

WORKS APPROVAL

YUMBAH AQUACULTURE LTD

Holder of Works Approval: 194725

Issued: 15/04/2019

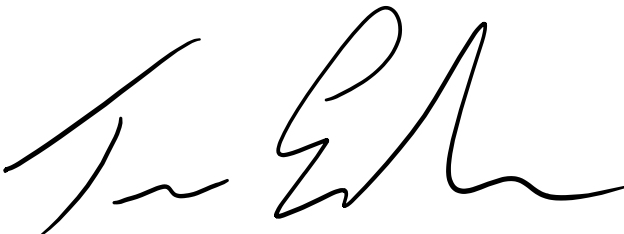
ABN: 89 082 219 636

Registered Address: c/- Newcombe Clifton Atkins
9 Bishop Street JOLIMONT WA 6014

Premises Address: Lots 1 and 8 315 Dutton Way BOLWARRA VIC 3305
Lot 2 Princes Highway BOLWARRA VIC 3305

Scheduled Categories: B03 Fish Farms

Description: To construct a new abalone farm, Yumbah Nyamat, at Bolwarra. The proposed farm will include a hatchery, nursery and grow out tanks, pumping seawater to the land-based farm, before discharging treated water through a series of outlet pipelines.



TIM EATON
Executive Director, Regulatory Standards, Assessments & Permissioning
Delegate of the Environment Protection Authority

PREAMBLE

Works Approvals

Who we are: The Environment Protection Authority (“EPA”) is an independent statutory authority established under the *Environment Protection Act 1970* (“the Act”). Our purpose is to protect and improve our environment by preventing harm to the environment and human health.

Why we issue works approvals: EPA is responsible for preventing or controlling pollution (including noise) and improving the quality of the environment. This responsibility includes regulating activities that may present a danger to the environment. One of the tools available to EPA is issuing works approvals for scheduled premises to prevent or minimise risk to the environment.

Section 19A of the Act requires the occupier of a “scheduled premises” to obtain works approval to construct or install plant and equipment in order to discharge, handle, treat or dispose of waste to the environment. These types of premises are defined in the *Environment Protection (Scheduled Premises and Exemptions) Regulations 2007* (“the Regulations”).

When we issue works approvals: EPA will issue a works approval when satisfied that an applicant has put in place measures to protect the environment. Works approvals allow construction of works to occur and set control measures to minimise a site’s environmental risk. EPA can amend a works approval in response to changes in standards and site activities. Works approval holders must submit reports if required by a condition of the approval.

Works Approval information and obligations

For the purposes of this works approval “You” means the works approval holder identified on the first page of this works approval at the “premises” identified on the first page and represented in Schedule 1.

If you object to any of the works approval conditions, you may have the decision reviewed by applying in writing to the Registrar, Planning and Environment Division, Victorian Civil and Administrative Tribunal (“VCAT”), 7th Floor, 55 King Street, Melbourne within 21 days of the date of issue. An application fee may be applicable when lodging an appeal with VCAT. Contact VCAT on (03) 9628 9777 for further details on fees associated with an appeal. A copy of the appeal should also be forwarded to the Manager, Development Assessments Unit, Environment Protection Authority, GPO Box 4395, Melbourne, 3001, within 7 days of lodgement of the appeal.

Interested (third) parties may also appeal against the works approval within 21 days of the date of issue. The Tribunal will notify you if such appeals are received. If an appeal is lodged, you must not go ahead with the works until the appeal is resolved.

Compliance: You must comply at all times with the Act and all policies and regulations administered by EPA. Strict penalties apply for non-compliance with any part of your works approval.

Works Approval structure

Structure: Your works approval has:

- Works conditions - setting out requirements for construction or installation;
- Schedule 1A - locality plan of your premises;
- Schedule 1B - plan of premises (provided by you).

Some types of works approvals also contain Schedule 1C - final landfill contour plan

CONDITIONS

General Conditions

WA_G1 Subject to the following conditions, this approval allows the construction of the following works and associated equipment – a land-based abalone farm, producing up to 1,000 tonnes per annum of, generally consisting of the following key components:

1. Infrastructure comprising:
 - a. hatchery facility (approximately 1,500m²);
 - b. nursery facility (approximately 11,100m²) - includes 200 tanks; and
 - c. grow out tanks - includes 2,000 tanks (concrete) constructed on a concrete slab and divided into four modules with a dimensions of tank area – approximately 112,000m² under approximately 181,655m² of shade cloth
2. Water supply (to a maximum daily flow of 518 ML/day) comprising:
 - a. Intake pipes – a maximum of 20 pipes contained within one easement – each pipe with screens to minimise biota entering the pipes;
 - b. Internal pipes/drains – 40 lateral drains for grow out area;
 - c. Tank flushing systems; and
 - d. Emergency recirculation reservoirs – four in total each with capacity of 1.25ML.
3. Wastewater management system comprising:
 - a. Southern Collection Channel (SCC) – total length 500m - divided into four compartments – one per module;
 - b. Solids Settling Channels (SSC) – four in total (one per module); and
 - c. discharge easements – three with a maximum total of eight outlet pipes built through a combination of trenching and underground boring (if feasible)
4. Stormwater management system comprising:
 - a. a stormwater retention pond (size to be confirmed during detailed design);
 - b. internal stormwater swale drains and pipes; and
 - c. wetland (specifications confirmed during detailed design).
5. Solid waste handling comprising:
 - a. a 200m² dewatering facility (sludge drying pad); and
 - b. a refrigerated/freezer abalone mortality storage area in an enclosed shed.
6. Pumping station comprising:
 - a. compartmentalised into four pumping houses with a total pumping capacity of 8.66KL/s and 35% redundancy;
 - b. surrounding concrete walls and roof top above ground with an earthen, vegetated bund;
 - c. with pumps located below ground level (at approximately RL0 depth).
7. Utilities and ancillary facilities comprising:
 - a. approximately 5,800 solar panels producing 2MW power;
 - b. staff amenities and administration offices, as well as car parking;
 - c. main site workshop;
 - d. live abalone harvest depot;
 - e. four aquafeed storage silos (35t capacity each);
 - f. diesel fuel storage (approximately 20,000L);
 - g. emergency pump house containing back-up generators;
 - h. pipeline pig retrieval station;
 - i. pumping station workshop ;
 - j. bird netting on all channels, ponds, lagoons and retention basins;
 - k. removal and reconstruction of seawall (approximately 100m) during pipe installation; and
 - l. security fencing around entire site.

- WA_G2 The works must be constructed in accordance with the application accepted on 29 October 2018 as augmented or amended by additional information dated 3 January 2019, 10 February 2019, 27 March 2019, 4 April 2019, 8 April 2019 and 15 April 2019 ('the application') except that, in the event of any inconsistency arising between the application and the conditions of this approval, the conditions of this approval shall apply.
- WA_G3 This approval will not take effect until a copy of any permit which is required under the *Planning and Environment Act 1987* has been served on the Authority by You.
- WA_G4 This approval will expire on 15 April 2021 if the works have not commenced by this date to the satisfaction of EPA.

Works Conditions

- WA_W1.1 The works shall be constructed in 8 stages, as shown in Drawings YUM-003-02-38, YUM-003-02-39, YUM-003-02-40, YUM-003-02-45, YUM-003-02-46, YUM-003-02-47, YUM-003-02-48, and YUM-003-02-49. Before commencing construction of any works, you must provide to EPA the following report or reports with accompanying plans and specifications including:
1. the final detailed designs and schematics of the works, which must include a minimum 30m setback from the edge of the solar array to any adjoining property boundary;
 2. details of the fuel and chemical storage facility, designed to meet the requirements of AS1940-2017, AS3833-2007, AS3780-2008 and EPA Publication 1698
 3. an updated premises plan with location of discharge points;
 4. an updated Construction Noise and Vibration Assessment following detailed design which includes:
 - a. modelled construction noise and vibration emissions and impacts following detailed design and selection of the pipe laying method at the most impacted sensitive receptors – the modelling to also consider any concurrent activities that may occur throughout the construction period and report on the total expected noise levels at those peak concurrent periods;
 - b. details of and justification for any work that is likely to be undertaken outside of day time hours;
 - c. details and duration of any activities likely to cause noise and vibration emissions that may exceed the recommended limits;
 - d. details on the installation and performance of any noise mitigation measures including the use of sonic panels and/or sonic curtains.
 5. an updated Operational Noise Assessment following detailed design which includes:
 - a. the low noise emission criteria to be included within the specifications for the pumps and backup emergency generators;
 - b. the final design of the pump shed, which including required acoustic mitigation measures to meet relevant noise limits; and
 - c. updated modelling based on the final location and specifications of noise sources and which demonstrates compliance with relevant noise guideline limits.
 6. an updated Construction Groundwater Assessment following detailed design that includes:
 - a. an updated identification and analysis of potential environmental impacts, hazards and risks;
 - b. proposed mitigation measures; and
 - c. any residual risks to groundwater during construction;
 7. a Groundwater Monitoring and Management Plan (GMMP) that includes:
 - a. a detailed groundwater monitoring program and network designed in accordance with EPA publication 668, including systems used to continuously detect potential leakage and/or spills cause by operations;

- b. a groundwater sampling regime (refer EPA publication 669) that enables impacts to groundwater to be detected with sufficient time to be protective of existing receptors;
 - c. a groundwater analytical program consistent with potential contaminants of concern associated with the site operation; and
 - d. trigger levels and contingency plans to protect beneficial uses.
 8. a site-specific Waste Monitoring and Management Plan (WMMP), which includes:
 - a. the design of the abalone mortality and storage shed;
 - b. confirmation of quantities of waste requiring dewatering and the sizing of the dewatering facility;
 - c. details of the anticipated volume of construction wastes and the method of disposal, equipment, machinery; and
 - d. details of the measures to avoid, reuse and minimise waste during future operation of the farm.
 9. a detailed Construction Quality Assurance Plan (CQA plan) for all civil engineering works and in particular underground pipe, butt welds and flange connection anchors and all designed impermeable areas;
 10. a Construction Environment Management Plan (CEMP) that details:
 - a. construction working hours
 - b. intake and outflow pipes construction details including:
 - i. how construction will not involve physical removal of any significant seabed habitat of conservation value;
 - ii. details on depth of pipes, including measures which will avoid obstructing whale movement along the coast;
 - iii. details on how intake pipes will be constructed so as not to cause entrapment or entrainment of marine fauna; and
 - iv. details on measures to prevent entanglement with marine mammals, including that marker buoys on ends of intake and outlet pipes should be attached with chains not ropes, and the chains are covered in rigid sleeves
 - c. mitigation measures to reduce dust emissions including activities with the potential to create and mobilise Respirable Crystalline Silica;
 - d. reactive downwind mitigation that includes monitoring of PM₁₀ and PM_{2.5} to confirm the effectiveness of the standard dust suppression mitigation measures
 - e. a description of the methodology to identify and mitigate any potential soil or groundwater contamination found on-site during construction being mobilised and prevent off-site migration of any such contaminants in groundwater
 - f. trigger action levels, and how compliance with the procedures set out in the CEMP will be monitored, independently audited and actioned; and
 - g. include provisions for a bi-monthly newsletter to transparently publish noise, dust, odour and groundwater monitoring data during construction, the current status of construction, any issues encountered and additional mitigation measures identified, as well as any received complaints and responses provided by You, construction plans for next period to the EPA, Glenelg Shire Council, local residents and any community reference group;
 11. a detailed operational procedure to cater for a 1 in 100 year rainfall event;
 12. a detailed Community Engagement Plan that includes the establishment of a Community Reference Group, a Community Complaints Register and Response Plan for the construction and commissioning phase and consideration of recommendations 17 & 18 from the s20B Community Conference Report (dated 2019 and included as Appendix B of the Works Approval Application Assessment Report); and
 13. updated Yumbah Nyamat Biosecurity Plans prior to the finalisation of the design of the next module, taking into account any such developments in best practice biosecurity, as well as, any learnings from performance monitoring of earlier stages.

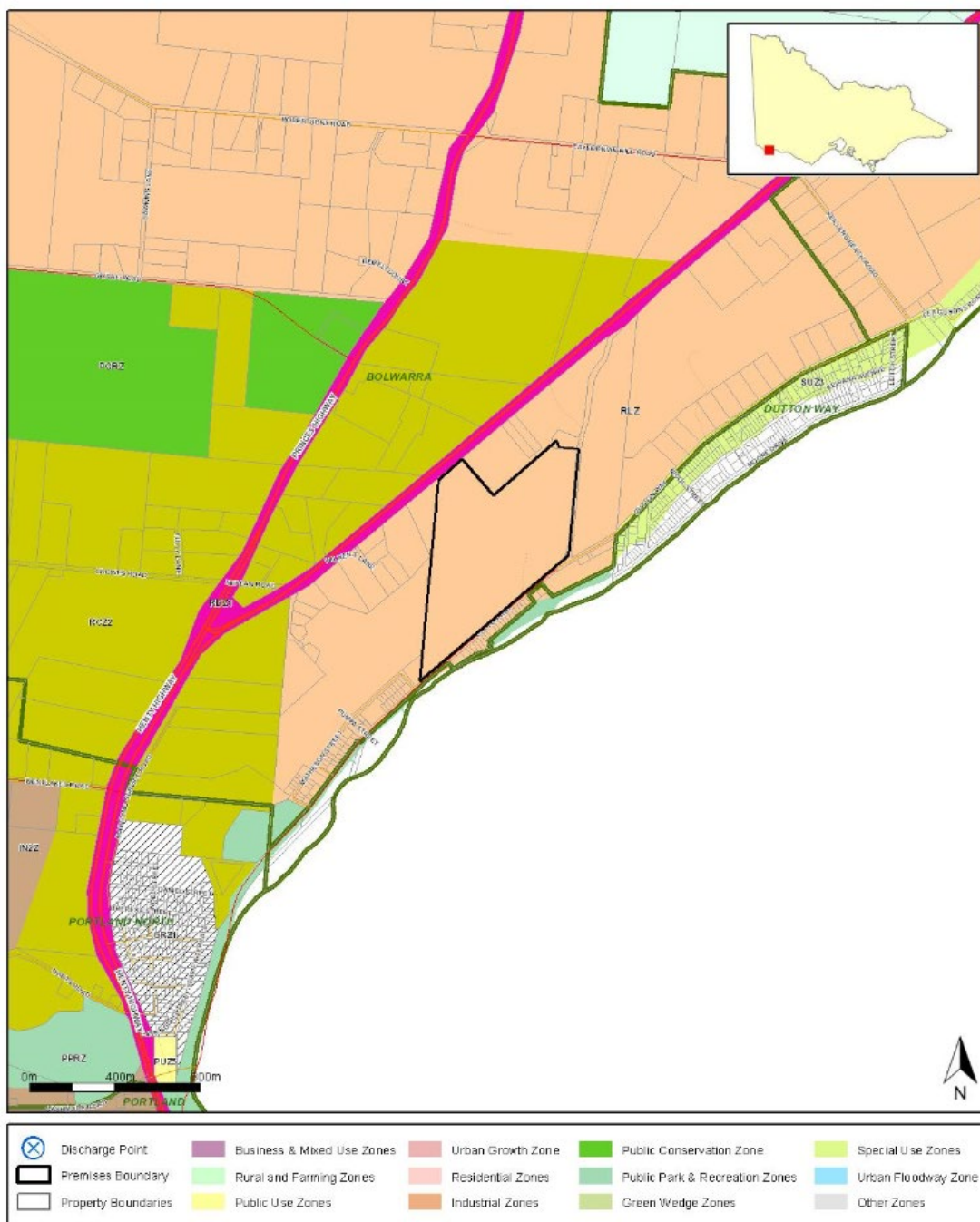
WA_W2 You must not commence construction of those parts of the works for which reports are required by condition WA_W1.1 until written EPA approval of those reports has been received.

- WA_W3 Where any reports specified in condition WA_W1.1 and approved by EPA differ from the application, the works must be constructed in accordance with those approved reports.
- WA_W4.1 You must notify EPA when the construction of each stage of the works covered by this approval has commenced in accordance with the approved staging plan.
- WA_W5.1 You must notify EPA in writing when the construction of the works covered by this approval has been completed in accordance with the approved staging plan.
- WA_W7 You must not commission or operate the works without the written approval of EPA.
- WA_W8 You must install
1. bird netting over all open surface water on-site (i.e. the southern collection and solids settling channels, emergency recirculation reservoirs, all components of the stormwater management systems);
 2. water flow meters and a Programmable Logic Control system (or similar), to provide real time monitoring of water flows throughout the farm for leak, spill and overflow detection and to record wastewater discharge flow on the discharge outlets;
 3. groundwater monitoring boreholes as per the GMMP (required under WA_W1.1)
 4. any noise abatement and barriers as identified as being required to protect nearby receptors and as identified by the noise report required in condition WA_R4 below; and
 5. PM₁₀ and PM_{2.5} monitors detailed in condition WA_W1.1(11) and approved by WA_W2.
- WA_W13 You must implement all liquid storage containment and handling measures in accordance with EPA Publication 1698 "Liquid storage and handling guidelines", dated June 2018.
- WA_W14 You must install all wastewater discharge points so that provision for sampling are included in accordance with EPA publication 441 'Guide to the Sampling and Analysis of Waters, Wastewaters, Soils and Wastes', as amended from time to time.
- WA_W15 During construction, unacceptable noise (and vibration) above relevant guideline levels must not be emitted beyond the boundaries of the premises.
- WA_W16 During construction, stormwater discharged from the premises must not be contaminated with waste.
- WA_W17 All construction activities must be undertaken in accordance with EPA publication 480 "Environmental Guidelines for Major Construction Sites", as amended from time to time.
- WA_W18 During construction, you must undertake an environmental monitoring program that enables you and EPA to determine compliance with conditions(s) WA_W15 and WA_W16.
- WA_W19 During construction, you must ensure that all activities are carried out in accordance with the information provided in the works approval application except that, in the event of any inconsistency arising between the application and the conditions of this approval, the conditions of this approval shall apply.

Reporting Conditions

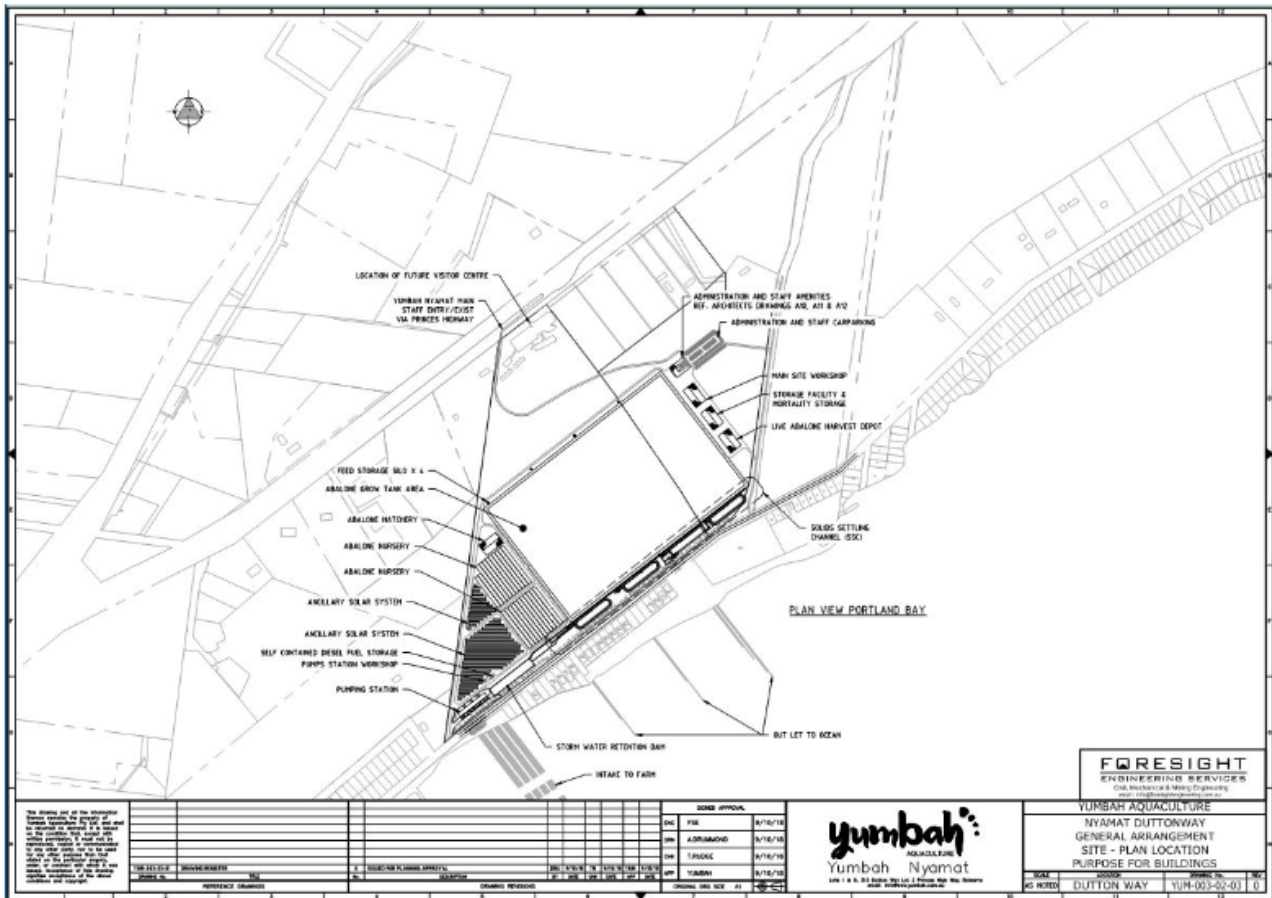
- WA_R1 At least two months before commencement of any commissioning, you must provide to EPA a report that include(s):
1. a detailed commissioning plan for the works.
 2. detailed monitoring program to be undertaken during the commissioning to establish any impacts to soft-sediment and seagrass habitats around the discharge pipes.
 3. detailed methodologies for the odour surveys (to be in accordance with European Standard EN 16841-2:2016 Ambient air - Determination of Odour in Ambient air by Using Field Inspection Part 2: Plume Method (Dynamic Plume Assessment)) to be undertaken during commissioning to:
 - a. verify off-site receptors will not experience significant odours generated on-site and that the effectiveness of any proposed odour mitigation measures;
 - b. confirms if (a) the geobags are an odour source and (b) if the dewatering pad has been appropriately located away from sensitive receptors;
 - c. establish the effectiveness of bird netting as an odour mitigation measures;
 - d. be verifiable by an independent auditor; and
 - e. the results of which can be readily made available to the community.
 4. detailed noise survey methodologies and program to be undertaken during commissioning to:
 - a. verify compliance with the updated noise and vibration assessment in WA_W1.1;
 - b. confirms the performance of noise attenuation measures;
 - c. be verifiable by an independent auditor; and
 - d. the results of which can be readily made available to the community.
 5. a wastewater discharge monitoring plan which includes:
 - a. establishing the rate of and volume of sludge deposition within the wastewater management system, and within the emergency recirculation reservoirs;
 - b. the particle distribution of materials within the sludge and any remaining fine particles in suspension prior to discharge;
 - c. confirmation that performance aligns with modelled concentrations and proposed licence limits; and
 - d. expected water quality parameter concentrations under recirculation conditions against proposed licence limits.
 6. A CQA report which details underground pipe detection inspection and commissioning test results for the civil engineering works and in particular underground pipe, butt welds, flange connection anchors, and all designed impermeable areas. This should be conducted by an independent contractor, with all monitoring designed to comply with the monitoring requirements set out in the Licence Management Guideline (EPA publication 1322)
- WA_R4 Before the commencement of commissioning of each stage, you must provide, to the satisfaction of EPA, a report approved by an EPA appointed auditor that includes: (a) all plans and reports specified in condition WA_R1 of the works approval; and (b) construction verification reports prepared by an EPA-appointed auditor demonstrating that the relevant stage of the farm has been built in accordance with the works approval.
- WA_R5 You must not commence operation of the works until written EPA approval of the reports required by condition(s) WA_R1 has been received.

SCHEDULE 1A – LOCALITY PLAN



Works Approval:	194725
Company Name:	YUMBAH AQUACULTURE LTD
ABN:	89 082 219 636
Premises Address:	Lots 1 and 8 315 Dutton Way BOLWARRA VIC 3305 Lot 2 Princes Highway BOLWARRA VIC 3305
Issued:	15 April 2019
Before relying on the information in this map, users should carefully evaluate its accuracy, currency, completeness and relevance for their purposes, and should obtain any appropriate professional advice relevant to their particular circumstances.	

SCHEDULE 1B – PREMISES PLAN



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