

10 LANDSCAPE AND VISUAL IMPACT

10.1 Introduction

10.1.1 This section presents the findings of the assessment of potential landscape and visual impacts associated with the Project.

10.1.2 Landscape and visual impacts assessment are assessed in accordance with the criteria and guidelines as stated in Annexes 10 and 18 of the Technical Memorandum (TM) and the Environmental Impact Assessment Ordinance (EIAO) Guidance Note No. 8/2010 on "Preparation of Landscape and Visual Impact Assessment under the Environmental Impact Assessment Ordinance".

10.1.3 The assessment area for landscape impact assessment shall include areas within a 100m distance from the site boundary of the Project and any other areas likely to be impacted by the Project. The assessment area for the visual impact assessment shall be defined by the visual envelope of the Project.

10.1.4 The list of all designated projects under Schedule 2 within the assessment area is listed in Section 1.2 of this Draft EIA Report. The alternative options/alignments/designs for the Project considered are discussed in **Section 2** of this Report.

10.2 Environmental Legislation, Standards and Criteria

10.2.1 The following legislation, standards and guidelines are applicable to landscape and visual impact assessment associated with the construction and operation of the Project:-

- Agriculture, Fisheries and Conservation Department – AFCD Nature Conservation Practice Note No. 1, 2, and 3.
- Forests and Countryside Ordinance (Cap. 96) and its subsidiary legislations.
- Plant Varieties Protection Ordinance (Cap. 490).
- Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586).
- Environmental Impact Assessment Ordinance (Cap. 499. S16) and the Technical Memorandum on EIA Process (EIAO-TM), particularly Annexes 10 (Criteria for Evaluating Visual and Landscape Impact) and 18 (Guidelines for Landscape and Visual Impact Assessment);
- Environmental Impact Assessment Ordinance Guidance Note 8/2010 (Preparation of Landscape and Visual Impact Assessment under the Environmental Impact Assessment Ordinance);
- Town Planning Ordinance (Cap131) and Town Planning (Amendment) Ordinance;
- Hong Kong Planning Standards and Guidelines (HKPSG) issued by the Planning Department, in particular Chapters 4, 10, 11 and Section 7 in Chapter 12;
- Development Bureau TCW No. 2/2012 - Allocation of Space for Quality Greening on Roads;
- Development Bureau TCW No. 3/2012 - Site Coverage of Greenery for Government Building Projects;
- Development Bureau, Greening, Landscape and Tree Management Section (GLTM) April 2012 - Guidelines on Greening of Noise Barriers;

- Development Bureau TCW No. 1/2018 - Soft Landscape Provisions on Highway Structures;
- Development Bureau TCW No. 6/2015 - Maintenance of Vegetation and Hard Landscape Features;
- Development Bureau TCW No. 4/2020 - Tree Preservation;
- Development Bureau TCW No. 5/2020 - Registration and Preservation of Old and Valuable Trees;
- ETWB TCW No. 36/2004 - The Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS), including Appendix A 'Guidelines for Submissions to ACABAS';
- Study on Landscape Value Mapping of Hong Kong;
- GEO 1/2011 - Technical Guidelines on Landscape Treatment for Slopes;
- Guidelines for Tree Risk Assessment and Management Arrangement (9th Edition or latest version);
- Guidelines on Tree Transplanting issued by Development Bureau; and
- Guidelines on Tree Preservation during Construction by Development Bureau.

10.2.2 The Outline Zoning Plan (OZP) gazetted under the Town Planning Ordinance provides the statutory framework for land use development. Reference has been made to the Approved Kowloon Tong OZP No. S/K18/21 (15.12.2017), Approved Wang Tau Hom and Tung Tau OZP No. S/K8/23 (13.3.2020) and the Draft Sha Tin OZP No. S/ST/35 (3.12.2021).

10.3 Assessment Methodology

Landscape Impact Assessment Methodology

10.3.1 The landscape impacts have been assessed according to the following procedures.

- **Identification of the baseline landscape resources (LRs) and landscape characters found within the study area.** This is achieved by site visits and desktop study of topographical maps, information databases and photographs.
- **Assessment of the degree of sensitivity of the LRs and landscape character areas (LCAs).** This is influenced by a number of factors including whether the resource/character is common or rare, whether it is considered to be of local, regional, national or global importance, whether there are any statutory or regulatory limitations/requirements relating to the resource, the quality of the resource/character, the maturity of the resource and the ability of the resource/character to accommodate change.
- The sensitivity of each landscape feature and character area is classified as follows:-
 - High:** Important landscape character or resource of particularly distinctive character or high importance, sensitive to relatively small change.
 - Medium:** Landscape character or resource of moderately valued landscape characteristics reasonably tolerant to change.
 - Low:** Landscape character or resource, the nature of which is largely tolerant to change.

- **Identification of potential sources of landscape changes.** These are the various elements of the construction works and operation procedures that would generate landscape impacts.
- The magnitude of landscape changes is classified as follows:-
 - Large:** The landscape character or landscape resource would incur a major change.
 - Intermediate:** The landscape character or landscape resource would incur a moderate change.
 - Small:** The landscape or landscape resource would incur slight or barely perceptible change.
 - Negligible:** The landscape or landscape resource would incur no discernible change.
- **Identification of potential landscape mitigation measures.** These may take the form of adopting basic engineering design to prevent and/or minimise adverse landscape impacts before adopting other mitigation or compensatory measures to alleviate the impacts. Potential mitigation measures shall also include the preservation of vegetation and natural landscape resources, transplanting trees in good condition and value, provision of screen planting, re-vegetation of disturbed lands, compensatory planting, woodland restoration, aesthetic design of aboveground structures including provision of finishes, colour scheme, texture of materials used and any measures to mitigate the impact on the existing and planned land use and visually sensitive receivers (VSRs). A programme for the mitigation measures is provided. The agencies responsible for the funding, implementation, management and maintenance of the mitigation measures are identified.
- **Prediction of the significance of landscape impacts before and after the implementation of the mitigation measures.** By synthesizing the magnitude of the various impacts and the sensitivity of the various landscape resources, it is possible to categorise impacts in a logical, well-reasoned and consistent fashion. **Table 10.1** shows the rationale for dividing the degree of significance into four thresholds, namely insubstantial, slight, moderate, and substantial, depending on the combination of a negligible-small-intermediate-large magnitude of change and a low-medium-high degree of sensitivity of landscape resource /character.

Table 10.1 Relationship between Landscape Sensitivity and Magnitude of Change in Defining Impact Significance

Magnitude of Change	Large	Moderate	Moderate / Substantial	Substantial
	Intermediate	Slight / Moderate	Moderate	Moderate / Substantial
	Small	Insubstantial / Slight	Slight / Moderate	Moderate
	Negligible	Insubstantial	Insubstantial	Insubstantial
		Low	Medium	High
Sensitivity of Landscape Character Area and Resource				

Note: All impacts are Adverse unless otherwise noted with Beneficial.

- The significance of landscape impacts is categorised as follows:
 - Substantial:** Adverse / beneficial impact where the proposal would cause significant deterioration or improvement in existing landscape quality.
 - Moderate:** Adverse / beneficial impact where the proposal would cause a noticeable deterioration or improvement in existing landscape quality.
 - Slight:** Adverse / beneficial impact where the proposal would cause a barely perceptible deterioration or improvement in existing landscape quality.
 - Insubstantial:** No discernible change in the existing landscape quality.
- **Prediction of Acceptability of Impacts.** An overall assessment of the acceptability, or otherwise, of the impacts according to the five criteria set out in Annex 10 of the EIAO-TM.

Visual Impact Assessment Methodology

10.3.2 The visual impacts have been assessed according to the following procedures.

- **Identification of the Visual Envelope during the construction and operation phases of the project.** This is achieved by site visit and desktop study of topographic maps, photographs and preparation of cross-sections to determine visibility of the Project from various locations.
- **Identification of the VSRs within the Visual Envelope at construction and operation phases.** These are the people who would reside within, work within, play within, or travel through, the Visual Envelope.
- Assessment of the degree of sensitivity of the VSRs. Factors considered include:

The type of VSRs, which is classified according to whether the person is at home, at work, at play, or travelling. Those who view the change from their homes are considered to be highly sensitive as the attractiveness or otherwise of the outlook from their home will have a substantial effect on their perception of the quality and acceptability of their home environment and their general quality of life. Those who view the impact from their workplace are considered to be only moderately sensitive as the attractiveness or otherwise of the outlook will have a less important, although still material, effect on their perception of their quality of life. The degree to which this applies depends on whether the workplace is industrial, retail or commercial. Those who view the impact whilst taking part in an outdoor leisure activity may display varying sensitivity depending on the type of leisure activity. Those who view the impact whilst travelling on a public thoroughfare will also display varying sensitivity depending on the speed of travel.

Estimated number of VSR population. This is expressed in terms of whether there are “many”, “medium” and “few” VSRs in any one category of VSR.

Other factors which are considered (as required by EIAO GN 8/2010) include the value and quality of existing views, the availability and amenity of alternative views, the duration or frequency of view, and the degree of visibility.

- The sensitivity of VSRs is classified as follows:
 - High:** The VSR is highly sensitive to any change in their viewing experience.
 - Medium:** The VSR is moderately sensitive to any change in their viewing experience.

- Low:** The VSR is only slightly sensitive to any change in their viewing experience.
- **Identification of relative numbers of VSRs.** This is expressed in terms of whether there are “many”, “medium” and “few” VSRs in any one category of VSR.
 - **Identification of potential sources of visual changes.** These are the various elements of the construction works and operation that would generate visual changes.
 - Assessment of the potential magnitude of visual changes. Factors considered include:
 1. the compatibility with the surrounding landscape;
 2. the duration of the impact;
 3. the reversibility of the impact;
 4. the scale of the impact and distance of the source of impact from the viewer; and
 5. the degree of visibility of the impact, and the potential blockage of view which the impact dominates the field of vision of the viewer.
 - The magnitude of visual changes is classified as follows:

Large: The VSRs would suffer a major change in their viewing experience.

Intermediate: The VSRs would suffer a moderate change in their viewing experience.

Small: The VSRs would suffer a small change in their viewing experience.

Negligible: The VSRs would suffer no discernible change in their viewing experience.
 - **Identification of potential visual mitigation measures.** These may take the form of adopting basic engineering design to prevent and/or minimise adverse visual impacts before adopting other mitigation or compensatory measures to alleviate the impacts. Potential mitigation measures shall also include the preservation of vegetation and natural landscape resources, provision of screen planting, re-vegetation of disturbed lands, compensatory planting, woodland restoration, aesthetic design of aboveground structures including provision of finishes, colour scheme, texture of materials used and any measures to mitigate the impact on the existing and planned land use and VSRs. A programme for the mitigation measures is provided. The agencies responsible for the funding, implementation, management and maintenance of the mitigation measures are identified.
 - **Prediction of the significance of visual impacts before and after the implementation of the mitigation measures.** By synthesizing the magnitude of the various visual impacts and the sensitivity of the VSRs, it is possible to categorise the degree of significance of the impacts in a logical, well-reasoned and consistent fashion. **Table 10.2** shows the rationale for dividing the degree of significance into four thresholds, namely, insubstantial, slight, moderate and substantial, depending on the combination of a negligible-small-intermediate-large magnitude of change and a low-medium-high degree of sensitivity of VSRs.

Table 10.2 Relationship between VSRs' Sensitivity and Magnitude of Change in Defining Impact Significance

Magnitude of Change	Large	Moderate	Moderate / Substantial	Substantial
	Intermediate	Slight / Moderate	Moderate	Moderate / Substantial
	Small	Insubstantial / Slight	Slight / Moderate	Moderate
	Negligible	Insubstantial	Insubstantial	Insubstantial
		Low	Medium	High
Sensitivity of VSRs				

Note: All impacts are Adverse unless otherwise noted with Beneficial.

- The significance of visual impacts is categorised as follows:
 - Substantial:** Adverse / beneficial impact where the proposal would cause significant deterioration or improvement in existing visual quality.
 - Moderate:** Adverse / beneficial impact where the proposal would cause a noticeable deterioration or improvement in existing visual quality.
 - Slight:** Adverse / beneficial impact where the proposal would cause a barely perceptible deterioration or improvement in existing visual quality.
 - Insubstantial:** No discernible change in the existing visual quality.
- Prediction of Acceptability of Impacts.** An overall assessment of the acceptability, or otherwise, of the impacts according to the five criteria set out in Annex 10 of the EIAO-TM.

10.4 Review of Planning and Development Control Framework

- 10.4.1 Relevant plan(s) and/or studies which may identify areas of high landscape value, country parks, coastal protection area, green belt (GB) and conservation area designations are reviewed. Any guidelines on landscape and urban design strategies and frameworks that may affect the appreciation of the Project are also reviewed. The aim is to gain an insight of the future outlook of the affected area so as to assess whether the Project can fit into the surrounding setting. Any conflict with statutory town plan(s) is highlighted and appropriate follow-up action is recommended.
- 10.4.2 The Study Area of the Project is covered under three OZPs. They are the Approved Kowloon Tong OZP No. S/K18/21 (15.12.2017), Approved Wang Tau Hom and Tung Tau OZP No. S/K8/23 (13.3.2020) and the Draft Sha Tin OZP No. S/ST/35 (3.12.2021). The land use zones overlaid on the Project layout is shown in **60604728/R42b/Figure 10.01**. The land use zones to be potentially affected by the Project and the future outlook of the area is discussed and summarised in **Table 10.3**.

Table 10.3 Summary of the Review of Planning and Development Control Framework

Proposed Works	OZP Plan Title and No.	Land Use Zonings	Approx. Area of the Land Use Zones to be affected by the Project
		GB	26,600

Proposed Works	OZP Plan Title and No.	Land Use Zonings	Approx. Area of the Land Use Zones to be affected by the Project
Improvement of Lion Rock Tunnel Road in Kowloon Side	Approved Kowloon Tong OZP No. S/K18/21 (15.12.2017)	G/IC	1,400
		O	1,900
		R(C)	900
		OU	Nil
	Approved Wang Tau Hom and Tung Tau OZP No. S/K8/23 (13.3.2020)	GB	14,000
		G/IC	5,700
Improvement of Lion Rock Tunnel Road in Shatin Side	Draft Sha Tin OZP No. S/ST/35 (3.12.2021)	GB	Nil
		G/IC	13,900
		O	67,300
		V	Nil
		R(A)	5,800
		R(B)	14,900
		OU	Nil

10.4.3 The Project comprises the construction of the new tunnel tube to facilitate the subsequent rehabilitation of two existing tunnel tubes, widening of the connecting roads and the associated works. Starting from the northern portion of the Project linking to Sha Tin Road to the portal area in Sha Tin, landuse of G/IC, O and R(B) will be affected by the proposed road widening works. In the southern portion in Kowloon, landuse of GB, G/IC and O under the Kowloon Tong OZP will be affected by the road works and proposed ventilation building, and landuse of GB and G/IC under the Wang Tau Hom and Tung Tau OZP will be affected by the road improvement works respectively. The affected areas are mainly slopes along the road with semi-dense vegetation. Slope works and retaining walls are required for the widening of the road. The Project also adjoining the margin of Lion Rock Country Park, ongoing liaison with PlanD and AFCD on necessary amendment on OZP and refinement on the boundary of Lion Rock Country Park shall be carried out throughout the design process.

10.5 Baseline Study

Landscape Resources

10.5.1 The details of Baseline LRs which will be potentially affected by the Project, together with their sensitivity are described in **Table 10.4**. The locations of baseline LRs are mapped in **60604728/R42b/Figure 10.03 to 60604728/R42b/Figure 10.06**. Photo views illustrating the LRs within the study area are illustrated in **60604728/R42b/Figure 10.07 to 60604728/R42b/Figure 10.09**.

Table 10.4 Baseline LRs and their Sensitivity

LRs	Description	Approx. Area (m.sq.)	Sensitivity
	Hillside Vegetation		
LR-1.1	<p>Vegetation on Natural Terrain</p> <p>This LR covers densely vegetated hillside woodland in which extensive areas fall within the Lion Rock Country Park. It comprises canopy trees and understory vegetation. Based on the broad brush tree survey, those vegetation within or close to the Project Boundary are common species found in woodland of Hong Kong. The hillside woodland provides natural green backdrop for the urban fringe from Kowloon Tong, Tai Wai to Shui Chuen O. The secondary woodland in Tei Lung Hau also forms a greenery buffer between the tunnel administration area and the residential areas in Hin Keng.</p> <p>The major tree species are <i>Alangium chinense</i>, <i>Canthium dicoccum</i>, <i>Elaeocarpus decipiens</i>, <i>Hibiscus tiliaceus</i>, <i>Macaranga tanarius var. tomentosa</i>, <i>Machilus breviflora</i>, <i>Schefflera heptaphylla</i> and <i>Sterculia lanceolate</i>, generally in heavy-standard to mature size. No registered OVT is identified. One <i>Ficus microcarpa</i> with DBH over 1m are found along roadside of LRT Road near Kak Tin. The quality of the existing vegetation is medium. The ability to accommodate change is low and the sensitivity of this LR is considered as high.</p>	379,630	High
LR-1.2	<p>Vegetation in Village Areas near Kak Tin</p> <p>This LR covers the vegetation in the low density local villages in Kak Tin areas, including Hung Mui Kuk Village, Kak Tin Village, Kak Tin Village Nam Kau and Sha Tin Tau New Village. Village plantings are found mainly at the periphery of the villages, with small batches of tree groups and farmlands scattered between the village houses.</p> <p>No registered OVT is identified. 4 nos. of <i>Ailanthus fordii</i> with conservation interest are found along roadside of LRT Road. The quality of the existing vegetation is medium. The ability to accommodate change is low and the sensitivity of this LR is considered as high.</p>	116,420	High
LR-1.3	<p>Vegetation in Village Areas near Tsang Tai Uk</p> <p>This LR covers the vegetation in the low density local villages in Tsang Tai Uk areas, including Sha Tin Tau Village, Tsang Tai Uk and Tsok Pok Hang San Village. The village houses are relatively compacted with limited rooms for planting. Village plantings found mainly at the periphery of the villages.</p> <p>The tree species are common. No registered OVT is identified. The quality of the existing vegetation is medium. The ability to accommodate change is medium and the sensitivity of this LR is considered as medium.</p>	6,140	Medium

LRs	Description	Approx. Area (m.sq.)	Sensitivity
	Watercourse		
LR-2.1	<p>Watercourse</p> <p>Several natural watercourses were identified within the study area, sourced from the Lion Rock. The natural watercourses had rocky substratum with semi-dense riparian vegetation along the bank. Modified flowing watercourses were also identified mainly in Tei Lung Hung, along Wilson Trail (Section 5) and Shui Chuen O. The modified watercourses had man-made concrete embankment and base, and were generally open with temporary, slow to moderate water flow. Low coverage and diversity of riparian vegetation were found from the channels.</p> <p>The ability to accommodate change of this LR is low and the sensitivity of this LR is considered as high in general for natural watercourses and modified flowing watercourses.</p>	Approx. 3km	High
	Roadside Planting Areas		
LR-3.1	<p>Vegetation on Roadside Engineered Slopes in Kowloon Tong</p> <p>Roadside tree planting on slope stabilization works provides a visual buffer between the busy roads and adjacent residential developments. The slope planting mainly comprises of concrete or stone at the lower portion and tree planting at the upper portion of the engineered slopes. Tree species found are common roadside pioneer species in Hong Kong.</p> <p>Common trees found such as <i>Acacia confusa</i>, <i>Celtis sinensis</i>, <i>Eucalyptus tereticornis</i>, <i>Lophostemon confertus</i> and <i>Sterculia lanceolata</i>, generally in semi-mature to mature size, average form and health condition. The quality of this LR is considered as medium. The ability to accommodate changes and the sensitivity of this LR is considered as medium.</p>	17,550	Medium

LRs	Description	Approx. Area (m.sq.)	Sensitivity
LR-3.2	<p>Vegetation on Roadside Engineered Slopes from Tai Wai to Sha Tin Tau</p> <p>Roadside tree planting on slope stabilization works provides a visual buffer between the busy roads and adjacent residential developments. The slope planting mainly comprises of concrete or stone at the lower portion and tree planting at the upper portion of the engineered slopes. A number of roadside engineered slopes of this LR fall within Lion Rock Country Park. Most of tree species found are common roadside pioneer species in Hong Kong. Approximately 14 nos. of <i>Ailanthus fordii</i> 常綠臭椿 are found in this LR, in which 4 nos. are found near Hung Mui Kuk, 5 nos. are found near Kak Tin Village Nam Kau and 5 nos. are found near Sun Tin Wai Estate. This species is listed under Forests and Countryside Ordinance (Cap. 96).</p> <p>Common trees found such as <i>Acacia confusa</i>, <i>Alangium chinense</i>, <i>Eucalyptus robusta</i>, <i>Eucalyptus tereticornis</i>, <i>Lophostemon confertus</i> and <i>Schima superba</i> generally in heavy standard to mature size, average form and health condition. No registered OVT is identified. 14 nos. of <i>Ailanthus fordii</i> with conservation interest are found. The quality of this LR is considered as medium to high and the ability to accommodate changes is considered as low to medium. Although the species composition is mainly plantation with exotic pioneer tree species, there are certain amount of species with conservation interest identified, the overall sensitivity of this LR is considered as high.</p>	114,535	High
LR-3.3	<p>Vegetation in Other Roadside Areas</p> <p>This LR generally comprises of roadside amenity planting in the gentle planting areas in between the busy roads. It mainly includes the tree, palm and shrub planting areas near the tunnel buildings in Kowloon Tong, in Tai Wai, and the junctions of LRT Road and Hung Mui Kuk Road. Plant species found are common roadside landscape species in Hong Kong. Small areas of the LR near the toll plaza in Tai Wai and near the junction of LRT Road and Hung Mui Kuk Road is within Lion Rock Country Park.</p> <p>The major tree species are <i>Acacia confusa</i>, <i>Bauhinia sp.</i>, <i>Casuarina equisetifolia</i>, <i>Corymbia torelliana</i> and <i>Tabebuia chrysantha</i> generally in heavy-standard to semi-mature size. No registered OVT is identified. 2 nos. of <i>Ailanthus fordii</i> with conservation interest are found. In view of the species composition is mainly common roadside exotic tree species, the quality of this LR is considered as medium. The ability to accommodate changes and the sensitivity of this LR is considered as medium.</p>	19,000	Medium

LRs	Description	Approx. Area (m.sq.)	Sensitivity
	Open Spaces		
LR-4.1	<p>Broadcast Drive Garden</p> <p>This LR is a public pocket garden at the loop of the slip road. It is sunken and bounded by slope planting of the surrounding slip road and provides a passive rest garden for the residents nearby. Ornamental trees and shrub planting are found in the garden.</p> <p>No registered OVT is identified. It is a common landscape resource. The quality of this resource is high and the ability of this resource to accommodate changes is low. The sensitivity of this LR is considered as high.</p>	3,675	High
LR-4.2	<p>Lung Cheung Road Park</p> <p>This LR is a public park separated by the slip road into two parts. It is bounded by slope planting of the surrounding slip road and provides a passive rest garden for the residents nearby. Ornamental trees and shrub planting are found in the park.</p> <p>The major tree species are <i>Eucalyptus tereticornis</i>, <i>Livistona chinensis</i>, <i>Lophostemon confertus</i> and <i>Melaleuca cajuputi subsp. cumingiana</i>, generally in semi-mature to mature size. No registered OVT is identified. 3 nos. of <i>Rhodoleia championii</i> with conservation interest are found on the slope within the park. One <i>Ficus elastica</i> in mature size with a number of aerial roots are also located on slope crest within the park. The quality of this resource is high and the ability of this resource to accommodate changes is low. The sensitivity of this LR is considered as high.</p>	12,430	High
LR-4.3	<p>Lion Rock Park</p> <p>This LR is a public open space at the hillside of the Lion Rock. It provides various recreational facilities to the residents, including children's play area, elderly fitness corner, barbecue pits, community garden etc. Ornamental trees and shrub planting are found in the park.</p> <p>No registered OVT is identified. It is a common landscape resource. The quality of this resource is high and the ability of this resource to accommodate changes is low. The sensitivity of this LR is considered as high.</p>	13,050	High

LRs	Description	Approx. Area (m.sq.)	Sensitivity
	<i>Landscape Areas in Urban Development Area</i>		
LR-5.1	<p><i>Landscape Areas in Urban Development Area in Kowloon Tong</i></p> <p>This LR refers to urbanized areas which are intensively developed and characterized by residential buildings interwoven with minor feeder roads and other hard surface areas. The residential developments including Lung Cheung Court, Welcome Gardens, Marple Court, Alice Court, Jumbo Court, Westland Heights, Eastland Heights, Rockford Mansion, Clifford Mansion and Peninsular Heights. Vegetation mainly found along the narrow strip of slope adjoining Waterloo Road as screening to the busy road.</p> <p>No registered OVT is identified. It is a common landscape resource. The quality of this resource is medium and the ability of this resource to accommodate changes is medium. The sensitivity of this LR is considered as medium.</p>	45,040	Medium
LR-5.2	<p><i>Landscape Areas in Urban Development Area in Tai Wai</i></p> <p>This LR refers to urbanized areas which are intensively developed and characterized by high-density residential buildings interwoven with minor feeder roads and other hard surface areas. The residential developments including Union Hospital, Union Court, Hill Paramount and Julimount Garden. Union Hospital also located in this LR with garden at podium level. Vegetation mainly found in amenity areas, sitting out areas, podium gardens and buffer strips associated with these residential areas.</p> <p>No registered OVT is identified. It is a common landscape resource. The quality of this resource is medium and the ability of this resource to accommodate changes is medium. The sensitivity of this LR is considered as medium.</p>	40,310	Medium
LR-5.3	<p><i>Landscape Areas in Urban Development Area near Hung Mui Kuk</i></p> <p>This LR refers to urbanized areas which are intensively developed and characterized by high-density residential buildings interwoven with minor feeder roads and other hard surface areas. The residential developments including World-Wide Gardens, King Tin Court and Golden Lion Garden Phase II. Vegetation mainly found in amenity areas, sitting out areas, podium gardens and buffer strips associated with these residential areas, but the scale of landscape areas is relatively limited in this LR.</p> <p>No registered OVT is identified. It is a common landscape resource. The quality of this resource is low to medium and the ability of this resource to accommodate changes is high. The sensitivity of this LR is considered as low.</p>	28,900	Low

LRs	Description	Approx. Area (m.sq.)	Sensitivity
LR-5.4	<p><i>Landscape Areas in Urban Development Area near Sha Tin Tau</i> This LR refers to urbanized areas which are intensively developed and characterized by high-density residential buildings interwoven with minor feeder roads and other hard surface areas. The residential developments including Sun Tin Wai Estate, Fung Shing Court, Sha Tin Government Primary School, shopping centres, amenity areas, buffer strips and sitting out areas associated with these residential areas can be found.</p> <p>No registered OVT is identified. It is a common landscape resource. The quality of this resource is medium and the ability of this resource to accommodate changes is medium. The sensitivity of this LR is considered as medium.</p>	43,450	Medium
	<p><i>Other Vegetated Areas</i></p>		
LR-6.1	<p><i>Vegetated Areas in Service Reservoirs and Associated Landscape Areas in Kowloon Side</i> This LR refers to the vegetated areas associated with three service reservoirs in Kowloon side, including the Lion Rock High Level No. 1 Fresh Water Primary Service Reservoir, Lion Rock High Level No. 2 Fresh Water Primary Service Reservoir and Lion Rock Low Level Fresh Water Primary Service Reservoir. This LR also provides recreational grounds as baseball fields and archery for the public. The grassed service reservoirs are surrounded by tree planting on slopes, which serve as green buffer to the busy LRT Road at the lower level.</p> <p>No registered OVT is identified. The quality of this resource is low and the ability of this resource to accommodate changes is high. The sensitivity of this LR is considered as low.</p>	46,650	Low
LR-6.2	<p><i>Vegetated Areas in Shatin South Fresh Water Service Reservoir and Associated Landscape Areas</i> This LR refers to the vegetated areas associated with the service reservoir in Tai Wai. The grassed service reservoir is surrounded by tree planting on slopes. The area is inaccessible by public.</p> <p>No registered OVT is identified. The quality of this resource is low and the ability of this resource to accommodate changes is high. The sensitivity of this LR is considered as low.</p>	12,930	Low
LR-6.3	<p><i>Vegetated Areas in Fenced-off Area</i> This LR refers to inaccessible fenced-off area in Kowloon side, including a vacant government land and a construction site.</p> <p>No registered OVT is identified. The quality of this resource is low and the ability of this resource to accommodate changes is high. The sensitivity of this LR is considered as low.</p>	20,860	Low

Landscape Character Areas (LCAs)

10.5.2 The details of Baseline LCAs which will be potentially affected by the Project, together with their sensitivity are described in **Table 10.5**. The locations of baseline LCAs are mapped in **60604728/R42b/Figure 10.10 to 60604728/R42b/Figure 10.13**. Photo views illustrating the LCAs within the study area are illustrated in **60604728/R42b/Figure 10.14 to 60604728/R42b/Figure 10.15**.

Table 10.5 Baseline LCAs and their Sensitivity

LCAs	Description	Approx. Area (m.sq.)	Sensitivity
	<i>Upland and Hillside LCA</i>		
LCA-1.1	<p><i>Kowloon Tong Lion Rock Upland and Hillside LCA</i></p> <p>This LCA consists of hillsides, knolls, ridges and spurs in the southward slope between Lion Rock and Beacon Hill. It is generally covered with hillside woodland, with seasonal rocky streams tumble down these hillsides. This LCA has low ability to accommodate change. The sensitivity of this LCA is considered as high.</p>	42,800	High
LCA-1.2	<p><i>Tai Wai Lion Rock Upland and Hillside LCA</i></p> <p>This LCA consists of hillsides, knolls, ridges and spurs in the northern slope of the Lion Rock in Tai Wai. Extensive area of this LCA falls within Lion Rock Country Park. It contains few human features and retains a rugged, tranquil character and muted natural colours. It is generally covered with hillside woodland, with seasonal rocky streams tumble down these hillsides. This LCA has low ability to accommodate change. The sensitivity of this LCA is considered as high.</p>	299,100	High
LCA-1.3	<p><i>Sha Tin Tau Lion Rock Upland and Hillside LCA</i></p> <p>This LCA consists of hillsides, knolls, ridges and spurs in the northern slope of the Lion Rock in Sha Tin Tau. Small area of this LCA falls within Lion Rock Country Park. It contains few human features and retains a rugged, tranquil character and muted natural colours. It is generally covered with hillside woodland, with seasonal rocky streams tumble down these hillsides. This LCA has low ability to accommodate change. The sensitivity of this LCA is considered as high.</p>	71,100	High

LCAs	Description	Approx. Area (m.sq.)	Sensitivity
LCA-1.4	<p><i>Kowloon Tong Urban Fringe Upland and Hillside LCA</i></p> <p>This LCA is found on the periphery of the urban area of Kowloon Tong. It is characterised by the several service reservoirs with recreational uses, vacant land and residential construction site along the edge of hillside. They are transitional landscapes which are characterised by a diverse range of features, vegetation cover on both natural terrain and engineered slopes, upcoming development and incoherent human structures with features having little formal relationship to each other. This LCA has high ability to accommodate change. The sensitivity of this LCA is considered as low.</p>	105,500	Low
	<p><i>Major Transportation Corridor</i></p>		
LCA-2.1	<p><i>Kowloon Tong Transportation Corridor LCA</i></p> <p>This LCA is characterised by major highways connecting to LRT including LRT Road, Lung Cheung Road and Waterloo Road. Major features include flyovers, signage gantries, interchange, traffic islands, ancillary buildings for the tunnel and associated roadside buffer planting areas. This type of LCA is common to Hong Kong. It has high ability to accommodate changes. The sensitivity is considered as low.</p>	32,200	Low
LCA-2.2	<p><i>Tai Wai LRT Road Transportation Corridor LCA</i></p> <p>This LCA is characterised by major highways connecting to LRT including LRT Road and Hung Mui Kuk Road. The transportation corridor is located along the margin of Lion Rock Country Park and part of the existing LRT road and Hung Mui Kuk Road falls within Country Park boundary. Major features include flyovers, signage gantries, interchange, traffic islands, ancillary buildings for the tunnel and associated roadside buffer planting areas. This type of LCA is common to Hong Kong. It has high ability to accommodate changes. The sensitivity is considered as low.</p>	101,100	Low
	<p><i>Miscellaneous Urban Fringe Landscape</i></p>		
LCA-3.1	<p><i>Sha Tin Tau Miscellaneous Urban Fringe LCA</i></p> <p>This LCA is found on the periphery of the urban area in Sha Tin Tau. It is characterised by the villages, abandoned farmland and historic building of Tsang Tak Uk and open space. They are transitional landscapes between the hillsides and the surrounding residential urban areas. This LCA has medium ability to accommodate change. The sensitivity of this LCA is considered as medium.</p>	8,755	Medium

LCAs	Description	Approx. Area (m.sq.)	Sensitivity
LCA-3.2	<p>Tei Lung Hau Miscellaneous Urban Fringe LCA</p> <p>This LCA is found on the periphery of the urban area of Tai Wai. It is characterised by service reservoir and associated buildings, Union Hospital and woodland in between engineered slopes. They are transitional landscapes which are characterised by a diverse range of features, significant vegetation cover near Tei Lung Hau and incoherent human structures with features having little formal relationship to each other. Small area near the existing tunnel portal falls within Lion Rock Country Park. This LCA has medium ability to accommodate change. The sensitivity of this LCA is considered as medium.</p>	104,400	Medium
	Residential Urban Fringe Landscape		
LCA-4.1	<p>Kowloon Tong Residential Urban Fringe LCA</p> <p>This LCA comprises of medium-rise residential developments and public open spaces. It is characterised by pockets of open spaces segregated by slip roads to the highways, and individual residential blocks, with various features, in close proximity to the highways. This LCA has medium ability to accommodate change. The sensitivity is considered as medium.</p>	70,500	Medium
	Residential Urban Landscape		
LCA-5.1	<p>Tai Wai Residential Urban LCA</p> <p>This is an area comprises of various low to high-rise private residential developments. Most of the residential blocks are with sufficient landscape buffer from the LRT Road, except the portion of World-Wide Gardens. Sufficient amenity landscape areas are contained in the residential developments. This LCA has medium ability to accommodate change. The sensitivity is considered as medium.</p>	105,000	Medium
LCA-5.2	<p>Hung Mui Kuk to Sha Tin Tau Residential Urban LCA</p> <p>This is an area comprises of various high-rise residential estates, village houses and school. The residential estates are with sufficient landscape buffer from the LRT Road. Sufficient amenity landscape areas are contained in the residential estates. The village houses in Hung Mui Kuk and Kak Tin Village and Kak Tin Village Nam Kau are mainly in the form of squatters built on the natural terrain. Village plantings along LRT Road act as a greenery buffer for the villages. This LCA has medium ability to accommodate change. The sensitivity is considered as medium.</p>	155,000	Medium

Broad Brush Tree and Vegetation Survey

- 10.5.3 A broad brush tree and vegetation survey was carried out in accordance with the Appendix I of the EIA Study Brief to identify dominant tree species, maturity, rarity and any plant species

- of conservation interest, etc. which would be potentially affected to provide baseline information on the LRs and LCAs. The broad brush tree and vegetation survey findings including tree survey plans and tree schedule are illustrated in **Appendix 10.1** and to be read in conjunction with Habitat Map in Ecological section of this EIA Report.
- 10.5.4 It is estimated that approximately 5018 nos. of trees were surveyed in the broad brush tree survey. Total 4,992 trees in 32 tree groups and 26 individual trees (including 25 trees of particular interests and 1 potential tree of particular interest) that within the project boundary and would be potentially affected were surveyed. There is no OVT in accordance with DEVB TC(W) No. 5/2020 identified within the project boundary. The dominant tree species include *Acacia confusa*, *Alangium chinense*, *Celtis sinensis*, *Eucalyptus robusta*, *Eucalyptus tereticornis*, *Lophostemon confertus*, *Mallotus paniculatus*, *Schefflera heptaphylla*, *Schima superba* and *Sterculia lanceolata*. They are generally of heavy-standard to mature size. All tree species in tree groups surveyed are common in Hong Kong and without specific conservation interest, in which 35 nos. of the surveyed trees are undesirable tree species *Leucaena leucocephala*.
- 10.5.5 Trees of particular interest are identified in reference to the definition in the Guidelines for Tree Risk Assessment and Management Arrangement issued by DEVB. For the 25 individual trees of particular interest, 1 no. of *Ficus microcarpa* is very large size with DBH over 1m, tree species of 3 nos. of *Rhodoleia championii*, 20 nos. of *Ailanthus fordii* and 1 no. of *Canthium dicoccum* with conservation interest are surveyed. Also, 1 no. potential tree of particular interest *Ficus elastica* is also surveyed individually.
- 10.5.6 Total 1 no. of tree of particular interest with very large size with DBH over 1m is identified in according to DEVB TC(W) No. 4/2020 in the broad-brush tree survey. It is a *Ficus microcarpa* 細葉榕 in the natural terrain along roadside of LRT Road near Kak Tin (LR-1.1). Another 1 no. of Ficus tree (*Ficus elastica* 印度橡樹) with huge size grown together with numerous aerial roots is identified in Lung Cheung Road Park (LR-4.2). Although the DBH of its main trunk is below 1m, it is suggested as potential tree of particular interest in view of its overall huge tree size with numerous aerial roots.
- 10.5.7 Several tree species with conservation importance are surveyed in the broad-brush tree survey. They are 3 nos. of *Rhodoleia championii* 紅花荷 and approximately 20 nos. of *Ailanthus fordii* 常綠臭椿. *Rhodoleia championii* is surveyed along the slope within Lung Cheung Road Park (LR-4.2) which is listed under Cap. 96 and listed as “Vulnerable” under Rare and Precious Plants of Hong Kong. About 14 nos. of *Ailanthus fordii* are surveyed on the engineered slopes (LR-3.2) along LRT Road, 4 nos. in village area (LR-1.2) and 2 nos. in other roadside areas (LR-3.3) near Hung Mui Kuk and Kak Tin. It is listed under Forests and Countryside Ordinance (Cap. 96) and listed as “Nearly Threatened” under Rare and Precious Plants of Hong Kong. It is commonly planted as roadside trees in Hong Kong. There is a *Canthium dicoccum* is surveyed along the roadside engineered slopes near Hung Mui Kuk Road (LR-3.2). Although it is classified as “Vulnerable” by the IUCN Red List because of continuing decline of mature individuals, it is a common species that can be easily found in the forest in Hong Kong. Within the broad-brush tree survey, *Magnoliaceae* species (i.e. *Michelia x alba*) is also listed under Cap. 96, however, not considered as species of conservation importance in this report as they are widely planted as ornamental trees in Hong Kong and are likely to be planted for amenity purpose.
- 10.5.8 Apart from the broad-brush tree survey, a few under-sized *Aquilaria sinensis*, *Ailanthus fordii*, *Canthium dicoccum* and *Rhodoleia championii* are recorded within the project boundary. The under-sized *Aquilaria sinensis* are recorded near the woodland of toll plaza area within Lion Rock Country Park in Shatin and an under-sized *Ailanthus fordii* is recorded at Kak Tin, while the under-sized *Canthium dicoccum* are recorded on the SIMAR slope near Hung Mui Kuk within Lion Rock Country Park and on the SIMAR slope at Kak Tin in Shatin. For the under-sized *Rhodoleia championii*, they are located on the same slope with the 3 nos. of large size *Rhodoleia championii* recorded in the broad-brush tree survey within Lung Cheung Road Park in Kowloon side. As they are not defined as “tree” based on DEVB TC(W) No. 4/2020, any Plant Preservation and Transplantation Proposal should be prepared by a qualified ecologist

/ botanist with at least 10 years relevant experience and should be submitted to and approved by AFCD via EPD prior to the commencement of any construction activities. Details are discussed under the Ecological section of this EIA Report. *Aquilaria sinensis* is listed under The Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586). This species also listed as “Nearly Threatened” under Rare and Precious Plants of Hong Kong and as “Vulnerable” under China Plant Red Data Book. *Canthium dicoccum* is classified as “Vulnerable” by the IUCN Red List because of continuing decline of mature individuals. It is a common species in the forest in Hong Kong.

Visual Envelope

10.5.9 Two Visual Envelopes are identified in the project area:

10.5.10 For the Kowloon side, the visual envelope is embraced by the ridgeline of Lion Rock to the north and east, the ridgeline of Beacon Hill to the west, and the medium-rise residential developments along Broadcast Drive, which include Lung Cheung Court, Welcome Gardens, Marple Court, Alice Court, Jumbo Court, Westland Heights, Eastland Heights, Rockford Mansion, Clifford Mansion and Peninsular Heights, to the south.

10.5.11 For the Shatin side, the ridgeline of Lion Rock forms the principle southern and eastern boundaries, while the ridgeline of Beacon Hill forms the western boundary of the Visual Envelope. The western to northern boundaries extend to the high-rise residential developments in the adjoining areas including Ka Tin Court, Ka Shun Court, Union Court, Hill Paramount, Julimount Garden, Lung Hang Estate, King Tin Court, Golden Lion Garden Phase II, Sun Chui Estate, Golden Lion Garden Phase I, Sun Tin Wai Estate, Fung Shing Court. The Visual Envelopes of the Project are shown in [60604728/R42b/Figure 10.16](#).

Visual Resource

10.5.12 The major visual resources within the visual envelope include the ridgeline of Lion Rock both for Kowloon side and for Shatin side, Amah Rock, Beacon Hill and the hillside vegetation mainly in Lion Rock Country Park and Tei Lung Hau.

Visually Sensitive Receivers (VSRs)

10.5.13 Within the Visual Envelopes, a number of key VSRs have been identified during construction and operation phases. They are listed, together with their baseline assessment and sensitivity, in **Table 10.6** and mapped in [60604728/R42b/Figure 10.16](#).

10.5.14 The sensitivity of VSRs is assessed in accordance with EIAO Guidance Note No. 8/2010. Key factors including type and estimated number of receiver population, value and quality of existing views, availability and amenity of alternative views, degree of visibility and duration or frequency of view of the VSRs are evaluated.

10.5.15 There are four types of Key VSR Types identified in the Visual Envelopes of the Project, which are Residential VSRs, Institutional VSR, Recreational VSR and Travelling VSR.

10.5.16 Residential VSRs are living in the medium-rise residential developments along Broadcast Drive in Kowloon side, adjacent high-rise residential developments to the northwest of the Site and the low-rise village houses in Shatin side. Residents in medium-rise residential developments in Kowloon Tong (R-01) include Lung Cheung Court, Welcome Gardens, Marple Court, Alice Court, Jumbo Court, Westland Heights, Eastland Heights, Rockford Mansion, Clifford Mansion and Peninsular Heights. Residents in high-rise residential developments near Tei Lung Hau (R-02) include Ka Tin Court, Ka Shun Court and Hin Keng Estate. Residents in high-rise residential developments along LRT Road in Tai Wai (R-03) include Union Court, Hill Paramount, Julimount Garden and World-Wide Gardens, and in Sha Tin Tau (R-04) include Sun Tin Wai Estate and Fung Shing Court. Residents in high-rise residential developments along Sha Tin Road (R-05) include Pok Hong Estate and Shui Chuen O Estate. Residents in village residential developments along LRT Road in Tai Wai

- (R-06) include Hung Mui Kuk, Kak Tin Village and Kak Tin Village Nam Kau, in Sha Tin Tau (R-07) include Sha Tin Tau New Village, Sha Tin Tau Village and Tsang Tai Uk and along Sha Tin Road (R-08) include Tsok Pok Hang San Village. For high-rise residential VSRs located farther away from the Project involve those along Fu Kin Street (R-09) include Lung Hang Estate, along Hung Mui Kuk Road (R-10) include King Tin Court and Golden Lion Garden Phase II, and along Chui Tin Street (R-11) include Sun Chui Estate and Golden Lion Garden Phase I.
- 10.5.17 Institutional VSRs at work or at study including temporarily occupants in Union Hospital and Sha Tin Government Primary School, Island School Sha Tin Wai Campus and Christ College. Recreational VSRs are users in Broadcast Drive Garden and Lung Cheung Road Park, in the archery range and base ball fields provided on the three service reservoirs in Kowloon side and the hikers along Wilson Trail (Stage 5) also including Hung Mui Kuk Nature Trail and Amah Rock. Travelling VSRs are travellers along the LRT Road, Lung Cheung Road, Hung Mui Kuk Road and Sha Tin Road on public thoroughfare.
- 10.5.18 Among the Residential VSRs, the sensitivities of R-03 and R-04 are considered as high in view of the many number of population, good quality of existing view and full degree of visibility to the Project. The frequencies of view of R-06 and R-07 are high, however, they are considered as medium sensitivity given their few numbers of individuals and partial visibility which is screened by existing vegetation and topography to the Project. The other residential VSRs R-01 and R-02 are considered as medium sensitivity given their partial visibility to the Project. The remaining residential VSRs R-05, R-08, R-09, R-10 and R-11 with glimpse visibility to the site are considered as low sensitivities.
- 10.5.19 Among the Institutional VSRs, all these VSRs are with medium number of individuals and occasional view. The sensitivity of I-01 is considered as medium since it has full visibility to the Project. The remaining institutional VSRs I-02 and I-03 with glimpse visibility to the Project is considered as low sensitivities.
- 10.5.20 For the Recreational VSRs, the sensitivity of O-04 along Hung Mui Kuk Nature Trail with good quality of existing view and full degree of visibility to the Project is considered as high. For O-01 and O-03 with fair to good quality of existing view, rare to occasional view and partial visibility to the Project is graded as medium. The O-02 is considered as low sensitivity since it has glimpse degree of visibility since there is level difference between the service reservoirs and the proposed above-ground structures and O-02 is well surrounded and screened by existing trees.
- 10.5.21 For the Travelling VSRs with rare frequency of view, sensitivity of T-02 with full degree of visibility to the Project is graded as medium, while T-01, T-03, T-04 and T-05 with glimpse to partial degree of visibility are graded as low sensitivities.

Table 10.6 Baseline VSRs and their Sensitivity

VSR ID.	VSRs	Type of VSRs	Number of Individuals (Many/Medium/Few)	Quality of Existing View (Good/Fair/Poor)	Availability of Alternative Views (Yes/No)	Degree of Visibility (Full/ Partial/ Glimpse)	Frequency of View (Frequent/ Occasional/ Rare)	Sensitivity (High/ Medium/ Low)
R-01	Residents in medium-rise residential developments in Kowloon Tong (including Lung Cheung Court, Welcome Gardens, Marple Court, Alice Court, Jumbo Court, Westland Heights, Eastland Heights, Rockford Mansion, Clifford Mansion, Peninsular Heights)	Residential	Many	Fair	No	Partial	Frequent	Medium
R-02	Residents in high-rise residential developments near Tei Lung Hau (including Ka Tin Court, Ka Shun Court, Hin Keng Estate)	Residential	Many	Good	Yes	Partial	Frequent	Medium
R-03	Residents in high-rise residential developments along LRT Road in Tai Wai (including Union Court, Hill Paramount, Julimount Garden, World-Wide Gardens)	Residential	Many	Good	Yes	Full	Frequent	High
R-04	Residents in high-rise residential developments along LRT Road in Sha Tin Tau (including Sun Tin Wai Estate, Fung Shing Court)	Residential	Many	Good	Yes	Full	Frequent	High
R-05	Residents in high-rise residential developments along Sha Tin Road (including Pok Hong Estate, Shui Chuen O Estate)	Residential	Many	Good	Yes	Glimpse	Frequent	Low

VSR ID.	VSRs	Type of VSRs	Number of Individuals (Many/ Medium/ Few)	Quality of Existing View (Good/Fair/ Poor)	Availability of Alternative Views (Yes/No)	Degree of Visibility (Full/ Partial/ Glimpse)	Frequency of View (Frequent/ Occasional/ Rare)	Sensitivity (High/ Medium/ Low)
R-06	Residents in village residential developments along LRT Road in Tai Wai (including Hung Mui Kuk, Kak Tin Village, Kak Tin Village Nam Kau)	Residential	Few	Good	Yes	Partial	Frequent	Medium
R-07	Residents in village residential developments along LRT Road in Sha Tin Tau (including Sha Tin Tau New Village, Sha Tin Tau Village, Tsang Tai Uk)	Residential	Few	Good	Yes	Partial	Frequent	Medium
R-08	Residents in village residential developments along Sha Tin Road (including Tsok Pok Hang San Village)	Residential	Few	Good	Yes	Glimpse	Occasional	Low
R-09	Residents in high-rise residential developments along Fu Kin Street (including Lung Hang Estate)	Residential	Many	Good	Yes	Glimpse	Occasional	Low
R-10	Residents in high-rise residential developments along Hung Mui Kuk Road (including King Tin Court, Golden Lion Garden Phase II)	Residential	Many	Good	Yes	Glimpse	Occasional	Low
R-11	Residents in high-rise residential developments along Chui Tin Street (including Sun Chui Estate, Golden Lion Garden Phase I)	Residential	Many	Good	Yes	Glimpse	Occasional	Low
I-01	Occupants in Union Hospital	Institutional	Medium	Good	Yes	Full	Occasional	Medium
I-02	Occupants in Sha Tin Government Primary School	Institutional	Medium	Good	Yes	Glimpse	Occasional	Low

VSR ID.	VSRs	Type of VSRs	Number of Individuals (Many/ Medium/ Few)	Quality of Existing View (Good/Fair/ Poor)	Availability of Alternative Views (Yes/No)	Degree of Visibility (Full/ Partial/ Glimpse)	Frequency of View (Frequent/ Occasional/ Rare)	Sensitivity (High/ Medium/ Low)
I-03	Occupants in Island School Sha Tin Wai Campus and Christ College	Institutional	Medium	Good	Yes	Glimpse	Occasional	Low
O-01	Recreational Users in Broadcast Drive Garden and Lung Cheung Road Park	Recreational	Medium	Fair	Yes	Partial	Occasional	Medium
O-02	Recreational Users in Service Reservoirs in Kowloon Side (Archery Range and two Base Ball Fields)	Recreational	Few	Good	Yes	Glimpse	Rare	Low
O-03	Hikers along Wilson Trail (Stage 5) and Amah Rock	Recreational	Few	Good	Yes	Partial	Rare	Medium
O-04	Recreational Users along Hung Mui Kuk Nature Trail	Recreational	Medium	Good	Yes	Full	Rare	High
T-01	Traveller along Lung Cheung Road	Travelling	Many	Fair	Yes	Partial	Rare	Low
T-02	Travellers along LRT Road	Travelling	Many	Fair	Yes	Full	Rare	Medium
T-03	Travellers along Hung Mui Kuk Road	Travelling	Many	Fair	Yes	Partial	Rare	Low
T-04	Traveller along Sha Tin Road	Travelling	Many	Fair	Yes	Glimpse	Rare	Low
T-05	Traveller along Fu Kin Street	Travelling	Medium	Fair	Yes	Glimpse	Rare	Low

10.6 Landscape Impact Assessment

Sources of Landscape Impacts

10.6.1 The sources of landscape impacts in the construction phase would include:

- Site clearance and tree removal/transplanting;
- Site formation works;
- Modification and construction of the tunnel portal areas with major slope works and associated ventilation buildings;
- Modification and construction of the tunnel administration area including the tunnel administration building, vehicular bridge, pedestrian footbridge, carparking and associated slope works;
- Construction of new lanes, widen existing slip roads, noise barriers/ semi-noise enclosures and associated slope works;
- Re-provision of footbridge affected by the road widening works; and
- Temporary site areas, site offices, haul road, materials, plant, hoarding, construction traffic etc.
- Construction of natural terrain hazards mitigation works (i.e. rigid barrier/ flexible barrier) and associated works with maintenance path.

10.6.2 The sources of landscape impacts in the operation phase would include:

- Operation of tunnel portal areas with major slope works and associated ventilation buildings;
- Operation of tunnel administration area including the tunnel administration building, vehicular bridge, pedestrian footbridge and associated slope works;
- Road improvements of new lanes, widen existing slip roads, noise barriers/ semi-noise enclosures and associated slope works; and
- Re-provision of footbridge affected by the road widening works.

10.6.3 As the construction of tunnels are conducted below ground, it is anticipated that there would not be any potential landscape impacts caused by the tunnel works.

Magnitude of Landscape Impacts

10.6.4 The magnitude of unmitigated landscape impacts associated with the construction phase and operational phases of the Project are assessed and described in **Table 10.7**. The permanent and temporary works extent is illustrated in [60604728/R42b/Figure 10.02.1 to 60604728/R42b/Figure 10.02.4](#).

Table 10.7 Magnitude of Landscape Impacts during Construction and Operation

ID	Landscape Resources/ Character Areas	Potential Source of Impact	Description of Impacts	Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
				Construction	Operation
Landscape Resources					
Hillside Vegetation					
LR-1.1	Vegetation on Natural Terrain	<ul style="list-style-type: none"> Modification and construction of the tunnel administration area, tunnel portal area, road widening, noise barriers/semi-enclosures and associated slope works Construction of natural terrain hazards mitigation works (i.e. rigid barrier/ flexible barrier) and associated works with maintenance path 	<p>Approximate 12,140m.sq. (3% of this LR) will be affected, in which 2,250m.sq. within Lion Rock Country Park will be permanently affected.</p> <p>Approximate 532 nos. of existing trees are being affected by modification and construction of the tunnel administration area, tunnel portal area, road widening, noise barriers/semi-enclosures and associated slope works. Among them, approximately 9 trees within Lion Rock Country Park are unavoidably affected mainly by the modification of toll plaza and tunnel administration area. One no. of tree of particular interest <i>Ficus microcarpa</i> with DBH over 1m will also fall within the temporary works area near the Kak Tin area. The temporary works shall be carefully arranged to preserve the tree where technically feasible.</p> <p>Although only 3% area of this LR is affected, magnitude of change is rated as intermediate in view of the relatively large quantity of tree affected and involving country park area.</p>	Intermediate	Intermediate

ID	Landscape Resources/ Character Areas	Potential Source of Impact	Description of Impacts	Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
				Construction	Operation
LR-1.2	Vegetation in Village Areas near Kak Tin	<ul style="list-style-type: none"> Construction of road widening, noise barriers/ semi-enclosures and associated slope works 	<p>Approximate 9,300m.sq. (8% of this LR) will be affected, in which 100m.sq. within Lion Rock Country Park will be permanently affected.</p> <p>Approximate 187 nos. of existing trees are being affected by construction of road widening, noise barriers/ semi-enclosures and associated slope works. Among them, approximately 6 trees within Lion Rock Country Park are unavoidably affected near the Hung Mui Kuk junction.</p> <p>In addition, approximately 4 nos. of <i>Ailanthus fordii</i> with conservation importance are unavoidably affected by the road widening works near Kak Tin Village (out of country park) and proposed to be felled.</p> <p>Although only 8% area of this LR and not large quantity of tree are affected, magnitude of change is rated as intermediate in view of the trees in country park and 4 nos. trees of particular interest will be affected.</p>	Intermediate	Intermediate
LR-1.3	Vegetation in Village Areas near Tsang Tai Uk	<ul style="list-style-type: none"> Negligible 	Negligible	Negligible	Negligible

ID	Landscape Resources/ Character Areas	Potential Source of Impact	Description of Impacts	Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
				Construction	Operation
Watercourse					
LR-2.1	Watercourse	<ul style="list-style-type: none"> Modification and construction of the tunnel administration area 	<p>A small section (approximately 0.01 ha and 130m) of modified watercourse (i.e. named WC3) recorded south to the LRT toll plaza would be permanent loss. No water flow was observed at this affected modified watercourse with low ecological value. Given it was small and already modified in nature, the magnitude of change on LR-2.1 is considered as negligible.</p>	Negligible	Negligible
Roadside Planting Areas					
LR-3.1	Vegetation on Roadside Engineered Slopes in Kowloon Tong	<ul style="list-style-type: none"> Modification and construction of the tunnel portal area, ventilation building, road widening and associated slope works. 	<p>Approximate 9,800m.sq. (56% of this LR) will be affected.</p> <p>Approximate 645 nos. of existing trees are being affected by modification and construction of the tunnel portal area, ventilation building, road widening and associated slope works.</p> <p>The magnitude of change is large in view of 56% of this LR affected with large quantity of trees affected.</p>	Large	Large

ID	Landscape Resources/ Character Areas	Potential Source of Impact	Description of Impacts	Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
				Construction	Operation
LR-3.2	Vegetation on Roadside Engineered Slopes from Tai Wai to Sha Tin Tau	<ul style="list-style-type: none"> • Modification and construction of the tunnel administration area, tunnel portal area, ventilation and administration building, road widening, re-provision of footbridge, noise barriers/ semi-enclosures and associated slope works. • Construction of natural terrain hazards mitigation works (i.e. rigid barrier/ flexible barrier) and associated works with maintenance path 	<p>Approximate 38,640m.sq. (34% of this LR) will be affected, in which 4,000m.sq. within Lion Rock Country Park will be permanently affected.</p> <p>Approximate 1064 nos. of existing trees are being affected by modification and construction of the tunnel administration area, tunnel portal area, ventilation and administration building, road widening, noise barriers/ semi-enclosures and associated slope works. Among them, approximate 228 trees are within Lion Rock Country Park.</p> <p>In addition, approximately 10 nos. of <i>Ailanthus fordii</i> with conservation importance are unavoidably affected by the road widening works mainly near Kak Tin Village and Hung Mui Kuk proposed to be felled.</p> <p>The magnitude of change is large in view of 34% of this LR affected with large quantity of trees affected including trees within country park and 10 nos. of trees of particular interest.</p>	Large	Large

ID	Landscape Resources/ Character Areas	Potential Source of Impact	Description of Impacts	Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
				Construction	Operation
LR-3.3	Vegetation in Other Roadside Areas	<ul style="list-style-type: none"> • Modification and construction of the tunnel administration area, tunnel portal area, road widening, noise barriers/semi-enclosures and associated slope works. • Construction of natural terrain hazards mitigation works (i.e. rigid barrier/ flexible barrier) and associated works with maintenance path 	<p>Approximate 8,375m.sq. (44% of this LR) will be affected, in which 1,175m.sq. within Lion Rock Country Park will be permanently affected.</p> <p>Approximate 200 nos. of existing trees are being affected by modification and construction of the tunnel administration area, tunnel portal area, road widening, noise barriers/semi-enclosures and associated slope works. Among them, approximate 57 trees are within Lion Rock Country Park mainly in tunnel administration area and junction of Hung Muk Kuk Road and LRT Road.</p> <p>The magnitude of change is large in view of 44% of this LR with trees within country park affected.</p>	Large	Large
Open Spaces					
LR-4.1	Broadcast Drive Garden	<ul style="list-style-type: none"> • Negligible 	Negligible	Negligible	Negligible

ID	Landscape Resources/ Character Areas	Potential Source of Impact	Description of Impacts	Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
				Construction	Operation
LR-4.2	Lung Cheung Road Park	<ul style="list-style-type: none"> Construction of road widening, bridge and associated slope works. 	<p>Approximate 40m.sq. of area will be permanently affected and 250m.sq. (2% of this LR) fall within the temporary works area.</p> <p>Approximate 6 nos. of existing trees and 1 no. of <i>Ficus elastica</i> in huge size with a number of aerial roots located on the slope are being affected by construction of road widening and associated slope works.</p> <p>Although only 2% area of this LR and only a few quantity of tree are affected, magnitude of change is rated as intermediate in view of the permanent loss of 40m.sq. of open space and 1 no. of tree of particular interest permanently affected.</p> <p>The remaining 3 nos. of <i>Rhodoleia championii</i> with conservation importance will also fall within the temporary works area of this Project. The temporary works shall be carefully arranged to preserve the 3 trees where technically feasible.</p>	Intermediate	Intermediate
LR-4.3	Lion Rock Park	<ul style="list-style-type: none"> Negligible 	Negligible	Negligible	Negligible
Landscape Areas in Urban Development Area					
LR-5.1	Landscape Areas in Urban Development Area in Kowloon Tong	<ul style="list-style-type: none"> Negligible 	Negligible	Negligible	Negligible
LR-5.2	Landscape Areas in Urban Development Area in Tai Wai	<ul style="list-style-type: none"> Negligible 	Negligible	Negligible	Negligible

ID	Landscape Resources/ Character Areas	Potential Source of Impact	Description of Impacts	Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
				Construction	Operation
LR-5.3	Landscape Areas in Urban Development Area near Hung Mui Kuk	• Negligible	Negligible	Negligible	Negligible
LR-5.4	Landscape Areas in Urban Development Area near Sha Tin Tau	• Negligible	Negligible	Negligible	Negligible
Other Vegetated Areas					
LR-6.1	Vegetated Areas in Service Reservoirs and Associated Landscape Areas in Kowloon Side	• Construction of road widening and associated slope works.	<p>Approximate 2,900m.sq. (6% of this LR) will be affected.</p> <p>Approximate 238 nos. of existing trees are being affected by construction of road widening and associated slope works near Lung Cheung Road.</p> <p>Although only 6% area of this LR affected, magnitude of change is rated as intermediate in view of the medium quantity of trees affected.</p>	Intermediate	Intermediate
LR-6.2	Vegetated Areas in Shatin South Fresh Water Service Reservoir and Associated Landscape Areas	• Negligible	Negligible	Negligible	Negligible

ID	Landscape Resources/ Character Areas	Potential Source of Impact	Description of Impacts	Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
				Construction	Operation
LR-6.3	Vegetated Areas in Fenced-off Area (e.g. vacant land, construction site)	<ul style="list-style-type: none"> Construction of road widening and associated slope works. 	<p>Approximate 650m.sq. (3% of this LR) will be affected.</p> <p>Approximate 38 nos. of existing trees are being affected by construction of road widening and associated slope works.</p> <p>The magnitude of change is rated as small in view of the small quantity of trees affected.</p>	Small	Small
<u>Landscape Character Areas</u>					
Upland and Hillside Landscape					
LCA-1.1	Kowloon Tong Lion Rock Upland and Hillside LCA	<ul style="list-style-type: none"> Construction of the tunnel portal area and associated slope works 	<p>Approximate 3,600m.sq. (8% of this LCA) will be permanently affected.</p> <p>The magnitude of change is rated as small in view of the relatively small area involved.</p>	Small	Small
LCA-1.2	Tai Wai Lion Rock Upland and Hillside LCA	<ul style="list-style-type: none"> Modification and construction of the tunnel administration area and toll plaza area including elevated road and footbridge, tunnel portal area, road widening, noise barriers/semi-enclosures and associated slope works Construction of natural terrain hazards mitigation works (i.e. rigid barrier/ flexible barrier) and associated works with maintenance path 	<p>Approximate 9,300m.sq. (3% of this LCA) will be permanently affected, in which 7,075m.sq. is within Lion Rock Country Park. Small portion within Lion Rock Country Park will be temporarily affected for the construction of rigid barrier, but will not have permanent change to this LCA. Most of the affected area will be changed to transportation corridor LCA.</p> <p>The magnitude of change is rated as large in view of the relatively large area of Lion Rock Country Park involved.</p>	Large	Large
LCA-1.3	Sha Tin Tau Lion Rock Upland and Hillside LCA	<ul style="list-style-type: none"> Construction of the road widening, re-provision of footbridge, noise barriers/semi-enclosures and associated slope works 	<p>Approximate 4,120m.sq. (6% of this LCA) will be permanently affected. Most of the affected area will be changed to transportation corridor LCA.</p>	Small	Small

ID	Landscape Resources/ Character Areas	Potential Source of Impact	Description of Impacts	Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
				Construction	Operation
			The magnitude of change is rated as small in view of the relatively small area involved.		
LCA-1.4	Kowloon Tong Urban Fringe Upland and Hillside LCA	<ul style="list-style-type: none"> Modification and construction of the tunnel portal area, ventilation building, road widening and associated slope works 	<p>Approximate 10,600m.sq. (10% of this LCA) will be permanently affected. Most of the affected area will be changed to transportation corridor LCA.</p> <p>The magnitude of change is rated as intermediate in view of the medium extent of area involved.</p>	Intermediate	Intermediate
Major Transport Route					
LCA-2.1	Kowloon Tong Transportation Corridor LCA	<ul style="list-style-type: none"> Modification and construction of the tunnel portal area, bridge and road widening and associated slope works Construction of natural terrain hazards mitigation works (i.e. rigid barrier) and associated works with maintenance path 	<p>Approximate 9,850m.sq. (31% of this LCA) will fall within the works area of this Project. Although the affected area is in a large proportion of this LCA and landscape impact during construction and operation is anticipated, the Project will not alter the landscape character of the transportation corridor. The resultant transportation corridor landscape character is compatible to the current LCA.</p> <p>The magnitude of change is rated as intermediate in view of the resultant transportation corridor landscape character is compatible to the current LCA.</p>	Intermediate	Intermediate
LCA-2.2	Tai Wai LRT Road Transportation Corridor LCA	<ul style="list-style-type: none"> Modification and construction of the tunnel administration area, tunnel portal area, road widening, noise barriers/semi-enclosures and associated slope works 	<p>Approximate 74,800m.sq. (74% of this LCA) will fall within the works area of this Project, in which 16,400m.sq. of the current road network (mainly in Shatin toll plaza area and in Hung Mui Kuk junction) is within Lion Rock Country Park boundary.</p>	Intermediate	Intermediate

ID	Landscape Resources/ Character Areas	Potential Source of Impact	Description of Impacts	Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
				Construction	Operation
			<p>Although the affected area is large and landscape impact during construction and operation is anticipated, the Project will not alter the landscape character of the transportation corridor. The resultant transportation corridor landscape character is compatible to the current LCA.</p> <p>The magnitude of change is rated as intermediate in view of the resultant transportation corridor landscape character is compatible to the current LCA.</p>		
Miscellaneous Urban Fringe Landscape					
LCA-3.1	Sha Tin Tau Miscellaneous Urban Fringe LCA	Negligible	Negligible	Negligible	Negligible
LCA-3.2	Tei Lung Hau Miscellaneous Urban Fringe LCA	<ul style="list-style-type: none"> Modification and construction of the tunnel administration area and toll plaza area including elevated road and footbridge, tunnel portal area, road widening and associated slope works 	<p>Approximate 7,000m.sq. (7% of this LCA) will be permanently affected, in which 150m.sq. is within Lion Rock Country Park. Most of the affected area will be changed to transportation corridor LCA.</p> <p>The magnitude of change is rated as intermediate in view of the medium extent of area involved with only small portion of country park affected.</p>	Intermediate	Intermediate
Residential Urban Fringe Landscape					
LCA-4.1	Kowloon Tong Residential Urban Fringe LCA	<ul style="list-style-type: none"> Construction of road widening, bridge and associated slope works 	<p>Approximate 40m.sq. (0.01% of this LCA) will be permanently affected and 250m.sq. fall within the temporary works area. The permanent affected area will be changed to transportation corridor LCA.</p>	Small	Small

ID	Landscape Resources/ Character Areas	Potential Source of Impact	Description of Impacts	Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
				Construction	Operation
			The magnitude of change is rated as small in view of the small area involved.		
Residential Urban Landscape					
LCA-5.1	Tai Wai Residential Urban LCA	<ul style="list-style-type: none"> Construction of the road widening, noise barriers/semi-enclosures and associated slope works 	<p>Approximate 7,250m.sq. (7% of this LCA) will be permanently affected. Most of the affected area will be changed to transportation corridor LCA.</p> <p>The magnitude of change is rated as intermediate in view of the medium extent of area involved.</p>	Intermediate	Intermediate
LCA-5.2	Hung Mui Kuk to Sha Tin Tau Residential Urban LCA	<ul style="list-style-type: none"> Construction of the road widening, re-provision of footbridge, noise barriers/ semi-enclosures and associated slope works 	<p>Approximate 14,000m.sq. (9% of this LCA) will be permanently affected, in which 300m.sq. is within Lion Rock Country Park. Most of the affected area will be changed to transportation corridor LCA.</p> <p>The magnitude of change is rated as large in view of the relatively large area involved together with a small portion of country park affected.</p>	Large	Large

Significance of Unmitigated Landscape Impacts

10.6.5 The significance of landscape impacts, before implementation of mitigation measures, in the construction and operation phases are assessed and presented in **Table 10.12**.

10.7 Visual Impact Assessment

Sources of Visual Impacts

10.7.1 The sources of visual impacts in the construction phase would include:

- Site clearance and tree removal/transplanting
- Site formation works
- Modification and construction of the tunnel portal areas with major slope works and associated ventilation buildings

- Modification and construction of the tunnel administration area including the tunnel administration building, vehicular bridge, pedestrian footbridge and associated slope works
- Construction of new lanes, widen existing slip roads, noise barriers/ semi-noise enclosures and associated slope works
- Re-provision of footbridge affected by the road widening works
- Temporary site areas, site offices, haul road, materials, plant, hoarding, construction traffic etc
- Potential night-time glare arising from the lighting of construction activities
- Dust and construction debris
- Construction of natural terrain hazards mitigation works (i.e. rigid barrier/ flexible barrier) and associated works with maintenance path

10.7.2 The sources of visual impacts in the operation phase would include:

- Operation of Tunnel portal areas with major slope works and associated ventilation buildings
- Operation of tunnel administration area including the tunnel administration building, vehicular bridge, pedestrian footbridge and associated slope works
- Road improvements of new lanes, widen existing slip roads, noise barriers/ semi-noise enclosures and associated slope works
- Re-provision of footbridge affected by the road widening works
- Increased road traffic and road lighting

10.7.3 The locations and development details of permanent aboveground structures that would cause potential visual impact are summarised in **Table 10.8**.

Table 10.8 Locations and Development Details of Permanent Aboveground Structures

Location	Approximate Building Height (m) and Level (mPD) of the roof of the structure ^[Note]
Portal Area in Kowloon	
Ventilation Building	About 35.5m (+129.5mPD)
Portal Area in Sha Tin	
Ventilation Building	Ranged from about 8.5m to 35.5m (ranged from +108.5 to +135.5mPD)
Administration Building	About 50.4m (+134.4mPD)
Elevated Road at Toll Plaza Area	About 8m at highest level (+93mPD) above proposed road level
Noise Barriers / Semi-noise enclosures	Ranged from 2m to 12m in height above proposed road level

Note: Exact levels, heights and dimensions would be subject to detailed design.

10.7.4 As the construction of tunnels are conducted below ground, it is anticipated that there would not be any potential visual impacts.

Magnitude of Visual Changes

- 10.7.5 The magnitude of changes during construction and operation phases is assessed based on the viewing distance, compatibility of the project with the surrounding landscape, duration of changes, scale of development, reversibility of change, potential blockage of view as shown in **Table 10.9**.
- 10.7.6 For the road improvement works in the junction between LRT Road and Lung Cheung Road in Kowloon side, the compatibility of the Project is medium to high during both construction and operational phases as road widening works are proposed along the existing LRT road which fit in well with the surrounding landscape and visual context. The duration of impacts is medium as the construction works will last for a few years, and the duration of impacts is long during operation phase since the road works are permanent and irreversible. In general, the scale of development is considered small for minor road widening areas and medium for areas involve proposed noise mitigation structures and proposed buildings. However, the scale of development is considered as large for travelling VSR along LRT road (T-02) in view of the nature of road works and the proposed permanent noise mitigation structures along the road. All permanent works during operation phase are considered irreversible. Generally, there would be potential partial blockage of view during construction and operation phases for VSRs viewing to proposed noise mitigation structures and tunnel administration building, except recreational VSR at Hung Mui Kuk Nature Trail (O-04) in close proximity to the proposed noise mitigation structures with full potential blockage of view.
- 10.7.7 For travelling VSR along LRT road (T-02), the magnitude of change during construction will be large, and the magnitude of change will also be large upon completion as the noise mitigation structures will be in operation in several portions along the road.
- 10.7.8 For recreational VSR at the Hung Mui Kuk Nature Trail (O-04), the magnitude of change during construction and operation will be large in view of the full blockage of view and low compatibility with surrounding natural visual setting of the proposed semi-noise enclosure at a close distant. For Institutional VSR I-01 involves view to the proposed administration building which partially block the existing view and is not compatible with the surrounding landscape, the magnitude of change is considered as large. For Residential VSR R-04 and R-07, there is visual change due to the proposed noise mitigation structures and re-provision of footbridge. As the compatibility with the surrounding is low and the existing view is partially blocked, their magnitudes of changes are considered as large.
- 10.7.9 For VSRs involve partial blockage to existing views, medium compatibility with the surrounding context and medium scale of development, including R-02, R-03, R-06 and R-10, the magnitude of change is considered as intermediate. As the viewing distance of R-02 is relatively medium to long, the compatibility of the project is rated as medium and the magnitude of change is considered as intermediate.
- 10.7.10 For VSRs with short viewing distance to the proposed works, including R-01, O-01, O-03, T-01, T-03 and T-05, the scale of development is small to medium with high compatibility of the project with surrounding landscape and visual context. In view of their close proximity to the proposed works, the magnitude of change is considered as small during construction and operation.
- 10.7.11 For other VSRs, including R-05, R-08, R-09, R-11, I-02, I-03, O-02 and T-04, there is no blockage to the existing views and the viewing distance is long or the proposed works are screened by existing vegetation. The magnitude of change for these VSRs is considered to be negligible.

Table 10.9 Magnitude of Visual Changes during Construction and Operation

VSR ID.	VSR	Source of Visual Impact	Viewing Distance (m)	Compatibility of the Project with the Surrounding Landscape (High/ Medium/ Low)		Duration of Impacts (Long/ Medium/ Short)		Scale of Development (Large/ Medium/ Small)		Reversibility of Change (Yes/ No)		Potential Blockage of View (Full/ Partial/ Nil)		Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
				Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation	Construction	Operation
R-01	Residents in medium-rise residential developments in Kowloon Tong	As listed in Para. 10.7.1 and 10.7.2	15-200m	High	High	Medium	Long	Small	Small	Yes	No	Nil	Nil	Small	Small
R-02	Residents in high-rise residential developments near Tei Lung Hau	As listed in Para. 10.7.1 and 10.7.2	200-400m	Medium	Medium	Medium	Long	Medium	Medium	Yes	No	Partial	Partial	Intermediate	Intermediate
R-03	Residents in high-rise residential developments along LRT Road in Tai Wai	As listed in Para. 10.7.1 and 10.7.2	20-170m	Medium	Medium	Medium	Long	Medium	Medium	Yes	No	Partial	Partial	Intermediate	Intermediate
R-04	Residents in high-rise residential developments along LRT Road in Sha Tin Tau	As listed in Para. 10.7.1 and 10.7.2	20-230m	Low	Low	Medium	Long	Medium	Medium	Yes	No	Partial	Partial	Large	Large
R-05	Residents in high-rise residential developments along Sha Tin Road	As listed in Para. 10.7.1 and 10.7.2	450-820m	High	High	Medium	Long	Small	Small	Yes	No	Nil	Nil	Negligible	Negligible
R-06	Residents in village residential developments along LRT Road in Tai Wai	As listed in Para. 10.7.1 and 10.7.2	50-300m	Medium	Medium	Medium	Long	Medium	Medium	Yes	No	Partial	Partial	Intermediate	Intermediate
R-07	Residents in village residential developments along LRT Road in Sha Tin Tau	As listed in Para. 10.7.1 and 10.7.2	30-400m	Low	Low	Medium	Long	Medium	Medium	Yes	No	Partial	Partial	Large	Large
R-08	Residents in village residential developments along Sha Tin Road	As listed in Para. 10.7.1 and 10.7.2	480-650m	High	High	Medium	Long	Small	Small	Yes	No	Nil	Nil	Negligible	Negligible
R-09	Residents in high-rise residential developments along Fu Kin Street	As listed in Para. 10.7.1 and 10.7.2	200-300m	Medium	Medium	Medium	Long	Medium	Medium	Yes	No	Nil	Nil	Negligible	Negligible
R-10	Residents in high-rise residential developments along Hung Mui Kuk Road	As listed in Para. 10.7.1 and 10.7.2	200-370m	Medium	Medium	Medium	Long	Medium	Medium	Yes	No	Partial	Partial	Intermediate	Intermediate
R-11	Residents in high-rise residential developments along Chui Tin Street	As listed in Para. 10.7.1 and 10.7.2	300-400m	Medium	Medium	Medium	Long	Medium	Medium	Yes	No	Nil	Nil	Negligible	Negligible

VSR ID.	VSR	Source of Visual Impact	Viewing Distance (m)	Compatibility of the Project with the Surrounding Landscape (High/ Medium/ Low)		Duration of Impacts (Long/ Medium/ Short)		Scale of Development (Large/ Medium/ Small)		Reversibility of Change (Yes/ No)		Potential Blockage of View (Full/ Partial/ Nil)		Magnitude of Change (Large/ Intermediate/ Small/ Negligible)	
				Const-ruccion	Oper-ation	Const-ruccion	Oper-ation	Const-ruccion	Oper-ation	Const-ruccion	Oper-ation	Const-ruccion	Oper-ation	Const-ruccion	Oper-ation
I-01	Occupants in Union Hospital	As listed in Para. 10.7.1 and 10.7.2	20-90m	Low	Low	Medium	Long	Medium	Medium	Yes	No	Partial	Partial	Large	Large
I-02	Occupants in Sha Tin Government Primary School	As listed in Para. 10.7.1 and 10.7.2	60-130m	Medium	Medium	Medium	Long	Medium	Medium	Yes	No	Nil	Nil	Negligible	Negligible
I-03	Occupants in Island School Sha Tin Wai Campus and Christ College	As listed in Para. 10.7.1 and 10.7.2	620-750m	High	High	Medium	Long	Small	Small	Yes	No	Nil	Nil	Negligible	Negligible
O-01	Recreational Users in Broadcast Drive Garden and Lung Cheung Road Park	As listed in Para. 10.7.1 and 10.7.2	5-160m	High	High	Medium	Long	Small	Small	Yes	No	Nil	Nil	Small	Small
O-02	Recreational Users in Service Reservoirs in Kowloon Side (Archery Range and two Base Ball Fields)	As listed in Para. 10.7.1 and 10.7.2	25-200m	Medium	Medium	Medium	Long	Medium	Medium	Yes	No	Nil	Nil	Negligible	Negligible
O-03	Hikers along Wilson Trail (Stage 5) and Amah Rock	As listed in Para. 10.7.1 and 10.7.2	200-460m	Medium	Medium	Medium	Long	Medium	Medium	Yes	No	Nil	Nil	Small	Small
O-04	Recreational Users along Hung Mui Kuk Nature Trail	As listed in Para. 10.7.1 and 10.7.2	0-120m	Low	Low	Medium	Long	Medium	Medium	Yes	No	Full	Full	Large	Large
T-01	Traveller along Lung Cheung Road	As listed in Para. 10.7.1 and 10.7.2	10-50m	High	High	Medium	Long	Small	Small	Yes	No	Nil	Nil	Small	Small
T-02	Travellers along LRT Road	As listed in Para. 10.7.1 and 10.7.2	0-50m	Low	Low	Medium	Long	Large	Large	Yes	No	Partial	Partial	Large	Large
T-03	Travellers along Hung Mui Kuk Road	As listed in Para. 10.7.1 and 10.7.2	10-50m	High	High	Medium	Long	Small	Small	Yes	No	Partial	Partial	Small	Small
T-04	Traveller along Sha Tin Road	As listed in Para. 10.7.1 and 10.7.2	300m	High	High	Medium	Long	Small	Small	Yes	No	Nil	Nil	Negligible	Negligible
T-05	Traveller along Fu Kin Street	As listed in Para. 10.7.1 and 10.7.2	50-400m	High	High	Medium	Long	Small	Small	Yes	No	Partial	Partial	Small	Small

Significance of Unmitigated Visual Impacts

- 10.7.12 The significance of visual impacts, before the implementation of mitigation measures, in the construction phase and operation phase are assessed in accordance with the methodology set out in **Table 10.2** of the Report and described in **Table 10.13**.
- 10.7.13 The visual impacts before mitigation on immediately adjacent high-rise residential VSRs (i.e. R-03, R-04, R-07, I-01 and O-04), with medium to high sensitivity and intermediate to large magnitude of change that overlooking the proposed administration building, or proposed noise semi-enclosure and associated slope works along LRT Road, are substantial both during construction and operation phases. Since O-04 with high sensitivity and large magnitude of change due to the incompatible view of the proposed semi-noise enclosure at Hung Mui Kuk junction to the current natural visual context, the visual impact before mitigation on this VSR is also substantial.
- 10.7.14 Residential VSR R-06 in low-rise village and R-02 with medium distance to the proposed modification of toll plaza area in Shatin, with medium sensitivity and intermediate magnitude of change, has moderate unmitigated impact both during construction and operation phases.
- 10.7.15 Travelling VSR T-02 with medium sensitivity has substantial unmitigated impact during construction and operation phase as it is the main travellers along the proposed roadworks. The proposed semi-noise enclosures adjoining the World-Wide Gardens will potentially block the view to the Amah Rock in certain view angle at road level, though the main visual attachment for the travelling VSR T-02 (e.g. drivers and passengers) will be the visual amenity in road level. Other travelling VSRs (T-01, T-03 & T-05) with low sensitivity and small magnitude of change having slight unmitigated visual impacts during construction and operation phases. The remaining T-04 has insubstantial unmitigated visual impacts since no works are proposed along Sha Tin Road accordingly to the current design.
- 10.7.16 Visual impact before mitigation on R-01, O-01 and O-03 with medium sensitivity and small magnitude of change is slight both during construction and operation phases. VSR R-10 also have slight unmitigated visual impacts with low sensitivity and intermediate magnitude of change.
- 10.7.17 The remaining VSRs R-05, R-08, R-09, R-11, I-02, I-03 and O-02 with negligible magnitude of change, hence, the visual impacts before mitigation is insubstantial for both construction and operation phases.

Recommended Photomontage Viewpoints

- 10.7.18 Computer generated photomontages will be prepared to illustrate the potential landscape and visual impact of the Project. The criteria for the selection of representative viewpoints for photomontages include:-
- The viewpoints which cover the aboveground structure viewed from major public viewpoint represents key VSRs or VSR groups who would be potentially affected by the proposed Project; and
 - The viewpoints which shall be able to represent the worst case scenarios and demonstrate the compatibility of the aboveground structures to the adjacent visual context and illustrate the visual effect during Day 1 without mitigation measures, Day 1 with mitigation measures and Year 10 with mitigation measures.
- 10.7.19 Based on the location of the proposed aboveground structures, proposed viewpoint from key representative VSRs are mapped in **60604728/R42b/Figure 10.16** and the photos the shown in **60604728/R42b/Figure 10.17 to 60604728/R42b/Figure 10.18**. They are described as follow:

- Viewpoint VP01 view from Lung Cheung Road is approximately 30m from the proposed works. It is the representing VP of Residents in medium-rise residential developments in Kowloon Tong (R-01), Recreational Users in Broadcast Drive Garden and Lung Cheung Road Park (O-01) and Traveller along Lung Cheung Road (T-01) to illustrate the potential landscape and visual impact due to the proposed bridge and road widening in Kowloon side;
- Viewpoint VP02 Portal View of Kowloon Side is within 5m from the proposed works. It is the representing VP of Traveller along LRT Road (T-02) to illustrate the potential landscape and visual impact due to the proposed ventilation building and associated slope works near the portal area of Kowloon side;
- Viewpoint VP03 Toll Plaza View of Tai Wai Side is within 5m from the proposed works. It is the representing VP of Residents in high-rise residential developments near Tei Lung Hau (R-02), Occupants in Union Hospital (I-01) and Traveller along LRT Road (T-02) to illustrate the potential landscape and visual impact due to the works at the proposed tunnel administration building and the re-arrangement of toll plaza area;
- Viewpoint VP04 Amah Rock View to Tai Wai and VP05 Amah Rock View to Sha Tin are at a level of about 250mPD and approximately 320m from the proposed works. They are representing VPs of Hikers along Wilson Trail (Stage 5) and Amah Rock (O-03) to illustrate the potential landscape and visual impact due to the proposed road improvement works overlooking at an elevated view;
- Viewpoint VP06 Entrance of Hung Mui Kuk Nature Trail is right next to the proposed works. It is representing VP of Recreational Users along Hung Mui Kuk Nature Trail (O-04) to illustrate the potential landscape and visual impact due to the proposed road widening works and noise semi-enclosures at a close distance;
- Viewpoint VP07 View to World Wide Gardens is approximately 20m from the proposed works. It is representing VP of Residents in high-rise residential developments along LRT Road in Tai Wai (R-03), Residents in village residential developments along LRT Road in Tai Wai (R-06), Residents in high-rise residential developments along Hung Mui Kuk Road (R-10) and Traveller along Hung Mui Kuk Road (T-03) to illustrate the potential landscape and visual impact due to the proposed semi-noise enclosure along the LRT Road and slip road; and
- Viewpoint VP08 View from Sun Tin Wai Estate is on the footbridge right above the proposed works. It is representing VP of Residents in high-rise residential developments along LRT Road in Sha Tin Tau (R-04), Residents in village residential developments along LRT Road in Sha Tin Tau (R-07) and Traveller along LRT Road (T-02) to illustrate the potential landscape and visual impact due to the proposed road widening with noise semi-enclosure and associated slope works overlooking at a close distance.

10.7.20 The recommended viewpoints cover all VSRs with visual impacts before mitigation for the Project. Since O-02 is located at a higher level and the view to the Project is screened by existing vegetation, no viewpoint is recommended. Although I-02 is located relatively closed to the Project, the view to the Project is screened by existing vegetation, no viewpoint is recommended. For T-05, R-09 and R-11 in medium to long distance from the Project, the view to the Project is screened by existing dense mixed woodland next to the World-Wide Gardens and in the Kak Tin area, hence no viewpoint is recommended. For other VSRs in relatively long distance from the Project, i.e. R-05, R-08, I-03 and T-04, that have insubstantial unmitigated visual impacts, no viewpoints are recommended for these VSRs.

10.8 Landscape and Visual Mitigation Measures

10.8.1 The proposed engineering works have been designed to minimise any potential landscape and visual impact as much as possible. Unavoidably, there would be some potential

landscape and visual impact. Landscape and Visual Mitigation Measures are therefore proposed to alleviate the potential adverse landscape and visual impact.

- 10.8.2 The proposed landscape and visual mitigation measures in the construction and operation are listed in **Table 10.10** and **Table 10.11** below, together with an indication of Funding, Implementation and Maintenance Agencies and illustrated in **60604728/R42b/Figure 10.19** to **60604728/R42b/Figure 10.25**.

Table 10.10 Landscape and Visual Mitigation Measures for Construction Phase

ID No.	Landscape and Visual Mitigation Measures	Funding Agency	Implementation Agency
CM1	<p>Preservation of Existing Vegetation</p> <p>All the existing Trees to be retained and not to be affected by the Project shall be carefully protected during construction accordance with DEVB TCW No. 4/2020 - Tree Preservation and the latest Guidelines on Tree Preservation during Development issued by GLTM Section of DevB. Any existing vegetation in landscaped areas and natural terrain not to be affected by the Project shall be carefully preserved.</p> <p>In particular for trees with conservation importance marginally fall within the temporary works area, such as the 3 nos. of <i>Rhodoleia championii</i> in Lung Cheung Road Park and 1 no. of <i>Ficus microcarpa</i> with DBH over 1m near the Kak Tin area, the temporary works shall be carefully arranged to preserve the trees where technically feasible. Besides, the proposed alignment and footing of the natural terrain hazards mitigation works (i.e. rigid barrier/ flexible barrier) shall be carefully designed and arranged to preserve existing trees and those of conservation importance (i.e. <i>Ailanthus fordii</i>) on the hillside along Lion Rock Tunnel Road.</p> <p>Preservation of trees of particular interest will be favourably considered with reference to DEVB TC(W) No. 4/2020. Any unavoidably removal or transplanting of trees of particular interest shall be fully justified in accordance with DEVB TC(W) No. 4/2020 and Guidelines for Tree Risk Assessment and Management Arrangement issued by DEVB.</p>	HyD	HyD (via Contractor)
CM2	<p>Control of Night-time Lighting Glare</p> <p>Any lighting provision of the construction works at night shall be carefully controlled to prevent light overspill to the nearby VSRs and into the sky. Relevant best practices as suggested in the “Guidelines on Industry Best Practices for External Lighting Installations” promulgated by ENB shall be adopted.</p>	HyD	HyD (via Contractor)

ID No.	Landscape and Visual Mitigation Measures	Funding Agency	Implement-action Agency
CM3	<p>Erection of Decorative Screen Hoarding</p> <p>Decorative Hoarding, which is compatible with the surrounding natural settings, shall be erected during construction to minimise the potential landscape and visual impacts due to the construction works and activities.</p> <p>For visually sensitive locations such as works area closed to Hung Mui Kuk Nature Trail and works area adjoining residential developments, appropriate greening design in the form of vertical greening or portable planter along the hoarding shall be applied to blend in with the natural surroundings during construction phase.</p>	HyD	HyD (via Contractor)
CM4	<p>Management of Construction Activities and Facilities</p> <p>The facilities and activities at works sites and areas, which include site office, temporary storage areas, temporary works etc., shall be carefully managed and controlled on the height, deposition and arrangement to minimise any potential adverse landscape and visual impacts.</p>	HyD	HyD (via Contractor)
CM5	<p>Reinstatement of Temporarily Disturbed Landscape Areas</p> <p>All hard and soft landscape areas disturbed temporarily during construction due to temporary excavations, temporary works sites and works areas shall be reinstated to equal or better quality, to the satisfaction of the relevant Government Departments. The reinstatement planting will be subject to 3-year establishment period for areas within Lion Rock Country Park.</p>	HyD	HyD (via Contractor)
CM6	<p>Minimize the Direct Conflict with Lion Rock Country Park</p> <p>The optimum alignment of proposed road improvement works is carefully designed to minimize direct conflict with the Lion Rock Country Park. The works area of road widening and associated slope works shall be minimized and confined to avoid any unnecessary vegetation loss in the adjacent Country Park.</p>	HyD	HyD (via Contractor)
CM7	<p>Minimize Disturbance on Watercourses</p> <p>The design shall minimize disturbance on watercourses, particularly for natural watercourse. Good site practices as described in ETWB TCW No. 5/2005 "Protection of natural streams/rivers from adverse impacts arising from construction works" shall also be adopted to avoid any pollution entering the watercourses nearby where applicable. Should temporarily or indirect disturbance on watercourse is</p>	HyD	HyD (via Contractor)

ID No.	Landscape and Visual Mitigation Measures	Funding Agency	Implement- action Agency
	unavoidable, it shall be reinstated to the satisfaction of relevant Government Departments.		

Table 10.11 Landscape and Visual Mitigation Measures for Operation Phase

ID No.	Landscape and Visual Mitigation Measures	Funding Agency	Implement- action Agency	Management / Maintenance Agency*
OM1	<p>Compensatory Tree Planting for Loss of Existing Trees</p> <p>Any Trees to be felled under the Project shall be compensated in accordance with DevB TCW No. 4/2020 - Tree Preservation. The size of compensatory trees at their maturity should be appropriate to the location and function in reference to Appendix C of DevB TCW No. 4/2020. For trees to be compensated on slopes, the guidelines for tree planting stipulated in GEO Publication No. 1/2011 will be followed. Approximately 145 heavy standard trees are proposed within site under OM1, the exact number and location subject to the detailed design at design and construction stage of this Project.</p>	HyD	HyD (via Contractor)	LCSD, AFCD and Tunnel Operator for responsible roadside areas, and responsible parties for SIMAR slopes
OM2	<p>Compensatory Woodland Mix Planting on Soil Slopes</p> <p>Woodland Mix Planting with tree whips shall be applied on slope as compensatory planting in accordance with Appendix C of DevB TCW No. 4/2020. The appropriate new or reinstated soil cut and fill slopes shall be at a gradient of 35 degree or below following the technical guidelines set out in GEO Publication No. 1/2011 at the tunnel portals and the affected slopes along the road improvement works.</p> <p>The quality aspects such as improving the vegetation diversity of native species mix, enhancing ecological value and improving overall value of landscape setting etc.</p>	HyD	HyD (via Contractor)	Responsible parties (mainly HyD) for SIMAR slopes

ID No.	Landscape and Visual Mitigation Measures	Funding Agency	Implement-action Agency	Management / Maintenance Agency*
	<p>of the compensatory planting proposal shall be fully considered.</p> <p>Use of native species shall be maximized as far as possible in accordance with the Guiding Principles on Use of Native Plant Species in Public Works Projects issued by DEVB to improve the habitat complexity and quality, particularly for the affected areas / engineered slopes at the margins of Lion Rock Country Park.</p> <p>Approximately 2,070 whip trees and 1,200 native seedlings/whip trees are proposed within site and off-site respectively under OM2, the exact number and location subject to the detailed design at design and construction stage of this Project.</p>			
OM3	<p>Aesthetically pleasing design of Aboveground Structures</p> <p>The Aboveground Structures of the Project including Tunnel Portals, Ventilation Buildings, Tunnel Administration Building etc. in the regard of layouts, forms, materials and finishes shall be sensitively designed so as to blend in the structures to the adjacent landscape and visual context. Design concepts like matching colour schemes among the existing building façade and the new administration building shall be fully explored in the design stage in order to maintain the original sentiment.</p>	HyD	HyD (via Contractor)	Tunnel Operator as management party and ArchSD as maintenance agency
OM4	<p>Aesthetically pleasing design of Highways Structures and Slope Associated Structures</p> <p>Highways Structures proposed shall be sensitively designed in the regard of form, tonal colour and texture so as to minimise any potential adverse landscape and visual impact. The slope associated structures including proposed retaining structures and the natural terrain hazards mitigation</p>	HyD	HyD (via Contractor)	HyD

ID No.	Landscape and Visual Mitigation Measures	Funding Agency	Implement-action Agency	Management / Maintenance Agency*
	<p>works (i.e. rigid barrier/ flexible barrier) shall be sensitively designed to minimize the extent of structure and to break down the monotonous façade with use of natural material, unobtrusive colour or texture to blend in the retaining structures to the adjacent landscape and visual context. The flexible barrier shall avoid placing in front of the vegetated area so that visual screening can be provided by the vegetation as per the GEO Publication No. 1/2011.</p> <p>Greening measures such as shrubs along footbridges shall be fully explored in design stage. Early advice from ACABAS shall be sought.</p>			
OM5	<p>Aesthetically pleasing design of footbridges, noise barriers and noise enclosures</p> <p>Sensitive design of footbridges with greening, noise barriers and semi-noise enclosures with chromatic measures.</p> <p>A combination of tinted or transparent panels at top and solid panels at the bottom could allow the daylight to pass through and lighten the visual impact. The detail design of noise barriers and semi-noise enclosures shall make reference to "Guidelines on Greening of Noise Barriers" promulgated by DEVB in appropriate locations, subject to the agreement of future maintenance departments.</p> <p>Greening measures such as screen planting along the barriers shall be fully explored in design stage. Early advice from ACABAS shall be sought.</p>	HyD	HyD (via Contractor)	HyD
OM6	<p>Provision of Green Roof</p> <p>Green Roof shall be proposed to enhance the landscape quality of the Aboveground Structures including Tunnel Administration Building and Ventilation Buildings and mitigate any potential adverse visual impact on</p>	HyD	HyD (via Contractor)	Tunnel Operator as management party and ArchSD as maintenance agency

ID No.	Landscape and Visual Mitigation Measures	Funding Agency	Implement-action Agency	Management / Maintenance Agency*
	adjacent VSRs. The extent of roof greening shall be in accordance with DEVB TC(W) No. 3/2012 – Site Coverage of Greenery for Government Building Projects.			
OM7	<p>Provision of Buffer Planting / Roadside Planting</p> <p>Buffer Planting shall be provided at the perimeter of the Portal Areas to screen and soften the proposed Aboveground Structures. Roadside Planting shall be provided along the road improvement works as a green buffer to the adjacent VSRs. In addition to tree planting, combination of shrub and groundcover will be planted to enhance the buffer and screening effect.</p>	HyD	HyD (via Contractor)	LCSD, AFCD and Tunnel Operator for responsible roadside areas
OM8	<p>Greening Works on Slopes and associated structures</p> <p>Woodland Mix Planting with tree whips shall be proposed as far as practicable. On slope with gradient not suitable for whip tree planting, combination of shrub/groundcover mix shall be applied to new soil cut and fill slopes in accordance with technical guidelines set out in GEO Publication No. 1/2011 at the tunnel portals and the affected slopes along the road improvement works. Other greening measures e.g. planting of toe planters, berm planters, climbers along retaining structures, check dams, rigid barrier and flexible barriers etc. will be proposed to maximize the greenery. The use of unobtrusive colours and tones for all hard elements on slopes.</p>	HyD	HyD (via Contractor)	Responsible parties (mainly HyD) for SIMAR slopes

* Remarks: The arrangement of management / maintenance agencies is subject to agreement with corresponding departments/parties in accordance with DEVB TCW No. 6/2015.

10.8.3 The construction phase mitigation measures listed above shall be implemented as early as possible in order to minimize the landscape impacts in the construction stage. The operation phase mitigation measures listed above shall be adopted during the detailed design and be built as part of the construction works at the last stage of the construction period so that they are in place at the date of commissioning of the Project. However, it should be noted that the full effect of the soft landscape mitigation measures would not be appreciated for several years.

10.9 Residual Impact

Significance of Residual Landscape Impacts

- 10.9.1 The potential significance of the landscape impacts during the construction and operation phases, before and after mitigation, is provided in **Table 10.12**. The assessment follows the proposed methodology and assumes that the appropriate mitigation measures identified in **Tables 10.10 and 10.11** above would be implemented, and the full effect of the soft landscape mitigation measures would be realized after ten years.

Residual Impacts on LRs

- 10.9.2 For the LRs under the Project, it is anticipated that there would be temporary and permanent change in Vegetation on Natural Terrain (LR-1.1) due to the modification and construction of the tunnel administration area, tunnel portal area, road widening, noise barriers/semi-enclosures, associated slope works and flexible barriers. It is estimated that approximate 12,140m.sq. (3% of this LR) will be affected, in which 2,250m.sq. within Lion Rock Country Park will be permanently affected. Also, approximate 532 nos. of existing trees are being affected, in which approximately 9 trees within Lion Rock Country Park are unavoidably affected mainly by the modification of toll plaza and tunnel administration area. One no. of tree of particular interest *Ficus microcarpa* with DBH over 1m will also fall within the temporary works area near the Kak Tin area. The temporary works shall be carefully arranged to preserve the tree where technically feasible. The sensitivity of this LR is high. The magnitude of impact is intermediate. The resultant unmitigated landscape impact on this LR would be moderate during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, minimize the direct conflict with Lion Rock Country Park, compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of aboveground structures, aesthetically pleasing design of highways structures and slope associated structures, provision of green roof, provision of buffer planting / roadside planting and greening works on slopes and associated structures, it is predicted that there would still be moderate residual impact during construction, and would reduce to slight residual impact during day 1 and further reduce to insubstantial after year 10 of the operation.
- 10.9.3 It is anticipated that there would be temporary and permanent change in Vegetation in Village Areas near Kak Tin (LR-1.2) due to the construction of road widening, noise barriers/ semi-enclosures and associated slope works. It is estimated that approximate 9,300m.sq. (8% of this LR) will be affected, in which 100m.sq. within Lion Rock Country Park will be permanently affected. Approximate 187 nos. of existing trees are being affected, among them, approximately 6 trees within Lion Rock Country Park are unavoidably affected near the Hung Mui Kuk junction. In addition, approximately 4 nos. of *Ailanthus fordii* with conservation importance are unavoidably affected by the road widening works near Kak Tin Village (out of country park) and proposed to be felled. The sensitivity of this LR is high. The magnitude of impact is intermediate. The resultant unmitigated landscape impact on this LR would be moderate during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of highways structures and slope associated structures, aesthetically pleasing design of footbridges, noise barriers and semi-noise enclosures, provision of buffer planting / roadside planting and greening works on slopes and associated structures, it is predicted that there would still be moderate residual impact during construction, and would reduce to slight residual impact during day 1 and further reduce to insubstantial after year 10 of the operation.
- 10.9.4 For LR-2.1, no natural watercourse and modified flowing watercourses would be temporarily or permanently affected by the Project. It is anticipated that a small section (approximately 0.01 ha and 130m) of modified watercourse (i.e. named WC3 in Section 8 of this EIA Report)

recorded south to the LRT toll plaza would be permanent loss under the Project. This modified watercourse was approximately 1-1.5m wide, with concrete banks and discharges to an underground culvert. No water flow was observed at this affected modified watercourse with low ecological value. Given this modified watercourse was small and already modified in nature, the magnitude of impact on LR-2.1 is considered as negligible. The resultant unmitigated landscape impact on this LR-2.1 would be insubstantial during construction and operation. Although no natural watercourse or modified flowing watercourse of LR-2.1 would be either temporarily or permanently affected by the Project, mitigation measure on minimizing disturbance on watercourses such as good site practices as described in ETWB TCW No. 5/2005 "Protection of natural streams/rivers from adverse impacts arising from construction works" shall also be adopted to avoid any pollution entering the watercourses nearby where applicable.

- 10.9.5 It is predicted that there would be a temporary and permanent change to the Vegetation on Roadside Engineered Slopes in Kowloon Tong (LR-3.1) due to the modification and construction of the tunnel portal area, ventilation building, road widening and associated slope works. It is estimated that approximate 9,800m.sq. (56% of this LR) will be affected, and approximate 645 nos. of existing trees are being affected. The sensitivity of this LR is medium. The magnitude of impact is large. The resultant unmitigated landscape impact on this LR would be moderate during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of aboveground structures, aesthetically pleasing design of highways structures and slope associated structures, provision of green roof, provision of buffer planting / roadside planting and greening works on slopes and associated structures, it is predicted that there would still be moderate residual impact during construction, and would reduce to slight residual impact during day 1 and further reduce to insubstantial after year 10 of the operation.
- 10.9.6 It is predicted that there would be a temporary and permanent change to the Vegetation on Roadside Engineered Slopes from Tai Wai to Sha Tin Tau (LR-3.2) due to the modification and construction of the tunnel administration area, tunnel portal area, ventilation and administration building, road widening, re-provision of footbridge, noise barriers/ semi-enclosures, associated slope works and flexible barriers. It is estimated that approximate 38,640m.sq. (34% of this LR) will be affected, in which 4,000m.sq. within Lion Rock Country Park will be permanently affected. Approximate 1,064 nos. of existing trees are being affected, in which approximate 228 affected trees are within Lion Rock Country Park. In addition, approximately 10 nos. of *Ailanthus fordii* with conservation importance are unavoidably affected by the road widening works mainly near Kak Tin Village and Hung Mui Kuk proposed to be felled. The sensitivity of this LR is high. The magnitude of impact is large. The resultant unmitigated landscape impact on this LR would be substantial during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, minimize the direct conflict with Lion Rock Country Park, compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of aboveground structures, aesthetically pleasing design of highways structures and slope associated structures, aesthetically pleasing design of footbridges, noise barriers and semi-noise enclosures, provision of green roof, provision of buffer planting / roadside planting and greening works on slopes and associated structures, it is predicted that residual impact would be reduced to moderate during construction, and would be slight during day 1 and further reduce to insubstantial after year 10 of the operation.
- 10.9.7 It is predicted that there would be a temporary and permanent change to the Vegetation in Other Roadside Areas (LR-3.3) due to the modification and construction of the tunnel administration area, tunnel portal area, road widening, noise barriers/semi-enclosures, associated slope works and rigid barrier. It is estimated that approximate 8,375m.sq. (44%

of this LR) will be affected, in which 1,175m.sq. within Lion Rock Country Park will be permanently affected. Also, approximate 200 nos. of existing trees are being affected, in which approximate 57 trees are within Lion Rock Country Park in tunnel administration area and junction of Hung Muk Kuk Road and LRT Road. The sensitivity of this LR is medium. The magnitude of impact is large. The resultant unmitigated landscape impact on this LR would be moderate during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, minimize the direct conflict with Lion Rock Country Park, compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of aboveground structures, aesthetically pleasing design of highways structures and slope associated structures, aesthetically pleasing design of footbridges, noise barriers and semi-noise enclosures, provision of green roof, provision of buffer planting / roadside planting and greening works on slopes and associated structures, it is predicted that there would still be moderate residual impact during construction, and would reduce to slight residual impact during day 1 and further reduce to insubstantial after year 10 of the operation.

- 10.9.8 It is predicted that there would be a temporary and permanent change in Lung Cheung Road Park (LR-4.2) due to the construction of road widening, bridge and associated slope works. It is estimated that approximate 40m.sq. of area will be permanently affected and 250m.sq. (2% of this LR) fall within the temporary works area, and approximate 6 nos. of existing trees and 1 no. of *Ficus elastica* in huge size with a number of aerial roots on the slope are being affected by construction of road widening and associated slope works adjoining Waterloo Road. The proposed works near Lung Cheung Road Park is illustrated in **Appendix 10.2**. The remaining 3 nos. of *Rhodoleia championii* with conservation importance will also fall within the temporary works area of this Project. The temporary works shall be carefully arranged to perverse the 3 trees where possible. The magnitude of impact is intermediate during construction and operation. The sensitivity of this LR is high. The resultant unmitigated landscape impact on this LR would be moderate during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of highways structures and slope associated structures, provision of buffer planting / roadside planting and greening works on slopes and associated structures, it is predicted that there would still be moderate residual impact during construction, and would reduce to slight residual impact during day 1 and further reduce to insubstantial after year 10 of the operation.
- 10.9.9 It is predicted that there would be a temporary and permanent change in Vegetated Areas in Service Reservoirs and Associated Landscape Areas in Kowloon Side (LR-6.1) due to the construction of road widening and associated slope works. It is estimated that approximate 2,900m.sq. (6% of this LR) will be affected during construction and operation, and approximate 238 nos. of existing trees are being affected by construction of road widening and associated slope works near Lung Cheung Road. The magnitude of impact is intermediate during construction and operation. The sensitivity of this LR is low. The resultant unmitigated landscape impact on this LR would be slight during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of highways structures and slope associated structures, provision of buffer planting / roadside planting and greening works on slopes and associated structures, it is predicted that there would still be slight residual impact during construction, and reduced to insubstantial upon day 1 and after year 10 of the operation.
- 10.9.10 It is predicted that there would be a temporary and permanent change in Vegetated Areas in Fenced-off Area (LR-6.3) due to the construction of road widening and associated slope

works. It is estimated that approximate 650m.sq. (3% of this LR) will be affected, and approximate 38 nos. of existing trees are being affected by construction of road widening and associated slope works. The magnitude of impact is small during construction and operation. The sensitivity of this LR is low. The resultant unmitigated landscape impact on this LR would be slight during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of highways structures and slope associated structures, provision of buffer planting / roadside planting and greening works on slopes and associated structures, it is predicted that there would still be slight residual impact during construction, and reduced to insubstantial upon day 1 and after year 10 of the operation.

- 10.9.11 Apart from LR-1.1, LR-1.2, LR-3.1, LR-3.2, LR-3.3, LR-4.2, LR-6.1 and LR-6.3, it is predicted that there would not be any discernible change in other LRs (i.e. LR-1.3, LR-2.1, LR-4.1, LR-4.3, LR-5.1, LR-5.2, LR-5.3, LR-5.4 and LR-6.2) identified within the study boundary of the Project.

Residual Impacts on LCAs

- 10.9.12 For the LCAs under the Project, it is anticipated that there would be permanent change in Kowloon Tong Lion Rock Upland and Hillside LCA (LCA-1.1) due to the construction of the tunnel portal area and associated slope works. It is estimated that approximate 3,600m.sq. (8% of this LCA) will be permanently affected. The sensitivity of this LCA is high. The magnitude of impact is small. The resultant unmitigated landscape impact on this LCA would be moderate during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, minimize disturbance on watercourses, compensatory woodland mix planting on soil slopes and greening works on slopes and associated structures, it is predicted that there would still be moderate residual impact during construction, and would reduce to slight residual impact during day 1 and further reduce to insubstantial after year 10 of the operation.
- 10.9.13 It is anticipated that there would be permanent change in Tai Wai Lion Rock Upland and Hillside LCA (LCA-1.2) due to the modification and construction of the tunnel administration area and toll plaza area including elevated road and footbridge, tunnel portal area, road widening, noise barriers/semi-enclosures, associated slope works, rigid barrier and flexible barriers. It is estimated that approximate 9,300m.sq. (3% of this LCA) will be permanently affected, in which 7,075m.sq. is within Lion Rock Country Park. Small portion within Lion Rock Country Park will be temporarily affected for the construction of rigid barrier. Most of the affected area will be changed to transportation corridor LCA. The sensitivity of this LCA is high. The magnitude of impact is large. The resultant unmitigated landscape impact on this LCA would be substantial during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, minimize the direct conflict with Lion Rock Country Park, minimize disturbance on watercourses, compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of aboveground structures, aesthetically pleasing design of highways structures and slope associated structures, aesthetically pleasing design of footbridges, noise barriers and semi-noise enclosures, provision of green roof, provision of buffer planting / roadside planting and greening works on slopes and associated structures, it is predicted that there would be moderate residual impact during construction, and would reduce to slight residual impact during day 1 and further reduce to insubstantial after year 10 of the operation.
- 10.9.14 It is anticipated that there would be permanent change in Sha Tin Tau Lion Rock Upland and Hillside LCA (LCA-1.3) due to the construction of the road widening, re-provision of footbridge,

noise barriers/semi-enclosures and associated slope works. It is estimated that approximate 4,120m.sq. (6% of this LCA) will be permanently affected. Most of the affected area will be changed to transportation corridor LCA. The sensitivity of this LCA is high. The magnitude of impact is small. The resultant unmitigated landscape impact on this LCA would be moderate during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, minimize the direct conflict with Lion Rock Country Park, minimize disturbance on watercourses, compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of highways structures and slope associated structures, aesthetically pleasing design of footbridges, noise barriers and semi-noise enclosures, provision of buffer planting / roadside planting and greening works on slopes and associated structures, it is predicted that there would still be moderate residual impact during construction, and would reduce to slight residual impact during day 1 and further reduce to insubstantial after year 10 of the operation.

- 10.9.15 It is predicted that there would be a permanent change in Kowloon Tong Urban Fringe Upland and Hillside LCA (LCA-1.4) due to the modification and construction of the tunnel portal area, ventilation building, road widening, and associated slope works. It is estimated that Approximate 10,600m.sq. (10% of this LCA) will be permanently affected. Most of the affected area will be changed to transportation corridor LCA. The sensitivity of this LCA is low. The magnitude of impact is intermediate. The resultant unmitigated landscape impact on this LCA would be moderate during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of aboveground structures, aesthetically pleasing design of highways structures and slope associated structures, provision of green roof, provision of buffer planting / roadside planting and greening works on slopes and associated structures, it is predicted that there would still be moderate residual impact during construction, and would reduce to slight residual impact during day 1 and further reduce to insubstantial after year 10 of the operation.
- 10.9.16 It is predicted that there would be a permanent change in Kowloon Tong Transportation Corridor LCA (LCA-2.1) due to the modification and construction of the tunnel portal area, bridge and road widening and associated slope works. It is estimated that approximate 9,850m.sq. (31% of this LCA) will fall within the works area of this Project. Although the affected area is in a large proportion of this LCA and landscape impact during construction and operation is anticipated, the Project will not alter the landscape character of the transportation corridor. The resultant transportation corridor landscape character is compatible to the current LCA. The sensitivity of this LCA is low. The magnitude of impact is intermediate. The resultant unmitigated landscape impact on this LCA would be moderate during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, minimize disturbance on watercourses, compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of highways structures and slope associated structures, provision of buffer planting / roadside planting and greening works on slopes and associated structures, it is predicted that residual impact during construction would still be moderate, and slight during day 1 of the operation and eventually reduce to insubstantial after year 10 of the operation.
- 10.9.17 It is predicted that there would be a permanent change in Tai Wai LRT Road Transportation Corridor LCA (LCA-2.2) due to the modification and construction of the tunnel administration area and toll plaza area including elevated road and footbridge, tunnel portal area, road widening, noise barriers/semi-enclosures, associated slope works and rigid barriers. It is estimated that approximate 74,800m.sq. (74% of this LCA) will fall within the works area of

this Project, in which 16,400m.sq. of the current road network (mainly in Shatin toll plaza area and in Hung Mui Kuk junction) is within Lion Rock Country Park boundary. Although the affected area is large and landscape impact during construction and operation is anticipated, the Project will not alter the landscape character of the transportation corridor. The resultant transportation corridor landscape character is compatible to the current LCA. The sensitivity of this LCA is low. The magnitude of impact is intermediate. The resultant unmitigated landscape impact on this LCA would be moderate during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, minimize the direct conflict with Lion Rock Country Park, minimize disturbance on watercourses, compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of aboveground structures, aesthetically pleasing design of highways structures and slope associated structures, aesthetically pleasing design of footbridges, noise barriers and semi-noise enclosures, provision of green roof, provision of buffer planting / roadside planting and greening works on slopes and associated structures, it is predicted that residual impact during construction would still be moderate, and slight during day 1 of the operation and eventually reduced to insubstantial after year 10 of the operation.

- 10.9.18 It is predicted that there would be a permanent change in Tei Lung Hau Miscellaneous Urban Fringe LCA (LCA-3.2) due to the modification and construction of the tunnel administration area and toll plaza area including elevated road and footbridge, tunnel portal area, road widening and associated slope works. It is estimated that approximate 7,000m.sq. (7% of this LCA) will be permanently affected, in which 150m.sq. is within Lion Rock Country Park. Most of the affected area will be changed to transportation corridor LCA. The magnitude of impact is intermediate. The sensitivity of this LCA is medium. The resultant unmitigated landscape impact on this LCA would be moderate during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, minimize the direct conflict with Lion Rock Country Park, minimize disturbance on watercourses, compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of aboveground structures, aesthetically pleasing design of highways structures and slope associated structures, provision of green roof, provision of buffer planting / roadside planting and greening works on slopes and associated structures, it is predicted that residual impact during construction would still be moderate, and slight during day 1 of the operation and eventually reduce to insubstantial after year 10 of the operation.
- 10.9.19 It is predicted that there would be a permanent change in Kowloon Tong Residential Urban Fringe LCA (LCA-4.1) due to the construction of the road widening, bridge and associated slope works. It is estimated that approximate 40m.sq. (0.01% of this LCA) will be permanently affected and 250m.sq. fall within the temporary works area. The permanent affected area will be changed to transportation corridor LCA. The magnitude of impact is small. The sensitivity of this LCA is medium. The resultant unmitigated landscape impact on this LCA would be slight during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of highways structures and slope associated structures, provision of buffer planting / roadside planting and greening works on slopes and associated structures, it is predicted that there would be slight residual impact during construction and day 1 of operation, and would eventually reduce to insubstantial after year 10 of the operation.
- 10.9.20 It is predicted that there would be a permanent change in Tai Wai Residential Urban LCA (LCA-5.1) due to the construction of the road widening, noise barriers/semi-enclosures and associated slope works. It is estimated that approximate 7,250m.sq. (7% of this LCA) will be permanently affected. Most of the affected area will be changed to transportation corridor

LCA. The magnitude of impact is intermediate. The sensitivity of this LCA is medium. The resultant unmitigated landscape impact on this LCA would be moderate during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, minimize disturbance on watercourses, compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of highways structures and slope associated structures, aesthetically pleasing design of footbridges, noise barriers and semi-noise enclosures, provision of buffer planting / roadside planting and greening works on slopes and associated structures, it is predicted that there would still be moderate residual impact during construction, and would reduce to slight residual impact during day 1 and further reduce to insubstantial after year 10 of the operation.

- 10.9.21 It is anticipated that there would be permanent change in Hung Mui Kuk to Sha Tin Tau Residential Urban LCA (LCA-5.2) due to construction of the road widening, re-provision of footbridge, noise barriers/ semi-enclosures and associated slope works. It is estimated that approximate 14,000m.sq. (9% of this LCA) will be permanently affected, in which 300m.sq. is within Lion Rock Country Park. Most of the affected area will be changed to transportation corridor LCA. The sensitivity of this LCA is medium. The magnitude of impact is large. The resultant unmitigated landscape impact on this LCA would be substantial during construction and operation. With the implementation of proposed mitigation measures, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, minimize disturbance on watercourses, compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of highways structures and slope associated structures, aesthetically pleasing design of footbridges, noise barriers and semi-noise enclosures, provision of buffer planting / roadside planting and greening works on slopes and associated structures, it is predicted that there would be moderate residual impact during construction, and would reduce to slight residual impact during day 1 and further reduce to insubstantial after year 10 of the operation.
- 10.9.22 Apart from LCA-1.1, LCA-1.2, LCA-1.3, LCA-1.4, LCA-2.1, LCA-2.2, LCA-3.2, LCA-4.1, LCA-5.1 and LCA-5.2, it is predicted that there would not be any discernible change in the remaining LCA (i.e. LCA-3.1) identified within the study boundary of the Project.

Summary on Recommendation in Broad Brush Tree Survey

- 10.9.23 Among the approximate 5,018 existing trees including 26 individual trees surveyed, approximate 2,925 existing trees (including 2,910 nos. of existing trees in tree groups and 14 nos. of trees of particular interest and 1 no. of potential tree of particular interest) will be unavoidably affected by the Project. Among the 2,910 affected trees in tree groups, approximate 300 nos. of affected trees are within Lion Rock Country Park. None of them are OVTs. The major affected tree species include *Acacia confusa*, *Casuarina equisetifolia*, *Eucalyptus robusta*, *Eucalyptus tereticornis*, *Lophostemon confertus*, *Schima superba* and *Sterculia lanceolata*. Among the 26 individual trees surveyed, 14 nos. of trees of particular interest *Ailanthus fordii* with conservation importance located on the slopes along the LRT Road and 1 no. of potential tree of particular interest *Ficus elastica* located on the slope of Lung Cheung Road Park (LR-4.2) are in direct conflict with the construction of road improvement works. All of the 15 affected individual trees are outside Country Park boundary. 4 nos. of *Ailanthus fordii* are within vegetation in village areas near Kak Tin (LR-1.2) and 10 nos. of *Ailanthus fordii* are within the engineered slopes near Kak Tin (LR-3.2). Since most of the affected individual trees are located either on natural terrain or engineered slopes and in mature size, their survival rate after transplanting is low and not feasible for transplanting. Therefore, tree felling is proposed with compensatory planting.
- 10.9.24 Under the proposed scheme for the Project, opportunities for tree compensation within the Project boundary has been fully explored and incorporated in the proposed mitigation measures as much as practicable. Compensatory tree planting in heavy standard size is

proposed at roadside flat areas mainly near the tunnel portal area, toll plaza administration area in Tai Wai and road verge area in Kowloon side. To minimize the impact on loss of existing vegetation along the LRT road, compensatory woodland tree mix planting by native whip trees on slopes is proposed, mainly on the affected slopes to be reinstated along the LRT Road and at the road verge area in Hung Mui Kuk junction, subject to the gradient of the proposed new slopes. To compensate the loss of woodland in toll plaza administration area and portal area in Tai Wai, off-site woodland compensation area is proposed under Ecological Section of this EIA Report. The proposed species are commonly used in roadside environment and be native for areas adjoining woodland area where appropriate, so as to enhance the surrounding landscape and ecological value. Reference could be made to Greening Master Plan issued by CEDD and Street Tree Selection Guide promulgated by DEVB. Tree Preservation and Removal Proposals including compensation planting scheme shall be submitted in accordance with DEVB TC(W) No. 4/2020 - Tree Preservation.

- 10.9.25 Within the project boundary, a minimum of 145 heavy standard trees will be proposed at roadside flat areas mainly near the tunnel portal area and toll plaza administration area in Tai Wai and road verge area in Kowloon side, and total area of approximate 7,720m.sq. will be proposed as compensatory woodland tree mix planting of about 2,070 tree whips (approximately 985 nos. of tree whips planted along the LRT Road, 85 nos. of tree whips planted in slope works near Sha Tin Tau Road and 1,000 nos. of tree whips planted at the road verge areas near Hung Mui Kuk). In addition, approximately 0.3ha off-site woodland compensation area is proposed with approximately 1,200 nos. of native seedlings/whip trees for their higher survival rate and high adaption to new habitats. The native seedlings/whip trees for woodland compensation area will be tentatively planted at an initial spacing of 1500 mm in staggered pattern on flat area, followed by thinning during the establishment period to decrease the potential competition between trees. Details of preliminary woodland compensation plan are discussed in Ecological Section of this EIA Report. Mix of native tree species will be proposed in reference to Guiding Principles on Use of Native Plant Species in Public Works Projects promulgated by DEVB to improve the vegetation diversity, enhance ecological value and re-creation of vegetation habitat particular for areas adjoining the Lion Rock Country Park. The indicative location for compensatory tree planting and compensatory woodland mix is shown in **60604728/R42b/Figure 10.19 to 60604728/R42b/Figure 10.23**. The indicative location of the proposed off-site woodland compensation is shown in **Appendix 10.3**, the exact location and size of the off-site woodland compensation is subject to further liaise with relevant maintenance departments.

Table 10.12 Significance of Landscape Impacts during Construction and Operation Phases

ID No.	Landscape Resource / Character Areas	Sensitivity (Low, Medium, High)		Magnitude of Change (Negligible, Small, Intermediate, Large)		Impact Significance before Mitigation (Insubstantial, Slight, Moderate, Substantial)		Recommended Mitigation Measures	Significance of Residual Impact (Insubstantial, Slight, Moderate, Substantial)			
		Construction	Operation	Construction	Operation	Construction	Operation		Construction	Operation		
										Day 1	Year 10	
Landscape Resources												
Hillside Vegetation												
LR-1.1	Vegetation on Natural Terrain	High	High	Intermediate	Intermediate	Moderate	Moderate	CM1, CM2, CM3, CM4, CM5, CM6, OM1, OM2, OM3, OM4, OM6, OM7, OM8	Moderate	Slight	Insubstantial	
LR-1.2	Vegetation in Village Areas near Kak Tin	High	High	Intermediate	Intermediate	Moderate	Moderate	CM1, CM2, CM3, CM4, CM5, OM1, OM2, OM4, OM5, OM7, OM8	Moderate	Slight	Insubstantial	
LR-1.3	Vegetation in Village Areas near Tsang Tai Uk	Medium	Medium	Negligible	Negligible	Insubstantial	Insubstantial	NA	Insubstantial	Insubstantial	Insubstantial	
Watercourse												
LR-2.1	Watercourse	High	High	Negligible	Negligible	Insubstantial	Insubstantial	CM7	Insubstantial	Insubstantial	Insubstantial	
Roadside Planting Areas												
LR-3.1	Vegetation on Roadside Engineered Slopes in Kowloon Tong	Medium	Medium	Large	Large	Moderate	Moderate	CM1, CM2, CM3, CM4, CM5, OM1, OM2, OM3, OM4, OM6, OM7, OM8	Moderate	Slight	Insubstantial	
LR-3.2	Vegetation on Roadside Engineered Slopes from Tai Wai to Sha Tin Tau	High	High	Large	Large	Substantial	Substantial	CM1, CM2, CM3, CM4, CM5, CM6, OM1, OM2, OM3, OM4, OM5, OM6, OM7, OM8	Moderate	Slight	Insubstantial	

ID No.	Landscape Resource / Character Areas	Sensitivity (Low, Medium, High)		Magnitude of Change (Negligible, Small, Intermediate, Large)		Impact Significance before Mitigation (Insubstantial, Slight, Moderate, Substantial)		Recommended Mitigation Measures	Significance of Residual Impact (Insubstantial, Slight, Moderate, Substantial)		
		Construction	Operation	Construction	Operation	Construction	Operation		Construction	Operation	
										Day 1	Year 10
LR-3.3	Vegetation in Other Roadside Areas	Medium	Medium	Large	Large	Moderate	Moderate	CM1, CM2, CM3, CM4, CM5, CM6, OM1, OM2, OM3, OM4, OM5, OM6, OM7, OM8	Moderate	Slight	Insubstantial
Open Spaces											
LR-4.1	Broadcast Drive Garden	High	High	Negligible	Negligible	Insubstantial	Insubstantial	NA	Insubstantial	Insubstantial	Insubstantial
LR-4.2	Lung Cheung Road Park	High	High	Intermediate	Intermediate	Moderate	Moderate	CM1, CM2, CM3, CM4, CM5, OM1, OM2, OM4, OM7, OM8	Moderate	Slight	Insubstantial
LR-4.3	Lion Rock Park	High	High	Negligible	Negligible	Insubstantial	Insubstantial	NA	Insubstantial	Insubstantial	Insubstantial
Landscape Areas in Urban Development Area											
LR-5.1	Landscape Areas in Urban Development Area in Kowloon Tong	Medium	Medium	Negligible	Negligible	Insubstantial	Insubstantial	NA	Insubstantial	Insubstantial	Insubstantial
LR-5.2	Landscape Areas in Urban Development Area in Tai Wai	Medium	Medium	Negligible	Negligible	Insubstantial	Insubstantial	NA	Insubstantial	Insubstantial	Insubstantial
LR-5.3	Landscape Areas in Urban Development Area near Hung Mui Kuk	Low	Low	Negligible	Negligible	Insubstantial	Insubstantial	NA	Insubstantial	Insubstantial	Insubstantial
LR-5.4	Landscape Areas in Urban Development Area near Sha Tin Tau	Medium	Medium	Negligible	Negligible	Insubstantial	Insubstantial	NA	Insubstantial	Insubstantial	Insubstantial
Other Vegetated Areas											
LR-6.1	Vegetated Areas in Service Reservoirs and Associated Landscape Areas in Kowloon Side	Low	Low	Intermediate	Intermediate	Slight	Slight	CM1, CM2, CM3, CM4, CM5, OM1, OM2, OM4, OM7, OM8	Insubstantial	Insubstantial	Insubstantial

ID No.	Landscape Resource / Character Areas	Sensitivity (Low, Medium, High)		Magnitude of Change (Negligible, Small, Intermediate, Large)		Impact Significance before Mitigation (Insubstantial, Slight, Moderate, Substantial)		Recommended Mitigation Measures	Significance of Residual Impact (Insubstantial, Slight, Moderate, Substantial)		
		Construction	Operation	Construction	Operation	Construction	Operation		Construction	Operation	
										Day 1	Year 10
LR-6.2	Vegetated Areas in Shatin South Fresh Water Service Reservoir and Associated Landscape Areas	Low	Low	Negligible	Negligible	Insubstantial	Insubstantial	NA	Insubstantial	Insubstantial	Insubstantial
LR-6.3	Vegetated Areas in Fenced-off Area (e.g. vacant land, construction site)	Low	Low	Small	Small	Slight	Slight	CM1, CM2, CM3, CM4, CM5, OM1, OM2, OM4, OM7, OM8	Insubstantial	Insubstantial	Insubstantial
Landscape Character Area											
Upland and Hillside Landscape											
LCA-1.1	Kowloon Tong Lion Rock Upland and Hillside LCA	High	High	Small	Small	Moderate	Moderate	CM1, CM2, CM3, CM4, CM5, CM7, OM2, OM8	Moderate	Slight	Insubstantial
LCA-1.2	Tai Wai Lion Rock Upland and Hillside LCA	High	High	Large	Large	Substantial	Substantial	CM1, CM2, CM3, CM4, CM5, CM6, CM7, OM1, OM2, OM3, OM4, OM5, OM6, OM7, OM8	Moderate	Slight	Insubstantial
LCA-1.3	Sha Tin Tau Lion Rock Upland and Hillside LCA	High	High	Small	Small	Moderate	Moderate	CM1, CM2, CM3, CM4, CM5, CM6, CM7, OM1, OM2, OM4, OM5, OM7, OM8	Moderate	Slight	Insubstantial
LCA-1.4	Kowloon Tong Urban Fringe Upland and Hillside LCA	Low	Low	Intermediate	Intermediate	Moderate	Moderate	CM1, CM2, CM3, CM4, CM5, CM7, OM1, OM2, OM3, OM4, OM6, OM7, OM8	Moderate	Slight	Insubstantial
Major Transportation Corridor											

ID No.	Landscape Resource / Character Areas	Sensitivity (Low, Medium, High)		Magnitude of Change (Negligible, Small, Intermediate, Large)		Impact Significance before Mitigation (Insubstantial, Slight, Moderate, Substantial)		Recommended Mitigation Measures	Significance of Residual Impact (Insubstantial, Slight, Moderate, Substantial)		
		Construction	Operation	Construction	Operation	Construction	Operation		Construction	Operation	
										Day 1	Year 10
LCA-2.1	Kowloon Tong Transportation Corridor LCA	Low	Low	Intermediate	Intermediate	Moderate	Moderate	CM1, CM2, CM3, CM4, CM5, CM7, OM1, OM2, OM4, OM7, OM8	Moderate	Slight	Insubstantial
LCA-2.2	Tai Wai LRT Road Transportation Corridor LCA	Low	Low	Intermediate	Intermediate	Moderate	Moderate	CM1, CM2, CM3, CM4, CM5, CM6, CM7, OM1, OM2, OM3, OM4, OM5, OM6, OM7, OM8	Moderate	Slight	Insubstantial
Miscellaneous Urban Fringe Landscape											
LCA-3.1	Sha Tin Tau Miscellaneous Urban Fringe LCA	Medium	Medium	Negligible	Negligible	Insubstantial	Insubstantial	NA	Insubstantial	Insubstantial	Insubstantial
LCA-3.2	Tei Lung Hau Miscellaneous Urban Fringe LCA	Medium	Medium	Intermediate	Intermediate	Moderate	Moderate	CM1, CM2, CM3, CM4, CM5, CM6, CM7, OM1, OM2, OM3, OM4, OM6, OM7, OM8	Moderate	Slight	Insubstantial
Residential Urban Fringe Landscape											
LCA-4.1	Kowloon Tong Residential Urban Fringe LCA	Medium	Medium	Small	Small	Slight	Slight	CM1, CM2, CM3, CM4, CM5, OM1, OM2, OM4, OM7, OM8	Slight	Slight	Insubstantial
Residential Urban Landscape											
LCA-5.1	Tai Wai Residential Urban LCA	Medium	Medium	Intermediate	Intermediate	Moderate	Moderate	CM1, CM2, CM3, CM4, CM5, CM7, OM1, OM2, OM4, OM5, OM7, OM8	Moderate	Slight	Insubstantial
LCA-5.2	Hung Mui Kuk to Sha Tin Tau Residential Urban LCA	Medium	Medium	Large	Large	Substantial	Substantial	CM1, CM2, CM3, CM4, CM5, CM7, OM1, OM2, OM4, OM5, OM7, OM8	Moderate	Slight	Insubstantial

Significance of Residual Visual Impacts

- 10.9.26 The potential significance of the visual impacts during the construction and operation phases, before and after mitigation, is provided in **Table 10.13**. The assessment followed the proposed methodology and assumed that the appropriate mitigation measures identified in **Table 10.10** and **Table 10.11** above would be implemented, and the full effect of the visual mitigation measures should be realised after ten years.
- 10.9.27 Photomontages illustrating the potential visual impact during operation with and without mitigation measures from representative VPs due to the Project are shown in **60604728/R42b/Figure 10.26 to 60604728/R42b/Figure 10.33**. The potential visual impacts are assessed and summarised as below:

- Viewpoint VP01 view from Lung Cheung Road is approximately 30m from the proposed works. It illustrates the potential landscape and visual impact due to the proposed bridge and road widening in Kowloon side. The alignment of proposed bridge is carefully designed to minimize the works extent along existing road. The form and color of highway structures and columns are also streamlined to reduce monotonous and bulkiness. Buffer planting with appropriate species is proposed adjoining the proposed columns to screen and soften the structures.

With the implementation of proposed mitigation measures such as Control of Night-time Lighting Glare, Erection of Decorative Screen Hoarding, Compensatory Tree Planting for Loss of Existing Trees, Aesthetically pleasing design of Highways Structures and Slope Associated Structures and Provision of Buffer Planting / Roadside Planting, it is considered that the proposed bridge and road widening are visually compatible with the adjacent roadside landscape and visual setting of the area;

- Viewpoint VP02 Portal View of Kowloon Side is within 5m from the proposed works to illustrate the potential landscape and visual impact due to the proposed ventilation building and associated slope works near the portal area of Kowloon side. The form and layout of proposed ventilation building and portal structure are aesthetically designed to reduce the bulkiness. The ventilation building is also carefully sited at the recessed area screened by the proposed slope. Appropriate greenings in the form of native shrub and groundcover planting are proposed on the associated slopes in the portal area to maximize the greening effect.

With the implementation of proposed mitigation measures such as Aesthetically pleasing design of Aboveground Structures, Aesthetically pleasing design of Highways Structures and Slope Associated Structures, Provision of Green Roof and Greening Works on Slopes and associated structures, it is considered that the proposed ventilation building and associated slope works near the portal area of Kowloon side can blend in with the surrounding greenery context;

- Viewpoint VP03 Toll Plaza View of Tai Wai Side is within 5m from the proposed works to illustrate the potential landscape and visual impact due to the works at the proposed tunnel administration building and the re-arrangement of toll plaza area. The form and façade of proposed ventilation building are aesthetically designed to reduce the monotonous looking and provide visual interest to the toll plaza area. Appropriate greenings in the form of native shrub and groundcover planting are proposed on the associated slopes to echo with the green context of adjoining Lion Rock Country Park. At grade tree planting will be provided where possible to further maximize greenery and soften the proposed building and structure.

With the implementation of proposed mitigation measures such as Preservation of Existing Vegetation, Control of Night-time Lighting Glare, Minimize the Direct Conflict with Lion Rock Country Park, Aesthetically pleasing design of Aboveground Structures, Aesthetically pleasing design of Highways Structures and Slope Associated Structures,

Provision of Green Roof and Greening Works on Slopes and associated structures, it is considered that the visual impact from the re-arrangement of toll plaza area and the tunnel administration building is unavoidable but already minimized through practical mitigation measures of the slope and roadside planting and the aesthetic treatment of the building façade;

- Viewpoint VP04 Amah Rock View to Tai Wai is at a level of about 250mPD and approximately 320m from the proposed works to illustrate the potential landscape and visual impact due to the proposed road improvement works and re-arrangement of toll plaza area overlooking to Tai Wai at an elevated view. The rearrangement of toll plaza area is visually coherent with the existing road context from this distant viewpoint, hence the unmitigated visual impact is slight. Mitigation measures such as Preservation of Existing Vegetation, Control of Night-time Lighting Glare, Compensatory Tree Planting for Loss of Existing Trees and Aesthetically pleasing design of footbridges can be provided for further ameliorating the view;
- Viewpoint VP05 Amah Rock View to Sha Tin is at a level of about 250mPD and approximately 320m from the proposed works to illustrate the potential landscape and visual impact due to the proposed road improvement works and noise barriers / semi-enclosures overlooking to Sha Tin townscape at an elevated view. The proposed semi-noise enclosure at the Hung Mui Kuk junction are aligned with the existing road context from this distant viewpoint, hence the unmitigated visual impact is slight. Mitigation measures such as Preservation of Existing Vegetation, Control of Night-time Lighting Glare, Compensatory Woodland Mix Planting on Soil Slopes and Aesthetically pleasing design of footbridges, noise barriers and semi-noise enclosures can be provided for further ameliorating the townscape view;
- Viewpoint VP06 Entrance of Hung Mui Kuk Nature Trail is right next to the proposed works to illustrate the potential landscape and visual impact due to the proposed road widening works and semi-noise enclosures at a close distance. Noise mitigation structures are unavoidable in view of the close distance from residential VSR at World-Wide Gardens. Part of the entrance area of Hung Mui Kuk Nature Trail will be the temporary works area during construction and the existing staircase to the entrance area will be re-provided for the recreational users. To minimize visual disturbance of the recreational VSRs to enjoy the countryside and the barbeque site during construction phase, decorative screen hoarding with appropriate greening design in the form of vertical greening or portable planter along the hoarding will be provided. The temporary works area will be confined to the entrance of Hung Mui Kuk Nature Trail, while the existing picnic site and toilet would not be affected.

To enhance the visual compatibility of the proposed road widening and noise semi-enclosure during operation, the layout and appearance of the noise semi-enclosure have been carefully planned and designed. The combination of tinted or transparent panels at top and solid panels at the bottom could allow the daylight to pass through and lighten the visual impact. The opening of semi-noise enclosure facing entrance of Hung Mui Kuk Nature Trail with appropriate buffer planting and low panels in light green color, the massing and enclosure effect of the structure can be soften and scaled down to more coherence with adjoining natural setting.

With the implementation of proposed mitigation measures such as Preservation of Existing Vegetation, Control of Night-time Lighting Glare, Erection of Decorative Screen Hoarding, Management of Construction Activities and Facilities, Reinstatement of Temporarily Disturbed Landscape Areas, Minimize the Direct Conflict with Lion Rock Country Park, Aesthetically pleasing design of Highways Structures and Slope Associated Structures, Aesthetically pleasing design of footbridges, noise barriers and semi-noise enclosures and Provision of Buffer Planting / Roadside Planting, it is considered that the visual impact from the semi-noise enclosure is unavoidable but already minimized through practical mitigation measures on the noise semi-enclosure design and the buffer planting along the structure;

- Viewpoint VP07 View to World-Wide Gardens is approximately 20m from the proposed works to illustrate the potential landscape and visual impact due to the proposed semi-noise enclosures along the LRT Road and slip road. Noise mitigation structures are unavoidable in view of the close distance from residential VSR at World-Wide Gardens. The layout and appearance of the noise semi-enclosure have been carefully planned and designed. The combination of tinted or transparent panels at top and solid panels in green tone at the bottom could allow the daylight to pass through, hence reduce the monotonous looking and lighten the visual impact. Provision of compensatory tree plantings at the road verge area greatly soften the hard structures behind and helps to blend in with its surroundings vegetated slopes.

With the implementation of proposed mitigation measures such as Control of Night-time Lighting Glare, Erection of Decorative Screen Hoarding, Compensatory Woodland Mix Planting on Soil Slopes and Aesthetically pleasing design of footbridges, noise barriers and semi-noise enclosures, it is considered that the proposed semi-noise enclosures with appropriate tree plantings are visually compatible with the adjacent landscape and visual setting of the area; and

- Viewpoint VP08 View from Sun Tin Wai Estate is on the footbridge right above the proposed works to illustrate the potential landscape and visual impact due to the proposed road widening with re-provision of footbridge, noise semi-enclosure and associated slope works overlooking at a close distance. Noise mitigation structures are unavoidable in view of the close distance from residential VSR at Sun Tin Wai Estate. The layout and appearance of the noise barriers have been carefully planned and designed. The combination of tinted or transparent panels at top and solid panels in green tone at the bottom could allow the daylight to pass through and lighten the visual impact avoiding blockage of view and potential enclosure effects, and also helps to reduce the monotonous looking. The existing footbridge will be demolished during the road widening works and re-provided at the same location. The roof and upper part of the re-provided footbridge would compose of transparent panels and/or openings to reduce the bulkiness, catch more sunlight and enhance the outlook.

With the implementation of proposed mitigation measures such as Preservation of Existing Vegetation, Control of Night-time Lighting Glare, Erection of Decorative Screen Hoarding, Reinstatement of Temporarily Disturbed Landscape Areas, Aesthetically pleasing design of Highways Structures and Slope Associated Structures, and Aesthetically pleasing design of footbridges, noise barriers and semi-noise enclosures, it is considered that the visual impact from the semi-noise enclosures is unavoidable but already minimized through practical mitigation measures on the noise barrier design and slope greening along the road to blend in with the adjacent landscape and visual setting of the area.

- 10.9.28 In particular, substantial visual impact before mitigation would be anticipated for the travelling VSR along the LRT road (T-02) where the construction works take place, and residential VSRs (R-03, R-04 and R-07) which are overlooking the proposed works and noise mitigation structures, institutional VSR I-01 viewing to the proposed tunnel administration building and recreational VSR at Hung Mui Kuk Nature Trail (O-04) in close distance to the noise mitigation structure during construction and operation phases. After implementation of appropriate mitigation measures, such as preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding and reinstatement of temporarily disturbed landscape area, there would be moderate residual impact during construction, but still have moderate residual impact throughout the operation phase for T-02, R-04 and R-07 viewing to the semi-noise enclosures along LRT Road of VP8, I-01 viewing to the proposed tunnel administration building in relatively close distance of VP3 and O-04 viewing to the proposed semi-noise enclosure at a close distance of VP6. For VSR T-02, the proposed semi-noise enclosures adjoining the World-Wide Gardens will potentially block the view to the Amah Rock in certain view angle at road level, though the main visual attachment for the travelling VSR T-02 (e.g. drivers and passengers) will be the visual amenity in road level. Hence, mitigation measures such as transparent panels at top and keep opening of the semi-noise enclosure facing hillside shall be explored to minimize the potential blockage to Amah Rock

- and reduce the residual visual impact. For VSR R-03, moderate residual impact during construction and slight residual impact day 1 of operation would be anticipated, and it would eventually reduce to insubstantial when the proposed landscape works for compensatory tree planting, woodland mix planting, buffer planting / roadside planting and greening works on slopes become mature during year 10 of operation.
- 10.9.29 Moderate unmitigated impact during construction and operation would be anticipated for the VSR R-06 and R-02 with partial blockage with partial blockage to existing views, medium compatibility with the surrounding context and medium scale of development. After implementation of appropriate mitigation measures, such as preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding and reinstatement of temporarily disturbed landscape area, it is predicted that the residual impact on these VSRs would maintain as moderate during construction, then reduced to slight upon day 1 of operation. There is still slight residual visual impacts with aesthetically pleasing design of aboveground structures of the proposed tunnel administration building and the re-arrangement of toll plaza area upon year 10 of operation for VSR R-02 in relatively long distance. For VSR R-06, it would eventually reduced to insubstantial when the proposed landscape works for compensatory tree planting, woodland mix planting, buffer planting / roadside planting, proposed green roof and greening works on slopes become mature during year 10 of operation.
- 10.9.30 After implementation of appropriate mitigation measures, such as preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding and reinstatement of temporarily disturbed landscape area, there would be slight residual impact during construction and day 1 of operation on VSRs who are close to the Project but with small scale of development and high compatibility to the surrounding landscape and visual context, including R-01, R-10, O-01, O-03, T-01, T-03 and T-05. For O-03 overlooking the whole LRT Road in Shatin at an elevated view, there is still slight residual visual impacts upon year 10 of operation. It is predicted the residual impact on other VSRs would be reduced to insubstantial when the proposed landscape works for compensatory tree planting, woodland mix planting, buffer planting / roadside planting and greening works on slopes become mature during year 10 of operation.
- 10.9.31 It is predicted that there would be insubstantial visual impact during construction and operation on the remaining VSRs, including R-05, R-08, R-09, R-11, I-02, I-03, O-02 and T-04, with no blockage to the existing views and the viewing distance is long or the proposed works are screened by existing vegetation.

Table 10.13 Significance of Visual Impacts during Construction and Operation Phases

ID. No.	Key VSRs	Represent -ting VPs	Receptor Sensitivity (Low, Medium, High)		Magnitude of Change (Negligible, Small, Intermediate, Large)		Impact Significance Threshold BEFORE Mitigation (Insubstantial, Slight, Moderate, Substantial)		Recommended Mitigation Measures	Residual Impact Significance Threshold AFTER Mitigation (Insubstantial, Slight, Moderate, Substantial)		
			Construction	Operation	Construction	Operation	Construction	Operation		Construction	Operation	
											DAY 1	YEAR 10
R-01	Residents in medium-rise residential developments in Kowloon Tong	VP1	Medium	Medium	Small	Small	Slight	Slight	CM1, CM2, CM3, CM4, CM5, OM1, OM4, OM7	Slight	Slight	Insubstantial
R-02	Residents in high-rise residential developments near Tei Lung Hau	VP3	Medium	Medium	Intermediate	Intermediate	Moderate	Moderate	CM1, CM2, CM3, CM4, CM5, CM6, OM1, OM2, OM3, OM4, OM6, OM7, OM8	Moderate	Slight	Slight
R-03	Residents in high-rise residential developments along LRT Road in Tai Wai	VP7	High	High	Intermediate	Intermediate	Substantial	Substantial	CM1, CM2, CM3, CM4, CM5, CM6, OM1, OM2, OM3, OM4, OM5, OM6, OM7, OM8	Moderate	Slight	Insubstantial
R-04	Residents in high-rise residential developments along LRT Road in Sha Tin Tau	VP8	High	High	Large	Large	Substantial	Substantial	CM1, CM2, CM3, CM5, OM4, OM5	Moderate	Moderate	Moderate
R-05	Residents in high-rise residential developments along Sha Tin Road	NA	Low	Low	Negligible	Negligible	Insubstantial	Insubstantial	NA	Insubstantial	Insubstantial	Insubstantial
R-06	Residents in village residential developments along LRT Road in Tai Wai	VP7	Medium	Medium	Intermediate	Intermediate	Moderate	Moderate	CM1, CM2, CM3, CM4, CM5, CM6, OM1, OM2, OM4, OM5, OM7, OM8	Moderate	Slight	Insubstantial

ID. No.	Key VSRs	Represent -ting VPs	Receptor Sensitivity (Low, Medium, High)		Magnitude of Change (Negligible, Small, Intermediate, Large)		Impact Significance Threshold BEFORE Mitigation (Insubstantial, Slight, Moderate, Substantial)		Recommended Mitigation Measures	Residual Impact Significance Threshold AFTER Mitigation (Insubstantial, Slight, Moderate, Substantial)		
			Construction	Operation	Construction	Operation	Construction	Operation		Construction	Operation	
											DAY 1	YEAR 10
R-07	Residents in village residential developments along LRT Road in Sha Tin Tau	VP8	Medium	Medium	Large	Large	Substantial	Substantial	CM1, CM2, CM3, CM5, OM4, OM5	Moderate	Moderate	Moderate
R-08	Residents in village residential developments along Sha Tin Road	NA	Low	Low	Negligible	Negligible	Insubstantial	Insubstantial	NA	Insubstantial	Insubstantial	Insubstantial
R-09	Residents in high-rise residential developments along Fu Kin Street	NA	Low	Low	Negligible	Negligible	Insubstantial	Insubstantial	NA	Insubstantial	Insubstantial	Insubstantial
R-10	Residents in high-rise residential developments along Hung Mui Kuk Road	VP7	Low	Low	Intermediate	Intermediate	Slight	Slight	CM1, CM2, CM3, CM4, CM5, CM6, OM1, OM2, OM4, OM5, OM7, OM8	Slight	Slight	Insubstantial
R-11	Residents in high-rise residential developments along Chui Tin Street	NA	Low	Low	Negligible	Negligible	Insubstantial	Insubstantial	NA	Insubstantial	Insubstantial	Insubstantial
I-01	Occupants in Union Hospital	VP3	Medium	Medium	Large	Large	Substantial	Substantial	CM1, CM2, CM3, CM4, CM5, CM6, OM1, OM2, OM3, OM4, OM6, OM7, OM8	Moderate	Moderate	Moderate
I-02	Occupants in Sha Tin Government Primary School	NA	Low	Low	Negligible	Negligible	Insubstantial	Insubstantial	NA	Insubstantial	Insubstantial	Insubstantial
I-03	Occupants in Island School Sha Tin Wai Campus and Christ College	NA	Low	Low	Negligible	Negligible	Insubstantial	Insubstantial	NA	Insubstantial	Insubstantial	Insubstantial

ID. No.	Key VSRs	Representing VPs	Receptor Sensitivity (Low, Medium, High)		Magnitude of Change (Negligible, Small, Intermediate, Large)		Impact Significance Threshold BEFORE Mitigation (Insubstantial, Slight, Moderate, Substantial)		Recommended Mitigation Measures	Residual Impact Significance Threshold AFTER Mitigation (Insubstantial, Slight, Moderate, Substantial)		
			Construction	Operation	Construction	Operation	Construction	Operation		Construction	Operation	
											DAY 1	YEAR 10
O-01	Recreational Users in Broadcast Drive Garden and Lung Cheung Road Park	VP1	Medium	Medium	Small	Small	Slight	Slight	CM1, CM2, CM3, CM4, CM5, OM1, OM2, OM4, OM7	Slight	Slight	Insubstantial
O-02	Recreational Users in Service Reservoirs in Kowloon side	NA	Low	Low	Negligible	Negligible	Insubstantial	Insubstantial	NA	Insubstantial	Insubstantial	Insubstantial
O-03	Hikers along Wilson Trail (Stage 5) and Amah Rock	VP4, VP5	Medium	Medium	Small	Small	Slight	Slight	CM1, CM2, OM1, OM2 and OM5	Slight	Slight	Slight
O-04	Recreational Users along Hung Mui Kuk Nature Trail	VP6	High	High	Large	Large	Substantial	Substantial	CM1, CM2, CM3, CM4, CM5, CM6, OM4, OM5, OM7	Moderate	Moderate	Moderate
T-01	Traveller along Lung Cheung Road	VP1	Low	Low	Small	Small	Slight	Slight	CM1, CM2, CM3, CM4, CM5, OM1, OM2, OM4, OM7	Slight	Slight	Insubstantial
T-02	Travellers along LRT Road	VP2, VP3, VP8	Medium	Medium	Large	Large	Substantial	Substantial	CM1, CM2, CM3, CM4, CM5, CM6, OM1, OM2, OM3, OM4, OM5, OM6, OM7, OM8	Moderate	Moderate	Moderate
T-03	Travellers along Hung Mui Kuk Road	VP7	Low	Low	Small	Small	Slight	Slight	CM1, CM2, CM3, CM4, CM5, CM6, OM1, OM2, OM4, OM5, OM7, OM8	Slight	Slight	Insubstantial
T-04	Travellers along Sha Tin Road	NA	Low	Low	Negligible	Negligible	Insubstantial	Insubstantial	NA	Insubstantial	Insubstantial	Insubstantial

ID. No.	Key VSRs	Representing VPs	Receptor Sensitivity (Low, Medium, High)		Magnitude of Change (Negligible, Small, Intermediate, Large)		Impact Significance Threshold BEFORE Mitigation (Insubstantial, Slight, Moderate, Substantial)		Recommended Mitigation Measures	Residual Impact Significance Threshold AFTER Mitigation (Insubstantial, Slight, Moderate, Substantial)		
			Construction	Operation	Construction	Operation	Construction	Operation		Construction	Operation	
											DAY 1	YEAR 10
T-05	Travellers along Fu Kin Street	NA	Low	Low	Small	Small	Slight	Slight	CM1, CM2, CM3, CM4, CM5, CM6, OM1, OM2, OM4, OM5, OM7, OM8	Slight	Slight	Insubstantial

10.10 Cumulative Impacts

- 10.10.1 The Project construction works are anticipated to commence in Q1 2025 with widening of Lion Rock Tunnel Road at Work Zone 1 beginning in December 2028. The tentative completion year for the Project is 2034. According to Section 2, the following projects in the vicinity are likely to be constructed/operated concurrently with the LRT Project:
- Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern by WSD;
 - Revised Trunk Road T4 Project by CEDD
 - In-situ Re provisioning of Sha Tin Water Treatment Works – South Works by WSD; and
 - Proposed Drainage Improvement Works at Chui Tin Street and Chui Tin Street Soccer Pitch by DSD.
- 10.10.2 Relocation of Diamond Hill Fresh Water and Salt Water Service Reservoirs to Cavern by WSD, which is a designated project, would relocate two service reservoirs, including Diamond Hill Fresh Water Service Reservoir and Diamond Hill Salt Water Reservoir, into caverns for releasing the existing Diamond Hill service reservoir sites for housing and/or other compatible and beneficial uses. Its construction is tentatively scheduled to commence in the second half of 2021 for completion by about 2027. And only a limited area of the proposed works (i.e. installation of water mains) would be overlapped with the current assessment area near the Lion Rock Park. Given the installation of water mains will only involve limited works area adjoining the existing road, the proposed works are small which unlikely to have significant landscape impact. The affected area of installation of water mains will be reinstated upon completion, which significant visual impact are not foreseen. Hence, no adverse cumulative landscape and visual impacts are anticipated.
- 10.10.3 The Revised Trunk Road T4 Project by CEDD, which is a designated project, links up the end of the Project at Sha Tin Road. Based on the available information at the time of this EIA study, part of the Revised Trunk Road T4 Project involves widening of a section of Sha Tin Road near Pok Hong Estate of about 150m from dual 2-lane to dual 4-lane; and it would be carried out from 2023 to 2028. A section of Sha Tin Road and LRT Road near Sha Tin Tau Village will overlap with the assessment area of LRT Project. The nature and scale between the two road improvement projects are similar. Slight cumulative impact is anticipated as the distance between the site boundaries of the two projects near Sha Tin Road is around 120m only. With proper implementation of mitigation measures such as preservation of existing vegetation and aesthetically pleasing design of semi-noise enclosures near Sun Tin Wai Estate, the landscape and visual cumulative impacts would be minimized to an acceptable level.
- 10.10.4 The In-situ Re provisioning of Sha Tin Water Treatment Works – South Works by WSD, which is a designated project, is to increase the treatment capacity of the South Works of Sha Tin Water Treatment Works to meet the anticipated increase in fresh water demand due to progressive implementation of new public and private housing developments and to re provision the aged water treatment facilities of the South Works. The proposed works would be conducted within the STWTW and would not overlap within the current Project site. Hence, no adverse cumulative landscape and visual impacts are anticipated.
- 10.10.5 The Proposed Drainage Improvement Works at Chui Tin Street and Chui Tin Street Soccer Pitch is to improve the conveyance capacity of the drainage network and relieve the flood risk in some local areas in Sha Tin and Sai Kung. Based on the available information at the time of this EIA Study, the works will include stormwater pumping storage schemes, box culverts and drainage upgrading works. Construction of the project is tentatively scheduled to commence in 2023 for phased completion in 2031. The proposed works near Kak Tin Playground is out of the assessment area of LRT Project. Hence, no adverse cumulative landscape and visual impacts are anticipated.

10.11 Environmental Monitoring and Audit

- 10.11.1 The detailed landscape and engineering design of the Project shall be undertaken so as to ensure compliance with the landscape and visual mitigation measures described in **Section 10.8**.
- 10.11.2 Implementation of the recommended mitigation measures would be regularly audited during construction phase. Details of environmental monitoring and audit (EM&A) requirement are discussed in the separate EM&A Manual.

10.12 Conclusion

- 10.12.1 The Project will inevitably result in some landscape and visual impacts during construction and operation phases. These impacts have been minimized through careful consideration of alternatives to minimize direct conflict with LRCP, minimization of works areas, and incorporation of aesthetic external designs and appropriate landscape and visual treatments along the LRT Road.
- 10.12.2 Based on a broad brush tree estimate among the approximate 5,018 existing trees including 26 individual trees surveyed, approximate 2,925 existing trees (including 2,910 nos. of existing trees in tree groups, 14 nos. of trees of particular interest and 1 no. of potential tree of particular interest) will be unavoidably affected by the Project in which approximate 300 nos. of affected trees are within Lion Rock Country Park. None of them are OVTs. The major affected tree species include *Acacia confusa*, *Casuarina equisetifolia*, *Eucalyptus robusta*, *Eucalyptus tereticornis*, *Lophostemon confertus*, *Schima superba* and *Sterculia lanceolata*. Among the 26 individual trees surveyed, 14 nos. of *Ailanthus fordii* with conservation importance located on the slopes along the LRT Road and 1 no. of potential tree of particular interest *Ficus elastica* located on the slope in Lung Cheung Road Park are in direct conflict with the construction of road improvement works. All of the 15 affected individual trees are outside Country Park boundary.
- 10.12.3 Under the proposed scheme for the Project, opportunities for tree compensation within the Project boundary has been fully explored and incorporated in the proposed mitigation measures as much as practicable. Compensatory tree planting in heavy standard size is proposed at roadside flat areas mainly near the tunnel portal area and toll plaza administration area in Tai Wai. To minimize the impact on loss of existing vegetation along the LRT road, compensatory woodland tree mix planting by native whip trees on slopes is proposed, mainly on the affected slopes to be reinstated along the LRT Road and at the road verge area in Hung Mui Kuk junction, subject to the gradient of the proposed new slopes. To compensate the loss of woodland in toll plaza administration area and portal area in Tai Wai, off-site woodland compensation area is proposed under Ecological Section of this EIA Report. The proposed species are commonly used in roadside environment and be native for areas adjoining woodland area where appropriate, so as to enhance the surrounding landscape and ecological value. Reference could be made to Greening Master Plan issued by CEDD and Street Tree Selection Guide promulgated by DEVB. Tree Preservation and Removal Proposals including compensation planting scheme shall be submitted in accordance with DEVB TC(W) No. 4/2020 - Tree Preservation.
- 10.12.4 Within the Project Boundary, a minimum of 145 heavy standard trees will be proposed at roadside flat areas mainly near the tunnel portal area and toll plaza administration area in Tai Wai and road verge area in Kowloon side, and total area of approximate 7,720m.sq. will be proposed as compensatory woodland tree mix planting of about 2,070 tree whips within site. In addition, approximately 0.3ha off-site woodland compensation area is proposed with approximately 1,200 nos. of native seedlings/whip trees for their higher survival rate and high adaption to new habitats. The native seedlings/whip trees for woodland compensation area will be tentatively planted at an initial spacing of 1500 mm in staggered pattern on flat area, followed by thinning during the establishment period to decrease the potential competition between trees. Details of preliminary woodland compensation plan are discussed in Ecological Section of this EIA Report. Mix of native tree species will be proposed in reference to Guiding Principles on Use of Native Plant Species in Public Works Projects promulgated

- by DEVB to improve the vegetation diversity, enhance ecological value and re-creation of vegetation habitat particular for areas adjoining the Lion Rock Country Park.
- 10.12.5 With the implementation of proposed mitigation measures, it is predicted that there would be moderate residual impact on existing landscape resources (LR-1.1, LR-1.2, LR-3.1, LR-3.2, LR-3.3 and LR-4.2) during construction, and slight to insubstantial impact on day 1 of operation. The residual impact on these landscape resources would be further reduced to insubstantial when the proposed compensatory planting, buffer planting and woodland mix planting become mature in year 10 of operation.
- 10.12.6 It is predicted that there would be moderate to slight residual impact on landscape character areas (LCA-1.1, LCA-1.2, LCA-1.3, LCA-1.4, LCA-2.1, LCA-2.2, LCA-3.2, LCA-4.1, LCA-5.1 and LCA-5.2) during construction and slight impact on day 1 of operation. The residual impact on these landscape character areas would be further reduced to insubstantial when the proposed compensatory planting, buffer planting and woodland mix planting become mature in year 10 of operation.
- 10.12.7 Appropriate landscape and visual mitigation measures are proposed during construction phase, including preservation of existing vegetation, control of night-time lighting glare, erection of decorative screen hoarding, management of construction activities and facilities, reinstatement of temporarily disturbed landscape areas, minimize the direct conflict with Lion Rock Country Park and Minimize Disturbance on Watercourses, and during operation phase, including compensatory tree planting for loss of existing trees, compensatory woodland mix planting on soil slopes, aesthetically pleasing design of aboveground structures, aesthetically pleasing design of highways structures and slope associated structures, aesthetically pleasing design of footbridges, noise barriers and semi-noise enclosures, provision of green roof, provision of buffer planting / roadside planting and greening works on slopes and associated structures, to alleviate the potential impacts. Regarding mitigated visual impact, it is predicted that there would be moderate residual impact on residential VSRs in R-02, R-03, R-04, R-06 and R-07, recreational VSR in O-04, institutional VSR in I-01 and travelling VSR in T-02, and slight residual impact on residential VSRs in R-01 and R-10, recreational VSR in O-01 and O-03 and traveling VSRs in T-01, T-03 and T-05 during construction. The residual impact on most of these VSRs would be slight on day 1 of operation and be further reduced to insubstantial when the proposed tree planting becomes mature in year 10 of operation. The residual impact on several VSRs R-04, R-07, I-01 and T-02 with overview on the proposed semi-noise enclosure or proposed tunnel administration building, and O-04 viewing to the proposed semi-noise enclosure at a close distance would maintain as moderate throughout the operation phase. The residual impact on VSR O-03 overlooking the whole LRT Road in Shatin at an elevated view and VSR R-02 viewing to the proposed tunnel administration building and toll plaza area in relatively long distance would maintain as slight in year 10 of operation. There would be insubstantial residual impact on other VSRs within the visual envelope during the construction and operation of the Project.
- 10.12.8 As a whole, the residual landscape and visual impacts of the proposed Project is considered acceptable with the proposed mitigation measures implemented during construction and operation phases.