

9. ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

9.1 Introduction

9.1.1 This section summarizes the findings in the EIA and evaluates the need for environmental monitoring and audit (EM&A) in construction and operational phases. The aim of this EM&A is to continuously monitor the changes of environmental parameters and the effectiveness of mitigation. This helps early identification of unacceptable environmental deterioration and allows formulation of rectification work at an early stage.

9.1.2 Methodology and requirement of monitoring work are detailed in a standalone Environmental Monitoring and Audit Manual (EM&A Manual).

9.2 Air Quality

9.2.1 With implementation of dust suppression measures, no unacceptable construction air quality impact is anticipated. Regular air quality monitoring should be carried out at representative ASRs to ensure that relevant air quality standard can be met.

9.2.2 Weekly site audit should be carried out to check the implementation status of the recommended air quality impact mitigation measures throughout construction period.

9.2.3 Based on the modeling results, the vehicular emissions are unlikely to cause exceedance of the air quality objectives at ASRs for all modeled parameters in the operational phase. No monitoring or audit is proposed.

9.3 Noise

9.3.1 Based on the modeling results, construction noise exceedance at NSRs is anticipated even if mitigation measures are implemented properly. However, the adverse residual impact was reduced to be minimal and the impacts are temporary and reversible. Regular noise monitoring should be carried out at representative NSRs to ensure that relevant noise standard can be met.

9.3.2 Weekly site audit should be carried out to check the implementation status of the recommended noise impact mitigation measures throughout construction period.

9.3.3 In the operational phase, traffic noise generated in the newly constructed road is unlikely to contribute to significant impact at the NSR. No monitoring or audit is proposed.

9.4 Water Quality

9.4.1 Potential water quality impact may arise from accidental discharge of surface water, wastewater and chemical spillage into the storm drain. No adverse construction water quality impact is expected if the mitigation measures are implemented properly. No water quality monitoring is proposed.

9.4.2 Weekly site audit should be carried out to check the implementation status of the recommended water quality impact mitigation measures throughout construction period.

9.4.3 However, effluent testing should be carried out at intervals stipulated in the discharge license issued by the EPD to ensure compliance with the requirement.

- 9.4.4 In the operational phase, surface runoff will be collected and screened by road drainage system before entering the storm water drains. As insignificant water quality impact is anticipated, no monitoring or audit is proposed.

9.5 Waste Management

- 9.5.1 Waste includes Construction and Demolition (C&D) materials and marine sediment from excavation, site formation and demolition, chemicals from plant maintenance and general refuse. No adverse waste impact is expected if the mitigation measures are implemented properly. The contractor should formulate waste management measures on waste minimization, storage, handling and disposal in a Waste Management Plan as part of Environmental Management Plan in accordance with ETWB TCW No.19/2005.

- 9.5.2 Weekly site audit should be carried out to check the implementation status of the recommended waste management measures throughout construction period.

Waste is not a concern in the operational phase. No monitoring or audit is required.

9.6 Landscape and Visual

- 9.6.1 During the construction phase, construction activities, temporary storage of construction plant and materials, work area, traffic and road diversions and dust emission may lead to landscape and visual impacts. The residual impacts are considered acceptable after mitigation.

- 9.6.2 Site audit should be performed once every two weeks to check the implementation status of the recommended landscape and visual impact mitigation measures throughout construction period.

- 9.6.3 During the operational phase, the newly built roads will be a source of landscape and visual impact. The residual impacts are considered acceptable after mitigation. Monthly monitoring on tree establishment should be undertaken during the first operational year by HyD's contractor.