

## 14. Conclusion

## 14.1 General

In accordance with the EIA Study Brief (No. ESB-261/2013) issued under the EIAO for this Project, an assessment of the potential environmental impacts associated with construction and operation of the Project has been conducted based on the information available at this stage. Environmental issues covered in this EIA include:

- Air Quality Impact
- Hazard to Life
- Noise Impact
- Water Quality Impact
- Sewerage and Sewage Treatment Implication
- Waste Management Implication
- Land Contamination
- Ecological Impact (Terrestrial and Marine/Aquatic)
- Fisheries Impact
- Landscape and Visual Impact

The findings of this EIA study has determined the likely nature and extent of environmental impacts and identified environmental control measures for incorporation into the planning and design of the proposed Project to ensure compliance with environmental legislation and standards during construction and operation phases. The implementation schedule for the recommended mitigation measures are presented in **Chapter 15**.

### **14.2 Summary of Environmental Outcomes**

#### 14.2.1 General

The EIA study for the Project has predicted that with implementation of the recommended mitigation measures, the Project would be environmentally acceptable to the surrounding population and environmental sensitive receivers. The key environmental outcomes arising from the EIA study and the implementation of environmental control measures of the Project are summarised in the following sections.

#### 14.2.2 Estimated Population Protected from Various Environmental Impacts

TSW, Project area of the proposed Project, is located to the western side of Brick Hill southwest of the Lowland and facing the Aberdeen Channel, distant from the populated area. Despite this, avoidance and/or

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minimisation of environmental impacts due to the Project was a key consideration at the early stages of Project development. As a result of early detection and optimisation of the Project, the following populations have been protected from adverse impacts:

- Residences of Larvotto protected from adverse visual impacts
- Residences along Shum Wan Road protected from adverse air quality and noise impacts
- Planned hotels at TSW protected from adverse air quality and visual impacts
- Schools on Shum Wan Road and Nam Long Shan Road protected from adverse air quality, noise and visual impacts
- Visitors and workers at Ocean Park protected from adverse air quality and noise impacts
- Visitors, workers and hikers with a view of Ocean Park protected from adverse visual impacts

#### 14.2.3 Environmentally Sensitive Areas Protected

Based on the scale and construction methodology of current proposed works, the following environmental sensitive areas have been avoided and protected;

 South China Sea – has been protected by the avoidance of dredging for construction of the optional piers and additional land formation proposed for development of the Project.

#### 14.2.4 Environmental Friendly Options Considered and Incorporated in the Preferred Option

The major environmental friendly options considered and incorporated in the preferred option are the blending of the current Project with the surrounding natural environment.

The overall design goal of the Project is to create a dynamic, striking Water Park deeply rooted into the beautiful natural surroundings and local site topography. Unlike traditional water parks, the preferred scheme aims to integrate the indoor, outdoor, entrance plaza, visitor's journey, rides, architecture and structure in a holistic response to the design brief. This scheme now takes good advantage of the existing slope conditions by locating ride platforms on or near the slope to minimise the amount of structure support required. The building forms are an extension of the existing slope topography integrating the Water Park rides and spaces blurring the edges between indoor and outdoor zones as well as maximising views towards the bay. Cascading pools integrated with the natural surroundings are an iconic feature in the preferred scheme.

#### 14.2.4.1 Minimisation of Habitat Loss

Avoidance of environmental impact has been taken into account during consideration of alternatives for layout and design. Ecological concern is recognised for the Project, key ecological habitat has been scoped out at the initial stage of the development and due consideration was given for conservation of key ecological resource during the option development stage.

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The preferred development option has many benefits from ecological perspective over other alternative options. For instance, in relation to habitat disturbance, the original design places the slides on both northern and southern side of the Project Site affecting the natural habitat in both areas. It spreads the impact on natural habitat at different locations and affects the flora species of conservation concern *Artocorpus hypargyrues* and *Platycodon grandiflorus* on the southern side of the Project area. On the contrary, the preferred layout design limits the impact on natural habitat at the southern side of the Project area for ardeid community. The difference between the two different schemes is presented in **Figure 2.8** whilst details of the ecological impact assessment are presented in **Chapter 10** Ecology Chapter.

#### 14.2.4.2 Minimisation of Impacts to Wild Birds

It has been recognised that the roosting place of ardeid was mainly concentrated at the Flamingo Pond, therefore preservation of the Flamingo Pond had been considered. However, as the Flamingo Pond is located on the flat area at the centre of the Project area, keeping the pond in original place will unavoidably move other building structures aside or uphill to hillside slope, which is not preferable from environmental and engineering perspective. Also, keeping the Flamingo Pond at the centre of the Project area will unlikely attract wildlife because of the high level of human activities nearby. Therefore, a more balanced approach adopted in the preferred layout is to relocate the Flamingo Pond to the southern side of the Project area, which is "isolated" from the main structure and park activities at the central and northern part of the Project area. This setting, together with enhanced vegetation near the pond, is considered to have higher potential to attract wild birds.

#### 14.2.5 Environmental Friendly Designs Incorporated and Considered

As part of the sustainability vision for the Project, environmental friendly designs have been incorporated into the Project, including the following:

- Blending of the building structure with nature environment and preserving the natural landscape and topography with a series of cascading platforms positioned within the Brick Hill valley. The building forms are an extension of the existing slope topography integrating the Water Park rides; spaces blurring the edges between indoor/ outdoor zones while maximising views towards the bay;
- The orientation of building has been positioned where building faces predominantly south-west to receive maximum daylight;
- Taking advantage of the existing slope conditions by locating ride platforms on or near the slope to minimise the amount of support structure required;
- Landscaping would permeate into the indoor and outdoor spaces, and the surrounding landscape emerging into the existing valley to minimise visual impact;
- Providing green roof and skylights to minimise reflection from roofing materials and blending into the existing hillscape. Reduced use of large glazing or transparent screening to minimise the risk of bird collision;
- Indoor area to be categorised into different thermal zones according to functional requirement to minimise the energy consumption;

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- Adopting natural ventilation for the indoor area during summer with minimal mechanical ventilation to achieve both the thermal comfort and energy saving;
- Adopting heat exchangers for retrieving waste heat from the Air Conditioning System for pre-heating of hot water for general ablution and pool heating;
- Alternation to existing seawall and marine works had been avoided hence no impact on surrounding marine life;
- Adopting Building Information Modeling (BIM) facilitates a more efficient design and construction coordination and to avoid unforeseen or clashes which subsequently generate abortive work and construction waste.

A number of environmental designs will be considered in the detailed design, construction and operation phases. These include:

- Selection of environmental friendly and sustainable building materials;
- Introducing rainwater harvesting system for recycling storm water on irrigation or cleaning purpose;
- Using renewable energy systems and energy efficient device, such as solar landscape lighting, lighting control management system, low energy consumption signs, low flow shower heads, dual flushing cisterns and co-generation/ tri-generation;
- Selection of mechanically efficient systems such as centralised cooling system;
- Consideration of pre-bored rock socket steel H-piles for foundation which could generate less noise and vibration as well as impose least disruption to the terrain;
- Earth retaining structures and temporary cut slopes, and excavation lateral support system for pile caps to generate smaller volumes of excavated materials and balance the cut and fill volume in order to reduce any surplus earth material disposal and minimise waste management implications;
- Using electric vehicles for guest shuttle service and staff transportation subject to the development of available technology.

#### 14.2.6 Key Environmental Problems Avoided / Minimised

A number of environmental assessments were conducted at the early stages of the Project with the aim of identifying environmental impacts and alternative strategies in advance. As a result of this process, many environmental problems have been avoided or minimised. These include the following:

- The preferred scheme makes good use of the already developed areas and establishes a series of platform so that large-scale slope excavation for outdoor park and subsequent loss of natural environment are avoided; also vegetation clearance/tree felling and visual impacts are minimised.
- Minimising footprint on the existing hillside slopes by reducing the amount of structural support required so that ecological impact on natural habitats especially woodland and streams are minimised.



- Adoption of "terrace" concept to avoid substantial visual impact and minimise incompatibility with the surrounding environment; also to minimise the use of glazing and the potential collision impact on birds.
- Reprovision of the Flamingo Pond at the southern side of the Project area which is compatible with natural environment and more suitable for wildlife use.
- Avoidance of works encroaching onto marine habitat and potential impact on the marine environment and the associated fauna, noticeably hard coral communities.
- Reuse of spent cooling water for on-site flushing can completely eliminate the need to discharge high temperature and chlorine containing water into the marine environment, and hence minimise impact to the coral communities in the nearby marine environment.
- Implementing site practices as outlined in ProPECC Note PN 1/94 to control and minimise site runoff and drainage.
- Install and maintain roadside gullies and silt traps for removal of pollutants from stormwater.
- Reuse of inert C&D materials as far as practicable to minimise off-site delivery of surplus inert C&D
  materials and the associated environmental impacts.

#### 14.2.7 Compensation Areas Included

Compensation will be provided for the affected ardeid roosting site and woodland. For compensating the loss of pond and plantation areas that were used by a small group of ardeids for night-roosting, it is recommended to reserve part of the TSW area for ardeid use. The enhancement area for the roosting ardeids is located at the southern part of the Project area. The location is protected from strong wind from the south and near waterfront, both factors are favourable for night roost. As it is at the southern edge of the Project area, disturbance from operation of the Project including noise and light, to this enhancement area is relatively minor. Within the enhancement area, a Flamingo Pond will be provided to replace the removed Flamingo Pond (location indicated in **Figure 10.4**). These areas provide landscape setting similar to the lost roosting site, which is also established aside Flamingo Pond. For providing suitable roosting substrate for ardeids, native tree species at the existing planting area that was used by ardeids including *Macaranga tanarius* and *Celtis sinensis*, and other native tree species previously found to be used by ardeids at Wong Chuk Hang Nullah roosting site including *Mallotus paniculatus*, *Ficus hispida* and *Cratoxylum cochinchinense* will be provided where feasible. With suitable planting, wind-shielded and waterfront location and similar landscape setting to the lost roosting site, the enhancement area will provide an option for ardeids as a roosting site.

The 0.84 ha woodland compensation together with 0.78 ha on-site woodland reinstatement (for temporary lost woodland) will be provided synchronously to give a total of 1.62 ha woodland area. The location of the woodland area for compensation and reinstatement is presented in **Figure 10.5** and overlaid on **Figure 10.2** Habitat Map, which show the area is adjoining to existing woodland habitat and tall shrubland for maintaining an ecological linkage. In the woodland compensation area, whips will be planted with predominately native tree species similar to the affected woodland, such as *Celtis sinensis*, *Cratoxylum cochinchinense*, *Polyspora axillaris* and *Sterculia lanceolata*. These areas are adjacent to the existing woodland and tall shrubland habitats, thereby enhancing the overall habitat continuity and ecological

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linkage of the surrounding natural habitats and providing alternative habitats for the fauna affected by the proposed works.

#### 14.2.8 Environmental Benefits of Environmental Protection Measures Recommended

The environmental benefits of the environmental protection measures that have been recommended for the Project include:

- Air Quality adoption of dust control measures to reduce dust impacts and augmented by green transportation method such as electric buses which avoids/minimises direct emissions of air pollutants from transportation within the Project area;
- Noise adoption of good site practice and noise management such as selecting quiet plant and use of movable barriers to significantly reduce the impact of construction site activities on nearby NSRs;
- Water Quality reduction of excavation activities and provision of silt traps within the Project area to
  prevent pollution of TSW. All sewage effluent generated will be discharged to the existing APTW via
  sewer connection at Nam Long Shan Road;
- Waste Management implementation of waste reduction measures and good site practice during construction phase to prevent generation of a significant amount of wastes and employ a reputable waste collector to remove waste regularly during operation phase;
- Land Contamination once contaminated soil is identified (if any), mitigation measures such as employment of bulk earth-moving excavation equipment for the excavation and transportation of contaminated materials would be implemented to reduce land contamination impact;
- Ecology Avoidance of disturbance to the marine environment, minimisation of impact on existing natural habitat and compensation for potentially affected ardeid roosting site and woodland will mitigate the potential ecological impacts;
- Landscape The project would avoid disturbance to existing vegetation as far as practicable for preservation of its landscape and ecological values. Landscape planting would be undertaken to increase the amount of green space. Compensatory planting and enhancement planting would also be adopted to enhance the environmental settings; and
- Visual The design of the Project is deeply rooted into the beautiful natural surroundings and local site topography. The building forms are an extension of the existing slope topography which maximises views towards the bay and minimises potential visual impact to visual sensitive receivers. Green roofs and vertical greening would also be provided where feasible to screen and soften the hard edges of building structures.

The conclusions of individual technical assessments are presented in Sections 14.2.9 to 14.2.18.

#### 14.2.9 Air Quality Impact

#### 14.2.9.1 Construction Phase

Potential air quality impacts from the construction works of the Project would mainly be related to construction dust from site clearance, excavation, foundation and site formation works. With proper

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implementation of the recommended mitigation measures, it has been assessed that all ASRs are predicted to comply with the TSP criterion as well as the relevant AQO for RSP and FSP.

During the construction phase a decrease in traffic along Nam Long Shan Road, Shum Wan Road, Heung Yip Road and Police School Road is expected. Minor increase (0.3%) to Wong Chuk Hang Road due to construction traffic and the associated coach diversion is expected. The environmental concern in term of air quality is considered insignificant. Hence, there are no adverse residual air quality impacts anticipated during the construction phase.

#### 14.2.9.2 Operation Phase

Vehicular emissions due to the increased traffic along the Shum Wan Road from the operation of the Project would be major source of air emissions identified. Based on the modelling results, it is predicted that all the identified ASRs would be in compliance with the AQOs for daily RSP, annual RSP, daily FSP, annual FSP, hourly NO<sub>2</sub> and annual NO<sub>2</sub>. Hence, no adverse residual air quality impacts are anticipated during the operation phase.

#### 14.2.10 Hazard to Life

On the basis that no on-site storage of liquefied chlorine and overnight storage of explosives for this Project, hazard is not a concern. Hazard to life to evaluate the potential hazard is therefore not required.

#### 14.2.11 Noise Impact

#### 14.2.11.1 Construction Phase

The noise impact associated with unmitigated construction activities for the Project would cause exceedance of daytime construction noise criteria at the representative NSRs only during the examination periods. Therefore, good site practices and mitigation measures including the use of quieter plant and erection of movable noise barriers have been proposed to alleviate the noise impact. With the good site practices and mitigation measures in place, no residual impacts exceeding the relevant noise criteria are predicted at all NSRs.

#### 14.2.11.2 Operation Phase

The traffic flow induced by the operation of the Project in comparing with the base traffic flow is insignificant and therefore significant adverse off-site road traffic noise impact is not anticipated from the Project.

With the specification of maximum allowable SW004Cs for the proposed fixed plants and open air entertainment activities, full compliance of relevant noise criteria will be achieved and no residual impact exceeding the relevant noise criteria is anticipated.

#### 14.2.12 Water Quality Impact

#### 14.2.12.1 Construction Phase

During the construction phase, potential water quality impact would be generated from foundation works, site runoff, sewage from workforce, and discharge of wastewater from various construction activities. With

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the implementation of the recommended mitigation measures, no adverse water quality impact from the construction works for the Project is anticipated.

#### 14.2.12.2 Operation Phase

Sewage effluent from operation of the Project would be discharged to the APTW via a new sewer connection to the existing sewerage network at Nam Long Shan Road and no overflow is anticipated from the new sewage sump pit.

Other potential impacts during operation phase include discharge of used pool water, spent cooling water and Flamingo Pond and Sea Turtle exhibit, and runoff from road surfaces and planting areas. With implementation of the recommended mitigation measures, adverse water quality impact is not expected.

#### 14.2.13 Sewerage and Sewage Treatment Implications

The impact assessment has been carried out on the existing public sewerage network and treatment works to collect the sewage flow generated from the Project. The sewage flow from the Project is proposed to be discharged to the 450mm diameter sewer at Nam Long Shan Road and then conveyed to the APTW for treatment.

The hydraulic assessment results have revealed that the existing 450mm diameter gravity sewer along the Nam Long Shan Road should be able to handle all the sewage flows from the Project. Therefore, no adverse impact is anticipated on the existing 450mm diameter gravity sewers and the downstream sewerage system due to the Project.

In view of the assessment findings, it is considered that the design capacity of the existing APTW is sufficient to handle the estimated total ADWF and Peak Flow from the Project and the relevant PDZ during the ultimate scenario year of 2021. In conclusion, no adverse impact is anticipated on the existing APTW due to the Project.

#### 14.2.14 Waste Management Implications

#### 14.2.14.1 Construction Phase

The major waste types generated by the construction activities will include C&D materials from excavation of hill slopes, foundation and site formation as well as from construction of new buildings and superstructures works; chemical waste from maintenance and servicing of construction plant and equipment; general refuse from the workforce and floating refuse trapped / accumulated on the artificial seawall. Provided that all these identified wastes are handled, transported and disposed of in strict accordance with the relevant legislative and recommended requirements and that the recommended good site practices and mitigation measures are properly implemented, no adverse environmental impact is expected during the construction phase.

#### 14.2.14.2 Operation Phase

During the operation phase, the key waste types generated will include general refuse from recreational activities, retail stores and restaurants within the Project; as well as chemical waste from routine servicing and maintenance activities for different E&M equipment. There would also be entrapment or accumulation of floating refuse on the artificial seawall of the Project but it is anticipated to be negligible. Provided that all 328011/ENL/03/01/E May 2014

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these wastes are handled, transported and disposed of in strict accordance with the relevant legislative requirements and the recommended mitigation measures are properly implemented, no adverse environmental impact is expected during the operation phase.

#### 14.2.15 Land Contamination

The land contamination assessment has been conducted by reviewing the historical and current land uses, desktop appraisal and site reconnaissance survey with respect to the potential land contamination at the Project area. Other relevant information collected from the related government departments has been reviewed.

Based on the findings of the desktop appraisal of the historical and current land uses and the site survey in the Project area, land contamination impacts associated with the construction and operation of the proposal project is not anticipated.

In case contaminated material is discovered after the commencement of works, mitigation measures for handling of contaminated materials and regular site audits are recommended to minimise the potential adverse impacts on workers' health and safety and remediation/ disposal of potentially contaminated materials.

#### 14.2.16 Ecological Impact

The Project area comprises mainly developed area maintained with plantation and landscape planting; therefore most of the ecological resources within the Project area is limited by its artificial nature. The waterfront of the Project area is also of artificial nature. Hard coral communities were identified in TSW in previous coral monitoring surveys for OPC's Repositioning project. But no marine works will be involved in the Project and marine ecological impact will not arise. In relation to the ecological impact due to terrestrial habitat loss, only the loss of woodland and pond are considered as moderate-minor impact which needs mitigation. On-site reinstatement and compensation of woodland and re-provision of Flamingo Pond similar to existing setting will mitigate the impact of habitat loss.

A community of ardeid was identified in the Project area, but after investigation the community was found only in temporary nature. Therefore, the ecological impact associated with the Project is very limited. During the course of field survey, it was found that the ardeid community that temporarily hosted in TSW has largely left the site and resettled in another suitable roosting site in Aberdeen Channel. On this account, TSW is considered less important to the roosting ardeids. Nonetheless, it is recommended to enhance a portion of the Project area to provide an alternative option for the ardeid community.

Given that majority of the habitat affected is artificial, the disturbed habitats of conservation value will be reinstated or compensated, and the ardeid community used to roost in the Project area has resettled to other roosting site, the ecological impact due to construction and operation of the Project is considered as minor and acceptable with various mitigation measures in place.

#### **14.2.17** Fisheries Impact

Review of existing information on commercial fisheries resources and fishing operations within the study area shows that the importance of capture fisheries resources in the study area is moderately-low in terms of overall fishing operations, and moderate in terms of fisheries production (both weight and value). Fish fry

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production is absent from the assessment area and no fish culture zones, artificial reefs, important spawning areas or nursery grounds for commercial species are present.

During the construction phase, disturbance to fisheries may arise from vessel activities associated with transportation of superstructures, and indirect impact of water quality change associated with land-based construction works. However the impact on fisheries resources/production and fishing activity is predicted to be temporary and insignificant. During the operation phase, change in water quality may also occur due to discharge of sewage and runoffs. However, only negligible impact to fisheries resources/production is expected.

Furthermore, with good site practices and mitigation measures in place, it is expected that there would be no significant impacts to fisheries and no fisheries-specific mitigation measures are required given that the water quality mitigation measures are implemented properly.

#### 14.2.18 Landscape and Visual Impact

#### 14.2.18.1 Landscape Impact

With the implementation of proposed mitigation measures, the anticipated landscape impacts are generally moderate adverse to insubstantial during the construction phase due to site clearance and removal of existing vegetation. Upon completion of the Project, compensatory planting, enhancement planting, green roofs and vertical greening will be provided to compensate for the loss of vegetation during construction. A new "Flamingo Pond" will also be constructed to replace the removed semi-natural ponds. However, the loss of some of the landscape resources will not be fully compensated. The residual landscape impact in operation phase is therefore generally insubstantial with slight adverse impacts expected for some landscape resources.

#### 14.2.18.2 Visual Impact

With the implementation of proposed mitigation measures, the anticipated visual impacts are generally slight adverse to insubstantial for daytime and largely insubstantial for night-time during the construction phase due to unobstructed or partially obstructed views of construction activities and screen hoarding. Upon completion of the Project, planting within the proposed Project can act as visual screen to visual sensitive receivers. The residual visual impact in operation phase is generally slight adverse to insubstantial in daytime and largely insubstantial in night-time with slight adverse impacts expected on some VSRs.

#### 14.2.18.3 Overall Acceptability

Overall, in terms of Annex 10, Clause 1.1 (c) of the EIAO – TM, it is concluded that the landscape and visual impacts are acceptable with mitigation measures.

### **14.3 Summary of Environmental Impacts**

A summary of environmental impacts identified in this Project is provided in Table 14.1.

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## 14.4 Key Assessment Assumptions, Limitations of Assessment Methodologies and Prior Agreements

A summary of key assessment assumptions, limitation of assessment methodologies and related prior agreements with relevant Government Departments is provided in **Table 14.2**.

#### Table 14.1: Summary of Environmental Impacts

Assessment Points	Results of Impact Predictions	Relevant Standards / Criteria	Extent of Exceedances Predicted	Impact Avoidance Measures Considered	Mitigation Measures
Air Quality Impact – Construction	Phase				
Air Sensitive Receivers (ASRs) within 500 m Assessment area. ASRs required to assess in study brief are outside the 500 m boundary from the Project area.	<ul> <li>Compliance with the AQO for hourly TSP, daily RSP and daily FSP under Tier 1 mitigated scenario.</li> <li>Compliance with the AQO for annual RSP and annual FSP under unmitigated and mitigated scenario.</li> </ul>	<ul> <li>Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM) (Environmental Impact Assessment Ordinance (EIAO) (Cap. 499.S16), EIAO-TM, Annexes 4 and 12;</li> <li>Air Pollution Control Ordinance (APCO) (Cap. 311) and the Air Quality Objectives (AQO);</li> <li>Air Pollution Control (Construction Dust) Regulation</li> </ul>	With the mitigation measures in place, the predicted cumulative TSP, RSP and FSP levels at all ASRs would comply with the relevant TSP criterion as well as the relevant AQO for RSP and FSP.	N/A	<ul> <li>Use of regular wat every 2.5 hours or reduce dust emiss construction activit ground excavation etc.) at all active w site surfaces and u particularly during</li> <li>Covering 80% of s impervious sheets dusty material with prior to any loading operations to keep wet during materia stockpile areas</li> <li>Dust control practi the Air Pollution Co Dust) Regulation</li> </ul>
Air Quality Impact – Operation Ph	nase				
Air Sensitive Receivers within 500 m Assessment area. ASRs required to assess in study brief are outside the 500 m boundary from the Project area.	<ul> <li>Compliance with the AQO for hourly and annual NO2, daily and annual RSP, and daily and annual FSP.</li> </ul>	<ul> <li>Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM) (Environmental Impact Assessment Ordinance (EIAO) (Cap. 499.S16), EIAO-TM, Annexes 4 and 12;</li> <li>Air Pollution Control Ordinance (APCO) (Cap. 311) and the Air Quality Objectives (AQO);</li> </ul>	Based on the modelling results, it is predicted that all the identified ASRs would be in compliance with the AQOs for daily RSP, annual RSP, daily FSP, annual FSP, hourly NO2 and annual NO2.	N/A	N/A
Hazard to Human Life					
Project area	<ul> <li>No on-site storage of liquefied chlorine and overnight storage of explosives for the Project, hazard is not anticipated to be of concern.</li> <li>Hazard to life to evaluate the potential hazard is therefore not required</li> </ul>	<ul> <li>Hong Kong Planning Standards and Guidelines (HKPSG)</li> </ul>	N/A	N/A	N/A
Noise Impact – Construction Pha	se				
The study area is expanded to include NSRs at distances over 300m from the Project	No exceedance in NSRs under mitigated scenario including the examination period	<ul> <li>Annex 5 and 13 of EIAO-TM;</li> <li>Noise Control Ordinance (NCO);</li> <li>TM on Noise from Construction Work other than Percussive Piling (GW-TM); and</li> <li>TM on Noise from Construction Work in Designated Areas (DA- TM)</li> </ul>	N/A	N/A	<ul> <li>Good site practice emissions at source</li> <li>Selection of quiete</li> <li>Use of movable note</li> </ul>
Noise Impact – Operation Phase	(Road Traffic)				
The study area is expanded to include NSRs at distances over 300m from the Project	No more than 1.0 dB(A) increment due to the induced road traffic.	<ul> <li>Annex 5 and 13 of EIAO-TM; and</li> <li>Noise Control Ordinance (NCO).</li> </ul>	N/A	N/A	N/A

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#### Proposed

#### **Residual Impacts**

ater spraying (once or 4 times per day) to asions from heavy ities (including n, earth moving, works area, exposed unpaved roads, g dry weather. stockpiling area by

and spraying all water immediately ng transfer the dusty materials al handling at the

tices as stipulated in Control (Construction

Adverse residual impact is not anticipated

Adverse residual impact is not anticipated

N/A

e to limit noise ce; er plant; and oise barrier.

No adverse residual impacts exceeding the relevant noise criteria would be anticipated.

No more than 1.0 dBA) increment due to the induced road traffic. No adverse residual impacts exceeding the relevant noise

Assessment Points	Results of Impact Predictions	Relevant Standards / Criteria	Extent of Exceedances Predicted	Impact Avoidance Measures Considered	Mitigation Measures Proposed	Residual Impacts
						criteria would be anticipated.
Noise Impact – Operation Phase	(Fixed Plant)					
The study area is expanded to	The maximum allowable SWLs of	<ul> <li>Annex 5 and 13 of EIAO-TM;</li> </ul>	N/A	N/A	N/A	No adverse residual impacts
300m from the Project time and evening time are predicted	<ul> <li>Noise Control Ordinance (NCO); and</li> </ul>				criteria would be anticipated.	
		<ul> <li>TM for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites (IND-TM).</li> </ul>				
Noise Impact – Operation Phase	(Open Air Entertainment)					
The study area is expanded to include NSRs at distances over 300m from the Project	The maximum allowable SWLs at assessment point during day time and evening time are predicted	<ul> <li>Annexes 5 and 13 of EIAO-TM;</li> <li>Noise Control Ordinance (NCO); and</li> <li>Noise Control Guidelines for Holding Open Air</li> </ul>	N/A	N/A	N/A	No adverse residual impacts exceeding the relevant noise criteria would be anticipated.
		Entertainment Activities				
Water Quality Impact – Construct	tion Phase					
<ul> <li>Water sensitive receivers within:</li> <li>Western Buffer WCZ; and</li> <li>Southern WCZ</li> </ul>	No impacts anticipated	<ul> <li>EIAO-TM Annexes 6 &amp; 14</li> <li>WPCO</li> <li>Western Buffer WCZ WCQ</li> </ul>	N/A	<ul><li>No marine works.</li><li>No reclamation.</li></ul>	<ul> <li>Implementation of guidelines set in ProPECC Note PN 1/94;</li> <li>Provision of chemical toilets for</li> </ul>	No residual impact is anticipated
- Southern WCZ		<ul> <li>Southern WCZ WQO</li> </ul>			construction workforce; Treatment of wastewater per WPCO	
		<ul> <li>TM-DSS</li> <li>ProPECC Note PN 1/94</li> </ul>			requirements prior to discharge; and	
					<ul> <li>Treatment of chemical wastes in accordance to Waste Disposal (Chemical Waste) (General) Regulation and Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes</li> </ul>	
Water Quality Impact – Operation	Phase					
<ul><li>Water sensitive receivers within:</li><li>Western Buffer WCZ; and</li><li>Southern WCZ</li></ul>	No impacts anticipated	<ul> <li>EIAO-TM Annexes 6 &amp; 14</li> <li>WPCO</li> <li>Western Buffer WCZ WQO</li> <li>Southern WCZ WQO</li> <li>TM-DSS</li> <li>ProPECC Note PN 1/94</li> </ul>	N/A	<ul> <li>Daily discharge to storm system will be less than 6000m<sup>3</sup>/day.</li> <li>Re-use of spent cooling water for on-site flushing.</li> <li>Daily system recirculation of 99.7% of total system volume for Sea Turtle Exhibit.</li> </ul>	<ul> <li>Silt traps should be regularly checked and maintained to ensure efficient operation;</li> <li>Watering of plants on site should always be performed before application of pesticides, herbicides and fertilizers;</li> <li>Regular training should also be provided to frontline staff on the appropriate treatment and disposal of pesticides, herbicides and fertilizers.</li> </ul>	No residual impact is anticipated
Sewerage and Sewage Treatmen	t Implication – Construction Phase					
Refer to the relevant parts of the W	ater Quality Impact – Construction Phase	е				
Sewerage and Sewage Treatmen	t Implication – Operation Phase					
<ul> <li>Sewer at Sham Wan Road</li> <li>Sewer at Nam Long Shan Road</li> <li>Pumping station at Sham Wan</li> </ul>	No impact anticipated	<ul> <li>Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning Version 1.0 published by EPD (GESF)</li> </ul>	N/A	N/A	<ul> <li>Bottom of the sewage pump pit inclined to minimize the likelihood of sludge accumulation</li> <li>Sewage retention time in the pump pit</li> </ul>	No residual impact is anticipated
<ul><li>Road</li><li>Aberdeen Preliminary Treatment Works (APTW)</li></ul>		<ul> <li>Sewerage Manual – Part 1 published by DSD (SM1)</li> </ul>			<ul> <li>not to exceed 30 minutes</li> <li>Rising main to be constructed from ductile iron pipes with epoxy internal linings</li> </ul>	
					<ul> <li>Design minimum velocity within the rising mains to be 1m/s at full bore condition</li> </ul>	
Waste Management Implication -	Construction Phase					
Project area	Inert C&D materials of about	Annexes 7 and 15 of EIAO-TM	N/A	<ul> <li>Minimise site excavation for new</li> </ul>	<ul> <li>Good site practices and waste</li> </ul>	No adverse residual impacts



ge pump pit inclined ihood of sludge	No residual impact is anticipated
me in the pump pit inutes	
onstructed from th epoxy internal	
locity within the m/s at full bore	

Assessment Points	Results of Impact Predictions	Relevant Standards / Criteria	Extent of Exceedances Predicted	Impact Avoidance Measures Considered	Mitigation Measures Proposed
	<ul> <li>95,800m<sup>3</sup> generated from excavation works of hill slopes, foundation and site formation as well as construction and superstructure works;</li> <li>Non-inert C&amp;D materials of about 2,500m<sup>3</sup> generated from excavation works of hill slopes, foundation and site formation as well as construction and superstructure works;</li> <li>General refuse of maximum daily arising of up to 260kg from construction workforce;</li> <li>Small quantity of chemical waste from maintenance and servicing of construction plant and equipment;</li> <li>Floating refuse to be collected from the artificial seawall is negligible.</li> </ul>	<ul> <li>Waste Disposal Ordinance (Cap. 354);</li> <li>Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C);</li> <li>Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N);</li> <li>Public Cleansing and Prevention of Nuisances Regulation (Cap. 132BK); and</li> <li>Land (Miscellaneous Provisions) Ordinance (Cap. 28).</li> </ul>		<ul> <li>sections EVA and minimise the amount of excavated materials to be generated;</li> <li>Placement of fill in areas where proposed building structure is above existing ground level may utilise cut material generated from construction as fill material; and</li> <li>Adoption of lateral support system for excavation works to minimise the excavation extent and potential ground water intrusion.</li> </ul>	<ul> <li>reduction measures for C&amp;D materials</li> <li>Handling of chemical wastes in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes, and disposal of chemical wastes at licensed chemical waste recycling/ treatment facilities</li> <li>Employ a reputable licensed waste collector for disposal of general refuse and floating refuse at designated landfill sites</li> </ul>
Waste Management Implication -	- Operation Phase				
Project area           Land Contamination – Construct           Project area	<ul> <li>About 2,065kg/day of general refuse from operation of the Project will mainly be generated from recreational activities, retail stores and restaurants;</li> <li>Chemical waste from maintenance and servicing activities for air conditioning system, emergency generators and other electrical and mechanical equipment; and</li> <li>Floating refuse to be collected from the artificial seawall is negligible.</li> <li><b>ion Phase</b></li> <li>The land contamination assessment has been conducted by reviewing the historical and current land uses, desktop appraisal and site reconnaissance survey with respect to the potential land contamination at the Project</li> </ul>	<ul> <li>Waste Disposal Ordinance (Cap. 354); and</li> <li>Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C).</li> <li>Section 3 of Annex 19 of EIAO-TM;</li> <li>Guidance Note for Contaminated Land Assessment and Remediation;</li> <li>Guidance Manual for Use of Risk-based Remediation Goals</li> </ul>	N/A 	N/A	<ul> <li>Employ a reputable licensed waste collector to collect general refuse on a daily basis and dispose of the general refuse at designated landfill sites</li> <li>Handling of chemical wastes in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes, and disposal of chemical wastes at licensec chemical waste recycling/ treatment facilities</li> <li>Regular inspection of floating refuse trapped or accumulated on the artificial seawall.</li> </ul>
	<ul> <li>Land contamination impacts associated with the construction and operation of the proposal project is not anticipated.</li> </ul>	<ul> <li>for Contaminated Land Management; and</li> <li>Practice Guide for Investigation and Remediation of Contaminated Land.</li> </ul>			
Land Contamination – Operation	Phase				
N/A	N/A	N/A	N/A	N/A	N/A
Ecological Impact – Construction	n and Operation Phase				
Flora, fauna and habitats within 500m assessment area and any other areas likely to be impacted by the Project	Moderate-minor for the loss of woodland and pond; minor impact for loss of other habitat and other impacts, including impact on plant species of conservation interest, impact on ardeids at TSW, impact on terrestrial fauna species of conservation interest, off-site	Annexes 8 and 16 of EIAO-TM; EIAO GN Nos. 6/2010, 7/2010 & 10/2010	N/A	<ul> <li>Avoid the need of large-scale slope works for preserving the natural landscape of the Site</li> <li>Avoid any works encroaching onto marine habitat</li> </ul>	<ul> <li>Reduced use of large glazing or transparent screening</li> <li>Enhancement area with a Flamingo Pond similar to existing setting</li> <li>Site survey before commencement of site clearance</li> <li>Protection of floral species of</li> </ul>
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#### Proposed

#### **Residual Impacts**

would be anticipated.

es for C&D materials ical wastes in the Code of Practice , Labelling and cal wastes at licensed cycling/ treatment

No adverse residual impacts would be anticipated.

No adverse residual impacts would be anticipated.

No residual impact predicted

N/A

Assessment Points	Results of Impact Predictions	Relevant Standards / Criteria	Extent of Exceedances Predicted	Impact Avoidance Measures Considered	Mitigation Measures Proposed	Residual Impacts
	disturbance and impact on environmental quality, reduction of ecological carrying capacity, habitat fragmentation, bird collision to new building structures, impact on coral communities and intertidal habitats				<ul> <li>conservation interest within Project area</li> <li>Avoidance of site clearance and tree felling works at the existing ardeid night roost location during the peak wintering season of ardeids</li> <li>Woodland compensation and reinstatement</li> <li>Implementation of good site practice during construction stage</li> </ul>	
Fisheries Impact – Construction a	and Operation Phases				daning contraction stage.	
Areas within 500 meters from the boundary of the Project area covering Western and Southern Buffer Water Control Zones (WCZs)	<ul> <li>No impact due to loss of fishing ground would occur.</li> <li>Direct impact on fishing operations is predicted to be insignificant during both construction and operation phases.</li> <li>Indirect impact of deterioration of water quality is expected to be negligible during both construction and operation phases.</li> <li>No implications on fisheries resources and fisheries operations due to change of hydrology and tidal flow.</li> </ul>	<ul> <li>Fisheries Protection Ordinance (Cap 171);</li> <li>Marine Fish Culture Ordinance (Cap 353);</li> <li>Water Pollution Control Ordinance (WPCO) (Cap. 358); and</li> <li>Environmental Impact Assessment Ordinance (Cap. 499) and the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM).</li> </ul>	N/A	Relevant avoidance measures as detailed above for the water quality aspect	Relevant water quality mitigation measures during construction and operation phases as detailed above	No adverse residual impact is anticipated
Landscape and Visual Impact – C	onstruction Phase					
LRs and LCAs within 500m assessment area; VSRs within visual envelope	Unmitigated impacts generally significant adverse to insubstantial	Annexes 10 and 18 of EIAO-TM; EIAO GN No. 8/2010	N/A	<ul> <li>Avoidance of any works encroaching onto marine habitat</li> </ul>	<ul> <li>CP01 – Minimisation of Construction Period</li> <li>CP02 – Minimisation of Works Areas</li> <li>CP03 – Construction Site Controls</li> <li>CP04 – Preservation of Existing Vegetation</li> <li>CP05 – Transplantation of Existing Trees</li> <li>CP06 – No Intrusion Zones</li> <li>CP07 – Temporary Tree Nurseries</li> <li>CP08 – Advance Planting</li> <li>CP09 – Construction Site Hoardings</li> <li>CP10 – Dust and Erosion Control for Exposed Soil</li> <li>CP11 – Appearance of Construction Plant / Machinery</li> <li>CP12 – Construction Lighting Control</li> <li>CP13 – Appearance of Construction Workers</li> </ul>	Residual landscape impacts generally moderate adverse to insubstantial; residual visual impacts generally slight adverse to insubstantial for daytime and largely insubstantial for night-time
Landscape and Visual Impact – O	peration Phase					
LRs and LCAs within 500m assessment area; VSRs within visual envelope	Unmitigated impacts generally significant adverse to insubstantial	Annexes 10 and 18 of of EIAO-TM; EIAO GN NO. 8/2010	N/A	N/A	<ul> <li>OP01 – Sensitive Design and Disposition</li> <li>OP02 – Compensatory Tree Planting</li> <li>OP03 – Enhancement Planting</li> <li>OP04 – Green Roofs and Vertical Greening</li> <li>OP05 – Reprovision of Flamingo Pond</li> <li>OP06 – Responsive Lighting Design</li> </ul>	Residual landscape impacts generally insubstantial with slight adverse impacts for some LRs; residual visual impacts generally slight adverse to insubstantial in daytime and largely insubstantial in night-time with slight adverse impacts on some VSRs



Assessment Points	Results of Impact	Predictions	Relevant Standards / Criteria	Extent of Exceedances Predicted	Impact Avoidance Measures Considered	Mitigation Measures
						<ul> <li>OP07 – Woodland</li> </ul>
Table 14.2: Key Assessment Ass	sumptions, Limitations	s of Assessmen	t Methodologies and Prior Agreeme	nts		
Assessment Methodology		Key Assessme	ent Assumptions	Limitations of Assessment Methodology Assumptions	/ Prior Agreements with the Direc or other Authorities	tor Proposed Alter Tools / Assump applicable)
Air Quality Impact – Construction	n Phase					
<ul> <li>Annex 12 of the EIAO-TM;</li> <li>EPD's Guidelines on Choice of Parameters</li> <li>EPD's Guidelines on Assessing Quality Impacts</li> <li>EPD's Guidelines on the Estim Air Quality Assessment in Hong</li> <li>Prediction of background RSP construction phase by using PA simulation of far-field backgrou well as using, EMFAC-HK and simulation of near-field backgrou emissions</li> <li>Qualitative assessment for con external to project boundary</li> </ul>	Models and Model g the 'TOTAL' Air ation of PM2.5 for g Kong and FSP during ATH model for nd emissions. ; as Caline4 models for bund emissions we construction dust struction traffic	<ul> <li>Working ho emission ra proponent.</li> <li>Various dus construction haul road a Compilation (AP-42), 5ti</li> <li>Typical ratii construction on the USE Matter Emistication Examinatio PM2.5 Fug April 2005.</li> <li>Hourly mete extracted fr adopted for</li> <li>Surface rou according t Models and reference to Fugitive Du 202R, Jan</li> <li>The maxim</li> </ul>	burs and days used for relevant dust ates are as provided by project st emission factors for heavy in activities, wind erosion, and paved re based on the USEPA's in of Air Pollution Emission Factors h Edition (Jan 2011 Edition). o of RSP to TSP for heavy in activities is taken as 0.3:1 based EPA document Estimating Particulate ssions from Construction emissions from heavy construction re assumed to be FSP based on the by Thompson G. Pace, USEPA. In of the Multiplier Used to Estimate itive Dust Emissions from PM10, eorological data in 2010 as rom grids (28,22) of PATH model is r modelling. ughness values are estimated to EPD's Guidelines on Choice of d Model Parameters and with to USEPA's User Guide for the Ist Model (Revised), EPA-910/9-88- 1991. um frequency of construction trucks	Gaussian models are designed for use in si terrain under uniform flow. Steady-state Gaussian plume models have been shown to produce conservative results for short (less 100m) or low level sources, and are more lit over-predict rather than under-predict groun level concentrations.	mple Air Sensitive Receivers and key modelling approach and assumption o agreed with EPD than cely to d-	N/A ons
		<ul> <li>moving with vehicles/ho</li> <li>Assume se the constru Park</li> </ul>	hin the site along haul roads is 15 our. cond entrance is closed while with ction vehicles access to TSW Water			
Air Quality Impact – Operation P	hase					
<ul> <li>Annex 12 of the EIAO-TM</li> <li>EPD's Guidelines on Choice of Parameters</li> <li>EPD's Guidelines on Assessing Quality Impacts</li> <li>EPD's Guidelines on the Estim Air Quality Assessment in Hong</li> <li>Three tier air quality modelling:</li> </ul>	Models and Model g the 'TOTAL' Air ation of PM2.5 for g Kong	<ul> <li>Emission fa</li> <li>EMFA</li> <li>Ozone Limi NO<sub>x</sub> to NO<sub>2</sub></li> <li>Vehic</li> </ul>	actors referenced from AC-Hong Kong v2.6 iting Method (OLM) for conversion of 2 ular emission	Gaussian models are designed for use in si terrain under uniform flow. Steady-state Gaussian plume models have been shown to produce conservative results for short (less 100m) or low level sources, and are more lil over-predict rather than under-predict groun level concentrations.	mple Air Sensitive Receivers and key modelling approach and assumption o agreed with EPD than kely to id-	N/A ons
- Caline4 and EMFAC-HK m emission simulation	odel for vehicular					
Hazard to Human Life						
<ul> <li>Hazard to life to evaluate the preduired based on assessment</li> </ul>	otential hazard is not assumption	<ul> <li>No on-site sovernight so</li> </ul>	storage of liquefied chlorine and torage of explosives for the Project.	N/A	N/A	N/A
Noise Impact – Construction Pha	ISE					
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Proposed

**Residual Impacts** 

d Compensation

rnative Assessment Justification / Supporting ptions (if Documents for Alternative Assessment Tools / Assumptions (if applicable)

N/A

N/A

N/A

Assessment Methodology	Key Assessment Assumptions	Limitations of Assessment Methodology / Assumptions	Prior Agreements with the Director or other Authorities	Proposed Alter Tools / Assump applicable)
<ul> <li>Assessment approach is in line with the Guidance Note titled "Preparation of Construction Noise Impact Assessment under the Environmental Impact Assessment Ordinance" (GN 9/2010).</li> </ul>	<ul> <li>The type and quantity of PME were estimated based on best available information and engineering judgement.</li> <li>Noise impact of off-site traffic of a maximum of</li> </ul>	N/A	N/A	N/A
<ul> <li>The assessment of construction noise impact was based on standard acoustic principles, and the guidelines given in GW-TM issued under the NCO where appropriate.</li> </ul>	15 construction trucks is assumed to be insignificant.			
Noise Impact – Operation Phase				
<ul> <li>Road traffic noise levels at the representative assessment points have been calculated based on the peak hour traffic flow within a 15 years period upon commencement of operation of the Project; and</li> <li>Traffic noise has been predicted using the model "RoadNoise"</li> </ul>	<ul> <li>The traffic flow of assessment year is predicted based on the best available data.</li> </ul>	N/A	Noise Sensitive Receivers agreed with EPD	N/A
<ul> <li>For the assessment of noise from fixed plant, the maximum allowable sound power level (Max SWLs) of the identified fixed noise sources were determined by adopting standard acoustics principles</li> </ul>	<ul> <li>Background noise measurements taken at the identified NSRs were conducted during the operation of the park and therefore assume that have taken into account of the existing fixed noise sources</li> </ul>	<ul> <li>The actual noise level emitted from the fixed plants within the Project will be determined in later detailed stage and are expected to be lower due to the proximity to the visitors' activity areas</li> </ul>	Noise Sensitive Receivers agreed with EPD	N/A
<ul> <li>In assessing open-air entertainment activity noise, the maximum allowable sound power level were determined by using standard acoustics principles</li> </ul>	<ul> <li>Area which shows may potentially be held that is closest to the nearest NSR has been set as assessment point to represent worst case scenario</li> </ul>	<ul> <li>Open air shows will be held at various locations at non-designated time periods</li> </ul>	Noise Sensitive Receivers agreed with EPD	N/A
Water Quality Impact – Construction Phase				
The construction phase water quality impact assessment has been prepared in accordance with the EIAO-TM Annexes 6 & 14 and Section 3.4.6, Appendix D1, Appendix D1-1 of the EIA Study Brief.	No assumptions were made.	N/A	N/A	N/A
Water Quality Impact – Operation Phase				
The operation phase water quality impact assessment has been prepared in accordance with the EIAO-TM Annexes 6 & 14 and Section 3.4.6, Appendix D1, Appendix D1-1 of the EIA Study Brief.	Event mean concentration for Li et al., 2003; Water Depth in the area is 5m; Diffusion velocity from Wilson, 1979.	No nitrification or denitrification of substance; Uni-tidal direction for each tide.	N/A	N/A
Sewerage and Sewage Treatment Implication				
Carry out a desktop study to collect relevant information for the assessment.	Drainage Record Plans within the vicinity of the TSW from Drainage Services Department (DSD);	N/A	N/A	N/A
Investigate and review the capacity of the existing public sewerage networks and sewage treatment facilities in the Aberdeen district.	Sewage flow generated from the Project; Proposed Development Layout Plan of the Project; Environmental Impact Assessment Report under			
Review the maximum sewerage flow (Maximum Development Flow) to be generated by the project in different phases.	Repositioning and Long Term Operation Plan of Ocean Park; and			
Study the need and assess the impacts of discharging sewage arising from the project to the existing public sewerage systems in Nam Long Shan Road and Aberdeen Preliminary Treatment Works (APTW).	The Technical Note on the Compilation of 2011- based Territorial Population and Employment Data Matrix (TPEDM).			
Waste Management Implication – Construction Phase	8			
<ul> <li>Analysis of activities and waste generation; and</li> <li>Development of proposals for waste management.</li> </ul>	The amount of general refuse was estimated based on best available data, relevant studies or engineering judgement.	N/A	N/A	N/A
	engineering design.			
Waste Management Implication – Operation Phase				



ernative Assessment mptions (if	Justification / Supporting Documents for Alternative Assessment Tools / Assumptions (if applicable)
	N/A
	N/A
	N/A
	N/A
	N1/A
	N/A
	N/A
	IWA .
	NI/A
	N/A

N/A

# Tai Shue Wan Development at Ocean Park Environmental Impact Assessment Report

Assessment Methodology	Key Assessment Assumptions	Limitations of Assessment Methodology / Assumptions	Prior Agreements with the Director or other Authorities	Proposed Alterr Tools / Assump applicable)
<ul><li>Analysis of activities and waste generation; and</li><li>Development of proposals for waste management.</li></ul>	The amount of general refuse was estimated based on best available data, relevant studies or engineering judgement.	N/A	N/A	N/A
Land Contamination – Construction Phase				
<ul> <li>Review of relevant information from government departments;</li> <li>Review of historical aerial photographs; and</li> </ul>	The study area was designed to ensure 100% coverage of any areas with potential impact.	N/A	N/A	N/A
<ul> <li>Site reconnaissance surveys.</li> </ul>				
Land Contamination – Operation Phase				
N/A	N/A	N/A	N/A	N/A
Ecological Impact – Construction and Operation Pha	ISES			
Following Annexes 8 and 16 of EIAO-TM and EIAO GN Nos. 6/2010, 7/2010 & 10/2010	N/A	The objective of the baseline study of an ecological assessment is to provide adequate and accurate ecological baseline information for ecological impact assessment. It would not be practicable or cost-effective for the baseline survey to provide exhaustive ecological information of the study site.	N/A	N/A
Fisheries Impact – Construction and Operation Phas	e			
Literature review. The fisheries impact assessment follows the guidelines stated in Environmental Impact Assessment Ordinance (EIAO) – Technical Memorandum (TM) on Environmental Impact Assessment Process, particularly Annexes 9 and 17.	N/A	N/A	N/A	N/A
Landscape and Visual Impact – Construction Phase				
Following Annexes 10 and 18 of EIAO-TM and EIAO GN No. 8/2010	N/A	N/A	N/A	N/A
Landscape and Visual Impact – Operation Phase				
Following Annexes 10 and 18 of EIAO-TM and EIAO GN No. 8/2010	N/A	N/A	N/A	N/A



native Assessment tions (if	Justification / Supporting Documents for Alternative Assessment Tools / Assumptions (if applicable)
	N/A
	N/A
	N/A
	N/A
	N/A
	N/A
	N/A