

# RTA's Water Policy

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The RTA's water policy is:

*"The Roads and Traffic Authority (RTA) will use the most appropriate water management practices in the planning, design, construction, operation and maintenance of the roads and traffic system in order to:*

- *conserve water;*
- *protect the quality of water resources; and*
- *preserve ecosystems."*

## **Why a Water Policy for RTA ?**

Like other development works, roads and traffic infrastructure development activities contribute to the alteration of natural drainage patterns of both surface water and groundwater. Furthermore, during operation and maintenance of roads a variety of pollutants enter into the roadside environment which affect the water quality. In view of these, management of both water quality and quantity is important and are relevant to the RTA in the management of the roads and traffic systems.

The water quality and quantity issues related to roads and traffic systems are best identified and addressed under different stages of road development works such as planning, design, construction, operation and maintenance. The following discusses the water issues associated with different stages of road development works and RTA's policy for addressing those issues for each stage.

### **Planning**

From the water management point of view, the overall aim during the planning phase should be to develop an integrated approach to identify likely impacts on both water quality and quantity and to plan precautionary measures for their mitigation. Sensitive environments such as wetlands, riparian and other ecosystems are to be identified in the planning phase. Consultation with other State government and non-government agencies, and community groups is an ongoing commitment.

#### *Action:*

Adopt mitigation measures to aim for minimal alteration of natural drainage patterns of both surface and ground water, and their quality, so that the health of roadside environments and the receiving water bodies are preserved at all times.

*RTA's policy is to assess all likely water quality and quantity aspects associated with road development activities during the planning phase and develop an integrated approach to mitigate likely impacts.*

## **Design**

Road design plays an important role in determining both the short and long-term water quality and quantity aspects of road run-off. In order to address these water issues new road design concepts which are “environmentally friendly” should continue to be investigated, developed and implemented. Some of these design features include edge-drain systems, porous pavements, drainage through created wetlands, grass swales, detention basins and median strips. These features retard roadside surface flows as well as retaining road run-off pollutants.

### *Action:*

Adopt road design principles to maintain existing surface and groundwater flows and incorporate containment structures to contain and treat road run-off to protect environmentally sensitive areas, where necessary.

*RTA’s policy is to design roads to ensure that the existing natural overland flows and the groundwater regimes in and around road corridors are either retained or will have only minimum alterations. Appropriate technologies to contain and treat run-off to avoid or minimise impacts on sensitive aquatic environments are to be incorporated in the road design.*

## **Construction**

During road construction, there is potential for the water quality in and around construction corridors and/or sites to deteriorate, mainly due to uncontrolled erosion and sedimentation. In addition, there is the potential to pollute soil and water from accidental spillage of road construction materials, leakage or spillage of fuels, lubricating and hydraulic oils from construction equipment. Further, wash-water run-off from construction equipment could contaminate soil and water during construction.

### *Action:*

Appropriate best management control measures are to be implemented to mitigate potential deleterious effects on both water quality and quantity in all areas of construction sites.

*RTA’s policy is to implement effective water management practices and procedures as an integral part of on-site construction management to ensure that water quality and quantity impacts on the environment are minimised.*

## **Operation**

Operation of roads leads to build up of contaminants on road surfaces, median areas and roadside corridors. During rain events these contaminants, depending on their physical and chemical properties, are transported by road run-off into surrounding water bodies. In order to minimise the impact of such contaminants on the surrounding environment innovative structural and non-structural measures capable of controlling road run-off pollutants are to be implemented by the RTA.

*Action:*

Structural measures such as detention basins, gross pollutant traps, grass channels and created wetlands need to be maintained. Non-structural measures such as community involvement in reducing roadside litter and developing an ownership for good vehicle maintenance practices need to be encouraged and implemented to prevent pollution at the source.

*RTA's policy is to develop and maintain both structural and non-structural measures to minimise water pollution during operation of roads.*

## **Maintenance Works**

Activities related to road maintenance have the potential to discharge pollutants into the surrounding environment. Some of these activities include road and bridge maintenance works, operation of maintenance depots and use of herbicides for roadside weed control. These activities, depending on their nature and proximity to water courses, have the potential to discharge pollutants either directly or indirectly into nearby creeks, rivers and lakes etc.

*Action:*

On-site control measures together with adherence to good work practices need to be developed and implemented to ensure minimum discharge of pollutants originating from all maintenance works.

*RTA's policy is to identify potential water pollution issues related to all RTA maintenance activities and to ensure that those activities are performed in an environmentally responsible manner to avoid and/or minimise impacts on receiving water bodies and associated aquatic ecosystems.*

## **Water Conservation**

The RTA, through its water policy, is committed to instituting water conservation initiatives, where feasible, as a resource conservation measure. Some RTA activities, especially road construction and maintenance works, involve work practices which utilise large volumes of potable water. In addition, potable water is used to enhance or maintain roadside vegetation, particularly during drought periods.

*Action:*

Water efficient work practices, such as water reuse, recycling and the use of treated effluent for roadside irrigation, and road construction and maintenance works need to be investigated. These should be implemented when cost or environmental benefits are identified.

*RTA's policy is to implement appropriate water conservation practices and principles to reduce potable water usage and to encourage use of stormwater and treated wastewater in all RTA activities.*