6 April 2016

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Kerry Hamann
NSW Department of Planning & Environment
23-33 Bridge Street
Sydney NSW 2000

Dear Kerry,

Response to Submissions – State Significant Development 6820, Proposed Light Weight Aggregate Facility
780 Wallgrove Road, Horsley Park

This Response to Submissions document has been prepared by Willowtree Planning Pty Ltd on behalf of Lumetum Pty Ltd, and relates to the proposed construction and operation of a Light Weight Aggregate Facility (LWA Facility) at 780 Wallgrove Road, Horsley Park (Plant No.2).

State Significant Development 6820 was lodged in October 2015, on behalf of Lumetum (a wholly owned subsidiary of Brickworks), and was publicly exhibited from 5 November 2015 until 7 December 2015.

There were no public submissions received during the exhibition period, however written responses from various agencies and Fairfield City Council were received. These included:

a) Fairfield City Council
b) NSW Roads and Maritime Service
c) NSW Office of Environment and Heritage
d) NSW Department of Primary Industries - Water
e) Water NSW
f) NSW Environment Protection Authority
g) NSW Department of Planning and Environment

A Separate meeting was also held with the NSW EPA regarding Noise concerns related to the proposal on 15 December 2015.

Key Issues & Response

Key issues raised as part of the responses received are summaries below:

a) Flooding
b) Air Quality Impacts
c) Noise Impacts
d) Impact on threatened species

Following review of the submissions received and meetings held with the EPA, a response matrix has been prepared which is appended to this letter as **Table 1.**

Following review of the submissions received during the exhibition period, Lumetum have decided to change the type of fuels that are proposed to be used in the proposed LWA kilns. The original Air Quality Impact Assessment (AQIA - JAN 15015.4) references the following fuel options – 100% natural gas, 90% Construction and Demolition (C&D) / Construction & Industrial (C&I) Timbers and 10% Natural Gas and 90% Refuse Derived Fuel (RDF) and 10% Natural Gas. The proposal now comprises 100% natural gas and 100% pulverised coal and as such, no waste fuels (i.e. C&D, C&I Timbers and RDF) are being proposed.

This revised AQIA (FEB 16028.1) addresses the comments issued by the regulatory agencies as well as determining air quality impacts associated with the proposed change in fuel.

Based on the revised proposal, it is considered that the resultant impacts will be acceptable and the queries raised previously in relation to air quality are no longer relevant.

The following supporting reports have been prepared which are to be read in conjunction with the responses provided in **Table 1**:

- **Appendix 1** – Air Quality Impact Assessment
- **Appendix 2** - Noise Impact Addendum Report
- **Appendix 3** - Biodiversity Addendum Report
- **Appendix 4** - Flood Impact Assessment Addendum Report
- **Appendix 5** – Cut and Fill Plan

Based on the responses provided, it is kindly considered that the Department of Planning and Environment finalise the Assessment Report and issue draft conditions for the proposal.

We look forward to receiving your comments and confirmation of the attached information.

Should you have any questions in relation to the above, please contact me directly on 0413 555 638.

Regards,

Andrew Cowan
Associate Director
Willowtree Planning
ACN 146 03707

	Table 1: Response Matrix	
	Authority/Issue	**Comment**
	NSW EPA	
	Air Quality Impact Assessment (Energy from Waste)	
1.	*A review of Best Available Technologies (BAT), as they relate to thermal treatment or energy recovery of the proposed waste material. Whilst a review of BAT was undertaken on other LWA facilities, these were largely coal-powered and did not facilitate an assessment of BAT for mitigating potential emissions from the proposed waste feedstock material. The facility must demonstrate that the technology proposed is proven, well understood and capable of handling the expected variability and type of waste feedstock.*	The revised fuel options proposed for LWA production comprise 100% natural gas and 100% pulverised coal only. Both the proposed fuel sources do not classify as waste fuels and as-such, the NSW Energy from Waste Policy Statement requirements are not applicable.
	Management of residues from the energy recovery process. This would include ash material as well as any air emissions.	
	Emission factors were not available for C&D / C&I Timbers in the adopted EET manuals, and as a result emission factors relevant to saw dust were adopted. However given the inherent variability of C&D / C&I timbers and the potential for contamination, use of saw dust factors was not considered appropriate.	
	Summarise any available trial data relevant to the site, which would support the use of the waste materials as an alternate fuel source, and the ability of the facility to adequately mitigate any potentially harmful emissions. In a meeting with Austral Bricks and the EPA on 20/10/15, they indicated that they had sampling and testing data of wood waste from C&D and C&I waste streams that they were going to propose as a sawdust substitute in the bricks.	
	Implementation of all the technical criteria outlined in the Policy, some of which were reiterated in Section 4.2 of the AQIA. This includes the requirement for waste feed interlocks and continuous measurement for NOx, CO, particles (total), total organic compounds, HCl, HF, SO2, temperature in the combustion chamber and oxygen, pressure and temperature in stack and water vapour content.	
	Discussion of the thermal efficiency criteria, and whether the facility has the capacity to meet these.	
	Provision of a plan to implement Proof of Performance trials to demonstrate compliance.	

	Characterisation of the feedstock material including quality control measures. The waste feedstock were considered to comprise less than 1% halogenated organic substances, however there was no characterisation information to substantiate this. It must be noted that the gas resulting from the process would be required to be raised to 1100ºC rather than 850 ºC	
	The description of the proposed fuel composition is broad and ambiguous. The EIS does not provide any information on the facilities from which the proposed alternate fuels will be sourced. The source of the material will have a major impact in the fuel composition and its likely contaminants. RDF, for example, can be derived from many types of facilities, including AWTs, MRFs and C&D recycling facilities. A more detailed description of the source and typical composition of alternate fuel sources should be provided along with its flow-on implications for modelling of emissions and residues	
	Undertake a Human Health Risk Screening Assessment for the facility.	
	Best Available Technology Assessment	
2.	*The EPA recommends that the proponent be requested to provide a more detailed BAT assessment.*	As the revised fuel options proposed by Lumetum comprise 100% natural gas and 100% pulverised coal only, it is noted that the NSW Energy from Waste Policy Statement and its requirements are not applicable for the Project, and consequently, the proposed facility is not required to demonstrate that the current international best practice techniques will be implemented. However, to demonstrate that Lumetum would be implementing best practice measures, a desktop review of BATs implemented by existing cement and LWA manufacturers is provided in Section 6.2 of this revised AQIA. Air quality control measures proposed by Lumetum comprises – baghouse filtration for effectively controlling particulates and metals (in particulate phase), wet scrubbers for controlling acid gases and regenerative thermal oxidisers for controlling VOC and CO emissions.

		Based on a desktop review of publicly available information pertaining to minimising flue gas emissions generated from LWA rotary kilns, it is observed that baghouses and scrubbers are largely used as BAT's for minimising particulate and acid gas emissions. Therefore, it is observed that Lumetum's proposed air quality control measures are in-line with best practice measures for LWA manufacturing facilities.
	Adoption of Emission Factors	
3.	*The EPA recommends that the proponent be requested to provide a revised AQIA based on manufacturer's specifications, emission guarantees and reference to similar fully operational plants using the same technologies and treating like waste streams.*	There are no emission factors corresponding to LWA manufacturing operations in Australia. Pollutant emission factors have been referenced from the closest available National Pollutant Inventory (NPI) Emission Estimation Technique (EET) manuals, which includes – Bricks, Ceramics and Clay Product Manufacturing. Emission factors have been provided for both fuel options (natural gas and pulverised coal) in the NPI EET Manual for Bricks, Ceramics & Clay Product Manufacturing . As per the revised fuel options proposed by Brickworks, it is to be noted that C&D / C&I Timber or RDF will no longer be utilised as a source of fuel in the LWA operations, and consequently, the NSW Energy from Waste Policy Statement and its requirements will not be applicable Air emissions corresponding to the revised fuel sources (i.e. 100% natural gas and 100% pulverised coal) have been provided in Section 6.5.
	Pollution Control Efficiencies	

4.	*The EPA recommends that the AQIA include all necessary information to demonstrate the basis for adopted pollution control efficiencies. Where supporting data is not available no control should be assumed.*	Predicted incremental impacts for dioxins and vapour phase metals for all scenarios are very low in comparison with their respective criteria. Furthermore, adopted control efficiencies corresponding to dioxins and vapour phase metals have been removed in this revised assessment.
	Meteorological Data	
5.	*Selection of 2014 meteorological data* *The EPA recommends that the AQIA includes further analysis to demonstrate 2014 is considered a representative year for assessment purposes.*	In this revised assessment, five (5) years of revised meteorological modelling (CALMET) has been conducted and inter-annual variability of the percentage of calm winds, wind roses, stability classes and mixing height have been analysed and presented. Based on the inter-annual analysis, 2014 was considered to be a representative years, as the data compares well within the previous years and no distinct anomalies have been identified. Furthermore, calendar year 2014 contained the highest percentage of calm wind conditions (18.6%), highest frequency (41%) of lower mixing heights below 60m and highest frequency (43%) of Pasquill-Gifford stability class F. Details of the inter-annual analysis are provided in Section 7.3 and Section 7.4. In this revised assessment, five (5) years of revised meteorological modelling (CALMET) have been conducted using CALMET in Hybrid Mode (Prognostic Model Data + Observations). Surface observations from BoM were not directly assimilated into TAPM, rather, a SURF.DAT file was created from the BoM observations and used in CALMET. Additionally TAPM generated prognostic model output was used only above 1000m to give a larger bias to the BoM observations at surface level. Percentage calms predicted by the revised CALMET model now match closely to the BoM observations. Additional details are provided in Section 7 of the revised AQIA.
	Compilation of meteorological data used for dispersion modeling *The EPA recommends the AQIA include further validation of the meteorological data utilised for dispersion modelling purposes with a focus on the discrepancies between the quantity in calm conditions between the observation data and the CALMET generated data.*	

	Assessment of Air Toxics	
6.	*The EPA recommends that the AQIA be revised to include predicted ground level concentrations for air toxics at and beyond the boundary of the facility.*	For individual air toxic pollutants, impacts at and beyond the boundary of the facility have been predicted and compared against their respective criteria in this revised assessment. Predicted ground level incremental impacts for individual air toxics at and beyond the Project site boundary are relatively low in comparison with their respective assessment criteria for all modelled scenarios.
	Assessment of PM2.5 Impacts	
7.	*The EPA recommends that the AQIA include an assessment of PM2.5. The assessment should reference the NEPM advisory standards for PM2.5, which include a 24 hour average criteria value of 25 ug/m3, and an annual average criteria value of 8 ug/m3.*	PM2.5 impacts have been determined and assessed against the NEPM advisory standards in this revised assessment. 24-hour average cumulative $PM_{2.5}$ concentrations comply with the assessment criteria of 25 ug/m^3 across all identified sensitive receptors for all modelled scenarios. With respect to annual average cumulative $PM_{2.5}$ impacts, modelled concentrations comply at all receptors except the non-residential receptors (DR6 and DR7) corresponding to the infrastructure at Prospect Reservoir for Stage 1 and Stage 2 operations. With respect to this exceedance, it is noted that the included annual average $PM_{2.5}$ background concentration (7.6 ug/m^3) contributes to 90% of the

		cumulative impacts, whereas the contribution from the Project across all the modelled scenarios is approximately 10%. This implies that the Project's contributions to these exceedances are comparatively minimal. As mentioned earlier, it is noted that DR6 and DR7 correspond to non-residential receptors.
	Predicted PM10 Concentrations	
8.	*The EPA recommends that the predicted cumulative impacts be reviewed and revised where necessary.*	The contemporaneous assessment of PM10 impacts in this revised AQIA has been amended and the results have been updated to reflect the amendment. From the revised PM_{10} contemporaneous assessment, it is observed the predicted 24-hour average PM_{10} cumulative concentrations comply with the assessment criteria of 50 ug/m^3 across all the identified sensitive receptors for all modelled scenarios.
	Detailed Process Description	
9.	*The EPA recommends a process description of all processes and point source discharges be included. The description should be supported by process flow diagrams, and details on any air streams merging prior to discharge.*	A revised process description has been included in Section 6.1 of the AQIA. Additional process flow diagram has been included in Section 6.1 which includes the following: ▪ Material Flow Into and Out of the Kiln (Drawing BWAGG-100-01); and ▪ Gas Flow through the Kiln Exhaust and Grate Cooler Exhaust System (Drawing BW-AGG-100-02)
	Noise Impact Assessment	
10.	*The EPA also seeks clarification on a number of components of the noise impact assessment which are unclear. For example, the EPA seeks clarification as to why Table 6-7 has an estimated Industrial Noise level of <39dBLAeq for Receptor R6 when the last row of Table 4-7 includes the comment indicating industrial noise (Jemena Horsley Park Meter Station) of around 43dBA at Location R6. It is not clear from the assessment whether this noise from the*	A meeting was held with the NSW EPA on 15 December 2015 regarding the concerns raised regarding noise impacts associated with the proposal. In response to the correspondence from the EPA dated 4 December 2015, Bendbow Environmental has prepared an

	meter station present at a constant level all day and night, every day? The EPA suggests the applicant and/or their noise consultant arrange to meet with the EPA to discuss the Noise Impact Assessment.	addendum Noise Impact Assessment which addresses the amenity noise levels (Refer **Appendix 2**). As documented in the addendum Report, The noise contribution from the Jamena meter station was measured to be 49dB(A) and 43dB(A) at location R4 and R5 respectively. With noise control measures in place the predicted noise levels were found to comply with both the intrusive noise criterion and the amenity criterion at all receptors under neutral weather conditions. Under noise enhancing weather conditions exceedances were predicted at location R4 and R5. With noise control measures in place the predicted noise levels were found to comply with both the intrusive noise criterion and the amenity criterion at all receptors under neutral weather conditions. Under noise enhancing weather conditions exceedances were predicted at location R4 and R5. The cumulative impact would result in no significant increase at location R4 (+0.6dB). At location R5 an increase to the existing industrial noise level up to 3dB has been predicted. The cumulative impact would exceed the acceptable amenity noise level by 1dB during night time under noise enhancing weather conditions. This is considered to be a negligible exceedance. All noise levels documented have been obtained having regard to all reasonable and feasible noise mitigation measures (refer **Appendix 2**). Based on the information provided, it is considered that the EPAs noise concerns have been satisfied to enable conditions to be issued.

	Fairfield City Council	
	Flooding	
11.	*Potential flooding impacts of the proposal cannot be accurately determined. However Council's officers are happy to meet with the applicants flood engineers to help*	A meeting was held with Fairfield City Council regarding the associated flood impacts associated with the proposal. It was subsequently agreed that the report be revised. Annexed at **Appendix 2** is the revised study which stipulates: *It was agreed to amend the report figures to clearly show the limit of changes to the terrain in the hydraulic model developed as part of this study and to display the model results in areas previously shown as greyed out. These areas were previously shown as greyed out based on the flood mapping format adopted for the Rural Area Flood Study, Ropes, Reedy and Eastern Creeks – Final Draft (2013). Areas were shown as greyed out to reflect the uncertainty of the flood extents and flood hazard in these regions following the removal of quarries from the modelled ground surface. However, with the areas shown as greyed out, it was not possible to determine any potential flood impacts in these regions resulting from the proposed development. Further details on the reasons for removing these quarries are reported in Rural Area Flood Study, Ropes, Reedy and Eastern Creeks – Final Draft (2013). The flood impact assessment was undertaken using Fairfield City Council's current hydraulic model of the Eastern Creek catchment developed as part of the Rural Area Flood Study, Ropes, Reedy and Eastern Creeks – Final Draft (2013)*

		Based on the level of detail provided, it is considered that the concerns of Council have been adequately addressed to enable the proposal to be supported in this respect.
	Impact on Threatened Species	
12.	The following conditions of consent are recommended prior to the issue of CC: *1.* ***Preparation of Vegetation and Fauna Management Plan*** *Preparation of a fully costed vegetation and fauna management plan is required for the area along the eastern boundary of the site (adjoining Ferrers Road) where the Cumberland Plain Land Snail (Meridolum corneovirens) was recorded. The Plan is to be prepared by a qualified ecologist in consultation with Fairfield City Council and include (but not be limited to) the following;* *a. Provision of exclusion zones and interpretive signage in proximity to the habitat where the Cumberland Plain Land Snail has been recorded,* *b. Retaining tree logs associated with tree removal to be used as stags and as ground habitat logs,* *c. Any restoration through revegetation in this area is to be undertaken using locally provenance plants, sourced from Western Sydney.* d. *During construction phase Provision and maintenance of sediment fences along the boundary of the habitat area in accordance with the Bluebook – Managing Urban Stormwater*.	Noted and agreed. No objection is raised to a condition of consent to this effect.
	2. ***Amended Landscape Plan*** *Prior to release of the Construction Certificate, an amended Landscape plan is to be submitted to Council for approval that addresses the matters outlined in the Vegetation and Fauna Management Plan.* *Under the amended landscape plan, landscaping on the Ferrers Road frontage shall be enhanced by the provision of endemic species that screen the proposed and existing plant and buildings from view from Ferrers Road. The amended landscaping plan shall*	Noted and agreed. No objection is raised to a condition of consent to this effect.

	be prepared by a suitably qualified landscape consultant/contractor and submitted to Fairfield City Council prior to the issue of a construction certificate. The landscaping shall be maintained for the duration of the development.	
13.	*3.* ***Investigations into Green and Golden Bell Frog*** *Further target studies for the Green and Gold Bell Frog (Litoria aurea) are required on the site. This study is to be undertaken during the breeding season of this species being September to December (ideally after wet weather). Once this study is completed it is to be referred to the Office of Environment and Heritage, Department of Planning and Environment and Fairfield City Council for review and if required to determine what measures and actions are required to preserve the species.*	Further studies were undertaken over four nights during September, during favourable conditions to document the results of a targeted survey within the property at 780 Wallgrove Road, Horsley Park (Refer **Appendix 3 –** Report prepared by Cumberland Ecology). The surveys were conducted in accordance with the NSW Threatened Species and Assessment Guidelines: Amphibians as well as the more comprehensive Survey Guidelines for Australia's Threatened Frogs, for species listed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Despite conditions being favourable, no Green and Golden Bell Frogs were detected at the subject site for the duration of the survey. Only one other species of frog was recorded during surveys. This was the Peron's Tree Frog (Litoria peronii). Based on the findings of the study carried out, it is considered that a sufficient level of survey has been carried out on the site regarding the Green and Golden Bell Frog.
	Traffic	
	The following condition be implemented in perpetuity: *54.* ***Construction and Service Vehicles*** *All construction and service vehicles shall comply with the following requirements:* *a. Construction vehicles and all trucks associated with the Light Weight Aggregate*	Noted and agreed. No objection is raised to acondition of consent to this effect.

	Facility shall enter and leave the site via Wallgrove Road and the M7 Motorway and restricted to non-peak periods. *b. All vehicular entries and exits shall be made in a forward direction.* *c. All deliveries to the premises shall be made to the rear service lane/loading bay/s provided.* *d. All vehicles awaiting loading or unloading shall be parked on site and not on adjacent or nearby public roads.* *e. Line marking shall be implemented within the car park to clarify the direction of travel;* *f. To ensure the safety of pedestrians within the car park pavement markings associated with pedestrian crossings shall be provided.*	
	Contributions	
14.	*The following condition to be implemented prior to CC:* *9.* ***Section 94A Levy Development Contributions*** *Prior to the issue of a Construction Certificate, a receipt for the payment to Fairfield City Council of Section 94A Levy Contributions shall be submitted to the Certifying Authority.* *The Section 94A Levy as determined at the date of this consent is* ***$1,297,870.00*** *The contribution amount payable may be adjusted at the date of payment. Any unpaid contributions will be adjusted on a quarterly basis to account for movements in the Australian Bureau of Statistics, Producer Price Index – Building Construction (New South Wales).*	Noted and agreed. No objection is raised to a condition of consent to this effect.
	Water NSW	
15.	*Water NSW request and assessment of the potential water quality impacts to the open Upper Canal water supply and Prospect Reservoir from Kiln emissions*	Four (4) new receptors have been included in this revised assessment corresponding to the Prospect Reservoir and the Upper Canal. It is to be noted that although these new receptors have been included in the revised assessment, they have been classified as non-residential receptors.

		Assessment of water quality impacts to the open Upper Canal are outside the Scope of Works for an air quality assessment, however, air quality impacts have been determined at these receptors. Predicted ground level incremental and cumulative concentrations for all pollutants, excepting annual average $PM_{2.5}$ concentrations comply with their respective assessment criteria for all modelled scenarios at the four (4) new receptors (DR6-DR9), which represent the infrastructure corresponding to the Prospect Reservoir and the Upper Canal. With respect to annual average cumulative $PM_{2.5}$ impacts, exceedance is observed at two of the four receptors (DR6 and DR7) for Stage 1 and Stage 2 operations (refer Table 27 of the revised AQIA). Regarding this exceedance, it is noted that the included annual average $PM_{2.5}$ background concentration (7.6 ug/m^3) contributes to 90% of the cumulative impacts, whereas the contribution from the Project across all the modelled scenarios is approximately 10%. This implies that the Project's contributions to these exceedances are comparatively minimal. Furthermore, it is noted that DR6 and DR7 correspond to non-residential receptors at the Prospect Reservoir.
	Water NSW requests that an appropriate condition be placed on the consent that post development flows are no greater than predevelopment flows downstream of the site, where eastern creek flows into water NSW's pipelines corridor	Noted and agreed. No objection is raised to a condition of consent to this effect.
	NSW Planning & Environment	
	Process	

16.	*A detailed and labelled diagram of the Light Weight Aggregate (LWA) Plant is requested to provide an understanding of key LWA infrastructure including the proposed multi-fuel burner, rotary kilns and cooling air stack.*	A revised process flow diagram is attached at Appendix D od the revised Air Quality Impact Assessment prepared by Airlabs dated February 2016.
	Please explain the interaction between existing Brickworks infrastructure and the proposed development.	The proposed Light Weight Aggregate plant is a stand-alone process, apart from receiving processed raw materials from the existing Grinding Building that is adjacent to Ferrers Rd on the east of the site. These raw materials will be supplied to the lightweight aggregate plant by belt conveyor. Services to the lightweight aggregate plant, such as electricity, water, natural gas, fire and septic systems will be independent from the existing operations on the Horsley Park site.
	It is unclear how the underground conveyor works, how deep it is and where it fits within the development footprint.	A diagram is included at **Appendix 6** which shows a section of the underground reclaim section. The depth of this area is approximately 3m so that it can function as required.
	Air Quality	
17.	*With regards to the multi-fuel burner please clarify:* ▪ *Details of the proposed fuel (composition) and where it would be sourced from; and* ▪ *Detail on the initiation of the multi-fuel burner. If gas is used, what is the gas type? Quantities should be provided.*	Following review of the submissions received during the exhibition period, Lumetum have decided to change the type of fuels that are proposed to be used in the proposed LWA kilns. The revised fuel options now comprise 100% natural gas and 100% pulverised coal. No waste fuels (i.e. C&D, C&I Timbers and Refuse Derived Fuel) as referenced in the original AQIA (JAN15015.4) are being proposed. Based on information provided by Brickworks concerning the amount of energy expended by each LWA kiln for producing 300,000 tonnes per annum of LWA and the calorific values of natural gas and pulverised coal, it is estimated that 14,179 tonnes per annum of natural gas and 22,800 tonnes per annum of pulverised coal would be used. Section 6.1 of the revised AQIA provides a detailed

		description of the LWA production process.
	Biodiversity	
18.	▪ Targeted surveys for the Cumberland Plain Land Snail were undertaken and were observed on the site (see the travers assessment). However, according to the updated assessment (undertaken by Cumberland Ecology) impacts on this species have not been addressed or accounted for in the FBA calculations (see Table 6.1). This inconsistency needs to be clarified	The Travers assessment includes targeted searches for Cumberland Plain Land Snail in woodland patches throughout the site. The species was recorded at one location: along a narrow fringe of woodland on the eastern perimeter of the site, adjacent to Ferrers Road. No Cumberland Land Snail was detected in the proposed disturbance areas on site, despite targeted searches of the regrowth woodland in these areas. The regrowth woodland in the proposed disturbance areas is highly modified, was previously subject to heavy earthworks and is wholly disconnected (by cleared land, haul roads and other infrastructure) from the fringe of woodland on the eastern perimeter where the Cumberland Plain Land Snail record is located. For these reasons, the regrowth woodland in the proposed disturbance areas is considered to be poor habitat for Cumberland Plain Land Snail and the likelihood of Cumberland Plain Land Snail recolonising the regrowth woodland within the proposed disturbance areas is considered to be very low to unlikely. In accordance with Section 6.5.1.11 of the FBA, as no Cumberland Plain Land Snail or suitable habitat for Cumberland Plain Land Snail will be impacted, no further assessment is required under the FBA.
	Earthworks/Construction	
19.	*Stage 1 - involves existing dam dewatering. How will water be treated prior to discharge to Eastern Creek?*	To begin with, water quality testing will be undertaken on the existing waterbody. Depending on the results of this testing, a treatment plan will be developed by an

		environmental scientist. It is likely that the main pollutant in this area is suspended sediment from the surrounding stockpiles (note the dam is geographically isolated from factory processes and regular vehicle traffic). A standard treatment for this would be flocculation using a common chemical additive (flocculant or coagulant) such as gypsum, which causes suspended sediment particles to drop to the bottom. Rather than dosing the entire waterbody at once, a smaller temporary decanting basin may be set up adjacent to the main dam as an intermediate point for treatment of smaller volumes before discharge to Eastern Creek. The water will be flocculated in the basin to remove waterborne sediment. Testing of the treated water in the basin will then take place prior to any release to Eastern Creek. A floating decant pump will be used to ensure water is taken from the top of the waterbody and not the sediment storage/sludge layer at the bottom
	Stage 2 – requires the excavation and treatment of material at the base of the existing dam. What would be done with this material?	The material at the base of the dam is likely to be saturated from water ingress over many years. Once it is excavated this material will be spread on site for drying and then mixed with clean dry fill (at a ratio to be advised by geotechnical engineer). It will then be suitable for use as general fill, either on the wider Austral site or exported to another site requiring fill for development
	What is the expected quantity of excavated material required to be removed from the site?	As per the cut-fill plan C04-B prepared by AT&L (See attached - **Appendix 5**) there is an anticipated 76,000m³ excess of material from bulk earthworks operations associated with the project. This volume will either be stockpiled for future use on the wider Austral site or alternatively exported off-site to any other sites requiring fill in the area. Any exported material will be subject to strict controls on haulage, including any Council conditions, to be addressed in detail within the Contractor's Environmental Management Plan (CEMP).

	NSW RMS	
20.	*The subject property abuts the M7 Motorway along its western boundary and is affected by a Restriction on Use of Land 30.48m wide, as shown by brown colour on the attached aerial – "X"* *Therefore, Roads and Maritime raises no objections to the development proposal on property grounds provided:* ▪ *Any proposed buildings or structures are erected clear of the M7 Motorway corridor and the identified Restriction on Use of Land; and* ▪ *The intent of the Restriction on Use of Land is not compromised.*	Noted and agreed.
	The layout of the proposed car parking areas associated with the subject development(including, driveways, grades, turn paths, sight distance requirements in relation to landscaping and/or fencing, aisle widths, aisle lengths, and parking bay dimensions) should be in accordance with AS 2890.1- 2004, A52890.6-2009 and AS 2890.2 — 2002 for heavy vehicle usage.	Noted and agreed.
	The Internal Access Road and its junction with Ferrers Road should be designed and constructed in accordance with Council's requirements and should cater for the largest design vehicle proposed to access the site. It should be noted that Ferrers Road is not currently approved for use by 25m B-doubles in the northbound direction of travel south of this junction.	Noted and agreed.
	A Construction Traffic Management Plan detailing construction vehicle routes, number of trucks, hours of operation, access arrangements and traffic control should be submitted to Council for approval prior to the issue of a Construction Certificate.	Noted and agreed.
	NSW DPI Water	
21.	*The EIS indicates that up to 120,000 litres per day of water will be required. This is to be sourced from the existing town water supply via an existing water pipeline network.*	Noted and agreed.
	The EIS indicates that runoff from the site will be captured in Water Treatment Ponds. This water, once treated will be utilised for dust suppression on-site. It is estimated that 40kL/day will be required.	Noted and agreed.
	The Water Treatment Ponds are exempt from the Maximum Harvestable Rights Dam Capacity calculations.	Noted and agreed.
	The water balance for the operation indicates sufficient water to meet existing needs.	Noted and agreed.

	The Water Treatment Ponds will encroach into the Riparian Zone, but this disturbance is adequately compensated for in off-sets on-site in accordance with DPI Water Guidelines for Controlled Activities on Waterfront Land.	Noted and agreed.
	The EIS indicates that bulk earthworks will not intersect with groundwater. However, the footings of the proposed buildings may intersect with groundwater. Minimal dewatering will be required. It is estimated that this dewatering will not exceed 3ML on a temporary basis which will not require a licence from DPI Water.	Noted and agreed.
	An erosion and sediment control plan is to be developed prior to the commencement of works. DPI Water requests to review this plan prior to the commissioning of the project.	Noted and agreed.
	The proponent does not require any licences and/or approvals under the Water Management Act 2000 for the construction or operation of the proposed lightweight aggregate facility as outlined in the supporting documentation. If in the future any additional water is sourced from an alternative source (e.g. groundwater) or if groundwater take is to exceed 3ML then the proponent should contact DPI Water to determine if any licences and/or approvals are required.	Noted and agreed.

Appendix 1
Air Quality Impact Assessment

Appendix 2
Noise Impact Assessment (Addendum)

Appendix 3
Biodiversity Assessment (Addendum)

Appendix 4
Flood Report

Appendix 5
Cut & Fill Plan

Appendix 6

Diagram – Underground Reclaim Section