

## **K6 PENNY'S BAY RAIL LINK**

### **Introduction**

- K6.1 This section presents the main conclusions of the Landscape and Visual Impact Assessment of the Penny's Bay Rail Link. This assessment was undertaken as a separate item and is presented in Section 7 of Annex M.

### **Landscape and Visual Impacts**

- K6.2 The existing environment is rural in nature, with Penny's Bay located between two upland areas of Fa Peng Teng and Tai Shan and the low-lying saddle at Ta Shui Wan. The landscape comprises of smooth undulating hillsides with small areas of shrub and woodland on the lower slopes.
- K6.3 The views from the study area are restricted by the eastern and western hillsides, with views on a clear day to the south showing Peng Chau, Siu Kau Yi Chau and Kau Yi Chau and in the far distance Lamma Island and Hong Kong Island. Within Penny's Bay, extensive rock-cut slopes have been formed behind and to the south of Penny's Bay power station and Cheoy Lee Shipyard, and these create an unattractive visual impact on the surrounding areas.

### **Conclusion**

- K6.4 The assessment has indicated that the most significant impacts during the construction phase would be visual impacts caused by the construction of the cut and cover tunnel and slope stabilisation works at the north portal and the temporary works area and slope stabilisation works at the south portal. However, with the implementation of the proposed mitigation works, it is considered that the residual impacts would be reduced to slight significance.
- K6.5 During the operation phase the most significant impacts would be the landscape and visual impacts associated with the southern tunnel portal and vent structure associated geotechnical slope stabilisation works, and the section of the at-grade railway. When the proposed mitigation measures are adopted, the residual impacts would be reduced to slight significance. With regard to the Water Recreation Centre, the railway would be clearly visible to users of the Centre if there is no screen planting. However, there will be extensive planting around the Water Recreation Centre, including buffer planting to the screen the railway.
- K6.6 Overall, it is considered that the Landscape and Visual Impacts are acceptable with the implementation of the recommended mitigation measures.

## **K7 ROAD WORKS AND PIERS**

### **STUDY METHODOLOGY, SCOPE AND PARAMETERS**

K7.1 The study methodology, scope and parameters will be as for Section K3 above except for the following:

- The landscape and visual impact assessment of the proposed road works and piers will consider both the construction phase and operation phase of the proposed development.
- The study area for the LIA is defined as all areas within a 500m distance from the proposed development.
- The study area for the VIA is defined as the visibility contour plans. Visibility contours are mapped within the visual envelope to indicate detailed intervisibility.
- The landscape and visual impact assessment of the Penny's Bay Rail Link is presented as a separate annex to this report, and is not covered in this chapter.

### **THE PROPOSED DEVELOPMENT**

K7.2 The road works and piers development shall include a number of infrastructure projects as scheduled below and illustrated on Figure K7.1.

- a section of Chok Ko Wan Link Road from the Yam O interchange to the valley adjacent to the Chok Ko Wan Link Road is under assessment in this section. The entire Chok Ko Wan Link Road is subject to another environmental impact assessment study under a separate report.
- the proposed development included within its section involves the construction of 2.58 km of the Road P2, the primary distributor, onto the reclamation area. This will comprise of a dual-three carriageway arising from the proposed Chok Ko Wan Link Road at Wan Tuk running for 700m eastwards to a roundabout interchange with the Link Road. From this interchange it runs 400m south to a second roundabout interchange and turns east for 1900m. (see Figures K7.2 through K7.4). The road is proposed to be constructed on completion of the reclamation.
- resort roads (district distributor) termed the east and west resort roads extend from the P2 distributor around the Theme Park and terminate at roundabouts close to the piers section. Section illustrations of the east and west resort roads are presented in Figures K7.5 and K7.6. The design proposals for the roads are similar and consist of two carriageways 6.75m wide and separated by a central planted median of 4.25m. On each side of the road there is a 2.5m wide planted area with street lighting and beside this there is a utility services reserve. A 3m wide footpath is provided on one side of utility reserve areas.

- The adjacent area of the west resort roadway contains the proposed drainage channel to the west and a large berm to the east which surrounds the Theme Park. The east resort road is similar, with a large berm to the west surrounding the Theme Park area, and the sea wall to the east.
- A controlled pedestrian walkway extends through the centre of the whole Theme Park in a north to south orientation. It shall connect the railway station area to the piers, and the area along it has been termed the RD&E area which may contain retail shops, dining restaurants and places of public entertainment. Secondary uses may include storage, administrative offices, refuse disposal installations, utility services, kitchens and food preparation areas and other uses to support the RD&E concept.
- The layout and the tenant mix have yet to be determined. Area development including landscaping, lighting and fixtures that complement the overall atmosphere of the complex will also be a key component of the RD&E area.
- The maximum plot ratio in the Theme Park and RD&E area will not exceed 1.0. The RD&E complex will not exceed 800,000 square feet (14,400 square meters) in total area. The gross square footage cannot be determined until building design and identification of tenants. An image of the pedestrian walkway and RD&E concept is presented in Figures K7.7 and K7.8.
- The piers are located on the southern section of the proposed Theme Park and shall connect directly to the RD&E zone by means of the central pedestrian walkway. The proposal includes two piers that shall protrude into the coastal water.
- Temporary works shall include temporary access roads and a temporary PTI. These shall be in use during the construction phase only of the proposed new facilities on the reclamation.

K7.3 As the landscape and visual impacts of the reclamation have been discussed in Section K4, the impacts arising from the construction of the proposed development are as follows:

Chok Ko Wan Link Road:

- construction of the expressway
- contribution to cutting at Ngong Shuen Au (Road P2 also contributes to this impact)
- creation of slope cutting in an area north of the power station
- visual appearance of the road

Road P2:

- construction works of dual two lane road with 14m central planted median;
- visual appearance of the road;
- introduction of a short section of viaduct; and,
- two small areas of reworking of existing slopes.

Resort Roads:

- construction of the resort roads
  - visual appearance of the road
  - central pedestrian walkway
  - construction of the walkway
- Piers:
- construction of the piers
  - visual appearance of the piers

## LANDSCAPE BASELINE CONDITIONS

### *Landscape Elements*

K7.4 Landscape receiver groups have been formulated comprising areas of commonality between the existing landscape elements. This assessment also assumes the reclamation for this project as the existing baseline as the effects caused by it have been described in Section K4.

K7.5 Broadly, the study area is divided into two distinct areas, namely the reclamation within the bay and the primarily natural hillsides of Lantau. This results in a concentration of the good quality landscape elements in the Lantau hillsides and, conversely, a lack of significant landscape features in the reclamation. The landscape elements are described in Table K7.1 and on Figure K7.9.

**Table K7.1 Landscape Elements**

<i>1. Landscape Element</i>	<i>Vegetation Cover</i>
As the site primarily comprises new reclamation, the existing vegetation is limited to the Lantau hillsides to the north and east of the study area. This vegetation is dominated by grassland, but also contain areas of shrubland and woodland	
<i>Quantity</i>	
Grassland	Approx. 107 ha
Woodland	Approx. 7 ha
Shrubland	Approx: 58 ha
<i>Sensitivity Rating</i>	
Grassland	Low
Shrubland	Medium
<i>2. Landscape Element</i>	<i>Topography</i>
Much of the southern part of the study area comprises flat low-lying reclamation at approximately 5mPD. However, to the north and west are two natural ridgelines of Lantau, namely Tai Yam Teng / Fa Peng Teng rising in the north and Tai Shan to the west. Tai Yam Teng / Fa Peng Teng rises to over 100mPD within the study area and to over 200mPD further north. Tai Shan also rises to 100mPD in the study area and over 290mPD further west. A relatively small area of cut slopes is also present south of the power station.	
<i>Quantity</i>	
Natural topography	Approx 172 ha
Disturbed topography	Approx 45 ha
<i>Sensitivity Rating</i>	
Natural topography	High
Disturbed topography	Low

3. <i>Landscape Element</i> <i>Streamcourses</i>	
Existing streamcourses are restricted to the hillside areas running from the hillsides towards the existing Penny's Bay and open water areas. Approximately eleven streamcourses are present in the study area on both the Pa Tau Kwu and Tai Shan hillsides.	
<i>Quantity</i>	
Natural streamcourses	Approx 8,073 m
<i>Sensitivity Rating</i>	
Natural streamcourses	High
4. <i>Landscape Element</i> <i>Coastline</i>	
On completion of the reclamation included within this project, the only area of coastline will be to the east end of the study area. This will comprise both natural and manmade sections. The natural section is along the base of Pa Tau Kwu, with the manmade part being further south along the reclamation edge.	
<i>Quantity</i>	
Natural coastline	985m
Manmade coastline	6,100m
<i>Sensitivity Rating</i>	
Natural coastline	High
Manmade coastline	Low
5. <i>Landscape Element</i> <i>Coastal Waters</i>	
On completion of the reclamation the coastal waters will be restricted to the south and east of the study area, beyond the reclamation line. It should be noted that this area may be lost under the North Shore Lantau reclamation.	
<i>Quantity</i>	
Coastal Waters	Approx 198 Ha
<i>Sensitivity Rating</i>	
Coastal Waters	Medium to high

### *Landscape Character*

K7.6 The landscape character areas have been identified from areas of commonality in character and elements. These are described in Table K7.2 and shown on Figure K7.10. The Landscape Character Zones divide the study area into distinct and contrasting areas. These are broadly the high quality natural Lantau hillsides, Pa Tau Kwu, Fa Peng Teng and Tai Shan in the north and east of the study area, and the low quality, barren, sandfill areas of reclamation, which dominate the southern areas.

**Table K7.2 Landscape Character Zones**

1. <i>Landscape Character Zone</i> <i>Pa Tau Kwu Headland</i>	
<i>Description</i>	
Located to the north-east of the study area, this small headland has a distinctive natural character, is visually prominent and comprises a natural landform with a vegetation dominated by a shrubland matrix, but also containing grassland areas. It is of high quality due to its undisturbed character.	
<i>Sensitivity</i>	High
2. <i>Landscape Character Zone</i> <i>Fa Peng Teng and Tai Yam Teng</i>	
<i>Description</i>	

The study area contains part of the large Lantau hillsides of Fa Peng Teng and Tai Yam Teng. These dominate the northern part of the study area and comprise natural hillsides dominated by grasslands, although large areas of shrubland and woodland also exist. Several of the lower coastal slopes have been regraded due to the existing development. Overall it is of high quality due to its primarily undisturbed character.	
<i>Sensitivity</i>	High
<b>3. Landscape Character Zone Tai Shan</b>	
<i>Description</i>	
Located to the western part of the study area this zone comprises a section of the lower slopes of the Tai Shan hillside. These are natural slopes, comprising a matrix of grassland and shrubland. The undisturbed character of this zone results in a high quality.	
<i>Sensitivity</i>	High
<b>4. Landscape Character Zone Reclamation (Existing and Proposed)</b>	
<i>Description</i>	
This zone dominates much of the southern part of the study area. Included within this zone is the existing reclamation and development along the Penny's Bay coastline, which has been developed with a mix of temporary uses, e.g. works areas, and permanent uses such as the power station, and the proposed reclamation for this project, which has been discussed in Section K4. Reclamation dominates the southern part of the study area and Penny's Bay. Apart from the reclamation already existing, it will primarily be new low-lying sandfill, barren of features or vegetation.	
<i>Sensitivity Rating</i>	Low
<b>5. Landscape Character Zone Infrastructure</b>	
<i>Description</i>	
This is a small area to the north of the study area and comprises the already constructed interchange and access slip roads to NLH. As an area dominated by roads and disturbed land it is of low quality	
<i>Sensitivity Rating</i>	Low

## LANDSCAPE IMPACT ASSESSMENT

K7.7 The likely impacts on the identified landscape elements and character zones are described in Tables K7.3 and K7.4, and shown in Figure K7.11. As the works are proposed primarily over existing or proposed reclamation the landscape impacts are limited. However, Road P2 and the Chok Ko Wan Link Road will result in local regrading of the lower slopes of the Fa Peng Teng hillside.

**Table K7.3 Landscape Impact Assessment for Landscape Elements before Mitigation**

Landscape Resource (Element)	Impact Assessment	Sensitivity of Receiver Group	Element of Development Causing Impact	Magnitude of Change	Expected Landscape Impacts Before Mitigation	
					Construction Phase	Operation Phase
1. Vegetation Cover	<p>The Resort Roads, Pedestrian Walkway and Piers will be constructed on the reclamation and will not disturb any existing vegetation.</p> <p>Road P2 will be primarily constructed on reclamation areas. However a short section, approx 100m, will cause disturbance to a small area of grassland at the southern tip of Fa Peng Teng resulting in approx 0.69 Ha loss.</p> <p>Additionally, at the northern end, the road will extend the disturbance caused by the interchange between NLH and the proposed Chok Ko Wan Link Road resulting in disturbance to the existing woodland vegetation, approx 3Ha.</p> <p>The Link Road will require a slope cutting at the eastern side of Pa Tau Kwu. This will result in disturbance to the existing natural hillside and vegetation, including approx 0.9 Ha grassland and 0.3Ha shrubland.</p>	Woodland (High)	Road P2 Chok Ko Wan Link Road Resort Roads Pedestrian Walkway Piers Temporary work Road P2 Chok Ko Wan Link Road Resort Roads Pedestrian Walkway Piers	Moderate None None None None None Moderate Moderate None None Low	Severe adverse impact None None None None None Moderate adverse impact Moderate adverse impact None None Slight adverse	Severe adverse impact None None None None None Moderate adverse impact Moderate adverse impact None None Slight adverse

Landscape Resource (Element)	Impact Assessment	Sensitivity of Receiver Group	Element of Development Causing Impact	Magnitude of Change	Expected Landscape Impacts Before Mitigation	
					Construction Phase	Operation Phase
		Grassland (Low)	Road P2 Chok Ko Wan Link Road Resort Roads Pedestrian Walkway Piers Temporary	Moderate Moderate None None None None	Moderate adverse impact Moderate adverse impact None None None None	Moderate adverse impact Moderate adverse impact None None None None
2. Topography	<p>The Resort Roads, Pedestrian Walkway and Piers will be constructed on the reclamation and will not disturb any existing natural topography. Minimal disturbance to existing topography will occur due to Road P2 as it is primarily on reclamation. However, a small area of the southern tip of Pa Peng Teng will require regrading to allow for the road resulting in permanent changes to the topography 6.86 ha although much of this area is already disturbed.</p> <p>An area at Ngong Shuen Au will also result in approx 3 Ha disturbance to the existing hillside.</p> <p>Additionally, at the northern end extension of the existing roadside cutting for the Chok Ko Link Road will be required, approx 3Ha. Overall this represents only a medium change as the majority of hillsides remain undisturbed</p> <p>The Link Road will cause be the primary cause of disturbance as it runs across the natural Pa Tau Kwu headland. This will result in approx 1.2 Ha of disturbance to the natural hillside topography.</p>	Low (as the areas affected are primarily already disturbed)	Road P2 Chok Ko Wan Link Road Resort Roads Pedestrian Walkway Piers Temporary	Moderate Moderate None None None None	Moderate adverse impact Moderate adverse impact None None None None	Moderate adverse impact Moderate adverse impact None None None None



Landscape Resource (Element)	Impact Assessment	Sensitivity of Receiver Group	Element of Development Causing Impact	Magnitude of Change	Expected Landscape Impacts Before Mitigation	
					Construction Phase	Operation Phase
3. Streamcourses	The Resort Roads, Pedestrian Walkway and Piers will be constructed on the reclamation and will not disturb any existing natural streamcourses. Road P2 will result in two small natural streamcourses in the vicinity of Ngong Shuen Au. The western section of the Link Road will result in additional disturbance of one primary streamcourse, together with three tributaries.	High	Road P2 Chok Ko Wan Link Road Resort Roads Pedestrian Walkway Piers Temporary	Moderate High None None None None	Moderate adverse impact Severe adverse impact None None None None None	Moderate adverse impact Severe adverse impact None None None None None
4. Coastline	All works will avoid the natural coastline resulting in no impacts	High	Road P2 Chok Ko Wan Link Road Resort Roads Pedestrian Walkway Piers Temporary	None None None None None None None	None None None None None None None	None None None None None None None
5. Coastal waters	All works will avoid the coastal waters resulting in no impacts	Moderate to high	Road P2 Chok Ko Wan Link Road Resort Roads Pedestrian Walkway Piers Temporary	None None None None None None None	None None None None None None None	None None None None None None None

**Table K7.4 Landscape Impact to Landscape Character before Mitigation**

Landscape Character	Impact Assessment	Sensitivity of Receiver Group	Element of Development Causing Impact	Magnitude of Change	Expected Landscape Impacts Before Mitigation	
					Construction Phase	Operation Phase
1. Pa Tau Kwu Headland	All proposed works are remote from the Pa Tau Headland and will cause no impact to its existing character	High	Road P2 Chok Ko Wan Link Road Resort Roads Pedestrian Walkway Piers Temporary	None None None None None None	None None None None None None	None None None None None None
2. Fa Peng Teng and Tai Yam Teng	The proposed works for Resort Roads, Pedestrian Walkway and Piers are remote from the Fa Peng Teng and Tai Yam Teng headland and will not cause any landscape impact to its existing character. Road P2 will, in general, be remote from the headland and cause no impact. However, there will be slight disturbance to the slopes at its northern end. The Chok Ko Wan Link Road will cause minor impacts to the existing natural hillside due to minor earthworks and the introduction of road surface for a short section at its eastern end.	High	Road P2 Chok Ko Wan Link Road Resort Roads Pedestrian Walkway Piers Temporary	Low Low None	Slight to Moderate adverse Slight to Moderate adverse None	Slight to Moderate adverse Slight to Moderate adverse None
3. Tai Shan	All works are remote from the Tai Shan landscape character zone and will not affect if existing character	High	Road P2 Chok Ko Wan Link Road Resort Roads	None None None	None None None	None None None

Landscape Character	Impact Assessment	Sensitivity of Receiver Group	Element of Development Causing Impact	Magnitude of Change	Expected Landscape Impacts Before Mitigation	
					Construction Phase	Operation Phase
			Pedestrian Walkway Piers Temporary	None	None	None
			Road P2	None	None	None
4. Reclamation	The proposed works will result in the introduction of large areas of hard surfacing onto the reclamation site causing minimal change to its barren and low quality character. Conversely, the works for Road P2 and the Resort Roads include proposals for roadside planting strips and central medians. These will improve the existing reclamation resulting in a beneficial impact overall on completion. Likewise the Pedestrian Walkway and Piers have potential for the creation of good quality within the overall reclamation area through the introduction of landscape features within the barren area. The Link Road with this section on viaduct will cause a small change of character resulting in a slight adverse impact.	Low	Chok Ko Wan Link Road Resort Roads	Low	Slight adverse	Slight adverse
			Pedestrian Walkway Piers Temporary	Low	Slight adverse	Slight adverse
			Road P2	Low	Slight adverse	Slight adverse
5. Infrastructure	The existing infrastructure landscape character zone will not be affected by the works, which will actually result in this zone being increased in size.	Low	Chok Ko Wan Link Road Resort Roads Pedestrian Walkway Piers Temporary	None	None	None
			Road P2	None	None	None
			Chok Ko Wan Link Road	None	None	None
			Resort Roads	None	None	None
			Pedestrian Walkway Piers Temporary	None	None	None
			Road P2	None	None	None

- K7.8 The construction of Road P2, Resort Roads, Pedestrian Walkway and Piers will result in limited landscape impacts as the majority of the works will be constructed on the barren reclamation areas. However, two short sections of Road P2 will conflict with the lower slopes of the Fa Peng Teng hillside. At the northern end, the existing cut slopes for the Chok Ko Wan Link Road connection to NLH will be extended regrading approximately 3.0 ha of natural hillside and a similar area of woodland. Additionally, the southern tip of the hillside will be disturbed, although this is primarily an already disturbed slope, approx 0.69 Ha. Additionally the Chok Ko Wan Link Road will cause 1.2 ha of disturbance to the southern Fa Peng Teng hillside (including 0.9 ha of grassland and 0.3 ha of shrubland). Overall, these impacts are considered to be moderate adverse for the shrubland loss and severe adverse for the woodland. The effects will be localised and are relatively small in area. However, with the extensive roadside planting along these roads, their impact on vegetation will be reduced to slight adverse.
- K7.9 With respect to the impacts to landscape character, these impacts will also be slight as the works are primarily constructed on reclamation and will create a slight beneficial impact as a result of the introduction of a wide landscape strip along these corridors on the barren area. Although the Road P2 and the Link Road disturbs sections of the lower slopes of the Fa Peng Teng hillside, it will not result in a change of character to this landscape zone as the impacts are localised and contained.

#### VISUAL BASELINE CONDITIONS

##### *Views Available*

- K7.10 The visibility contour plan for road works and for piers are shown on Figures K7.12 and K7.13, and sections are indicated on Figures K7.14 and K7.15 to support this. In a scale of 1:40,000, the visibility contour is similar to that for the reclamation as described in Section K4. To the immediate north and west the envelope is confined by the local ridgelines in Lantau at Pa Tau Kwu, Fa Peng Teng, Tai Yam Teng and Tai Shan. To the east and south it is more open and extends across towards the more southern areas of Lantau and to the islands of Peng Chau, Chau Kung Po, Hei Ling Chau, over to Tsing Yi and the western coastal areas of Kowloon and Hong Kong. It should be noted however, that as this part of the scheme is generally a flat road on reclamation, the effects caused by it on these sensitive receivers to the south, east and the more remote areas of Lantau will be negligible as they experience reduced visibility due to distance, weather and atmospheric conditions.

##### *Visual Amenity*

- K7.11 As the reclamation of the bay has been considered in Section K4, this assessment will consider the reclamation as the existing situation.
- K7.12 The site for the construction of the majority of the works is of low visual quality, as it will primarily comprise the completed reclamation site and consist of a large flat expanse of sandfill. However, the visual amenity of the surrounding areas is appreciably higher as it comprises the Lantau hillsides to the north and east, together with the open water to the south and west, although proposed projects such as Route 10 and the Chok Ko Wan Link Road would introduce elements of a different quality.

K7.13 At the northern end of Penny's Bay is the North Lantau Highway and associated link roads through to the reclamation area. This includes extensive areas of slope cutting and infrastructure and is a major visual element of poor quality.

### *Viewpoints*

K7.14 Key viewpoints from the sensitive receivers have been selected to illustrate the views within the visual envelope and assess the impacts caused by the construction works. These viewpoints, together with a description of their existing views are given in Table K7.5 and shown on Figures K7.16 to K7.19. Receiver group nos. 5 to 10 will suffer operation stage impacts only as they will be present only after the works have been constructed and in most cases are reliant on it.

**Table K7.5 Viewpoints**

Receiver Group Viewpoint	Distance to Proposed development	Existing View
1. Walking trails on west Fa Peng Teng	500m	Located to the north-east of Road P2, views are west down the natural hillside across the existing and proposed reclamation (including the Water Recreation Centre) in Penny's Bay and over to the natural Tai Shan hillside and ridgeline opposite. The views are of good quality particularly due to the large areas of the Lantau hillsides present, although the reclamation at the lower levels are a poor element in the views.
2. Walking trails on west Mong Tung Hang / Pa Tau Kwu	400 to 1200m	Views are possible to both the west and south. Those to the west are similar to views from Fa Peng Teng, i.e. across the reclamation areas (including the Water Recreation Centre) to the natural hillside of Tai Shan. The views to the south are over 1000m of the reclamation towards the open water areas, local islands and remotely Hong Kong Island. These views are of good quality due to their openness but suffer due to the presence of the reclamation.
3. Walking trails on east Tai Shan	600m to 1000m	Views are east over the reclamation areas (including the Water Recreation Centre) towards the natural hillside of Fa Peng Teng, but also towards the open water and Tsing Yi in the background. As with many views of the area, they are of good quality, but suffer from the presence of the large reclamation area.
4. Penny's Bay Power Station	50m to 100m	Views are to the west and south. Those to the east are across the reclamation (and future Water Recreation Centre) to the natural hillside of Tai Shan. Views of the hillside are of good quality, but suffer from the presence of the reclamation. The views to the south are across 140m of reclamation towards the open water and local islands. These views are of low quality.
4a Discovery Bay	2500m to 3500m	Views are to the north east. They are over the open water towards the reclamation site with the natural Lantau hillsides further north. Much of the Pa Tau Kwu headland is screened by the southern headland of Tai Shan. Views are of a good quality.

Receiver Group Viewpoint	Distance to Proposed development	Existing View
5. Public Parking at Penny's Bay (West) (Operation Phase only)	Directly adjacent	Views are across the existing reclamation areas towards the disturbed lower slopes of Pa Tau Kwu. The views also contain the natural slopes at the upper levels of the hillside, although these slopes will become disturbed by the construction of Chok Ko Wan Link Road. The views are of medium quality dominated by the natural hillside but with areas of disturbance.
6. PTI at Penny's Bay (Operation Phase only)	Directly adjacent	Views are similar to the Public Parking area above, i.e. are towards the existing reclamation and disturbed slopes of Pa Tau Kwu, but are dominated by the natural hillside at the upper levels, although these slopes will become disturbed by the construction of Chok Ko Wan Link Road. They are of medium quality.
7. Public Parking at Penny's Bay (East) (Operation Phase only)	Directly adjacent	Views are towards the existing reclamation and disturbed slopes of Pa Tau Kwu, but are dominated by the natural hillside at the upper levels, although these slopes will become disturbed by the construction of Chok Ko Wan Link Road. They are of medium quality.
8. Utility Yard (Operation Phase only)	Directly adjacent	Views are towards the existing reclamation and disturbed slopes of Pa Tau Kwu, but are dominated by the natural hillside at the upper levels, although these slopes will become disturbed by the construction of Chok Ko Wan Link Road. They are of medium quality.
9. Chok Ko Wan Link Road (Operation Phase only)	Directly adjacent to 200m	Open views from the road are only possible from the western part and are over the reclamation to the natural hillside of Tai Shan. Views are of medium quality.
10. Water Recreation Centre (Operation Phase only)	Directly adjacent	Views are over the Road P2 across the reclamation areas towards the Fa Peng Teng and Pa Tau Kwu hillsides, although these will be disturbed by the future Chok Ko Link Road. The Penny's Bay Power Station is a major feature of these views reducing their quality, which is medium overall.
11 Fa Peng Teng	From 300m to 600m	Panoramic and extensive views are available from this elevated position (273m).  Local topography blocks some views to coastal areas so that, for example, much of Penny's Bay is obscured.
12. Discovery Bay Ferry	From 100m to 300m	Coastal views of the Northshore area are available along the ferry route. The new reclamation edge and seawall should be prominent in most views. Generally from this low sea level elevation the visual quality shall be good as the expanse of the full reclamation shall not be visible.
13. Resort Roads (Operation phase only)	From adjacent to 1500m	Views are over the reclamation areas to the Fa Peng Teng hillside in the north and are open across the water to the south.
14. Road P2 (Operation phase only)	From adjacent to 1500m	View are similar to those from the Resort Roads, i.e. over the reclamation areas to the Fa Peng Teng hillside in the north and are open across the water to the south, although the proposed Penny's Bay Rail Link and station will be prominent in views.

**VISUAL IMPACT ASSESSMENT**

- K7.15 The visual impact assessment describes the expected effects of the Road P2, Resort Roads, Pedestrian Walkway, Piers and the eastern section of the Chok Ko Wan Link Road on the existing sensitive receivers during construction and operation.
- K7.16 As much of the works will be constructed on a very disturbed and manmade landscape, i.e. the reclamation, the potential visual impacts are limited. However, impacts will be suffered due to the construction works, introduction of road surface, including short sections of viaduct for both Road P2 and the Link Road, together with two areas of slope cutting. The impact assessment is given in Table K7.6, and photomontages are presented in Figures K7.20 through K7.23.

**Table K7.6 Visual Impact Assessment Before Mitigation**

Receiver Group Viewpoint	Assessment	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Resulting Magnitude of Change	Expected Visual Impact Before Mitigation	
					Construction Phase	Operation Phase
a. Walking trails on west Fa Peng Teng	<p><i>Construction:</i> Views arise from a high sensitivity user, but are generally remote, 500m, and have alternative open views from their elevated location to the south and west.</p> <p>The works for Road P2, Pedestrian Walkway, Piers and the Resort Roads are confined to the reclamation area and will cause only a slight change in the character of the existing views resulting in a moderate impact overall due to the high sensitivity of the receiver.</p> <p>However, the Chok Ko Wan Link Road will cause impacts to the existing natural hillside and create new cut slopes resulting in the greatest impact for this receiver. The existing topography of the hillside will screen many views.</p> <p><i>Operation:</i> Impacts from Road P2, the Resort Roads and Pedestrian Walkway will arise due to the new road and hard surfacing, traffic and highway and general purpose lighting. The piers will cause additional impacts due to the introduction of buildings, however, they are relatively small. The existing character of views will not be greatly affected overall but will result in a moderate impact overall due to the high sensitivity.</p> <p>The Chok Ko Wan Link Road, however, will result in permanent and irreversible impacts to the local hillside with the introduction of the new cut slopes, road surface and highway lighting. The impacts from this receiver will be localised, however, due to the topography.</p>	Users of trails in public open space (High sensitivity)	Road P2  Chok Ko Wan Link Road  Resort Roads  Pedestrian Walkway	Low  Moderate  Low  Low	Slight adverse impact  Moderate adverse impact  Slight adverse impact  Slight adverse impact	Slight adverse impact  Moderate adverse impact  Slight adverse impact  Slight adverse impact
			Piers  Temporary works	Low  Low	Slight adverse impact  Slight adverse impact	Slight adverse impact  N/A



Receiver Group Viewpoint	Assessment	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Resulting Magnitude of Change	Expected Visual Impact Before Mitigation	
					Construction Phase	Operation Phase
b. Walking trails on west Mong Tung Hang / Pa Tau Kwu	<p><i>Construction:</i> The existing views arise from a high sensitivity user, but are generally remote, between 400m and 1200m, and have alternative open views to the south and west.</p> <p>The works for Road P2, Resort Roads, Pedestrian Walkway and Piers are confined to the reclamation area and will cause only a slight change in the character of the existing views but result in a moderate impact overall due to the high sensitivity.</p> <p>Works for the Chok Ko Wan Link Road will also cause some great impacts due to the introduction of a major road and new cut slopes in close proximity.</p> <p><i>Operation:</i> Impacts for Road P2, Resort Roads, Pedestrian Walkway and Piers will arise due to the road surface, traffic, highway lighting and small buildings for the piers and will not affect the character of views greatly but result in a moderate impact overall due to the high sensitivity.</p> <p>Impacts for the Link Road will also be great due to their permanence and irreversibility resulting in the introduction of the road itself, together with cut slope into the hillside.</p>	Users of trails in public space (High sensitivity)	Road P2 Chok Ko Wan Link Road Resort Roads Pedestrian Walkway Piers	Low Moderate Low Low Low	Slight adverse impact Moderate adverse impact Slight adverse impact Slight adverse impact Slight adverse impact	Slight adverse impact Moderate adverse impact Slight adverse impact Slight adverse impact Slight adverse impact
c. Walking trails on east Tai Shan	<p><i>Construction:</i> Existing views are from a high sensitivity user, but are generally remote, between 600m and 1000m, and have alternative open views to the south and east.</p>	Users of trails in public space (High sensitivity)	Temporary works Road P2	Low Low	Slight adverse impact Slight adverse impact	N/A Slight adverse impact

Receiver Group Viewpoint	Assessment	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Resulting Magnitude of Change	Expected Visual Impact Before Mitigation	
					Construction Phase	Operation Phase
	<p>The works for Road P2, Resort Roads, Pedestrian Walkway and Piers are generally confined to the reclamation area. However, at the northern end the road will result in an extension, approximately 150m length, of the existing slope cutting for the Chok Ko Wan Link Road at its junction with the NLH.</p> <p>The Link Road will cause greater impacts due to the slope cutting in to the natural hillside required into the western side of Pa Tau Kwu.</p> <p><i>Operation:</i> Impacts for the Road P2, Resort Roads, Pedestrian Walkway and Piers will arise due to the road and hard surfacing, traffic and highway lighting, together with the relatively small buildings for the piers. Overall, this will not cause a great change in the character of the existing views.</p> <p>The Link Road will cause permanent and irreversible intrusion to views of the natural hillside due to the introduction of the road, highway lighting and, mainly, due to the slope cutting.</p>		Chok Ko Wan Link Road	Moderate	Moderate adverse impacts	Moderate adverse impacts
			Resort Roads	Low	Slight adverse impact	Slight adverse impact
			Pedestrian Walkway	Low	Slight adverse impact	Slight adverse impact
			Piers	Low	Slight adverse impact	Slight adverse impact
			Temporary works	Low	Slight adverse impact	Slight adverse impact N/A
d. Penny's Bay Power Station	<p><i>Construction:</i> Views are from a low sensitivity receiver. Visual intrusion will not occur from the construction works due to existence of the berm.</p>	Local workers (Low sensitivity)	Road P2	Moderate	No impact	No impact

Receiver Group Viewpoint	Assessment	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Resulting Magnitude of Change	Expected Visual Impact Before Mitigation	
					Construction Phase	Operation Phase
	<p>Except for the Link Road, these works will cause only limited impacts as they are at-grade and over 500m away. The Link Road, however, will cause greater impacts due to being elevated to the north and resulting in a slope cutting into the natural headland.</p> <p><i>Operator:</i> Road P2, Resort Roads, Pedestrian Walkway will cause intrusion to views at the lower levels due to the road surface, traffic and highway lighting, particularly as there will be a short section of viaduct for Road P2, but views will remain as existing at the upper levels. Effects of the Resort Roads, Walkway and Piers will be lessened due to their distance.</p> <p>The Piers will cause only minor impacts due to the introduction of small buildings over 1km away.</p> <p>The Link Road will cause the most impact through the permanent elevated road and new cut slopes to the north. However, the character of existing views will not result in a great change in character of views overall.</p>		Chok Ko Wan Link Road	Moderate	Slight to Moderate adverse impact	Slight to Moderate adverse impact
			Resort Roads	Low	Slight adverse impact	Slight adverse impact
			Pedestrian Walkway	Low	Negligible impact	Negligible impact
			Piers	Low	Negligible impact	Negligible impact
			Temporary works	Low	Negligible impact	N/A

Receiver Group Viewpoint	Assessment	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Resulting Magnitude of Change	Expected Visual Impact Before Mitigation	
					Construction Phase	Operation Phase
e. Discovery Bay	<p><i>Construction:</i> Views are from high sensitivity users overall and will suffer due to the construction works for the Road P2 (eastern end only) Resort Roads, Pedestrian Walkway and Piers. However, their distance and availability of alternative views result in low level of intrusion, particularly for Road P2. The Link Road will be screened by the Tai Shan southern headland.</p> <p><i>Operation:</i> Road P2 will cause negligible intrusion due to its distance. The Resort Roads, Pedestrian Walkway and Piers will cause only minor intrusion due to their distance and relatively small scale of works. The Link Road will be screened by the Tai Shan southern headland.</p>	Residential buildings and visitors / walkers (high sensitivity)	Road P2  Chok Ko Wan Link Road  Resort Roads  Pedestrian Walkway  Piers  Temporary works	Low  None  Low  Low  Low  None	Negligible impact  None  Negligible to Slight adverse impact  Negligible to Slight adverse impact  Negligible to Slight adverse impact  N/A	Negligible impact  None  Negligible to Slight adverse impact  Negligible to Slight adverse impact  Negligible to Slight adverse impact  N/A

Receiver Group Viewpoint	Assessment	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Resulting Magnitude of Change	Expected Visual Impact Before Mitigation	
					Construction Phase	Operation Phase
f. Public Parking at Penny's Bay (West)	<i>Construction:</i> N/A	Vehicle users (Medium sensitivity)	Road P2	Moderate	No impact	Moderate adverse impact
	<i>Operation:</i> Views are from south of Road P2 and arise from a low sensitivity user. They will suffer intrusion and a moderate magnitude of change at the lower levels during the operation phase only due to the road surface, traffic and highway lighting. Views towards the local hillside will remain as existing. Views towards the Resort Roads, Pedestrian Walkway and Piers will not be greatly affected as they are relatively distant and will be partially screened by the intermediate rail line and station, resulting in a low level of intrusion. Views towards the Link Road will be screened by the intermediate hillside of Pa Tau Kwu and the Power Station.		Chok Ko Wan Link Road	None	N/A	None
			Resort Roads	None	N/A	None
			Pedestrian Walkway	Low	N/A	Slight adverse impact
			Piers	None	N/A	None
g. PTI at Penny's Bay	<i>Construction:</i> N/A	PTI users and workers (Medium sensitivity)	Road P2	Moderate	N/A	Moderate adverse impact

Receiver Group Viewpoint	Assessment	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Resulting Magnitude of Change	Expected Visual Impact Before Mitigation	
					Construction Phase	Operation Phase
	<p><i>Operation:</i> Effects to the existing visual context are similar to the public parking area, i.e. views are from south of Road P2 and arise from a medium sensitivity user. They will suffer intrusion and a moderate magnitude of change at the lower levels during the operation phase only due to the road surface, traffic and highway lighting. Views towards the local hillsides will remain as existing.</p> <p>Views towards the Resort Roads, Pedestrian Walkway and Piers will not be greatly affected as they are relatively distant and will be partially screened by the intermediate rail line and station, resulting in a low level of intrusion.</p> <p>Views towards the Link Road will be screened by the intermediate hillside of Pa Tau Kwu and the Power Station.</p>		Chok Ko Wan Link Road	None	None	None
			Resort Roads	None	N/A	None
			Pedestrian Walkway	Low	N/A	Negligible impact
			Piers	Low	N/A	Negligible impact
h. Public Parking at Penny's Bay (East)	<p><i>Construction:</i> N/A</p>	Vehicle users (Medium sensitivity)	Road P2	Moderate	N/A	Moderate adverse impact

Receiver Group Viewpoint	Assessment	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Resulting Magnitude of Change	Expected Visual Impact Before Mitigation	
					Construction Phase	Operation Phase
	<p><i>Operation:</i> Effects to the existing visual context are similar to the above, with views arising from south of Road P2 and from a medium sensitivity user. They will suffer intrusion and moderate magnitude of change at the lower levels during the operation phase only due to the road surface, traffic and highway lighting. Views towards the local hillsides will remain as existing.</p> <p>Views towards the Resort Roads, Pedestrian Walkway and Piers will not be greatly affected they are relatively distant and will be partially screened by the intermediate rail line and station, resulting in a low level of intrusion.</p> <p>Views towards the Link Road may suffer minor intrusion only as much of the alignment is screened by the Power Station and the Pa Tau Kwu hillside.</p>		Chok Ko Wan Link Road	Low	N/A	Slight adverse impact
			Resort Roads	None	N/A	None
			Pedestrian Walkway	Low	N/A	Negligible impact
			Piers	Low	N/A	Negligible impact
i. Utility Yard	<i>Construction:</i> N/A	Local workers (Low sensitivity)	Road P2	Moderate	N/A	Negligible impact

Receiver Group Viewpoint	Assessment	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Resulting Magnitude of Change	Expected Visual Impact Before Mitigation	
					Construction Phase	Operation Phase
j. Chok Ko Wan Link Road	<p><i>Operation:</i> Effects to the existing visual context are similar to the above, with views arising from south of Road P2 and from a low sensitivity user. They will suffer intrusion and a moderate magnitude of change at the lower levels during the operation phase only due to the road surface, traffic and highway lighting. Views towards the local hillsides will remain as existing.</p> <p>Views towards the Resort Roads, Pedestrian Walkway and Piers will suffer only minor or no intrusion as they are relatively distant and will be partially screened by the intermediate rail line and station.</p> <p>Views towards the Link Road will be partially screened by the Power Station, Road P2 and the Water Recreation Centre resulting in minor intrusion only.</p> <p><i>Construction:</i> N/A</p>		Chok Ko Wan Link Road	Low	N/A	Negligible impact
			Resort Roads	Low	N/A	Negligible impact
			Pedestrian Walkway	None	N/A	None
			Piers	None	N/A	None
		Vehicle users (Low sensitivity)	Road P2	Moderate	N/A	Slight adverse impact



Receiver Group Viewpoint	Assessment	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Resulting Magnitude of Change	Expected Visual Impact Before Mitigation	
					Construction Phase	Operation Phase
	<p><i>Operation:</i> Distance of views vary from being adjacent to over 1000m away. Receivers are of low sensitivity and will suffer intrusion to some lower level views. Upper views and those to the south will remain to the hills or open over the reclamation towards the water. The magnitude of change to character to views is moderate at those areas adjacent to Road P2 due to the road surface, traffic and highway lighting.</p> <p>The magnitude of change to character to views is moderate at those areas adjacent to Road P2 due to the road surface, traffic and highway lighting.</p> <p>The Resort Roads, Pedestrian Walkway and Piers will cause minor or no intrusion only as they are relatively distant and will be screened by the Water Recreation Centre, rail line, Power Station, and Road P2.</p>		Chok Ko Wan Link Road	Moderate	N/A	Slight adverse impact
			Resort Roads	Low	N/A	Negligible impact
			Pedestrian Walkway	None	N/A	None
			Piers	None	N/A	None

Receiver Group Viewpoint	Assessment	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Resulting Magnitude of Change	Expected Visual Impact Before Mitigation	
					Construction Phase	Operation Phase
k. Water Recreation Centre (Operation Phase only)	<p><i>Construction:</i> N/A</p> <p><i>Operation:</i> Views arise from adjacent to Road P2 and suffer intrusion at the lower levels due to proximity, the road surface, traffic and highway lighting. Views at the upper levels will remain open to the hills. The users are of high sensitivity. It is assumed that as the Centre is a recreational area and will be constructed after Road P2, it will allow a buffer to alleviate intrusion. Mitigatory planting along the roadside will help to screen the road resulting in beneficial impacts in the long-term. The Resort Roads, Pedestrian Walkway and Piers will cause minor or no intrusion only as they are relatively distant and will be screened by the Water Recreation Centre, rail line, Power Station, and Road P2. The Link Road will cause intrusion similar to Road P2 as a section runs adjacent to the site. Additional intrusion will be caused by views towards the new slope cutting through the hillside, however, this will be limited to the northern parts of the Centre only as the southern parts will be screened by the Power Station.</p>	Recreational users (High sensitivity)	Road P2  Chok Ko Wan Link Road  Resort Roads  Pedestrian Walkway  Piers	Medium  Medium  Low  None  None	N/A  N/A  N/A  N/A	Moderate adverse impact  Moderate adverse impacts  Slight adverse impacts  None

Receiver Group Viewpoint	Assessment	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Resulting Magnitude of Change	Expected Visual Impact Before Mitigation	
					Construction Phase	Operation Phase
I. Fa Peng Teng	<p><i>Construction:</i> Views arise from a high sensitivity user, but are remote and have alternative open views from their elevated location to the north and east.</p> <p>Road P2, will be screened by local topography while the Pedestrian Walkway, Piers and the Resort Roads are confined to the reclamation area and will cause only a slight change in the character of the existing views resulting in a slight impact overall due to the high sensitivity of the receiver.</p> <p>Chok Ko Wan Link Road will be screened by intermediate topography.</p> <p><i>Operation:</i> Impacts, the Resort Roads and Pedestrian Walkway will arise due to the new road and hard surfacing, traffic and highway and general purpose lighting. The piers will cause additional impacts due to the introduction of buildings, however, they are relatively small. The existing character of views will not be greatly affected overall but will result in a slight impact overall due to the high sensitivity.</p>	Users of open area (High sensitivity)	Road P2	None	None	None
			Chok Ko Wan Link Road	None	None	None
			Resort Roads	Low	Slight adverse impact	Slight adverse impact
			Pedestrian Walkway	Low	Slight adverse impact	Slight adverse impact

Receiver Group Viewpoint	Assessment	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Resulting Magnitude of Change	Expected Visual Impact Before Mitigation	
					Construction Phase	Operation Phase
			Piers	Low	Slight adverse impact	Slight adverse impact
			Temporary works	Low	Slight adverse impact	N/A
m. Discovery Bay Ferry	<p><i>Construction:</i> The ferry is at a lower level than the reclamation, thus the Road P2, Resort Road and Pedestrian Walkway will be screened due to the relative heights of receiver and works.</p> <p>The Piers will be relatively small within views and will represent only a small change in views. The Link Road is remote, partially screened and will cause slight impacts only</p> <p><i>Operation:</i> In the long term the Road P2, Resort Road and Walkway will be screened.</p>	Ferry passengers (medium sensitivity)	Road P2 Chok Ko Wan Link Road Resort Roads	None Low None	None Slight adverse impact None	None Slight adverse impact None
	The piers and Link Road will provide only minor intrusion due to distance and, in the case of the Piers, small scale.		Pedestrian Walkway	None	None	None
			Temporary works	None	None	N/A

Receiver Group Viewpoint	Assessment	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Resulting Magnitude of Change	Expected Visual Impact Mitigation	
					Construction Phase	Operation Phase
n. Resort Roads	<p><i>Construction:</i> N/A</p> <p><i>Operation:</i> As the road is at-grade on the reclamation the effects of Road P2, Walkway and Piers are limited, particularly in respect of their distance. However, they do create minor intrusion into views. The elevated section of the Link Road, together with its small cutting through the hillside will cause intrusion, however, this will be slight as the views affected are limited.</p>	Road users (medium sensitivity)	Piers Road P2 Chok Ko Wan Link Road Resort Roads	Low Low Low N/A	Slight adverse impact N/A N/A N/A	Slight adverse impact Slight adverse impact Slight adverse impact N/A
o. Road P2	<p><i>Construction:</i> N/A</p> <p><i>Operation:</i> As the road is generally at-grade on the reclamation the impacts arising from the Resort Roads, Walkway and Piers are not apparent. The elevated section of the Link Road, together with its small cutting through the hillside will cause intrusion, however, this will be slight as the views affected are limited.</p>	Road users (medium sensitivity)	Road P2 Chok Ko Wan Link Road Resort Roads Pedestrian Walkway Piers	N/A Low Low None None	Slight adverse impact N/A N/A N/A N/A	Slight adverse impact Slight adverse impact N/A None None

- K7.17 The Resort Roads, Pedestrian Walkway and Piers are likely, thus, to generally only cause slight adverse impacts. Road P2 is likely to cause only moderate adverse impacts to the sensitive receivers from the Water Recreation Centre while the Chok Ko Wan Link Road will result in several moderate adverse impacts to local trail walkers. This is due to there being overall, only a medium change in the existing visual character of the site which will still be dominated by reclamation, but which will also contain several roads, the walkway and piers.
- K7.18 Future sensitive receivers, nos. 5 to 10, will only be present when the road is complete but will suffer visual intrusion from its presence. However, the mitigation measure of roadside planting will benefit these receivers in the long-term as it will provide screening, visual buffering and soften the appearance of the works.

#### MITIGATION MEASURES

- K7.19 The assessment has identified the likely impacts to occur due to the construction of the works. Mitigation measures to alleviate the identified impacts have been devised. The general approaches are outlined below followed by descriptions of mitigation for each of the development elements. Figure K7.24 shows mitigation measures.

#### *Construction Phase*

##### *Slopes*

- K7.20 Slope cutting should be minimised where possible, to avoid excessive direct impacts to surrounding areas. Slopes should, therefore, be designed to be as steep as possible within geotechnical constraints. However, the slope design should also be considered in respect of creating opportunity for landscape and visual mitigation, i.e. the potential for planting, which may result in increasing the extent of cutting. A balance will be sought during the detail design to satisfy both of these constraints.

##### *Vegetation*

- K7.21 Only relatively small areas of vegetation will be disturbed. These areas will be minimised to the areas of slope cutting only. Any disturbance to tree vegetation should be minimised or avoided also by good site practice. If trees are disturbed then a full tree survey and felling application should be undertaken and submitted to government for approval in accordance with WBTC 24/94 Tree Preservation. Trees of significant amenity value will be considered for transplanting or retention where possible. Compensatory planting will be undertaken for all vegetation lost.

##### *Topsoil*

- K7.22 The earthworks required for Road P2 and the Link Road will result in the movement of quantities of topsoil. This topsoil, if worthy of retention, should be stockpiled up to 2m high to prevent anaerobic conditions forming, and for a period not exceeding 12 months, and temporarily vegetated with hydroseeded grass during construction. After completion it should be reused or considered for use in other projects.

## *Operation Phase*

### *Slopes*

- K7.23 The slopes will be designed in accordance with WBTC 25/93 Control of Visual Impact of Slopes. They will be designed to be a naturalistic form and to blend with the surrounding natural landform. All slopes will be planted either with berm planting if rock, or fully planted if soft. Planting will reflect the surrounding vegetation patterns.
- K7.24 A number of additional design considerations shall be made during design of these slopes as follows:
- the use of wire mesh should be considered instead of shotcrete, which should be avoided where possible. This allows the natural textured rockface to show through and can be a visual feature;
  - rock slopes should be as steep as possible, within engineering constraints, to minimise the extent of earthworks to the existing landform. However they should be designed to incorporate a variety of benches and lifts, where appropriate. Planting beds should also be incorporated along the roadside at the base of the slope for additional soft landscape where it is not possible to have tree planting on slopes;
  - the use of shotcrete, which can be a major visual impact, will be minimised on all slopes. It will only be used when all practicable alternative slope treatments do not satisfy the geotechnical requirements. If shotcrete must be used it should be coloured and patterned to match the surrounding visual environment.

### *Amenity Planting*

- K7.25 Allowance has been made within the engineering base design of Road P2 and the to split the carriageways and create a 14m central median, together with minimum 2.5m roadside landscape strips. The Resort Roads will also have 4.25m central median and 2.5m roadside landscape strips. These will be capable of tree and shrub planting and will have a minimum of 1.5m depth of topsoil. Species will be selected to create visual and landscape interest whilst also providing shade for pedestrians. It will serve as a landscape buffer and visual screen.

### *Highway Lighting*

- K7.26 In order to reduce the ambient light, which may occur due to the highway lighting, full cut-off lighting will be used. This will use cowling and hoods to avoid light spillage beyond the road surface and signage as required.

### *Engineering Structures*

- K7.27 Short sections of viaduct will be required. This will be designed to have a narrow profile in elevation and have all associated structures, e.g. drainage, contained within. This will reduce the visual intrusion of the deck and the potential for visual clutter. Approval by ACABAS may be required.

*Piers*

- K7.28 The built form of the piers is a potential source of visual impact. They should be designed to be unobtrusive within the existing visual context and to integrate with the overall Theme Park development. They should be regarded as an opportunity to be feature buildings. Consideration will be given to avoid using reflective material to minimise glare.
- K7.29 These mitigation measures aim to reduce the identified landscape and visual impacts, such that in the long-term the residual impacts are minimised. The mitigation for each of the elements is as follows:

*Road P2*

- K7.30 Included within the proposed works for Road P2 are a 14m planted central median, roadside landscape strips and mounding to provide screening. These will assist in screening the road to a considerable extent and will actual benefit much of the surrounding areas. However, consideration will be given to ensure that suitable planting is used to provide quick screening by using larger trees at planting and ensuring that they are compatible to the conditions. Emphasis will be placed on using native species to improve the local biodiversity, however, consideration will also be given to the use of more ornamental species for visual interest.
- K7.31 With respect to the regrading of existing slopes, they will be undertaken in accordance with WBTC 25/95, Control of Visual Impact of Slopes. Consideration will be given to creating naturalistic contouring blending with the existing hillside. Either berm planting or full planting of soft slopes will be used, whichever is appropriate. Species will replace or enhance those lost.
- K7.32 Viaducts will be designed to minimise visual intrusion and will have a compromise between a thin profile and a maximum span to avoid columns. Design of the viaducts will be subject to ACABAS approval.

*Resort Roads*

- K7.33 Included within the base design of these roads is a 4.25m central planted median and 2.5m roadside planted landscape strips. As with Road P2 these will mitigate much of the roads' impact and will benefit the surrounding areas. As above consideration will be given to ensuring successful tree planting, species selections, screening and visual interest.

*Chok Ko Wan Link Road*

- K7.34 Roadside planting will assist in alleviating the visual impacts. As with Road P2 this planting will give due consideration to promoting tree and shrub planting of suitable species for screening, biodiversity and visual interest.
- K7.35 The cut slopes are a major source of impact and their final design will be considered in accordance with WBTC 25/93. Their approach will be as described for Road P2 above. Viaducts will also be as above and subject to ACABAS approval.



### *Pedestrian Walkway*

K7.36 The Pedestrian Walkway will be an integral part of the overall Theme Park development and will be designed to integrate with it. As such a high specification of material will be used to produce a quality finish. Consideration will be given to the final use of the walkway and its integration within the Theme Park in order to provide suitable planting and street furniture. The walkway should be considered as a feature of the site.

### *Piers*

K7.37 The pier buildings will be designed to integrate with the overall Theme Park style. They should be considered as features and a focal point within the development and be designed to provide this function. Reflective materials will be avoided to minimise glare.

### *Implementation, Management and Maintenance of Landscape Works*

K7.38 Table K7.7 outlines the implementation, management and maintenance responsibilities for the landscape works and items associated with this project.

**Table K7.7 Implementation, Management and Maintenance of the Landscape Works**

Landscape Item	Proposed Implementation	Management Department	Maintenance Department	Implementation Year
<i>Landscape Areas along Public Roads within Highways Reserve</i>				
Roadside hardworks	CED	HyD	HyD	2005
Roadside planting	CED/WD	LCSD/WD	LCSD/WD	2005
Slopes planting	CED	LCSD	LCSD	2005
<i>Landscape Areas along Public Roads outside Highways Reserve</i>				
Roadside hardworks	CED	HyD	HyD/Arch SD	2005
Roadside planting	CED/WD	LCSD/WD	LCSD/WD	2005
Amenity Areas	CED	LCSD	Arch SD/ LCSD	2005

K7.39 This has been based on the WBTC 18/94, Management and Maintenance of both Natural Vegetation and Landscape Works and HyD Guidance Notes Management and Maintenance of Landscape Works along Public Roads and, at this stage, is for guidance only. The final management and maintenance responsibilities will be agreed during the detail design stages. The detail landscape plans will be submitted to the relevant government departments, primarily LCSD, HyD, ASD and AFCD, for their approval to the management and maintenance responsibilities.

## **RESIDUAL IMPACT**

### *Residual visual impact analysis*

K7.40 The residual visual impacts have been assessed in consideration of the sensitive receivers and the implementation of the mitigation measures. This is described in Table K7.8 and are shown on Figure K7.25. The residual visual impacts are likely to be only slight to moderate

adverse overall, with the impacts in general being able to alleviate the identified impact reasonably successfully.

- K7.41 The residual impacts will arise due to the permanent cutting of the lower slopes of Fa Peng Teng at the northern end and its southern tip. However, these are relatively small areas of disturbance and will cause only minimal change to the local visual character.

**Table K7.8 Residual Visual Impact Assessment**

Receiver Group Viewpoint	Impact	Mitigation Measure	Sensitive Receiver Groups  (Sensitivity Rating)	Element of Development Causing Impact	Impact to Resource (R) or Character (C)	Expected Visual Impact upon mitigation		
						Construction Phase	Operation Phase	Residual after mitigation
1. Walking trails on west Fa Peng Teng	Introduction of road surfacing including short sections of viaduct	Screen planting along roadside and planted central medians. Consideration of viaduct design	Users of trails in public space	Road P2	C	Slight adverse impact	Moderate adverse impact	Slight adverse impact
	Ambient light due to highway lighting	Use of full cut-off highway lighting	(High sensitivity)	Chok Ko Wan Link Road	C	Moderate adverse impact	Moderate adverse impact	Moderate adverse impact
	Introduction of pier structures	Consideration of design of pier structures / buildings		Resort Roads	C	Slight adverse impact	Slight adverse impact	Slight beneficial impact
	New slope cutting	Consideration of pipe design and landscape treatment		Pedestrian Walkway	C	Slight adverse impact	Slight adverse impact	Slight beneficial impact
				Piers	C	Slight adverse impact	Slight adverse impact	Slight beneficial impact
2. Walking trails on west/Mong Tung Hang / Pa Tau Kwu	Introduction of road surfacing including short sections of viaduct	Screen planting along roadside and planted central medians. Consideration of viaduct design	Users of trails in public space	Road P2	C	Slight adverse impact	Slight adverse impact	Slight adverse impact

Receiver Group Viewpoint	Impact	Mitigation Measure	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Impact to Resource (R) or Character (C)	Expected Visual Impact upon mitigation		
						Construction Phase	Operation Phase	Residual after mitigation
	Ambient light due to highway lighting	Use of full cut-off highway lighting	(High sensitivity)	Chok Ko Wan Link Road	C	Moderate to Severe adverse impact	Moderate to Severe adverse impact	Moderate adverse impact
	New slope cutting for Link Road	Consideration of slope design, treatment and in accordance with WBTC 25/93 Control of Visual Impact of Slopes		Resort Roads	C	Slight adverse impact	Slight adverse impact	Slight beneficial impact
	Introduction of pier structures	Consideration of design of pier structures / buildings		Pedestrian Walkway	C	Slight adverse impact	Slight adverse impact	Slight beneficial impact
				Piers	C	Slight adverse impact	Slight adverse impact	Slight beneficial impact
3. Walking trails on east Tai Shan	Introduction of road surface including short sections of viaduct	Screen planting along roadside and wide central medians. Consideration of viaduct design	Users of trails in public space (High sensitivity)	Road P2	C	Slight adverse impact	Slight adverse impact	Slight adverse impact

Receiver Group Viewpoint	Impact	Mitigation Measure	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Impact to Resource (R) or Character (C)	Expected Visual Impact upon mitigation		
						Construction Phase	Operation Phase	Residual after mitigation
	Minor extension to slope cutting and loss of vegetative cover for Road P2 and Link Road Ambient light due to highway lighting	Regrading of slopes with naturalistic contours and revegetation Use of full cut-off highway lighting		Chok Ko Wan Link Road	C	Moderate to Severe adverse impacts	Moderate to Severe adverse impacts	Moderate adverse impact
						Slight adverse impact	Slight adverse impact	Slight beneficial impact
	Introduction of pier structures	Consideration of design of pier structures / buildings		Resort Roads	C	Slight adverse impact	Slight adverse impact	Slight beneficial impact
						Slight adverse impact	Slight adverse impact	Slight beneficial impact
4. Penny's Bay Power Station	Introduction of road surface including short sections of viaduct	Screen planting along roadside and wide central medians. Consideration of viaduct design	Local workers (Low sensitivity)	Road P2	C	Slight adverse impact	Slight adverse impact	Slight beneficial impact
						No impact	No impact	Slight beneficial impact
	Minor extension to slope cutting and loss of vegetative cover for Road P2 and Link Road	Regrading of slopes with naturalistic contours and revegetation		Chok Ko Wan Link Road	C	Slight to moderate adverse impact	Slight to moderate adverse impact	Slight adverse impact
						Slight to moderate adverse impact	Slight to moderate adverse impact	Slight adverse impact

Receiver Group Viewpoint	Impact	Mitigation Measure	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Impact to Resource (R) or Character (C)	Expected Visual Impact upon mitigation		
						Construction Phase	Operation Phase	Residual after mitigation
	Ambient light due to highway lighting Introduction of pier structures	Use of full cut-off highway lighting Consideration of design of pier structures / buildings		Resort Roads Pedestrian Walkway Piers	C C C	Slight adverse impact Negligible adverse impact Negligible adverse impact	Slight adverse impact Negligible adverse impact Negligible adverse impact	Low Low Low
4a. Discovery Bay	Introduction of Road P2, Resort Roads and Piers  Introduction of Pedestrian Walkway	Screen planting along roadsides  Buffer planting to Piers and Walkway	Residential buildings and visitors / walkers (high sensitivity)	Road P2  Chok Ko Wan Link Road Resort Roads Pedestrian Walkway Piers	C  None C C C	Negligible  None Negligible to slight Negligible to slight Negligible to slight	Negligible  None Negligible adverse impact Negligible adverse impact Negligible adverse impact	Very low  None Slight adverse impact Slight adverse impact Slight adverse impact

Receiver Group Viewpoint	Impact	Mitigation Measure	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Impact to Resource (R) or Character (C)	Expected Visual Impact upon mitigation		
						Construction Phase	Operation Phase	Residual after mitigation
	Ambient light due to highway lighting structures Introduction of pier structures	Use of full cut-off highway lighting Consideration of design of pier structures / buildings			C C C	N/A N/A N/A	Slight Slight Slight	Negligible Negligible Negligible
5. Public Parking at Penny's Bay (West) (Operation Phase only)	Introduction of road surfacing Ambient light due to highway lighting	Screen planting along roadside and wide central medians. Use of full cut-off highway lighting	Vehicle users (Medium sensitivity)	Road P2 Chok Ko Wan Link Road	C None	N/A N/A	Moderate adverse impact None	Slight beneficial impact as the maturing mitigatory planting will screen the road None

Receiver Group Viewpoint	Impact	Mitigation Measure	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Impact to Resource (R) or Character (C)	Expected Visual Impact upon mitigation		
						Construction Phase	Operation Phase	Residual after mitigation
6. PTI at Penny's Bay (Operation Phase only)	Introduction of road surfacing Minor extension to slope cutting and loss of vegetative cover for Link Road Ambient light due to highway lighting Introduction of pier structures	Screen planting along roadside and wide central medians. Regrading of slopes (WBTC 25/93) with naturalistic contours and revegetation Use of full cut-off highway lighting Consideration of design of pier structures / buildings	PTI users and workers (Medium sensitivity)	Resort Roads	C	N/A	None	None
				Pedestrian Walkway	C	N/A	Slight adverse impact	Negligible
				Piers	C	N/A	None	None
				Road P2	C	N/A	Moderate adverse impact	Slight beneficial impact as the maturing mitigatory planting will screen the road
				Chok Ko Wan Link Road	None	None	None	None



Receiver Group Viewpoint	Impact	Mitigation Measure	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Impact to Resource (R) or Character (C)	Expected Visual Impact upon mitigation		
						Construction Phase	Operation Phase	Residual after mitigation
7. Public Parking at Penny's Bay (East) (Operation Phase only)	Introduction of road surfacing Minor slope cutting and loss of vegetative cover for Link Road Ambient light due to highway lighting Introduction of pier structures	Screen planting along roadside and wide central medians. Regrading of slopes (WBTC 25/93) with naturalistic contours and revegetation Use of full cut-off highway lighting Consideration of design of pier structures / buildings	Vehicle users (Medium sensitivity)	Resort Roads	C	N/A	None	None
				Pedestrian Walkway	C	N/A	Negligible adverse impact	Negligible
				Piers	C	N/A	Negligible adverse impact	Negligible
				Road P2	C	N/A	Negligible adverse impact	Slight beneficial impact as the maturing mitigatory planting will screen the road
	Chok Ko Wan Link Road			C	N/A	N/A	Slight adverse impact	Slight adverse impact

Receiver Group Viewpoint	Impact	Mitigation Measure	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Impact to Resource (R) or Character (C)	Expected Visual Impact upon mitigation		
						Construction Phase	Operation Phase	Residual after mitigation
				Resort Roads	C	N/A	None	None
				Pedestrian Walkway	C	N/A	Negligible adverse impact	Negligible
				Piers	C	N/A	Negligible adverse impact	Negligible
8. Utility Yard (Operation Phase only)	Introduction of road surfacing Ambient light due to highway lighting	Screen planting along roadside and wide central medians. Use of full cut-off highway lighting Consideration of design of pier structures / buildings	Local workers (Low sensitivity)	Road P2	C	N/A	Slight adverse impact	Slight beneficial impact as the maturing mitigatory planting will screen the road
				Chok Ko Wan Link Road	C/R	N/A	Negligible adverse impact	Negligible adverse impact

Receiver Group Viewpoint	Impact	Mitigation Measure	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Impact to Resource (R) or Character (C)	Expected Visual Impact upon mitigation		
						Construction Phase	Operation Phase	Residual after mitigation
9. Chok Ko Wan Link Road (Operation Phase only)	Introduction of road surface including short sections of viaduct Minor extension to slope cutting and loss of vegetative cover for Road P2 Ambient light due to highway lighting	Screen planting along roadside and wide central medians. Consideration of viaduct design Regrading of slopes (WBTC23/95) with naturalistic contours and revegetation Use of full cut-off highway lighting	Vehicle users (Low sensitivity)	Resort Roads	C	N/A	Negligible adverse impact	Slight beneficial
				Pedestrian Walkway	C	N/A	None	None
				Piers	C	N/A	None	None
				Road P2	C	N/A	Slight adverse impact	Slight beneficial impact as the maturing mitigatory planting will act as a buffer along the road
				Chok Ko Wan Link Road	N/A	N/A	Slight adverse impact	Slight adverse impact

Receiver Group Viewpoint	Impact	Mitigation Measure	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Impact to Resource (R) or Character (C)	Expected Visual Impact upon mitigation		
						Construction Phase	Operation Phase	Residual after mitigation
10. Water Recreation Centre (Operation Phase only)	Introduction of road surface including short sections of viaduct Minor extension to slope cutting and loss of vegetative cover for Link Road Ambient light due to highway lighting Introduction of pier structures	Screen planting along roadside and wide central medians. Consideration of viaduct design Regrading of slopes with naturalistic contours and revegetation Use of full cut-off highway lighting	Users of open space (High sensitivity)	Resort Roads	C	N/A	Negligible adverse impact	Negligible
				Pedestrian Walkway	C	N/A	None	None
				Piers	C	N/A	None	None
				Road P2	C	N/A	Moderate adverse impact	Slight beneficial impact as the maturing mitigatory planting will screen the road
				Chok Ko Wan Link Road	C	N/A	Moderate adverse impacts	Slight adverse impacts

Receiver Group Viewpoint	Impact	Mitigation Measure	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Impact to Resource (R) or Character (C)	Expected Visual Impact upon mitigation		
						Construction Phase	Operation Phase	Residual after mitigation
		Consideration of design of pier structures / buildings		Resort Roads Pedestrian Walkway Piers	C C C	N/A N/A N/A	None None None	Negligible impact None None
11. Fa Peng Teng	Minor intrusion of views due to introduction of roads, walkway and piers	Roadside amenity planting  Consideration of design of piers and buffer planting	Users of external public space (High sensitivity)	Road P2  Chok Ko Wan Link Road Resort Roads Pedestrian Walkway	C  None C C	None  None Slight adverse impacts Slight adverse impacts	None  None Slight adverse impacts Slight adverse impacts	None  None Slight beneficial impacts Slight beneficial impacts

Receiver Group Viewpoint	Impact	Mitigation Measure	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Impact to Resource (R) or Character (C)	Expected Visual Impact upon mitigation		
						Construction Phase	Operation Phase	Residual after mitigation
				Piers	C	Slight adverse impacts	Slight adverse impacts	Slight beneficial impacts
12. Discovery Bay Ferry	Introduction of Piers into views Slight intrusion due to Link Road	Roadside amenity planting Consideration of design of piers and buffer planting	Ferry Passengers (medium sensitivity)	Road P2 Chok Ko Wan Link Road Resort Roads Pedestrian Walkway Piers	None C None None C	None Slight adverse impacts None None Slight adverse impacts	None Negligible None None N/A	None Negligible None None None
13. Resort Roads (Construction Phase only)	Minor intrusion due to introduction of roads and walkway	Roadside amenity planting Consideration of design of piers and buffer planting	Road users (Low sensitivity)	Road P2 Chok Ko Wan Link Road Resort Roads Pedestrian Walkway	Negligible Negligible N/A	N/A N/A N/A N/A	Slight adverse impact Slight adverse impact N/A Negligible	Slight adverse impact Slight adverse impact N/A Negligible

Receiver Group Viewpoint	Impact	Mitigation Measure	Sensitive Receiver Groups (Sensitivity Rating)	Element of Development Causing Impact	Impact to Resource (R) or Character (C)	Expected Visual Impact upon mitigation		
						Construction Phase	Operation Phase	Residual after mitigation
				Piers		N/A	Negligible adverse impact	Negligible adverse impact
14. Road P2	Minor intrusion due to introduction of roads and walkway	Roadside amenity planting Consideration of design and buffer planting	Road users (Medium sensitivity)	Road P2 Chok Ko Wan Link Road Resort Roads Pedestrian Walkway Piers	N/A Negligible Negligible Negligible Negligible	N/A N/A N/A N/A N/A	Slight adverse Slight adverse N/A None None	Slight adverse impact Slight adverse impact Negligible impact None None

### ***Residual Landscape Impact Assessment***

K7.42 The identified impacts are likely to be limited as only Road P2 and the Link Road conflict with the more significant landscape features in three limited areas. The mitigation measures will fully not alleviate these impacts as they are permanent and irreversible changes to the landform and to streamcourses. However, overall as the effects are restricted and localised and that as the slopes can be regraded, replanting and screen planting can be undertaken, and the streamcourses diverted, the residual impacts are moderate adverse or severe to moderate adverse. Residual landscape impacts are shown on Tables K7.9 and K7.10.



**Table K7.9 Residual Landscape Impact (Elements)**

Landscape Resource (Element)	Impact	Mitigation Measures	Sensitivity of Receiver Group	Element of Development Causing Impact	Impact to Resource (R) or Character (C)	Expected Landscape Impact		
						Construction Phase	Operation Phase	Residual after mitigation
1. Vegetation Cover	Disturbance to a small area of grassland at the southern tip of Fa Peng Teng resulting in approx 0.69 ha loss	Replanting of regraded slopes with amenity planting of species matching those disturbed	Woodland (High)	Road P2	R	Severe adverse impact	Moderate adverse impact	Slight adverse impact
	Disturbance to the existing woodland vegetation, approx 0.8ha at the interchange between NLH and the proposed Chok Ko Wan Link Road			Chok Ko Wan Link Road	R	Severe adverse impact	Severe adverse impact	Moderate adverse impact
	Disturbance to approx 0.9Ha shrubland and 0.3Ha grassland on Fa Tau Kwu headland due to Link Road			Resort Roads	R	None	None	None
				Pedestrian Walkway Piers	R	None	None	None
					R	None	None	None

Landscape Resource (Element)	Impact	Mitigation Measures	Sensitivity of Receiver Group	Element of Development Causing Impact	Impact to Resource (R) or Character (C)	Expected Landscape Impact		
						Construction Phase	Operation Phase	Residual after mitigation
			Shrubland (Medium)	Road P2	R	Moderate adverse impact	Slight adverse impact	Negligible adverse impact
				Chok Ko Wan Link Road	R	Moderate adverse impact	Slight adverse impact	Negligible adverse impact
				Resort Roads	R	None	None	None
			Grassland (Low)	Pedestrian Walkway	R	None	None	None
				Piers	R	None	None	None
				Road P2	R	Moderate adverse impact	Slight adverse impact	Negligible adverse impact
			Grassland (Low)	Chok Ko Wan Link Road	R	Moderate adverse impact	Slight adverse impact	Negligible adverse impact
				Resort Roads	R	None	None	None
				Pedestrian Walkway	R	None	None	None

Landscape Resource (Element)	Impact	Mitigation Measures	Sensitivity of Receiver Group	Element of Development Causing Impact	Impact to Resource (R) or Character (C)	Expected Landscape Impact		
						Construction Phase	Operation Phase	Residual after mitigation
				Piers	R	None	None	None
2. Topography	Regrading of a small area of the southern tip of Fa Peng Teng	Minimisation of cut slopes.	Low	Road P2	R	Moderate adverse impact	Moderate adverse impact	Slight adverse impacts
	Additional regrading next to the existing roadside cutting for the Chok Ko Link Road will be required, approx 0.8Ha	Regrading of cut slope with naturalistic contours	(as the areas affected are primarily already disturbed)	Chok Ko Wan Link Road	R	Moderate adverse impact	Moderate adverse impact	Moderate adverse impacts
	Regrading and formation of new slopes for eastern section of Link Road affecting approx 1.2Ha existing hillside	Design of slopes in accordance with WBTC 25/93 Control of Visual Impact of Slopes		Resort Roads	R	None	None	None
		Conservation of topsoils for reuse Conservation of topsoil for re-use where possible		Pedestrian Walkway	R	None	None	None

Landscape Resource (Element)	Impact	Mitigation Measures	Sensitivity of Receiver Group	Element of Development Causing Impact	Impact to Resource (R) or Character (C)	Expected Landscape Impact		
						Construction Phase	Operation Phase	Residual after mitigation
3. Streamcourses	Road P2 will affect two natural streamcourses and the Link Road will affect three	Minimisation of disturbance to streamcourses and diversion to retain streams lower down hillside	High	Piers Road P2	R	None	None	None
				Chok Ko Wan Link Road	R	Moderate adverse impact	Moderate adverse impact	Moderate adverse impact
				Resort Roads	R	Severe adverse impact	Severe adverse impact	Severe adverse impact
				Pedestrian Walkway	R	None	None	None
				Piers	R	None	None	None
4. Coastline	The works do not conflict with any natural coastline	N/A	High	All Works	R	None	None	None
5. Coastal waters	The works do not conflict with any coastal water areas	N/A	Medium to high	All Works except pier	R	None	None	None
				Pier	R	Slight adverse impact	Slight adverse impact	Slight adverse impact

**Table K7.10 Residual Landscape Impact to (Landscape Character)**

Landscape Character	Impact	Mitigation Measures	Sensitivity of Receiver Group	Element of Development Causing Impact	Resulting Magnitude of Change	Impact to Resource (R) or Character (C)	Expected Landscape Impact		
							Construction Phase	Operation Phase	Residual after mitigation
1. Pa Tau Kwu Headland	The works do not conflict with the headland	N/A	High	Road P2	None	C	None	None	None
				Chok Ko Wan Link Road	None	C	None	None	None
				Resort Roads	None	C	None	None	None
				Pedestrian Walkway	None	C	None	None	None
				Piers	None	C	None	None	None
2. Fa Peng Teng and Tai Yam Teng	Slight disturbance to slopes and vegetation for the northern end of Road P2 and eastern of the Chok Ko Wan Link Road section No impact due to Resort Roads, Pedestrian Walkway or Piers	Minimisation of disturbance to slopes and vegetation  Consideration of slope design and contours to match existing Replanting of all slopes		Road P2	Low	C	Slight to moderate adverse	Slight adverse	Slight adverse
				Chok Ko Wan Link Road	Low	C	Slight to moderate adverse	Slight adverse	Slight adverse
				Resort Roads	None	None	None	None	None
				Pedestrian Walkway	None	None	None	None	None
				Piers	None	None	None	None	None

Landscape Character	Impact	Mitigation Measures	Sensitivity of Receiver Group	Element of Development Causing Impact	Resulting Magnitude of Change	Impact to Resource (R) or Character (C)	Expected Landscape Impact		
							Construction Phase	Operation Phase	Residual after mitigation
3. Tai Shan	No impact			Causing Impact Road P2 Chok Ko Wan Link Road Resort Roads Pedestrian Walkway Piers	None None None None None	C C C C C	None	None	None
							None	None	None
							None	None	None
							None	None	None
							None	None	None
4. Reclamation	Introduction of roads and viaducts  Introduction of hard surfacing and relatively small buildings for piers but opportunity for creating a quality landscape	Consideration of design for roadside planting  Consideration of design of pedestrian walkway and piers to create landscape feature		Road P2  Chok Ko Wan Link Road Resort Roads  Pedestrian Walkway Piers	Low  No change  Low  Low  Low	C  C  C  C  C	Slight adverse impact	Slight beneficial	Slight beneficial
							Slight adverse impact	No impact	No impact
							Slight adverse impact	Slight beneficial impact	Slight beneficial impact
							Slight adverse impact	Slight beneficial impact	Slight beneficial impact
							Slight adverse impact	Slight beneficial impact	Slight beneficial impact

Landscape Character	Impact	Mitigation Measures	Sensitivity of Receiver Group	Element of Development Causing Impact	Resulting Magnitude of Change	Impact to Resource (R) or Character (C)	Expected Landscape Impact		
							Construction Phase	Operation Phase	Residual after mitigation
5. Infrastructure	The works will not cause impact to the infrastructure		Low	Road P2	None	None	None	None	None
				Chok Ko Wan Link Road	None	None	None	None	None
				Resort Roads	None	None	None	None	None
				Pedestrian Walkway	None	None	None	None	None
				Piers	None	None	None	None	None

**Table K7.11 Implementation Schedule For Landscape And Visual Mitigation**

An implementation schedule has been formulated to refer the recommended mitigation measures to the design and construction stages..

Location	Environmental Protection Measure	Funding Agent	Implementation Agent	Maintenance Agent	Implementation Stages	Relevant Legislation and Guidelines	Implementation Year
Within all construction sites	Consideration of design of all road engineering structures in accordance with EIA recommendations	CED	CED / Design consultant	--	Detail Design	EIA	2000 – 2005
Within all construction sites	Minimisation of all slope cutting where possible	CED	Contractor	Contractor	Construction	Contract Documents	2002 – 2005
Within all construction sites	Consideration of design of all slopes associated with roads to minimise extent of cutting and design in accordance with EIA recommendations	CED	CED / Design consultant	--	Detail Design	EIA WBTC 25/93 Control of Visual Impact of Slopes	2000 – 2005
Within all construction sites	Felling of trees in accordance with WBTC 24/94 Tree Preservation	CED	Contractor	--	Construction	WBTC 24/94 Tree Preservation Contract documents	2002 – 2005
Within all construction sites	Erection of hoarding or advance planting as visual screen to works	CED	Contractor	Contractor	Construction	Contract documents	2002 – 2005
Within all construction sites	Topsoils to be tested for quality and if valuable to be stockpiled no greater than 2m high for later use	CED	Contractor	Contractor	Construction	Contract documents	2002 – 2005
Within all construction sites	Compensatory landscape planting	CED	CED / Design consultant	--	Detail Design	EIA	2000 - 2005