# Submission on the referral

## Groote Holdings Aboriginal Corporation - Little Paradise Development

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

**Government authority:** Department of Health, Health Protection

**Summary:** The Health Protection Branch of NT Health conducted a review of the human health risks associated with the project. After careful consideration of the information presented by the proponent regarding air quality, biting insect management, water quality and safety, and wastewater management, we have concluded that a standalone human health impact assessment is unnecessary. Notwithstanding, there are some gaps in information that the proponent needs to address. See below.

| Section of Referral | Theme or issue | Comment |
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| Main report – section 6.10 and 6.7 | Human Health risks (including air quality) | The Little Paradise Aboriginal satellite community, a sensitive residential receptor of six houses and population of 27 people (BushTel, 2023) is approximately 120 m to the north of the proposed wharf and biosecurity area. The proponent has identified that "given the isolated nature of the nearby Little Paradise residences, there is potential for project activities to result in community disturbance through noise, vibration, air and light emissions." The proponent has indicated that proposed mitigation and control measures will reduce the risk to low. As a result of this assessment, we have formed the view that further human health impact assessment in relation to this risk is unnecessary.<br><br>Biting insect presence is another risk identified by the proponent. The proponent has developed an insect management plan to reduce the risk of disease transmission through biting insects. The proponent reported that "measures to protect the health of workers and island residents have been informed by a survey and reporting from NT Health." Based on the measures outlined by the proponent, the risk of disease transmission through biting insects has been reduced to moderate. |
| Main report – section 2.3.2, 2.4.4, 6.4.2, Appendix H Bore report and Appendix C | Water quality | In one part of the main report section 2.3.1, the proponent indicated that "potable water supply for the site may be from two source options. The first option is trucking water from the high yield and reliability [sic] water supply in the south of Groote Eylandt. A second option being considered is abstraction from nearby bores RN042967, RN042968 and RN042969 and then trucking or piping (small diameter) to a storage tank at the logistics and base camp. Under this scenario the water would be treated onsite (e.g., UV and/or chlorine) and distributed from the storage infrastructure." In section 2.4.4, the proponent also indicated that "due to the Project being located in a remote area, water will be extracted from groundwater production bores (once installed). GHAC is investigating a local supply. As there are no nearby perennial creeks or springs nearby, GHAC are seeking to source water from local aquifers. Two bores of at least 2 L/s each delivering potable water are needed for the camp." The lack of decision on the |

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| | | preferred potable water source is a gap the proponent has to clarify as the source of water is needed to adequately assess risk to human health from the drinking water.<br><br>The main report and Appendix H Bore Report also indicated the presence of "elevated concentrations of aluminium (up to 5.5 mg/L) and iron (up to 1.9 mg/L) in two of the bores" which may serve as potential potable water sources. According to the WHO guidelines for Drinking Water Quality, "there is little indication that orally ingested aluminium is acutely toxic to humans despite the widespread occurrence of the element in foods, drinking-water and many antacid preparations." Furthermore, the Australian Drinking Water Guidelines (ADWG) do not establish a human health guideline for aluminium. However, the concentration of 5.5 mg/L of aluminium observed in the two bores surpasses the ADWG aesthetic guideline of 0.2 mg/L. The concentration of Iron measured at 1.9 mg/L in the boreholes also surpasses the ADWG aesthetic guideline value of 0.3 mg/L for Iron. High iron concentrations stain laundry and fittings. Iron bacteria also cause blockages, taste/odour, and corrosion. The proponent has not identified any mitigation or control measures to address these issues.<br><br>The report identified "biological and human health implications (primary contaminant of concern being microbial from onsite treated effluent disposal). Contamination of downstream environments and groundwater sources resulting in human health risks that would necessitate the prohibition of groundwater as a source of water supply for the Project and potential prevention of recreation and fishing in discrete areas." Although the proponent has classified the residual risk as low, it remains uncertain whether the proposed measures will guarantee the quality of drinking water. This concern is particularly pertinent given that the boreholes have already been located, and the on-site wastewater disposal method may result in groundwater contamination due to seepage. It is also not clear if a drinking water management plan will be put in place by the proponent if they decided on the private water supply through the boreholes. NT Health has published guidelines on private water supplies, which are available here.<br><br>The proponent has not provided any information on the existing source of potable water for the Little Paradise Community and how the project will affect it. |
| Main report – section 2.4.5 | Wastewater | The proponent has identified that the Project will use "On-site primary wastewater treatment system with absorption bed land application." Part 6 of the Public and Environmental Health Regulations 2014 apply to this action. According to the regulation 74 (1) (b) the owner or occupier must operate, maintain and service the system in accordance with the prescribed code for wastewater management, available here.<br><br>Furthermore, the proponent indicated that "the logistics and base camp and the aquaculture facility will each be serviced with "on-lot" Wastewater Management Systems to cater for disposal and re-use were deemed possible. The sites will require a SSE to be carried out by a suitably qualified site and soil assessor, in accordance with NT Code of Practice for Wastewater Management Systems 2020." It is critical for the proponent to consider the possibility that there could be contamination of ground water due to seepage from on-site sewage management systems and wastewater infrastructure and ensure that the potable sources are not contaminated. |

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| | | Additionally, re-use of waste water as the proponent alludes to will require Chief Health Officer approval in accordance with division 6 of the Public and Environmental Health Regulations 2014 if a high exposure use is envisaged. The proponent needs to provide further detail on waste water re-use as there was only a brief mention and no other details were provided.<br><br>Also, it is not clear how close the waste water system will be to the existing potable water source of the Little Paradise community. |
| Main report – section 2.3.3 | Food Safety, not specifically mentioned | The proponent is constructing and operating a base camp with the possibility of establishing a commercial kitchen. While the proponent did not specifically mention the establishment of a commercial kitchen, it is alluded to in measures to reduce risk in relation to disposal of fats, oils and grease. The failure to address food safety is a gap the proponent has to address. The establishment and operation of a commercial kitchen falls under the purview of the Food Act 2004. If the proponent intends to operate a commercial kitchen, then the kitchen must be installed and operated in accordance with the Food Act. A food business registration is required. Refer to the Health requirements for mining and construction camps. |