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Our Ref: 05/2458
Your Ref: EPA Assessment 2225

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Prof. Matthew Tonts
Chairman
Environmental Protection Authority
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Dear Prof. Tonts

BUNBURY OUTER RING ROAD SOUTHERN SECTION – ASSESSMENT 2225 – FRIENDS OF THE GELORUP CORRIDOR CORRESPONDENCE

Thank you for the opportunity to provide a response to the letter provided to the EPA by the Friends of the Gelorup Corridor (FOGC), dated 26th April 2021. Main Roads provides the following advice in response to their letter.

The two items raised by FOGC are matters that are commonly managed across the entire state road network and are not unique to the Gelorup area.

Potential water contamination

Main Roads has a strong reputation for effectively managing stormwater runoff within its extensive road network. This reputation has been built on protecting sensitive receivers and maintaining hydrological regimes. To ensure it manages stormwater effectively and in accordance with best practice, Main Roads works closely with Department of Water and Environmental Regulation (DWER).

The proposed road drainage strategy for the BORR project is based on at-source detention and infiltration. This consists of passive sheet flow that collected by adjacent vegetated surfaces and open channels and basins at the toe of the embankment for management of common rainfall events. Where overland flow of road runoff is not possible, in kerbed locations or in high fill sections, underground pit and pipe drainage or kerb openings are proposed. The erosion potential from the outlets of pipework or kerb openings will be managed with rock protection.

The majority of road runoff will be directed into a proposed shallow water quality management basins or existing localised depressions. These location of these areas is based on the risk to the receiving system based decisions as the guiding principal (risk of spill occurring and significance and accessibility to the receiving system), they are designed to overtop in major storm events and flows are directed to existing natural flow paths, creeks and rivers after management of both common rainfall events and spills.

The pit and pipe networks are directed away from areas of standing / ponding water. Where the drainage network discharge must occur near these locations, grassed swales and vegetated open channels will be used to treat the discharge before reaching this standing water.



For the management of transverse (cross road) drainage, the strategy is to maintain the hydrologic regime of all crossings where they may be interrupted by the Proposal.

The detailed design stage of BORR will continue to refine the design to ensure the hydrological regimes and quality of surface and groundwater are maintained and environmental values protected.

In determining the potential impacts the construction and operation of BORR may have on inland waters, the ARI has taken into account that the BORR is being constructed in a landscape that has been highly modified due to historical clearing, farming, artificial drainage and rural residential development. In taking this context into account, the ARI has considered the proposed management and engineering controls to reduce the risk of the contamination of surface water and groundwater. These controls are listed in Section 4.6.6 of the ARI.

As you are aware, Main Roads has completed a pre-construction surface and groundwater sampling program to establish baseline water quality across the BORR alignment. Water quality monitoring has continued on a quarterly basis and the data will be used to monitor potential impacts BORR may have on groundwater and surface water resources. The comprehensiveness of this monitoring programme provides the data required to monitor for potential changes to water quality and determine where management actions may be required.

In regard to the risk of mosquitoes breeding and spreading Ross River Virus (RRV), the retention basins are not designed to store water for prolonged periods of time. Accordingly, the existing breeding sources for the vector are likely to remain the key areas for the Shire of Capel to target in their RRV control programme.

Risks of airborne contamination of drinking water supplies

Main Roads manages an extensive road network that shares property boundaries with a large number of residents that have rainwater tanks, noting several Gelorup properties share a boundary with Bussell Highway.

The presence of airborne contamination within drinking water supplies has not be identified as an issue for our roads. According to the 2011 National Guideline, Guidance on use of rainwater tanks, “traffic emissions are unlikely to cause significant impacts on the quality of rainwater collected in domestic tanks.”

A review of the Washington State University Extension document cited in the FOGC letter, identified that the main sources potential contaminants in roof-top collected rain barrel water were:

- heavy metals principally generated from metal flashing, gutters and galvanised nails
- biological contaminants principally generated from leaves, animal droppings and dead animals
- pesticides as potent contaminants for weeks or months after entering water in rain tanks.

Contrary to the statements made within the FOGC letter, diesel and vehicle traffic were not identified in this report as a source of contaminants for rooftop collected water.



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The WA Department of Health (Water tanks on your property (healthywa.wa.gov.au)) provides recommendations for land owners to protect the quality of rainwater collected for potable use. These recommendations include:

- Keep roof catchments, including the gutters and down pipes, clean and clear of leaves.
- Remove overhanging branches of trees, shrubs and potential perches for birds such as wires and TV antennas.
- Cover the inlet and overflow of the tank with a mesh to prevent birds, animals and insects from gaining direct access to the water.
- Make sure the tank has a cover to prevent light from reaching the water, as light encourages the growth of bacteria and algae. The cover should have a tightly sealed hatch, to allow access to the tank for cleaning and inspection purposes.
- Each year allow the first good rains to rinse the roof and gutters and run to waste, by using a first flush diversion device. Using a first flush diversion device will prevent the first portion of roof runoff, which is likely to collect contamination, from entering the tank.
- Ensure that guttering and pipework is self-draining, or fitted with drainage points to prevent corrosion and contamination by metal.
- Maintain the leaf trap, as this will reduce the amount of leaves and debris that enters the rainwater tank through the inlet.

I trust that that Main Roads response addresses the issues raised in the FOGC correspondence.

Yours sincerely

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MANAGER ENVIRONMENT