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14 LANDSCAPE AND VISUAL IMPACT ASSESSMENT

14.1 Assessment Methodology

14.1.1 Standard, Legislation and Criteria

14.1.1.1 The landscape and visual impact assessment (LVIA) is carried out in accordance with the Study Brief and the guidelines contained in Annexes 10 and 18 of the Technical Memorandum on EIA Process. Other relevant documents consulted in preparation of the LVIA include:

- Environmental Impact Assessment Ordinance (EIAO) (Cap. 499);
- Town Planning Ordinance and Town Planning (Amendment) Ordinance (Cap. 131);
- Country Parks Ordinance (Cap. 208);
- Forests and Countryside Ordinance (Cap. 96);
- EIAO Guidance Notes 8/2002 on Preparation of Landscape and Visual Impact Assessment under the EIAO;
- ETWB TC(W) No. 29/2004 on Registration of Old and Valuable Trees, and Guidelines for their Preservation;
- ETWB TC(W) No. 11/2004 on Cyber Manual for Greening;
- ETWB TC(W) No. 2/2004 on Maintenance of Vegetation and Hard Landscape Features;
- ETWB TC(W) No. 10/2005 on Planting on Footbridges and Flyovers;
- ETWB TC(W) No. 36/2004 on The Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS);
- ETWB TC(W) No. 3/2006 on Tree Preservation;
- Related Statutory Plans, e.g. Outline Zoning Plans;
- Landscape Value Mapping Study in Hong Kong;
- Hong Kong Planning Standards and Guidelines (HKPSG) (Ch. 4 & 10).

14.1.2 General Methodology

14.1.2.1 The methodology for undertaking the landscape and visual impact assessment is in accordance with Annexes 10 and 18 of the Technical Memorandum to the Environmental Impact Assessment Ordinance (EIAO). The assessment will be completed in accordance with the requirements stipulated in the EIA Study Brief. The techniques and procedures used in the assessment are explained in this section. The methodology used is scientific and objective so that it is replicable to produce similar results.

14.1.2.2 Landscape impact assessment evaluates the source and magnitude of developmental effects on the existing landscape resources, character and quality in the context of the site and its environs; and visual impact assessment evaluates the source and magnitude of effects caused by the proposed development on the existing views, visual amenity, character and quality of views to the visually sensitive receptors within the context of the site and its environs.

14.1.2.3 The significant thresholds for the landscape and visual impacts are assessed for the construction phase and operation phase both with and without mitigation measures.

14.1.2.4 These residual impacts are then evaluated in accordance with Annex 10 of the Technical Memorandum to the EIAO. In order to illustrate these landscape and

visual impacts and to illustrate the effectiveness of the proposed landscape and visual mitigation measures, photomontages at selected representative viewpoints have been prepared to illustrate:

- Existing baseline condition
- Development without Mitigation (Construction Phase)
- Development with Mitigation (Day 1 of Operation Phase)
- Development with Mitigation (Year 10 of Operation Phase)

14.1.3 Baseline Study Methodology

Landscape Baseline Study Methodology

14.1.3.1 In accordance with the EIA Study Brief, a baseline survey of the existing landscape resources (LRs) and landscape character areas (LCAs) within 500m from the proposed development will be undertaken by a combination of site inspections and desktop surveys. Planned developments for both within the study area and adjacent to it are also considered.

14.1.3.2 The baseline survey will form the basis of the landscape context by describing broadly homogenous units of similar character. Environmental capital approach is adapted to classify the landscape into distinct LCAs based on distinct patterns or combinations of landscape resources/ elements that occurs consistently in a particular landscape. "Study of Landscape Value Mapping of Hong Kong" and "Map of Land Utilization in Hong Kong" by Planning Department would also be considered for the identification of LR and LCAs. The landscape elements considered include:

- Local topography;
- Woodland, shrubland and other vegetation types;
- Built form, land use and patterns of settlement;
- Scenic spots;
- Details of local materials, architectural styles and streetscapes;
- Natural and artificial coastlines;
- Prominent watercourses and water bodies;
- Cultural and religious features, including *fung shui* woods etc; and
- Geological features

14.1.3.3 Sensitivity of LR and LCA

The individual landscape resources (LRs) / landscape character areas (LCAs) are described qualitatively and quantitatively. Their sensitivities are then evaluated and rated as low, medium or high based on the following factors:

- Quality, condition and value of landscape resources / character;
- Importance and rarity of special landscape resources;
- Ability of the element or landscape to accommodate change without compromising its essential nature.
- Significance of the resource of landscape in local and regional context, and
- Maturity of the element or landscape.

14.1.3.4 The rating of the sensitivity of the LRs / LCAs will be assessed as follows:

Table 14-1 Rating of the sensitivity of the LCAs / LRs

High	Important components of a landscape of particularly distinctive character susceptible to relatively small changes.
Medium	A landscape / element of moderately valued characteristics reasonable tolerant to change.
Low	Relatively unimportant landscape / element, able to absorb significant change.

14.1.3.5 Magnitude of Change of LR and LCA

Some common factors that will be considered in deriving the magnitude of change in assessing landscape impacts are as follows:

- Compatibility of the project with the surrounding landscape;
- Duration of impacts under construction and operation phases;
- Scale of development; and
- Reversibility of change

14.1.3.6 The rating of the magnitude of change of the LRs / LCAs will be assessed based on the above criteria as follows:

Table 14-2 Rating of the magnitude of change of the LCAs / LRs

Large	LR or LCA will suffer a large change by the development.
Intermediate	LR or LCA will suffer a moderate change by the development.
Small	LR or LCA will suffer a perceptible change by the development.
Negligible	LR or LCA will suffer no discernible change by the development.

14.1.3.7 Impact Significance Threshold before Mitigation

The assessment of potential landscape impacts during construction and operation with or without the development is created by synthesizing the “Sensitivity” and “Magnitude of Change” for the identified LRs and LCAs according to the Matrix of Impact Significance Threshold before Mitigation in **Table 14-5**.

Visual Baseline Study Methodology

14.1.3.8 The baseline survey of views towards the proposed development will be carried out by identifying:

- The visual envelope (zone of visual influence) is, according to EIAO GN No. 8/2002, generally the viewshed formed by natural/man-made features such as ridgeline or building blocks. The visual envelope may contain areas, which are fully visible, partly visible and non-visible from the proposed development. The visual envelope of the project will be presented on relevant plans.
- The visually sensitive receivers (VSRs) are those within the visual envelope whose views will be affected by the development.

14.1.3.9 Sensitivity of VSRs

The baseline survey was conducted by taking photographs at typical views and describing and recording their character and value within the visual envelopes for low-level viewpoints (street level) and high-level viewpoints (hillside vantage points). Wherever possible, both present and future VSRs will be considered. Criteria for Ranking Sensitivity of VSRs are:

- Type of representative receiver population;
- Value and quality of existing views;
- Estimated number of representative receiver population;
- Availability and amenity of alternative views;
- Duration or frequency of views; and
- Degree of visibility.

14.1.3.10 The rating of the sensitivity of the VSRs will be assessed as follows:

Table 14-3 Rating of the sensitivity of VSRs

High	Important components of a VSR of particularly distinctive character susceptible to relatively small changes.
Medium	A VSR of moderately valued characteristics reasonable tolerant to change.
Low	A relatively unimportant VSR able to absorb significant change.

14.1.3.11 Magnitude of Change of VSR

Some common factors that will be considered in deriving the magnitude of change in assessing visual impacts are as follows:

- Compatibility of the project with the surrounding landscape;
- Duration of impacts under construction and operation phases;
- Scale of development;
- Reversibility of change;
- Viewing distance; and
- Potential blockage of view.

14.1.3.12 The rating of the magnitude of change of the VSRs will be assessed based on the above criteria as follows:

Table 14-4 Rating of the magnitude of change of VSRs

Large	VSR will suffer a large change in their views.
Intermediate	VSR will suffer a moderate change in their views.
Small	VSR will suffer a small change in their views.
Negligible	VSR will suffer no discernible change in their views.

14.1.3.13 Impact Significance Threshold before Mitigation

The assessment of potential landscape impacts during construction and operation with or without the development is created by synthesizing the “Sensitivity” and “Magnitude of Change” for the identified VSRs according to the Matrix of Impact Significance Threshold before Mitigation in **Section 14.1.3.14**.

Impact Significance Threshold before Mitigation

14.1.3.14 The degree of significance is categorized into four thresholds depending on the combination below:

Table 14-5 Impact Significance Threshold before Mitigation

Significant	Adverse / beneficial impact where the development would cause significant deterioration or improvement in the existing landscape / visual quality.
Moderate	Adverse / beneficial impact where the development would cause noticeable deterioration or improvement in the existing landscape / visual quality.
Slight	Adverse / beneficial impact where the development would cause barely perceptible deterioration or improvement in the existing landscape / visual quality.
Negligible	No discernible change in the existing landscape / visual quality.

Table 14-6 Matrix for Impact Significance Threshold before Mitigation – Combination and Relationship between Sensitivity and Magnitude of Change

Magnitude of Change caused by development	Large	<i>Moderate</i>	<i>Moderate / Significant</i>	<i>Significant</i>
	Intermediate	<i>Slight / Moderate</i>	<i>Moderate</i>	<i>Moderate / Significant</i>
	Small	<i>Slight</i>	<i>Slight / Moderate</i>	<i>Moderate</i>
	Negligible	<i>Negligible</i>	<i>Negligible</i>	<i>Negligible</i>
		Low	Medium	High
	Sensitivity of Receptors			

14.1.4 Residual Impacts Assessment Methodology

14.1.4.1 Residual impacts are those impacts remaining after the proposed mitigation measures have been implemented. This is often 10 to 15 years after commissioning, when the planting mitigation measures are deemed to have reached a level of maturity, which allow them to perform their original design objectives.

14.1.4.2 The level of impact is derived from the magnitude of change which the development will cause to the existing view or landscape character / resource and its ability to tolerate change, i.e. the quality and sensitivity of the view or landscape character / resource taking into account the beneficial effects of the proposed mitigation. The significance threshold is derived from the matrix shown in Table 14-5.

14.1.4.3 In accordance with Annex 10 of the EIAO TM, an overall assessment is also made of the residual landscape and visual impacts for the proposed development as follows:

Table 14-7 Residual Impact Assessment Methodology

Beneficial	Acceptable	Acceptable with mitigation measures	Unacceptable	Undetermined
The impact is beneficial if the project will complement the landscape and visual character of its setting, will follow the relevant planning objectives and will improve overall and visual quality	The impact is acceptable if the assessment indicates that there will be no significant effects on the landscape, no significant visual effects caused by the appearance of the project, or no interference with key views	The impact is acceptable with mitigation measures if there will be some adverse effects, but these can be eliminated, reduced or offset to a large extent by specific measures	The impact is unacceptable if the adverse effects are considered too excessive and are unable to mitigate practically	The impact is undetermined if significant adverse effects are likely, but the extent to which they may occur or may be mitigated cannot be determined from the study. Further detailed study will be required for the specific effects in question

Photomontage Illustration for Selected Views

14.1.4.4 Representative views from VSRs will be selected to illustrate the effectiveness of the proposed impact mitigation proposal and residual impacts of the development in both short and long terms. Photographic montage of selected views will be furnished in the LVIA reports for:

- Existing baseline condition (Construction phase)
- Development without mitigation (Day 1 of Operation Phase)
- Development with mitigation (Day 1 of Operation Phase)
- Development with mitigation (Year 10 of Operation Phase)

14.1.4.5 VSR1, VSR2, VSR3, VSR4, VSR6, VSR7, VSR8, VSR9, VSR11, VSR12, VSR14, VSR15, VSR16, VSR17, VSR19, VSR20, VSR21, VSR23, VSR25, VSR26, VSR27, VSR30, and VSR31, to which HKLR and HKBCF are visible, are selected to illustrate the proposed mitigation measures and the residual impacts. Photomontages of selected views of VSRs are shown in **Figures 14.2.1a, 14.2.1b, 14.2.2a, 14.2.2b, 14.2.3a, 14.2.3b, 14.2.4a, 14.2.4b, 14.2.6a, 14.2.6b, 14.2.7a, 14.2.7b, 14.2.8a, 14.2.8b, 14.2.9a, 14.2.9b, 14.2.11a, 14.2.11b, 14.2.12a, 14.2.12b, 14.2.14a, 14.2.14b, 14.2.15a, 14.2.15b, 14.2.16a, 14.2.16b, 14.2.17a, 14.2.17b, 14.2.19a, 14.2.19b, 14.2.20a, 14.2.20b, 14.2.21a, 14.2.21b, 14.2.23a, 14.2.23b, 14.2.25a, 14.2.25b, 14.3.26a, 14.2.26b, 14.2.27a, 14.2.27b, 14.2.30a, 14.2.30b, 14.2.31a and 14.2.31b** in detail.

Besides, the views from VSR5, VSR13, VSR18, VSR22, VSR24, VSR28, VSR29 and VSR32 to either HKLR or HKBCF are blocked by other elements as listed in the following table:

Table 14-8 List of VSRs, the views from which to either HKLR or HKBCF are blocked

VSR5	Their view to the HKLR is blocked by the runways at southern side of the Airport Island.
VSR13	Their view to HKLR is blocked by the roadside planting, profile barriers, retaining walls and other infrastructures along North Lantau Highway.
VSR18	Their view to HKLR is blocked by the topography of Scenic Hill.
VSR22	Their view to HKBCF is blocked by the roadside planting, profile barriers, retaining walls and other infrastructures along North Lantau Highway.
VSR24	Their view to HKBCF is blocked by the roadside planting, elevated roads and other infrastructures along Airport Road.
VSR28	Their view to HKBCF is blocked by the topography of Scenic Hill.
VSR29	Their view to HKBCF is blocked by North Lantau Highway.
VSR32	Their view to HKBCF is blocked by the roadside planting, elevated roads and other infrastructures along Airport Road.

Existing view from VSR5, VSR13, VSR18, VSR22, VSR24, VSR28, VSR29 and VSR32 is shown in **Figures 14.2.5, 14.2.13, 14.2.18, 14.2.22, 14.2.24, 14.2.28, 14.2.29 and 14.2.32.**

14.2 Baseline Condition

14.2.1 Sensitivity of Identified LRs and LCAs

14.2.1.1 Lists of the baseline condition of LRs and LCAs are shown in the following tables, together with **Figures 14.1.1, 14.1.1a, 14.1.1b, 14.1.1c and 14.1.2, 14.1.2a, 14.1.2b, 14.1.2c**. Sensitivity and Magnitude of Change of the proposed LRs / LCAs is indicated below.

Table 14-9 LRs which may be affected by the project and within 500m from the project

	Landscape Resources (LRs)	Quantity (Ha) (Within Study Area)	Description of Landscape Value	Sensitivity
LR1	Airport Island Facilities	186.3	<ul style="list-style-type: none"> Facilities refer to Hong Kong Aircraft Engineering Ltd., Government Flying Service, Airport Freight Forwarding Centre, Airport Authority Office, Cathay Pacific City and related buildings with associated infrastructures. Landscape quality and value is considered low. 	Low
LR2	Rocky coastline (*) – along southeast of Hong Kong International Airport	5.5	<ul style="list-style-type: none"> Coastal landscapes comprising mostly natural rocky shoreline with some evidence of disturbance and modification in some parts, including elimination of backshore natural vegetation. Remaining portion of the natural granitic coastline of the original Chek Lap Kok Island preserved during construction of Airport Island. Scattered vegetation of amenity and weed trees and grass. Zoned as "Coastal Protection Area (CPA)" Rocky shores are not rare in Hong Kong. Landscape quality and value is considered medium. (*) Details of baseline condition of LR2 refer to Section 14.2.1.2.	Medium
LR3	Woodland, shrubland and grassland – Scenic Hill	18.4	<ul style="list-style-type: none"> Woodland exists in the north east of Scenic Hill, probably established through natural regeneration. Remaining areas of Scenic Hill are shrubland and grassland. Original hill was part of Chek Lap Kok Island before Airport formed. Dominant species comprising exotic species (<i>Acacia confusa</i> 台灣相思, <i>Acacia mangium</i> 大葉相思, <i>Casuarina equisetifolia</i> 木麻黃 and <i>Bauhinia variegata</i> 宮粉羊蹄甲) and native species (<i>Bauhinia blakeana</i> 洋紫荊, <i>Celtis sinensis</i> 朴樹, <i>Dimocarpus longan</i> 龍眼, <i>Ficus microcarpa</i> 細葉榕, <i>Hibiscus tiliaceus</i> 黃槿 and <i>Pinus massoniana</i> 馬尾松). Landscape quality and value is considered high. 	High
LR4	Seawater – Airport island coast	800.8	<ul style="list-style-type: none"> Seawater area refers to the scenic coastal water facing southwest of Airport island and within Airport Channel. It forms a waterway buffer between artificial edge of southern coast of Airport and natural landscape of northern coast of Lantau. Due to large quantity of seawater in local area, this resource is not considered rare. Landscape quality and value is considered medium. 	Medium
LR5	Roads – Airport island	39.8	<ul style="list-style-type: none"> Major vehicular transportation network for Airport island internally and connection to Tung Chung. Landscape quality and value is considered low. 	Low
LR6	Woodland, shrubland, grassland and plantation of northwest Lantau coast	90.9	<ul style="list-style-type: none"> Remote and exposed upland below 200mPD. Predominantly vegetated covered with some plantation trees, low shrubs and grass and medium density of trees. Typical landscape resource found adjacent to the villages (e.g. Sham Wat Wan, Sha Lo Wan and San Tau) along North Lantau Island. 	High

	Landscape Resources (LRs)	Quantity (Ha) (Within Study Area)	Description of Landscape Value	Sensitivity
			<ul style="list-style-type: none"> The primary native species, e.g. <i>Aporosa chinensis</i> 銀柴, <i>Bridella tomentosa</i> 土蜜樹, <i>Cerbera manghas</i> 海芒果, <i>Dimocarpus longan</i> 龍眼 and <i>Hibiscus tiliaceus</i> 黃槿. Only a small portion of areas with exotic species, e.g. <i>Acacia confusa</i> 台灣相思, <i>Casuarina equisetifolia</i> 木麻黃, and <i>Litchi chinensis</i> 荔枝. Some dominant common native shrub species, e.g. <i>Rhaphiolepis indica</i> 車輪梅, <i>Rhodomyrtus tomentosa</i> 崗稔, <i>Melastoma sanguineum</i> 毛稔 and <i>Castanopsis fissa</i> 裂斗錐栗. The portion of this LR adjacent to Sha Lo Wan is within Lantau (North) Country Park boundary. Landscape quality and value is considered high. 	
LR7	Agricultural land and villages - northwest of Lantau	9.9	<ul style="list-style-type: none"> Agricultural land within the villages of San Tau, Sha Lo Wan and Sham Wat Wan. It is composed of active and inactive agricultural land with farms and fish ponds. Low density of village housing. Landscape quality and value is considered medium 	Medium
LR8	Artificial seawall – Airport island	8.6	<ul style="list-style-type: none"> Linear man-made intertidal hard shore, eg seawalls, jetties, groins and piers. Along South Perimeter Road, at southeast corner of Airport Island and a small portion adjacent to Tung Chung Ferry Pier. Linear planting strip between South Perimeter Road and artificial seawall Mainly scattered planting with exotic pioneer tree species along this seawall. Due to the artificial nature, the landscape quality and value is considered low. 	Low
LR9	Roadside landscaped areas within Airport	32.0	<ul style="list-style-type: none"> Roadside tree, shrub and groundcover planting along Airport Road (i.e. roundabout, central dividers etc) and other internal roads. This area contains primary exotic species, e.g. <i>Acacia auriculiformis</i> 耳果相思, <i>Acacia confusa</i> 台灣相思, <i>Acacia mangium</i> 大葉相思, <i>Archontophoenix alexandrae</i> 假檳榔, <i>Cassia siamea</i> 鐵刀木, <i>Casuarina equisetifolia</i> 木麻黃 and <i>Cocos nucifera</i> 椰子. Only a small portion of native amenity species, e.g. <i>Bauhinia blakeana</i> 洋紫荊, <i>Ficus altissima</i> 高山榕, <i>Hibiscus tiliaceus</i> 黃槿, Landscape quality and value is considered medium. 	Medium
LR10	Urban area – Tung Chung	4.7	<ul style="list-style-type: none"> Tung Chung Town comprising local open space with ornamental planting, site furniture and food kiosk. It also includes Tung Chung Ferry Pier and related promenade. LCSD nursery for community planting. Landscape quality and value is considered medium. 	Medium
LR10a	Natural rocky and sandy shore with mangrove / mudflat	5.8	<ul style="list-style-type: none"> Coastal landscapes comprising natural shoreline to form the edge of north Lantau facing Chek Lap Kok Channel. The shore providing denser vegetation and natural rocks as well as mangroves and mudflats. Since this shore is the continuous natural edge for north of Lantau, the landscape quality and value is considered high. 	High
LR10b	Rivers and streams – northwest Lantau	0.5	<ul style="list-style-type: none"> Rivers and streams distributing within the villages, e.g. Sha Lo Wan, San Tau and Sham Wat Wan. It is composed of streams and rivers with mangrove and associated mangrove. The rivers and streams are seasonal, or of very low 	Medium

	Landscape Resources (LRs)	Quantity (Ha) (Within Study Area)	Description of Landscape Value	Sensitivity
			base flow. These low base-flow streams are considered of lower ecological value than the permanent streams with reliable discharge to support aquatic life year-round <ul style="list-style-type: none"> Landscape quality and value is considered as medium. 	
LR11	Rocky coastline – at northeast corner of Hong Kong International Airport	1.0	<ul style="list-style-type: none"> Coastal landscapes comprising mostly natural rocky shoreline with some evidence of disturbance and modification in some parts, including elimination of backshore natural vegetation. Remaining portion of the natural and artificial coastline preserved during construction of Airport Island previously. Rocky shores are not rare in Hong Kong. Scattered vegetation. Landscape quality and value is considered medium. 	Medium
LR12	Vehicular road networks on Airport Island	9.6	<ul style="list-style-type: none"> Hard-paved vehicular road network serving traffic on plain Airport Island. Landscape quality and value is considered low. 	Low
LR13	Seawater – northeast of Hong Kong International Airport	489.8	<ul style="list-style-type: none"> Seawater area refers to the coastal water facing southeast of Airport Island. Has ability to accommodate change without compromising its essential nature. Due to large quantity of seawater resource in local area, this LR is not considered rare. Landscape quality and value is considered medium. 	Medium
LR14	Facilities at Airport island	35.8	<ul style="list-style-type: none"> Facilities refer to AsiaWorld-Expo, Skycity and associated infrastructure. Mainly industrial and commercial areas with minimum landscaped areas with low amenity value. High ability to accommodate change. Landscape quality and value is considered low. 	Low
LR15	Roadside landscaped areas within Airport	8.4	<ul style="list-style-type: none"> Roadside tree, shrub and groundcover planting along Airport Road and other internal roads around buildings (i.e. roundabout, central dividers etc). Has ability to accommodate change. This area contains some common amenity species species, e.g. <i>Acacia auriculliformis</i> 耳果相思, <i>Acacia confusa</i> 台灣相思, <i>Acacia mangium</i> 大葉相思, <i>Bauhinia blakeana</i> 洋紫荊, <i>Archontophoenix alexandrae</i> 假檳榔, <i>Cassia siamea</i> 鐵刀木, <i>Casuarina equisetifolia</i> 木麻黃 and <i>Cocos nucifera</i> 椰子. Most of the species are exotic. Landscape quality and value is considered medium 	Medium

Note: (*) Details of baseline condition of LR2 refer to Section 14.2.1.2.

Table 14-10 LCAs which may be affected by the project and within 500m from the project

	Landscape Characters Areas (LCAs)	Quantity (Ha) (Within Study Area)	Description of Landscape Value	Sensitivity
LCA1	Offshore Water Landscape – Open seawater to the Northeast of Airport Island	540.6	<ul style="list-style-type: none"> The natural coast line of Lantau Island frames the southern boundary. The reclaimed Airport Island frames the eastern boundary. Open and as part of Zhujiang Kou water body on other sides. Its landscape value and quality is considered high. Owing to its vast area, it is considered to accommodate some changes without losing its essential character. 	Medium

	Landscape Characters Areas (LCAs)	Quantity (Ha) (Within Study Area)	Description of Landscape Value	Sensitivity
LCA2	Strait Landscape – Chek Lap Kok Channel	160.0	<ul style="list-style-type: none"> Mainly framed by artificial seawall of Airport Island to the north. Mainly framed by natural coastline of Lantau Island and Tung Chung Town to the South. Comprises water channel between the Airport Island and northern coast of Lantau Island of relatively narrow and linear shape. Has some abilities to accommodate change without compromising its essential nature. Due to developed Airport Island on boundary and narrow linear shape, landscape quality is considered medium. 	Medium
LCA3	Inshore Water Landscape – Open seawater to the southeast of Airport Island	102.2	<ul style="list-style-type: none"> The water body is framed by Airport Island to the west, and future reclaimed development of Tung Chung East and existing North Lantau Highway corridor to the south. The water body affected by the project has a concave bay-like shape. To the further north of the water body is the coastline of New Territories West, which is at a long distance of 9km away. Though the landscape quality of the intact water body alone is high, the fact that it is confined by infrastructure development on its both west and south sides greatly reduces the overall landscape value of this unit and make it tolerant to development. Due to large area of inshore seawater it has moderate ability to accommodate change. 	Medium
LCA4	Institutional Landscape – Hong Kong International Airport (*)	234.4	<ul style="list-style-type: none"> Industrial buildings & commercial buildings and associated infrastructure adjacent areas of runway include roadside landscaped areas. High ability to accommodate change. Landscape quality and value is considered low. 	Medium
LCA5	Coastal Upland and Hillside Landscape – Scenic Hill	22.3	<ul style="list-style-type: none"> Remaining portion of the southern headland of formerly Chek Lap Kok preserved in the construction of Airport Island. Comprises of natural rocky coastline at south of Scenic Hill, Also consists of scrubby grassland, shrubland, and weeding and vehicular road and associated man-made cut slope. Dominant species comprising exotic species (<i>Acacia confusa</i> 台灣相思, <i>Acacia mangium</i> 大葉相思, <i>Casuarina equisetifolia</i> 木麻黃 and <i>Bauhinia variegata</i> 宮粉羊蹄甲) and native species (<i>Bauhinia blakeana</i> 洋紫荊, <i>Celtis sinensis</i> 朴樹, <i>Dimocarpus longan</i> 龍眼, <i>Ficus microcarpa</i> 細葉榕, <i>Hibiscus tiliaceus</i> 黃槿 and <i>Pinus massoniana</i> 馬尾松) The hill is a buffer between Airport Island and Tung Chung New Town. Ngong Ping 360 cable car passes through this area. Landscape quality and value is considered high. 	High
LCA6	Transportation Corridor Landscape – Airport Road and East Coast Road connecting to North Lantau Highway along east of Hong Kong International Airport	39.8	<ul style="list-style-type: none"> Road system accommodating the traffic between Airport Island and Tung Chung. It contains viaducts, at-grade roads and associated infrastructure. Landscape quality and value is considered low. 	Low
LCA7	Rural Coastal Plain Landscape – San Tau Village 石散頭	11.5	<ul style="list-style-type: none"> This landscape character area has a rural village setting. Few of villages sit on a flat agricultural plain. Moderate ability of this landscape character to accommodate change without compromising its essential nature. <p>The landscape quality and value is considered medium.</p>	Medium

	Landscape Characters Areas (LCAs)	Quantity (Ha) (Within Study Area)	Description of Landscape Value	Sensitivity
LCA8	Coastal Upland and Hillside Landscape – Sha Lo Wan 沙螺灣	80.0	<ul style="list-style-type: none"> The two hill spurs consist of natural rocky coastline and primary natural vegetation comprises of shrubby grassland with medium density of trees. The landscape character is significant in local context and high maturity. The landscape quality and value is therefore considered high. 	High
LCA9	Settled Valley Landscape - Sha Lo Wan 沙螺灣	7.4	<ul style="list-style-type: none"> This landscape character are has a rural village setting. Two villages sit on a flat agricultural plain and are sheltered by two spurs and hill range on three sides. Most of the area of villages adjacent to Chek Lap Kok Channel are native with the primary native species, e.g. <i>Aporosa chinensis</i> 銀柴, <i>Bridelia tomentosa</i> 土蜜樹, <i>Cerbera manghas</i> 海芒果, <i>Dimocarpus longan</i> 龍眼 and <i>Hibiscus tiliaceus</i> 黃槿. Only a small portion of areas with exotic species, e.g. <i>Acacia confusa</i> 台灣相思, <i>Casuarina equisetifolia</i> 木麻黃, and <i>Litchi chinensis</i> 荔枝. Has moderate ability to accommodate change without compromising its essential nature. The landscape quality and value is considered medium. 	Medium
LCA10	Mixed Modern Comprehensive Urban Development Landscape – Tung Chung	7.4	<ul style="list-style-type: none"> Modern style of local open space with ornamental planting, site furniture and food kiosk. It also includes Tung Chung Ferry Pier and related promenade. As a green buffer to Citegate and Tung Chung Crescent. Adjacent to Ngong Ping 360 Cable Car Station. LCSD nursery for community planting. Has ability to accommodate change. 	Medium
LCA11	Inshore Water Landscape – Open seawater to the east of Airport Island	489.8	<ul style="list-style-type: none"> The water body is framed by Airport Island to the west, and future reclaimed development of Tung Chung East and existing North Lantau Highway corridor to the south. The water body affected by the project has a concave bay-like shape. To the further north of the water body is coastline of New Territories West, which is at a long distance of 9km away. Has ability to accommodate change without compromising its essential nature due to vastness of this LCA. The landscape quality and value is considered medium. 	Medium
LCA12	Institutional Landscape – Hong Kong International Airport	45.2	<ul style="list-style-type: none"> Flat, open and extensive areas of runway with significant terminal complexes and buildings and infrastructure. Landscaped areas surrounding buildings and along roads. Can accommodate change easily. Landscape quality and value is considered low 	Medium
LCA13	Transportation Corridor Landscape – Airport Road and East Coast Road	9.6	<ul style="list-style-type: none"> Road system between Airport Island and Tung Chung. It contains viaducts, at-grade roads and associated infrastructure. Landscape quality and value is considered low. 	Low

Note: (*) Details of baseline condition of LCA4 regarding CPA shoreline refer to Section 14.2.1.2.

14.2.1.2 Baseline Condition of Coastal Protection Area (CPA) of LR2 and LCA4

The affected existing shoreline (previously zoned as Coastal Protection Area) along the southeastern coast of Airport Island is composed of a portion of common natural rock outcrops (two parts of coastline adjacent to Cathay Pacific City and Dragonair/CNAC (Group) Buildings), and rest of artificial seawall during the development of Hong Kong International Airport. This Section provides the description of baseline condition of this CPA below.

The two parts of natural rocky shorelines within the CPA contain plantation area upon the previous development of Airport within the newly formed grassland. This CPA forms discontinuity of natural shoreline edges and scattered vegetation currently. Figure 14.4.1 shows the current condition of CPA.

With reference to Geological Map of Hong Kong (CEDD), it is noted that the area of existing shoreline is classified as Lantau Granite with some volcanic intrusions that is composed of sediments ranging widely from clays and silts, to sands, gravel and also cobbles and boulders. The existing natural rocks are commonly found in Hong Kong, without particular special value. The area is not within the coverage of Geopark of Hong Kong (refer to 'Knowing Hong Kong Geopark (AFCD)'. Thus it does not provide valuable educational tourism and leisure use currently.

The original backshore vegetation has been largely removed and replaced with planted trees and grassland of common amenity species, e.g. *Acacia auriculiformis* 耳果相思, *Acacia confusa* 台灣相思, *Acacia mangium* 大葉相思, *Archontophoenix alexandrae* 假檳榔, *Bauhinia blakeana* 洋紫荊, *Cassia siamea* 鐵刀木, *Casuarina equisetifolia* 木麻黃, *Cocos nucifera* 椰子, *Ficus altissima* 高山榕, *Hibiscus tiliaceus* 黃槿, *Leucaena leucocephala* 銀合歡, *Melia azedarach* 苦楝 and *Roystonea regia* 王棕. Most of these species are exotic with low ecological value and do not complement the foreshore landscape. The plantation of these trees was for compensation purpose of the development of North Lantau Highway and Airport.

Compared to the southern natural coastline of Scenic Hill which is of relatively higher landscape value, there is associated coastal vegetation forming unique landform of Scenic Hill as part of the original Chek Lap Kok Island. (Note: The proposed HKLR, tunnel cum at-grade option, will minimize the disturbance on Scenic Hill and will not affect its southern coastline.)

In view of the above, in terms of landscape resources, it is considered that the existing rocky shoreline along the southeastern coast of Airport Island is somewhat disturbed, by development, common in Hong Kong and therefore of medium sensitivity.

In terms of landscape character and visual quality, the area does not provide unique landform of particular value for the purposes of tourism and leisure use. The discontinuity of natural shoreline portions and informal access limits its recreational value.

14.2.2 Identification of VSRs

14.2.2.1 The existing views of the Project site affected mainly comprise the following visual elements:

- Typical residential view (residents of Tung Chung Town)
- Typical traffic views (ferry services, vehicular)
- Typical industrial view (workers of Airport island)
- Typical leisure view (hikers of Scenic Hill and hiking trail from Tai O to Tung Chung)

14.2.2.2 The detailed description of these visual elements is shown in **Table 14-12**. The details and locations of VSRs are shown in **Table 14-13** and **Figure 14.1.3**, 14.1.3a, 14.1.3b and 14.1.3c. Sensitivity and Magnitude of Change of the proposed VSRs are indicated below.

Table 14-11 Description of general views

Visual Elements	Description
Typical residential views (urban areas)	<ul style="list-style-type: none"> • Typical views of residents at the high-rise residential areas (e.g. Caribbean Coast – 映灣園, Coastal Skyline – 藍天海岸, Seaview Crescent – 海堤灣畔, Tung Chung Crescent – 東堤灣畔, Fu Tung Estate – 富東村) at Tung Chung area. • Typical views of residents, and workers & visitors (to the possible theme park/major recreational uses) at the Future Tung Chung East and West Developments
Typical residential views (village areas)	<ul style="list-style-type: none"> • Typical views of residents at the villages (e.g. Tai O, Sham Wat Wan, San Shek Wan, San Tau and Tai Ho)
Typical traffic views	<ul style="list-style-type: none"> • Typical views of ferry passengers at coastal area of east of Airport island. • Typical views of vehicular users of North Lantau Highway and passengers of MTR • Typical views of cable car passengers of Ngong Ping 360. • Typical views of ferry passengers or visitors of public pier at Tung Chung.
Typical industrial views	<ul style="list-style-type: none"> • Typical views of workers and staff at Airport Island. • Typical views of workers and visitors of the proposed Lantau Logistic Park (LLP) and its possible LLP Extension.
Typical leisure views	<ul style="list-style-type: none"> • Typical views of hikers on trails/footpaths uphill and in the North Lantau Country Park and its Extension (including hikers on trails from Tung Chung to Tai O) • Typical views of hikers of Scenic Hill. • Typical views of hikers of Tai Ho.

Table 14-12 VSRs identified within the visual envelope

	VSR	Type of VSRs	Number of VSRs	Minimum Viewing Distance (km)	Description
VSR1	Residential and leisure view – Villages of Tai O	Residents / visitors	High	2.5	<ul style="list-style-type: none"> • The view to bridge is blocked by natural topographic features to the NW and NE • Existing view of open seawater without development • Many high amenity value alternative views
VSR2	Residential view – Villages of Sham Wat Wan	Residents	Low	1.5	<ul style="list-style-type: none"> • The view to bridge blocked by natural topographic features to the W and N. • Limited glimpse of view of HKLR. • Existing view of open seawater without development • Many high amenity value alternative views
VSR3	Residential view – Villages of San Shek Wan	Residents	Low	0.8	<ul style="list-style-type: none"> • Existing view of open seawater without development • Many high – amenity value alternative views
VSR4	Residential view – Villages of Sha Lo Wan	Residents	Low	0.7	<ul style="list-style-type: none"> • The view to bridge is blocked by natural topographic features to the W and NE • Existing view of channel (immediate view), artificial seawall and vast airport (distant view) without development • High amenity value alternative view of hills to other directions
VSR5	Industrial view – Hong Kong Aircraft Engineering Ltd.	Workers / staff	Medium	1.2	<ul style="list-style-type: none"> • Limited glimpse of view of HKLR. • Existing view of airport (immediate view), channel and Lantau Island (distant view) without development • High amenity value alternative view of open seawater to the west
VSR6	Residential view – Villages of San Tau	Residents	Low	0.5	<ul style="list-style-type: none"> • The view to bridge is blocked by natural topographic features to the W

	VSR	Type of VSRs	Number of VSRs	Minimum Viewing Distance (km)	Description
					<ul style="list-style-type: none"> View of HKLR exists. Existing view of channel (immediate view), and artificial seawall and airport (distant view) without development High amenity value alternative views to hills and Tung Chung Bay to other directions
VSR7	Residential view – High-rise residential buildings of Yat Tung Estate	Residents	High	1.2	<ul style="list-style-type: none"> Owing to orientation of blocks only the residents facing N and NW are affected. Residents have view of HKLR. Tung Chung Crescent acts as a partial screen to Fu Tung Estate and Yu Tung Court High-rise to the NE of NLH partially block NE view to the east section Existing view of channel and existing bridges, natural rocky coastline and Scenic Hill (immediate) and airport (distant) without development Alternate high amenity view of Tung Chung knoll and Tung Chung Bay to the W and hills to the SE
VSR8	Residential view – Tung Chung Town to the southeast of Airport island	Residents	High	1.3	<ul style="list-style-type: none"> Residents from Tung Chung Crescent – 東堤灣畔 and Fu Tung Estate – 富東村. Sea view to north blocked by Caribbean Coast – 映灣園, Coastal Skyline – 藍天海岸 and Seaview Crescent – 海堤灣畔
VSR9	Residential view – High-rise to the southeast of Airport island	Residents	High	1.2	<ul style="list-style-type: none"> Residents from Caribbean Coast – 映灣園, Coastal Skyline – 藍天海岸 and Seaview Crescent – 海堤灣畔. Open sea view to the Project site. Owing to orientation of blocks, only the residents facing N, NW and NE are affected. Residents have view of HKLR to the N and NE. Existing views of water body to the N and NE; and of airport to the distant NW without development Alternate high amenity view to hills to the SE.
VSR10	Industrial view – Airport island	Workers / staff	Medium	0.5	<ul style="list-style-type: none"> Only SE facing workers are affected. View of HKLR to the SE. Existing view of airport ancillary buildings and vehicular roads (immediate view) and of Scenic Hill to the S and of water body to the E and SE (distant view). Alternate high amenity view of water body to the NE.
VSR11	Traffic view – Cable cars of Ngong Ping 360	Passengers	High	0.35 (typical)*	<ul style="list-style-type: none"> Varying views depending on locations and elevation of cable Many alternate good views 360 degree from high level in the cable car. The bridge scale is reduced when compared to the extensive green hills and blue seas when cable car reaches high elevation. Relatively short period of the whole journey is affected Existing view to the Project site with development of Airport Island.
VSR12	Traffic view – Ferry to Tung Chung	Passengers	Medium	0.35 (typical)*	<ul style="list-style-type: none"> The original ferry route is from Tai O via Tung Chung to Tuen Mun. Relatively short period of the whole journey is affected. Existing view of water body without development
VSR13	Traffic view – Vehicles and MTR along North Lantau Highway	Passengers / drivers	Medium	1.1 (typical)*	<ul style="list-style-type: none"> Open sea view to the Project site is blocked by the roadside planting, retaining walls, profile barriers and so on along North Lantau Highway.
VSR14	Industrial view – The proposed Lantau Logistic Park (LLP) and the	Workers / staff / visitors	Medium	1.2	<ul style="list-style-type: none"> Only northwest facing workers are affected. Existing view from northwest section of LLP to the HK International Airport.

	VSR	Type of VSRs	Number of VSRs	Minimum Viewing Distance (km)	Description
	possible LLP Extension				<ul style="list-style-type: none"> Alternative medium amenity view to SE of the HK International Airport.
VSR15	Residential view – Future Tung Chung East Development	Residents / workers and visitors (to the possible theme park / major recreational uses)	High	0.8	<ul style="list-style-type: none"> Only north facing residents, workers and visitors are affected. Existing view from north section of Future Tung Chung East Development to the HK International Airport. Alternative medium amenity view to SE of the HK International Airport.
VSR16	Leisure view – Hiking trails/footpaths uphill and in the North Lantau Country Park and its Extension (including hikers on trails from Tung Chung to Tai O)	Hikers	High	0.7 (typical)*	<ul style="list-style-type: none"> Varying views depending on locations and elevation of hiking trails Many alternate overviews from high level along hiking trails. The bridge scale is reduced when compared to the extensive green hills and blue seas reaching higher level of trails. Existing view to the Project site with development of Airport Island.
VSR17	Traffic view – Public pier at Tung Chung	Passengers / visitors	Medium	0.6	<ul style="list-style-type: none"> Open sea view to the Project site.
VSR18	Leisure view – Scenic Hill	Hikers	Low	0.5 (to viaduct section of HKLR)*	<ul style="list-style-type: none"> Varying views depending on locations and elevation of hiking trails Many alternate overviews from high level along hiking trails. The bridge scale is reduced when compared to the extensive green hills and blue seas reaching higher level of trails. Existing view to the Project site with development of Airport Island.
VSR19	Residential view – High-rise to the southeast of Airport island	Residents	High	2.0	<ul style="list-style-type: none"> Residents from Caribbean Coast – 映灣園, Coastal Skyline – 藍天海岸 and Seaview Crescent – 海堤灣畔. Open sea view to the Project site. Owing to orientation of blocks, only the residents facing N, NW and NE are affected. Residents have view of mainly east section to the N and NE. Existing views of water body to the N and NE; and of airport to the distant NW without development Alternate high amenity view to hills to the SE.
VSR20	Residential view – Tung Chung Town to the southeast of Airport island	Residents	High	2.6	<ul style="list-style-type: none"> Residents from Tung Chung Crescent – 東堤灣畔 and Fu Tung Estate – 富東村. Sea view to north blocked by Caribbean Coast – 映灣園, Coastal Skyline – 藍天海岸 and Seaview Crescent – 海堤灣畔
VSR21	Traffic view – Ferry to Tung Chung	Passengers	Low	0.6 (typical)*	<ul style="list-style-type: none"> Relatively short period of the whole journey is affected. Existing view of water body without development
VSR22	Traffic view – Vehicles and MTR along North Lantau Highway	Passengers / drivers	Medium	0.7 (typical)*	<ul style="list-style-type: none"> Open sea view to the Project site is blocked by the roadside planting, retaining walls, profile barriers and so on along North Lantau Highway.
VSR23	Traffic view – Cable cars of Ngong Ping 360	Passengers	High	1.8 (typical)*	<ul style="list-style-type: none"> Varying views depending on locations and elevation of cable Many alternate good views 360 degree from high level in the cable car. The bridge scale is reduced when compared to the extensive green hills and blue seas when cable car reaches high elevation. Relatively short period of the whole journey is affected Existing view to the Project site with development of Airport Island.
VSR24	Industrial view – Airport island	Workers / staff	Medium	1.8	<ul style="list-style-type: none"> Only southeast facing workers are affected. View of east section to the SE.

	VSR	Type of VSRs	Number of VSRs	Minimum Viewing Distance (km)	Description
					<ul style="list-style-type: none"> Existing view of airport ancillary buildings and vehicular roads (immediate view) and of Scenic Hill to the S and of water body to the east and southeast (distant view). Alternate medium amenity view of water body to the NE.
VSR25	Industrial view – The proposed Lantau Logistic Park (LLP) and the possible LLP Extension	Workers / staff / visitors	Medium	1.2	<ul style="list-style-type: none"> Only northwest facing workers are affected. Existing view from northwest section of LLP to the HK International Airport. Alternative medium amenity view to SE of the HK International Airport.
VSR26	Residential view – Future Tung Chung East Development	Residents / workers and visitors (to the possible theme park / major recreational uses)	High	0.8	<ul style="list-style-type: none"> Only north facing residents, workers and visitors are affected. Existing view from north section of Future Tung Chung East Development to the HK International Airport. Alternative medium amenity view to SE of the HK International Airport.
VSR27	Leisure view – Hiking trails/footpaths uphill and in the North Lantau Country Park and its Extension (including hikers on trails from Tung Chung to Tai O)	Hikers	High	0.05 (to viaduct section of HKLR)*	<ul style="list-style-type: none"> Varying views depending on locations and elevation of hiking trails Many alternate overviews from high level along hiking trails. The bridge scale is reduced when compared to the extensive green hills and blue seas when reaching higher level of trails. Existing view to the Project site with development of Airport Island.
VSR28	Leisure view – Scenic Hill	Hikers	Low	1.3 (to HKBCF)*	<ul style="list-style-type: none"> Varying views depending on locations and elevation of hiking trails Many alternate overviews from high level along hiking trails. The bridge scale is reduced when compared to the extensive green hills and blue seas when reaching higher level of trails. Existing view to the Project site with development of Airport Island.
VSR29	Residential view – Tai Ho	Residents	Medium	1.8	<ul style="list-style-type: none"> Existing view of open seawater with development – NLH. Many high – amenity value alternative views
VSR30	Leisure view – Tai Ho	Hikers	Low	1.8 (to HKBCF)	<ul style="list-style-type: none"> Varying views depending on locations and elevation of hiking trails Many alternate overviews from high level along hiking trails. The HKBCF scale is reduced when compared to the extensive green hills and blue seas when reaching higher level of trails. Existing view to the Project site with development of Airport Island.
VSR31	Industrial view – Northeast part of the Airport	Workers / visitors	Medium	0.4	<ul style="list-style-type: none"> Only east facing workers are affected. Alternative medium amenity view to N, S and W of the HK International Airport.
VSR32	Industrial view – East part of the Airport (e.g. Cathay Pacific City, Dragonair Building)	Workers / visitors	Medium	2.0	<ul style="list-style-type: none"> Only northeast facing workers are affected. Alternative medium amenity view to N, S and W of the HK International Airport.

Note: * Minimum viewing distance of traffic views of passengers and leisure views of hikers is varies depending on the routes in reality. The proposed minimum viewing distance is only typical one for photomontage preparation shown in Figure 14.1.3.

Source of Landscape and Visual Impacts

14.2.2.3 The potential sources of landscape and visual impacts are listed below.

Table 14-13 Source of Impacts during Construction and Operation Phases

Code	Source of Impacts During Construction Phase	Code	Source of Impacts During Operation Phase
<u>Source of landscape impacts regarding change or loss of LCAs and LRs</u>			
For HKLR			
LC1-1	<ul style="list-style-type: none"> HKLR Viaduct section - from HKSAR boundary to Scenic Hill (i.e. elevated bridgework, including substructures/foundations – reinforced concrete columns and pilecaps founded on reinforced concrete bored-piles, and superstructures – accommodating the dual-3 lane carriageway plus hardshoulder on each bound). During construction phase, temporary works on the existing seawall will be affected and reinstated after construction. 	LO1-1	<ul style="list-style-type: none"> Completed HKLR Viaduct section.
LC1-2	<ul style="list-style-type: none"> HKLR Tunnel section - through Scenic Hill (i.e. bored-tunnel viable for tunnelling through a hilly terrain of Scenic Hill and tunnel portal with merged vent shaft). During construction phase, temporary (e.g. haul road, vegetation clearance, scaffolding on slopes etc.) and permanent works on slope formation for the tunnel portal will be affected. Within the affected area, vegetation cover with dominant exotic species will be affected. 	LO1-2	<ul style="list-style-type: none"> Completed HKLR Tunnel section including tunnel portal – through Scenic Hill.
LC1-3	<ul style="list-style-type: none"> HKLR Tunnel section - underpassing the Airport Road and the Airport Express Line (i.e. combination of cut-and-cover method and trenchless method for the tunnel works on the reclamation adjacent to southeastern coast of Scenic Hill and the Airport Island with temporary impacts). During construction phase, most of landscape area of Scenic Hill will not be affected by the slope works of tunnel works. 	LO1-3	<ul style="list-style-type: none"> Completed underground HKLR Tunnel section – underpassing the Airport Road and the Airport Express Link.
LC1-4	<ul style="list-style-type: none"> HKLR Reclamation section i.e. reclamation work, tunnel portal, related management building and roads for tunnel. There will be no vent shaft in this section. During construction phase, the natural / artificial rocky shoreline and seawater will be affected by the reclamation works. 	LO1-4	<ul style="list-style-type: none"> Completed HKLR Reclamation section including tunnel portal and management building.
LC1-5	<ul style="list-style-type: none"> HKLR At-Grade Road section – from the tunnel-portal in the reclamation area to the HKBCF (i.e. road works of at-grade road on the eastern side of the Airport Island, elevated bridge locally at the connection point with the HKBCF). The existing vegetation adjacent to the existing shoreline will not be affected. During construction phase, a portion of roadside landscape area will be slightly affected due to the temporary works and new road links widening caused by the interface of HKLR and existing roads. 	LO1-5	<ul style="list-style-type: none"> Completed HKLR At-Grade Road section and associated roads.
For HKBCF			
LC2-1	<ul style="list-style-type: none"> HKBCF Reclamation i.e. reclamation works including seawalls on seawater of eastern side of the Airport Island 	LO2-1	<ul style="list-style-type: none"> Completed HKBCF Reclamation.
LC2-2	<ul style="list-style-type: none"> HKBCF Roadworks i.e. at-grade roads in the reclamation area, and elevated bridge structures for HKLR's connection to the HKBCF, HKBCF's connection to the TMCLKL and HKBCF's roadlink to the Airport Island. During construction phase, impacts from the temporary works at the interface between existing roads and HKBCF Roadworks will be affected slightly and reinstated after construction. 	LO2-2	<ul style="list-style-type: none"> Completed HKBCF Roadworks and link roads.

Code	Source of Impacts During Construction Phase	Code	Source of Impacts During Operation Phase
LC2-3	<ul style="list-style-type: none"> HKBCF's roadlink tunnel i.e. serving the connection between the HKBCF and the Airport Island, that underpasses the Airport Express Line and the Airport Road 	L02-3	<ul style="list-style-type: none"> Completed HKBCF's roadlink tunnel.
LC2-4	<ul style="list-style-type: none"> HKBCF Buildings and related facilities – i.e. the Passengers Clearance Building (PCB), other buildings for accommodating BCF-related facilities and offices for the various Government Departments and personnel involved in the operation/management/maintenance of the HKBCF, pedestrian links – e.g. footbridges connecting to the buildings and vehicle inspection areas, car park etc 	L02-4	<ul style="list-style-type: none"> Completed HKBCF Buildings and related facilities.
<u>Source of visual impacts regarding introduction of new elements and loss of existing elements</u>			
For HKLR			
VC1-1	<ul style="list-style-type: none"> Visual obstruction by temporary and permanent construction plants and structures. Visual obstruction by construction activities and traffic within the Project site. Site formation and bare soil surface affecting visual quality. Potential cutting, embankment and retaining structures. 	VO1-1	<ul style="list-style-type: none"> Appearance of the physical highway structure of HKLR – i.e. HKLR's Viaduct, Tunnel, Reclamation and At-Grade Road sections stated in LC1-1, LC1-2, LC1-3, LC1-4 and LC1-5. Traffic on HKLR and the related connecting roads. Lighting provisions on the connecting roads and the lighting glare emitted by vehicles of HKLR at night.
VC1-2	<ul style="list-style-type: none"> Visual obstruction by loss of some greenery and coastline. Visual obstruction by loss of open sea view. 	VO1-2	<ul style="list-style-type: none"> Visual obstruction by loss of some greenery and coastline. Visual obstruction by loss of open sea view.
For HKBCF			
VC2-1	<ul style="list-style-type: none"> Visual obstruction by temporary and permanent construction plants and structures. Visual obstruction by construction activities and traffic within the Project site. Site formation and bare soil surface affecting visual quality. Potential cutting, embankment and retaining structures. 	VO2-1	<ul style="list-style-type: none"> Appearance of the physical highway and building structure of HKBCF – i.e. HKBCF's Reclamation, Roadworks, Tunnel and Buildings and related facilities stated in LC2-1, LC2-2, LC2-3 and LC2-4. Traffic on HKBCF and the related connecting roads. Lighting provisions on the connecting roads and the lighting glare emitted by vehicles of HKBCF at night.
VC2-2	<ul style="list-style-type: none"> Visual obstruction by loss of some greenery and coastline. Visual obstruction by loss of open sea view. 	VO2-2	<ul style="list-style-type: none"> Visual obstruction by loss of some greenery and coastline. Visual obstruction by loss of open sea view.

Note: The detailed information of construction works of HKLR and HKBCF is given in Chapter 4.

14.3 Landscape Impact Assessment

14.3.1 Magnitude of Change of LR and LCA

14.3.1.1 The magnitude of change of each LR and LCA is summarized in the below table:

Table 14-14 Magnitude of Change of Identified LCAs / LRs:

LR / LCA no.	Landscape Resources (LR) and Landscape Characters Areas (LCA) (area affected / area of LR or LCA) ha	Compatibility of the project with the surrounding landscape (H / M / L)	Reversibility (H / M / L)	Scale of development (L / M / S)	Source of Impact		Duration of impacts under construction and operation phases (L / S)	Magnitude of change	
					Construction Phase	Operation Phase		Construction Phase	Operation Phase
LRs									
LR1	Airport Island Facilities (5.3 / 186.3)	H	M	M	LC1-1, LC1-5	LO1-1, LO1-5	L	Small	Small
LR2	Rocky coastline – along southeast of Hong Kong International Airport (4.3 / 5.5)	L	L	L	LC1-4, LC1-5	LO1-4, LO1-5	L	Large	Large
LR3	Woodland, shrubland and grassland – Scenic Hill (0.43 / 22.8)	L	L	M	LC1-1, LC1-2	LO1-1, LO1-2	L	Intermediate	Intermediate
LR4	Seawater – Airport island coast (71.5 / 800.8)	L	L	L	LC1-1, LC1-3, LC1-4, LC1-5	LO1-1, LO1-3, LO1-4, LO1-5	L	Large	Large
LR5	Roads – Airport island (5.0 / 39.8)	H	M	M	LC1-1, LC1-5	LO1-1, LO1-5	L	Negligible	Negligible
LR6	Woodland, shrubland, grassland and plantation of northwest Lantau coast (nil / 90.9)	-	-	-	Nil	Nil	-	Nil	Nil
LR7	Agricultural land and villages - northwest of Lantau (nil / 9.9)	-	-	-	Nil	Nil	-	Nil	Nil
LR8	Artificial seawall – Airport island (1.5 / 8.6)	H	M	M	LC1-1	LO1-1	L	Intermediate	Intermediate
LR9	Roadside landscaped areas within Airport (4.2 / 32.0)	M	M	M	LC1-1, LC1-3, LC1-4, LC1-5	LO1-1, LO1-3, LO1-4, LO1-5	L	Intermediate	Intermediate
LR10	Urban area – Tung Chung (nil / 4.7)	-	-	-	Nil	Nil	-	Nil	Nil
LR10a	Natural rocky and sandy shore with mangrove / mudflat (nil / 5.8)	-	-	-	Nil	Nil	-	Nil	Nil
LR10b	Rivers and streams – northwest Lantau (nil / 0.5)	-	-	-	Nil	Nil	-	Nil	Nil
LR11	Rocky coastline – at northeast corner of Hong Kong International Airport (1.0 / 1.0)	L	L	M	LC2-1	LO2-1	L	Intermediate	Intermediate
LR12	Vehicular road networks on Airport Island (1.3 / 9.6)	H	M	S	LC2-2	LO2-2	L	Negligible	Negligible
LR13	Seawater – northeast of Hong Kong International Airport (128.0 / 489.8)	L	L	L	LC2-1, LC2-2, LC2-3, LC2-4	LO2-1, LO2-2, LO2-3, LO2-4	L	Large	Large
LR14	Facilities at Airport island (2.0 / 35.8)	H	M	S	LC2-2, LC2-3	LO2-2, LO2-3	L	Negligible	Negligible
LR15	Roadside landscaped areas within Airport	M	M	S	LC2-2, LC2-3	LO2-2, LO2-3	L	Small	Small

LR / LCA no.	Landscape Resources (LR) and Landscape Characters Areas (LCA) (area affected / area of LR or LCA) ha	Compatibility of the project with the surrounding landscape (H / M / L)	Reversibility (H / M / L)	Scale of development (L / M / S)	Source of Impact		Duration of impacts under construction and operation phases (L / S)	Magnitude of change	
					Construction Phase	Operation Phase		Construction Phase	Operation Phase
	(0.1 / 8.4)				LC2-4	LO2-4			
LCAs									
LCA1	Offshore Water Landscape – Open seawater to the Northeast of Airport Island (28.5 / 540.6)	L	L	M	LC1-1	LO1-1	L	Intermediate	Intermediate
LCA2	Strait Landscape – Chek Lap Kok Channel (16.5 / 160.0)	M	L	M	LC1-1,	LO1-1	L	Intermediate	Intermediate
LCA3	Inshore Water Landscape – Open seawater to the southeast of Airport Island (36.5 / 102.2)	L	L	L	LC1-3, LC1-4, LC1-5	LO1-3, LO1-4, LO1-5	L	Large	Large
LCA4	Institutional Landscape – Hong Kong International Airport (9.1 / 234.4)	H	M	M	LC1-1, LC1-3,, LC1-5	LO1-1, LO1-3, LO1-5	L	Small	Small
LCA5	Coastal Upland and Hillside Landscape – Scenic Hill (0.4 / 22.3)	L	L	M	LC1-1 LC1-2	LO1-1, LO1-2	L	Intermediate	Intermediate
LCA6	Transportation Corridor Landscape – Airport Road and East Coast Road connecting to North Lantau Highway along east of Hong Kong International Airport (5.0 / 39.8)	H	M	M	LC1-5	LO1-5	L	Small	Small
LCA7	Rural Coastal Plain Landscape – San Tau Village 石散頭 (nil / 11.5)	-	-	-	Nil	Nil	Nil	Nil	Nil
LCA8	Coastal Upland and Hillside Landscape – Sha Lo Wan 沙螺灣 (nil / 80.0)	L	M	S	LC1-1	LO1-1	L	Negligible	Negligible
LCA9	Settled Valley Landscape - Sha Lo Wan 沙螺灣 (nil / 7.4)	-	-	-	Nil	Nil	-	Nil	Nil
LCA10	Mixed Modern Comprehensive Urban Development Landscape – Tung Chung (nil / 7.4)	-	-	-	Nil	Nil	-	Nil	Nil
LCA11	Inshore Water Landscape – Open seawater to the east of Airport Island (128.0 / 489.8)	L	L	L	LC2-1, LC2-2, LC2-3, LC2-4	LO2-1, LO2-2, LO2-3, LO2-4	L	Large	Large
LCA12	Institutional Landscape – Hong Kong International Airport (2.0 / 45.2)	H	L	M	LC2-2	LO2-2	L	Small	Small
LCA13	Transportation Corridor Landscape – Airport Road and East Coast Road (1.3 / 9.6)	H	M	M	LC2-2	LO2-2	L	Negligible	Negligible

Note:

- Compatibility of the project with the surrounding landscape (H: High / M: Medium / L: Low);
- Reversibility (H: High / M: Medium / L: Low);
- Scale of development (L: Large / M: Medium / S: Small);
- Duration of impacts under construction and operation phases (L: Long / S: Short);
- Source of impacts for each LR / LCA refers to Section 14.3.2.1.
- Details of existing vegetation species of particular LR / LCA refer to Table 14-9 of Section 14.2.1.1.

14.3.1.2 In summary, it is anticipated that all the primary woodland, shrubland and grassland within north of Lantau (LR6) will not be affected by the development of HKLR viaduct and tunnel sections. On the other hand, there will be approximately 0.43 ha of vegetated slope area in Scenic Hill (LR3) affected by construction of the tunnel works and portal area.

14.3.1.3 For HKLR at-grade road system, there will be approximate 4.3 ha of roadside landscaped area (LR9 and LR15) will be affected by the road widening works. Due to the reclamation for HKLR at-grade road system and HKBCF, approximately 153 ha of seawater (LR4 and LR13) will be affected under the whole area of seawater (approximately 1300 ha) under the Study area. For rocky shoreline (LR2 and LR11), approximately 5.3 ha of area will be affected by the development of HKLR and HKBCF.

14.3.2 Significance Threshold of LR and LCA

14.3.2.1 The significance threshold regarding the sensitivity and magnitude of change of each LR and LCA is summarized in the below table:

Table 14-15 Significance Threshold of Identified LRs / LCAs (without mitigation)

LRs/ LCAs	Type of LRs / LCAs	Sensitivity	Source of Impact		Magnitude of Change		Significance threshold without mitigation	
			During Construction Phase	During Operation Phase	During Construction Phase	During Operation Phase	During Construction Phase	During Operation Phase
LRs								
LR1	Airport Island Facilities	Low	LC1-1, LC1-5	L01-1, L01-5	Small	Small	<i>Slight</i>	<i>Slight</i>
LR2	Rocky coastline – along southeast of Hong Kong International Airport	Medium	LC1-4, LC1-5	L01-4, L01-5	Large	Large	<i>Moderate</i>	<i>Moderate</i>
LR3	Woodland, shrubland and grassland – Scenic Hill	High	LC1-1, LC1-2	L01-1, L01-2	Intermediate	Intermediate	<i>Moderate</i>	<i>Moderate</i>
LR4	Seawater – Airport island coast	Medium	LC1-1, LC1-3, LC1-4, LC1-5	L01-1, L01-3, L01-4, L01-5	Large	Large	<i>Moderate</i>	<i>Moderate</i>
LR5	Roads – Airport island	Low	LC1-1, LC1-5	L01-1, L01-5	Negligible	Negligible	<i>Negligible</i>	<i>Negligible</i>
LR6	Woodland, shrubland, grassland and plantation of northwest Lantau coast	High	Nil	Nil	Nil	Nil	<i>Nil</i>	<i>Nil</i>
LR7	Agricultural land and villages - northwest of Lantau	Medium	Nil	Nil	Nil	Nil	<i>Nil</i>	<i>Nil</i>
LR8	Artificial seawall – Airport island	Low	LC1-1	L01-1	Intermediate	Intermediate	<i>Slight</i>	<i>Slight</i>
LR9	Roadside landscaped areas within Airport	Medium	LC1-1, LC1-3, LC1-4, LC1-5	L01-1, L01-3, L01-4, L01-5	Intermediate	Intermediate	<i>Moderate</i>	<i>Moderate</i>
LR10	Urban area – Tung Chung	Medium	Nil	Nil	Nil	Nil	<i>Nil</i>	<i>Nil</i>
LR10a	Natural rocky and sandy shore with mangrove / mudflat	High	Nil	Nil	Nil	Nil	<i>Nil</i>	<i>Nil</i>
LR10b	Rivers and streams – northwest Lantau	Medium	Nil	Nil	Nil	Nil	<i>Nil</i>	<i>Nil</i>
LR11	Rocky coastline – at northeast corner of Hong Kong International Airport	Medium	LC2-1	L02-1	Intermediate	Intermediate	<i>Moderate</i>	<i>Moderate</i>
LR12	Vehicular road networks on Airport Island	Low	LC2-2	L02-2	Negligible	Negligible	<i>Negligible</i>	<i>Negligible</i>
LR13	Seawater – northeast of Hong Kong International Airport	Medium	LC2-1, LC2-2, LC2-3, LC2-4	L02-1, L02-2, L02-3, L02-4	Large	Large	<i>Moderate</i>	<i>Moderate</i>
LR14	Facilities at Airport island	Low	LC2-2, LC2-3	L02-2, L02-3	Negligible	Negligible	<i>Negligible</i>	<i>Negligible</i>
LR15	Roadside landscaped areas within Airport	Medium	LC2-2, LC2-3, LC2-4	L02-2, L02-3, L02-4	Small	Small	<i>Moderate</i>	<i>Moderate</i>
LCAs								
LCA1	Offshore Water Landscape – Open seawater to the Northeast of Airport Island	Medium	LC1-1	L01-1	Intermediate	Intermediate	<i>Moderate</i>	<i>Moderate</i>

LRs/ LCAs	Type of LRs / LCAs	Sensitivity	Source of Impact		Magnitude of Change		Significance threshold without mitigation	
			During Construction Phase	During Operation Phase	During Construction Phase	During Operation Phase	During Construction Phase	During Operation Phase
LCA2	Strait Landscape – Chek Lap Kok Channel	Medium	LC1-1,	L01-1	Intermediate	Intermediate	<i>Moderate</i>	<i>Moderate</i>
LCA3	Inshore Water Landscape – Open seawater to the southeast of Airport Island	Medium	LC1-3, LC1-4, LC1-5	L01-3 L01-4, L01-5	Large	Large	<i>Moderate</i>	<i>Moderate</i>
LCA4	Institutional Landscape –Hong Kong International Airport	Medium	LC1-1, LC1-3,, LC1-5	L01-1, L01-3, L01-5	Small	Small	<i>Slight</i>	<i>Slight</i>
LCA5	Coastal Upland and Hillside Landscape – Scenic Hill	High	LC1-1 LC1-2	L01-1, L01-2	Intermediate	Intermediate	<i>Moderate</i>	<i>Moderate</i>
LCA6	Transportation Corridor Landscape – Airport Road and East Coast Road connecting to North Lantau Highway along east of Hong Kong International Airport	Low	LC1-5	L01-5	Small	Small	<i>Slight</i>	<i>Slight</i>
LCA7	Rural Coastal Plain Landscape – San Tau Village 石散頭	Medium	Nil	Nil	Nil	Nil	<i>Nil</i>	<i>Nil</i>
LCA8	Coastal Upland and Hillside Landscape – Sha Lo Wan 沙螺灣	High	LC1-1	L01-1	Negligible	Negligible	<i>Negligible</i>	<i>Negligible</i>
LCA9	Settled Valley Landscape - Sha Lo Wan 沙螺灣	Medium	Nil	Nil	Nil	Nil	<i>Nil</i>	<i>Nil</i>
LCA10	Mixed Modern Comprehensive Urban Development Landscape – Tung Chung	Medium	Nil	Nil	Nil	Nil	<i>Nil</i>	<i>Nil</i>
LCA11	Inshore Water Landscape – Open seawater to the east of Airport Island	Medium	LC2-1, LC2-2, LC2-3, LC2-4	L02-1, L02-2, L02-3, L02-4	Large	Large	<i>Moderate</i>	<i>Moderate</i>
LCA12	Institutional Landscape – Hong Kong International Airport	Medium	LC2-2	L02-2	Small	Small	<i>Slight</i>	<i>Slight</i>
LCA13	Transportation Corridor Landscape – Airport Road and East Coast Road	Low	LC2-2	L02-2	Negligible	Negligible	<i>Negligible</i>	<i>Negligible</i>

14.3.3 Mitigation Measures

Minimisation and avoidance as Mitigation Measures During Detailed Design Stage

14.3.3.1 Corresponding mitigation measures are proposed to avoid and reduce the identified impacts. Furthermore, mitigation measures to remedy and compensate unavoidable impacts will be proposed to minimise the magnitude of change caused to sensitive receivers during detailed design stage. Examples of general mitigation measures for minimisation and avoidance of potential impacts include:

- Minimize the footprint of project and that the quantity of landscape character units and landscape resources affected;
- Minimize temporary works areas for construction works;
- Undertaking good site practices by applying hydroseeding on temporary stockpiles and reclamation areas;
- Conservation of topsoil for reuse;
- Waste limitation by recycling of felled trees into woodchip mulch for use in landscaped areas.

Design Measures as Mitigation Measures During Detailed Design Stage

14.3.3.2 The identification of the landscape and visual impacts has highlighted the potential primary and indirect sources of impacts and their magnitude of change caused to sensitive receivers. Some design measures will be developed during detailed design stage. Examples of these design measures include:

- Roadside planting and planting along the edge of the reclamation is proposed;

- Transplanting of mature trees in good health and amenity value where appropriate and reinstatement of areas disturbed during construction by compensatory hydro-seeding and planting;
- Protection measures for the trees to be retained during construction activities;
- Optimizing the sizes and spacings of the bridge columns;
- Fine-tuning the location of the bridge columns to avoid visually-sensitive locations;
- Aesthetic design of the bridge form and its structural elements for HKLR, e.g. parapet, soffit, columns, lightings and so on;
- Considering the decorative urban design elements for HKLR, e.g. decorative road lightings;
- Maximizing new tree, shrub and other vegetation planting to compensate tree felled and vegetation removed;
- Providing planting area around peripheral of HKLR and HKBCF for tree planting screening effect;
- Providing salt-tolerant native trees along the planter strip at affected seawall and newly reclaimed coastline.
- For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonic atmosphere of the HKBCF.
- Fine-tuning the sizes of the structural members to minimize the bulkiness of buildings and adjustment of building arrangement to minimise disturbance to surrounding vegetation in the HKBCF,
- For HKLR, providing aesthetic design on the viaduct, tunnel portals, at-grade roads and reclamation (e.g. subtle colour tone and slim form for viaduct to minimize the bulkiness of the structure and to blend the viaduct better with the background environment, featured form of tunnel portals, roadside planting along at-grade roads and landscape berm on & planting along edge of reclamation area) to beautify the HKLR alignment (refer to Figure 14.4.3).

14.3.3.3 Mitigation Measures / Strategies to be applied in the Construction Phase and the Operation Phase are listed in below:

Table 14-16 Proposed Mitigation Measures / Strategies during Construction and Operation Phases

	Description of Mitigation Measures
During Construction Phase	<p><u>Mitigate both Landscape and Visual Impacts</u></p> <p>G1. Grass-hydroseed bare soil surface and stock pile areas.</p> <p>G2. Add planting strip and automatic irrigation system if appropriate at some portions of bridge or footbridge to screen bridge and traffic.</p> <p>G3. For HKLR, providing aesthetic design on the viaduct, tunnel portals, at-grade roads and reclamation (e.g. subtle colour tone and slim form for viaduct, aesthetic design of the bridge form and its structural elements including the parapet, soffit, columns and so on and decorative urban design elements and lightings for the HKLR; featured form of tunnel portals, roadside planting along at-grade roads and landscape berm on & planting along edge of reclamation area) to beautify the HKLR alignment.</p> <p>G4. For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonic atmosphere of the HKBCF (see Figure 14.3.1 for example).</p> <p>G5. Vegetation reinstatement and upgrading to disturbed areas.</p> <p>G6. Maximize new tree, shrub and other vegetation planting to compensate tree felled and vegetation removed.</p> <p>G7. Provide planting area around peripheral of and within HKBCF and HKLR for tree screening buffer effect.</p> <p>G8. Plant salt tolerant native tree and shrubs etc along the planter strip at affected seawall.</p> <p>G9. Reserve of loose natural granite rocks for re-use. Provide new coastline to adopt "natural-look" by means of using armour rocks in the form of natural rock materials and planting strip area accommodating screen buffer to enhance "natural-look" of the new coastline (see Figure 14.4.2 for example).</p> <p><u>Mitigate Visual Impacts</u></p> <p>V1. Minimize time for construction activities during construction period.</p> <p>V2. Provide screen hoarding at the portion of the project site / works areas / storage areas near VSRs who have close low-level views to the Project during HKLR & HKBCF construction.</p>
During Operation Phase	<p><u>Mitigate both Landscape and Visual Impacts</u></p> <p>G10. Provide proper planting maintenance on the new planting areas to enhance the aesthetic degree.</p> <p>V3. Lighting design to minimize glare at night. Decorative road lighting to be considered during detailed design stage.</p>

Note:

- Figure 14.3.1 – Landscape Master Plan showing the general arrangement of HKBCF with mitigation. This Plan is preliminary only and subject to further development in detailed design stage.
- Figure 14.4.2 – Details of mitigation measure – G9 for the new coastline.

Implementation Programming / Sequencing

14.3.3.4 It is anticipated that initial funding and implementation of the landscape and visual mitigation measures will be by the project proponent, the licensee or concerned department for the operations of HKLR and HKBCF. The on-going maintenance of mitigation measures is likely to be handed over to various government departments.

14.3.3.5 An implementation programme will be prepared as required by TM-EIAO. Reference will be made to the *ETWB TC(W) No. 2/2004 on Maintenance of Vegetation and Hard Landscape Features* which defines the management and maintenance responsibilities for natural vegetation and landscape works, including both softworks and hardworks, and the authorities for tree preservation and felling. The format of the preliminary arrangement of implementation programme is listed below:

Table 14-17 Proposed format for Preliminary Funding, Implementation, Management and Maintenance Proposal

Mitigation items	Funding & Implementation unit (See Remark)	Maintenance unit (See Remark)
<i>During Construction</i>		
V1 and V2	Project Proponent (i.e. HyD)	The Contractor
G3 and G4	Project Proponent / Initiating Department (e.g. the relevant User Department of the building)	Project Proponent / Initiating Department (e.g. the relevant User Department of the building)
G1, G2, G3, G6, G7, G8 and G9	Project Proponent (i.e. HyD)	HyD / LCSD

Mitigation items	Funding & Implementation unit (See Remark)	Maintenance unit (See Remark)
<i>During Operation</i>		
V3	Project Proponent (i.e. HyD)	HyD
G10	Project Proponent (i.e. HyD)	HyD / LCSD

Note: The proposed mitigation measures and arrangements are tentative. The responsible parties are also tentative and subject to further agreements amongst the Government Departments.

14.3.4 Residual Impact of LR and LCA

14.3.5 The residual impact of each LCA and LR regarding the significance threshold after mitigation is summarized in the below table:

Table 14-18 Residual Impact of Identified LRs / LCAs (with mitigation)

LRs/ LCAs	Significance threshold without mitigation		Recommended mitigation measures		Residual impact after implementation of mitigation measures		
	During Construction Phase	During Operation Phase	Construction Phase	Operation Phase	Construction Phase	Day 1 - Operation Phase	Year 10 - Operation Phase
LR1 Airport Island Facilities	Slight	Slight	-	-	<i>Slight</i>	<i>Negligible</i>	<i>Negligible</i>
LR2 Rocky coastline – along southeast of Hong Kong International Airport	Moderate	Moderate	G1, G5, G6, G7, G8, G9	G10	<i>Moderate</i>	<i>Moderate</i>	<i>Slight</i>
LR3 Woodland, shrubland and grassland – Scenic Hill	Moderate	Moderate	G1, G5, G6	G10	<i>Moderate</i>	<i>Slight</i>	<i>Negligible</i>
LR4 Seawater – Airport island coast	Moderate	Moderate	-	-	<i>Moderate</i>	<i>Moderate</i>	<i>Moderate</i>
LR5 Roads – Airport island	Negligible	Negligible	-	-	<i>Negligible</i>	<i>Negligible</i>	<i>Negligible</i>
LR6 Woodland, shrubland, grassland and plantation of northwest Lantau coast	Nil	Nil	-	-	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
LR7 Agricultural land and villages - northwest of Lantau	Nil	Nil	-	-	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
LR8 Artificial seawall – Airport island	Slight	Slight	G1, G5, G6, G8	G10	<i>Slight</i>	<i>Negligible</i>	<i>Negligible</i>
LR9 Roadside landscaped areas within Airport	Moderate	Moderate	G1, G5, G6, G7	G10	<i>Moderate</i>	<i>Slight</i>	<i>Negligible</i>
LR10 Urban area – Tung Chung	Nil	Nil	-	-	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
LR10a Natural rocky and sandy shore with mangrove / mudflat	Nil	Nil	-	-	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>

LRs/ LCAs	Significance threshold without mitigation		Recommended mitigation measures		Residual impact after implementation of mitigation measures		
	During Construction Phase	During Operation Phase	Construction Phase	Operation Phase	Construction Phase	Day 1 - Operation Phase	Year 10 - Operation Phase
LR10b Rivers and streams – northwest Lantau	Nil	Nil	-	-	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
LR11 Rocky coastline – at northeast corner of Hong Kong International Airport	Moderate	Moderate	G1, G4, G5, G6, G7, G8, G9	G10	<i>Moderate</i>	<i>Slight</i>	<i>Slight</i>
LR12 Vehicular road networks on Airport Island	Negligible	Negligible	-	-	<i>Negligible</i>	<i>Negligible</i>	<i>Negligible</i>
LR13 Seawater – northeast of Hong Kong International Airport	Moderate	Moderate	G3	-	<i>Moderate</i>	<i>Moderate</i>	<i>Moderate</i>
LR14 Facilities at Airport island	Negligible	Negligible	-	-	<i>Negligible</i>	<i>Negligible</i>	<i>Negligible</i>
LR15 Roadside landscaped areas within Airport	Moderate	Moderate	G1, G2, G5, G6, G7	G10	<i>Moderate</i>	<i>Slight</i>	<i>Negligible</i>
LCA1 Offshore Water Landscape – Open seawater to the Northeast of Airport Island	Moderate	Moderate	G3	-	<i>Moderate</i>	<i>Moderate</i>	<i>Slight</i>
LCA2 Strait Landscape – Chek Lap Kok Channel	Moderate	Moderate	G3	-	<i>Moderate</i>	<i>Slight</i>	<i>Slight</i>
LCA3 Inshore Water Landscape – Open seawater to the southeast of Airport Island	Moderate	Moderate	G7, G9	-	<i>Moderate</i>	<i>Moderate</i>	<i>Slight</i>
LCA4 Institutional Landscape – Hong Kong International Airport	Slight	Slight	G1, G2, G5, G6	G10	<i>Slight</i>	<i>Negligible</i>	<i>Negligible</i>
LCA5 Coastal Upland and Hillside Landscape – Scenic Hill	Moderate	Moderate	G1, G5, G6, G7	G10	<i>Moderate</i>	<i>Slight</i>	<i>Negligible</i>
LCA6 Transportation Corridor Landscape – Airport Road and East Coast Road connecting to North Lantau Highway along east of Hong Kong International Airport	Slight	Slight	G1, G2, G5, G6	G10	<i>Slight</i>	<i>Negligible</i>	<i>Negligible</i>

LRs/ LCAs	Significance threshold without mitigation		Recommended mitigation measures		Residual impact after implementation of mitigation measures		
	During Construction Phase	During Operation Phase	Construction Phase	Operation Phase	Construction Phase	Day 1 - Operation Phase	Year 10 - Operation Phase
LCA7 Rural Coastal Plain Landscape – San Tau Village 石散頭	Nil	Nil	-	-	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
LCA8 Coastal Upland and Hillside Landscape – Sha Lo Wan 沙螺灣	Negligible	Negligible	G3	-	<i>Negligible</i>	<i>Negligible</i>	<i>Negligible</i>
LCA9 Settled Valley Landscape – Sha Lo Wan 沙螺灣	Nil	Nil	-	-	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
LCA10 Mixed Modern Comprehensive Urban Development Landscape – Tung Chung	Nil	Nil	-	-	<i>Nil</i>	<i>Nil</i>	<i>Nil</i>
LCA11 Inshore Water Landscape – Open seawater to the east of Airport Island	Moderate	Moderate	G3, G4, G7	-	<i>Moderate</i>	<i>Moderate</i>	<i>Slight</i>
LCA12 Institutional Landscape – Hong Kong International Airport	Slight	Slight	G1, G2, G5, G6, G7	G10	<i>Slight</i>	<i>Negligible</i>	<i>Negligible</i>
LCA13 Transportation Corridor Landscape – Airport Road and East Coast Road	Negligible	Negligible	-	-	<i>Negligible</i>	<i>Negligible</i>	<i>Negligible</i>

14.4 Visual Impact Assessment

14.4.1 Sensitivity of VSR

14.4.1.1 The sensitivity of each VSR is summarized in the below table:

Table 14-19 Sensitivity of Identified VSRs:

VSRs	Degree of visibility (OV / PV / V / FB)	Description on criteria of sensitivity:	Availability (Y/N) and Amenity value of alternative view (H / M / L)	Quality of existing view (H / M / L)	Duration or frequency of view (L / S)	Number of VSRs	Type of VSRs	Sensitivity
VSR1 Residential view – Villages of Tai O	PV	<ul style="list-style-type: none"> The view to HKLR is blocked by natural topographic features to the NW and NE Existing view of open seawater without development Many high amenity value alternative views 	Y H	H	L	High	Residents / visitors	High
VSR2 Residential view – Villages of Sham Wat Wan	PV	<ul style="list-style-type: none"> The view to HKLR is blocked by natural topographic features to the W and N. Limited glimpse of view of HKLR. Existing view of open seawater without development Many high amenity value alternative views 	Y H	H	L	Low	Residents	High
VSR3 Residential view – Villages of San Shek Wan	PV	<ul style="list-style-type: none"> Existing view of open seawater without development Many high amenity value alternative views 	Y H	H	L	Low	Residents	High
VSR4 Residential view – Villages of Sha Lo Wan	PV	<ul style="list-style-type: none"> The view to bridge is blocked by natural topographic features to the W and NE Existing view of channel (immediate view), artificial seawall and vast airport (distant view) without development High amenity value alternative view of hills to other directions 	Y H	H	L	Low	Residents	High
VSR5 Industrial view – Hong Kong Aircraft Engineering Ltd.	FB	<ul style="list-style-type: none"> Limited glimpse of view of HKLR. Existing view of airport (immediate view), channel and Lantau Island (distant view) without development High amenity value alternative view of open seawater to the west 	Y H	H	L	Medium	Workers / Staff	Medium

VSRs	Degree of visibility (OV / PV / V / FB)	Description on criteria of sensitivity:	Availability (Y/N) and Amenity value of alternative view (H / M / L)	Quality of existing view (H / M / L)	Duration or frequency of view (L / S)	Number of VSRs	Type of VSRs	Sensitivity
VSR6 Residential view – Villages of San Tau	PV	<ul style="list-style-type: none"> The view to bridge is blocked by natural topographic features to the W View of HKLR exists. Existing view of channel (immediate view), and artificial seawall and airport (distant view) without development High amenity value alternative views to hills and Tung Chung Bay to other directions 	Y H	H	L	Low	Residents	High
VSR7 Residential view – High-rise residential buildings of Yat Tung Estate	PV	<ul style="list-style-type: none"> Owing to orientation of blocks only the residents facing N and NW are affected. Residents have view of HKLR. Tung Chung Crescent acts as a partial screen to Fu Tung Estate and Yu Tung Court High-rise to the NE of NLH partially block NE view to the east section Similar view of future users' views from Future Tung Chung West Development Existing view of CLK channel and existing bridges, natural rocky coastline and Scenic Hill (immediate) and airport (distant) without development Alternate high amenity view of Tung Chung knoll and Tung Chung Bay to the W and hills to the SE 	Y H	H	L	High	Residents	Medium

VSRs	Degree of visibility (OV / PV / V / FB)	Description on criteria of sensitivity:	Availability (Y/N) and Amenity value of alternative view (H / M / L)	Quality of existing view (H / M / L)	Duration or frequency of view (L / S)	Number of VSRs	Type of VSRs	Sensitivity
VSR8 Residential view – Tung Chung Town to the southeast of Airport island	PV	<ul style="list-style-type: none"> Residents from Tung Chung Crescent – 東堤灣畔 and Fu Tung Estate – 富東村. Sea view to north blocked by Caribbean Coast – 映灣園, Coastal Skyline – 藍天海岸 and Seaview Crescent – 海堤灣畔 Existing view of channel and existing bridges, natural rocky coastline and Scenic Hill (immediate) and airport (distant) with development of Caribbean Coast. Alternate high amenity view of Tung Chung knoll and Tung Chung Bay to the W and hills to the SE 	Y H	H	L	High	Residents	High
VSR9 Residential view – High-rise to the southeast of Airport island	PV	<ul style="list-style-type: none"> Residents from Caribbean Coast – 映灣園, Coastal Skyline – 藍天海岸 and Seaview Crescent – 海堤灣畔. Open sea view to the Project site. Owing to orientation of blocks, only the residents facing N, NW and NE are affected. Residents have view of HKLR to the N and NE. Existing views of water body to the N and NE; and of airport to the distant NW without development Alternate high amenity view to hills to the SE. 	Y H	H	L	High	Residents	High

VSRs	Degree of visibility (OV / PV / V / FB)	Description on criteria of sensitivity:	Availability (Y/N) and Amenity value of alternative view (H / M / L)	Quality of existing view (H / M / L)	Duration or frequency of view (L / S)	Number of VSRs	Type of VSRs	Sensitivity
VSR10 Industrial view – Airport island	PV	<ul style="list-style-type: none"> • Only SE facing workers are affected. • View of HKLR to the SE. • Relatively short duration comparing to the whole journey period for travellers and passengers. • Existing view of airport ancillary buildings and vehicular roads (immediate view) and of Scenic Hill to the S and of water body to the E and SE (distant view). • Alternate medium amenity view of water body to the NE. 	Y M	M	L	Medium	Workers / Staff	Medium
VSR11 Traffic view – Cable cars of Ngong Ping 360	OV	<ul style="list-style-type: none"> • Varying views depending on locations and elevation of cable • Many alternate good views 360 degree from high level in the cable car. The bridge scale is reduced when compared to the extensive green hills and blue seas when cable car reaches high elevation. • Relatively short period of the whole journey is affected. • Existing view to the Project site with development of Airport island. 	Y H	H	S	High	Passengers	High
VSR12 Traffic view – Ferry to Tung Chung	OV	<ul style="list-style-type: none"> • Relatively short period of the whole journey is affected. • Existing view to water body of CLK Island and HK International Airport without development 	Y H	H	S	Medium	Passengers	Medium
VSR13 Traffic view – Vehicles and MTR along North Lantau Highway	FB	<ul style="list-style-type: none"> • Open sea view to the Project site. • Existing view to water body of CLK Island and HK International Airport without development 	Y M	M	S	Medium	Passengers / Drivers	Medium

VSRs	Degree of visibility (OV / PV / V / FB)	Description on criteria of sensitivity:	Availability (Y/N) and Amenity value of alternative view (H / M / L)	Quality of existing view (H / M / L)	Duration or frequency of view (L / S)	Number of VSRs	Type of VSRs	Sensitivity
VSR14 Industrial view – The proposed Lantau Logistic Park (LLP) and its possible LLP Extension	PV	<ul style="list-style-type: none"> Only northwest facing workers are affected. Existing view from northwest section of LLP to the HK International Airport. Alternative high amenity view to SE of the HK International Airport. 	Y H	H	L	Medium	Workers / Staff / Visitors	Medium
VSR15 – Residential view – Future Tung Chung East Developments	PV	<ul style="list-style-type: none"> Only north facing residents, workers and visitors are affected. Existing view from north section of Future Tung Chung East Developments to the HK International Airport. Alternative medium amenity view to SE of the HK International Airport. 	Y M	H	L	High	Residents / workers and visitors (to the possible theme park / major recreational uses)	Medium
VSR16 -Leisure view – Hiking trails/footpaths uphill and in the North Lantau Country Park and its Extension (including hikers on footpaths from Tung Chung to Tai O)	OV	<ul style="list-style-type: none"> Varying views depending on locations and elevation of hiking trails Many alternate overviews from high level along hiking trails. The bridge scale is reduced when compared to the extensive green hills and blue seas reaching higher level of trails. Existing view to the Project site with development of Airport island. 	Y H	H	S	High	Hikers	High
VSR17 – Traffic view – Public pier at Tung Chung	OV	<ul style="list-style-type: none"> Open sea view to the Project site. 	Y H	H	S	Medium	Passengers / Visitors	High
VSR18 – Leisure view – Scenic Hill	FB	<ul style="list-style-type: none"> Varying views depending on locations and elevation of hiking trails Many alternate overviews from high level along hiking trails. The bridge scale is reduced when compared to the extensive green hills and blue seas reaching higher level of trails.. Existing view to the Project site with development of Airport island. 	Y H	H	S	Low	Hikers	High

VSRs	Degree of visibility (OV / PV / V / FB)	Description on criteria of sensitivity:	Availability (Y/N) and Amenity value of alternative view (H / M / L)	Quality of existing view (H / M / L)	Duration or frequency of view (L / S)	Number of VSRs	Type of VSRs	Sensitivity
VSR19 Residential view – High-rise to the southeast of Airport island	PV	<ul style="list-style-type: none"> Residents from Caribbean Coast – 映灣園, Coastal Skyline – 藍天海岸 and Seaview Crescent – 海堤灣畔. Open sea view to the Project site. Owing to orientation of blocks, only the residents facing N, NW and NE are affected. Residents have view of mainly east section to the N and NE. Existing views of water body to the N and NE; and of airport to the distant NW without development Alternate high amenity view to hills at West (Scenic Hill) and South (hillside of North Lantau Country Park) 	Y H	H	L	High	Residents	High
VSR20 Residential view – Tung Chung Town to the southeast of Airport island	PV	<ul style="list-style-type: none"> Residents from Tung Chung Crescent – 東堤灣畔 and Fu Tung Estate – 富東村. Sea view to north blocked by Caribbean Coast – 映灣園, Coastal Skyline – 藍天海岸 and Seaview Crescent – 海堤灣畔 Existing view of channel and existing bridges, natural rocky coastline and Scenic Hill (immediate) and airport (distant) with development of Caribbean Coast. Alternate high amenity view of Tung Chung knoll and Tung Chung Bay to the W and hills to the SE 	Y H	H	L	High	Residents	High
VSR21 Traffic view – Ferry to Tung Chung	OV	<ul style="list-style-type: none"> Relatively short period of the whole journey is affected. Existing view to water body of CLK Island and HK International Airport without development 	Y H	H	S	Low	Passengers	Medium

VSRs	Degree of visibility (OV / PV / V / FB)	Description on criteria of sensitivity:	Availability (Y/N) and Amenity value of alternative view (H / M / L)	Quality of existing view (H / M / L)	Duration or frequency of view (L / S)	Number of VSRs	Type of VSRs	Sensitivity
VSR22 Traffic view – Vehicles and MTR along North Lantau Highway	FB	<ul style="list-style-type: none"> Open sea view to the Project site. Existing view to water body of CLK Island and HK International Airport without development 	Y M	M	S	Medium	Passengers / Drivers	Medium
VSR23 Traffic view – Cable cars of Ngong Ping 360	OV	<ul style="list-style-type: none"> Varying views depending on locations and elevation of cable Many alternate good views 360 degree from high level in the cable car. The bridge scale is reduced when compared to the extensive green hills and blue seas when cable car reaches high elevation. Relatively short period of the whole journey is affected Existing view to the Project site with development of Airport island. 	Y H	H	S	High	Passengers	High
VSR24 Industrial view – Airport island	FB	<ul style="list-style-type: none"> Only SE facing workers are affected. View of HKLR to the SE. Relatively short duration comparing to the whole journey period for travellers and passengers. Existing view of airport ancillary buildings and vehicular roads (immediate view) and of Scenic Hill to the S and of water body to the E and SE (distant view). Alternate medium amenity view of water body to the NE. 	Y M	M	L	Medium	Workers / Staff	Medium
VSR25 Industrial view – The proposed Lantau Logistic Park (LLP) and its possible LLP Extension	PV	<ul style="list-style-type: none"> Only northwest facing workers are affected. Existing view from northwest section of LLP to the HK International Airport. Alternative medium amenity view to SE of the HK International Airport. 	Y M	M	L	Medium	Workers / Staff / Visitors	Medium

VSRs	Degree of visibility (OV / PV / V / FB)	Description on criteria of sensitivity:	Availability (Y/N) and Amenity value of alternative view (H / M / L)	Quality of existing view (H / M / L)	Duration or frequency of view (L / S)	Number of VSRs	Type of VSRs	Sensitivity
VSR26 Residential view – Future Tung Chung East Developments	PV	<ul style="list-style-type: none"> Only north facing residents, workers and visitors are affected. Existing view from north section of Future Tung Chung East Developments to the HK International Airport. Alternative medium amenity view to SE of the HK International Airport. 	Y M	M	L	High	Residents / workers and visitors (to the possible theme park / major recreational uses)	Medium
VSR27 Leisure view – Hiking trails/footpaths uphill and in the North Lantau Country Park and its Extension (including hikers on footpaths from Tung Chung to Tai O)	OV	<ul style="list-style-type: none"> Varying views depending on locations and elevation of hiking trails Many alternate overviews from high level along hiking trails. The HKBCF scale is reduced when compared to the extensive green hills and blue seas when reaching higher level of trails. Existing view to the Project site with development of Airport island. 	Y H	H	S	High	Hikers	High
VSR28 Leisure view – Scenic Hill	FB	<ul style="list-style-type: none"> Varying views depending on locations and elevation of hiking trails Many alternate overviews from high level along hiking trails. The HKBCF scale is reduced when compared to the extensive green hills and blue seas when cable car reaches high elevation. Existing view to the Project site with development of Airport island. 	Y H	H	S	Low	Hikers	High
VSR29 - Residential view – Tai Ho	FB	<ul style="list-style-type: none"> Existing view of open seawater with development – NLH. Many high – amenity value alternative views 	Y H	H	L	Medium	Residents	Medium

VSRs	Degree of visibility (OV / PV / V / FB)	Description on criteria of sensitivity:	Availability (Y/N) and Amenity value of alternative view (H / M / L)	Quality of existing view (H / M / L)	Duration or frequency of view (L / S)	Number of VSRs	Type of VSRs	Sensitivity
VSR30 - Leisure view – Tai Ho	PV	<ul style="list-style-type: none"> Varying views depending on locations and elevation of hiking trails Many alternate overviews from high level along hiking trails. The HKBCF scale is reduced when compared to the extensive green hills and blue seas when reaching higher level of trails. Existing view to the Project site with development of Airport island. 	Y H	H	S	Low	Hikers	High
VSR31 - Industrial view – Northeast part of the Airport	PV	<ul style="list-style-type: none"> Only east facing workers are affected. Alternative medium amenity view to N, S and W of the HK International Airport. 	Y M	M	L	Medium	Workers / Staff	Medium
VSR32 - Industrial view – East part of the Airport (e.g. Cathay Pacific City, Dragonair Building)	FB	<ul style="list-style-type: none"> Only northeast facing workers are affected. Alternative medium amenity view to N, S and W of the HK International Airport. 	Y M	M	L	Medium	Workers / Staff	Medium

Note:

- Degree of visibility: Open view (OV), Partial view (PV), Vista (V) and Fully Blocked (FB);
- Description on criteria of sensitivity: degree of visibility, existing views without the proposed development,
- Amenity value of alternative views (High (H), Medium (M) and Low (L));
- Quality of existing view: High (H), Medium (M) and Low (L);
- Duration or frequency of view: Long (L) and Short (S);
- Number of VSRs: High (H), Medium (M) and Low (L).

14.4.2 Magnitude of Change of VSR

14.4.2.1 The magnitude of change of each VSR is summarized in the below table:

Table 14-20 Magnitude of Change of Identified VSRs:

VSRs	Blockage of View (F / P / S)	Min. Viewing Distance (km)	Reversibility (Y / N)	Compatibility of the project with the surrounding landscape (H / M / L)	Scale of development (L / M / S)	Duration of impacts under construction and operation phases (L / S)	Magnitude of Change	
							During construction phase	During operation phase
VSR1	S	2.5	N	L	L	L	Intermediate	Intermediate
VSR2	S	1.5	N	L	L	L	Intermediate	Intermediate
VSR3	S	0.8	N	L	L	L	Large	Large
VSR4	P	0.7	N	M	L	L	Large	Intermediate
VSR5	S	1.2	N	M	L	L	Small	Negligible
VSR6	P	0.5	N	M	L	L	Large	Intermediate
VSR7	S	1.2	N	H	L	L	Intermediate	Small
VSR8	S	1.3	N	H	L	L	Intermediate	Small
VSR9	P	1.2	N	H	L	L	Intermediate	Small
VSR10	S	0.5	N	M	L	L	Intermediate	Small
VSR11	P	0.35 (typical)	N	M	L	L	Intermediate	Intermediate
VSR12	S	0.35 (typical)	N	M	L	L	Intermediate	Small
VSR13	S	1.1 (typical)	N	M	L	L	Small	Negligible
VSR14	P	1.2	N	H	L	L	Intermediate	Intermediate
VSR15	P	0.8	N	H	L	L	Intermediate	Intermediate
VSR16	S	0.7 (typical)	N	L	L	L	Large	Large
VSR17	S	0.5	N	M	L	L	Small	Small
VSR18	S	0.5 (to viaduct section of HKLR)	N	M	L	L	Small	Negligible
VSR19	P	1.8	N	H	L	L	Intermediate	Small
VSR20	S	2.6	N	M	L	L	Intermediate	Small
VSR21	P	0.6 (typical)	N	M	L	L	Intermediate	Small
VSR22	P	0.7 (typical)	N	M	L	L	Small	Negligible

VSRs	Blockage of View (F / P / S)	Min. Viewing Distance (km)	Reversibility (Y / N)	Compatibility of the project with the surrounding landscape (H / M / L)	Scale of development (L / M / S)	Duration of impacts under construction and operation phases (L / S)	Magnitude of Change	
							During construction phase	During operation phase
VSR23	S	1.8 (typical)	N	H	L	L	Intermediate	Intermediate
VSR24	S	1.8	N	H	L	L	Small	Negligible
VSR25	P	1.2	N	M	L	L	Intermediate	Intermediate
VSR26	P	0.8	N	H	L	L	Small	Small
VSR27	P	0.05 (to viaduct section of HKLR)	N	H	L	L	Large	Large
VSR28	S	1.3 (to HKBCF)	N	M	L	L	Small	Negligible
VSR29	S	1.8	N	H	L	L	Small	Negligible
VSR30	S	1.8 (to HKBCF)	N	H	L	L	Small	Small
VSR31	P	0.4	N	M	L	L	Intermediate	Intermediate
VSR32	P	2.0	N	H	L	L	Small	Negligible

Note:

- Blockage of View: full blockage (F), partial blockage (P) and slight blockage (S);
- Reversibility: Yes (Y) or No (N);
- Degree of compatibility of the project with surrounding landscape: High (H), Medium (M) and Low (L);
- Scale of development: Large (L), Medium (M) and Small (S);
- Duration of impacts under construction and operation phases: Long (L) and Short (S).

14.4.3 Significance of Visual Impact

14.4.3.1 The significance threshold regarding the sensitivity and magnitude of change of each VSR is summarized in the below table:

Table 14-21 Significance Threshold of Identified VSRs (without mitigation)

VSRs	Type of VSRs	Sensitivity	Source of Impact		Magnitude of Change		Significance threshold without mitigation	
			During Construction Phase	During Operation Phase	During Construction Phase	During Operation Phase	During Construction Phase	During Operation Phase
VSR1	Residents / Visitors	High	VC1-1, VC1-2	VO1-1, VO1-2	Intermediate	Intermediate	Significant	Significant
VSR2	Residents	High	VC1-1, VC1-2	VO1-1, VO1-2	Intermediate	Intermediate	Significant	Significant
VSR3	Residents	High	VC1-1, VC1-2	VO1-1, VO1-2	Large	Large	Significant	Significant
VSR4	Residents	High	VC1-1, VC1-2	VO1-1, VO1-2	Large	Intermediate	Significant	Moderate
VSR5	Workers / Staff	Medium	VC1-1, VC1-2	VO1-1, VO1-2	Small	Negligible	Moderate	Negligible

VSRs	Type of VSRs	Sensitivity	Source of Impact		Magnitude of Change		Significance threshold without mitigation	
			During Construction Phase	During Operation Phase	During Construction Phase	During Operation Phase	During Construction Phase	During Operation Phase
VSR6	Residents	High	VC1-1, VC1-2	VO1-1, VO1-2	Large	Intermediate	Significant	Moderate
VSR7	Residents	Medium	VC1-1, VC1-2	VO1-1, VO1-2	Intermediate	Small	Moderate	Slight
VSR8	Residents	High	VC1-1, VC1-2	VO1-1, VO1-2	Intermediate	Small	Moderate	Moderate
VSR9	Residents	High	VC1-1, VC1-2	VO1-1, VO1-2	Intermediate	Small	Moderate	Moderate
VSR10	Workers / Staff	Medium	VC1-1, VC1-2	VO1-1, VO1-2	Intermediate	Small	Moderate	Slight
VSR11	Passengers	High	VC1-1, VC1-2	VO1-1, VO1-2	Intermediate	Intermediate	Moderate	Moderate
VSR12	Passengers	Medium	VC1-1, VC1-2	VO1-1, VO1-2	Intermediate	Small	Moderate	Slight
VSR13	Passengers/Drivers	Medium	VC1-1, VC1-2	VO1-1, VO1-2	Small	Negligible	Moderate	Negligible
VSR14	Workers / Staff / Visitors	Medium	VC1-1, VC1-2	VO1-1, VO1-2	Intermediate	Intermediate	Moderate	Moderate
VSR15	Residents / Workers / Visitors	Medium	VC1-1, VC1-2	VO1-1, VO1-2	Intermediate	Intermediate	Moderate	Moderate
VSR16	Residents / Workers / Visitors	High	VC1-1, VC1-2	VO1-1, VO1-2	Large	Large	Significant	Significant
VSR17	Passengers / Visitors	High	VC2-1, VC2-2	VO2-1, VO2-2	Small	Small	Moderate	Moderate
VSR18	Hikers	High	VC2-1, VC2-2	VO2-1, VO2-2	Small	Negligible	Moderate	Negligible
VSR19	Residents	High	VC2-1, VC2-2	VO2-1, VO2-2	Intermediate	Small	Moderate	Moderate
VSR20	Residents	High	VC2-1, VC2-2	VO2-1, VO2-2	Intermediate	Small	Moderate	Moderate
VSR21	Passengers	Medium	VC2-1, VC2-2	VO2-1, VO2-2	Intermediate	Small	Moderate	Slight
VSR22	Passengers/Drivers	Medium	VC2-1, VC2-2	VO2-1, VO2-2	Small	Negligible	Moderate	Negligible
VSR23	Passengers	High	VC2-1, VC2-2	VO2-1, VO2-2	Intermediate	Intermediate	Moderate	Moderate
VSR24	Workers / Staff	Medium	VC2-1, VC2-2	VO2-1, VO2-2	Small	Negligible	Moderate	Negligible
VSR25	Workers / Visitors	Medium	VC2-1, VC2-2	VO2-1, VO2-2	Intermediate	Intermediate	Moderate	Moderate
VSR26	Residents / Workers / Visitors	Medium	VC2-1, VC2-2	VO2-1, VO2-2	Small	Small	Moderate	Moderate
VSR27	Hikers	High	VC2-1, VC2-2	VO2-1, VO2-2	Large	Large	Significant	Significant
VSR28	Hikers	High	VC2-1, VC2-2	VO2-1, VO2-2	Small	Negligible	Moderate	Negligible
VSR29	Residents	Medium	VC2-1, VC2-2	VO2-1, VO2-2	Small	Negligible	Moderate	Negligible
VSR30	Hikers	High	VC2-1, VC2-2	VO2-1, VO2-2	Small	Small	Moderate	Moderate
VSR31	Workers / Visitors	Medium	VC2-1, VC2-2	VO2-1, VO2-2	Intermediate	Intermediate	Moderate	Moderate
VSR32	Workers / Visitors	Medium	VC2-1, VC2-2	VO2-1, VO2-2	Small	Negligible	Moderate	Negligible

14.4.4 Residual Impact of VSR

14.4.4.1 The residual impact of each VSR regarding the significance threshold after mitigation is summarized in the below table:

Table 14-22 Residual Impact of Identified VSRs (with mitigation)

VSRs	Significance threshold without mitigation		Recommended mitigation measures		Residual impact after implementation of mitigation measures	
	During Construction Phase	During Operation Phase	During Construction Phase	During Operation Phase	During Construction Phase	During Operation Phase
VSR1	Significant	Significant	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Moderate
VSR2	Significant	Significant	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Moderate
VSR3	Significant	Significant	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Moderate
VSR4	Significant	Moderate	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Moderate
VSR5	Moderate	Negligible	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Slight	Negligible
VSR6	Significant	Moderate	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Moderate
VSR7	Moderate	Slight	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Slight	Negligible
VSR8	Moderate	Moderate	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Slight
VSR9	Moderate	Moderate	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Slight
VSR10	Moderate	Slight	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Slight	Slight
VSR11	Moderate	Moderate	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Slight
VSR12	Moderate	Slight	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Slight	Slight
VSR13	Moderate	Negligible	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Slight	Slight
VSR14	Moderate	Moderate	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Slight
VSR15	Moderate	Moderate	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Slight
VSR16	Significant	Significant	G1, G2, G3, G4, G5, G6, G7, G8,	G10, V3	Moderate	Moderate

VSRs	Significance threshold without mitigation		Recommended mitigation measures		Residual impact after implementation of mitigation measures	
	During Construction Phase	During Operation Phase	During Construction Phase	During Operation Phase	During Construction Phase	During Operation Phase
			G9, V1, V2,			
VSR17	Moderate	Moderate	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Slight
VSR18	Moderate	Negligible	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Slight	Negligible
VSR19	Moderate	Moderate	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Slight
VSR20	Moderate	Moderate	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Slight
VSR21	Moderate	Slight	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Slight	Negligible
VSR22	Moderate	Negligible	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Slight	Negligible
VSR23	Moderate	Moderate	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Slight
VSR24	Moderate	Negligible	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Slight	Negligible
VSR25	Moderate	Moderate	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Slight
VSR26	Moderate	Moderate	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Slight
VSR27	Significant	Significant	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Slight
VSR28	Moderate	Negligible	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Slight	Negligible
VSR29	Moderate	Negligible	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Slight	Negligible
VSR30	Moderate	Moderate	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Slight	Negligible
VSR31	Moderate	Moderate	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Moderate	Slight
VSR32	Moderate	Negligible	G1, G2, G3, G4, G5, G6, G7, G8, G9, V1, V2,	G10, V3	Slight	Negligible

14.5 Planning and Development Control Review

14.5.1 Planning and Development Control

Reference for Planning and Development Control Frameworks

14.5.1.1 After reviewing the original statutory plans, the following table shows the change of land use caused by the proposed development area of HKLR and HKBCF:

Table 14-23 Change of the Original Statutory Plans

Development area	Original land use	Change of land use (area affected in ha)	Original statutory plan
HKLR at southern coast of Airport Island	Artificial seawall along South Perimeter Road and Chek Lap Kok South Road	Nil	Approved Chek Lap Kok Outline Zoning Plan No. S/I-CLK/10
HKLR at southeastern coast of Airport Island	CPA (combination of natural and artificial shoreline)	OU (23 ha)	
HKBCF at northeastern coast of Airport Island	OU	Nil (130 ha)	

14.5.1.2 A review of the relevant planning and development control framework is carried out to ascertain the current and future committed development and associated sensitive receiver groups within the Study Area. After the investigation, there are statutory plans (e.g. Outline Zoning Plan – OZP) covering the Project area directly below.

14.5.1.3 Statutory Plans:

- Draft Chek Lap Kok Outline Zoning Plan No. S/I-CLK/11
- Approved Tung Chung Town Centre Area Outline Zoning Plan No. S/I-TCTC/16 gazetted on 24 April 2009

14.5.1.4 Approved EIA Reports:

- EIA for the New Airport Master Plan
- EIA for Tung Chung – Ngong Ping Cable Car Project

14.5.1.5 Airport Height Restrictions (AHR) & Navigation Channels

To ensure aviation safety, no object is allowed to have a height protruding beyond the AHR levels. This constraint is of course particularly acute around the Hong Kong International Airport (HKIA) - the closer it is to the HKIA, especially its runways, the lower the AHR contours are. The HKBCF site and the HKLR alignment need to be located in areas where the AHR contours are high enough to accommodate the height of HKBCF-related buildings and the depth/height of HKLR structures/facilities (e.g. the streetlights).

14.5.1.6 Revised Lantau Concept Plan

Due cognisance is also taken of the Lantau Concept Plan publicized in 2007. For instance, in accordance with the Lantau Concept Plan, the following future developments are planned to be implemented:

- Lantau Logistics Park
- Tung Chung East Future Development

- Tung Chung West Future Development

They are taken into account in determining the HKBCF site location and the HKLR alignment.

Existing Land Use Conditions and Possible Affected Existing Land Use

- 14.5.1.7 The existing land use areas would be affected by the Project are Airport and Seawater. Land use of seawater that would be affected by HKLR is Airport Channel and by HKBCF is seawater to the east of Hong Kong International Airport. A portion of coast along southeast of land use of CPA of airport will also be affected by the tunnel section of HKLR.
- 14.5.1.8 The character of the affected land uses would be changed during construction phase. Implementation of mitigation measures will be able to improve the appearance of Project area during construction and operation phases.
- 14.5.1.9 The proposed HKLR & HKBCF developments will entail amendments to the Approved Chek Lap Kok Outline Zoning Plan No. S/I-CLK/10. As there will be new piece of land formed by the reclamation of HKBCF & HKLR, new land uses will be designated to different parts of the new land formed. Some of the existing land use on the Airport Island as stipulated in the OZP S/I-CLK/10 will be affected. Rezoning to the existing Plan will be needed in this regard.

14.6 Cumulative Impacts

14.6.1 Concurrent Designated Projects

- 14.6.1.1 There will be four concurrent designated projects (TMCLKL - Tuen Mun-Chek Lap Kok Link, artificial island for eastern tunnel portal of HZMB Main Section (China side), Tung Chung East Future Development, Tung Chung West Future Development) providing cumulative impacts on LR4 / LCAs / VSRs affected. The following table states the relationship between concurrent designated projects and the proposed development of HKLR and HKBCF:

Table 14-24 Relationship between concurrent designated projects and HKLR / HKBCF

Proposed Development	Concurrent Designated Projects During Construction Phase	Concurrent Designated Projects During Operation Phase
HKLR	<ul style="list-style-type: none"> • artificial island for eastern tunnel portal of HZMB Main Section (China side) 	<ul style="list-style-type: none"> • artificial island for eastern tunnel portal of HZMB Main Section (China side) • Tung Chung West Future Development
HKBCF	<ul style="list-style-type: none"> • TMCLKL 	<ul style="list-style-type: none"> • TMCLKL • Tung Chung East Future Development

14.6.2 Cumulative Impacts during Construction Phase

- 14.6.2.1 Since the construction activities of the adjacent concurrent designated projects – Tuen Mun-Chek Lap Kok Link (TMCLKL) and artificial island for eastern tunnel portal of HZMB Main Section (China side) may be undertaken at the same time, the cumulative landscape and visual impacts during construction phase would be increased, such as the cumulative impacts caused by the temporary works and additional direct loss of seawater during construction phase. With the concurrent project of the artificial island for eastern tunnel portal of HZMB Main Section (China side), the cumulative landscape impact within HKLR in terms of direct loss of LR4 – Seawater and LCA1 – Offshore Water Landscape will be increased during construction. In addition, with the concurrent project of TMCLKL, the cumulative landscape impact within HKBCF in terms of direct loss

of LR13 – Seawater and LCA11 – Inshore Water Landscape will be increased during construction.

14.6.2.2 The potential quantitative and qualitative loss of landscape resources and character areas within the proposed development plus the adjacent concurrent designated projects will be accumulated. It is anticipated that the visual obstruction would be accumulated since the developments caused by TMCLKL and artificial island for eastern tunnel portal of HZMB Main Section (China side), which would block the views of VSRs adjacent to the northern side of Lantau Island (especially the residential VSRs). For TMCLKL, greater cumulative impacts due to its future structures planned are expected.

14.6.3 Cumulative Impacts during Operation Phase

14.6.3.1 Up to this stage, there are no programs of design and construction of Tung Chung East and West Future Developments. It is anticipated that there will be cumulative impacts caused by Tung Chung East and West Future Developments, TMCLKL and artificial island for eastern tunnel portal of HZMB Main Section (China side). With the concurrent project of artificial island for eastern tunnel portal of HZMB Main Section (China side) and Tung Chung West Future Development, the cumulative landscape impact within HKLR in terms of direct loss of LR4 – Seawater and LCA1 – Offshore Water Landscape & LCA2 – Strait Landscape will be increased during construction. Additionally, with the concurrent project of TMCLKL, the cumulative landscape impact within HKBCF in terms of direct loss of LR13 – Seawater and LCA11 – Inshore Water Landscape will be increased during operation. However, Tung Chung East Future Development will only create indirect loss of the covered area of LR13 and LCA11. Thus loss of seawater adjacent to LR13 and LCA11 will be caused.

14.6.3.2 The distance between those VSRs at the northern side of Lantau Island and the designated projects is in proximity so that the potential blockage of view for those VSRs will also be greater. The cumulative visual impacts caused by those adjacent concurrent designated projects will also create substantial change of baseline condition and further deterioration of the existing visual amenity and character.

14.6.3.3 Thus VSRs with closer distance or visible view angle (e.g. VSR7 – Residents of High-rise Residential Buildings of Yat Tung Estate, VSR8 & 20 – Residents of Tung Chung Town to the Southeast of Airport Island, VSR9 & 19 – Residents of High-rise to the Southeast of Airport Island and VSR29 & 30 – Hikers and residents of Tai Ho) will be affected by the cumulative impacts from the concurrent designated projects.

14.6.3.4 In conclusion, the following table shows the summary of relationship of affected LRs / LCAs / VSRs and potential cumulative impacts by the adjacent concurrent designated projects – TMCLKL and Tung Chung East and West Future Development:

Table 14-25 Potential Cumulative Impacts

Concurrent Designated Projects	Affected LRs / LCAs	Affected VSRs
TMCLKL	LR13 – Seawater – along southeast of Hong Kong International Airport (additional loss of seawater due to reclamation)	VSR7 – Residents of High-rise Residential Buildings of Yat Tung Estate VSR8 & 20 – Residents of Tung Chung Town to the Southeast of Airport Island
	LCA11 – Inshore Water Landscape – open seawater to the east of Airport Island (additional loss of seawater due to reclamation)	VSR9 & 19 – Residents of High-rise to the Southeast of Airport Island VSR29 & 30 – Hikers and residents of Tai Ho

Concurrent Designated Projects	Affected LR / LCA	Affected VSRs
Artificial island for eastern tunnel portal of HZMB Main Section (China side)	LR13 – Seawater – along southeast of Hong Kong International Airport (additional loss of seawater due to reclamation)	
	LCA11 – Inshore Water Landscape – open seawater to the east of Airport Island (additional loss of seawater due to reclamation)	
Tung Chung East Future Development	LCA11 – Inshore Water Landscape – open seawater to the east of Airport Island (additional loss of seawater due to reclamation)	
Tung Chung West Future Development	LR4 - Seawater – Airport island coast (would result in loss of seawater in Chek Lap Kok Channel due to reclamation for development)	
	LCA2 – Strait Landscape – Chek Lap Kok Channel (would result in loss of seawater in Airport Channel due to reclamation for development)	

14.7 Conclusion

- 14.7.1.1 The major residual impacts are due to the proposed reclamation works for formation of HKBCF and at-grade HKLR along the southeast coast of Airport Island. The major impact would be induced on landscape resources of coastal water (LR4 - HKLR, and LR13 - HKBCF) and inshore and offshore water landscape characters (LCA1, LCA2, LCA3 - HKLR, and LCA11 - HKBCF) at the southwest, south and east of Hong Kong International Airport. Those impacts would result in direct loss of those LCAs and LRs. However, the quantity of loss of the seawater resources and characters is relatively small in comparison to the large extent of adjacent seawater landscape resource / character within inshore and offshore of Airport Island.
- 14.7.1.2 The semi-natural rocky shoreline along the southeast shoreline of Airport Island (LR2 – HKLR and LR11 – HKBCF) will also be affected by the proposed reclamation for the at-grade section of HKLR. The extent of the proposed reclamation for accommodating HKLR has been minimized. It would however result in a loss of this rocky shoreline. Mitigation measures to adopt natural rock armours and re-use the existing natural rocks in the construction of the new seawall together with introduction of native seashore planting will somewhat reduce the impacts on the shoreline. The mitigation measures will improve the visual quality of the newly formed shoreline.
- 14.7.1.3 Other landscape impacts are vegetation loss at Scenic Hill (LR3 - woodland / shrubland / grassland on Scenic Hill / LCA5 – coastal upland and hillside landscape) due to construction of the HKLR tunnel portal and to roadside

landscaped areas (LR9, LR15 - existing roadside landscaped area within Airport / LCA6, LCA13 – transportation corridor landscape) are considered slight to moderate and would be largely mitigated by tree preservation measures and compensatory planting and enhancement landscaping. Therefore, residual impact is considered negligible after the re-instated vegetation has matured.

- 14.7.1.4 Total 32 VSRs are categorized in term of their proximity of locations and similarity of influence of local immediate visual screen. The properties of VSRs include urban and rural residential areas, industrial, leisure and traffic. The visual impacts on VSRs for local residents are resulted as various depending on the distance between the project and such VSRs, the population of such VSRs and blockage of view potentially.
- 14.7.1.5 Transport facilities for the proposed development are also a significant source of impact to VSRs. Relatively higher visual impacts induced are concentrated on the VSRs for residents of existing and future residential areas.
- 14.7.1.6 Regarding the potential residual visual impacts in associated with HKLR, there would be slight to moderate level of impacts to the VSRs during construction and operation phases. This is because HKLR is aligned to prevent disturbing the existing Touch-down Zone of Southern Runway of Hong Kong International Airport in order to maintain aviation safety. Proper mitigation measures such as aesthetic design of the bridge form and its structural elements including the parapet, soffit, columns and so on and decorative urban design elements and lightings for the HKLR should be considered in the detail design stage.
- 14.7.1.7 HKLR adopts a section of tunnel in the vicinity of Tung Chung urban area, and the tunnel effectively reduces the level of potential residual visual impact to the VSRs located in the urban residential areas.
- 14.7.1.8 Regarding the potential residual visual impacts by HKBCF, they are slight and negligible during construction and operation phases due to the integration of HKBCF and the Airport in view of their similarity in appearance. The amenity value of alternative views from the VSRs is high after the erection of HKBCF and HKLR. Proper mitigation measures (e.g. aesthetic engineering and architectural design on structural forms and building facade, optimum greening treatment – rooftop and at-grade level and so on, for enhancing the aesthetics of HKBCF and HKLR during the detailed design stage) would further minimise any potential visual impacts.
- 14.7.1.9 In conclusion, the potential landscape and visual impacts can be effectively reduced by implementing the proposed mitigation measures during construction and operation phases. The overall residual impacts are considered as “acceptable with mitigation measures” after implementing the mitigation measures.