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19 June, 2020

Shaun Williams
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Dear Shaun

**RE: ADDENDUM TO STATEMENT OF ENVIRONMENTAL EFFECTS (SEE)
SHOALHAVEN STARCHES EXPANSION PROJECT MP 06_0228
PROPOSED AMENDMENTS TO MODIFICATION APPLICATION NO. 17 (MOD 17)**

1.0 INTRODUCTION

I refer to the above Modification Application (Mod 17) in connection with the Shoalhaven Starches Expansion Project Approval MP06_0228.

Shoalhaven Starches staff met with staff from the Department of Planning, Industry, & Environment including Chris Ritchie (Director Industry Assessment) and yourself on the 13th February 2020 at which amendments to Mod 17 were discussed. Specifically at the meeting proposed changes to the building footprint of the approved Product Dryer Building (PDB) were discussed. It was agreed at this meeting that these proposed changes to this building could be determined as part of the current Mod 17 application that is presently with the Department.

The Department in an email dated 19th February 2020 requested that

"We have received feedback from the Department's legal team and have been advised that we are able to update modification application MP 06_0228 MOD 17 to include the proposed extension of the Product Dryer.

Moving forward with this option, the Department will require an assessment of the environmental impacts associated with the proposed extension of the Product Dryer to be considered as an addendum of the original Statement of Environmental Effects (SEE).

The addendum should also outline the justification for the proposed extension of the Product Dryer and briefly demonstrate how the update to the modification is consistent with the intent of the MOD 17 approval (i.e. update site infrastructure for CC approval).

As will be going to the IPC, it is important to provide clarity on the proposal in order for the IPC to process the determination smoothly. I suggest also noting this process has been consulted with the Department prior to updating MOD 17 to provide transparency.”

The purpose of this Addendum to the SEE for Mod 17 is to address the proposed amendments to Mod 17. In summary the proposed amendments to Mod 17 include:

- The increase in the building footprint of PDB.
- The increase in the building footprint of the Specialty Products Building (SPB) which adjoins the PDB building.
- 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.
- It is proposed to extend the sifter room that is situated on top of the interim packing plant.
- It is also proposed to install a Product Dryer (No. 9) within the footprint of the SPB as approved under Mod 16.

The proposed amendments to Mod 17 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 significant changes in level of impacts arising from that originally envisaged by Mod 17 as originally proposal or the approved development.

2.0 PROPOSED AMENDMENTS

2.1 PRODUCT DRYER BUILDING (PDB)

As a result of process design reviews and potential operational expansion, Shoalhaven Starches have identified that the footprint for the PDB is required to be increased.

- The approved footprint for PDB was based on the existing Gluten Dryer No. 7 (GD7) with the proposed Dryer for PDB being provided by the same preferred supplier and in the same orientation as Gluten Dryer No.7 (GD7).

GD7 baghouse filter is installed in such a way that it is parallel with the drying duct which means the GD7 building is long and narrow. Operationally, over time, this has created many blockages in the bend of the ductwork from the dryer to the baghouse filter.

As this was explained to the dryer supplier, they suggested that this could be eliminated by rotating the baghouse filter so that it was at right angles to the dryer duct.

This would eliminate the bend in the duct work in the PDB as the duct would run directly from the dryer to the baghouse filters, thereby providing a more efficient and reliable outcome for the process. The reorientation of the Dryer necessitates an increase the building footprint.

- Due to a forecasted increase in product demand Shoalhaven Starches have identified that a Wet End Processing Plant should be installed within the PDB. This Wet End Plant will involve the installation of plant and equipment including Pumps, Decanters, Contra-shears, Screens and pipework.

As a result of these design changes the building will need to be wider than the one that was originally approved.

A consequence of the increasing the width of the PDB part of the existing Maintenance Offices and Stores building will need to be demolished to facilitate the construction of the larger PDB footprint.

In summary the revised design for PDB will provide improved operation and reliability of the new dryer, and the ability to increase production outputs associated with Wet End processing, which has necessitated a larger building to accommodate these changes.

2.2 SPECIALTY PRODUCTS BUILDING (SPB)

During the detailed process design for the Specialty Products operations, Shoalhaven Starches have identified the equipment and plant required for the modified starch process will not physically fit into the building footprint as approved under Mod 16. It is proposed to extend SPB to the north and to provide Bulk Chemical Storage to the south of the PDB.

Drivers for the expansion of the SPB footprint:

- The operation of 7 tonne forklifts to the Packing Plant, and the associated access pathway and turning circles, has resulted in an extension of the Packing Plant to the north.
- In addition to the forklift access, there is an increase in internal storage requirements for packaging consumables and pallets.
- Confirmation of the required maintenance access, and free space requirements, around the Reaction Silos has resulted in a conflict with the proposed location of the 3 x bulk chemical storage tanks. It is proposed that these bulk chemical tanks be relocated in the area to the south of the PDB.

2.3 ADDITIONAL BULK CHEMICAL STORAGE

Shoalhaven Starches have also identified that there is potential future need for additional Bulk Chemical Storage and have identified that it would be prudent and economical for future proofing to locate this additional storage to the south of the PDB.

2.4 DEMOLITION OF EXISTING STORES AND MAINTENANCE OFFICES BUILDING

To facilitate the proposed extension of the PDB to the west, the existing Stores and Maintenance offices buildings will need to be partly demolished.

- The Store will be relocated to a similar existing facility on either the former Dairy Farmers or Paper Mill sites.
- Maintenance office personnel will be relocated across the Shoalhaven Starches site within existing office facilities.
- The relocation of the stores and offices will result in a reduction of vehicle movements to this area and will also reduce number of car spaces required in this area.

2.5 REPURPOSING THE EXISTING MAINTENANCE BUILDING

The existing remaining Maintenance workshop will be altered internally to provide staff amenities and Plant Operational Control Rooms.

- The Maintenance workshop activities will be relocated to a similar existing facility on either the old Dairy Farmers or Paper Mill sites.
- The relocation of the Maintenance workshop will result in a reduction of vehicle movements to this area and will also reduce number of car spaces required in this area.

2.6 CAR PARKING ARRANGEMENTS

The internal truck movements associated with SPB will necessitate the relocation of 48 car parking spaces which are currently located to the north and west of the existing Maintenance Store and Workshop to the existing Area 3 car park located on the north side of Bolong Road.

The loss of some of these parking spaces will also be mitigated by the relocation of activities and personnel from the existing stores and maintenance workshops as mentioned above.

2.7 EXTENSION OF SIFTER

It is also proposed to extend the sifter located on top of the Interim Packing Plant. The extension will allow additional sifters to be installed to provide increased packing rates and additional sifter capacity when a sifter is off-line for maintenance or repairs. The existing sifter structure comprises a footprint of 6.2 m by 5.5 metres, and height above ground level of 14.0 metres. The extension of the sifter building will comprise an additional footprint of 13.6 by 6.5 metres, and an increase in height of the existing building to 15.7 metres.

2.8 PRODUCT DRYER NO. 9

Shoalhaven Starches are also undertaking a staged approach to implementing the construction and installation of plant associated with Mod 16 to better meet market demand:

- Stage 1 will involve construction of the Specialty Products Building which will include installation of proposed Product Dryer No. 9.
- Stage 2 will involve construction of the Product Dryer Building which will house Gluten Dryer No. 8.

Product Dryer No. 9 will be a smaller Product Dryer, comprising about 20% of the size and production capacity of the approved but yet to be constructed Gluten Dryer No. 8. It is

envisaged that Product Dryer No. 9 will be used on an interim basis to process gluten allowing an incremental increase in processing of gluten until such time as the new Product Dryer Building approved under Mod 16 is completed and Gluten Dryer No. 8 is commissioned.

Once the New Product Dryer Building is constructed and Gluten Dryer No. 8 is commissioned it is envisaged that the smaller Product Dryer No. 9 will revert to processing starch as part of the Specialty Products production processes.

The proposed Product Dryer No. 9 will sit entirely within the footprint of the approved Specialty Product Building footprint. An emissions stack associated with the Product Dryer No. 9 will rise above and through the roof of this building to a height of 35.6 metres. This structure will have a similar height to adjacent approved structures including the approved baghouse which has a height of 36 metres and approved product silos which will have a height of 35 metres above ground level.

As outlined above, Product Dryer No. 9 will have a production capacity considerably less than that envisaged for Gluten Dryer No. 8, which it will replace on an interim basis, and will likewise have a commensurate reduced level of air and noise emissions when compared to the approved Gluten Dryer No. 8.

The proposed Product Dryer No. 9 will not result in any increase in production above the current approval limitation for flour processing under Mod 16 of 25,400 tonnes per week.

Plans of the proposed amendments to Mod 17 form **Annexure 1** to this Addendum Submission.

3.0 ASSESSMENT

3.1 PRELIMINARY HAZARD ANALYSIS

The original SEE was supported by a Preliminary Hazard Analysis prepared by Pinnacle Risk Management.

The proposed amendments to Mod 17 have been reviewed by Pinnacle Risk Management. A copy of Pinnacle Risk Management's submission addressing these amendments forms **Annexure 2** to this Addendum submission.

The risks associated with the proposed modifications to MP06-0228 have been assessed and compared against the DoP risk criteria in this report by Pinnacle Risk Management. 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	0.5×10^{-6} per year	Yes
Fatality risk to residential and hotels	1×10^{-6} per year	Yes

Description	Risk Criteria	Risk Acceptable?
Fatality risk to commercial areas, including offices, retail centres, warehouses	5×10^{-6} per year	Yes
Fatality risk to sporting complexes and active open spaces	10×10^{-6} per year	Yes
Fatality risk to be contained within the boundary of an industrial site	50×10^{-6} per year	Yes
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	50×10^{-6} per year	Yes
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	10×10^{-6} per year	Yes
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	50×10^{-6} per year	Yes
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	50×10^{-6} per year	Yes

Pinnacle Risk Management conclude societal risk, area cumulative risk, environmental risk and transport risk are acceptable.

According to Pinnacle Risk Management the primary reasons for the low risk levels from the modifications are that significant levels of impact from potential hazardous events are contained on-site.

The following recommendations included in the attached PHA prepared by Pinnacle Risk Management, are also consistent with the recommendations made by the PHA prepared by Pinnacle Risk Management for Mod 16:

1. *For all explosion vents that vent directly to atmosphere for the modifications, finalise the explosion vent modelling when the design details are known.*
2. *Review the option for installing initial screening, e.g. a magnetic separator, at the new intake pit to lower the likelihood of foreign objects entering the new bucket elevator and the downstream existing silos.*
3. *Ensure that all the proposed explosion vents are directed to a safe location to avoid injury to personnel or propagation to other adjacent equipment.*
4. *It is recommended that the floor of the new switch room be fire-rated given the risk of a fire in the existing switch room below. This will also help prevent a fire in the new switch room propagating to the existing switch room below.*

3.2 AIR QUALITY

The original SEE for Mod 17 was supported by an Air Quality Impact Assessment (AQIA) prepared by GHD Pty Ltd.

The proposed amendments to Mod 17 have been reviewed by GHD, and they have revised their original AQIA to incorporate these amendments. A copy of GHD's revised AQIA addressing these amendments forms **Annexure 3** to this Addendum Submission. This revised AQIA has previously been submitted to the Department and has been reviewed by the EPA. The EPA have already issued their requirements for this project following consideration of this revised AQIA.

The revised AQIA, incorporating the proposed amendments to Mod 17 concludes:

GHD was engaged by Manildra to conduct an air quality and odour impact assessment for a Proposed modification to the approved SSEP.

The proposed changes include minor modifications to boiler operations, the addition of a new starch dryer stack and the addition of a new product dryer (no. 9) within the approved speciality products building.

A marginal increase was observed in predicted odour impacts as a result of the modification. The odour criteria is met at all residential sensitive receptors and it is considered highly unlikely that the increase in odour would be detected at sensitive receptors.

Air quality impacts are predicted to comply with the criteria at all residential sensitive receptors. Manildra have implemented reasonable and feasible mitigation measures on site to reduce the potential air quality impacts from the new boiler.

Overall, the proposal should be acceptable from an air quality perspective.

3.3 NOISE IMPACTS

The original SEE for Mod 17 was supported by an Environmental Noise Impact Assessment prepared by Harwood Acoustics.

The proposed amendments to Mod 17 have been reviewed by Harwood Acoustics who have prepared a further Environmental Noise Impact Assessment to address these amendments. A copy of Harwood Acoustics further Environmental Noise Impact Assessment addressing these amendments forms **Annexure 4** to this Addendum Submission.

The Environmental Noise Impact Assessment prepared by Harwood Acoustics makes the following recommendations in relation to the proposed amendments to Mod 17:

1. RECOMMENDED NOISE CONTROLS

Noise controls are based on the assumed sound levels of typical plant and equipment as outlined in Section 4.1.

A final design will be undertaken at the time of Design Noise Verification process or during construction and commissioning as required.

6.1 Buildings Construction_ Specialty Products Building (SPB)

Walls

- *The majority of external walls will be constructed using either tilt up concrete panels or in situ concrete (minimum 150 mm thick) which will be acceptable,*
- *Non-masonry external wall sections will be restricted to the following:-*
 - *Southern wall of the cationic starch section, and*
 - *Southern end of the eastern wall of the cationic starch section.*
- *Non-masonry wall sections should achieve minimum weighted sound reduction index (R_w) rating of 24:-*
 - *for example 'Kingspan' Architectural Wall Panelling system AWP 80 or equivalent**
 - ** to be confirmed prior to construction.*

Roof / Ceiling

The minimum required acoustical performance (R_w ratings) for each of the sections of the SPB is as follows:-

- *Cationic Starch Plant – R_w 24, for example 'Kingspan' Architectural Roof Panelling system 'K-Dek (KS 1000 KD)'*
- *Product Dryer 9 – R_w 45, 150 mm thick (minimum) concrete*

- Packing Plant section – R_w 19, for example 0.42 mm thick corrugated sheet steel
- All penetrations in the roof should be acoustically sealed.

Product Dryer Building GD8 & Wet End Building

Walls

- The western wall of the GD8 building which is a parting wall between GD8 and the Wet End will be constructed from minimum 150 mm thick tilt-up concrete panels which will be acceptable,
- A portion of the northern wall will be constructed using minimum 150 mm thick tilt-up concrete panel (or in situ concrete) to a minimum height of 6 metres,
- All non-masonry external walls should achieve minimum weighted sound reduction index (R_w) rating of 35:-
 - for example 'Kingspan' Architectural Wall Panelling system AWP 80 with an internal layer of 13 mm thick sound rated plasterboard, or 9 mm thick fibre cement sheet fixed directly to one side*, or equivalent*
 - * to be confirmed prior to construction

Roof / Ceiling

- The roof of the GD8 building will be of minimum 150 mm thick concrete slab construction will be acoustically acceptable,
- The roof of the Wet End building should achieve a minimum R_w rating of 35:-
 - for example 'Kingspan' Architectural Roof Panelling system 'K-Dek (KS 1000 KD)' with an internal layer of 13 mm thick sound rated plasterboard, or 9 mm thick fibre cement sheet fixed directly to one side*, or equivalent*
 - * to be confirmed prior to construction
- All penetrations in the roof should be acoustically sealed.

Ventilation Penetrations – all buildings

There should be no acoustically untreated penetrations in the walls or roof. Any doors to all buildings must remain closed at all times the plant is in operation.

If natural ventilation is required, only the following sections of the buildings' external walls may be fitted with acoustic louvres:-

- GD8 – 32 m² in the eastern façade,

- SPB – 20 m² in the eastern façade of each of the three sections, and
- Wet End – 20 m² in the southern facade

The required insertion loss of acoustic louvres will depend on the maximum surface area of louvered sections required to facilitate adequate ventilation.

As an example, based on the recommended maximum area of louvered sections recommended above, acoustic louvres should have minimum insertion losses shown in Table 7 below:-

Table 7 Example Acoustic Louvre Sound Transmission Loss

Description	Minimum Insertion Loss (dB) at Octave Band Centre Frequencies (Hz)							
	63	125	250	500	1k	2k	4k	8k
Acoustic Louvre*	5	10	14	22	27	25	21	17

** Based on Fantech SBL2 louvre*

A larger area may result in a higher required insertion loss and consequently a deeper blade depth. A final assessment should be made prior to the issue of a Construction Certificate once the location and size of any openings for ventilation are finalised. Alternatively, ventilation may be ducted in and or out of the buildings.

The level of attenuation required by the building structures is dependent on the level of internal noise emission from all plant and equipment combined.

The recommendations made above are based on internal noise level measurements made within the existing Starch Dryer No. 5 and Gluten dryer No. 6 on each of the floor levels.

Once the details of all noise sources are finalised the required construction materials of the building can be finalised.

Through a combination of external building materials and internal acoustical treatment of individual items of plant, if and as required, the noise design goals can be achieved at each receptor location.

6.2 Ventilation Fans

Noise predictions in this assessment include noise emission from exhaust fans discharging to the roof of the buildings, particularly on GD8, PD9 and the Cationic Starch Plant. Exhaust fans for the Gluten Dryers at Shoalhaven Starches are significant noise producing items of plant and require attenuation to ensure the noise design goals are not exceeded.

This will be achieved through a combination, where necessary, of acoustical silencers, orientation of the discharge duct/s and roof top acoustical screening if required. A final assessment will be undertaken at the Noise Design Verification

stage, once the details of all ventilation fans and their respective sound power levels are known.

6.3 Construction Noise

The Project Approval prescribes allowable operation hours for construction activities in Clause 11 and Clause 13, which states:-

“During construction, the Applicant shall implement all reasonable and feasible measures to minimise the construction noise impacts of the project development.”

It can be seen from Table 6 that the construction noise management levels are likely to be met at each receptor location during general construction activity, with the exception of piling. During piling there is potential for the noise management levels to be exceeded on some occasions. This is not considered a significant exceedance during day time hours for short and sporadic duration.

However, a Construction Noise Management Plan may be provided in accordance with NSW EPA’s Interim Construction Noise Guideline and to satisfy Condition 13 of the Project Approval. Construction noise mitigation measures are included in the Construction Safety & Environmental Management Plan prepared by Shoalhaven Starches.

The Environmental Noise Impact Assessment prepared by Harwood Acoustics addressing the proposed Amendments to Mod 17 concludes:

“An assessment of the potential noise impact from the proposed construction and operation of the noise producing aspects of Modification 17 to MP06-0228, Shoalhaven Starches Expansion Project at Shoalhaven Starches on Bolong Road, Bomaderry, NSW has been undertaken.

Noise producing aspects of this proposed modification include the expansion of the approved product dryer building for gluten Dryer 8 including the installation of a Wet End and the proposed expansion of the approved Specialty Products Building including the installation of a new Product Dryer (PD9).

Calculations show that the level of noise emission from the modification to this approved proposal will be within the noise design goals derived from Environment Protection Licence 883 noise limits at each receptor location based on noise control recommendations made in Section 6 of this report.

A final assessment of required noise controls will be undertaken at the time of the Design Noise Verification process prior to construction, or during commissioning, as required, to ensure the noise design goals are met at all receptors.

The level of noise emission from the construction phase of the project will be within the noise management levels set by the NSW EPA’s Interim Construction Noise Guideline with the exception of piling activity on some occasions.

Construction noise mitigation measures are included in the Construction Safety & Environmental Management Plan prepared by Shoalhaven Starches.”

3.4 FLOODING

The original SEE for Mod 17 was supported by a flood assessment prepared by WMA Water.

The proposed amendments to Mod 17 have been reviewed by WMA Water. A copy of WMA Water's submission addressing these amendments forms **Annexure 5** to this Addendum Submission. This submission includes an assessment of the proposed amendments against the relevant matters for consideration as listed under *Chapter G9 – Development on Flood prone Land* of the Shoalhaven Development Control Plan 2014.

WMA undertook a detailed hydraulic assessment and modelling as part of their 30 April 2018 report which supported the SEE for Mod 17. The WMA Water Assessment that supports this Addendum submission presents an assessment regarding whether the proposed amendments change the results from those provided in their 30 April 2018 report.

According to WMA Water their results indicate no increase in flood level outside land owned by Shoalhaven Starches. Downstream of the proposed works on Bolong Road there is a reduction in peak level of less than 0.1 m. This occurs because the proposed works reduce slightly the amount of flood waters crossing through the site and thus flood levels are slightly lowered.

WMA Water conclude that the results indicate no change in flood level outside land owned by Shoalhaven Starches as a result of the amendments to Mod 17.

3.5 VISUAL IMPACTS

Section 6.2.6 of the original SEE for Mod 17 addressed the visual impacts associated with Mod 17.

This section of this Addendum Submission will address the visual impacts of the proposed amendments to Mod 17 having regard to the same vantage points as described in the original SEE for Mod 17.

The most relevant vantage points (see **Figure 1**) from where the overall factory site 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 factory site is 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.
- Burruga (Pig) Island – Burruga Island is situated in the middle of the Shoalhaven River and provides the closest vantage point to the southern boundary of the site. The island however is privately owned and not accessible to the public. Vegetation screening along the riverbank adjacent to the site also reduces the visibility of the existing buildings and structures.
- Bolong Road – Bolong Road runs along the frontage of the site. Views of the factory are possible when travelling in either an easterly or westerly direction. Some attempts have been made to provide some tree planting along the boundaries to “soften” the

appearance of the development. The existing building forms and structures are however clearly visible to motorists travelling along this stretch of Bolong Road.

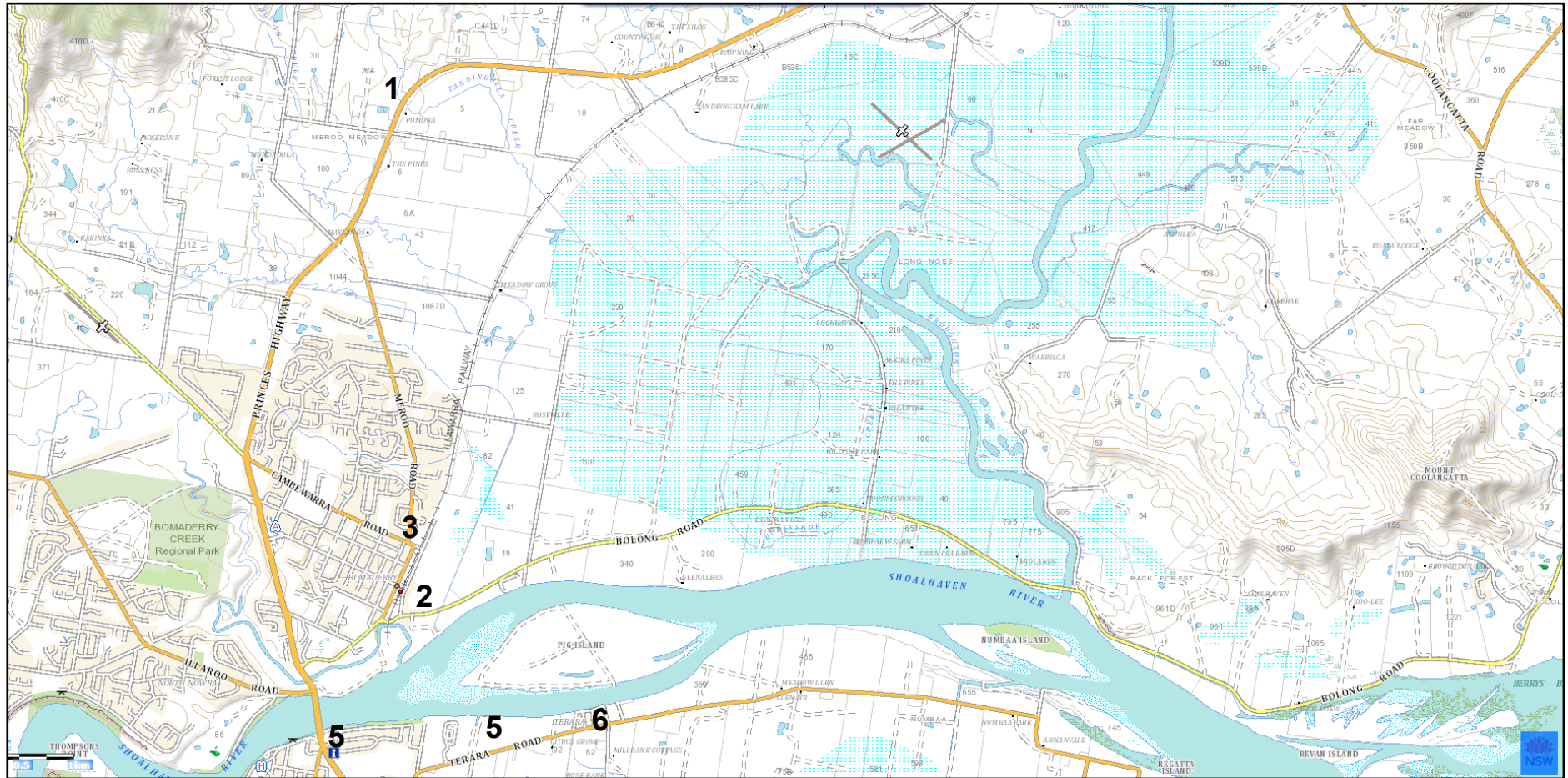


Figure 1: Vantage Points for Plates 1 – 6.

- Nowra Bridge – The Nowra Bridge crosses the Shoalhaven River and provides limited opportunities for views of the factory site. The dominant visual elements from the bridge are the river, vegetation along the riverbanks and the escarpment. The visual impact of the factory site is reduced by distance as well as the bridge structure which permits only glimpses of the site.
- 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 factory 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 Burruga (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, like the other significant industrial sites, is visible from the lookout.

Visual Impact of Proposal

This modification proposal involves several amendments to the Project Approval that have relevance in terms of potential visual impacts including:

- The increase in the building footprint of PDB.
- The increase in the building footprint of the SPB which adjoins the PDB building.
- 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.
- It is also proposed to extend the sifter room that is situated on top of the interim packing plant.

The Princes Highway

The Shoalhaven Starches factory is 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 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, and the screening of the site attributed to terrain and vegetation it is considered the works associated with the amendments to Mod 17 proposal will not adversely impact on views from these vantage points.

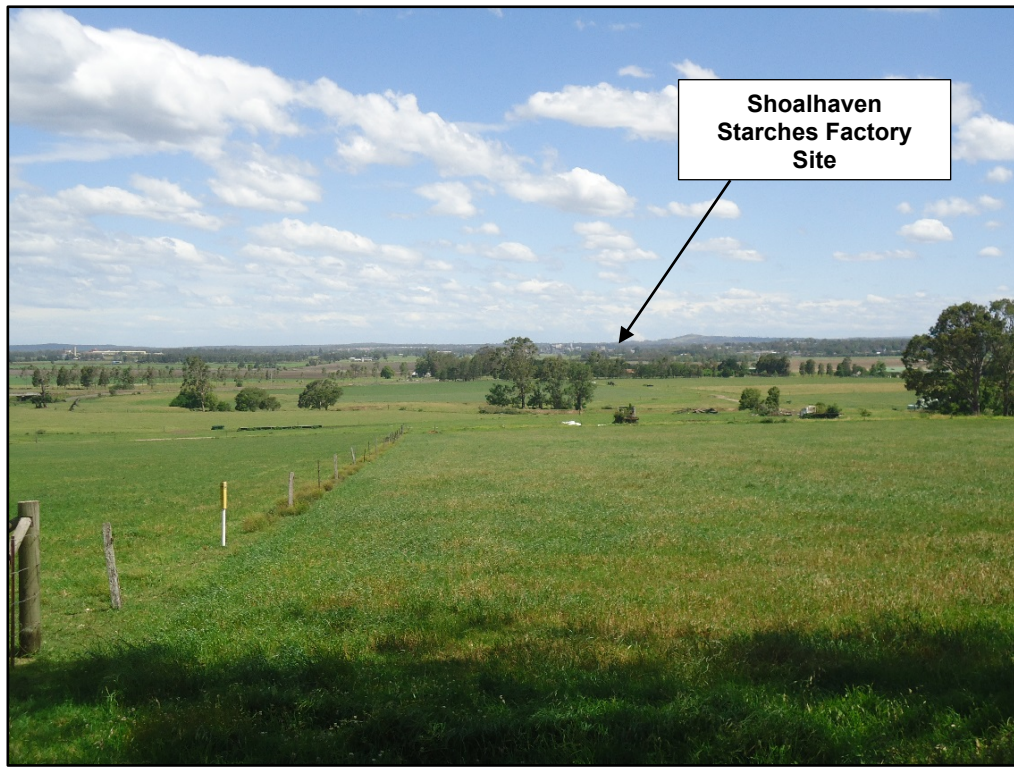


Plate 1: View of Shoalhaven Starches Factory from Princes Highway
(within vicinity of Devitts Lane).
(Site of proposed works not clearly visible from this vantage point.)

Bolong Road

The existing factory site is clearly visible from Bolong Road by vehicles approaching from the east and west, and along the frontage of the site refer (**Plate 2**).

The amendments to Mod 17 associated with the:

- The increase in the building footprint of PDB.
- The increase in the building footprint of the SPB which adjoins the PDB.
- The extension of the sifter room that is situated on top of the interim packing plant.

Whilst involving increases in the building footprint of these buildings, will not be out of context with the scale of development as originally approved or the existing Starch Dryer No. 5 building that adjoins these proposed buildings and other existing structures within this part of the site.

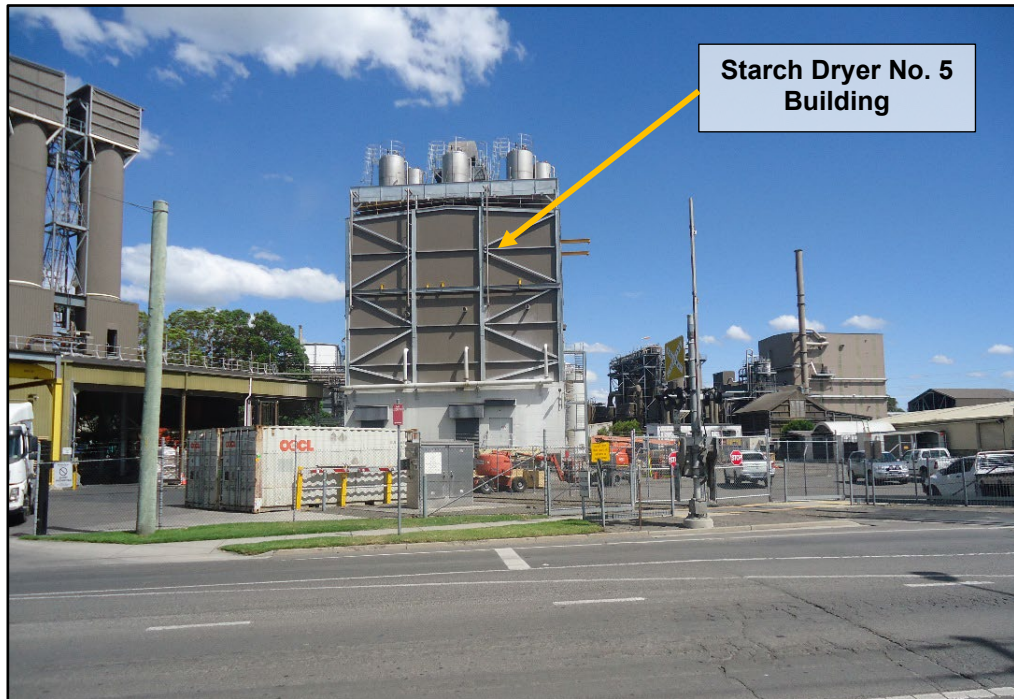


Plate 2: View of Shoalhaven Starches factory site
(and Starch Dryer No. 5 building) from Bolong Road.

Bomaderry Urban Area

The township of Bomaderry is slightly elevated and some locations within this urban area have extensive views of the site (refer **Plate 3**).



Plate 3: View of Shoalhaven Starches factory site from corner of Railway Street
and Cambewarra Road, Bomaderry.

In light of the prevailing scale of existing development located within Shoalhaven Starches site the proposed amendments to Mod 17 will be largely viewed as part of the main industrial centre of the Shoalhaven factory site. The works associated with the increase in the footprints of the PDB and SPB, will be seen in context of the Starch Dryer building which is visible from this location. These works will be of a scale and character of development that will be in keeping with the prevailing scale and character of development associated with the Shoalhaven Starches factory site.

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 site is largely obscured by riverside vegetation. The PDB and SPB will not be clearly visible from this vantage point. Given the expansion of the footprint to both buildings will occur on the northern side of this building (and therefore further away from this vantage point) these amendments will not be visually prominent from this vantage point. It would be expected that the additional chemical storage facilities which will be located to the rear (or south) of the PDB and SPB will be screened by existing development and riparian vegetation along the banks of the Shoalhaven River.



Plate 4: View of Shoalhaven Starches factory site from Nowra Bridge over the Shoalhaven River. (Starch Dryer No. 5 Building and alignment of elevated service conduit not visible from this vantage point).

Riverview Road

The main vantage point from where the proposed works could be visible will be from residences along Riverview Road directly south of the site (refer **Plate 5**). This view is from a distance of about 750 metres. Riverside vegetation along both the northern and southern banks of the river softens much of the site from view. The works associated with the amendments to Mod 17 are generally situated to the north of existing development that is visible from this vantage point and will therefore be screened from view from this vantage point. The proposed works will therefore not have an adverse visual impact when viewed from this vantage point.



Plate 5: View of Shoalhaven Starches factory site from Riverview Road area.
(The proposed relocated baghouse site and elevated service conduit alignment
will not be visible from this vantage point)

Terara

The village of Terara is approximately 1.5 kilometres from the factory. The view of the Shoalhaven Starches factory site as seen from the banks of the Shoalhaven River adjacent to the village of Terara is shown in **Plate 6**

The existing Starch Dryer No. 5 is not visually prominent from this vantage point. The works associated with the Amendments to Mod 17 will not be visually prominent from this vantage point.



Plate 6: View of Shoalhaven Starches factory site from village of Terara.
(The proposed relocated baghouse site and elevated service conduit alignment
will not be visible from this vantage point)

Cambewarra Lookout

Cambewarra Lookout is situated about 7 km to the north-west of the site. 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 the factory site is visible from this vantage point, due to scale of the view, it would be extremely difficult to make out the works associated with the project from this vantage point.

Overall, it is considered that the amendments to Mod 17 will not create a significant adverse visual impact due, principally, due to the works comprising a scale and character consistent with existing development on the site. There are however measures which Shoalhaven Starches could undertake to minimise the visual impact of the proposal. Where appropriate and possible, the proposed structures should be constructed of similar materials as those previously used on the site and be of a non-reflective nature. Colours should blend with existing structures on the site to ensure visual harmony. Consideration should be given to incorporating a cladding colour if possible which will match existing development on the site.

4.0 CONCLUSION

Shoalhaven Starches propose to undertake the following amendments to Mod 17 that is presently being considered by the Department.

- Increase the building footprint of the Product Dryer Building.
- Increase the building footprint of the Specialty Products Building which adjoins the Product Dryer Building.
- The provision of additional bulk chemical storage to the south of the Product Dryer Building and Specialty Products Building.
- Demolition of part of the existing Maintenance Office and Stores to facilitate the extension of the Product Dryer and Specialty Product 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 Specialty Products Building existing car parking spaces (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.
- It is proposed to extend the sifter room that is situated on top of the interim packing plant.
- It is also proposed to install a Product Dryer (No. 9) within the footprint of the SPB as approved under Mod 16.

This Addendum Submission has been prepared to describe the proposed amendments to Mod 17 and to discuss the relevant environmental impacts associated with these proposed amendments.

The preparation of this Addendum submission has been undertaken following consultation with staff from the Department of Planning, Industry and Environment.

This Addendum submission is supported by the following expert assessments:

- A revised Air Quality Impact Assessment by GHD which incorporates the proposed amendments to Mod 17. GHD conclude odour criteria will still be met at all residential sensitive receptors and it is considered highly unlikely that the increase in odour would be detected at sensitive receptors according to GHD.

GHD also conclude that air quality impacts are predicted to comply with the criteria at all residential sensitive receptors. GHD state that Shoalhaven Starches have implemented reasonable and feasible mitigation measures on site to reduce the potential air quality impacts from the new boiler.

Overall GHD conclude that the proposal should be acceptable from an air quality perspective.

- A Noise Assessment by Harwood Acoustics. According to Harwood Acoustics the level of noise emission from the amendments to this approved proposal will be within the noise design goals derived from Environment Protection Licence 883 noise limits at each receptor location based on noise control recommendations made in their report.

- A Flooding Assessment by WMA Water which concludes that the amendments to Mod 17 works will not have any significant impacts on flood levels outside the Shoalhaven Starches site.
- A PHA prepared by Pinnacle Risk Management that concludes societal risk, area cumulative risk, environmental risk and transport risk will be acceptable. According to Pinnacle Risk Management the primary reasons for the low risk levels from the modifications are that significant levels of impact from potential hazardous events are able to be contained on-site.

The amendments to Mod 17 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 the amendments to Mod 17; 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. .

This Addendum to the SEE for Mod 17 includes an assessment of environmental impacts associated with the amendments to Mod 17 having regard to the overall impacts associated with Mod 17. This Addendum Submission concludes that the impacts associated with proposed amendments to Mod 17 will be satisfactory in context of the overall impacts associated with Mod 17.

The Addendum Submission requests that the Department include these amendments to Mod 17 into its consideration of the overall Mod 17 application.

Yours faithfully

A handwritten signature in black ink that reads "Stephen Richardson". The signature is written in a cursive, flowing style.

Stephen Richardson
COWMAN STODDART PTY LTD

ANNEXURE 1

Plans of Proposed Amendments to Mod 17

**Bolong Road
Bomaderry**

ANNEXURE 2

Preliminary Hazard Analysis

prepared by
Pinnacle Risk Management Pty Ltd

Bolong Road
Bomaderry

ANNEXURE 3

Revised Air Quality Impact Assessment

**prepared by
GHD Pty Ltd**

**Bolong Road
Bomaderry**

ANNEXURE 4

Environmental Noise Impact Assessment

**prepared by
Harwood Acoustics**

**Bolong Road
Bomaderry**

ANNEXURE 5

Flooding Submission

**prepared by
WMA Water**

**Bolong Road
Bomaderry**