

Highways Department  
**Tsing Yi – Lantau Link**  
Project Profile

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**Figure 1.1** Layout Plan for Preliminary Alignment of Tsing Yi-Lantau Link

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# 1 Basic Information

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## 1.1 Project Title

1.1.1 Tsing Yi – Lantau Link (TYLL) (hereinafter named as the Project).

## 1.2 Purpose and Nature of the Project

1.2.1 The objective of the Project is to enhance the connectivity between Tsing Yi and North Lantau to meet the future traffic demands generated by the future developments in North Lantau and the Northwest New Territories. The Project will provide additional traffic capacity between Lantau and urban for the long-term planning horizon.

1.2.2 A layout plan for the preliminary alignment of the Project is shown in **Figure 1.1**, which is subject to changes during the course of Environmental Impact Assessment (EIA) study. It connects North Lantau Highway, the proposed Route 11 (under separate project) and the proposed Hong Kong Island West – Northeast Lantau Link (HKIW-NEL Link) (under separate project) at North Lantau, crosses the Kap Shui Mun Fairway and Ma Wan Fairway, and connects with Tsing Sha Highway on the west of Nam Wan Tunnel after landing at Tsing Yi.

## 1.3 Name of Project Proponent

1.3.1 The Project Proponent is the Highways Department (HyD) of the Government of the Hong Kong Special Administrative Region.

## 1.4 Location and Scale of the Project and History of the Site

1.4.1 The preliminary alignment of the Project is shown in **Figure 1.1**. Based on the current design scheme, the mainline of Project will have a total length of approximately 5.2 km, covering areas in North Lantau and Tsing Yi, with possible reclamation more than 5 ha in total for the construction and protection of bridge towers and anchorages.

1.4.2 The scope of the Project comprises the following:

- (a) a dual three-lane long-span suspension bridge with a main span of about 1 400 m long crossing the Ma Wan Fairway between Ma Wan and Tsing Yi;
- (b) a dual three-lane long-span cable-supported bridge with a main span of about 500 m long crossing the Kap Shui Mun Fairway between North Lantau and Ma Wan;
- (c) Tsing Yi Connection, consisting of extension of the TYLL mainline from the proposed suspension bridge crossing the Ma Wan Fairway to the Tsing Sha Highway at the west of Nam Wan Tunnel, and provision of slip roads and viaducts connecting with local roads at Tsing Yi including Tsing Yi North Coastal Road and Tsing Yi Road West, together with realignment of Tsing Sha Highway and Cheung Tsing Highway northbound and modification of Tsing Sha Highway and Cheung Tsing Highway southbound;

- (d) North Lantau Interchange, consisting of slip roads, viaducts and a tunnel at North Lantau connecting the proposed long-span bridge crossing the Kap Shui Mun Fairway to North Lantau Highway, the proposed Tsing Lung Bridge under Route 11, and the proposed HKIW-NEL Link; and
- (e) associated administration and ancillary buildings, as well as associated civil, marine, geotechnical, landscape, road and drainage works, toll collection facilities, bridge facilities, traffic control and surveillance system, electrical and mechanical installations, ventilation facilities, reprovisioning of facilities affected by the proposed road works and environmental mitigation measures.

1.4.3 The alignment shown in **Figure 1.1** is tentative only, and subject to changes during the course of EIA study with reference to the engineering practicability, traffic constraint and the latest statutory and Government requirements, etc.

## 1.5 Number and Types of Designated Projects to be covered by the Project Profile

1.5.1 The Project comprises the works that are classified as Designated Projects (DPs) under the following categories under Part I, Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO):

- Item A.1 – A road which is an expressway, trunk road, primary distributor road or district distributor road including new roads, and major extensions or improvements to existing road;
- Item A.8 – A road or railway bridge more than 100 m in length between abutments;
- Item C.1 – Reclamation works (including associated dredging works) more than 5 ha in size;
- Item C.2 – Reclamation works (including associated dredging works) more than 1 ha in size and a boundary of which---
  - (a) is less than 500 m from the nearest boundary of an existing or planned---
    - (ii) site of cultural heritage;
    - (iii) bathing beach; or
    - (v) fish culture zone; and
- Item C.12 – A dredging operation exceeding 500 000 m<sup>3</sup> or a dredging operation which---
  - (a) is less than 500 m from the nearest boundary of an existing or planned---
    - (ii) site of cultural heritage;
    - (iii) bathing beach; or
    - (v) fish culture zone.

## 1.6 Name and Telephone Number of Contact Person

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## 2 Outline of Planning and Implementation Programme

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### 2.1 Project Planning and Implementation

2.1.1 The Project will be implemented under a Public Works Programme item. Consultants will be appointed to carry out the investigation, design and construction consultancy of the Project under Agreement No. CE 78/2022 (HY).

### 2.2 Project Programme

2.2.1 The investigation, design and construction consultancy will commence in Q2 2023. The investigation and design are targeted for completion within 48 months. Works associated with the Project have been scheduled for completion not later than 2033, and construction will be carried out in phases by contractors to be appointed under various works contracts.

### 2.3 Interactions with Other Projects

2.3.1 Potential projects that would have interface with the Project have been identified and are listed below. Some of these projects are under planning or implementation. This list should be revisited during preparation of the subject EIA study to ensure all the latest projects available from the respective stakeholders are incorporated.

- Route 11 (section between Yuen Long and North Lantau)
- Hong Kong Island West - Northeast Lantau Link
- Road P1 (Tai Ho – Sunny Bay Section)
- Study on Traffic, Transport and Tourists Receiving Capacity of Lantau
- Planning and Engineering Study on Sunny Bay Reclamation

## 3 Possible Impact on the Environment

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### 3.1 General

- 3.1.1 All the prevailing legislative requirements will be considered in the EIA study to assess the possible environmental impacts.

### 3.2 Air Quality

#### **Construction Impacts**

- 3.2.1 During construction phase, construction dust will be potentially generated from land-based construction activities, such as site clearance, land-based tunnelling, slope works, excavation with backfilling, stockpiling of materials, loading and unloading dusty materials and wind erosion of open area. Dust emission from these construction activities and land-based traffic, as well as gaseous emissions from construction plants, are expected to be the sources of impacts during construction phase.
- 3.2.2 For marine-based construction activities, such as dredging and filling for the required reclamation and construction of the long-span bridges, the associated dust emission would not be significant. While these marine-based construction activities are unlikely to generate significant fugitive dust, wind erosion from the reclaimed lands would generate some dust as well. Nevertheless, aside from the aforementioned land-based emission sources, construction vessels for the Project and marine traffic on the existing fairways are also emission sources during the construction phase.
- 3.2.3 While non-dredged methods will be adopted for the reclamation works as far as practicable, the amount of sediment dredged will be minimized. In addition, the sediment dredged will be loaded onto barges and be transported away or, if contaminated, treated at temporary locations in the vicinity of the Project as soon as practicable. It is also suggested that any odorous materials shall be transported away from the site within 24 hours and the dredged materials shall be covered by tarpaulin or impervious sheets at all times. Hence, it is anticipated that there would not be any adverse odour impacts during the construction phase.
- 3.2.4 Cumulative air quality impacts during the construction phase will be considered, taking into account the neighbouring roads, industrial emissions, emissions from other concurrent projects and other emission sources in the vicinity.

#### **Operational Impacts**

- 3.2.5 During operational phase, air pollution sources associated with the Project will include vehicular emissions from the roads, tunnel portals and ventilation facilities. Cumulative air quality impacts during the operational phase will take into account the neighbouring roads, industrial emissions and other emission sources in the vicinity, such as marine emissions.



### 3.3 Noise

#### **Construction Impacts**

- 3.3.1 During construction phase, potential noise impacts on noise sensitive receivers (NSRs) will be associated with construction activities and use of powered mechanical equipment (PME). The key construction activities which would create noise impacts will be piling for foundation, reclamation, construction of tunnel portals by either drill-and-blast or drill-and-break method (subject to further study), excavation and concreting, bridge deck installation, slope works, etc. In addition, the bridge anchorages at Tsing Yi and North Lantau, as well as the site formation works at Tsing Yi and North Lantau, will require rock excavation, which may need blasting work subject to future design and programme study. Potential construction ground-borne noise may potentially affect the NSRs near the blasting work sites. Quieter construction methods / quieter construction equipment (such as chemical expansion agent for rock breaking, hydraulic rock splitter, pulse plasma rock fragmentation, hydraulic crusher, etc.) will be explored and considered in the EIA stage to minimize the potential construction noise impact from conventional rock blasting method using explosives or excavator mounted breaker. The noise impacts for any night time work will need to be considered as well. Any potential concurrent projects, if necessary, will also be considered and included for cumulative noise impacts.

#### **Operational Impacts**

- 3.3.2 During operational phase, the future noise sources arising from the Project include road traffic noise from the Project and the fixed noise sources such as exhausts of ventilation facilities, which would affect both existing and planned NSRs in the vicinity. The potential noise impact from the noise at tunnel portals and the cumulative noise impacts of neighbouring roads and other fixed noise sources will need to be considered.

### 3.4 Water Quality

#### **Construction Impacts**

- 3.4.1 Marine works will be required for the construction of long-span bridges crossing the Ma Wan Fairway between Ma Wan and Tsing Yi and crossing the Kap Shui Mun Fairway between Ma Wan and North Lantau, including possible reclamation at Tsing Yi, Ma Wan and North Lantau for the construction and protection of bridge towers and anchorages.
- 3.4.2 During these marine works, release and suspension of sediments and backfilling materials would occur and contaminants and nutrients bound inside the sediments might be released into the nearby water bodies. With the adoption of non-dredged reclamation methods as far as practicable, provision of adequate mitigation measures, optimisation of construction phasing and implementation of environmental monitoring programme, water quality impacts on the nearby sensitive receivers, including but not limited to seawater intake points, fish culture zones, coral areas, gazetted and non-gazetted beaches, etc., could be properly controlled. Any potential concurrent projects, if necessary, will be considered and included for cumulative water quality impact assessment.

- 3.4.3 For land-based works, the construction site runoff would cause blockage of drainage channels and increase the suspended solid levels. Sewage arising from on-site construction workforce would also cause water pollution if directly discharged into adjacent water bodies without suitable mitigation measures. In addition, there might be potential drawdown of groundwater from tunnel construction.

#### **Operational Impacts**

- 3.4.4 During operational phase, local flow pattern may be affected in the vicinity of reclamation areas at Tsing Yi, Ma Wan and North Lantau. Other potential water pollution sources would include the surface runoff from the Project and accidental chemical spillage. Cumulative water quality impacts due to other concurrent projects will need to be considered.
- 3.4.5 Surface runoff from the roads, ventilation facilities and administration buildings during rainfall events is anticipated. Release of pollutants carried by surface runoff into the marine water might affect the water quality if in abundant amount. Proper drainage system, designed with pollution management measures, e.g. oil interceptors, will be provided to avoid pollution to marine waters and water sensitive receivers (WSRs).

### **3.5 Waste Management**

#### **Construction Impacts**

- 3.5.1 Construction and demolition (C&D) materials will be generated from the construction of the Project, such as site formation activities, tunnelling works and reclamation. Also, generation of sediments, either dredged or excavated, is anticipated from marine-based works associated with the Project during construction phase.
- 3.5.2 Chemical waste generated during construction without careful and proper handling might pose environmental, health and safety hazards.
- 3.5.3 The construction workforce will generate general refuse comprising food scraps, waste paper, empty containers etc. The general refuse may give rise to adverse environmental impacts e.g. odour generation, windblown litter, vermin, if the waste storage areas are not properly maintained and regularly cleared.

#### **Operational Impacts**

- 3.5.4 Small amount of municipal solid waste and chemical waste will be generated from maintenance activities. Chemical waste would include used cleaning materials, lubricants, paints, batteries, coolants etc.

### **3.6 Land Contamination**

#### **Construction Impacts**

- 3.6.1 Hongkong United Dockyards Limited is identified as a potentially land contamination site within the study area of the Project. Land contamination assessment will be carried out to review the land contamination potential of Hongkong United Dockyards Limited and the remaining project area, in accordance with the guidelines from the Environmental Protection Department

(EPD) prior to the commencement of construction works. Should there be any land contamination identified by site appraisal and subsequent environmental site investigation, remediation works will be completed prior to the commencement of construction works.

### **Operational Impacts**

- 3.6.2 Since any land contamination issue will be remediated prior to construction phase, no land contamination issue is anticipated during the operational phase.

## **3.7 Ecology**

### **Construction Impacts**

- 3.7.1 Impacts to ecology during construction phase might arise from loss or disturbance of terrestrial habitats and marine habitats and their associated flora and fauna, silt-laden or contaminated runoff from works areas to adjacent water bodies and disturbance to nearby habitats from construction activities. However, habitat loss and impacts to terrestrial and marine ecologically sensitive areas have been largely reduced through the adoption of bridge option during the preliminary stage of the Project (i.e. tunnel options which have significant higher ecological impacts were avoided).
- 3.7.2 The proposed alignment is mostly on the existing developed areas on the west side of Tsing Yi and the direct ecological impacts in Tsing Yi would not be significant. While the natural habitats (mostly shrubland / grassland) in the landfall area of North Lantau will be encroached. Woodland habitat is identified in the landfall area of North Lantau, potential woodland loss might also occur. However, the proposed alignment should avoid woodland loss, loss of species of conservation interest and habitat fragmentation as far as practicable during the course of EIA study.
- 3.7.3 Marine construction works are required for the Project. Marine dredging, which could cause significant impacts to marine ecology, will be avoided as far as practicable. However, marine piling, temporary and permanent reclamation, etc., will be required. Low coverages of hard corals and gorgonian were recorded in the subtidal areas of North Lantau and Ma Wan. There would be a potential risk of direct loss of the corals. Avoidance of direct impacts to corals should be considered; otherwise, translocation might be required. It is anticipated that the future supports for the bridges can provide new and additional hard substrates for coral colonization.
- 3.7.4 There are two historical egrettries in North Lantau, namely the former To Kau Wan Egrettry and the former San Po Tsui Egrettry. Both egrettries have been abandoned for years. The last breeding in To Kau Wan and San Po Tsui egrettries was recorded in 2002 and 2005 respectively. Indirect impacts such as noise might occur if the abandoned egrettries are re-colonized.
- 3.7.5 The marine works would lead to permanent loss of natural marine habitats as well as affecting the water quality in the vicinity. Although Western and Northern Lantau waters are within the habitat range of the Chinese White Dolphin (CWD), no CWDs were recorded near the proposed alignment (i.e. between Northeast Lantau and Tsing Yi waters) in the past decades. Potential direct and indirect impacts on CWD are not likely. Besides, the water quality of the mangrove stand in Ma Wan might be potentially affected.

### **Operational Impacts**

- 3.7.6 It is anticipated that the potential impacts on the habitat types in operational phase will be less than those identified for the construction phase. However, permanent loss of natural habitats such as woodland, shrubland / grassland, intertidal and subtidal habitats will occur. The impacts to habitat fragmentation will be identified during the EIA study.
- 3.7.7 Potential indirect impacts from noise, human disturbance and light disturbance to the wildlife inhabiting the sensitive habitats would be anticipated.

## **3.8 Fisheries**

### **Construction Impacts**

- 3.8.1 The major direct impact associated with the Project would be the potential loss of fishing grounds at the proposed bridge piers or locations of marine works. The marine works would also have potential impacts on marine water quality affecting the nearby fisheries resources and habitats, and aquaculture sites (i.e. Ma Wan Fish Culture Zone). Ma Wan Fish Culture Zone is located at north of Ma Wan and the proposed alignment of the Project is near south of Ma Wan. Although the Project would cause potential loss of fishing grounds at the proposed bridge piers or locations of marine works, with proper implementation of mitigation measures, it is anticipated that the potential impacts on fisheries during construction phase are not significant. The potential impacts on fisheries during construction phase will be evaluated in the EIA process.
- 3.8.2 Temporary loss of fishing ground is anticipated during the construction of marine works as fishing vessels might not be able to operate at the marine works areas during the construction phase. However, the marine works areas will be limited and the effect will be temporary only. The fishing areas will be resumed upon the completion of construction works. All potential impacts to fisheries will be evaluated in more details in the EIA process.

### **Operational Impacts**

- 3.8.3 The Project would likely impose indirect impacts on the fisheries resources during the operational phase, such as the potential hydrodynamic impacts due to the reclaimed land and water quality impacts due to surface runoff, accidental chemical spillage and disturbance from the induced marine traffic from the marine facilities. The potential impacts on fisheries during operational phase will be evaluated in the EIA process.

## **3.9 Landscape and Visual**

- 3.9.1 The proposed works as listed below would cause landscape impacts on the hillside and open sea during construction and operational phases.
- Elevated / at-grade road in Tsing Yi area;
  - The two long-span bridges crossing the Ma Wan Fairway and Kap Shui Mun Fairway; and
  - Elevated / at-grade road / tunnel portals and ventilation facilities in North Lantau area.

3.9.2 Existing landscape resources include open sea water, beaches located adjacent to the foothill of Yi Chuen and Fa Peng in North Lantau and at the east of Ma Wan, hillside plantation location at Sam Chi Heung in Tsing Yi as well as Ng Kwu Leng and Fa Peng Teng on Lantau Island within the study area. The expected sources of landscape and visual impacts arising from the Project would include, but not limited to, the following:

#### **Construction Impacts**

- Loss of landscape elements and visual amenity such as woodland, hillside plantation, trees, and natural topography, coastal water and natural coastline, and visual appearance of any temporary use and construction activities;
- Access road linking to the main bridge works and associated works at hillside in Tsing Yi and North Lantau, as well as tunnelling works and associated activities at hillside in North Lantau; and
- Proposed reclamation at Tsing Yi, Ma Wan and North Lantau for the construction and protection of bridge towers and anchorages.

#### **Operational Impacts**

- Visual quality intrusion and obstruction created by the structures of main bridges, at-grade roads, elevated roads, tunnel as well as associated tunnel portals and ventilation facilities; and
- Permanent loss of landscape and visual amenity of the natural environment due to the construction of the roadworks at Sam Chi Heung in Tsing Yi, Ng Kwu Leng and Fa Peng Teng on Lantau Island, the tunnel as well as associated tunnel portals and ventilation facilities on Lantau Island, and reclamation works for the bridge towers and anchorages and associated new structures.

### **3.10 Cultural Heritage**

3.10.1 The study area for the cultural heritage impact assessment shall be defined by a distance of 200 m from the alignment for the Project. Tang Lung Chau Lighthouse (Declared Monument) is included although it is located over 300 m from the proposed works.

#### **Construction Impacts**

##### *Terrestrial Archaeology*

3.10.2 There is no Site of Archaeological Interest (SAI) within the 200 m study area. Therefore, no SAI is expected to be affected during construction or operational phases of the Project. Nevertheless, a detailed archaeological impact assessment study is required at the EIA stage to assess the necessity of conducting archaeological investigation to identify area(s) of archaeological potential within the assessment area and assess the archaeological impact on the identified area(s) of archaeological potential within the assessment area during the construction and operational phases. Besides, archaeological investigation during the EIA stage will be conducted if necessary to achieve the above objectives.

### *Built Heritage*

- 3.10.3 During construction and operational phases, visual changes to the environment of the Tang Lung Chau Lighthouse (Declared Monument) are expected. The visual impacts are cumulative and absorbed by Kap Shui Mun Bridge which lies adjacent to the Project. No other impacts are expected during the construction and operational phases of the Project in view of the distance (more than 300 m) between the Declared Monument and the proposed works.
- 3.10.4 There are no other heritage sites, i.e. proposed monuments, graded historic sites / buildings / structures, sites / buildings / structures in the new list of proposed grading items, and Government historic sites identified by the Antiquities and Monuments Office, located within the study area. Nevertheless, a detailed Built Heritage Impact Study is required at the investigation and design stage.

### *Marine Archaeology*

- 3.10.5 There has been no previous Marine Archaeological Investigation (MAI) in the areas of seabed in the vicinity of the reclamation areas. Any marine archaeological resources, if present, would be damaged or destroyed by the construction works. Although the study area has high marine archaeological potential based on historical evidence indicating that it was the main shipping channel for marine traffic to the Pearl River Delta and a popular anchoring location for ships, the archaeological potential of the study area and seabed is significantly reduced due to previous disturbance by the marine disposal facilities and the dredging activities in the navigation channel, which run across the study area. These have reduced the marine archaeological potential.

### **Operational Impacts**

- 3.10.6 Based on the nature of the Project as a highway project, its operational phase would not induce any impacts on the terrestrial archaeology, built heritage and marine archaeology, except the potential visual impacts on the Tang Lung Chau Lighthouse (Declared Monument). Similar to the construction phase, the visual impacts will be cumulative and absorbed by Kap Shui Mun Bridge. Therefore, no major impacts are expected. Nevertheless, a detailed archaeological impact assessment study is required at the EIA stage to assess the necessity of conducting archaeological investigation to identify area(s) of archaeological potential within the assessment area and assess the archaeological impact on the identified area(s) of archaeological potential within the assessment area during the construction and operational phases. Besides, archaeological investigation during the EIA stage will be conducted if necessary to achieve the above objectives.

## **3.11 Hazard to Life**

### **Construction Impacts**

- 3.11.1 The Project is located within the 1 000 m Consultation Zones (CZs) of Chevron Hong Kong Limited Tsing Yi Terminal and Shell Tsing Yi Installation, which are classified as Potentially Hazardous Installations (PHIs).
- 3.11.2 During construction phase, the increase of construction workers inside the CZs would increase the societal risk. Quantitative risk assessment will be conducted to assess the potential risk.

- 3.11.3 In addition, the bridge anchorages at Tsing Yi and North Lantau, as well as the site formation works and tunnelling works at North Lantau, will require rock excavation, which may need blasting work subject to future design and programme study. If blasting work is required, explosives will be delivered to the site on a daily basis when required with temporarily storage on site prior to their use in the construction work, without overnight storage. Alternatively, subject to construction programme consideration, explosive magazine may be required to store the explosives overnight, under which case the location of the magazine will be carefully chosen.
- 3.11.4 The Project will span across the Ma Wan Fairway and Kap Shui Mun Fairway. The construction of the bridges may impact the passing of dangerous goods (DG) vessels along the fairways. As the reclamation footprints are limited to the shallower water at the shorelines, the potential to significantly change the existing marine traffic pattern and affect marine safety will not be high. Quantitative risk assessment will be conducted to assess the potential cumulative risk.

#### **Operational Impacts**

- 3.11.5 During operational phase, the presence of the Project might increase the individual and societal risks if vehicle collision happens and leads to serious accident since the Project is very close to the PHIs but it is anticipated that the probability of such serious accident would be very low. Quantitative risk assessment will be conducted to assess the individual and societal risks induced by the Project.

## 4 Major Elements of the Surrounding Environment

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### 4.1 General

- 4.1.1 The major existing and planned sensitive receivers and sensitive parts of the natural environment relating to respective environmental aspects that may be affected by the Project are discussed below. The existing and planned sensitive receivers will be further studied and updated during the EIA study.

### 4.2 Air Quality

- 4.2.1 Potential air sensitive receivers (ASRs) are located at:

#### **Tsing Yi**

- Offices, including Transport Department Vehicle Examination Centre and Nam Wan Administration Building
- Industrial uses, including Yiu Lian Dockyards Limited, Shell Tsing Yi Installation, Hongkong United Dockyard and Godown at Tsing Tim Street
- Government, Institution or Community (GIC) uses, including Tsing Yi South Fire Station
- The Lantau Link Viewing Platform and Lantau Link Visitors Center including a cafe and a model train shop

#### **Lantau Island**

- Village type houses at Tso Wan and temporary building structures at Yi Chuen
- GIC uses, including Lantau Toll Plaza Administration Building

#### **Ma Wan**

- Recreational uses, including Noah's Ark Hotel and Resort and Event Centre of Ma Wan Park
- GIC uses, including Ma Wan Fire Station

### 4.3 Noise

- 4.3.1 Potential noise sensitive receivers (NSRs) are located at:

#### **Lantau Island**

- Village type houses at Tso Wan and temporary building structures at Yi Chuen



## 4.4 Water Quality

4.4.1 Potential water sensitive receivers (WSRs) would be:

### **Marine Based**

- Gazetted beaches in Ma Wan, Tsuen Wan and Tsing Lung Tau
- Ma Wan Fish Culture Zone
- Existing natural intertidal, subtidal and benthic habitats
- Existing and planned seawater intakes in Tsing Lung Tau
- Mangrove stand in Ma Wan

## 4.5 Ecology

4.5.1 Potential ecological sensitive receivers would be:

### **Terrestrial**

- Woodland, shrubland / grassland, natural watercourses, and other wildlife habitats

### **Marine**

- Existing natural intertidal, subtidal and benthic habitats

## 4.6 Fisheries

4.6.1 Fishing areas in the vicinity of the study area would be:

- Ma Wan Fish Culture Zone
- Fishing grounds
- Spawning grounds of commercial fishery resources in North Lantau waters

## 4.7 Landscape and Visual

4.7.1 Potential landscape and visually sensitive receivers would be:

### **Landscape Sensitive Receivers - Landscape Resources**

- Hillside plantation at Sam Chi Heung in Tsing Yi as well as Ng Kwu Leng and Fa Peng Teng on Lantau Island
- Sea waterbody between Tsing Yi and Kwai Shek in North Lantau
- Natural coastal shoreline in Ng Kwu Leng
- Hillside plantation at the base of the Ng Kwu Leng Peninsular and in the small-size valleys on the lower hill slopes of Tai Yam Teng and Fa Peng Teng

**Landscape Sensitive Receivers – Landscape Character Area (LCA)**

- Inshore Water LCA close to the shores of Ma Wan, Tsing Yi, and Lantau Island
- Ng Kwu Leng Peninsular LCA
- North Lantau Fa Peng Teng Uplands LCA
- Transportation Corridor LCA (Tsing Sha Highway (Tsing Yi section) / Cheung Tsing Highway, and the Lantau Link are the major transportation corridors)

**Key Visually Sensitive Receivers**

- Recreational viewers in Tai Lam Country Park in Tsing Lung Tau
- Hikers in Fa Peng Teng on Lantau Island
- Hikers at Tsing Yi Nature Trail
- Recreational viewers on the beaches along Tsing Lung Tau
- Recreational viewers in Sham Tseng
- Recreational viewers on Ma Wan Tung Wan Beach
- Residential blocks at Sham Tseng
- Park Island, Ma Wan
- Future residents and visitors on the planned Kau Yi Chau Artificial Islands
- Visitors in Lantau Link Visitors Centre in Tsing Yi
- Visitors in Airport Core Programme Exhibition Centre in Ting Kau
- Vehicular travellers on Ting Kau Bridge and Tsing Sha Highway / Cheung Tsing Highway in Tsing Yi
- Vehicular travellers on Tsing Ma Bridge
- Vehicular travellers on Tuen Mun Road (Tsing Lung Tau Section)
- Sea travellers on the Ma Wan Fairway
- Vehicular traveller on Castle Peak Road (Tsing Lung Tau Section)
- Recreational visitors in the hotels in Hong Kong Disneyland Resort

## 4.8 Cultural Heritage

4.8.1 Potential cultural heritage sensitive receivers would be:

### **Built Heritage Sensitive Receiver**

- Tang Lung Chau Lighthouse (Declared Monument)

4.8.2 The nearest SAI is Fa Peng Teng, which is at more than 500 m away from the Project. Therefore, it is not considered as archaeological sensitive receiver for the Project.

4.8.3 There are no other heritage sites, i.e. proposed monuments, graded historic sites / buildings / structures, sites / buildings / structures in the new list of proposed grading items, and Government historic sites identified by the Antiquities and Monuments Office, located within the study area.

### **Marine Archaeological Sensitive Receivers**

4.8.4 There are no recorded marine archaeological resources within the study area. Although the study area has high marine archaeological potential based on historical evidence indicating that it was the main shipping channel for marine traffic to the Pearl River Delta and a popular anchoring location for ships, the archaeological potential of the study area and seabed is significantly reduced due to previous disturbance by the marine disposal facilities and the dredging activities on the navigation channel, which run across the study area. These factors have reduced the marine archaeological potential.

## 4.9 Hazard to Life

4.9.1 The Project is located within 1 000 m CZs of Chevron Hong Kong Limited Tsing Yi Terminal and Shell Tsing Yi Installation, which are classified as PHIs.

## 5 Environmental Protection Measures to be Incorporated in the Design and Any Further Environmental Implications

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### 5.1 General

- 5.1.1 The EIA study will determine the significance of environmental impacts (both cumulative impacts and those arising from the Project) and any avoidance or mitigation measures to ensure that all the works recommended by the Project will be environmentally acceptable. Reference will be made to the relevant legislation and other requirements including but not limited to the EIAO.
- 5.1.2 During the design stage of the Project, various environmental constraints such as high background air pollutant concentrations at some areas will be taken into consideration. The alignment of the roads, construction methodology, etc. will be optimized to minimize the potential environmental impacts on the existing and planned sensitive receivers.
- 5.1.3 The residual impacts, if any, will be confined within the allowable limits. Environmental monitoring and auditing of potential impacts that may arise from implementation of the works will be provided during construction and operational phases. Subject to the findings of the EIA study, the following mitigation measures will be incorporated in the design and construction of the Project.

### 5.2 Air Quality

#### **Construction Impacts**

- 5.2.1 In order to prevent adverse impacts on air quality, the control measures stipulated in the Air Pollution Control (Construction Dust) Regulations will be implemented, wherever applicable, to limit the dust emissions from the site. Subject to investigation, the following mitigation measures will be considered during construction period to minimize the air quality impacts on nearby ASRs.
- Any vehicles / marine vessels with an open load compartment used for transferring dusty materials off-site will be properly fitted with side and tail boards and cover;
  - Cleaner dump trucks will be considered for using (compliant with more stringent emission standards such as Euro VI) during the construction;
  - Stockpiles of sand and aggregate will be enclosed on three sides and water sprays will be used to dampen stored materials and when receiving raw material;
  - The site will be frequently cleaned and watered to minimize fugitive dust emissions;
  - In the process of material handling, any material which has the potential to create dust will be treated with water or sprayed with a wetting agent where practicable;

- Wheel washing facilities will be implemented at access roads into and out of construction sites;
- Speed control of vehicles will be implemented on-site;
- Slope cutting and blasting area during construction will be optimized;
- Sufficient dust suppression measures will be implemented for batching facilities, concrete batching facilities, etc.;
- Travelling route of the construction vehicles on public roads will be planned as far as practicable in a way to minimize the air quality impacts to ASRs;
- The surface of all surge piles and stockpiles of excavated / blasted rocks or aggregates will be kept sufficiently wet by water spraying wherever practicable; and
- The areas within 30 m from the blasting area, if any, will be wetted with water prior to blasting.

5.2.2 To minimize the exhaust emissions from Non-road Mobile Machinery (NRMM), the following mitigation measures, which are not exhaustive, will be considered during construction period to minimize impacts on air quality on nearby ASRs.

- Connect construction plant and equipment to main electric supply and avoid use of diesel generators and diesel-powered equipment as far as practicable; and
- Deploy electrified NRMMs as far as practicable.

5.2.3 Given that the potential sediment to be dredged would be delivered to barges and covered by tarpaulin or impervious sheets at all times, any odorous materials will be transported away from the site within 24 hours, adverse odour impact would not be anticipated.

### **Operational Impacts**

5.2.4 Subject to EIA findings, mitigation measures within the project boundary to ensure compliance with Air Quality Objectives (AQOs) including suitable alignment for the Project and locations of ventilation facilities and tunnel portals to be away from the ASRs as far as practicable etc. will be duly considered.

## **5.3 Noise**

### **Construction Impacts**

5.3.1 Subject to EIA findings, quieter construction methods (e.g. alternative construction methods to replace percussive piling, excavator-mounted breaker) will be considered in order to mitigate the construction noise impacts as far as practicable. In addition, the following measures will be considered during construction period to minimize the construction noise impacts on nearby NSRs.

- Quieter powered mechanical equipment and plant, and / or fitted with muffler / silencers / sound reduction devices will be used;
- Temporary noise barriers and enclosures, where practicable, will be provided;

- Noise screening structures or purposely-built noise barriers will be provided along the work site boundary to provide additional protection to NSRs nearby;
- Good site practices will be implemented as effective noise mitigation measures. These will include, but not limited to, locating noisy equipment and activities as far from NSRs as practical, scheduling noisy activities to minimize exposure of nearby NSRs to high levels of construction noise, limiting the use and number of equipment operating close to the NSRs, proper maintenance of construction plant and devising methods of working to minimize noise impacts on the surrounding environment; and
- Travelling route of the construction vehicles on public roads will be planned as far as practicable in a way to minimize the noise impacts to NSRs.

5.3.2 All the proposed mitigation measures in the EIA stage will be implemented, if necessary, during construction phase to ensure compliance of the relevant criteria of Technical Memorandum on Environmental Impact Assessment Process (TM-EIAO).

5.3.3 In addition, a Construction Noise Management Plan (CNMP) will be submitted, which contains the quantitative construction noise impact assessment, the adopted quieter construction methods and equipment, noise mitigation measures and the construction noise impact monitoring and audit programme, with reference to the updated and identified noise mitigation measures once available, and in any case before the tender invitation if there is any change to the construction noise mitigation measures recommended in the EIA report and before the commencement of construction of the Project. Mitigation measures recommended and requirements specified in the CNMP shall be fully implemented.

#### **Operational Impacts**

5.3.4 Subject to EIA findings, mitigation measures within the project boundary to ensure compliance with noise criteria including suitable alignment for the Project to be away from the NSRs as far as practicable, and provision of low noise road surfacing will be duly considered.

5.3.5 For fixed noise sources, such as ventilation facilities, siting of noisy machinery shall be carefully arranged within the site. Other noise control measures, such as provision of noise enclosure, acoustic louvers, silencer, etc., shall be duly considered. In addition, suitable design for orientation of ventilation facilities and tunnel portals shall be arranged to face away from NSRs.

5.3.6 All the proposed mitigation measures in the EIA stage will be implemented, if necessary, during operational phase to ensure compliance of the relevant criteria of TM-EIAO.

## 5.4 Water Quality

### Construction Impacts

5.4.1 In order to prevent adverse impacts on the water quality, the following general mitigation measures will be put in place where appropriate.

- Non-dredged reclamation methods will be considered as far as practicable. Nevertheless, installation of silt curtain will be considered to control the dispersion of suspended solids;
- Adequate construction site drainage will be provided according to the established good practices;
- Open stockpiles of materials on site will be avoided as far as practicable or where unavoidable covered with tarpaulin or similar fabric during rainstorms;
- Where possible, works entailing soil excavation will be minimized during the rainy season;
- Good site practices will be implemented in accordance with the ProPECC PN 1/94 “Construction Site Drainage” and “Recommended Pollution Control Clauses for Construction Contracts” issued by EPD and the procedures in the Environment, Transport and Works Bureau Technical Circular (Works) No. 5/2005 “Protection of Natural Streams / Rivers from Adverse Impacts arising from Construction Works”;
- All runoffs arising from the construction site will be properly collected and treated to ensure the effluent quality can comply with discharge licences issued under Water Pollution Control Ordinance;
- Proper construction techniques will be employed to prevent sediment release during construction. Stringent site sediment control and mitigation measures will be implemented to prevent elevation of suspended solids;
- Minimization of the impacts of concrete washings will be considered and, use of infiltration / sedimentation pits will be implemented to settle out the washings before treatment / re-use / discharge, and adoption of treatment units with pH adjustment if necessary;
- Oil interceptors will be provided and properly maintained for collecting spillage or leakages from site workshops. The waste oil removed will be collected by licensed collection agent;
- Mobile toilets or other appropriate means will be provided to store sewage before disposal through licensed collection agent or discharging to main sewerage system; and
- Appropriate monitoring and mitigation measures will be developed for groundwater control (e.g. probing ahead and pre-grouting during tunnel construction, and installation of waterproof lining after the formation of the tunnel) to minimize the potential groundwater drawdown / infiltration due to tunnel construction.

### **Operational Impacts**

- The location and extent of reclamation for bridge towers and anchorages will be optimized to minimize the potential hydrodynamic impact;
- Provision of sand / silt and oil / grease traps will be considered to prevent ingress of pollutants to the stormwater system / natural streams; and
- Contingency plan will be developed for accidental chemical spillage.

## **5.5 Waste Management**

### **Construction Impacts**

5.5.1 The following mitigation measures will be considered during the construction phase to minimize waste generation and provide good control on waste management.

- Good site practices and implementation of Waste Management Plan (WMP) will be adopted to minimize any potential waste impacts as far as possible;
- Careful design, planning and good site management will be considered to encourage on-site sorting of C&D materials and minimize their generation during the course of construction;
- Chemical waste will be properly stored and transported off-site for treatment by licensed collection agent;
- Refuse will be stored in enclosed bins and reputable waste collector should be employed to remove the generated refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts;
- A recording system for the amount of wastes generated, recycled and disposed will be implemented;
- A WMP will be prepared and implemented;
- Use of reusable non-timber formwork will be considered to reduce the amount of C&D materials;
- Proper storage and site practices will be implemented to minimize the potential damage or contamination of construction materials;
- Different reclamation fill options will be examined with a view to promoting beneficial reuse of public fill; and
- Dredged / excavated sediment will be handled in accordance with the Environment, Transport and Works Bureau Technical Circular (Works) No. 34/2002 “Management of Dredged / Excavated Sediment”.

### **Operational Impacts**

5.5.2 As the Project is a highway project, where generation of waste is expected only from maintenance activities, it is anticipated that waste impacts during the operational phase would be minimal with proper disposal arrangement. For



example, chemical wastes will be disposed of in compliance with the Waste Disposal (Chemical Waste) (General) Regulations, while general refuse will be disposed of at designated landfill.

## 5.6 Land Contamination

5.6.1 The following mitigation measures will be considered during the construction phase to minimize any potential exposure to contaminated soil or groundwater.

- Remediation works on land contamination (if required) will be carried out prior to the commencement of construction works;
- Site workers will wear gloves, masks and other protective clothing where exposure to vapour or contaminated soil may be encountered;
- Contaminated materials will be removed with bulk earth movers to prevent human contact;
- Adequate washing facilities will be provided and smoking / eating should be prohibited in the area;
- Any contaminated soil that may need stockpiling or need to be transported will be covered with tarpaulin;
- Leakage of pollutants or leaching from excavated soil will be prevented by storing on an impermeable surface;
- Only licensed waste hauliers will be used to collect and transport any contaminated materials to an appropriate disposal site and procedures will be developed to ensure that illegal disposal of wastes will not occur; and
- The necessary waste disposal permits will be obtained, as required, from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C), as required.

## 5.7 Ecology

### **Construction Impacts**

5.7.1 Any identified sensitive sites will be avoided in the first place as far as practicable. Subject to EIA findings, the following mitigation measures will be considered to minimize the impacts during construction phase.

- Disruption to terrestrial and marine sensitive areas will be avoided as far as practicable;
- Staff access of the construction site will be properly managed to avoid damage to the vegetation in surrounding areas;
- Habitat loss to the nearby habitats and associated wildlife will be minimized;
- Viaduct and tunnel designs will be optimized to minimize habitat fragmentation;

- Suitable construction methods such as control measures and control criteria on groundwater inflow will be adopted to minimize water-table drawdown;
- Placement of equipment or stockpile will be implemented in the existing disturbed / urbanized land where practicable to minimize disturbance to vegetated areas;
- Good site practices will be implemented to minimize physical, noise and light disturbance;
- Works will be confined within the work site boundary;
- Transplantation / translocation of flora / fauna species of conservation importance will be considered;
- Habitat compensation will be considered for the loss of natural habitats of conservation values;
- Vibrating control measures for the blasting works and tunnelling works will be considered to minimize potential vibration impacts; and
- The water quality mitigation measures proposed in **Section 5.4.1** will be implemented.

### **Operational Impacts**

5.7.2 It is expected that there will be no significant ecological impacts during the operational phase of the Project. However, in respect of the potential accidental spillage from the Project, an accidental spill response plan will be considered for the Project.

## **5.8 Fisheries**

### **Construction Impacts**

5.8.1 Subject to EIA findings, the following mitigation measures will be considered to minimize the impacts during construction phase.

- Disruption to fisheries sensitive areas will be avoided as far as possible; and
- The mitigation measures covering the potential water quality impacts from marine-based site investigation works, marine-based foundation works, above-water construction works, site-run-off from general site operation, accidental spillage of chemicals and sewage from workforce mentioned in **Section 5.4.1** will be implemented.

### **Operational Impacts**

5.8.2 It is expected that there will be no significant impacts during the operational phase of the Project. However, in respect of the potential accidental spillage from the Project, an accidental spill response plan will be considered for the Project.

5.8.3 Besides the implementation of the measures stated in the water quality section (**Section 5.4.1**), no specific mitigation measures will be required for the operational phase of the Project.

## 5.9 Landscape and Visual

### Construction Impacts

5.9.1 The following measures will be considered to minimize landscape impacts on existing landscape resources and visual impacts on nearby sensitive receivers.

- Good site practices will be implemented for preservation and protection of the existing landscape resources, including existing natural stream, and mangrove in accordance with Environment, Transport and Works Bureau Technical Circular (Works) No. 5/2005 “Protection of Natural Streams/Rivers from Adverse Impacts arising from Construction Works”, and Development Bureau Technical Circular (Works) No. 4/2020 “Tree Preservation”;
- Reclamation areas, construction areas and temporary works areas will be optimized to minimize impacts on adjacent landscape;
- Measures will be taken to store and use construction equipment and building materials in place where they are not visually intrusive, or easily washed away or where they produce less dust;
- Screening of works areas will be provided with hoardings with appropriate colours compatible with the surrounding area;
- Control of night-time lighting will be implemented by hooding all lights and through minimization of night working periods, and will refer to the “Charter on External Lighting” and “Guidelines on Industry Best Practices for External Lighting Installations” promulgated by Environment Bureau;
- Sensitive landscape design of reclamation edge with attractive landscape treatments and incorporation of coastal vegetation into seawalls will be considered to improve the compatibility of the Project with the existing environment;
- Reduction of construction period to minimum and introduction of phasing of the construction stage will be considered;
- Protection of existing trees and rare / endangered / protected plant species, Old and Valuable Tree (OVT), potentially Registerable OVT and tree of particular value will be implemented in accordance with Development Bureau Technical Circular (Works) No. 4/2020 “Tree Preservation” and Development Bureau Technical Circular (Works) No. 5/2020 “Registration and Preservation of OVT” within the project boundary;
- Transplantation of suitable existing trees which will be in conflict with the proposed works will be considered; and
- Advance implementation of planting of vegetation will be considered.

## **Operational Impacts**

5.9.2 The following measures will be considered to minimize landscape impacts on existing landscape resources and visual impacts on nearby sensitive receivers.

- Trees and shrub will be planted to provide adequate greening, screening, and mitigation, and minimize visual impacts of the Project, where appropriate;
- Tree transplanting and compensatory planting for compensation of the loss of existing vegetation (including trees, shrubs, mangroves, etc.) will partially mitigate the impacts to the existing trees / woodland;
- Sensible locations will be chosen for planning the viaduct alignment, columns, tunnel portals, and reclamation areas to minimize impacts to existing trees and adjoining existing, planned and potential developments as far as practicable;
- Aesthetically pleasing design and responsive design will be adopted for the new structures (e.g. tunnel portals and ventilation facilities), and shall refer to HyD's "Structures Design Manual for Highways and Railways". Tree planting, shrub planting, vertical greening and earth mounds nearby will be used to reduce their apparent size / scale and to visually screen and soften the structures;
- Relevant technical documents of Geotechnical Engineering Office Publication No. 1/2011 "Technical Guidelines on Landscape Treatment for Slopes" shall be observed to provide landscape treatment of road embankments and soil slopes to enhance their visual appearance;
- Aesthetic design will be adopted for the road structures such as slip roads, bridges and tunnel portals. Road structures will be designed with considerations and suitable measures to minimize the visual impacts of the road corridor. Submission to Advisory Committee on the Appearance of Bridges and Associated Structures will be made in respect of the aesthetic design of the structures associated with the public highway system in accordance with Environment, Transport and Works Bureau Technical Circular (Works) No. 36/2004 "The Advisory Committee on the Appearance of Bridges and Associated Structures" and shall refer to HyD's "Structures Design Manual for Highways and Railways"; and
- The visual impacts of noise mitigation measures including noise enclosure, if any, will be mitigated by appropriate detailed design, including use of transparent panels, appropriate colour selection of panels and supporting structures, as well as design of supporting structures to incorporate a high level of quality and aesthetics.

## 5.10 Cultural Heritage

### Terrestrial Archaeology

- 5.10.1 There is no SAI to be affected by the Project. Nevertheless, a detailed archaeological impact assessment study will be conducted at the EIA stage with recommendation of appropriate mitigation measures if necessary. Archaeological investigation during the EIA stage will be conducted if necessary to identify area(s) of archaeological potential and assess the archaeological impact on the identified area(s) of archaeological potential.

### Built Heritage

- 5.10.2 The only built heritage receiver identified was Tang Lung Chau Lighthouse (Declared Monument) at distance of more than 300 m from the proposed alignment. There are no other heritage sites, i.e. proposed monuments, graded historic sites / buildings / structures, sites / buildings / structures in the new list of proposed grading items, and Government historic sites identified by the Antiquities and Monuments Office, located within the study area.
- 5.10.3 In general, the works are located away from the built heritage and will have no direct impact during construction or operational phases. Some visual changes to the sightlines of the Lighthouse are to be expected but they are cumulative and absorbed by Kap Shui Mun Bridge which lies adjacent to the Project. No major impacts are expected during construction or operational phases and mitigation measure is not required. Nevertheless, a detailed Built Heritage Impact Study is required at the investigation and design stage.

### Marine Archaeology

- 5.10.4 MAI will be conducted by marine archaeologist with a licence granted under the Antiquities and Monuments Ordinance (Cap. 53) to investigate marine archaeological potential of the affected seabed. A geophysical survey was done within the key area and no significant anomalies were observed at preliminary review. A geophysical survey will be carried out to include the remaining coverage to the extent of a distance of 200 m from the proposed alignment for the Project. The marine archaeologist is required to review and investigate the findings of the geophysical survey including diver survey (if necessary) and provide recommendation of appropriate mitigation measures if necessary.

## 5.11 Hazard to Life

- 5.11.1 As discussed in **Section 3.11** and **Section 4.9**, the Project is located within 1 000m CZs of two PHIs (i.e. Chevron Hong Kong Limited Tsing Yi Terminal and Shell Tsing Yi Installation). As explosives will be used in construction phase, control measures will be considered for the construction phase to reduce the potential risk. These include establishment of no-blast zones for areas of high sensitivity / risk and limitation of working hours and number of construction workers. For operational phase, the presence of the Project may increase the individual and societal risks if vehicle collision happens. Subject to the result of assessment, mitigation measures will be proposed, such as provision of barriers at the alignment section closed to the PHIs, preparation of emergency plan to address uncontrolled fire in magazine area (if any) and transport etc.

- 5.11.2 A quantitative risk assessment will be conducted for construction phase and operational phase to assess the potential risk, and mitigation measures will also be reviewed.
- 5.11.3 In addition, the bridge anchorages at Tsing Yi and North Lantau, as well as the site formation works and tunnelling works at North Lantau, will require rock excavation, which may need blasting work subject to future design and programme study. If blasting work is required, explosives will be delivered to the site on a daily basis when required with temporarily storage on site prior to their use in the construction work, without overnight storage. Alternatively, subject to construction programme consideration, explosive magazine may be required to store the explosives overnight, under which case the location of the magazine will be carefully chosen. The temporary on-site storage area or the magazine will be designed, operated and maintained in accordance with the guidelines published by the Mines Division of Civil Engineering and Development Department and appropriate industry best practices. In addition, the following recommendations should be implemented as far as practicable:
- A suitable work control system will be followed and amended if necessary, such as an operational manual including Permit-to-Work system, to ensure that work activities undertaken during the construction are properly controlled;
  - Good housekeeping will be implemented within the storage area to ensure that combustible materials are not allowed to accumulate;
  - The storage area will be established without open drains, traps, pits or pockets into which any molten ammonium nitrate could flow and be confined in the event of a fire;
  - Delivery vehicles will not be permitted to remain within the secured fenced off storage area;
  - Delivery vehicles will not be allowed to park overnight or when not required within the storage area or its adits;
  - A speed limit within the storage area will be enforced to reduce the risk of a vehicle impact or incident within the storage area; and
  - Traffic management will be implemented within the storage area, to ensure that no more than 1 vehicle will be loading / loaded at any time, in order to avoid accidents involving multiple vehicles within the site boundary.
- 5.11.4 Moreover, the EIA study will look into the way of delivery of explosives. Hazard assessment for explosives will be conducted taking into account the impacts of delivery and use of explosives for construction on the population in the vicinity of the alignment, including the risks from transport of explosives, use of explosives and transport of explosives to the blast faces. Risk mitigation measures will be considered in the EIA study if required.
- 5.11.5 For the potential impact on the dangerous goods vessels passing through the Ma Wan Fairway and Kap Shui Mun Fairway, the construction methodology of the marine bridge sections of the Project will be reviewed. Other marine scheduling and works control for the bridge construction will be carefully reviewed during the EIA study.

## **5.12 Severity, Distribution and Duration of Environmental Effects and Further Implications**

- 5.12.1 Subject to the findings of assessments, effective control and mitigation measures will be identified to ensure the impacts are within acceptable levels. The possible severity, distribution and duration of environmental effects such as beneficial and adverse effects, short and long term effects, secondary and induced effects, cumulative effects and transboundary effects will be considered and addressed in the EIA, where applicable. The key results from public consultation will also be documented in the EIA.

## 6 Use of Previously Approved EIA Reports

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- 6.1 No previous approved EIA report exists for the Project. However, reference will be made to the following previously approved EIA reports within the study area:

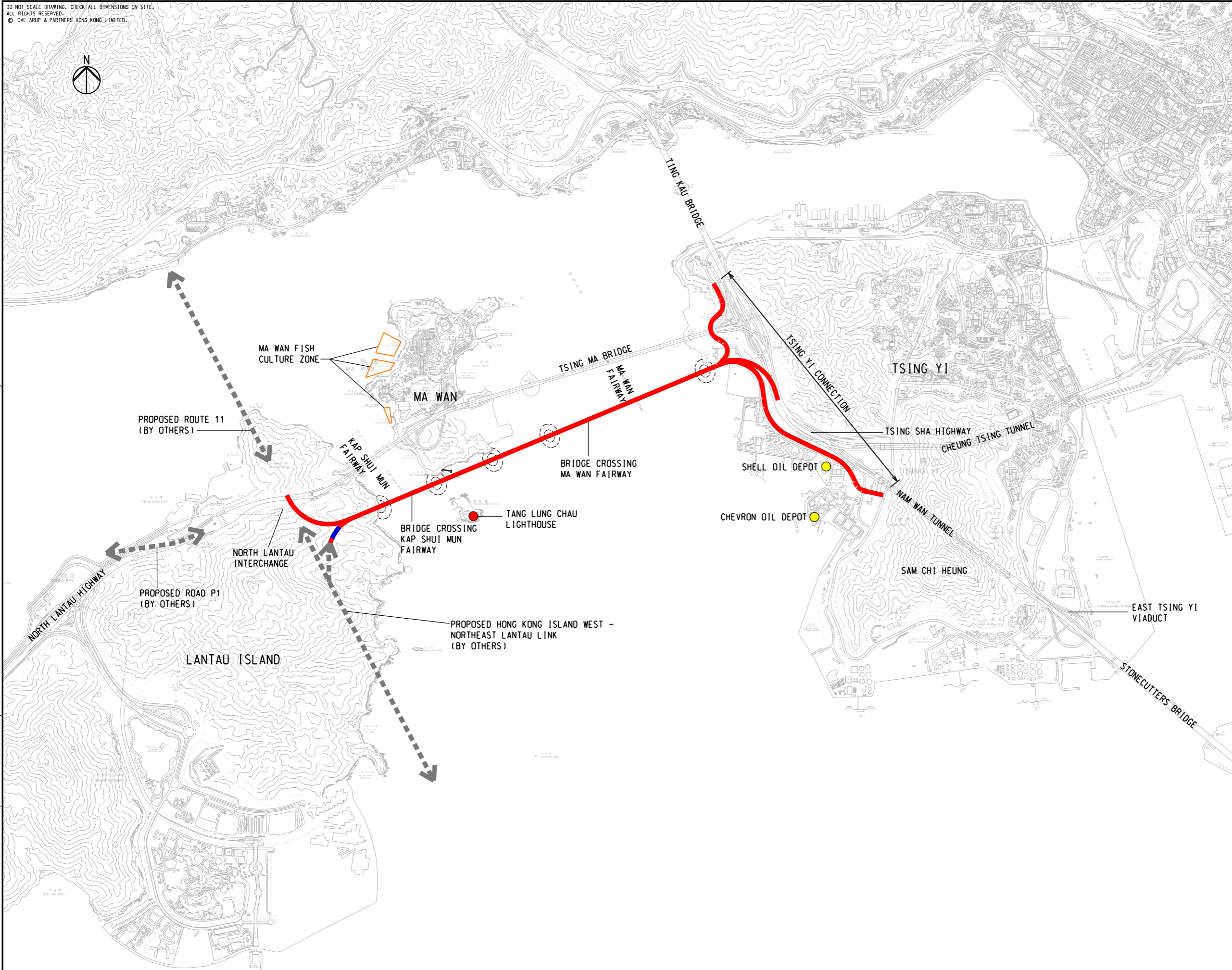
**Table 6.1 List of previously approved EIA reports for reference**

Register No.	Title
AEIAR-011/1999	Tang Lung Chau Dangerous Goods Anchorage



## Figure

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- LEGEND**
- PROPOSED ELEVATED/ AT-GRADE ROAD (TENTATIVE ALIGNMENT)
  - PROPOSED TUNNEL (TENTATIVE ALIGNMENT)
  - MA WAN FISH CULTURE ZONE
  - BUILT HERITAGE RESOURCES
  - POTENTIALLY HAZARDOUS INSTALLATION
  - POSSIBLE RECLAMATION AREA
  - BRIDGE STRUCTURE

**NOTE**  
RECLAMATION EXTENT WILL BE FURTHER REVIEWED AT THE INVESTIGATION AND DESIGN STAGE OF THE PROJECT.

G	SEVENTH ISSUE	GL	12/22
F	SIXTH ISSUE	GL	10/22
E	FIFTH ISSUE	GL	09/22
D	FORTH ISSUE	GL	08/22
Rev	Description	By	Date

Consultant  
**ARUP**

Project title  
Agreement No. CE 50/2020 (HY)  
Feasibility Review of Tsing Yi – Lantau Link  
– Feasibility Study

Drawing title  
**LAYOUT PLAN FOR PRELIMINARY ALIGNMENT OF TSING YI - LANTAU LINK**

Drawing no. <b>FIGURE 1.1</b>		Rev. <b>G</b>	
Drawn	Date	Checked	Approved
GL	12/22	TL	FC
Scale	1:30000 @A3		Status
			<b>PRELIMINARY</b>

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**路政署 HIGHWAYS DEPARTMENT**

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