

9a. LANDSCAPE AND VISUAL IMPACT (TTAL SITE)

9a.1 Introduction

9a.1.1.1 EM&A for landscape and visual resources shall be undertaken by the contractor during the design, construction and operation phases of the Project. This section presents the requirements of the baseline review, and the monitoring of the design, implementation and maintenance of the landscape and visual mitigation measures during the design, construction and operation phases of the Project.

9a.2 Mitigation Measures

9a.2.1.1 The landscape and visual impact assessment of the EIA Study recommended a series of mitigation measures to ameliorate the landscape and visual impacts of the Project. The measures for both the construction and operation phases as recommended in the EIA Report are summarized in **Table 9a.1**.

Table 9a.1 Recommended Landscape and Visual Mitigation Measures

ID. No.	Landscape and Visual Mitigation Measure
<i>During Construction Phase</i>	
<i>Mitigation for both Landscape & Visual Impacts</i>	
MLVC-01	Grass-hydroseeded bare soil surface.
MLVC-02	<p><u>Provision of Water Pond as habitat for Little Grebe</u></p> <p>A compensatory habitat for Little Grebe will be provided as an ecological mitigation measure for the loss of habitat within the project site. This compensatory habitat, which would be a landscape area with water pond and plants, is also considered as a landscape mitigation measure for the loss of ash lagoon. The final design of the habitat will be determined in the Habitat Creation and Management Plan. The compensatory habitat as shown in Figure 10a.9 of the EIA Report and the photomontages is for illustration purpose.</p>
MLVC-03	<p><u>Existing Trees Preservation within Works Areas</u></p> <p>No trees should be felled or transplanted unless they are inevitably affected by the proposed works. Affected trees should be transplanted under circumstance where technically feasible. A tree survey report should be prepared and a tree felling application should be submitted to Government during the detailed design stage for approval before the site formation works commence. The numbers, locations, species and sizes of the trees to be transplanted or felled should be clearly addressed. All existing trees within work sites shall be properly maintained and protected for their crowns, trunks and roots.</p>
MLVC-04	<p><u>Transplanting of Trees to Adjacent Locations</u></p> <p>The existing trees recommended to be transplanted shall be directly transplanted to other locations in vicinity where no construction will take place.</p> <p>The construction programme should also allow sufficient time for root pruning and rootball preparation prior to transplanting.</p>
MLVC-05	<p><u>Compensatory Landscape Planting</u></p> <p>Implementation of compensatory planting with heavy standard trees shall be of a ratio not less than 1:1 according to tree quantity and total tree trunk diameter lost.</p>

ID. No.	Landscape and Visual Mitigation Measure
MLVC-06	<p><u>Landscape Design</u></p> <ol style="list-style-type: none"> 1) Early planting using fast grow trees and tall shrubs at strategic locations within site will be implemented to block view corridors to the site from the VSRs, and to locally screen haul roads, excavation works and site preparation works. 2) Tree species of dense tree crown will be used to serve as visual barrier. 3) Hard and soft landscape treatment (e.g. trees and shrubs) of open areas within development will be implemented to provide shade and shelter and a green appearance from surrounding viewpoints. 4) Planting strip would be provided along the periphery of the project site. 5) Selected plant species should be suitable for coastal condition.
MLVC-07	<p><u>Reuse Existing Boulders</u></p> <p>Boulders cleared from the ash lagoon during site formation will be reserved and used as part of the landscape design to preserve its “natural look”.</p>
MLVC-08	<p><u>Greening Design (Rooftop & Vertical Greening)</u></p> <ol style="list-style-type: none"> 1) Rooftop and vertical greening (vertical building envelope) shall be implemented to increase the amenity value of the proposed works, moderate temperature extremes and enhance building energy performance, as well as visually improve the development. 2) Vertical greening shall be implemented for the lower portion of chimney (~20-25m high).
Mitigation for Visual Impacts	
MVC-01	<p><u>Visual Mitigation and Aesthetic Design</u></p> <ol style="list-style-type: none"> 1) Recessive colour tone is proposed for the façade of the ancillary facility buildings (e.g. incinerator plant) to blend in with the nature. 2) Architectural feature (e.g. light weight aluminum structure is incorporated with the tapered chimney of recessive colour tone to diminish its “chimney like” appearance. 3) Stone as a natural material is proposed at the lower portion of the building façade and the chimney to compliment with the surrounding environment. 4) Change of material at different portions of the building helps to reduce the bulkiness. 5) Green roof structure (with irrigation and drainage system) in curvilinear strips is proposed to cover the rectilinear building bulk. Roof strips of different curvatures are further broken down to echo with the contour of the hillside slope behind.
MVC-02	Security floodlight for construction areas shall be controlled at night to avoid excessive glare to the surrounding receiver.
MVC-03	The construction sequence and construction programme shall be optimized in order to minimize the duration of impact.
MVC-04	The backfilling materials for site formation & construction materials / wastes on site shall be stored at a maximum height of 2m and covered with an impermeable material of visually unobtrusive material (in earth tone).
MVC-05	The number of construction traffic to / from the project site shall be maintained to practical minimum.
During Operation Phase	
Mitigation for Landscape Impacts	
MLO-01	<p><u>Planting Maintenance</u></p> <p>Proper planting maintenance and replacement of defective plant species on the new planting areas to enhance aesthetic and landscape quality shall be provided.</p>
Mitigation for Visual Impacts	
MVO-01	<p><u>Environmental Education Centre to Promote Waste Reduction</u></p> <p>An Environmental Education Center, in which regular exhibitions and lectures to promote environmental awareness and waste reduction concept would be provided, shall be developed as a part of the IWMF for the general public to alleviate negative public perceptions of the development.</p>

ID. No.	Landscape and Visual Mitigation Measure
MVO-02	<u>Control of Light</u> The numbers of lights and their intensity shall be controlled to a level good enough to meet the safety requirements at night but not excessive.
MVO-03	<u>Control of Operation Time</u> The frequency of waste transportation shall be minimized to practical minimum (e.g. limit the reception of MSW from 8 am to 8 pm).

9a.2.1.2 The mitigation measures during construction shall be implemented from the commencement of the works and shall be applied for the whole duration of the construction period. The mitigation measures during operation will be included in the detailed design and shall be constructed or built up during the construction. Management and maintenance for all mitigation measures shall follow ETWB TCW No. 2/2004 Maintenance of Vegetation and Hard Landscape Features.

9a.2.1.3 The required numbers and locations of compensatory trees would be determined and agreed with Government during the tree felling application process under ETWB TCW 3/2006.

9a.3 Design Phase Audit

9a.3.1.1 The contractor shall incorporate the recommended mitigation measures in the detailed design and shall ensure the potential conflicts of the mitigation measures with the works under the Project and other interfacing projects are resolved prior to construction.

9a.3.1.2 Audits of the detailed design against the recommendations of the landscape and visual impact assessments within the EIA should be undertaken by a Registered Landscape Architect (RLA), who should ensure the fulfilment of the intentions of landscape mitigation measures, and a Registered Architect (RA), who should ensure the fulfilment of the intentions of visual mitigation measures.

9a.4 Baseline Review

9a.4.1.1 A baseline review shall be undertaken prior to the commencement of the construction works. The purposes of the review are as follows:-

- To check the status and any changes of the baseline Landscape Resources, Landscape Character areas and Visually Sensitive Receivers (VSRs) within and immediately adjacent to the works areas;
- To determine whether amendments in the design of the landscape and visual mitigation measures are required; and
- To recommend any necessary amendments to the design of the landscape and visual mitigation measures due to the above changes, if any.

9a.4.1.2 Any changes to the mitigation measures that may be recommended as a result of the baseline review shall be taken into account.

9a.5 Construction and Operation Phase Audit

9a.5.1.1 A specialist Landscape Sub-Contractor (on the approved Government list) shall be employed by the contractor for the implementation of landscape establishment works and the compensatory planting, as well as the subsequent maintenance operations during the one-year maintenance period which will be the first operational year of the Project.

- 9a.5.1.2 All landscape measures, including compensatory planting, undertaken by both the contractor and the specialist Landscape Sub-Contractor during the construction phase and the first year of the operation phase shall be audited by a Registered Landscape Architect on a regular basis to ensure compliance with the intended aims of the measures and the effectiveness of the mitigation measures. Site inspections should be undertaken at least once every two weeks throughout the construction period, and once every month during the first operational year. After the one-year maintenance period, the landscape maintenance and monitoring shall be carried out by the Contractor.
- 9a.5.1.3 All visual measures undertaken by the contractor and the specialist Landscape Sub-Contractor during the construction phase and the first year of the operation phase shall be audited by a Registered Architect on a regular basis to ensure compliance with the intended aims of the measures and the effectiveness of the mitigation measures. Site inspections should be undertaken at least once every two weeks throughout the construction period, and once every month during the first operational year.
- 9a.5.1.4 If there is repeated non-compliance of the landscape and visual mitigation measures, EPD shall be notified as necessary.