12 October 2023

Ms Kiersten Fishburn
Secretary
Department of Planning and Environment
Locked Bag 5022
Parramatta NSW 2124

Dear Ms Fishburn

Algal Blooms and link to Motor Neuron Disease (MND) – SSD No – 57064458 – High Risk of Contamination of Minnamurra River

Thank you for the opportunity to make a submission regarding the proposed move of the existing Shellharbour Hospital to Dunmore Rd, Dunmore.

In recent times, Professor Dominic Rowe, Professor of Neurology and MND researcher, has commenced scientific studies into the link between Motor Neuron Disease and algal blooms. Professor Rowe (ABC 11 October 2023) said one theory was that a toxin produced by blue-green algae called beta-N-methylamino-L-alanine (BMAA) might be one environmental risk factor for some people. He said the dramatic increase in MND rates suggested environmental factors were at play. Professor Rowe advised on 11 October 2023:

"That's called epigenetic, so as the environment interacts with genes, then perhaps that could be involved in how the disease becomes manifest."

As a result of the excavation works and building works associated with the move of the Shellharbour Hospital to an ecology-significant ecosystem, the Minnamurra River will be at risk of degradation. The Minnamurra River is extensively used for recreation, swimming, fishing and tourism. Degradation risk includes the following:-

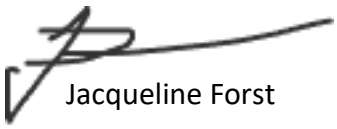
- Increased sedimentation and runoff into Rocklow Creek impacting water quality
- Reduced quality of aquatic habitats in the River and estuaries
- Weed and pathogen introduction
- Increased suspended sediments reducing photosynthesis of aquatic macrophytes
- Decreased oxygen levels in the River
- Increased pest flaura abundance and adverse impact on native vegetation and biodiversity

This Development will cause leaching into the Minnamurra River Catchment with detrimental effects, endangering the ecological species with possible toxic blooms, which often occur in shallow lakes. These toxins could also cause the River to be closed for human activities and with an El Nino weather pattern for the next 3-4 years, this risk is increased.

The NSW Government has recently announced more funding to allow Professor Rowe to continue his research. This added risk of epigenetic links from toxic waterways in addition to the other climate and environmental degradation makes this development too high a risk for our community.

The proposed mitigation measures to reduce and minimise a myriad of adverse environmental risks to the River and surrounding ecosystem, are not enough given changing weather patterns and the risk is too high. The proposal cannot be supported in its current form.

Yours sincerely,



Jacqueline Forst