



Application No. : Reference No. : (For official use)

## FORM 5 ENVIRONMENTAL IMPACT ASSESSMENT ORDINANCE (CHAPTER 499) SECTION 13(1)

## Application for Variation of an Environmental Permit

## PART A PREVIOUS APPLICATIONS

No previous application for variation of a	an environmental permit.
The environmental permit was previous	ly amended.
Application No. : VEP-511/2016	
PART B DETAILS OF APPLICANT	
B1. Name : (person or company)	
Highways Department	
	Ordinance, the person holding an environmental permit or a person who project may apply for variation of the environmental permit.]
B4. Name of Contact Person :	B5. Position of Contact Person :
B6. Telephone No. :	B7. Fax No. :
B8. E-mail Address : (if any)	

### PART C DETAILS OF CURRENT ENVIRONMENTAL PERMIT

Highways Depar C2. Application N	tment o. of the Current Environmental Permit : VEP-511/2016
	invironmental Permit was Issued in : month / year
mportant Notes :	Please submit the application together with (a) 3 copies of this completed form; and (b) appropriate fee as stipulated in the Environmental Impact Assessment (Fees) Regulation to the Environmental Protection Department at the following address : The ElA Ordinance Register Office, 27th floor, Southorn Centre, 130 Hennessy Road, Wan Chai, Hong Kong. 17 SEP 20:3
☐ Tick (✓ ) the appro	ElAO Register Office, E.P.D.

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## PART D PROPOSED VARIATIONS TO THE CONDITIONS IN CURRENT ENVIRONMENTAL PERMIT

D1.	D2.	D3.	D4.	D5.	D6.	D7.
Condition(s) in the Current Environmental Permit :	Proposed Variation(s) :	Reason for Variation(s) :	Describe the environmental changes arising from the proposed variation(s) :	Describe how the environment and the community might be affected by the proposed variation(s) :	Describe how and to what extent the environmental performance requirements set out in the EIA report previously approved or project profile previously submitted for this project may be affected :	Describe any additional measures proposed to eliminate, reduce or control any adverse environmental impact arising from the proposed variation(s) and to meet the requirements in the Technical Memorandum on Environmental Impact Assessment Process :
Figure 1 Existing Rumsey St. Flyover Eastbound Down Ramp to be Permanently Closed and Demolished	Figure 1 Existing Rumsey St. Flyover Eastbound Down Ramp to be <u>Retained and Modified as</u> <u>Rumsey St. Flyover</u> <u>Westbound Up Ramp</u>	Please refer to the Section 1 of the attached Environmental Review Report for Retaining Rumsey Street Flyover Eastbound Down Ramp	Please refer to the Section 2 of the attached Environmental Review Report for Retaining Rumsey Street Flyover Eastbound Down Ramp	Please refer to the Section 2 of the attached Environmental Review Report for Retaining Rumsey Street Flyover Eastbound Down Ramp	Please refer to the Section 2 of the attached Environmental Review Report for Retaining Rumsey Street Flyover Eastbound Down Ramp	Please refer to the Section 2 of the attached Environmental Review Report for Retaining Rumsey Street Flyover Eastbound Down Ramp
Condition 2.3 To mitigate traffic noise from road operation, the following noise barriers and semi- enclosures shall be properly maintained during the operation of the Project	Condition 2.3 To mitigate traffic noise from road operation, the following noise barriers and semi- enclosures shall be properly maintained upon completion at the corresponding road sections.					

## PART D PROPOSED VARIATIONS TO THE CONDITIONS IN CURRENT ENVIRONMENTAL PERMIT

D1.	D2.	D3.	D4.	D5.	D6.	D7
Condition(s) in the Current Environmental Permit :	Proposed Variation(s) :	Reason for Variation(s) :	Describe the environmental changes arising from the proposed variation(s) :	Describe how the environment and the community might be affected by the proposed variation(s) :	Describe how and to what extent the environmental performance requirements set out in the EIA report previously approved or project profile previously submitted for this project may be affected :	Describe any additional measures proposed to eliminate, reduce or control any adverse environmental impact arising from the proposed variation(s) and to meet the requirements in the Technical Memorandum on Environmental Impact Assessment Process :
Condition 2.10 The Permit Holder shall, at least one month before the commencement of operation of the Project, deposit with the Director four hard copies and one electronic copy of the As- Built Drawing(s) of the landscape and visual mitigation measures in the deposited Landscape Plan(s), which shall be certified by the ET Leader and verified by the IEC as conforming to the recommendations of the Landscape Plan(s) deposited under Condition 2.14 of environmental permit (Permit No.: EP- 364/2009/B). The landscape and visual mitigation measures shall be properly maintained during operation of the Project.	Condition 2.10 The Permit Holder shall, at least one month <u>within</u> the commencement of <u>corresponding parts of</u> <u>operation landscape works</u> <u>of the Project</u> , deposit with the Director four hard copies and one electronic copy of the As-Built Drawing(s) of the landscape and visual mitigation measures in the deposited Landscape Plan(s), which shall be certified by the ET Leader and verified by the IEC as conforming to the recommendations of the Landscape Plan(s) deposited under Condition 2.14 of environmental permit (Permit No.: EP- 364/2009/B). The landscape and visual mitigation measures shall be properly maintained <u>after the commencement</u> <u>of the corresponding parts</u> <u>of operation landscape</u> <u>works</u> .	Please refer to the Section 2 of the attached Environmental Review Report for Alternative Arrangement for Submission of As-built Drawings for Landscape Works of CWB	Please refer to the Section 2 of the attached Environmental Review Report for Alternative Arrangement for Submission of As-built Drawings for Landscape Works of CWB	Please refer to the Section 4 of the attached Environmental Review Report for Alternative Arrangement for Submission of As-built Drawings for Landscape Works of CWB	Please refer to the Section 4 of the attached Environmental Review Report for Alternative Arrangement for Submission of As-built Drawings for Landscape Works of CWB	Please refer to the Section 4 of the attached Environmental Review Report for Alternative Arrangement for Submission of As-built Drawings for Landscape Works of CWB

## PART D PROPOSED VARIATIONS TO THE CONDITIONS IN CURRENT ENVIRONMENTAL PERMIT

D1.	D2.	D3.	D4.	D5.	D6.	D7.
Condition(s) in the Current Environmental Permit :	D2. Proposed Variation(s) :	Reason for Variation(s) :	Describe the environmental changes arising from the proposed variation(s) :	Describe how the environment and the community might be affected by the proposed variation(s) :	Describe how and to what extent the environmental performance requirements set out in the EIA report previously approved or project profile previously submitted for this project may be affected :	Describe any additional measures proposed to eliminate, reduce or control any adverse environmental impact arising from the proposed variation(s) and to meet the requirements in the Technical Memorandum on Environmental Impact Assessment Process :
Condition 2.11 The Permit Holder shall properly maintain the following measures to mitigate the landscape and visual impact of the road traffic noise semi-enclosures and barriers: Figure 2a Locations of Direct Noise Mitigation Measure	Condition 2.11 The Permit Holder shall properly maintain upon completion of the following measures to mitigate the landscape and visual impact of the road traffic noise semi- enclosures and barriers: Figure 2a Locations of Direct Noise Mitigation Measure with a highlighted section of the proposed TTA to be implemented after CWB tunnel is opened	Please refer to the Section 3 of the attached Environmental Review Report for Alternative Arrangement for Submission of As-built Drawings for Landscape Works of CWB	Please refer to the Section 3 of the attached Environmental Review Report for Alternative Arrangement for Submission of As-built Drawings for Landscape Works of CWB	Please refer to the Section 3 of the attached Environmental Review Report for Alternative Arrangement for Submission of As-built Drawings for Landscape Works of CWB	Please refer to the Section 4 of the attached Environmental Review Report for Alternative Arrangement for Submission of As-built Drawings for Landscape Works of CWB	Please refer to the Section 4 of the attached Environmental Review Report for Alternative Arrangement for Submission of As-built Drawings for Landscape Works of CWB

#### PART E DECLARATION BY APPLICANT

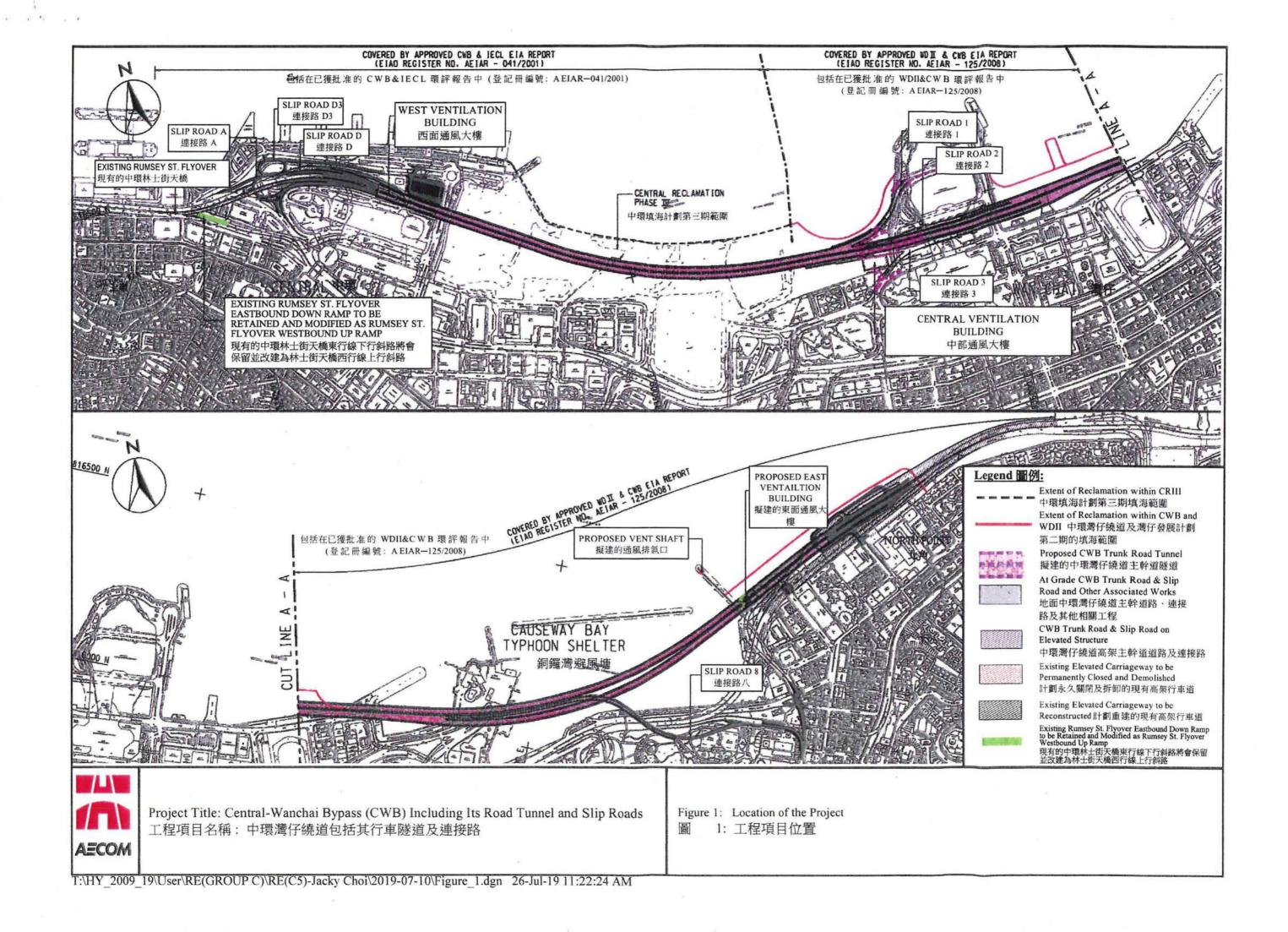
Signature of Applicant	<del>.</del>	Full Name in Block Letters	Position

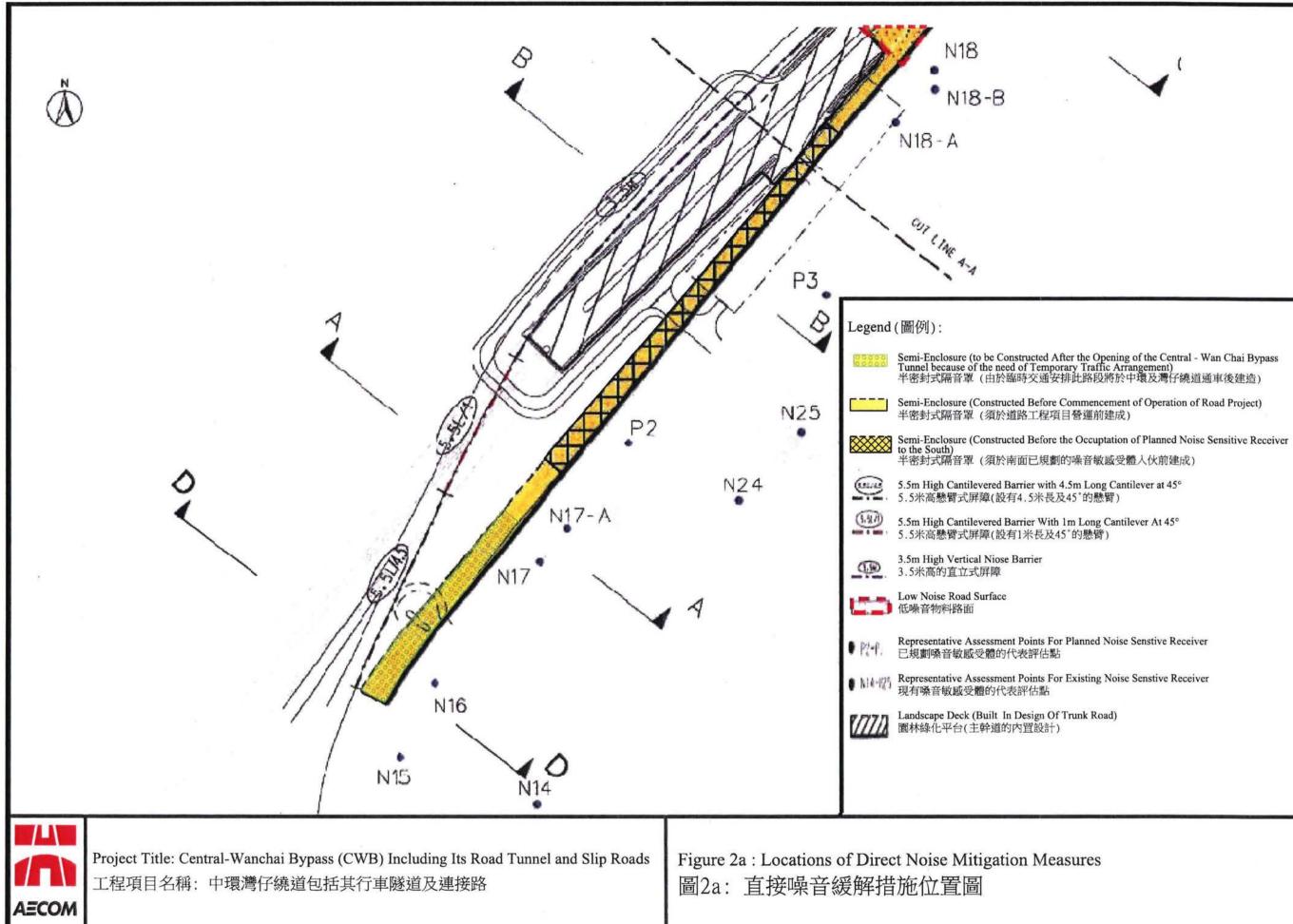
#### NOTES :

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- A person who constructs or operates a designated project in Part I of Schedule 2 of the Ordinance or decommissions a designated project listed in Part II of Schedule 2 of the Ordinance without an environmental permit or contrary to the permit conditions commits an offence under the Ordinance and is liable to a maximum fine of \$5,000,000 and to a maximum imprisonment for 2 years.
- A person for whom a designated project is constructed, operated or decommissioned and who permits the carrying out of the designated project in contravention of the Ordinance commits an offence and is liable to a maximum fine of \$5,000,000 and to a maximum imprisonment for 2 years.





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Semi-Enclosure (to be Constructed After the Opening of the Central - Wan Chai Bypass Tunnel because of the need of Temporary Traffic Arrangement) 半密封式隔音罩 (由於臨時交通安排此路段將於中環及灣仔繞道通車後建造)

Semi-Enclosure (Constructed Before Commencement of Operation of Road Project) 半密封式隔音罩 (須於道路工程項目營運前建成)

#### Environmental Review Report for Alternative Arrangement for Submission of As-built Drawings for Landscape Works of CWB

#### 1. Introduction

- 1.1 As stipulated in Condition 2.10 of Environmental Permit EP-482/2013/A (operation EP), The landscape and visual mitigation measures shall be implemented in accordance with the recommendations of the Landscape Plan(s) deposited under Condition 2.14 of environmental permit (Permit No.: EP-364/2009/B), Table 10.6 and Figure 10.5, 10.5A, 10.5.1 to 10.5.5 of the WDII&CWB EIA Report (Register No. AEIAR-125/2008) and Table 7.5 of the CWB&IECL EIA Report (Register No. AEIAR-041/2001). The Permit Holder shall, at least one month before the commencement of operation of the Project, deposit with the Director four hard copies and one electronic copy of the As-Built Drawing(s) of the landscape and visual mitigation measures in the deposited Landscape Plan(s), which shall be certified by the ET Leader and verified by the IEC as conforming to the recommendations of the Landscape Plan(s) deposited under Condition 2.14 of environmental permit (Permit No.: EP-364/2009/B). The landscape and visual mitigation measures in the deposited Landscape Plan(s) which shall be certified by the ET Leader and verified by the IEC as conforming to the recommendations of the Landscape Plan(s) deposited under Condition 2.14 of environmental permit (Permit No.: EP-364/2009/B). The landscape and visual mitigation measures shall be properly maintained during operation of the Project.
- 1.2 As stipulated in Condition 2.11 of the operation EP, The Permit Holder shall properly maintain the following measures to mitigate the landscape and visual impact of the road traffic noise semi-enclosure and barriers:
  - a) Transparent panels, translucent panels and/or green roof with translucent skylight in the upper part where appropriate; and

b) Green panels with planters in the lower part where appropriate.

As shown in Figure 2d, 2e, 2f and 2g of this permit.

- 1.3 Due to the actual completion time of corresponding sections of the CWB project, different sections of the landscape works, landscape and visual mitigation measure for the seminoise enclosure of the CWB project will be completed and properly maintained after the completion of construction works at the corresponding sections of CWB project.
- 1.4 This Environmental Review Report aims to propose the submission time of the as-built drawings of the landscape mitigation measures of the corresponding sections of the CWB project for clarity and clarify the timeframe of maintaining the measures to mitigate the landscape and visual impact of the road traffic noise semi-enclosure and barriers.

#### 2. Propose Submission time of the As-built Drawings of the Landscape Mitigation Measures

2.1 Due to the actual completion time of corresponding sections of the CWB project, the completion of landscape works (implemented according to the respective landscape plans submitted under different further Environmental Permits) at corresponding sections of the CWB will be different and will not be completed at the same time. Moreover, details in the as-built drawing of landscape works will be varied after liaisons with different maintenance parties or stakeholders and will require several rounds of changes before the completed landscape works can be handed over to corresponding maintenance parties as the as-built drawings can be finalized. After handing over, the landscape operation works by the maintenance party will commence. Hence, it is more practicable to submit the as-built drawings of corresponding sections of CWB one month within the commencement of operation of the corresponding parts of landscape works of CWB project and these landscape and visual mitigation measures under condition 2.10 of operation EP shall be properly maintained upon commencement of the corresponding parts of operation landscape works during operation of the Project.

#### 3. Maintenance of Measures to Mitigate the Landscape and Visual Impact of the Road Traffic Noise Semi-enclosure

3.1 The tunnel section of CWB project was commissioned before the completion of the green roof and green panels of the semi-noise enclosure for public interest and the traffic conditions on IEC. Due to the site constraint, the construction of green roof and other landscape and visual mitigation measures for the semi-noise enclosure will have to commence after the CWB tunnel is opened. Hence, the measures to mitigate the landscape and visual impact of the road traffic noise semi-enclosure and barriers will be properly maintain upon completion of the mitigation measures.

#### 4. Landscape and Visual Impact Assessment

4.1 The landscape and visual mitigation measures for operation recommended in the EIA reports (EAIAR-041/2001 and EAIAR-125/2008) will be implemented without changes. Hence, there will be no additional or significant landscape and visual impact on the VSRs.

#### 5. Conclusion

- 5.1 This Environmental Review Report aims to propose the submission time of the as-built drawings of the landscape mitigation measures of the corresponding sections of the CWB project for clarity and clarify the timeframe of maintaining the measures to mitigate the landscape and visual impact of the road traffic noise semi-enclosure and barriers.
- 5.2 As there are no changes on the scope of the recommended landscape and visual mitigation measure for operation stage, there will be no additional or significant landscape and visual impact on the VSRs listed in the EIA reports.

#### TABLE OF CONTENTS

1	DDUCTION	1				
	1.1	Background	1			
	1.2	Reason for Variation	1			
	1.3	Content of this Environmental Review Report	1			
2 E	EVAL	EVALUATION OF ENVIRONMENTAL IMPACTS				
	2.1	Air Quality	2			
	2.2	Noise Impact	3			
	2.3	Landscape and Visual Impact Assessment	4			
3	CONC	CLUSION	5			

#### **Figures**

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Figure 2.1	Location of Air Sensitive Receiver
Figure 2.2	Location of Noise Sensitive Receiver
Figure 2.3	Location of Visual Sensitive Receiver
Figure 2.4	Landscape Area adjacent to RSF

#### 1 INTRODUCTION

#### 1.1 Background

- 1.1.1 The current roadwork scheme of the Central Wan Chai Bypass and Island Eastern Corridor Link (CWB & IECL) was authorized under the Roads (Works, Use and Compensation) Ordinance in 2009. In this authorized roadwork scheme, the existing Rumsey Street Flyover (RSF) eastbound down ramp will be permanently closed and demolished and converted to amenity area, while the existing RSF westbound up ramp will be modified. The permanent closure and demolition of RSF eastbound down ramp was shown in the Environmental Permits (EP-482/2013/A and EP/364/2009/F).
- 1.1.2 Traffic queue is often observed at the existing stop priority junction at Man Cheung Street / RSF westbound up ramp along the right-most lane of Man Cheung Street Underpass during evening peak hours. The queue tails back to Man Cheung Street and occasionally up to the junction Man Cheung Street / Man Yiu Street / Lung Wo Road.
- 1.1.3 The Traffic & Transport Committee (T&TC) of the Central & Western District Council (C&WDC) was concerned about the congested traffic at Connaught Road Central westbound and hence Man Cheung Street. The motorists have to wait a very long queue heading to Connaught Road West tunnel exit. Therefore, they strongly requested to take opportunity of retaining the existing RSF eastbound down ramp for formulating possible improvement scheme.
- 1.1.4 Transport Department (TD) formulated a preliminary improvement proposal which included (i) converting the existing stop priority junction to a merging lane and (ii) re-aligning portion of Connaught Road Central westbound between its junctions with the slip road from the Central-Wan Chai Bypass and Man Cheung Street Underpass.
- 1.1.5 Regarding the latest request from TD in the meeting held in April 2019, the traffic condition at Man Cheung Street and the stop priority junction at Man Cheung Street / RSF westbound up ramp after the full commission of CWB had been reviewed. The necessity and feasibility of retaining the existing RSF eastbound down ramp and providing a merging lane for the RSF westbound up ramp as the improvement scheme had been explored. It was found that the improvement scheme could alleviate the poor performance of the stop priority junction of Connaught Road Central / Man Cheung Street Underpass and hence further minimize the chance of tail back problem from the stop priority junction to Man Cheung Street.

#### 1.2 Reason for Variation

- 1.2.1 The reason for retaining existing RSF eastbound down ramp is to provide a merging lane for RSF westbound up ramp as the improvement scheme to alleviate the poor performance of the stop priority junction of Connaught Road Central / Man Cheung Street Underpass and hence further minimize the chance of tail back problem from the stop priority junction to Man Cheung Street.
- 1.2.2 As the location plan of the Project in current Environmental Permits (EP-482/2013/A and EP/364/2009/F) show the existing RSF eastbound down ramp to be permanently closed and demolished, variations of the current Environmental Permits are required.

#### 1.3 Content of this Environmental Review Report

1.3.1 In this Environmental Review Report (ERR), Section 1 provides a general description of the background of this assignment and reasons for variation. Section 2 presents the environmental review on air, noise, landscape and visual impact assessment. Section 3 gives a conclusion of this ERR.

#### 2 EVALUATION OF ENVIRONMENTAL IMPACTS

#### 2.1 Air Quality

- 2.1.1 The vehicle population heading to western part of Hong Kong Island will NOT be affected (increased) due to retaining the existing RSF eastbound down ramp and providing a merging lane heading to western part of Hong Kong Island for alleviating the tail back problem from the original stop priority junction.
- 2.1.2 Under the revised scheme (with no change in traffic speed compared to the original scheme), a portion of westbound traffic to the RSF will utilize the retained RSF eastbound structure. Referring to Figure 3.1.1 in the approved EIA report (AEIAR-041/2001), the closest nearby Air Sensitive Receiver (ASR) is A5 (i.e. Harbour Building). The separation distance between the traffic on the modified RSF and the ASR A5 would be slightly deceased by about 5m.
- 2.1.3 The closest nearby ASR A5 is a G/IC building which adopts centralized air conditioning and has no window opening for ventilation. The fresh air inlet is located at the roof of the building (approx. 96m), which is far above the RSF level, and the building is at about 22m distance away from the RSF down ramp horizontally. Hence, there will be no likelihood of exceedance of AQO and adverse air quality impact on ASR A5 arising from the revised scheme. The location of ASR A5 is shown in **Figure 2.1**.
- 2.1.4 Air quality impacts associated with road traffic are caused mostly by NO<sub>2</sub> and RSP. It is expected that the levels of NO<sub>2</sub> and RSP will be more or less the same, irrespective of whether the existing RSF eastbound down ramp is demolished or retained. The change in air quality impact to the nearby ASRs (e.g. A5) due to the revised scheme is considered minor due to the slight decrease in separation distance with the nearby ASR, as compared to the original scheme of demolishing the existing RSF eastbound down ramp structure.
- 2.1.5 In addition, the performance of westbound traffic on RSF will be improved by using the existing RSF eastbound down ramp and providing a merging lane. The original tail back problem from the stop priority junction to Man Cheung Street could be improved. The revised scheme would also improve the background concentration of air quality.
- 2.1.6 Besides, the revised scheme will involve modification of existing concrete profile barriers, concrete stitching works of existing westbound and eastbound bridge decks, road marking works and etc. Dust generation and hence air quality impact due to the modification works under the revised scheme would comparatively be much lesser than the original scheme during construction.

#### 2.2 Noise Impact

- 2.2.1 Noisy construction activities will be involved during the demolition of the existing RSF eastbound down ramp under the original design. It is anticipated that considerable construction noise impact will be generated due to the demolition works. Also, as the demolition works is in very close proximity to the live traffic, it is very likely that the demolition works could only be carried out stage by stage in non-peak traffic hour or night time in a prolonged period of time.
- 2.2.2 If the existing RSF eastbound down ramp structure is retained for providing a merging lane for RSF westbound up ramp, substantial demolition works of structure will no longer be required, instead it will only involve some relatively minor works, such as removal and modification of bridge parapet, concrete stitching of bridge deck, and road re-surfacing, etc. Therefore, the construction noise impact will be less significant as compared with the original demolition of the existing RSF eastbound down ramp.
- 2.2.3 In addition, it is anticipated that there will be no significant change to traffic noise impact on the nearby NSRs due to retaining the existing RSF eastbound down ramp and providing a merging lane of RSF westbound up ramp, as there will be no additional increase in vehicle population heading to western part of Hong Kong Island due to the proposal of retaining the existing RSF eastbound down ramp.
- 2.2.4 The nearby Noise Sensitive Receivers (NSRs) (i.e. N1, The Bauhinia Hotel Central (previously called Korea Centre in the EIA Report) and N2, City Hall) as identified in the approved EIA report should not rely on openable windows for ventilation. Also, the buildings in the close proximity to and facing the concerned down ramp are commercial use, except that the Harbour Building is a G/IC building. They have centralized air conditioning and also do not rely on openable windows for ventilation. The locations of NSR N1 and N2 are shown in **Figure 2.2**.
- 2.2.5 The closest nearby NSR identified in approved EIA report is N1, which is located over 100m away from the west side of the concerned RSF eastbound down ramp. It should be more sensitive to the nearby carriageway at its front instead of the concerned RSF down ramp. Under the revised scheme, the westbound traffic will be shifted slightly to the north, i.e. further away from N1. It is anticipated that there will be no significant change to traffic noise impact on the closest nearby NSR, N1, due to the revised scheme.

#### 2.3 Landscape and Visual Impact Assessment

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- 2.3.1 In the authorized scheme, the existing RSF eastbound down ramp will be demolished and existing amenity area will be reconstructed with additional amenity area to be provided.
- 2.3.2 Under the original design, there will be transplanted trees and various types of shrubs to be planted within the newly amenity area. However, these transplanted trees will be affected if the existing RSF eastbound down ramp is retained. It is required to seek relevant government departments to identify alternative location(s) to accommodate the affected trees.
- 2.3.3 Referring to Chapter 7 of Landscape Visual Assessment (LVIA) of the approved EIA report (except Figure 7.2.1 and Figure 7.3.1), there is no specific assessment or explicit description about the demolition of the existing RSF eastbound structure. Figure 7.2.1 and Figure 7.3.1 indicate the location of demolition of existing RSF eastbound only. There are also no particular identification of key Visual Sensitive Receiver (VSR) and requirement of any mitigation measures for the concerned demolition of existing RSF eastbound structure.
- 2.3.4 Although the affected planting area is covered in the drawing namely "Mitigation Measure" of Figure 7.6.1 in the approved EIA report, it is considered that all planting areas as shown in the figure should be classified as additional mitigation measures within the available areas of the Project for implementation of soft landscape treatment, as interpreted from item 7.6.1 in the approved EIA report.
- 2.3.5 Regarding the VSRs in the vicinity of RSF, VSR1 to VSR9 are the nearby VSRs. However, these VSRs should be referred to have potential visual impacts from the works such as "construction activities, at grade slip roads, Rumsey Street Flyover Extension, West Ventilation Building & tunnel portal", but no specific mentions of the concerned demolition of existing RSF eastbound structure. The locations of VSRs are shown in Figure 2.3.
- 2.3.6 Although the trees and shrubs originally to be planted at the location of the RSF eastbound down ramp will be reduced under the revised scheme, there are still additional planting adjacent to the RSF under the revised scheme as compared to the condition before CWB commissioning. In this connection, there would be no significant landscape and visual impact on the nearby VSRs due to the revised scheme. The landscape area adjacent to the RSF is shown in **Figure 2.4**.

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#### 3 CONCLUSION

- 3.1.1 An environmental review has been conducted for the proposed variation to the EPs due to the proposed revision in retaining RSF eastbound down ramp to provide a new merging lane for RSF westbound up ramp as an improvement scheme.
- 3.1.2 The closest nearby ASR A5 is a G/IC building which adopts centralized air conditioning and has no window opening for ventilation, there will be no likelihood of exceedance of AQO and adverse air quality impact on ASR A5 arising from the revised scheme.
- 3.1.3 The closest nearby NSR N1 located over 100m away from the west side of the RSF eastbound down ramp, it is anticipated that there will be no significant change to traffic noise impact on N1 arising from the revised scheme.
- 3.1.4 Despite reduced planting area at the location of the RSF eastbound down ramp, there are still additional planting adjacent to the RSF under the revised scheme as compared to the condition before CWB commissioning. There would be no significant landscape and visual impact on the nearby VSRs arising from the revised scheme.
- 3.1.5 The variation under the revised scheme would not be a material change.

# Figures

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