

EIA at Sunset Way

Executive Summary for EIA Report

Commissioned by NParks on behalf of the Housing & Development Board (HDB)

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1 Executive Summary

1.1 Introduction

Singapore Environmental Consultancy Solutions Pte Ltd (a part of Aurecon Singapore Pte Ltd; hereafter 'Aurecon') was appointed by the National Parks Board (NParks), on behalf of Housing Development Board (HDB) to carry out the Environmental Impact Assessment (EIA) for Sunset Way. The total study area (the "Study Area" in Figure 1-1) is approximately 23 ha, bounded by Brookvale Drive (north), Sunset Way private estate (west), Sunset Way (south), and existing HDB precinct/Clementi Road (east). According to URA's Master Plan 2025, majority of the Study Area is designated for residential use, with some land designated as reserve site to the south where the Old Jurong Line (OJL) is located and an existing HDB neighbourhood park (Figure 1-1). The northeastern part of the Project area also has the ongoing construction of CR16 MRT Station as part of the Cross Island Line.

The proposed developments within the Study Area necessitate a comprehensive approach that includes: (1) establishing a clear understanding of the current ecological and environmental conditions present at the Site; (2) evaluating the potential effects the Project may have on local biodiversity and the environment throughout both its construction and operational stages; (3) identifying and recommending effective mitigation strategies to protect and maintain existing ecological networks, ensuring these are integrated into the future development plans; and (4) formulating a detailed Environmental Monitoring and Management Plan (EMMP).

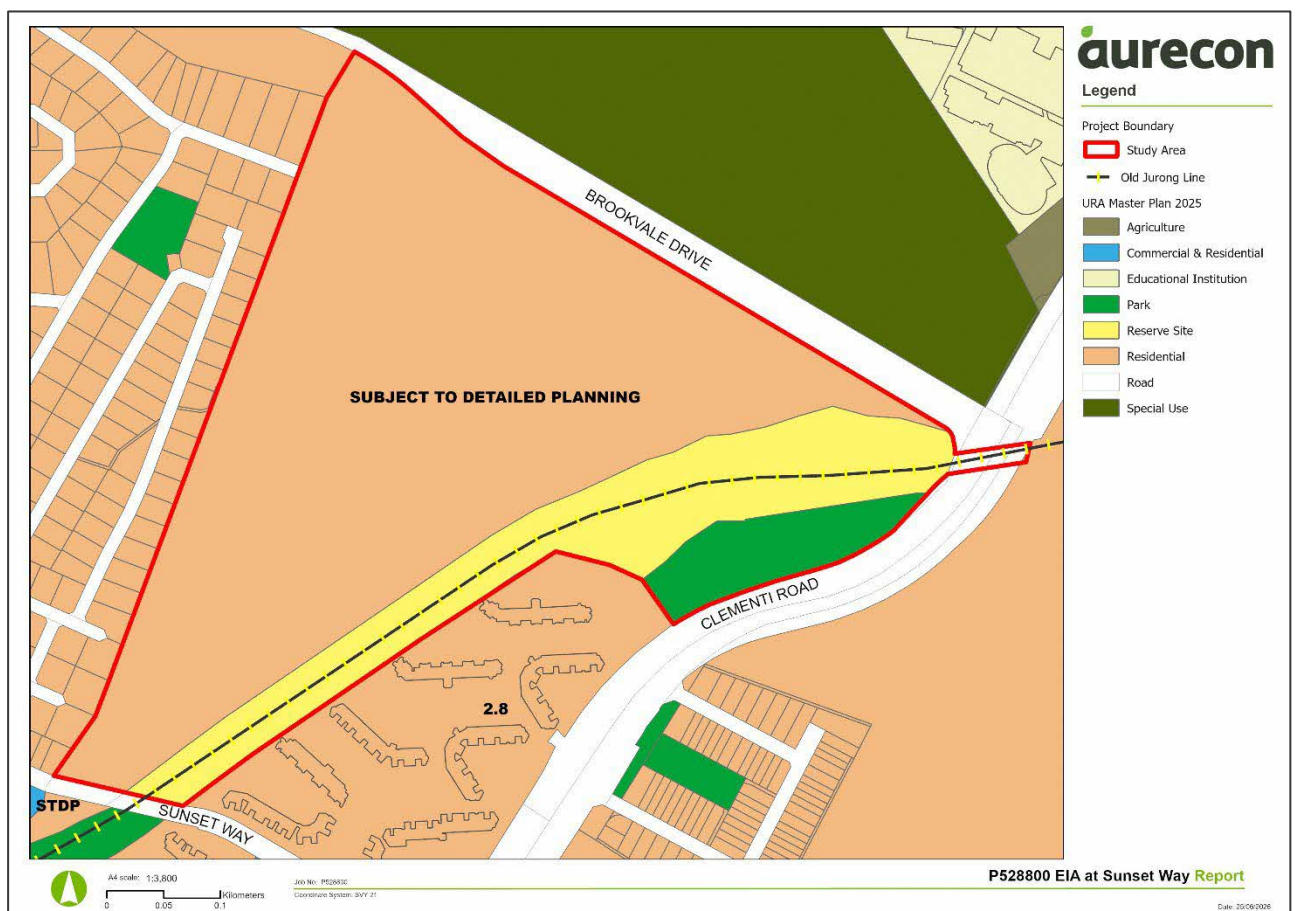


Figure 1-1 Map of Study Area and Proposed Land Use as shown on URA's gazetted Master Plan 2025

1.2 Objectives of Environmental Impact Assessment (EIA)

The Environmental Impact Assessment (EIA) evaluates the potential environmental impacts of the proposed development during both construction and operation and identifies measures to prevent or minimise these impacts. Its key objectives are to:

- Establish baseline conditions for biodiversity and hydrology in the Study Area, taking seasonal variations such as bird migration into account.
- Assess potential environmental impacts arising from construction, operation, and related activities.
- Recommend mitigation measures to minimise potential significant adverse impacts.
- Propose a preliminary Environmental Management and Monitoring Plan (EMMP) to ensure compliance with regulations and relevant guidelines.
- Engage government agencies, stakeholders, and Nature Groups in the process.

1.3 Environmental Baseline Findings

A summary of the key findings on the environmental aspects is provided below.

1.3.1 Ecology and Biodiversity

Habitat Mapping

A total of five (5) main habitat types namely “Albizia-dominated Secondary Forest”, “Abandoned Land Forest”, “Native-dominated Secondary Forest”, “Scrubland” and “Managed Vegetation” were found (Figure 1-2), as well as waterbodies.

The Abandoned-land Forests and Native-dominated Secondary Forest were the dominant habitat types comprising 44.71% and 21.05% of the Study Area respectively (Table 1-1). This was followed by Albizia-dominated Secondary Forests (20.13%) and Managed Vegetation (7.83%). Waterbodies comprised roughly 0.86% of the Study Area.

Table 1-1 Overall Habitat Types and Respective Proportions within the Study Area

Habitat Type	Area (ha)	Percentage Coverage (%)
Abandoned Land Forest	9.98	44.71
Native-dominated Secondary Forest	4.70	21.05
Albizia-dominated Secondary Forest	4.49	20.13
Managed vegetation	1.75	7.83
Scrubland	1.21	5.42
Waterbodies	0.19	0.86
Total	22.32	100.00



Figure 1-2 Habitat Types across Study Area

Flora Inventory

The terrestrial flora baseline survey recorded a total of 286 species belonging to 95 families. Of which 153 species are native (53.50%), 108 species are non-native (37.76%), and 12 species are cryptogenic (4.20%). A total of 16 species (5.59%) could not be identified with certainty to species level to ascertain their origin or conservation status. A total of 49 conservation-significant (CS) species were observed, of which 39 species are from wild populations, while 10 are deemed to be from cultivated populations. Notably, five (5) Critically Endangered (wild) species were recorded: *Bouea macrophylla*, *Cryptocarya rugulosa*, *Dalbergia junghuhnii*, *Xanthophyllum stipitatum* and *Xanthophyllum ellipticum* (Figure 1-3).

Tree Inventory

A total of 1661 trees totalling 59 species – comprising 33 native species, 21 non-native species and three (3) cryptogenic species were recorded, with two (2) indeterminate species. There were six (6) CS tree species with girth $\geq 0.3\text{m}$ recorded, namely: *Macaranga griffithiana*, *Oncosperma horridum*, *Cerbera odollam*, *Artocarpus dadah*, *Glochidion zeylanicum* var. *zeylanicum* and *Elaeocarpus ferrugineus*.

Large Specimen Inventory

A total of 115 large specimens ($\geq 3\text{ m}$ girth), comprising 16 species, were recorded from the Study Area. Of these, 22 specimens are native (19.10%), 68 are non-native (59.30%), one (1) is cryptogenic (0.90%) and the remaining are indeterminate.

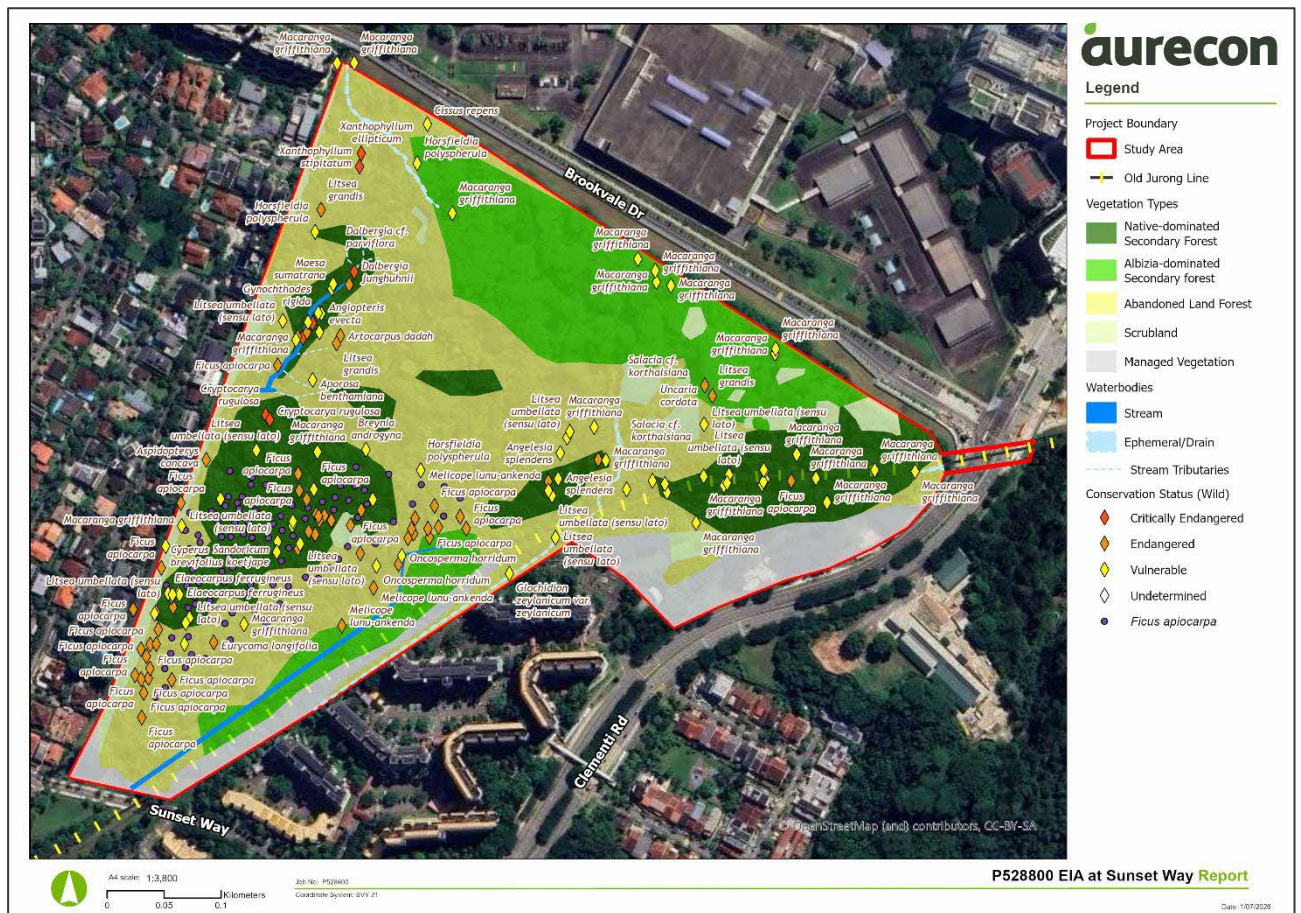


Figure 1-3 CS Flora across Study Area

Fauna Inventory

Overall, a total of 113 fauna species were recorded – 103 from transect surveys, three (3) only from bat song meters, three (3) only from camera traps, and four (4) only from aquatic surveys – were recorded across five (5) different Taxa: Birds, Mammals, Herpetofauna, Butterflies, Odonata. Among these, six (6) species of conservation significance were identified from the avifauna and mammal taxa, namely: the Buffy Fish-owl, Straw-headed Bulbul, Changeable Hawk-eagle, Oriental Magpie-robin, Bamboo Bat sp. and Long-tailed Macaque (Figure 1-4).

The terrestrial fauna transect surveys for both migratory and non-migratory periods recorded a total of 103 species. This included 35 species of avifauna, nine (9) species of mammals, 24 species of butterflies, eight (8) species of odonates and 21 herpetofauna species.

Roadkill Transect Inventory

The roadkill transect surveys yielded no results. Desktop studies and information sourcing from open and private repositories yielded no relevant data either.

Camera Trapping Inventory

Based on an average of 69 trapping nights – with a total of six (6) camera traps deployed – a total of 22,788 footages (consisting of both photos and videos) were obtained. Six (6) species of small - to medium-sized terrestrial mammals were identified from the footage. Majority of mammals captured by camera traps were recognised as Least Concern based on the global IUCN Red List Conservation Status, except for the Long-tailed Macaque.

Bat Bioacoustics Inventory

In total, nine (9) species of bats were recorded from the four (4) bat stations deployed for a total of eight (8) detection nights, and two (2) walking transects. The species recorded include the Lesser Asian House Bat (*Scotophilus kuhlii*), Pouched Tomb Bat (*Saccolaimus saccolaimus*), Horsfield's Myotis (*Myotis horsfieldii*), Asian Whiskered Myotis (*Myotis muricola*), Javan Pipistrelle (*Pipistrellus javanicus*), Narrow-winged Pipistrelle (*Pipistrellus stenopterus*), Glossy Horseshoe Bat (*Rhinolophus refulgens*), Lesser Short-nosed Fruit Bat (*Cynopterus brachyotis*), and the Bamboo Bat (*Tylonycteris* spp.). Of which, only the Bamboo Bat (*Tylonycteris* spp.) is of conservation significance and is locally recognised as Vulnerable (VU).

Aquatic Fauna Inventory

The aquatic fauna baseline survey, comprising nine (9) sampling points, identified a total of three (3) freshwater fish species, and one (1) mollusc species. No species of conservation significance was recorded.



Figure 1-4 CS Fauna across Study Area

1.3.2 Surface Water Quality

In general, the water quality assessment showed that most parameters across all monitoring points remained within the NEA EPMA (Trade Effluent) guideline limits for controlled watercourses. Occasional exceedances of Total Suspended Solids (TSS) and iron (Fe) concentrations were recorded under both dry and wet weather conditions.

A comparative review of surface water quality conditions was conducted based on the findings from the current and relevant past EIA studies undertaken within and around the Study Area. Table 1-2 summarises the water quality parameters tested across the current and the previous studies reviewed.



Figure 1-5 Water Quality Sampling Points across Study Area

Table 1-2 Comparison of Tested Surface Water Quality Parameters across EIA Studies (Parameter tested = ✓)

S/N	Tested Parameter	Aurecon 2025	AECOM 2022
1.	Temperature	✓	✓
2.	pH	✓	✓
3.	Conductivity	✓	✓
4.	Dissolved Oxygen	✓	✓
5.	Salinity	✓	-
6.	Biochemical Oxygen Demand (BOD)	✓	✓
7.	Chemical Oxygen Demand (COD)	✓	✓
8.	Turbidity	✓	✓
9.	Total alkalinity as CaCO ₃	✓	-
10.	Total Phosphorus (TP)	✓	✓
11.	Total Nitrogen (TN)	✓	✓
12.	Total Organic Carbon (TOC)	✓	-
13.	Nitrate (NO ₃ -N)	✓	✓
14.	Ammonia (NH ₃ -N)	✓	-
15.	Orthophosphate (PO ₄ -P)	✓	✓
16.	Total Dissolved Solids (TDS)	✓	✓
17.	Total Suspended Solids (TSS)	✓	✓
18.	Heavy Metals (Pb, Zn, Hg, As, Ba, Sn, Fe, B, Mn, Cd, Cr, Cu, Ni, Ag, Be, Se)	✓	-
19.	Metals in Total	✓	-

S/N	Tested Parameter	Aurecon 2025	AECOM 2022
20.	Enterococcus	✓	-
21.	Oil and grease (Hydrocarbon)	✓	-
22.	Oil and grease (Total)	✓	-

1.3.3 Areas of High Ecological Value (AHEVs)

Through the integration of flora and fauna survey findings, as well as habitat mapping, Areas of High Ecological Value (AHEVs) within the Study Area consisting of native-dominated secondary forests, abandoned-land forests and freshwater stream were identified (Figure 1-6).



Figure 1-6 Areas of High Ecological Value (AHEVs) across Study Area

1.4 Summary of Recommended Key Mitigation Measures

To address the potential environmental impacts identified during the assessment, a series of key mitigation measures have been recommended for both the construction and operation phases of the Project (summary in Table 1-3; for full measures, refer to main EIA Report). This includes the establishment of a proposed retained area (PRA) (Figure 1-7), which would retain the overall ecological connectivity within the Project boundary and Study Area, whilst proposing for the retention of the natural freshwater stream D/S25 and its surrounding riparian buffer. The PRA will also retain the southern part of the Study Area where the Old Jurong Line (OJL) is located, as well as a proportion of the high-value native-dominated secondary forest.

Ecological connectivity was a crucial consideration for the PRA, as the Study Area serves as a connection to Clementi Forest – by virtue of the OJL and Rail Corridor – allowing fauna to move across the different forest patches. It is to be noted that due to undulating terrain across the Study Area and existing site conditions, slope stabilisation works are expected along the OJL area within the PRA, that are crucial for public safety and

slope stability. The said works may also affect stretches of the PRA abutting the development boundary, thereby necessitating site clearance and earth works. The affected portions of the PRA will nonetheless be reinstated with a suitable native planting palette upon completion of works. Additional mitigation measures (i.e. minimal vegetation clearance for site access and pre-felling fauna inspections) for slope works are also recommended to ensure minimal impacts to the surrounding retained environment and biodiversity. The implementation of these measures will help reduce overall impacts and ensure compliance with regulatory requirements. More details can be found in Sections 3.5, 3.6 and 8.4.1 of the main EIA Report.

Two engagement sessions with Nature Groups were conducted. The first engagement session was held on 10 September 2025, with no objection to the scope and proposed methodology of EIA presented. The second engagement was held on 21 April 2026, and the comments from both stakeholder engagements were taken into consideration and incorporated into this EIA report, where applicable.



Figure 1-7 Proposed Retained Area (PRA) overlaid with Habitat Mapping Results

Table 1-3 Summary of Recommended Key Mitigation Measures

Environmental Aspect	Recommended Key Mitigation Measures
Pre-construction Phase	
Biodiversity	- Proposed retained area (PRA) - Implement PRA to retain ecological connectivity and provide refugia for biodiversity - Where practicable, borehole locations should remain within project boundary, and be at least 5m from tree structures to protect roots. - Only minimal site clearance, if required; undergrowth clearance and pre-clearance inspections may be conducted to form access routes.

Environmental Aspect	Recommended Key Mitigation Measures
	– Access paths and routes are to be clearly marked/demarcated with rope and/or tape, including path widths, thereby deterring unauthorized entry into forested areas. – Use mini excavators and small portable drilling rigs where feasible to reduce habitat disturbance. – Soil investigation works and related ancillary works shall only be conducted during daylight hours and only during workdays. ■ Salvaging of conservation significance (CS) plant species before any construction works start.
Noise Management	■ Soil investigation work sites shall be clearly demarcated with portable hoarding (or next best alternative) and enclosed with acoustic barriers/screens, where practicable.
Waste Management	■ All waste arising from the soil investigation works (be it solid or liquid, construction, drilling or human/food waste), such as slurry, shall be kept in proper containment structures and disposed of properly by licensed waste disposal contractors. ■ Sandbags and/or silt fencing shall be deployed around the perimeter of the worksite(s) to prevent discharge of waste into surrounding area.
Construction Phase	
Biodiversity	■ Proposed retained area (PRA) ■ Establish Tree Protection Zones (TPZs) for any retained trees. – Regular monitoring of health of retained trees. ■ Conduct biodiversity awareness training for all site personnel. ■ Install hoarding with no gaps between panels, from the most disturbed areas, such as roads, to prevent any roadkill. ■ Directional clearance following the wildlife shepherding plan. – Conduct pre-felling fauna inspections to identify active bird nests or other wildlife. ■ Engage a licensed Wildlife Management Contractor for the safe rescue and relocation of any wildlife that cannot be safely guided out at or around the site during construction. – The Wildlife Management Contractor and NParks shall be engaged in advance to mitigate human-wildlife conflict beyond and prior to wildlife shepherding – Such as biodiversity awareness & educational talks, and monkey guarding, if necessary. As well as advance shepherding of macaque troops away from residential areas. ■ Ensure use of wildlife-friendly biodegradable erosion control blankets (ECBs) with no plastic mesh netting. ■ Conduct daily checks of access roads, biodegradable ECBs, ECM ponds, and pits for any roadkill or entrapped wildlife.
Surface Water Quality	■ Engage a QECP to formulate and implement an ECM Plan in accordance with the PUB's requirements. ■ Implementation of a Continuous Monitoring System for total suspended solids (TSS) levels in treated discharge water. ■ Regular water quality monitoring on a monthly basis.
Surface Hydrology	■ Where possible and feasible, diversion or realignment of the waterways during the design and planning stages to retain the overall hydrological flow of the area upstream and downstream.
Airborne Noise	■ Conduct continuous noise monitoring in accordance with NEA requirements, if applicable. ■ Install noise barriers along the site boundary adjacent to the PRA.
Air Quality	■ Set up hoarding of at least 2.4 m high to prevent dust dispersion. ■ Cover soil stockpiles with biodegradable ECBs.

Environmental Aspect	Recommended Key Mitigation Measures
Illumination	- Where night works are anticipated and unavoidable, a Light Management Plan (LMP) should be prepared and submitted to NParks for approval and reference during nights works. - Direct all light fittings away from the forested areas, angled downwards, pointed inwards, or equipped with shading fixtures, except lighting for safety and security purposes.
Construction Waste and Vector Proliferation	- Consume food only at the designated rest areas. - Dispose food waste in securely covered, monkey-proof bins. - Locate all waste storage areas at least 10 m away from any waterways. - Regular disposal of all wastes by respective licensed waste collectors. - Regular housekeeping practices to remove potential breeding sites. - Conduct weekly inspections by an external NEA-licensed Pest Control Operator. - Recommended best practices for management of cement wash-water - After concrete is poured at a construction site, the agitator and chutes of ready-mix concrete trucks as well as the piping of concrete pumps shall, where practicable, be washed out to remove the remaining concrete before it hardens. - Disposal of cement wash to an appropriate waste processing facility. - Where feasibly practicable, to ensure retention pond water quality parameters are within PUB's allowable limits prior to discharge.
Operation Phase	
Biodiversity	- Provide and maintain ecological connectivity between the proposed development and surrounding green spaces by planting native, biodiversity-attracting plants as part of the landscape. - Salvaged plant species and/or topsoil can be replanted back in suitable locations deemed by NParks. - Provision of ecologically sensitive pedestrian crossings that ensure minimal environmental impacts and also mitigate human-wildlife conflict. - The NParks-certified Wildlife/Animal Management Contractor shall be engaged in advance, together with NParks, to plan and implement management plans to mitigate human-wildlife conflict, such as: - Human-wildlife conflict awareness and educational talks, as well as monkey guarding, if necessary.
Surface Water Quality	- Provision and maintenance of vegetation cover along the watercourses. - Install perimeter drain along the boundaries of proposed development.
Surface Hydrology	- Provision of adequate green or porous areas to minimise surface runoff, enhance stormwater infiltration, and maximise groundwater recharge. - Where possible and feasible, facilities such as rain gardens, green roofs, and detention ponds, can be considered to further slow runoff.
Airborne Noise	- Planting of native trees and shrubs to act as natural noise barriers to dampen traffic noise. - Provision of road calming measures, such as speed limits, speed bumps, and related signages, to minimise traffic noise.
Air Quality	- Landscaped vegetative buffers along internal roads and development boundary. - Green walls or trellises are recommended in pick-up/drop-off areas to intercept particulate matter.
Illumination	- Light fittings for landscaping should ideally have a warm colour temperature of not higher than 3,000 K. - All lights should be switched off when not in use, except lighting for essential safety purposes in necessary areas.

Environmental Aspect	Recommended Key Mitigation Measures
Waste Management and Vector Proliferation	■ Provision of sufficient waste bins (monkey-proof bins) to prevent improper waste disposal. ■ Regular disposal of waste by a licensed waste collector. ■ Conduct routine inspections by an external NEA-licensed Pest Control Operator. ■ Provide educational signages for proper waste disposal and prevention of feeding of wildlife at appropriate locations.

1.5 Summary of Impact Assessment

An overview of the impact assessment for both the construction and operation phases of the Project is presented in Table 1-4. It provides a consolidated assessment of key environmental aspects, along with the impact significance of each aspect before and after the implementation of proposed mitigation measures (Table 1-3 above) to reduce the identified impacts.

Table 1-4 Summary of Impact Assessment

Environmental Aspect	Pre-Mitigation Measures		Post-Mitigation Measures	
	ES	ES Class	ES	ES Class
Pre-construction / Construction Phase				
Biodiversity	-180 to -12	Major Negative to Slight Negative Impact	-135 to -6	Major Negative to No Significant Impact
Surface Water Quality	-56 to -28	Minor Negative to Slight Negative Impact	-28 to 0	Slight Negative to No Significant Impact
Surface Hydrology	-108	Moderate Negative Impact	-72	Minor Negative Impact
Airborne Noise	-63	Minor Negative Impact	-42	Minor Negative Impact
Illumination	-48 to -18	Minor Negative to Slight Negative Impact	-24 to 0	Slight Negative to No Significant Impact
Waste Management and Pollution	-72 to -42	Minor Negative Impact	-28 to -14	Slight Negative Impact
Operation Phase				
Biodiversity	-90 to -54	Moderate Negative to Minor Negative Impact	-45 to -18	Minor Negative to No Significant Impact
Surface Water Quality	-28	Slight Negative Impact	0	No Significant Impact
Surface Hydrology	-84	Moderate Negative Impact	-56	Minor Negative Impact
Airborne Noise	-72 to 0	Minor Negative to No Significant Impact	-24 to 0	Slight Negative to No Significant Impact
Illumination	-56 to -21	Minor Negative to Slight Negative Impact	-28 to 0	Slight Negative to No Significant Impact
Waste Management and Pollution	-84	Moderate Negative Impact	-28	Slight Negative Impact