

## 14 CONCLUSION

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### 14.1 General

14.1.1.1 This EIA report has been prepared to satisfy the requirements given in the EIA Study Brief (ESB-278/2014) and the Technical Memorandum on Environmental Impact Assessment Process. All the latest planning information has been incorporated into the EIA process. Aspects that have been considered in this EIA Report include:

- Air Quality;
- Noise;
- Water Quality;
- Waste management implication;
- Land contamination;
- Ecological impact;
- Landscape and visual impact;
- Cultural heritage impact; and
- Environmental monitoring and auditing.

14.1.1.2 All the existing and planned environmental sensitive receivers within and in the vicinity of the Study Area have been identified by conducting site surveys and reviewing relevant planning information. The receivers identified include residential blocks and educational institutions, etc. These receivers have all been considered in this EIA study.

### 14.2 Air Quality Impact

#### 14.2.1 Construction Phase

14.2.1.1 During construction phase, potential dust impact would be generated from the various construction activities, including site clearance, temporary erection and piling works, and wind erosion during the construction phase. The construction works will be confined within small work area scattered along the nullah and it is understood that the construction activities will not be taken place on the entire work sites at the same time, but to be undertaken at moving multiple work fronts. A qualitative construction dust assessment has therefore been conducted for the construction of the Project. The assessment result indicated that no adverse cumulative construction dust impact is anticipated. Nevertheless, dust control measures, such as watering during excavation of dusty material and washing vehicles to remove dusty materials from its body and wheels before leaving the construction site, are recommended to minimize the potential dust emission from the Project.

14.2.1.2 For fuel combustion equipment, the emission from the PMEs is considered relatively small and will not cause adverse air quality impact due to the effect of Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation.

14.2.1.3 For construction vehicles, there would be in total of not more than 10 trips per hour and the vehicles would leave the site through two different vehicles exits (one located near Tai Shu Ha Road West and one located near Wang Lok Street). The emissions from construction vehicles are considered relatively small and will not cause adverse air quality impact.

14.2.1.4 No adverse odour impact is anticipated due to there would be very small quantity of sediment generated and stored on-site simultaneously. Nevertheless, odour control measures are recommended to minimize the potential odour emission from the Project.

## 14.2.2 Operational Phase

14.2.2.1 The Project is an elevated footbridge with associated infrastructures. There will be no air pollutants and odour emission sources during operation of the Project. Hence, no adverse cumulative air quality impact is anticipated.

## 14.3 Noise Impact

### 14.3.1 Construction Phase

14.3.1.1 Construction airborne noise assessment has been conducted. The construction works will be confined within small work area scattered along the nullah and it is understood that the construction activities will not be taken place on the entire work sites at the same time, but to be undertaken at moving multiple work fronts. All the practicable mitigation measures have been exhausted to minimise the noise impacts. These mitigation measures include the optimisation of construction methodology (i.e. scheduling of PME uses, quiet plants, temporary noise barrier and good site practices). With the implementation of the recommended noise mitigation measures, all NSRs would comply the construction noise criteria.

14.3.1.2 Because the Project does not involve drilling and blasting, or the use of Tunnel Boring Machine (TBM). It is anticipated that construction groundborne noise will not cause adverse impact.

### 14.3.2 Operational Phase

14.3.2.1 The Project is an elevated footbridge with associated infrastructures. No noise impact is generated during operation of the Project. Hence, no adverse cumulative noise impact is anticipated.

## 14.4 Water Quality Impact

### 14.4.1 Construction Phase

14.4.1.1 During construction phase, potential water pollution and impact sources have been identified as construction of elevated pedestrian corridor within Yuen Long Town Nullah, construction site surface runoff, sewage from site workforce and temporary structure within the nullah. With the full implementation of the recommended mitigation measures, such as construction of cofferdam for isolation of work sites and phased implementation of construction works, covering excavated materials and providing sedimentation tanks on-site etc., no adverse water quality impact is anticipated.

## 14.4.2 Operational Phase

- 14.4.2.1 During the operational phase, the potential water quality impact is mainly surface runoff from the elevated pedestrian corridor and permanent structure of the proposed elevated pedestrian corridor within the nullah. With the proper installation of drainage system and recommended mitigation measures, no adverse water quality impact is anticipated.

## 14.5 Waste Management

### 14.5.1 Construction Phase

- 14.5.1.1 During construction phase, the demolition of existing retaining wall of the nullah and construction works regarding the elevated pedestrian corridor and its supporting features will result in C&D wastes which need proper management to prevent waste implication to the environment. It is estimated that a total of 15,330m<sup>3</sup> inert soft C&D materials, 3,040m<sup>3</sup> AHM, and 5,120m<sup>3</sup> rocks will be generated during construction phase. Whilst approximately 3,785m<sup>3</sup> inert soft C&D materials can be reused on-site as backfill material. The remaining C&D materials, including inert C&D soft materials, AHM and rocks will be delivered to public fill reception facilities for future reuse in other infrastructural projects. 5,870m<sup>3</sup> non-inert C&D materials is estimated to be generated from the Project. The materials will be delivered to landfills for disposal. In addition, it is estimated that less than 100m<sup>3</sup> Cat. L land-based sediment would be generated from the construction works. The sediment is proposed for Type 1 – Open Sea Disposal, and application for dumping at designated sediment disposal area should be made in accordance with DASO. General refuse, sewage and chemical wastes will be also generated during construction phase, no residual impact is anticipated with the implementation of the waste management plan and recommended mitigation measures.
- 14.5.1.2 A Waste Management Plan should be prepared and implemented by the contractor to ensure proper management of the collection, sorting, storage, transportation and disposal of waste generated from the construction phase of the Project. With proper implementation of mitigation measures, including good site practices, waste reduction measures, proper containment and disposal of various types of wastes, no residual impact is anticipated during construction phase.

### 14.5.2 Operational Phase

- 14.5.2.1 During operational phase, the major source of waste will be the general refuse generated by the future users of the elevated pedestrian corridor. Adequate refuse collection bins and recycling bins should be provided on the elevated pedestrian corridor and reputable refuse collector should be employed to collect and dispose the waste regularly. No residual impact is anticipated during operational phase.

## 14.6 Land Contamination

- 14.6.1.1 Upon review of historical aerial photo and site reconnaissance, it was observed that the Project Area has been a channelized watercourse lined with concrete and concrete-paved pedestrian footpath for more than 20 years. No soil contamination is anticipated in the Project Area.

## 14.7 Ecology

### 14.7.1 Construction Phase

14.7.1.1 The Project is located over the major channelized watercourse, Yuen Long Town Nullah, in the highly urbanised and populated area in Yuen Long. No habitat or species of conservation importance is identified within the Project Area. Due to the highly developed and disturbed status, the ecological value of the Project Area and within 500 m Assessment Area is considered low. However, the major construction works would take place in the nullah. The nullah is connected to Shan Pui River, which is hydrologically linked to the ecological sensitive area further downstream, including various habitats in the Wetland Buffer Area and Wetland Conservation Area. Therefore, mitigation measures during construction phase should be strictly followed to prevent deterioration of the water quality of the nullah, which may lead to adverse impact to the ecological sensitive areas downstream. With proper implementation of mitigation measures, the generation of pollutants and their release to the nullah would be minimised and no significant adverse residual impact is anticipated.

### 14.7.2 Operational Phase

14.7.2.1 The Project is an elevated pedestrian corridor in the highly urbanized Yuen Long district. As the area is already highly developed and disturbed, and there is no ecological sensitive habitat or species in the vicinity, no adverse ecological impact is anticipated during operational phase.

## 14.8 Landscape and Visual

14.8.1.1 It is considered that the proposed footbridge and the pedestrian interchanges follow in principle the planning intentions from the Draft Yuen Long Outline Zoning Plan (No.S/YL/22) and Ping Shan Outline Zoning Plan (No.S/YL-PS/16). However, the concept of the proposed footbridge and pedestrian interchanges has been considered to a minimum impact. Enhanced connectivity to the public transportation and open space network from On Ning Road to Kau Yuk Road do reinforce the planning intentions of Yuen Long Urban Area.

14.8.1.2 There are approximately 38 trees will be affected by the construction of the proposed footbridge and pedestrian interchanges located in Yuen Long On Ning Road, Castle Peak Road – Yuen Long, and Kau Yuk Road, out of which 1 tree are proposed to be transplanted and 37 trees are proposed to be felled. None of these affected trees are LCSD Champion Trees nor Registered Old and Valuable Trees. There are no rare species or endangered species but common species will be affected.

14.8.1.3 With the implementation of the mitigation measures, residual impacts at day 1 of operation are considered to be slightly beneficial for the LR1, LR5, LR6, LR7, LR8, and LR9. These beneficial impacts are mainly due to the streetscape elements, namely, paving enhancement along both side of the Yuen Long Town Nullah. LR10, LCA2 and LCA5 will still have slight landscape impact due to the proposed interchange platform will permanently cover some portion of the nullah.

14.8.1.4 The Travellers T2, T3 T4 and REC1 are considered to be insubstantial after the implementation of mitigation measures. These are the viewers along Yuen Long On Ning Road (T2), Castle Peak Road – Yuen Long (T3), and Kau Yuk Road (T4).

The visual impacts will be reduced due to the enhanced streetscape along both side of the nullah.

- 14.8.1.5 The proposed footbridge structure will unavoidably cause some visual impact to the residential VSRs along both sides of the Yuen Long nullah. It is considered that the proposed new trees and existing trees can provide green buffer between those VSRs and the footbridge, therefore, the visual impact can be reduced to slight to moderate after implementation of mitigation measures.
- 14.8.1.6 Despite that the footbridge structure will unavoidably cause visual obstruction to the existing visual corridor and visual impact to the travellers/leisure space users along the crossings of Yuen Long Nullah (REC2), by taken account into the overall visual impact to all VSRs are mostly slight to insubstantial, and the functional requirement of the project, the works is considered as marginally acceptable in visual point of view.
- 14.8.1.7 Overall, the landscape impact of the project are considered to be acceptable with mitigation measures and visual impact of the project is considered to be marginally acceptable with mitigation measures.

## 14.9 Cultural Heritage

### 14.9.1 Built Heritage

- 14.9.1.1 Two built heritage resources, the Entrance Tower of Tai Kiu Tsuen (Proposed Grade 3 Historic Building) and No. 21 Tai Kiu Tsuen (Nil Graded Historic Building), were identified close to and within the 100m assessment area respectively. Besides these historic buildings, no heritage resources with significant value were identified.
- 14.9.1.2 During the construction phase, no direct impact is anticipated as the construction work will be confined within the nullah and footpath along the nullah. Indirect impact, such as ground borne vibration and visual impact, is considered minimal and acceptable due to there will be at least 90m buffer distance between the historic buildings and the work area of the Project.
- 14.9.1.3 During the operational phase, entrance tower of Tai Kiu Tsuen (Proposed Grade 3 Historic Building) will be preserved under the approval conditions of the application of proposed comprehensive commercial / residential development at Tai Kiu Tsuen (A/YL/136-1). Since both identified built heritage resources will be surrounding by the existing buildings and future comprehensive commercial / residential development, potential visual impact of the Project is considered minimal and acceptable as there will be no direct view from the identified heritage resources to the Project under both current and future conditions.

### 14.9.2 Archaeology

- 14.9.2.1 No site of archaeological interest, government historical site and area of significant archaeological potential were identified within the 100 m assessment area. As the work area of the Project will be confined within the Yuen Long Nullah and footpath along the nullah. No potential archaeological impact is anticipated and no archaeological survey is considered necessary for the Project.

## 14.10 Environmental Monitoring and Audit Requirements

- 14.10.1.1 It is recommended to implement an EM&A programme throughout the entire construction period to monitor the environmental impacts on the neighbouring sensitive receivers regularly. An EM&A Manual was prepared to specify the monitoring requirements for the implementation of the environmental mitigation measures identified in the EIA process. All the requirements specified in the EM&A Manual shall be complied with.
- 14.10.1.2 An Environmental Mitigation Implementation Schedule has also been included in the EM&A Manual to summarise all the measures, the locations of implementation, timeframe, agency, etc.

## 14.11 Overall

- 14.11.1.1 In conclusion, with the full implementation of the recommended mitigation measures such as installation of drainage system, provision of adequate refuse collection / recycling bins and employ of reputable refuse collection, no adverse environmental impact is anticipated at the operational stage. During construction stage, the short term impacts could be controlled to compile with environmental legislation and standards through implementation of purposed built equipment and standard mitigation measures, such as watering during excavation of dusty material, washing vehicles to remove dusty materials from its body and wheels before leaving the construction site, use of quiet plants and temporary noise barrier and use of cofferdams. Enhancement of the streetscape elements would also create a beneficial impact. Through improvement in the pedestrian connectivity in the vicinity of the Project, convenience to both the pedestrians and local community could be achieved.