) any potential to fragment, disturb or diminish the biodiversity structure, function and composition of the land, and* *(iv) any adverse impact on the habitat elements providing connectivity on the land, and* *(b) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.* *(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:* *(a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or* *(b) if that impact cannot be reasonably avoided by adopting feasible alternatives—the development is designed, sited and will be managed to minimise that impact, or* *(c) if that impact cannot be minimised—the development will be managed to mitigate that impact.* *(5) For the purpose of this clause:* ***bank** means the limit of the bed of a natural waterbody.* ***bed,** of a natural waterbody, means the whole of the soil of the channel in which the waterbody flows, including the portion that is alternatively covered and left bear with an increase or diminution in the supply of water and that is adequate to contain the waterbody at its average or mean stage without reference to extraordinary freshets in the time of flood or to extreme droughts.*	

Table 4 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
Clause 7.6 *Riparian land and watercourses*	*(1) The objective of this clause is to protect and maintain the following:* *(a) water quality within watercourses,* *(b) the stability of the bed and banks of watercourses,* *(c) aquatic and riparian habitats,* *(d) ecological processes within watercourses and riparian areas.* *(2) This clause applies to all of the following:* *(a) land identified as "Riparian Land" on the Riparian Lands and Watercourses Map,* *(b) land identified as "Watercourse Category 1", "Watercourse Category 2" or "Watercourse Category 3" on that map,* *(c) all land that is within 50 metres of the top of the bank of each watercourse on land identified as "Watercourse Category 1", "Watercourse Category 2" or "Watercourse Category 3" on that map.* *(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider:* *(a) whether or not the development is likely to have any adverse impact on the following:* *(i) the water quality and flows within the watercourse,* *(ii) aquatic and riparian species, habitats and ecosystems of the watercourse,* *(iii) the stability of the bed and banks of the watercourse,* *(iv) the free passage of fish and other aquatic organisms within or along the watercourse,* *(v) any future rehabilitation of the watercourse and its riparian areas, and* *(b) whether or not the development is likely to increase water extraction from the watercourse, and* *(c) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.*	The *Riparian Lands and Watercourses Map* that accompanies the SLEP 2014 identify a category 1 watercourse (Shoalhaven River), adjacent to the southern boundary of the site . The site is industrial land with minimal existing vegetation and is beyond the influence of normal fluvial geomorphic processes. As such the development will not have any adverse effect on water quality, flows within the watercourse, aquatic and riparian species or habitats and ecosystems of the watercourse. Mod 15 was supported by a riverbank stability assessment undertaken by Coffey's who concluded that: *For the inferred ground conditions and remoteness from the riverbank of the proposed development, the risk of riverbank instability is not expected to be significant for the scope of development currently understood. Instability risks could be managed by appropriate footing systems founded at sufficient depth to minimise loads on soils adjacent to the riverbanks. This assessment will need to be confirmed by specific geotechnical investigation.* Given the proposed works associated with this development will be set back about 60 metres from the bank of the Shoalhaven River it is not anticipated that the impacts that the proposed works would have on riverbank stability of this watercourse will need to be further addressed subject to the above conclusion by Coffey's. Given these circumstances it is not considered necessary that a further assessment be undertaken with respect to this issue

Table 4 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
7.6 continued	*(4) Development consent must not be granted to development on land to which this clause applies unless the consent authority is satisfied that:* *(a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or* *(b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or* *(c) if that impact cannot be minimised—the development will be managed to mitigate that impact* *(5) For the purpose of this clause:* ***bank** means the limit of the bed of a watercourse.* ***bed**, of a watercourse, means the whole of the soil of the channel in which the watercourse flows, including the portion that is alternatively covered and left bear with an increase or diminution in the supply of water and that is adequate to contain the watercourse at its average or mean stage without reference to extraordinary freshets in the time of flood or to extreme droughts.*	
Clause 7.7 *Landslide risk and other land degradation*	*(1) The objective of this clause is to maintain soil resources and the diversity and stability of landscapes, including protecting land:* *(a) comprising steep slopes, and* *(b) susceptible to other forms of land degradation.* *(2) This clause applies to the following land:* *(a) land with a slope in excess of 20% (1:5), as measured from the contours of a 1:25,000 topographical map, and* *(b) land identified as "Sensitive Area" on the Natural Resource Sensitivity—Land Map.* *(3) Before determining a development application for development on land to which this clause applies, the consent authority must consider any potential adverse impact, either from, or as a result of, the development in relation to:*	The proposed works involve land identified as sensitive land under the SLEP 2014 mapping. Under these circumstances the provisions of this clause will apply to this proposal. As outlined above in relation to Clause 7.6, Coffey's have previously undertaken a geotechnical assessment of the site within the vicinity to the proposed works associated with this Modification Application. This previous assessment concluded these previous works would have no influence on the stability of the northern bank of the nearby Shoalhaven River. This assumed that all structures would be supported on deep piles founded in weathered rock and would not increase loading of the ground adjacent to the banks. Given the proximity of the proposed modification

Table 4 (continued)

SLEP 2014 Clause	*Provisions*	*Comments*
7.7 continued	*(a) the geotechnical stability of the site, and* *(b) the probability of increased erosion or other land degradation processes.* *(4) Before granting consent to development on land to which this clause applies, the consent authority must be satisfied that:* *(a) the development is designed, sited and will be managed to avoid any significant adverse environmental impact, or* *(b) if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or* *(c) if that impact cannot be minimised – the development will be managed to mitigate that impact.* *(5) In this clause, topographical map means the most current edition of a topographical map, produced by Land and Property Information division of the Department of Finance and Services, that identifies the Council's local government area and boundary.*	works to the original approved works it is considered these previous recommendations will apply to the current proposed works associated with this Modification Application.
7.8 Scenic protection	*(1) The objective of this clause is to protect the natural environmental and scenic amenity of land that is of high scenic value.* *(2) This clause applies to land identified as "Scenic Protection" on the Scenic Protection Area Map.* *(3) In deciding whether to grant development consent for development on land to which this clause applies, the consent authority must:* *(a) consider the visual impact of the development when viewed from a public place and be satisfied that the development will involve the taking of measures that will minimise any detrimental visual impact, and* *(b) consider the number, type and location of existing trees and shrubs that are to be retained and the extent of landscaping to be carried out on the site, and* *(c) consider the siting of the proposed buildings.*	The subject land is <u>not</u> identified as being within a "*Scenic Protection"* area by *Scenic Protection Area Mapping* that accompanies the SLEP 2014. The provisions of this clause therefore do not apply to the subject site. The visual impact associated with this proposal are discussed in Section 7.2.5 of this SEE.

7.1.3 Development Control Plans (DCP) and Policies

Shoalhaven Development Control Plan (DCP) 2014

Given the nature of the works associated with this modification proposal it is considered the provisions of the Shoalhaven DCP 2014 are not directly relevant to this modification application apart from the provisions of *Chapter G9: Development on Flood Prone Land*.

The SEE is supported by a Flood Compliance Report prepared by WMAwater which addresses flooding issues which arise in relation to this Modification Proposal. A copy of the WMAwater submission is included in **Annexure 5** of this SEE. Flooding issues are further in Section 7.2.6 of this SEE.

Table 5 below is an extract from the WMAwater submission addressing the relevant provisions (section 5.1) of Chapter G9 of the Shoalhaven DCP 2014.

Table 5

Performance Criteria – General (Section 5.1 DCP 2014)
Extract from WMA Water Flood Compliance Report

Performance Criteria	***Response***
P1 Development or work on flood prone land will meet the following:	
The development will not increase the risk to life or safety of persons during a flood event on the development site and adjoining land.	There are currently two staff employed on the site. The modification proposal will not require any additional staff on site. The modification proposal will therefore not increase the number of persons on the site and therefore will not increase the risk to life or safety of persons during a flood event.
The development or work will not unduly restrict the flow behaviour of floodwaters.	Refer Hydraulic Impact Assessment below.
The development or work will not unduly increase the level or flow of floodwaters or stormwater runoff on land in the vicinity. The development or work will not exacerbate the adverse consequences of floodwaters flowing on the land with regard to erosion, siltation and destruction of vegetation.	The existing and proposed development is within existing built-up industrial land with trees on the periphery of the site. All runoff under existing and future conditions will reach the ground in nearly identical locationsand thus the works will have no impact on erosion or siltation.
The structural characteristics of any building or work that are the subject of the application are capable of withstanding flooding in accordance with the requirements of the Council.	A separate structural report will be provided
The development will not become unsafe during floods or result in moving debris that potentially threatens the safety of people or the integrity of structures.	A separate structural report on the potential failure of existing buildings and stored equipment and product will be provided.

Table 5 (continued)

Performance Criteria	*Response*
Potential damage due to inundation of proposed buildings and structures is minimised.	Inundation of the site and the existing / proposed plant and / or debris impact may cause damage to electrical and other components feeding the equipment as well as damage to the plant itself. These issues will be considered in an updated Shoalhaven Starches Flood Plan. Of importance is the potential risk from equipment being moved by floodwaters from the site.
The development will not obstruct escape routes for both people and stock in the event of a flood.	The existing / proposed works will not occupy escape routes or cause workers to become trapped.
The development will not unduly increase dependency on emergency services.	The works will not increase the number of workers from Supagas who may be subject to flood risk.
Interaction of flooding from all possible sources has been taken into account in assessing the proposed development against risks to life and property resulting from any adverse hydraulic impacts.	Refer Hydraulic Impact Assessment below.
The development will not adversely affect the integrity of floodplains and floodway's, including riparian vegetation, fluvial geomorphologic environmental processes and water quality.	The works will be constructed on land designated as high hazard floodway in the 1% AEP event (from Flood Certificate in Appendix B). The site is industrial land with limited existing vegetation and is beyond theinfluence of normal fluvial geomorphic processes. The works will have no impact on water quality.

7.1.4 Protection of the Environment Operations Act and Associated Regulations

The existing Supagas CO2 Plant is subject to an Environmental Protection Licence (EPL) under the Protection of the Environment Operations Act 1997 (POEO Act) (EPL No. 21178) issued by the EPA. The licence imposes requirements in terms of:

- discharges to air, water and land;
- noise;
- operating conditions;
- monitoring and recording conditions;
- reporting conditions.

If approved, the proposed modification may necessitate the terms/provisions of this licence may also need to be reviewed.

7.2 THE LIKELY IMPACTS OF THE DEVELOPMENT, INCLUDING ENVIRONMENTAL IMPACTS ON BOTH NATURAL AND BUILT ENVIRONMENTS, AND SOCIAL AND ECONOMIC IMPACTS IN THE LOCALITY

7.2.1 Risk Assessment of Potential Environmental Impacts

The purpose of this section of the SEE is to provide a risk assessment of the potential environmental impacts associated with the modification proposal. This section (**Table 6**) compares the potential impacts from the proposed modification against the approved project. The comparison uses the key environmental impacts assessed in the original EA that supported the original MP06_0228 and summarises the relative change in environmental impacts associated with the proposed modification.

Table 6

Risk Assessment

Relative Change in Environmental Impact	*Additional Management or Mitigation Measures Required*	*Significance of Issue with this Modification Proposal*
Air Quality (including Odour) Assessment		
One of the primary issues that was addressed in the original EA for the Shoalhaven Starches Expansion Project concerned the need for a comprehensive air quality assessment (including odour assessment) and reduction of odours as part of the project. This SEE is supported by an air quality assessment prepared by GHD which addresses the relevant aspects of this Modification Application in terms of air quality impacts. GHD's assessment concludes that air quality impacts (odours and other pollutants) are not anticipated and there is no expected increase to the cumulative levels in the local area.	GHD do not propose any additional management or mitigative measures are required for this Modification Application.	This issue is further addressed in Section 7.2.2 of this SEE.
Transport and Traffic		
Shoalhaven Starches have undertaken comprehensive upgrades to existing vehicle entrances to the Shoalhaven Starches factory site as well as the former Dairy Farmers site (the subject of this particular project) to Bolong Road in accordance with the Project Approval as well as other approvals granted by Shoalhaven City Council. Mod 15 for the existing Supagas facility was supported by a Traffic Impact Assessment prepared by ARC Traffic & Transport. that identified there would be no access, traffic or parking impacts associated with the proposal – either during operation or construction – that would significantly impact on the efficiency and/or safety of the local traffic environment or existing on-site operations. The trip generation of the proposal during construction would be	No additional management or mitigative measures are proposed in terms of traffic or car parking.	Not a key issue. This issue is not further addressed in this SEE.

Table 6 (continued)

Relative Change in Environmental Impact	*Additional Management or Mitigation Measures Required*	*Significance of Issue with this Modification Proposal*
extremely minor, while once operational the proposal is not expected to generate any additional trips to the local road network. The current modification proposal does not seek to increase production rates from the site over that which was envisaged by the original Mod 15 approval. This Modification Proposal therefore does not seek to increase traffic movements over that which was envisaged by the original Mod 15 approval. Under these circumstances it is not considered that traffic issues will require further detailed consideration as part of this Modification Application.		
Site Contamination		
A Phase 1 Site Contamination Assessment was undertaken by Coffey's as part of the original Mod 15 project given the provisions of the *State Environmental Planning Policy No. 55 – Remediation of Land*. With respect to the site of the CO_2 Plant Coffey's concluded that this area of the site of the CO_2 Plant "*had generally a low likelihood for being affected by contamination that would pose an unacceptable risk to human health or the environment under the proposed development scenario*." Given these circumstances it is not considered necessary that a further assessment be undertaken with respect to this issue.	No additional management or mitigative measures are proposed	Not a key issue. This issue is not further addressed in this SEE.
Acid Sulphate Soils		
Acid Sulphate Soils – All of the subject site is identified as potentially containing acid sulphate soils. Mod 15 was supported by an Acid Sulphate Soils Assessment undertaken by Coffey Geosciences ("Coffey's"). Coffey's concluded that:	No additional management or mitigative measures are proposed	Not a key issue. This issue is not further addressed in this SEE.

Table 6 (continued)

Relative Change in Environmental Impact	*Additional Management or Mitigation Measures Required*	*Significance of Issue with this Modification Proposal*
Based on the geological site setting, previous and current results, it is possible that ASS could be intersected at depths greater than 3m to 4m below the ground surface for infrastructure on the southern side of Bolong Road. Acid sulphate soils could be shallower and more sporadic on the northern side of Bolong Road for the proposed pipeline. *We recommend that an acid sulphate soil management plan be prepared for the project which could involve some upfront testing (particularly along the proposed pipeline route) or testing at the time of excavation. The plan should be prepared in accordance with the relevant sections of the 1998 ASS Manual prepared by ASSMAC. The detail of the plan can be refined based on the likely volumes to be extracted. For small volumes a simple work plan may be sufficient.* *Avoidance is a preferred strategy and Supagas should consider construction methodologies that avoid disturbing ASS, such as use of screw piles (if structurally suitable). An environmental consultant with suitable experience in identifying and managing ASS should be appointed to oversee any excavation that could intersect acid sulphate soils and carry out assessment and provide management advice at that time.* The proposed works associated with this Modification Application are to be located essentially within the same area of the site that was investigated by this assessment by Coffey's. In light of these earlier findings, it is considered that no further assessment is required in relation to the proposed modification works, however the recommendations of the previous assessment will still be applicable to the proposed modification works.		

Table 6 (continued)

Relative Change in Environmental Impact	*Additional Management or Mitigation Measures Required*	*Significance of Issue with this Modification Proposal*
Noise		
This SEE is supported by an Environmental Noise Impact Assessment prepared by Harwood Acoustics Pty Ltd. A copy of this assessment is included in **Annexure 4** to this SEE Harwood Acoustics finds that the level of noise emission from the Modification Proposal will meet noise limits prescribed under Environment Protection Licence 21178 at all receptor locations without the need for noise controls.	No additional management or mitigation measures proposed.	Noise impacts are further addressed in Section 7.2.3 of this SEE.
Hazards		
The Modification Application is supported by a Preliminary Hazard Analysis (PHA) prepared by Pinnacle Risk Management which assesses the risks associated with the proposed modifications and compares against relevant risk criteria. The PHA identifies that the proposed modifications will comply with all risk criteria. Societal risk, area cumulative risk and environmental risk are also concluded to be acceptable.	No additional management or mitigation measures proposed.	The SEE is supported by a PHA prepared by Pinnacle Risk Management addressing this issue (**Annexure 6**). This issue is further addressing Section 7.2.4 of this SEE.
Flooding		
The subject site is inundated during the 1% Annual Exceedance Probability (AEP) flood event by floodwaters from the Shoalhaven River. The sites are categorised as high hazard floodway and high hazard flood storage. This Modification Application is supported by an assessment submission prepared by WMAwater ("WMA") (**Annexure 5**). The submission prepared by WMAwater concludes the existing and proposed works will not significantly increase the 1% AEP, PMF or Extreme event flood levels on lands outside	No additional management or mitigation measures proposed.	The SEE is supported by a submission prepared by WMAwater addressing this issue (**Annexure 5**). This issue is further addressing Section 7.2.6 of this SEE.

Table 6 (continued)

Relative Change in Environmental Impact	*Additional Management or Mitigation Measures Required*	*Significance of Issue with this Modification Proposal*
those owned by Shoalhaven Starches. Consequently, WMAwater advise it is not necessary to consider the cumulative effects of existing / proposed works as there is no significant incremental increase because of these works.		
Riverbank Stability		
Mod 15 was supported by a riverbank stability assessment also undertaken by Coffey's who concluded that: *For the inferred ground conditions and remoteness from the riverbank of the proposed development, the risk of riverbank instability is not expected to be significant for the scope of development currently understood. Instability risks could be managed by appropriate footing systems founded at sufficient depth to minimise loads on soils adjacent to the riverbanks. This assessment will need to be confirmed by specific geotechnical investigation.* Given the proposed works associated with this development will be set back about 60 metres from the bank of the Shoalhaven River it is not anticipated that the impacts that the proposed works would have on riverbank stability of this watercourse will need to be addressed subject to the above conclusion by Coffey's. Given these circumstances it is not considered necessary that a further assessment be undertaken with respect to this issue.	No additional management or mitigation measures proposed	Not a key issue. This issue is not further addressed in this SEE.
Waste Management		
The CO_2 Plant did not alter the way waste is managed on the site. All waste will be directed to Manildra Wastewater Treatment Plant pursuant to a Trade Waste Agreement with Shoalhaven Water or other authorised facility.	No additional management or mitigation measures proposed	Not a key issue. This issue is not further addressed in this SEE.

Table 6 (continued)

Relative Change in Environmental Impact	*Additional Management or Mitigation Measures Required*	*Significance of Issue with this Modification Proposal*
Site Stormwater Management		
All site stormwater from the existing CO2 Facility is collected and pumped to the Manildra Waste Water Treatment Plant via a Trade Agreement with Shoalhaven Water. This proposal will not alter the existing situation.	No additional management or mitigation measures proposed.	Not a key issue. This issue is not further addressed in this SEE.
Visual Impact		
The majority of the works associated with this modification will be situated within the vicinity of existing industrial development of a similar scale to that which is proposed. The proposal will however include additional storage vessels that will rise higher than existing structures associated with this existing plant.	No additional management or mitigation measures proposed.	The visual impacts associated with this modification proposal are addressed in Section 7.2.5 of this SEE.
Flora and Fauna		
The proposed works associated with this modification will be located within a heavily disturbed industrial site and no existing nature vegetation will need to be disturbed by this proposal.	No additional management or mitigation measures proposed.	Not a key issue. This issue is not further addressed in this SEE.
Heritage and Archaeological		
The proposed works associated with this Modification Proposal are located upon land which has not been identified or listed as Aboriginal or European cultural heritage significance. The proposed works will have no additional impact in terms of indigenous or non-indigenous heritage.	No additional management or mitigation measures proposed.	Not a key issue. This issue is not further addressed in this SEE.
Effluent Irrigation and Storage		
This Modification Proposal will not increase waste waters that will need to be generated, treated and disposed. This Modification Application does not seek to alter the existing approve wastewater treatment and disposal measures for the existing site operations.	No additional management or mitigation measures proposed.	Not a key issue. This issue is not further addressed in this SEE.

Table 6 (continued)

Relative Change in Environmental Impact	*Additional Management or Mitigation Measures Required*	*Significance of Issue with this Modification Proposal*
Wastewater Treatment		
Water Discharges The Shoalhaven Starches Factory and Environmental Farm are licensed premises under the Protection of the Environmental Operations Act. Wastewater discharges from the site are licensed by the DEC (EPL 883). The plant has a licensed outfall into the Shoalhaven River. The outfall point is a 50 cm diameter metal pipe discharging at the end of an existing jetty. It also has a cooling water discharge comprising a 50 cm diameter pipe which discharges onto a gabion spillway. Under the terms of the Company's EPL discharge streams associated with the plant include: • river water passed through the boiler condensers and the primary side of the heat exchangers; • boiler water treatment plant regeneration waters; and • pH adjusted glucose plant ion exchange unit regeneration waters. All these must be discharged from the cooling water discharges. The limiting conditions in relation to these discharges include: • The volume of water discharged from the cooling water discharges must not exceed 100,000 kilolitres per day. • The wastewaters discharged at both points shall not exceed a temperature of 32°C. • This Modification Proposal will not involve any changes to these discharge waters.	No additional management or mitigation measures.	Not a key issue. This issue is not further addressed in this SEE.

7.2.2 Air Quality Issues

GHD were engaged to conduct an air quality impact assessment for this Modification Application (**Annexure 3**). This section of the SEE provides a summary of the findings of the GHD Air Quality Impact Assessment for this Modification Application.

Emissions

A summary of existing plant emissions prepared by GHD (as assessed in December 2017) is provided in **Table 7** below. The existing system is primarily enclosed and according to GHD only minor quantities of emissions are anticipated.

Table 7

Summary of Existing Plant Emissions

Description	***Flowrate***	***Temp °C***	***Concentration (Mole %)***						
			CO_2	***O_2***	***N_2***	***H_2O***	*****Oxygenates***	***pH (Typ)***	***Odour***
Cold scrubber drain **(Stream 1)**	1028 LPH	17.7	0.1	0	0	99.57	0.33	6.2	Probable
CO_2 compressor after-cooler condensate drain **(Stream 2)**	1.8 LPH	35	0.3	Trace	Trace	99.7	Trace	3.0	Nil
Dehydration unit cooler condensate drain **(Stream 3)**	10.2 LPH	9.5	0.3	Trace	Trace	99.7	Nil	3.0	Nil
Drier regeneration gas vent **(Stream 4)**	60 sm^3/hr	0 - 240	65.2	5.52	29.28	Nil	Nil	NA	Nil
CO_2 liquefier gas vent **(Stream 5)**	128 m^3/hr	-28.7	65.2	5.52	29.28	Nil	Nil	NA	Nil
Cooling tower blow-down **(Stream 6)**	LPH	90	Trace	Trace	Trace	00	Nil	6.8	Nil

***Oxygenates compromises mixture of compounds given below in varying proportions with the predominate species being ethanol.*

The previous assessment undertaken by GHD noted the following:

- *Streams 1, 2,3 and 6 are liquid and are composed primarily of H_2O.*
- *Stream 1 (cold scrubber drain) is estimated to have vapour comprising of a number of potentially odorous oxygenated chemical compounds including Ethanol, Acetaldehyde and Ethyl Acetate. Supagas have advised that vapour exiting the cold scrubber is sent down the pipeline to the CO2 plant on the Meats Works Site for further treatment.*

Therefore this stream will not be a source of odorous ortoxic emissions.

- *Stream 2 (CO_2 compressor after-cooler condensate drain) may contain trace levels of oxygenated chemical compounds, however this stream of up to 1.8 litres per hour (99.7% H_2O and 0.3% CO_2) isnot a significant quantity to be a source of odorous emissions.*
- *Stream 3 (dehydration unit cooler condensate drain) and Stream 4 (Drier regeneration gas vent)contain no odorous or toxic air pollutants.*
- *The two sources of gaseous emissions are Stream 4 (Drier regeneration gas vent) and Stream 5 (CO_2 liquefier gas vent) and contain no odorous or toxic air pollutants.*

Changes to emissions inventory as a result of the proposedmodification

According to GHD no new sources of emissions are proposed as part of this Modification Proposal. The current operation of the plant is not proposed to change. In addition, Supagas have reiterated that:

- The vapour exiting the cold scrubber is piped to the purification plant via a closed pipe. The gas is thenpurified using a number of absorbers and a reactor is used to removed 'low level' impurities. No gas is vented until it gets to the distillation section. All possible odours have been removed at that point.
- No short-term increase in emissions would be anticipated when the CO_2 NO_x removal beds arechanged over as the NO_x is a chemical reaction with the media and remains with the media.

Therefore, according to GHD, the emissions inventory will remain unchanged from their previous assessment.

Potential Impacts

GHD has reviewed the project and potential emissions associated with the modification. No changes to site emissions are proposed and, according to GHD, no significant or assessable odour or other toxic emissions are anticipated. Based on the information provided GHD advise there will be no impacts on any nearby sensitive receptors.

The Air Quality Assessment undertaken by GHD for this project concludes:

> *GHD has undertaken a review of the proposed changes to the CO_2 plant including any impacts on siteemissions. Air quality impacts (odour and other pollutants) are not anticipated and there is no expected increase to the cumulative levels in the local area.*

7.2.3 Noise Impact Issues

Harwood Acoustics were engaged to conduct a noise impact assessment for this Modification Proposal (**Annexure 4**). A copy of Harwood Acoustics findings in relation to this current Modification Application as a result of this review is included as **Annexure 4**

to this SEE. This section of the SEE provides a summary of the findings of the Environmental Noise Impact Assessment prepared by Harwood Acoustics for this Modification Application.

According to Harwood Acoustics the nearest residential receptor locations to the proposal are shown in **Figure 9**:

- Location 1 – 39 Hanigan's Lane, Bolong approximately 540 metres to the north,
- Location 2 – Nobblers Lane, Terara approximately 1300 metres to the south east,
- Location 3 – Ferry Lane, Nowra approximately 1600 metres to the south west, and
- Location 4 – Meroo Street, Bomaderry approximately 1100 metres to the west.

Figure 9: Closest Receptors (Harwood Acoustics).

7.2.3.1 Noise Criteria

NSW EPA's Environment Protection Licence 21178

Supagas Pty Ltd operates under Environment Protection Licence 21178 issued by the NSW Environment Protection Authority.

Section L3 'Noise Limits' of the licence states:

"L3.1 the $L_{Aeq\ (15min)}$ sound pressure level contribution generated from the premises must not exceed the following levels when measured at or near the boundary of any residential premises:

Location	***Day (7 am to 6 pm)*** $L_{Aeq\ (15\ min)}$	***Evening (6 pm to 10 pm)*** $L_{Aeq\ (15\ min)}$	***Night (10 pm to 7 am)*** $L_{Aeq\ (15\ min)}$	***Night (10 pm to 7 am)*** $L_{A1\ (1\ min)}$
At locations in Terara on the south side of the ShoalhavenRiver	38	38	38	48
At locations in Nowra on the south side of the ShoalhavenRiver	38	38	38	48
At locations in Meroo Street, Bomaderry	42	42	42	52
At other locations inBomaderry (Bolong)	40	40	40	50

"L3.2 Noise from the premises is to be measured at the most affected point on or within the residential boundary or at the most affected point within 30 metres of a dwelling where the dwelling is more than 30m from the boundary, to determine compliance with Condition L3.1:

The modification factors in Fact Sheet C of the Noise Policy for Industry shall also be applied tothe measured noise levels where applicable.

L3.3 Noise from the premises is to be measured at 1 metre from the dwelling facade to determine compliance with the $L_{A1\ (1\ minute)}$ noise limit in condition L3.1.

L3.4 Where it can be demonstrated that direct measurement of noise from the premises is impractical, the EPA may accept alternative means of determining compliance (see Chapter 7 of the Noise Policy for Industry).

L3.5 The noise emission limits identified in condition L3.1 apply under meteorological conditions of:

a) Wind speed up to 3 metres per second at 10 metres about ground level; or

b) Temperature inversion conditions of up to 3°C/100 metres and wind speed up to 2metres per second at 10 metres above ground level."

7.2.3.2 Development Noise Emission

Noise sources associated with the operation of the new storage equipment will consist of a new CO_2 load out pump. This will be located between the two new CO_2 storage tanks, at ground level.

Harwood Acoustics has carried out noise assessments at the existing Supagas facility, including:

- Noise Impact Assessment reference 1708012E-R, dated 16/01/2018; and
- Noise Validation Report reference 1708012E-I2, dated 20/04/2021.

During the noise validation assessment, Harwood Acoustics was able to measure the level of noise emission from each of the components associated with the existing plant.

This includes the existing load out pumps associated with the existing CO_2 storage tanks.

The new pump will be the same make and model as the existing pumps and produce the same level of noise emission.

It is worth noting that only one pump (being either of the two existing pumps or the new pump) will operate at any given time during either truck oud out or transfer of product between vessels (CO_2 storage tanks). Consequently, there will be no noticeable increase in noise emission from the site. However, noise predictions for the new pump noise are provided in this assessment for completeness.

These previous noise measurements, along with information of the proposed new CO_2 load out pump supplied by Supagas, have been used to establish a schedule of 'A' frequency weighted sound power levels, in decibels re: 1 pW as shown in **Table 8** below.

Table 8

$L_{eq,\ 15\ minute}$ Sound Power Levels – Storage Facility Associate noise Producing Equipment

Equipment Description	*Individual Sound Power Level $L_{eq,\ 15\ minute}$ (dBA)*
Storage tank load out pump	**80**

Predicted Noise Levels

The predicted noise levels at each of the receptors are shown in **Tables 9** and **10** below where **Table 9** shows the predicted noise levels against the intrusiveness noise limit in the day, evening and night time periods and **Table 10** shows the predicted noise level against the sleepdisturbance noise limit at night.

Table 9

Predicted Leq Noise Levels – New Equipment Noise (Intrusiveness)

Description	***Predicted Noise Level $L_{eq,\ 15\ minute}$ (dBA) at Receptor Location***			
	Location 1	***Location 2***	***Location 3***	***Location 4***
Noise Limit (Day, Evening or Night)	**40**	**38**	**38**	**42**
New storage plant	<15	<10	<10	<10
Complies	**Yes**	**Yes**	**Yes**	**Yes**

Table 10

Predicted Leq Noise Levels – New Equipment Noise (Sleep Disturbance)

Description	***Predicted Noise Level $L_{1,\ 1\ minute}$ (dBA) at Receptor Location***			
	Location 1	***Location 2***	***Location 3***	***Location 4***
Noise Limit (Day, Evening or Night)	**50**	**48**	**48**	**52**
New storage plant	<20	<15	<10	<15
Complies	**Yes**	**Yes**	**Yes**	**Yes**

According to Harwood Acoustics, the level of noise emission from the plant and equipment associated with this Modification Proposal will be inaudible at each receptor location. Under these circumstances, Harwood Acoustics advise no modifying factor adjustments are considered to be applicable.

The Environmental Noise Impact Assessment prepared by Harwood Acoustics concludes with respect to this Modification Proposal:

> *"An assessment of the potential noise emission arising from the proposed installation of storage equipment at Supagas Pty Ltd's CO_2 plant at 220 Bolong Road, Bomaderry, NSW has been undertaken.*
>
> *Noise modelling, calculations and predictions show that the level of noise emission from the operation of the facility will meet the Noise Limits prescribed under Environment Protection Licence 21178 at all receptor locations without the need for noise controls."*

7.2.4 Preliminary Hazard Analysis

Pinnacle Risk Management were engaged to undertake a Preliminary Hazard Analysis (PHA) for the Modification Proposal (**Annexure 6**). A copy of Pinnacle Risk Management's PHA is included as **Annexure 6** to this SEE.

The risks associated with the Modification Proposal have been assessed by Pinnacle Risk management and compared against the DoP risk criteria.

The results are as follows and show compliance with all risk criteria.

Description	***Risk Criteria***	***Risk Acceptable?***
Fatality risk to sensitive uses, including hospitals, schools, aged care	0.5 x 10^{-6} per year	Y
Fatality risk to residential and hotels	1 x 10^{-6} per year	Y
Fatality risk to commercial areas, including offices, retail centres, warehouses	5 x 10^{-6} per year	Y
Fatality risk to sporting complexes and active open spaces	10 x 10^{-6} per year	Y
Fatality risk to be contained within the boundary of an industrial site	50 x 10^{-6} per year	Y
Injury risk – incident heat flux radiation at residential areas should not exceed 4.7 kW/m^2 at frequencies of more than 50 chances in a million per year or incident explosion overpressure at residential areas should not exceed 7 kPa at frequencies of more than 50 chances in a million per year	50 x 10^{-6} per year	Y
Toxic exposure - Toxic concentrations in residential areas which would be seriously injurious to sensitive members of the community following a relatively short period of exposure	10 x 10^{-6} per year	Y
Toxic exposure - Toxic concentrations in residential areas which should cause irritation to eyes or throat, coughing or other acute physiological responses in sensitive members of the community	50 x 10^{-6} per year	Y
Propagation due to Fire and Explosion – exceed radiant heat levels of 23 kW/m^2 or explosion overpressures of 14 kPa in adjacent industrial facilities	50 x 10^{-6} per year	Y

Pinnacle Risk also conclude that societal risk, area cumulative risk, propagation risk, transport risk and environmental risk are also acceptable.

The primary reasons for the low risk levels from the site according to Pinnacle Risk Management are the separation distances between the hazards the nearest place of residence and that high levels of carbon dioxide are required to cause fatality.

Pinnacle Risk Management make no further recommendations in relation to this Modification Proposal.

7.2.5 Visual Impact

The Scenic Character and Environment

The subject site is situated on Bolong Road, the gateway to Bomaderry, within an area currently containing a mixture of rural and industrial land uses. These different land uses contrast with each other and result in a mixed visual character.

The rural areas, much of which comprises the Shoalhaven Starches Environmental Farm, are generally flat to gently undulating and planted with pasture grasses. These areas have a typical rural/agricultural character, common throughout the region. To the north and forming a background to the rural landscape are the timbered slopes of the Cambewarra escarpment.

The subject site is characterised by typical industrial structures with an overall bulk and scale that dominates the surrounding locality.

The most relevant vantage points from where the proposed CO_2 Plant is visible would include:

The Princes Highway – views of the existing factory site are possible from selected locations along the Princes Highway north of Bomaderry, travelling in both a northerly and southerly direction. Whilst the location of the CO_2 Plant is slightly visible in the landscape, its overall visual impact is reduced by virtue of the distance between the plant; the intermittent nature of the views; a rise in topography which screens the site from view; and vegetation.

Burraga (Pig) Island – Burraga Island is situated in the middle of the Shoalhaven River and provides the closest vantage point to the southern boundary of the CO_2 Plant site. The island however is privately owned and not accessible to the public. Vegetation screening along the riverbank adjacent to the site reduces the visibility of existing buildings and structures.

Bolong Road – Bolong Road runs along the frontage of both the main and raw CO_2 treatment plant sites. Views of the CO_2 Plant will be readily visible when travelling in both an easterly or westerly direction. Attempts have been made to provide some tree planting along the boundaries of 220 Bolong Road and 171 Bolong Road to “soften” the appearance of the development.

Nowra Bridge – The Nowra Bridge crosses the Shoalhaven River and provides limited opportunities for views of the Shoalhaven factory site. The dominant visual elements from the bridge are the river, vegetation along the riverbanks and the escarpment.

Bomaderry urban area – The existing plant is visible from a number of locations within the eastern outskirts of Bomaderry. Bomaderry is slightly elevated and some locations within the urban area do have extensive views of the site.

Terara – Distant views of the proposed CO_2 Plant on the former Dairy Farmers' site are possible from a number of vantage points in and around the village of Terara on the southern bank of the River. The visual impact of the site however is reduced by distance, the intervening landform of Burraga (Pig) Island and the vegetated riverbanks.

Riverview Road – Views of the site are available from residential development on the southern bank of the Shoalhaven River. Vegetation along both the northern and southern banks of the river partially screen the site from view.

Cambewarra Lookout – Cambewarra lookout is a popular tourist lookout providing panoramic views over the Shoalhaven floodplain and estuary. Shoalhaven Starches and the former Dairy Farmers' factory, like the other significant industrial sites, is visible from the lookout.

Visual Impact of Proposal

The Modification Proposal will involve the erection of structures with varying dimensions and height adjacent to existing industrial facilities. The proposed works will include:

- Installation of two (2) 150 tonne capacity Liquid CO_2 storage vessels. Which will have a height above ground level of 17.2 metres.
- Installation of the above Liquid CO_2 storage vessels will require the relocation of a set of existing ambient vaporisers.
- Installation of an additional NO_x removal bed to accommodate the expected longer running period of the plant. This plant will include vessels with a height of 2.4 metres.
- Interconnecting pipework from the process to the new equipment.
- Concrete bases for the above equipment items. This will include piling due to the substandard grade of the existing soil.

The proposed modifications reflect a character and scale that is consistent with existing structures associated with the existing CO_2 Plant; the former Dairy Farmers' factory; the adjacent Boweld factory to the east; and the overall Shoalhaven Starches operations.

The visual impact of these works from the identified vantage points (refer **Figure 10**) is described as follows:

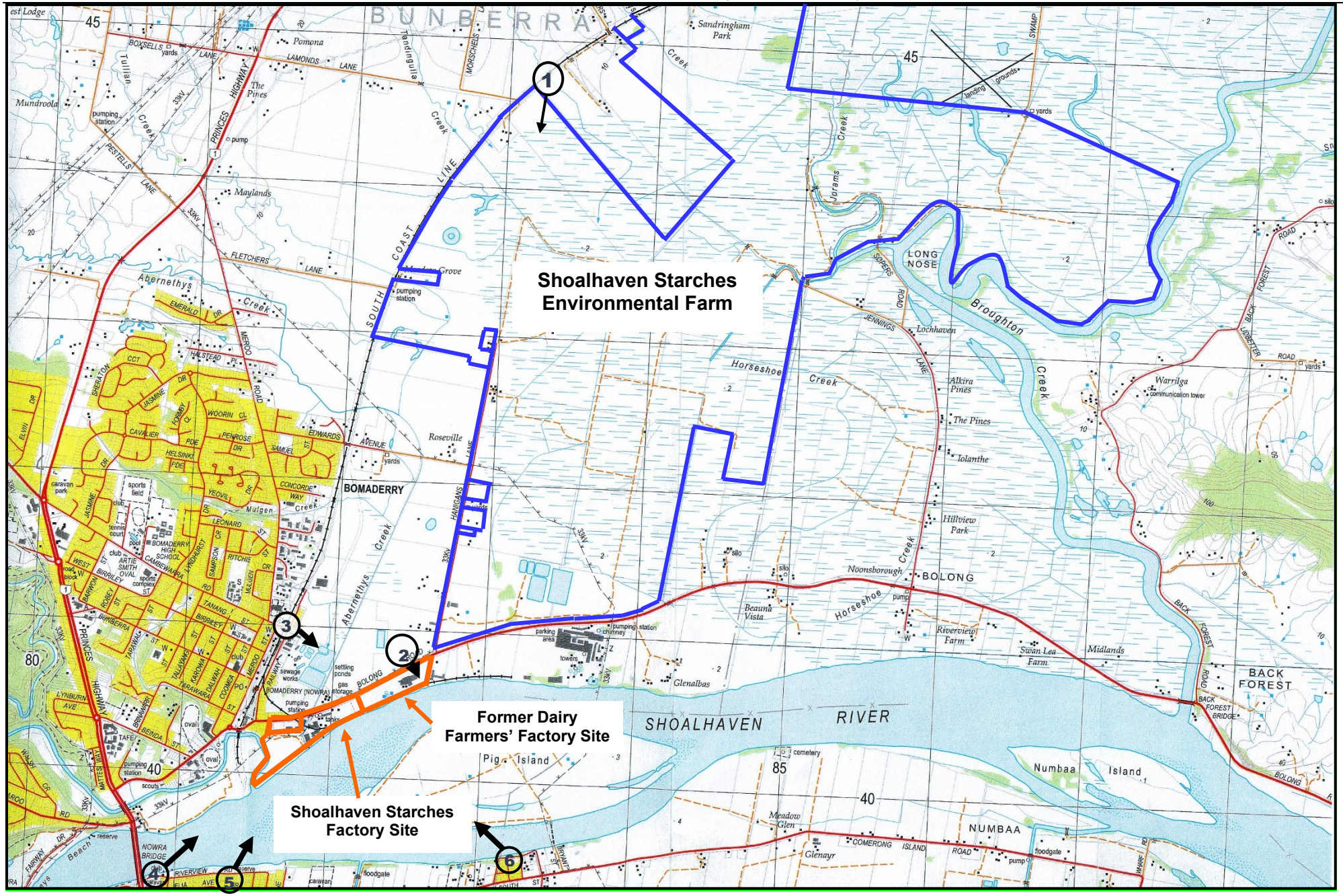

Figure 10: Vantage Points for Plates

The Princes Highway

The Shoalhaven Starches sites (predominantly the factory) are mainly visible from a section of the Princes Highway between Boxsells Lane and Devitts Lane, Jaspers Brush (refer **Plate 1**). Due to the configuration of the highway and the siting of the Shoalhaven factory, only southbound vehicles view the site. Vantage points along this section of the highway are 4.5 to 5.0 km from the site. The site becomes less exposed and is eventually obscured by a rise in topography further south of Boxsells Lane.

Given the distance from these vantage points the factory site is only barely visible. The rising topography upon which Bomaderry is sited screens the western portion of the site, as does intervening vegetation.

Given the distance of these views, the screening of the site attributed to terrain and existing infrastructure and vegetation, the Modification Proposal will not be visible from these vantage points.

Plate 1: View of Shoalhaven Starches Factory from Princes Highway (within vicinity of Boxsells Lane). Shoalhaven factory stack is barely visible.

Bolong Road

The existing Shoalhaven factory site and former Dairy Farmers' factory site are clearly visible from Bolong Road by vehicles approaching from the east, and along the frontage of the site refer (**Plate 2**).

The works associated with this Modification Proposal will comprise structures of a similar height, bulk and scale as the existing structures on the former Dairy farmers' site as well as those located on adjoining property to the east of the site (Boweld Constructions) and the overall Shoalhaven Starches factory site. The proposed works will also be setback over 83 metres from the Bolong Road frontage and situated to the rear of the existing CO_2 Plan. Landscape screening has also been established along the road frontage which over time will further soften the appearance of the existing and proposed development from view from along Bolong Road (**Plate 2).**

Under these circumstances it is considered the works will not dominate the view or streetscape along this section of Bolong Road and will not result in an adverse visual impact within the broader landscape.

Plate 2: View of CO_2 Plant site from Bolong Road.

Bomaderry Urban Area

The township of Bomaderry is slightly elevated and some locations within this urban area have extensive views of the Shoalhaven factory site and partial view of the former Dairy Farmers' factory site (refer **Plate 3**).

The existing CO_2 Plant is partially visible from this vantage point..

Whilst the proposed works may be visible from this vantage point, the works will be in context of the existing former Dairy Farmer factory building as well as the existing Supagas CO_2 plant. Furthermore, the structures will also sit within a backdrop of existing trees.

Under these circumstances it is considered the works will not dominate the view from this vantage point and will not result in an adverse visual impact within the broader landscape.

Plate 3: View of Shoalhaven Starches factory site and former Dairy Farmers' factory site from the intersection of Railway Street and Cambewarra Road, Bomaderry.

Nowra Bridge

The view from Nowra Bridge to the east is mainly dominated by the river, riparian vegetation and the floodplain (refer **Plate 4**).

The proposed modification works are not visible from this vantage point due to a bend in the river which obscures the Dairy Farmers' factory site from view of Nowra Bridge. The proposed works will not be visible from Nowra bridge.

Plate 4 View of site from Nowra Bridge

Riverview Road

The vantage point from Riverview Road directly south of the site is shown in **Plate 5**. This view is from a distance of about 750 metres. Riverside vegetation along both the northern and southern banks will considerably obstruct the proposed modification works from view.

Plate 5: View from Riverview Road area.

Terara

The village of Terara is approximately 1.4 kilometres due south from both the Shoalhaven Starches factory site and former Dairy Farmers' factory site. The view of both factory sites as seen from Berry Street, Terara is shown in **Plate 6**.

Plate 6: View of Shoalhaven Starches factory and former Dairy Farmers' factory from Berry Street, Terara.

The existing CO_2 Plant is obscured from view from this vantage point by substantial vegetative screening in the south-east corner of the site, in addition to riparian vegetation along the Shoalhaven River. Overall, the proposal is not considered to be an adverse visual impact from this vantage point.

Cambewarra Lookout

Cambewarra Lookout is situated about 7 km to the northwest of the subject sites. Views from the lookout are from an elevation over 620 m ASL and encompass the Shoalhaven River floodplain and the coast including Jervis Bay. Whilst both factory sites for the Shoalhaven Starches are visible from this vantage point, due to scale of the view, it would be considerably difficult to make out the works associated with CO_2 Plant from this vantage point.

7.2.6 Flooding

WMAwater were engaged to undertake a Flood Compliance Report in relation to this Modification Proposal (**Annexure 5**). This section of the SEE provides a summary of the findings of the WMA Water's flood assessment for this Modification Application.

7.2.6.1 Hydraulic Impact Assessment

The position of the existing and proposed storage vessels and plant is surrounded on the upstream (west) and downstream (east) side by existing buildings. Thus, according to WMAwater, the flow path of floodwaters from the Shoalhaven River over the riverbank and towards Bolong Road through the site, is already impeded but this will beincreased with the existing and proposed construction of the plant.

The construction of any works on the floodplain will cause a loss of temporary floodplain storage and a loss of hydraulic conveyance. The resulting increase in flood levels will depend upon the magnitude of these losses. Given that the existing and proposed plant occupies a small footprint with much of it raised (as pipe work) and the floodplain storage area of the Shoalhaven River floodplain is of the order of 100km^2, the loss of temporary floodplain storage due to the existing / and proposed works according to WMA is negligible.

The loss of hydraulic conveyance depends on the extent of the restriction to a flowpath caused by the existing and proposed plant. Prior to construction of the former Dairy Farmers plant (it closed in 2006) there would have been significant flow through the site during a flood, as there is across any riverbank. However, the construction of the former Dairy Farmers planthas significantly restricted the flow path through the site.

7.2.6.2 Hydraulic Modelling

Hydraulic or flood modelling typically involves the setting up and calibration of two computer models. A hydrologic model that converts the rainfall to runoff and a hydraulic model that includes inflow from the hydrologic model, as well as ocean boundaries, which determines peak flood levels and velocities based on hydraulic formulae. Both models are calibrated to historical data, including historical flood levels and river flow gaugings, to ensure that they can replicate the historical events and are then used to determine design flood events. These are events thathave a known probability of occurrence, such as the 1% Annual Exceedance Probability (AEP) event.

The CELLS model of the Shoalhaven River (established as part of the 1990 *Lower Shoalhaven River Flood Study*) represented the channel and floodplain as a series of interconnected cells, termed either river or floodplain cells. The river cells were connected

by cross sections and the floodplain cells connected by weirs. Approximately 100 cells were used in the Shoalhaven River model with some cells over 4 km^2 in area. The model used both field survey for weirs as well as bathymetric survey for the river cross sections at approximately 1 to 2 kilometre spacing.

Since 1990 there have been significant advancements in the field of hydraulic modelling, thoughin hydrologic modelling there has been less advancements and the WBNM model used previously is still used today.

The main advancements in hydraulic modelling are using more complex computer software (TUFLOW) that allows the river and floodplain to be discretized into a grid. This is typically 15 m by 15 m on large rivers and up to 2 m by 2 m on small urban catchments. These models are termed 2 Dimensional (2D) in that they determine the flow direction between grid cells producing vector velocities. These models are thus able to define the topography more accurately and in turn can more accurately represent the hydraulic effects of even a small development on a large floodplain. The use of TUFLOW allows more accurate definition of all hydraulic parameters (hazard, hydraulic classification, peak velocities and depths etc.) on the site. Thus, rather than a single value provided from the CELLS model (1990 *Lower ShoalhavenRiver Flood Study)* TUFLOW can demonstrate that hazard, velocity and other parameters will change as flow crosses over the northern bank and enters the northern floodplain.

7.2.6.3 Hydraulic Modelling Process

The hydraulic effects (change in flood levels, flows or velocities) of the existing and proposed works were analysed by WMAwater using the TUFLOW hydraulic model established for the Shoalhaven Starches 2013 *Shoalhaven River Flood Study.* This model was calibrated to match the historical flood level data for the 1974, 1975, 1978 and 1988 floods and used to provide updated design flood levels for the Shoalhaven River downstream of Nowra.

For the analysis it was assumed that the existing / proposed plant at the site would block 100% of the flow where there is a solid structure but only 50% blockage where there is only pipework as there are gaps between sections of the plant. These modelling assumptions are slightly different to those adopted in WMAwater's November 2017 report which assumed 100% blockage throughout the entire extent of the 2019 works.

The modelling process was to compare the peak flood levels in each grid cell for the *Existing* and *Proposed* scenarios. The *Existing* scenario represents the floodplain in 2017 at the site prior to construction of the existing CO_2 plant. The *Proposed* scenario reflects

the floodplain but including the existing and the proposed plant. The comparison between the *Existing* and *Proposed* scenarios is termed a flood impact map.

More frequent events, smaller than the 1% AEP, have not been modelled by WMAwater as the northern riverbank of the Shoalhaven River is not overtopped to any significant extent until an event larger than the 5% AEP. Thus, in these small more frequent events, according to WMAwater, there would be nil impact on peak flood levels of the existing / proposed works. Larger events than the 1% AEP will occur, but these events are obviously extremely rare and are not used for flood related planning determinations by Councils, except when their failure has potential catastrophic consequences (such as dam failure).

7.2.6.4 Hydraulic Modelling Results

The flood impact maps for the 1% AEP and PMF events are provided as **Figures 11** and **12**. The different colours reflect the change in peak water levels because of the existing and proposed works. In summary the blue/red tones reflect a decrease in flood level whilst the blue/green/brown tones reflect an increase in peak level.

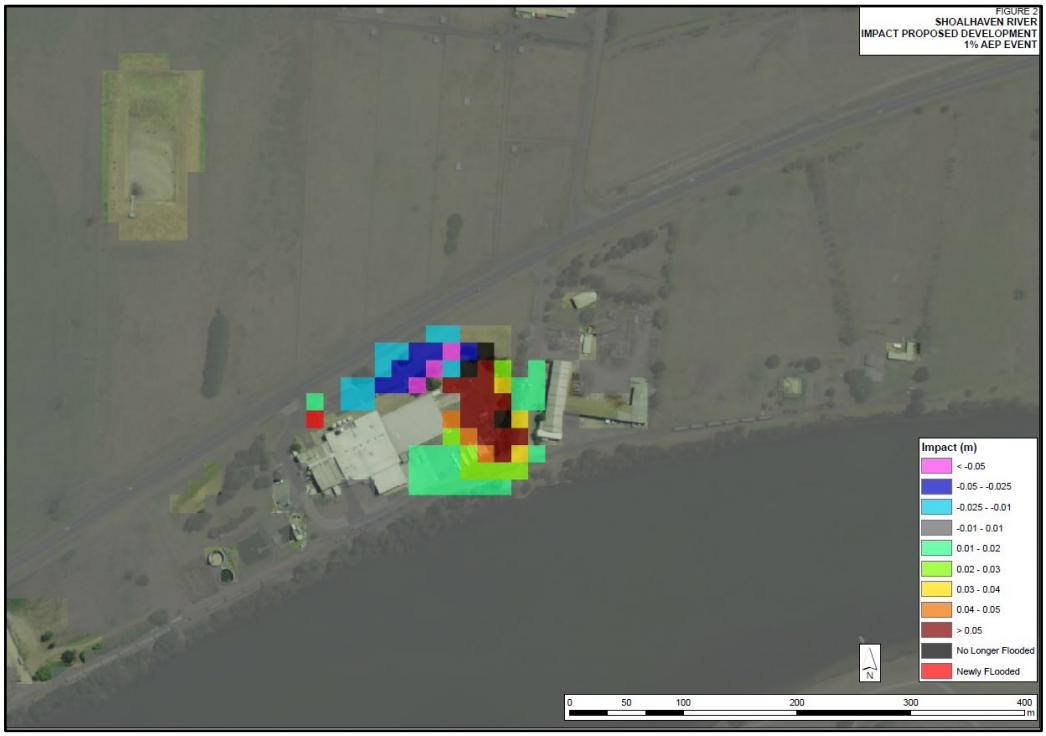

Figure 11: Flood Impact of Modification Proposal – 1% AEP Event (WMAwater)

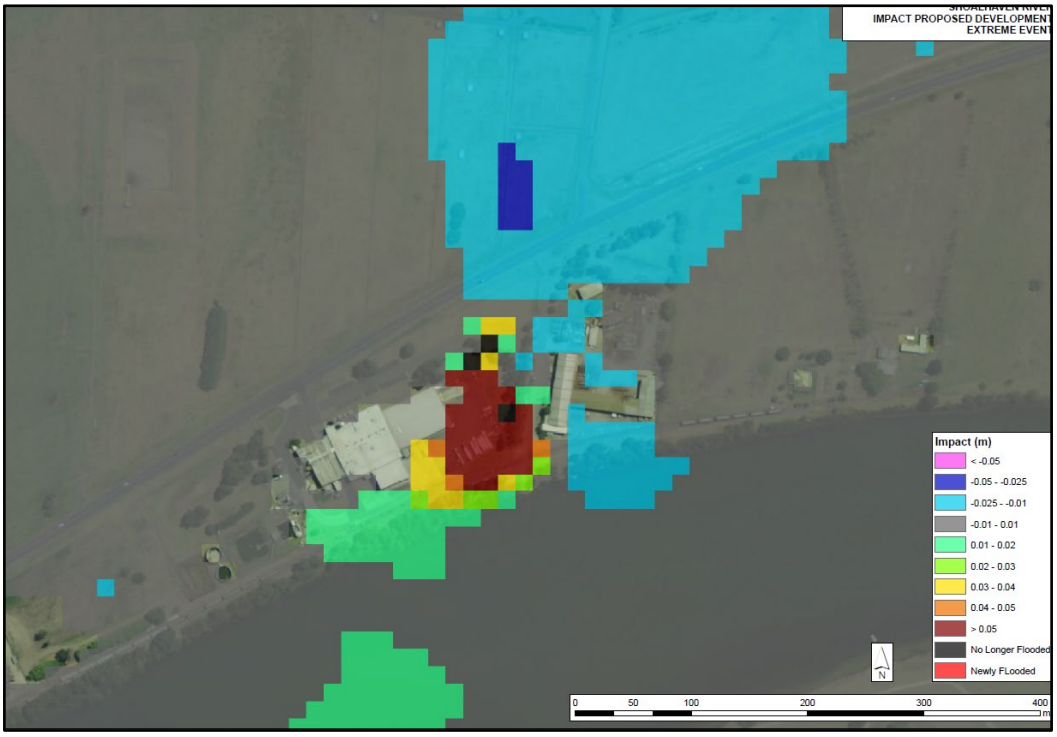

Figure 12: Flood Impact of Modification Proposal – Extreme Event (WMAwater)

According to WMAwater, the existing and proposed works do slightly decrease the amount of floodwaters from entering the northern floodplain across the river bank. Thus, immediately upstream of the riverbank works there is a slight increase in peak level in the 1% AEP event with a more extensive impact in the PMF / Extreme event. WMAwater identify that this increase in level is largely within the confines of land owned by Shoalhaven Starches. The potential impact of the existing and proposed works, according to WMAwater, is much reduced as they are sheltered behind existing buildings and structures that already inhibit the flow path. Also, large parts of the proposed works are pipe work and thus not 100% barriers to flow.

North west of the existing and proposed works on Bolong Road there is a reduction in peak level ofless than 0.1 m. This occurs because the existing and proposed works reduce slightly the amount of flood waters crossing through the site and thus flood levels are slightly lowered.

WMAwater conclude that the existing and proposed works do not significantly increase the 1% AEP, or PMF / Extreme event flood levels on lands outside those owned by Shoalhaven Starches. Consequently, WMAwater consider it unnecessary to consider the cumulative effects of the existing / proposed works as there is no significant incremental increase because of these works.

7.3 THE SUITABILITY OF THE SITE FOR DEVELOPMENT

In our view the site is suitable for the development, and including the development as modified by this application:

- The subject land is suitably zoned and the proposal satisfies state and local planning provisions applying to the land.
- The modified proposal will not have any significant additional impacts on the environmental values of this locality over and above those envisaged by the original approved development.
- The modified development will not result in any significant adverse effects on local amenity.
- The modification proposal does not seek to alter the approved physical extent of operations. Under these circumstances the proposal will not result in any increased inputs to the production process; increased production; or increases in traffic or other impacts on the locality.

Given these circumstances it is our view that the subject site is suitable for the proposed development.

7.4 SUBMISSIONS

It is envisaged that the development application once submitted to the Department will be placed on public exhibition; and the general public will be afforded an opportunity to review the documentation supporting the application.

Any public submissions made following the exhibition will need to be taken into consideration by Council when it determines the application.

7.5 THE PUBLIC INTEREST

It is our view that the modification proposal is in the public interest:

- The proposal is consistent with the objectives of state and local planning provisions applying to the site.
- The modified proposal will not result in any significant adverse environmental impacts.
- The modified proposal will not result in any significant amenity impacts in the locality.
- The modified proposal will be substantially the same development as that approved under the Project Approval.

8.0 CONCLUSION

The Shoalhaven Starches factory located on Bolong Road, Bomaderry produces a range of products for the food, beverage, confectionary, paper and motor transport industries including starch, gluten, glucose and ethanol.

Project Approval MP06_0228 was granted by the Minister for Planning on the 28th January 2009 for the Shoalhaven Starches Expansion Project. This approval also encapsulated previous approvals for the site into one overall approval for the site (at that time).

The Shoalhaven Starches Expansion Project sought to increase ethanol production at the Bomaderry plant in a staged manner from 126 million litres per year to 300 million litres per year. To accomplish the increase in ethanol production, this project required a series of plant upgrades and increase in throughput of raw materials, principally flour and grain.

On the 7th August 2018 the Independent Planning Commission granted a Modification Approval (Mod 15) to Project Approval MP-06_0228 enabling Supagas to construct a Carbon Dioxide (CO_2) Plant adjacent to the former Dairy Farmers factory site that now belongs to the Manildra Group of companies and which forms part of the Shoalhaven Starches operations. The site is located at 220 Bolong Road Bomaderry (Lot 143 DP 1069758).

Supagas have now established the CO_2 Plant on the subject land in accordance with Mod 15. This facility takes CO_2 from the Shoalhaven Starches operations and processes it to food grade quality for the food and beverage market. CO_2 taken directly from Shoalhaven Starches operations will eventually reduce emissions from their operations by up to 100 tonnes per day when the plant is fully operational.

Supagas now wish to install additional storage vessels and associated plant on the site to increase storage capability to enable:

1. Improved storage volume capacity of liquid CO_2 product during planned and unplanned outages.
2. Better batching/quarantining of product and quality control.
3. Better availability of product during high demand periods.

This Statement of Environmental Effects (SEE) has been prepared in support of this Modification Application.

The Shoalhaven Starches Expansion Project was a ‘transitional Part 3A Project” for the purposes of Schedule 6A of the Environmental Planning & Assessment Act. As of the 1st March 2018 the transitional arrangements for former Part 3A projects have been discontinued. The discontinuation of the transitional arrangements for Part 3A projects and concept plans means

that modifications are assessed through the State Significant Development (SSD) pathway. As such this Modification Application is made pursuant to Section 4.55(1A) of the Environmental Planning & Assessment Act 1979.

The preparation of this SEE has been undertaken following consultation with the DPIE, the EPA, Workcover and Shoalhaven City Council.

The SEE is supported by the following expert assessments:

- An Air Quality Impact Assessment by GHD that concludes air quality impacts (odours and other pollutants) are not anticipated and there is no expected increase to the cumulative levels in the local area.
- An Environmental Noise Impact Assessment by Harwood Acoustics finds that the level of noise emission from the operation of the facility will meet the Noise Limits prescribed under Environment Protection Licence 21178 at all receptor locations without the need for noise controls.
- A Flood Compliance Report prepared by WMAwater concludes the existing and proposed works will not significantly increase the 1% AEP, PMF or Extreme event flood levels on lands outside those owned by Shoalhaven Starches. Consequently, WMA Water advise it is not necessary to consider the cumulative effects of existing / proposed works as there is no significant incremental increase because of these works.
- A Preliminary Hazard Analysis (PHA) undertaken by Pinnacle Risk Management that assess the risks associated with the proposed modifications and provides a comparison against relevant risk criteria. The PHA demonstrates the Modification Proposal will comply with all risk criteria. The PHA also concludes that societal risk, area cumulative risk and environmental risk will be acceptable.

The Modification Application will not involve changes to the size, scale or intensity of the existing Supagas or Shoalhaven Starches operations. The modification proposal will not result in any increases in overall production rates from the site, nor will it involve any significant changes in level of impacts arising from the approved development.

The SEE concludes that the proposed modifications will have minimal environmental impacts; and the development to which Project Approval MP06_0228 as modified by the Modification Application relates, will be substantially the same development as the development for which this consent was originally granted and before that consent as originally granted was modified.

The Modification Application will not involve changes to the size, scale or intensity of the existing Shoalhaven Starches operations. The modification proposal will not result in any increases in

production rates from the site, nor will it involve any changes in level of impacts arising from the approved development.

It is considered that this Modification Application; will have minimal environmental impact; and the development to which Project Approval MP06_0228 as modified relates will be substantially the same development as the development for which this consent was originally granted and before that consent as originally granted was modified.

The SEE includes an assessment of the proposal having regard to the relevant matters for consideration as listed under Section 4.15 of the Environmental Planning and Assessment Act, 1979. The assessment concludes that the modification proposal, within its local context, is satisfactory and should be approved.

Approval for this Modification Application is sought.

Stephen Richardson.

Stephen Richardson RPIA
COWMAN STODDART PTY LTD

ANNEXURE 1

Responses from Government Agencies

Lot 143 DP 1069758
220 Bolong Road, Bomaderry

ANNEXURE 2

Plans of Modification Proposal

Lot 143 DP 1069758
220 Bolong Road, Bomaderry

ANNEXURE 3

Air Quality Assessment

prepared by

GHD Pty Ltd

Lot 143 DP 1069758
220 Bolong Road, Bomaderry

ANNEXURE 4

Environmental Noise Impact Assessment

prepared by

Harwood Acoustics

Lot 143 DP 1069758
220 Bolong Road, Bomaderry

ANNEXURE 5

Flood Compliance Report

prepared by

WMAwater

Lot 143 DP 1069758
220 Bolong Road, Bomaderry

COWMAN STODDART PTY LTD

ANNEXURE 6

Preliminary Hazard Analysis

prepared by

Pinnacle Risk Pty Ltd

Lot 143 DP 1069758
220 Bolong Road, Bomaderry

ANNEXURE 7

Clause 4.6 Written Request

prepared by

Cowman Stoddart Pty Ltd

Lot 143 DP 1069758
220 Bolong Road, Bomaderry