Submission on the referral

Department of Infrastructure, Planning and Logistics – Wurrumiyanga Residential Subdivision

This submission is made under regulation 53 of the Environment Protection Regulations 2020

Government authority: Health Protection – Environmental Health (EH) Operations

Summary: The proposed subdivision (70 lots) planned for Wurrumiyanga Community will add additional load into the wastewater system (WWS). While the wastewater treatment ponds may be sized appropriately to accommodate the additional subdivision, the ponds are known to become overloaded and overflow into adjacent bushland when the system becomes inundated by seasonal heavy rainfall. The pooling wastewater has the potential to impact the environment, and the health of the local community through the risk from mosquito borne disease and coming into direct contact with wastewater.

Section of Referral	Theme or issue	Comment
Referral report – section 1.3 Regulatory Content	Applicable legislation	• The *Public and Environmental Health Act 2011*, and associated *Public and Environmental Regulations 2014*, are applicable to the proposed residential subdivision.
Table 2.4 Key Proposal features – Waste (Operation)	Wastewater ponds	it is noted in the Report that; • The Wurrumiyanga subdivision will be connected into the existing sewerage system infrastructure with wastewater transferred to the wastewater treatment ponds. • The wastewater treatment ponds are currently operated under WDL 223-01, under the Waste Management and Pollution Control Act and governed by PWC. • No upgrades to the existing wastewater treatment ponds is required to service the subdivision, the existing infrastructure has been designed to have sufficient capacity for future development. While the wastewater treatment ponds may be calculated and sized appropriately to accommodate the additional load from the 70 lot subdivision, the ponds have been known to fail in recent years which results in effluent overflowing into adjacent bushland (and a nearby creek) when the system becomes inundated by seasonal heavy rainfall. EH offer the following points for consideration; • When the wastewater ponds overflow or are discharged into adjacent bushland and the nearby creek, pooling occurs outside the fenced boundaries of the wastewater system which is not barricaded and is easily accessible to local residents. • The first overflow was reported to NT EPA and PWC in 2021, with EH and NT Entomology having documented consecutive over flows on 01 FEB 2023, and 02 FEB 2024. • Tiwi Land Council have also reported overflow events, noting concern for the environment and human health.

		• PWC notified NT EPA on 21 JAN 2022 of an overflow with notes to the effect 'the WWS has not been able to sustain the volume of effluent from the community, with rainfall resulting in increased inflows and infiltration of stormwater which has increased pond water levels resulting in overflowing'. • In 2021, EH were advised that Power and Water had a capital works program that included the upgrade of the Wurrumiyanga waste water ponds, however it appears this did not eventuate and no works have been completed to EH's knowledge. • Environmental Health would recommend the revisiting of the PWC capital works upgrades to the wastewater treatment ponds. This is the ideal time/opportunity to expand the capacity of the wastewater treatment ponds to account for the seasonal overflow events of the ponds. This would assist in the reduction of the health risks to the surrounding community.
Table 4.1 Environmental Factors not assessed and brief justification	People – Human Health	It is known that the pooling of effluent presents an environmental health risk through direct human contact and in the potential increase of mosquito breeding and spread of mosquito borne disease. • It is to be expected that if the wastewater ponds remain unchanged, the additional loading from the proposed subdivision coupled with annual seasonal rainfall will result in more frequent and severe overflow events and potential for surface water conditions that support mosquito breeding. • There has been attempts to mitigate these overflow events in the past, with wastewater from ponds being discharged into adjacent bushland to avoid overflowing, however the end result is the same with wastewater being left to pool on adjacent land which presents an environmental and human health risk. • A letter (EDOC2021/314589) from EH to PWC was sent in 2021 advising on the overflow events and of the potential risk of serious mosquito borne disease (including Japanese Encephalitis Virus (JEV)) and the risk of direct human contact with the pooling wastewater. Please note that the health risks of mosquito borne disease is not limited to JEV.