

Highways Department

**Agreement No. CE 32/2014 (HY)  
Elevated Pedestrian Corridor in  
Yuen Long Town Connecting with  
Long Ping Station – Investigation,  
Design and Construction**

**Environmental Impact Assessment  
Report**

240246

Final | July 2016

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 240246

**Ove Arup & Partners Hong Kong Ltd**

Level 5 Festival Walk  
80 Tat Chee Avenue  
Kowloon Tong  
Kowloon  
Hong Kong  
[www.arup.com](http://www.arup.com)

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<b>Job title</b>		Agreement No. CE 32/2014 (HY) Elevated Pedestrian Corridor in Yuen Long Town Connecting with Long Ping Station – Investigation, Design and Construction		<b>Job number</b> 240246	
<b>Document title</b>		Environmental Impact Assessment Report		<b>File reference</b> 8.24	
<b>Document ref</b>		240246			
<b>Revision</b>	<b>Date</b>	<b>Filename</b>	034-00_DEIA.docx		
Final	July	<b>Description</b>	Final		
			Prepared by	Checked by	Approved by
		Name	Various	Eva Lam / Koon-yu Leung / Frankie Chiu	Eric Chan
		Signature			
		<b>Filename</b>			
		<b>Description</b>			
			Prepared by	Checked by	Approved by
		Name			
		Signature			
		<b>Filename</b>			
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		Name			
		Signature			

Issue Document Verification with Document



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## Nomenclature and Abbreviations

Abbreviations	Description
AAB	Antiquities Advisory Board
ACABAS	Advisory Committee on the Appearance of Bridges and Associated Structures
AFCD	Agriculture, Fisheries and Conservation Department
AHM	Artificial Hard Material
AMO	Antiquities and Monuments Office
ANLs	Acceptable Noise Levels
APCO	Air Pollution Control Ordinance
AQMS	Air Quality Monitoring Station
AQOs	Air Quality Objectives
ASR	Air Sensitive Receiver
BOD	Biological Oxygen Demand
C&D	Construction and Demolition
C&DMMP	Construction and Demolition Material Management Plan
CA	Conservation Area
CCT	Construction of Cycle Tracks
CEDD	Civil and Engineering Development Department
CNP	Construction Noise Permit
CO	Carbon Monoxide
COD	Chemical Oxygen Demand
CPRYLS	Castle Peak Road – Yuen Long Section
CWTC	Chemical Wastes Treatment Centre
DC	District Council
DEP	Director of Environmental Protection
DP	Designated Project
DSD	Drainage Services Department
DWF	Dry Weather Flow
DWFI	Dry Weather Flow Interception
EIA	Environmental Impact Assessment
EIAO	Environmental Impact Assessment Ordinance
EM&A	Environmental Monitoring and Audit
EMP	Environmental Management Plan
EP	Environmental Permit
EPD	Environmental Protection Department
ER	Engineer's Representative
ET	Environmental Team

<b>Abbreviations</b>	<b>Description</b>
ETWB	Environmental, Transport and Works Bureau
FS	Feasibility Study
FSP	Fine Suspended Particulates
GFA	Gross Floor Area
HIA	Heritage Impact Assessment
HKPSG	Hong Kong Planning Standards and Guidelines
HKSAR	Hong Kong Special Administrative Region
HyD	Highway Department
IEC	Independent Environmental Checker
IUCN	International Union for Conservation of Nature
JWGSDEP	Joint Working Group on Sustainable Development and Environmental Protection
KYR	Kau Yuk Road
LAOI	Land Administration Office Instruction
LRT	Light Rail Transit
MFC	Marine Fill Committee
MTRC	Mass Transit Railway Corporation
NCO	Noise Control Ordinance
NO <sub>2</sub>	Nitrogen Dioxide
NSR	Noise Sensitive Receiver
NWNT	Northwest New Territories
O <sub>3</sub>	Ozone
ODP	Outline Development Plan
OZP	Outline Zoning Plan
PATH	Pollutants in the Atmosphere and their Transport over Hong Kong
PCW	Prescribed Construction Work
PFA	Pulverised Fuel Ash
PFC	Public Fill Committee
PIS	Project Implementation Schedule
PlanD	Planning Department
PME	Powered Mechanical Equipment
PRC	People's Republic of China
PRD	Pearl River Delta
RBRGs	Risk-Based Remediation Goals
RSP	Respirable Suspended Particulates
QPME	Quality Powered Mechanical Equipment
SAI	Site of Archaeological Interest
SB	Study Brief
SFNSW	Supporting Facilities at Nam Sang Wai

<b>Abbreviations</b>	<b>Description</b>
SO <sub>2</sub>	Sulphur Dioxide
SPME	Specified Powered Mechanical Equipment
SS	Suspended Solid
SSSI	Site of Special Scientific Interest
SSTP	Sediment Sampling and Testing Plan
SWL	Sound Power Level
TBM	Tunnel Boring Machine
TFS	Technical Feasibility Statement
TM-DA	Technical Memorandum on Noise on Construction Work in Designated Areas
TM-DSS	Technical Memorandum for Effluents Discharged into Drainage and Sewerage Systems Inland and Coastal Waters
TM-EIAO	Technical Memorandum on Environmental Impact Assessment Process of EIAO
TM-GW	Technical Memorandum on Noise from Construction Work other than Percussive Piling
TM-PP	Technical Memorandum on Noise from Percussive Piling
TPB	Town Planning Board
VSR	Visual Sensitive Receiver
WCA	Wetland Conservation Area
WCZ	Water Control Zone
WDO	Waste Disposal Ordinance
WMP	Waste Management Plan
WPCO	Water Pollution Control Ordinance
WQOs	Water Quality Objectives
WRLPS	West Rail Long Ping Station
WSR	Water Quality Sensitive Receives
YLONR	Yuen Long On Ning Road
YLTN	Yuen Long Town Nullah
ZVI	Zones of Visual Influence

# 1 INTRODUCTION

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## 1.1 Background

- 1.1.1.1 Over the years, with the completion of major infrastructure improvements including Light Rail Transit (LRT) in late 80s, the operation of Tai Lam Tunnel in 1998 and the West Rail Service in 2003, Yuen Long has been experiencing substantial changes. Rapid growth in major residential developments and large scale integrated developments in Yuen Long Town and its surrounding areas was observed in recent years. These new developments and growing population have further exacerbated the congestion problem in Yuen Long Town and have resulted in surging demand for safe and convenient pedestrian facilities. Inadequate pedestrian facilities are long-standing problems in the town centre of Yuen Long. However, improvements have been constrained by the existing urban characteristics such as the presence of LRT, narrow footpaths along Castle Peak Road - Yuen Long Section.
- 1.1.1.2 The Chief Executive has pledged in his 2008-2009 Policy Address to improve the pedestrian environment in business districts, shopping centres and leisure areas with heavy pedestrian flows as to minimize vehicle-pedestrian conflicts and improve roadside air quality. Amongst other areas with heavy pedestrian flows, Yuen Long Town is selected as one of the key locations.
- 1.1.1.3 The first public engagement for developing pedestrian environmental improvement schemes commenced in 2009 and the proposed elevated pedestrian corridor was presented to Yuen Long District Council Meeting in 2010.
- 1.1.1.4 In September 2011, Highway Department (HyD) commissioned a Feasibility Study (FS) on the major improvement schemes including the proposed elevated pedestrian corridor, which in form of a footbridge, along Yuen Long Town Nullah connecting with West Rail Long Ping Station. A public engagement was conducted in March and April 2013 to consult the public on the preliminary proposals for the major improvement schemes formulated in the FS. The public and Yuen Long District Council expressed strong support for the proposed footbridge and urged its early implementation.
- 1.1.1.5 The Technical Feasibility Statement (TFS) prepared by HyD for the proposed elevated pedestrian corridor along Yuen Long Town Nullah between WRLPS and Kau Yuk Road with provision for future extension was approved by the Development Bureau in July 2013. The findings of the above FS and the TFS set out the basis for the current proposal for the proposed elevated pedestrian corridor under the Project.
- 1.1.1.6 Ove Arup and Partners Hong Kong Limited (Arup) was commissioned by HyD to provide consultancy services for the investigation, design and construction of the elevated pedestrian corridor in Yuen Long Town connecting with Long Ping Station (the Project).

## 1.2 EIA Study Brief

- 1.2.1.1 In accordance with the requirement of Section 5(1) of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499), a Project Profile (PP-514/2014) for the Project was submitted to the Director of Environmental Protection (DEP) for application for an EIA Study Brief (SB) in August 2014. Pursuant to Section 5(7)(a)

of the EIAO, DEP issued an EIA SB (ESB-278/2014) in September 2014 for this EIA Study.

- 1.2.1.2 The purpose of this EIA SB is to set out the purposes and objectives of the EIA study, the scope of environmental issues which shall be addressed, the requirements that the EIA study shall need to fulfil, and the necessary procedural and reporting requirements. The Applicant shall demonstrate in the EIA report that the criteria in the relevant sections of the Technical Memorandum on Environmental Impact Assessment Process of EIAO (TM-EIAO) are complied with.
- 1.2.1.3 According to Section 5.1 of the EIA SB, a summary pointing out the relevant EIA sections fulfilling the respective requirements of the EIA SB and TM-EIAO (in particular Annex 11 and 20 of TM-EIAO) has been prepared and included in **Appendix 1.1**.

### 1.3 Objectives of the Report

- 1.3.1.1 This EIA report is to provide the information on the nature and extent of environmental impacts arising from the construction and operation of the developments proposed under the Project and related works that take place concurrently. The objectives of this report are as follow:
- Describe the Project and associated works together with the requirements and environmental benefits for carrying out the Project;
  - Identify and describe the elements of the community and environment likely to be affected by the Project and/or likely to cause adverse impacts to the Project, including both the nature and man-made environment and the associated environmental constraints;
  - Identify and quantify emission sources and determine the significance of impacts on sensitive receivers and potential affected uses;
  - Identify and quantify any potential losses or damage to flora, fauna and wildlife habitats;
  - Identify and evaluate any potential and visual impacts and to propose measures to mitigate these impacts;
  - Propose the provision of infrastructure or mitigation measures to minimize the pollution, environmental disturbance and nuisance during the construction and operation of the Project;
  - Investigate the feasibility, effectiveness and implications of the proposed mitigation measures;
  - Identify, predict and evaluate the residual (i.e. after practicable mitigation) environmental impacts and the cumulative effects expected to arise during the construction and operation phases of the Project in relation to the sensitive receivers and potentially affected uses;
  - Identify, assess and specify methods, measures and standards, to be included in the detailed design, construction and operation of the Project which are necessary to mitigate these residual environmental impacts and cumulative effects and reduce them to acceptable levels;
  - Design and specify environmental monitoring and audit requirements; and



- Identify any additional studies necessary to implement the mitigation measures or monitoring and proposals recommended in the EIA report.

## 1.4 Structure of Report

1.4.1.1 The structure of this Report is as follow:

Chapter	Title	Aims
1	Introduction	Provides project background and purpose of the Study
2	Project Description	Presents a description of the Project
3	Consideration of Alternatives and Implementation Programme	Presents a description of alternatives considered for the Project and implementation programme of the Project
4	Air Quality Impact	Presents the legislation, methodology, assessment and recommendations for air quality impacts.
5	Noise	Presents the legislation, methodology, assessment and recommendations for noise impacts.
6	Water Quality Impact	Presents the legislation, methodology, assessment and recommendations for water quality impacts.
7	Waste Management	Presents the legislation, methodology, assessment and recommendations for waste management.
8	Land Contamination	Presents the legislation, methodology, assessment and recommendations for land contamination evaluation.
9	Ecology	Presents the legislation, methodology, assessment and recommendations for ecological impact.
10	Landscape and Visual	Presents the legislation, methodology, assessment and recommendations for landscape and visual impacts.
11	Cultural Heritage	Presents the legislation, methodology, assessment and recommendations for cultural heritage impacts.
12	EM&A Requirements	Presents the EM&A requirements.
13	Summary of Environmental Outcomes	Summarizes the findings.
14	Conclusion	Concludes the EIA study.