



AUES JOB No.: TCS01137/20

**TUEN MUN - CHEK LAP KOK LINK
CONTRACT NO. HMWSD 2/2020 (HY) –
ESTABLISHMENT OF LANDSCAPE SOFTWORKS FOR
THE TUEN MUN - CHEK LAP KOK LINK**

**17TH MONTHLY ENVIRONMENTAL MONITORING AND
AUDIT (EM&A) REPORT – AUGUST 2022**

PREPARED FOR
HONG KONG LANDSCAPING CO., LTD.

Date	Reference No.	Prepared By	Certified By
22 September 2022	TCS01137/20/600/R0064v2	 Martin Li (Environmental Consultant)	 Ben Tam (Environmental Team Leader)

Version	Date	Remarks
1	19 September 2022	First Submission
2	22 September 2022	Updated according to the RSS's supplementary information on 22 September 2022

Our Ref: TCS01137/20/300/L0071

AECOM

8/F Grand Central Plaza
Tower 2, 138 Shatin Rural Committee Road
Shatin

Attn: Mr. K P Wong

1 November 2022

By Email

Dear Sir,

**Re: Contract No. HMWSD 2/2020 (HY)
Establishment of Landscape Softworks for the Tuen Mun - Chek Lap Kok Link
Environmental Permit No.: EP-354/2009/D
17th Monthly Environmental Monitoring and Audit (EM&A) Report –August 2022**

We write to certify the 17th Monthly Environmental Monitoring and Audit (EM&A) Report –August 2022 (TCS01137/20/600/R0064v2) in accordance with Condition 4.4 of the Environmental Permit no. EP-354/2009/D.

Should you have any queries or require further information, please feel free to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours sincerely,

For and on Behalf of

Action-United Environmental Services & Consulting (AUES)



Ben Tam
Environmental Team Leader

c.c.	Ramboll (IEC)	Mr. Brian Tam	By email
	Hong Kong Landscaping Co., Ltd	Mr. S.C. Wong	By email
	(Contractor)		

31 October 2022

By Fax (2293 6300) and By Post

AECOM Asia Co. Ltd.
Supervising Officer Representative's Office
No. 8 Mong Fat Street, Tuen Mun,
New Territories, Hong Kong

Attention: Mr. K P Wong

Dear Sir,

**Re: Agreement No. CE 48/2011 (EP)
Environmental Project Office for the
HZMB Hong Kong Link Road, HZMB Hong Kong Boundary Crossing Facilities, and
Tuen Mun-Chek Lap Kok Link – Investigation**

**Contract No. HMWSD 2/2020 (HY)
Establishment of Landscape Softworks for the Tuen Mun – Chek Lap Kok Link
Environmental Permit No.: EP-354/2009/D
16th Monthly EM&A Report for August 2022 (EP-354/2009/D)**

Reference is made to the Environmental Team's submission of the Monthly EM&A Report for August 2022 (ET's ref.: "TCS01137/20/600/R0064v2" dated 22 September 2022) certified by ET Leader and provided to us via e-mail on 22 September 2022.

Please be informed that we have no adverse comments on the captioned submission. We write to verify the captioned submission in accordance with Condition 4.4 of EP-354/2009/D.

Thank you very much for your attention and please feel free to contact the undersigned or the ENPO Leader, Mr. Y H Hui, should you require further information.

Yours faithfully,
For and on behalf of
Ramboll Hong Kong Limited



Brian Tam
Independent Environmental Checker
Tuen Mun – Chek Lap Kok Link

c.c.

HyD	Attn.: Mr. Eric Wong	(By Fax: 3188 6614)
HyD	Attn.: Mr. Stephen Wong	(By Fax: 3188 6614)
AUES	Attn.: Mr. Ben Tam	(By Fax: 2959 6079)
HKL	Attn.: Mr. S C Wong	(By Fax: 2385 7911)

EXECUTIVE SUMMARY

ES01 This is the 17th Monthly EM&A Report presenting the monitoring results and inspection findings under the Contract HMWSD 2/2020 (HY) for the period from 1 to 31 August 2022 (hereinafter ‘the Reporting Period’).

SUMMARY OF EM&A ACTIVITIES FOR THE REPORTING PERIOD

ES02 The EM&A activities conducted in the Reporting Period under this Contract are summary in below:-

- Landscape & Visual Monitoring (Establishment period) – **0 events**

ES03 The Establishment Period monitoring once per three months for planting works was commenced on 1 June 2020 for the planting area under the contract HY/2012/07 & HY/2013/12 and commenced on 1 February 2021 for the planting area under the contract HY/2017/10 according to the EM&A manual requirement. No establishment period inspection was conducted by this contract or other contract under TMCLK Project during this reporting period.

ENVIRONMENTAL COMPLAINT

ES04 In the Reporting Period, no environmental complaint was received.

ES05 The statistical summary of environmental complaints is summarized in the following table.

Reporting Period	Environmental Complaint Statistics	
	Frequency	Cumulative
Since the Contract commencement	0	0
August 2022	0	0

NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES06 No environmental summons or successful prosecutions were recorded in the Reporting Period.

REPORTING CHANGE

ES07 No reporting changes were made in the Reporting Period.

FUTURE KEY ISSUES

ES08 The Project TM-CLKL had been commissioning at the end of 2020 and the major construction works under the Project had been completed at the end of March 2021. According to the Project EM&A Manual requirement, operational phase EM&A works will be undertaken for a period of two years after the commission of the project

ES09 According to the Project EM&A Manual requirement, monitoring for the planting works at a frequency of 3 months interval during the 24-month establishment period is required to make sure the establishment planting works is complied with EMIS requirement, and during the 12-month establishment period, the maintenance operations must be supervised by fully qualified Landscape Resident Site Staff (Registered Landscape Architect or Professional Member of the Hong Kong Institute of Landscape Architects). Subsequent to the 12-month establishment period supervised by the qualified Landscape Resident Site Staff, the supervision from the 13th to the 24th month would be continued by other members of the Project.

- ES10 According to the contract arrangement, the establishment planting area under the Contract HY/2012/07 Zone 1, 3 & 4, the Contract HY/2013/12 and the Contract HY/2017/10 Zone 1 to 5 were handover to this contract from December 2020, June 2021 and 27 May 2022. For the establishment planting area under the Contract HY/2012/07 Zone 2, it was handed over to the ET of Contact HY/2017/10 until 9 February 2022. Therefore, the establishment planting inspection and maintenance works for the establishment planting area under the Contract HY/2012/07 Zone 1, 3 & 4, the Contract HY/2013/12 and the Contract HY/2017/10 Zone 1 to 5 responded by this Contract was commenced from December 2020, June 2021 and 27 May 2022.
- ES11 After 10 February 2022, the maintenance for the planting areas HY/2012/07 (zone 2) and HY/2017/10 (Zone 6) was handed over to another contract HY/2021/13.
- ES12 The 24-month establishment period for the planting area under the Contract HY/2012/07 and the Contract HY/2013/12 were completed at the end of May 2022. The condition of the planted tree is satisfaction. Moreover, the species and quantity of tree planted in those areas are complied with the approved Landscape & Visual Plan.

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1 INTRODUCTION

1.1 PROJECT BACKGROUND

- 1.1.1 According to the findings of the Northwest New Territories (NWNT) Traffic and Infrastructure Review conducted by the Transport Department, Tuen Mun Road, Ting Kau Bridge, Lantau Link and North Lantau Highway would be operating beyond capacity after 2016. This forecast has been based on the estimated increase in cross boundary traffic, developments in the Northwest New Territories (NWNT), and possible developments in North Lantau, including the Airport developments, the Lantau Logistics Park (LLP) and the Hong Kong – Zhuhai – Macao Bridge (HZMB). In order to cope with the anticipated traffic demand, two new road sections between NWNT and North Lantau – Tuen Mun – Chek Lap Kok Link (TM-CLKL) and Tuen Mun Western Bypass (TMWB) are proposed.
- 1.1.2 Hong Kong Landscaping Co., Ltd. (hereafter “HKL”) is commissioned by the Highways Department (HyD) as the Main Contractor of the Contract No. HMWSD 2/2020 (HY) – Establishment of Landscape Softworks for the Tuen Mun - Chek Lap Kok Link ((hereafter “the Contract”) and this Contract is part of the Tuen Mun – Chek Lap Kok Link (TM-CLK Link Project). TM-CLK Link Project is a Designated Project under Environmental Permit number EP-354/2009/D issued on 13 March 2015. The layout Plan of the Project and the Contract are showed in [Appendix A and B](#) respectively.
- 1.1.3 The construction works of the Contract mainly include:-
a. Maintenance the approx. 33ha planting area of the Project during the establishment period.
- 1.1.4 The TM-CLKL had been commissioning at the end of 2020 and the major construction works under the Project had been completed at the end of March 2021. According to the Project EM&A Manual requirement, operational phase EM&A works will be undertaken for a period of two years after the commission of the project.
- 1.1.5 This is 17th monthly EM&A report under the Contract HMWSD 2/2020 (HY) presenting the monitoring results and inspection findings for period from **1 to 31 August 2022**.

1.2 REPORT STRUCTURE

- 1.2.1 The Monthly Environmental Monitoring and Audit (EM&A) Report is structured into the following sections:-
Section 1 Introduction
Section 2 Summary of Monitoring Requirements under the Contract
Section 3 Landscape and Visual
Section 4 Environmental Complaints and Non-Compliance
Section 5 Conclusions and Recommendations

1.3 CONTRACT ORGANIZATION

- 1.3.1 The Contract organization and contact details of key personnel are shown in [Appendix C](#).

2 SUMMARY OF MONITORING REQUIREMENTS UNDER THE CONTRACT

2.1 GENERAL

2.1.1 In accordance with the Project EM&A Manual requirements, the environmental aspects under the Project shall be included air quality, ecological, cultural heritage, landscape and visual, landfill gas and site inspection.

2.1.2 A summary of EM&A requirements under the contract are presented in the sub-sections below. Should non-compliance of the environmental quality criteria occurs, remedial actions will be triggered according to the Event and Action Plan which presented in [Appendix D](#).

2.2 ENVIRONMENTAL ASPECTS

Air

2.2.1 According to the Contract nature is maintenance the planting area of the Project during the establishment period in the operational phase. No specific EM&A requirement for air quality related to the establishment of landscape softworks was identify.

2.2.2 The scopes of works under this Contract do not involve any of works listed under Section 4.4.1.1 of the approved EIA Report. Vehicles travel under this contract was carried out in paved area. Therefore, fugitive dust emission from the contract would be limited and no unacceptable air quality impact would be expected. No specific mitigation measure and monitoring would be required.

Noise

2.2.3 According to the Contract nature is maintenance the planting area of the Project during the establishment period in the operational phase. No unacceptable noise impact would be expected from the contract. No mitigation measure would be required under the approved EIA Report. No specific EM&A requirement for noise impact related to the establishment of landscape softworks was identify.

2.2.4 Most of the works under this contract would be conducted manually, with limited use of PME for delivery material on site and watering the planting area along the road side. Therefore, no unacceptable noise impact would be expected. No specific mitigation measure and monitoring would be required.

Water Quality

2.2.5 According to the Contract nature is maintenance the planting area of the Project during the establishment period in the operational phase. No specific EM&A requirement for water quality related to the establishment of landscape softworks was identify.

2.2.6 All planting area under this contract area are land-based, no major discharge would be expected from the establishment planting maintenance works. Therefore, no direct or indirect impact on marine water quality would be expected. No specific mitigation measure and monitoring would be required.

Ecology

2.2.7 According to the Contract nature is maintenance the planting area of the Project during the establishment period in the operational phase. No specific EM&A requirement for ecology related to the establishment of landscape softworks was identify.

2.2.8 No site clearance and associated habitat loss would be required under this contract. Moreover, all planting area under this contract area are land-based, no direct or indirect impact on the marine ecology would be expected. Therefore, no specific mitigation measure and monitoring would be required.

Landscape and Visual

- 2.2.9 Monitoring of the planting works during the 24-month Establishment period after completion of the construction works should be carried out. Establishment Works Inspection should be carried out once every 3 months to make sure the establishment planting works is complied with EMIS requirement. For the planting area under the Contract HY/2012/07, the first 6-month establishment period inspection and maintenance will be taken by the original Contract's ET and the main Contractor under the contract. For another Contract HY/2013/12 and HY/2017/10, the first 12-month establishment period inspection and maintenance will be taken by the original Contract's ET and the main Contractor under the contract. After the first 6 month or year establishment period, the maintenance and inspection works will be handover to the contract HMWSD 2/2020 (HY) except the planting area under the Contract HY/2012/07 Zone 2 and the planting area under the Contract HY/2017/10 Zone 6. The summary of Establishment inspection for the Project is shown in [Table 2-1](#).

Table 2-1 Summary of Establishment inspection for the Project

Contract Area	Establishment Monitoring Commenced	Inspection taken under the contract HMWSD 2/2020 (HY)	Next Quarter of Establishment Monitoring
HY/2012/07 (Zone 1, 3 & 4)	June 2020	December 2020	Completed (Last quarter inspection was taken on 26 May 2022)
HY/2012/07 (Zone 2)	June 2020	Responded by Contract HY/2021/13 from 10 February 2022	Completed (Last quarter inspection was taken on 25 April 2022)
HY/2013/12	June 2020	June 2021	Completed (Last quarter inspection was taken on 31 May 2022)
HY/2017/10 (Zone 1-5)	February 2021	27 May 2022	August to October 2022 (7 th Quarter)
HY/2017/10 (Zone 6)	February 2021	Responded by Contract HY/2021/13 from 10 February 2022	August to October 2022 (7 th Quarter)

Cultural Heritage

- 2.2.10 According to the Contract nature is maintenance the planting area of the Project during the establishment period in the operational phase. No specific EM&A requirement for cultural heritage related to the establishment of landscape softworks was identify.
- 2.2.11 No major structural or civil work would be conducted under this contract. Moreover, all planting area are set back from the cultural heritage zone Grave G1 more than 10m. Therefore, no cultural heritage impact would be expected under this contract. No mitigation measure and monitoring would be required.

Landfill Gas

- 2.2.12 According to the Contract nature is maintenance the planting area of the Project during the establishment period in the operational phase. No specific EM&A requirement for landfill gas related to the establishment of landscape softworks was identify.
- 2.2.13 No major excavation work would be conducted under this contract. Only minor hand digging works will be conducted while tree replacement works. Therefore, no landfill gas hazard would be expected under this contract. No mitigation measure and monitoring would be

required.

Waste Management

2.2.14 According to the Contract nature is maintenance the planting area of the Project during the establishment period in the operational phase. No specific EM&A requirement for Waste Management related to the establishment of landscape softworks was identify.

2.2.15 All planting area under this contract area are land-based, no dredged sediment, excavated C&D material, C&D waste, chemical waste and sewage would be generated under this Contract. Only limited level of dead plant would be generated from works during maintenance of the planting area and would be easily controlled by standard waste management practice. No specific mitigation measure would be required.

Inspection and Audit

2.2.16 According to the Contract nature is maintenance the planting area of the Project during the establishment period in the operational phase. No construction works would be taken under this contract. Moreover, no potential environmental issue had been identified in the previous sections. No regular site inspections would be required.

2.3 MONITORING SCHEDULE

2.3.1 The monitoring schedule for landscape & visual for the present reporting period is presented in [Appendix E](#).

3 LANDSCAPE AND VISUAL

3.1 GENERAL

- 3.1.1 According to the Project EM&A Manual requirement, monitoring for the planting works at a frequency of 3 months interval during the 24-month establishment period is required to make sure the establishment planting works is complied with EMIS requirement, and during the 12-month establishment period, the maintenance operations must be supervised by fully qualified Landscape Resident Site Staff (Registered Landscape Architect or Professional Member of the Hong Kong Institute of Landscape Architects). Subsequent to the 12-month establishment period supervised by the qualified Landscape Resident Site Staff, the supervision from the 13th to the 24th month would be continued by other members of the Project. The updated EMIS for the Contract is shown in [Appendix G](#).
- 3.1.2 According to the contract arrangement, the establishment planting area under the Contract HY/2012/07 Zone 1, 3 & 4, the Contract HY/2013/12 and the Contract HY/2017/10 Zone 1 to 5 were handover to this contract from December 2020, June 2021 and 27 May 2022. For the establishment planting area under the Contract HY/2012/07 Zone 2, it was handed over to the ET of Contact HY/2017/10 until 9 February 2022. Therefore, the establishment planting inspection and maintenance works for the establishment planting area under the Contract HY/2012/07 Zone 1, 3 & 4, the Contract HY/2013/12 and the Contract HY/2017/10 Zone 1 to 5 responded by this Contract was commenced from December 2020, June 2021 and 27 May 2022.
- 3.1.3 After 10 February 2022, the maintenance for the planting areas HY/2012/07 (zone 2) and HY/2017/10 (Zone 6) was handed over to another contract HY/2021/13.
- 3.1.4 All the establishment inspection method including checklist and zoning plan under this Contract was follow the methodology prepared by original Contract's ET which approved by EPD
- 3.1.5 In the Reporting Period, no site inspection for landscape and visual mitigation measures under establishment works was conducted by this contract or other contract under TMCLK Project. The details of Establishment inspection for the Project during the reporting period are shown in [Table 3-1](#) and the Establishment inspection checklist is shown in [Appendix F](#).

Table 3-1 Details of Establishment Inspection for the Project during the Reporting Period

Planting Area	Respond Party	Quarter of Establishment Monitoring	Inspection Date
HY/2012/07 (Zone 1, 3 & 4)	ET of the Contract HMWSD 2/2020 (HY)	Nil	NA
HY/2012/07 (Zone 2)	ET of the Contract HY/2021/13	Nil	NA
HY/2013/12	ET of the Contract HMWSD 2/2020 (HY)	Nil	NA
HY/2017/10 (Zone 1 to 5)	ET of the Contract HMWSD 2/2020 (HY)	Nil	NA
HY/2017/10 (Zone 6)	ET of the Contract HY/2021/13	Nil	NA

- 3.1.6 The 24-month establishment period for the planting area under the Contract HY/2012/07 and the Contract HY/2013/12 were completed at the end of May 2022. The last quarter of joint establishment inspection were summarized in Table 2-1, during the inspection the condition of the planted tree is satisfaction. Moreover, the species and quantity of tree planted in those areas are complied with the approved Landscape & Visual Plan.
- 3.1.7 Further to the TM-CLK – Northern Connection opened to the public on 27 December 2020, road enhancement measures at the Lung Fu Road Roundabout were proposed by Transport Department (TD) and subsequently Leisure and Cultural Services Department (LCSD) reviewed the site condition at various locations and requested some landscape amendments for enhancement of safe work condition to be carried out during their routine maintenance of vegetation. Given that the quantity of tree planting remains unchanged and the landscape area in the vicinity would not be reduced, EPD reviewed the information and had no comment on the minor landscape modifications. The information on the landscape modifications at Lung Fu Road, Lung Mun Road and in the vicinity is shown in [Appendix I](#).

4 ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

4.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

4.1.1 In the Reporting Period, no environmental complaint, summons and prosecution under the EM&A Programme was lodged.

4.1.2 The statistical summary table of environmental complaint, summons and prosecution are presented in [Tables 4-1, 4-2 and 4-3](#).

Table 4-1 Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics					
	Frequency	Cumulative	Complaint Nature			
			Air	Noise	Water	Others
August 2022	0	0	NA	NA	NA	NA

Table 4-2 Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics				
	Frequency	Cumulative	Complaint Nature		
			Air	Noise	Water
August 2022	0	0	NA	NA	NA

Table 4-3 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics				
	Frequency	Cumulative	Complaint Nature		
			Air	Noise	Water
August 2022	0	0	NA	NA	NA

4.1.3 In the Reporting Period, no warning letter related to environmental issue was received from the EPD or HyD.

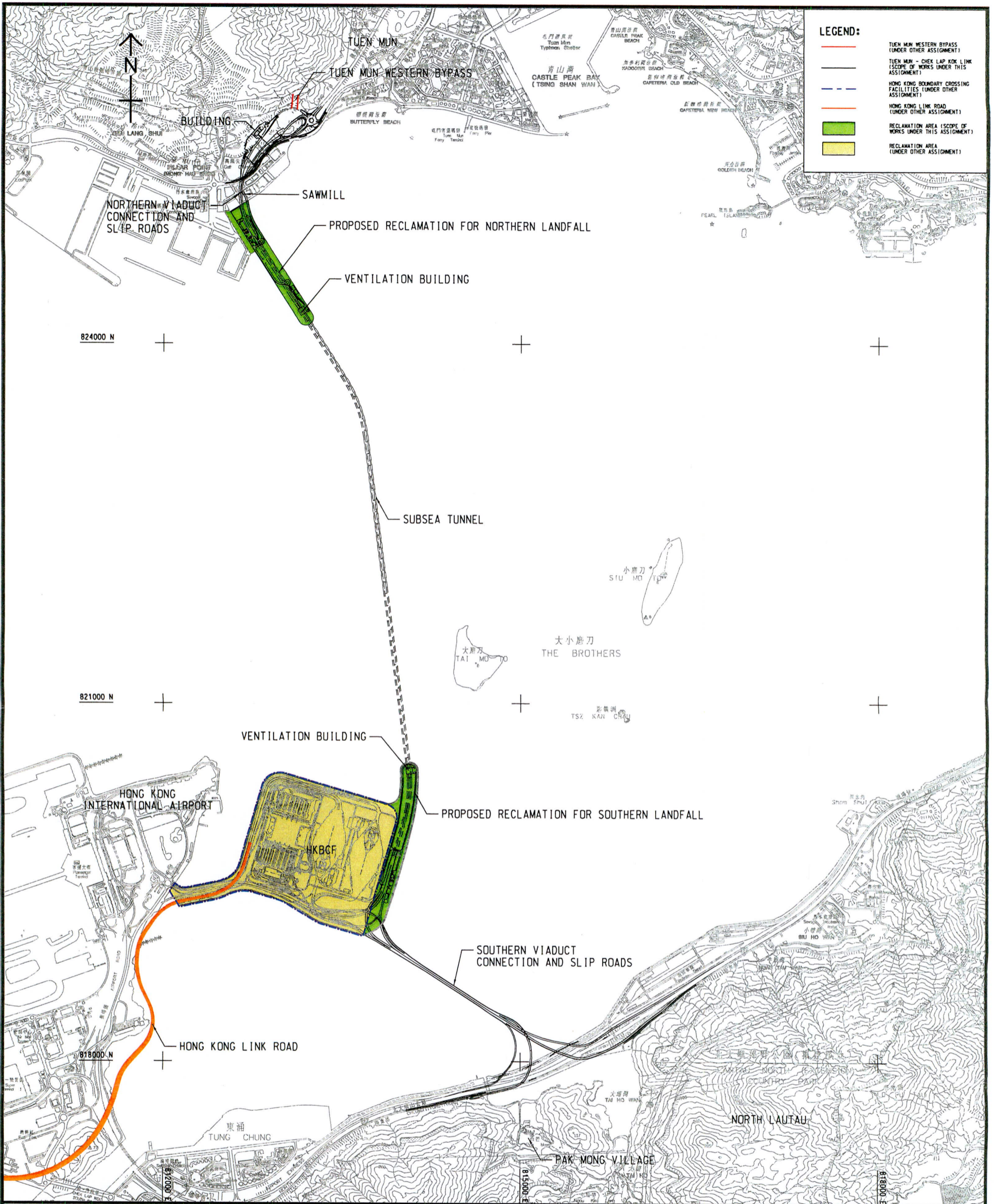
5 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

- 5.1.1 This is 17th monthly EM&A report presenting the monitoring results and inspection findings under the Contract HMWSD 2/2020 (HY) for the period of 1 to 31 August 2022.
- 5.1.2 There is no air quality, noise, water quality, ecology, cultural heritage and landfill gas monitoring was required for the contract.
- 5.1.1 The Establishment Period monitoring once per three months for planting works was commenced on 1 June 2020 for the planting area under the contract HY/2012/07 & HY/2013/12 and commenced on 1 February 2021 for the planting area under the contract HY/2017/10 according to the EM&A manual requirement. No establishment period inspection was conducted by this contract or other contract under TMCLK Project during this reporting period.
- 5.1.2 According to the contract arrangement, the establishment planting area under the Contract HY/2012/07 Zone 1, 3 & 4, the Contract HY/2013/12 and the Contract HY/2017/10 Zone 1 to 5 were handover to this contract from December 2020, June 2021 and 27 May 2022. For the establishment planting area under the Contract HY/2012/07 Zone 2, it was handed over to the ET of Contact HY/2017/10 until 9 February 2022. Therefore, the establishment planting inspection and maintenance works for the establishment planting area under the Contract HY/2012/07 Zone 1, 3 & 4, the Contract HY/2013/12 and the Contract HY/2017/10 Zone 1 to 5 responded by this Contract was commenced from December 2020, June 2021 and 27 May 2022.
- 5.1.3 After 10 February 2022, the maintenance for the planting areas HY/2012/07 (zone 2) and HY/2017/10 (Zone 6) was handed over to another contract HY/2021/13.
- 5.1.4 The 24-month establishment period for the planting area under the Contract HY/2012/07 and the Contract HY/2013/12 were completed at the end of May 2022. The condition of the planted tree is satisfaction. Moreover, the species and quantity of tree planted in those areas are complied with the approved Landscape & Visual Plan.
- 5.1.5 In the Reporting Period, no environmental complaint was received.
- 5.1.6 No notifications of summons, or successful prosecution were received during the Reporting Period.

Appendix A

Project Layout Plan



Project Title: Tuen Mun - Chek Lap Kok Link

工程項目名稱：屯門至赤鱸角連接路

Project Location

工程項目位置

(Plan originated from Figure 3.1 of Approved EIA Report reference no.: AEIAR-146/2009)
(圖則源自已批准的環境影響評估報告編號AEIAR-146/2009圖3.1)

Environmental Protection Department
環境保護署



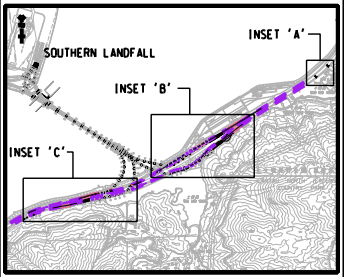
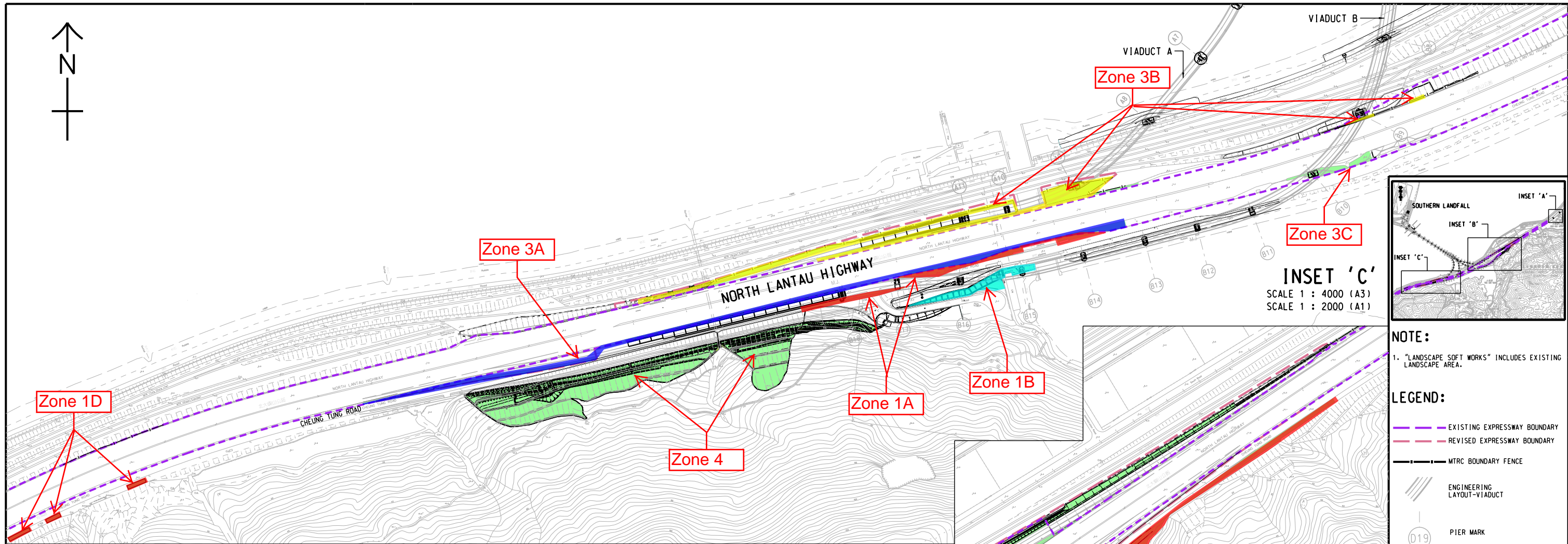
Environmental Permit No.: EP-354/2009/D
環境許可證編號：EP-354/2009/D

Figure 1
圖1

Appendix B

Layout Plan of the Contract

Planting Area under Contract HY/2012/07



NOTE:
1. "LANDSCAPE SOFT WORKS" INCLUDES EXISTING LANDSCAPE AREA.

- LEGEND:**
- EXISTING EXPRESSWAY BOUNDARY
 - REVISED EXPRESSWAY BOUNDARY
 - MTRC BOUNDARY FENCE
 - ENGINEERING LAYOUT-VIADUCT
 - D19 PIER MARK
 - LANDSCAPE SOFT WORKS (PORTION A)

REV.	DATE	DESCRIPTION	DRAWN	PRE.	APP.
A	18/08/20	ADDENDUM NO.1	KW	CL	CL
-	03/08/20	LANDSCAPE WORKS DEMARCATION PLAN	KW	CL	CL

CLIENT
HIGHWAYS DEPARTMENT
 主要工程管理處(專責事務)
 Major Works Project Management Office
 (Special Duties)

AECOM

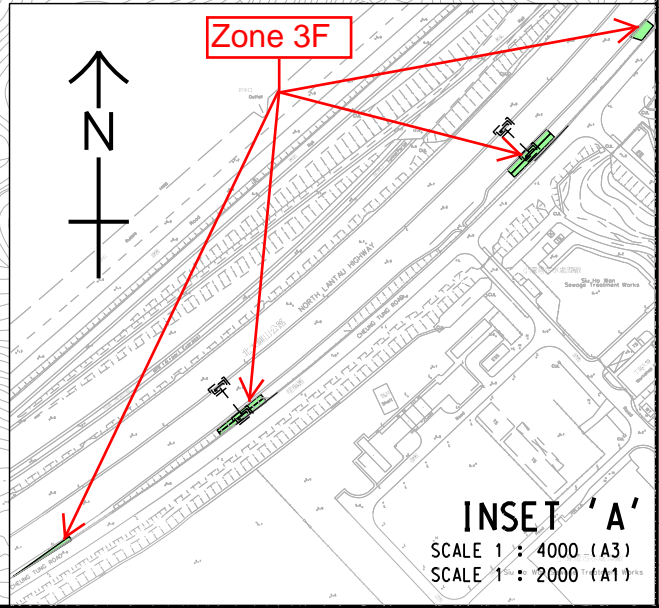
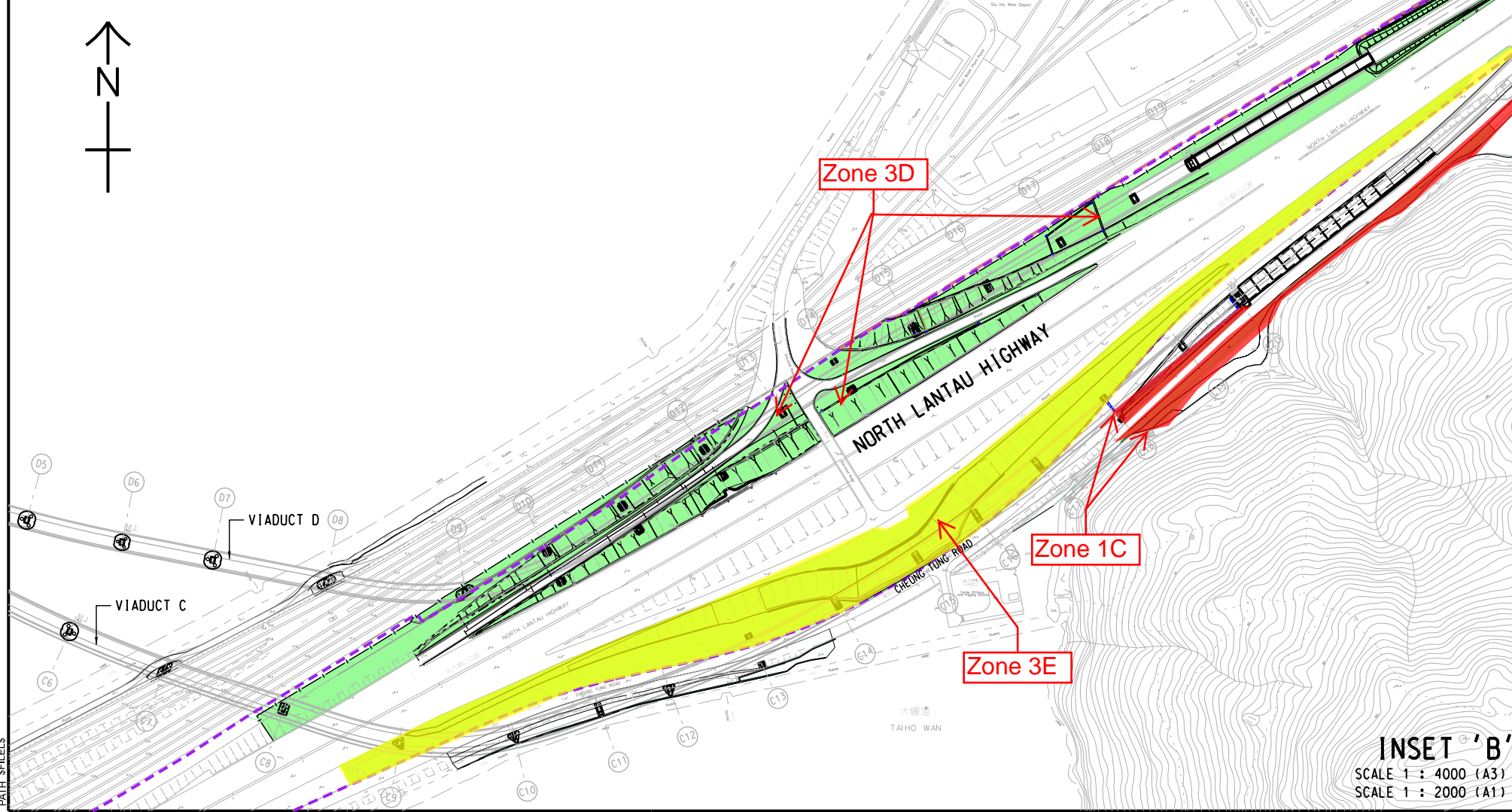
PROJECT
TUEN MUN - CHEK LAP KOK LINK

CONTRACT NO.
HMWS2 2/2020(HY)

CONTRACT TITLE
ESTABLISHMENT OF LANDSCAPE SOFTWORKS FOR THE TUEN MUN - CHEK LAP KOK LINK PROJECT

TITLE
LANDSCAPE WORKS DEMARCATION PLAN (PORTION A)

DRAWING REFERENCE	SCALE 1:2000(A1)	SCALE 1:4000(A3)
DRAWN JW	PREPARED CL	APPROVED CL
SKETCH NO.	REV.	A



INSET 'B'
 SCALE 1 : 4000 (A3)
 SCALE 1 : 2000 (A1)

INSET 'A'
 SCALE 1 : 4000 (A3)
 SCALE 1 : 2000 (A1)



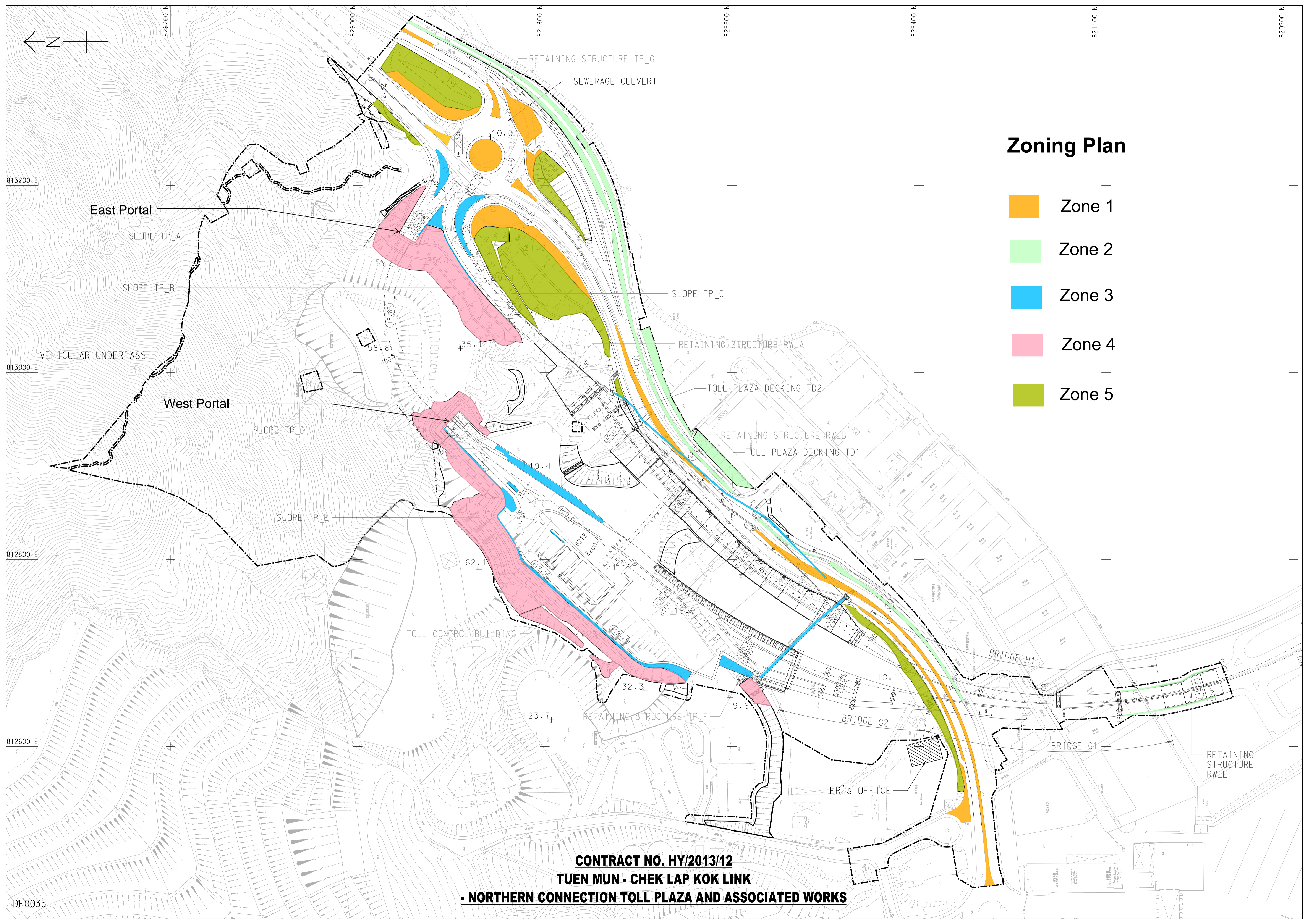
Contract No. HY/2017/10
TUEN MUN-CHEK LAP KOK LINK
- NORTHERN CONNECTION TUNNEL BUILDINGS,
ELECTRICAL AND MECHANICAL WORKS

ZONING PLAN – LANDSCAPE WORKS MONITORING (ESTABLISHMENT WORKS)

Note: Planting works were completed under Contract No. HY/2012/07.

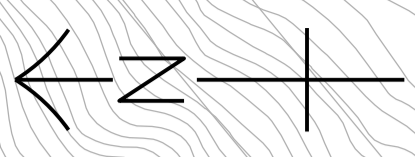
Monitoring of the establishment works continue under Contract No. HY/2017/10.

Planting Area under Contract HY/2013/12



Zoning Plan

- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5



813200 E

813000 E

812800 E

812600 E

DF0035

826200 N

826000 N

825800 N

825600 N

825400 N

821100 N

820900 N

East Portal

SLOPE TP_A

SLOPE TP_B

VEHICULAR UNDERPASS

West Portal

SLOPE TP_D

SLOPE TP_E

TOLL CONTROL BUILDING

RETAINING STRUCTURE TP_F

BRIDGE G2

ER'S OFFICE

BRIDGE G1

RETAINING STRUCTURE RW_E

RETAINING STRUCTURE TP_G

SEWERAGE CULVERT

SLOPE TP_C

RETAINING STRUCTURE RW_A

TOLL PLAZA DECKING TD2

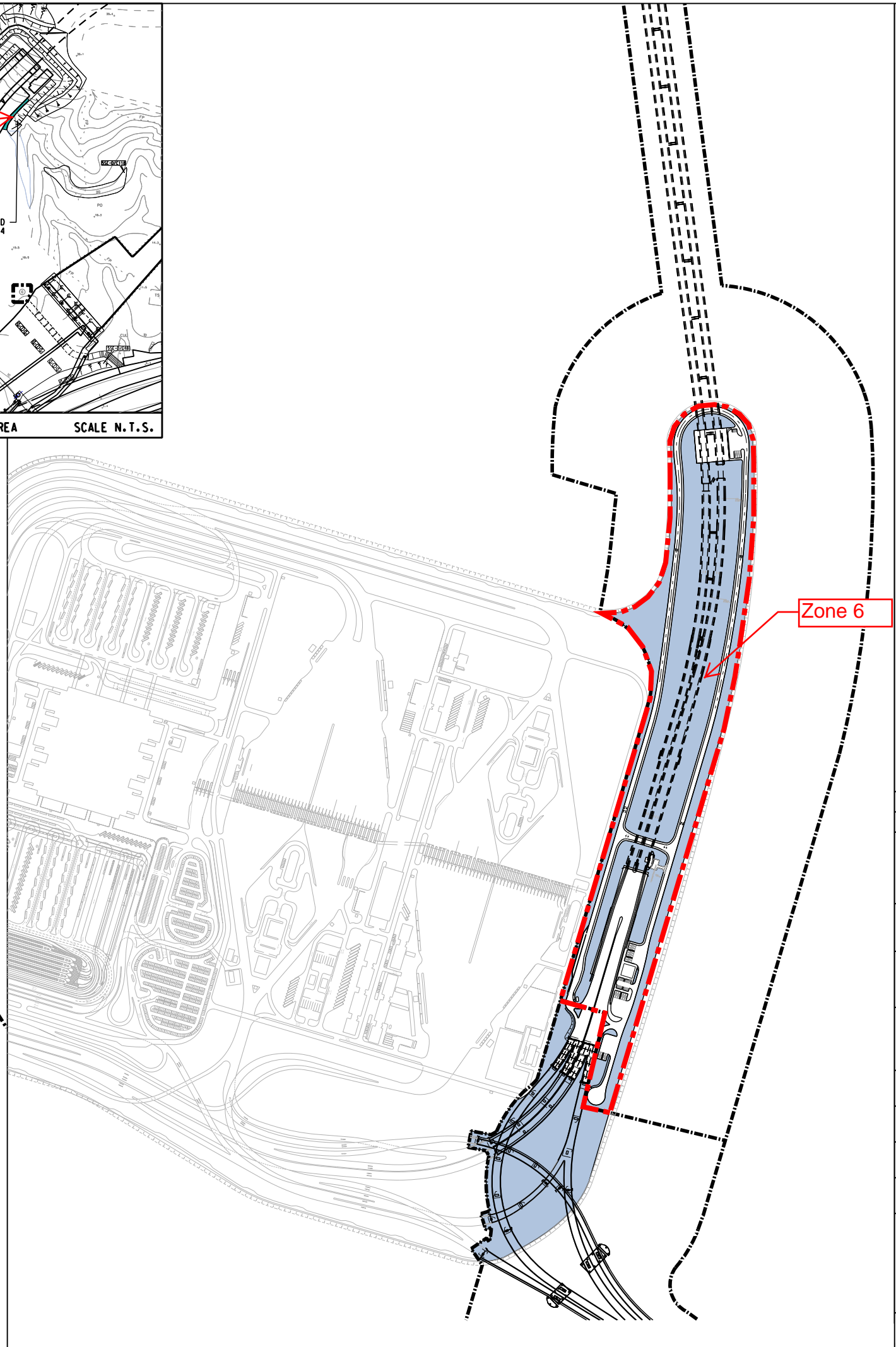
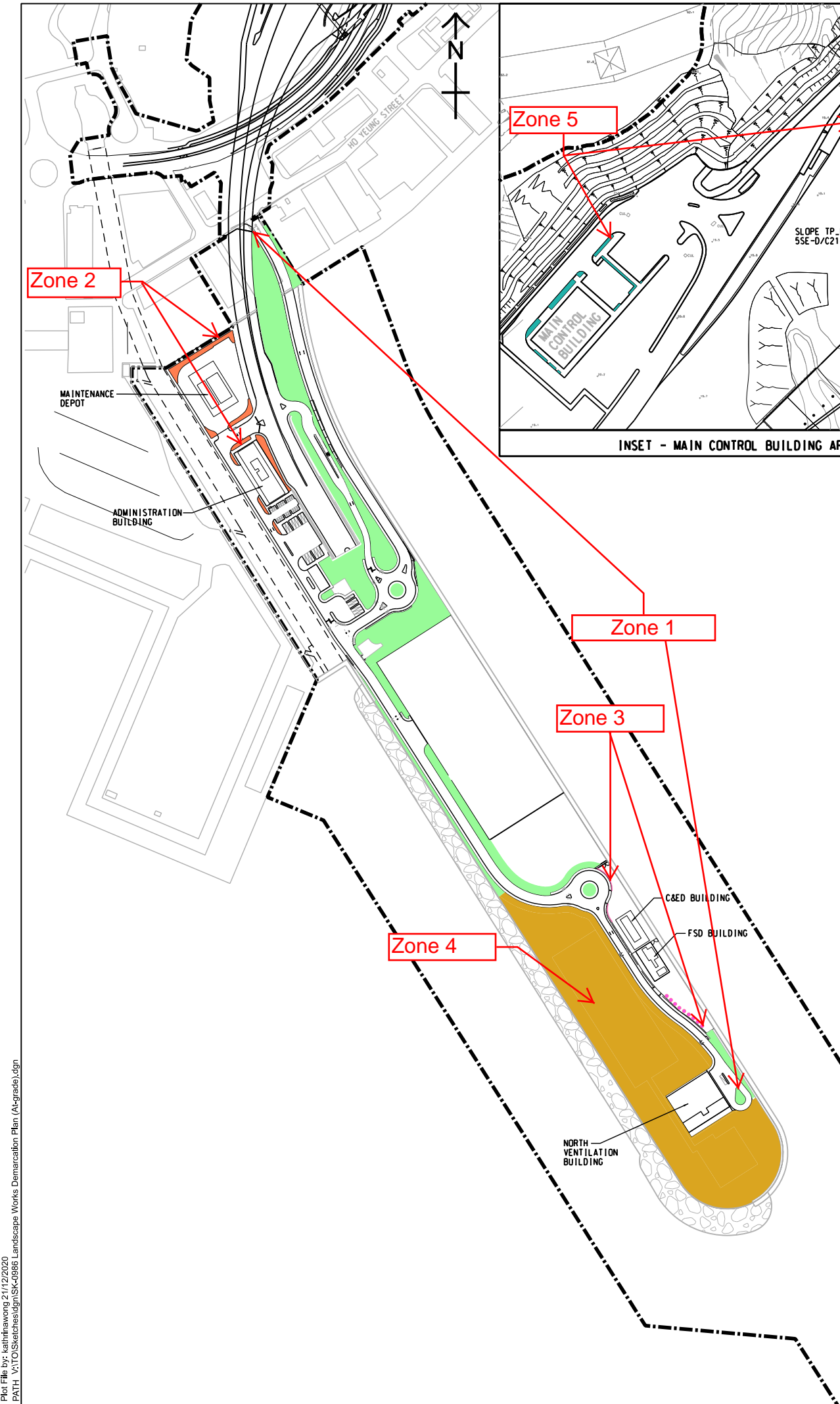
RETAINING STRUCTURE RW_B

TOLL PLAZA DECKING TD1

BRIDGE H1

CONTRACT NO. HY/2013/12
TUEN MUN - CHEK LAP KOK LINK
- NORTHERN CONNECTION TOLL PLAZA AND ASSOCIATED WORKS

Planting Area under Contract HY/2017/10



FOR INFORMATION

REV.	DATE	DESCRIPTION	CHK.	PREP.	DRAWN

CLIENT

HIGHWAYS DEPARTMENT
 主要工程管理處(專責事務)
 Major Works Project Management Office
 (Special Duties)

AECOM Imagine it. Delivered.

PROJECT
TUEN MUN - CHEK LAP KOK LINK

CONTRACT TITLE
TUEN MUN - CHEK LAP KOK LINK - NORTHERN CONNECTION TUNNEL - BUILDINGS, ELECTRICAL AND MECHANICAL WORKS

PROJECT NO. 60240249 CONTRACT NO. HY/2017/10

SCALE N.T.S. DATE 21 DEC. 2020

AMENDMENT TO WORKING DRAWING NO.
 60240249/C4/

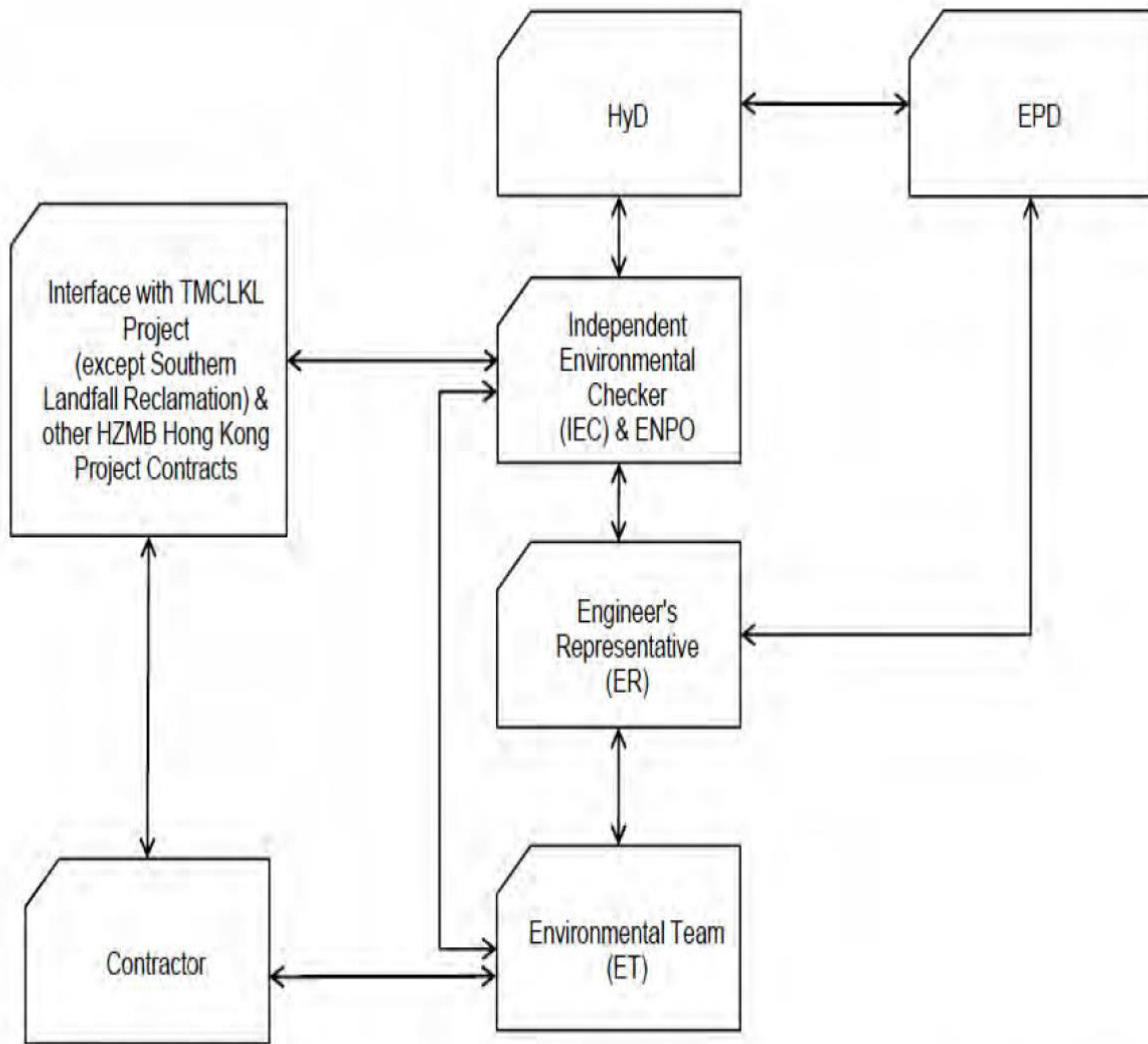
CHECKED	PREPARED	DRAWN
CL	CD	KW

SKETCH TITLE
ZONING PLAN - LANDSCAPE WORKS MONITORING (ESTABLISHMENT WORKS)

SKETCH NO.
 60240249/C4/SK/0986

Appendix C

Organization of the Contract



↔ Line of Communication

Project Organization chart

Contact Details of Key Personnel for the Contract HMWSD 2/2020 (HY)

Organization	Project Role	Name of Key Staff	Tel No	Fax No.
HyD	Employer	Mr. Vincent Li	2762 4188	3188 6614
AECOM	Senior Resident Engineer	Mr. Kelvin Leung	2293 6200	2218 7399
AECOM	Senior Resident Landscape Architect	Ms. Candy Lau	2293 6200	2218 7399
AECOM	Senior Resident Engineer (S&E)	Mr. K P Wong	2293 6200	2218 7399
Ramboll	Environmental Project Office Leader (ENPO Leader)	Mr. YH Hui	3465 2850	3465 2899
Ramboll	Independent Environmental Checker (IEC)	Mr. Brian Tam	3465 2850	3465 2899
HKL	Project Manager	Mr. S.C. Wong	2388 6332	2385 7911
AUES	Environmental Team Leader	Mr. Ben Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Miss Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Mr. Martin Li	2959 6059	2959 6079

Legend:*HyD (Employer) –Highways Department**AECOM (Engineer) – AECOM Asia Co. Ltd.**HKL (Main Contractor) – Hong Kong Landscaping Co., Ltd.**Ramboll (ENPO and IEC) – Ramboll Hong Kong Limited**AUES (ET) – Action-United Environmental Services & Consulting*

Appendix D

Event and Action Plan

Event and Action Plan for Landscape and Visual Impact

EVENT ACTION LEVEL	ACTION			
	ET	IEC	ER	Contractor
Design Check	<ul style="list-style-type: none"> Check final design conforms to the requirements of EP and prepare report. 	<ul style="list-style-type: none"> Check report. Recommend remedial design if necessary 	<ul style="list-style-type: none"> Undertake remedial design if necessary 	
Non- conformity on one occasion	<ul style="list-style-type: none"> Identify Source Inform IEC and ER Discuss remedial actions with IEC, ER and Contractor Monitor remedial actions until rectification has been completed 	<ul style="list-style-type: none"> Check report Check Contractor's working method Discuss with ET and Contractor on possible remedial measures Advise ER on effectiveness of proposed remedial measures. Check implementation of remedial measures 	<ul style="list-style-type: none"> Notify Contractor Ensure remedial measures are properly implemented 	<ul style="list-style-type: none"> Amend working methods Rectify damage and undertake any necessary replacement
Repeated Non-conformity	<ul style="list-style-type: none"> Identify Source Inform IEC and ER Increase monitoring frequency Discuss remedial actions with IEC, ER and Contractor Monitor remedial actions until rectification has been completed If nonconformity stops, cease additional monitoring 	<ul style="list-style-type: none"> Check monitoring report Check Contractor's working method Discuss with ET and Contractor on possible remedial measures Advise ER on effectiveness of proposed remedial measures Supervise implementation of remedial measures 	<ul style="list-style-type: none"> Notify Contractor Ensure remedial measures are properly implemented 	<ul style="list-style-type: none"> Amend working methods Rectify damage and undertake any necessary replacement

ET – Environmental Specialist, IEC – Independent Environmental Checker, ER – Engineer’s Representative

Appendix E

Monitoring Schedule

Establishment Inspection Schedule for this Reporting Period

Date		Planting Area under HY/2012/07 (Zone 1, 3 & 4)	Planting Area under HY/2012/07 (Zone 2)	Planting Area under HY/2013/12	Planting Area under HY/2017/10 (Zone 1 to 5)	Planting Area under HY/2017/10 (Zone 6)
Mon	1-August-22					
Tue	2-August-22					
Wed	3-August-22					
Thu	4-August-22					
Fri	5-August-22					
Sat	6-August-22					
Sun	7-August-22					
Mon	8-August-22					
Tue	9-August-22					
Wed	10-August-22					
Thu	11-August-22					
Fri	12-August-22					
Sat	13-August-22					
Sun	14-August-22					
Mon	15-August-22					
Tue	16-August-22					
Wed	17-August-22					
Thu	18-August-22					
Fri	19-August-22					
Sat	20-August-22					
Sun	21-August-22					
Mon	22-August-22					
Tue	23-August-22					
Wed	24-August-22					
Thu	25-August-22					
Fri	26-August-22					
Sat	27-August-22					
Sun	28-August-22					
Mon	29-August-22					
Tue	30-August-22					
Wed	31-August-22					

✓	Monitoring Day
	Sunday or Public Holiday

Establishment Inspection Schedule for the Next Reporting Period

Date		Planting Area under HY/2012/07 (Zone 1, 3 & 4)	Planting Area under HY/2012/07 (Zone 2)	Planting Area under HY/2013/12	Planting Area under HY/2017/10 (Zone 1 to 5)	Planting Area under HY/2017/10 (Zone 6)
Thu	1-September-22					
Fri	2-September-22					
Sat	3-September-22					
Sun	4-September-22					
Mon	5-September-22					
Tue	6-September-22					
Wed	7-September-22					
Thu	8-September-22					
Fri	9-September-22					
Sat	10-September-22					
Sun	11-September-22					
Mon	12-September-22					
Tue	13-September-22					
Wed	14-September-22					
Thu	15-September-22					
Fri	16-September-22					
Sat	17-September-22					
Sun	18-September-22					
Mon	19-September-22					
Tue	20-September-22					
Wed	21-September-22					
Thu	22-September-22					
Fri	23-September-22					
Sat	24-September-22					
Sun	25-September-22					
Mon	26-September-22					
Tue	27-September-22					
Wed	28-September-22					
Thu	29-September-22					
Fri	30-September-22					

✓	Monitoring Day
	Sunday or Public Holiday

Appendix F

Checklist for Establishment Works Monitoring

(No inspection was undertaken in this reporting period)

Appendix G

Environmental Mitigation and Enhancement Measures Implementation Schedule (EMIS)

CONTRACT NO. HMWSD 2/2020 (HY)
ESTABLISHMENT OF LANDSCAPE SOFTWARES FOR THE TUEN MUN - CHEK LAP KOK LINK
ENVIRONMENTAL MITIGATION AND ENHANCEMENT MEASURE IMPLEMENTATION SCHEDULE

Landscape and Visual									
EIA reference	EM&A Manual reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
10.9	7.6	Existing trees on boundary of the Project Area shall be carefully protected during construction. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor's works areas. (Tree protection measures will be detailed at Tree Removal Application stage) (CM1)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Trees unavoidably affected by the works shall be transplanted where practical. Trees will be transplanted straight to their final receptor site and not held in a temporary nursery. A detailed Tree Transplanting Specification shall be provided in the Contract Specification. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme (CM2)	All areas/detailed design/ during construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Hillside and roadside screen planting to proposed roads, associated structures and slope works (CM3)	All areas/detailed design/ during Construction/ post construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Hydroseeding or sheeting of soil stockpiles with visually unobtrusive material (in earth tone) (CM4)	All areas/detailed design/ during Construction/ post construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Screening of construction works by hoardings around works area in visually unobtrusive colours, to screen works (CM5)	All areas/detailed design/ during Construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A

CONTRACT NO. HMWSD 2/2020 (HY)
ESTABLISHMENT OF LANDSCAPE SOFTWARES FOR THE TUEN MUN - CHEK LAP KOK LINK
ENVIRONMENTAL MITIGATION AND ENHANCEMENT MEASURE IMPLEMENTATION SCHEDULE

Landscape and Visual									
EIA reference	EM&A Manual reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
10.9	7.6	Control night-time lighting and glare by hooding all lights (CM6)	All areas/detailed design/ during Construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Ensure no run-off into water body adjacent to the Project Area (CM7)	All areas/detailed design/ during Construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Avoidance of excessive height and bulk of buildings and structures (CM8)	All areas/detailed design/ during Construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Recycle/Reuse all felled trees and vegetation, e.g. mulching (CM9)	All areas/detailed design/ during Construction	Design Consultant/ Contractor	TMEIA	Y	Y		N/A
10.9	7.6	Compensatory tree planting shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Felling Application process under ETWBTC 3/2006 (CM10)	All areas/detailed design/ during Construction	Design Consultant/ Contractor	TMEIA	Y	Y		✓
10.9	7.6	Re-vegetation of affected woodland/shrubland with native species (OM1)	All areas/detailed design/ during Construction/ post construction	Design Consultant/ Contractor	TMEIA	Y	Y	Y	✓ maintenance agent : HyD
10.9	7.6	Tall buffer screen tree / shrub / climber planting where appropriate should be incorporated to soften hard engineering structures and facilities (OM2)	All areas/detailed design/ during Construction/ post construction	Design Consultant/ Contractor	TMEIA	Y	Y	Y	✓ maintenance agent : HyD & LCSD
10.9	7.6	Streetscape elements (e.g. paving, signage, street furniture, lighting etc.) shall be sensitively designed in a manner that responds to the local context, and minimises potential negative landscape and visual impacts. Lighting units should be directional and	All areas/detailed design/ during Construction/ post construction	Design Consultant/ Contractor	TMEIA	Y	Y	Y	N/A

CONTRACT NO. HMWSD 2/2020 (HY)
ESTABLISHMENT OF LANDSCAPE SOFTWARES FOR THE TUEN MUN - CHEK LAP KOK LINK
ENVIRONMENTAL MITIGATION AND ENHANCEMENT MEASURE IMPLEMENTATION SCHEDULE

Landscape and Visual									
EIA reference	EM&A Manual reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Stages			Status
						D	C	O	
		minimize unnecessary light spill (OM3)							
10.9	7.6	Structure, ornamental tree / shrub / climber planting should be provided along roadside amenity strips, central dividers and newly formed slopes to enhance the townscape quality and further greenery enhancement (OM4)	All areas/detailed design/ during Construction/ post construction	Design Consultant/ Contractor	TMEIA	Y	Y	Y	✓ maintenance agent : HyD & LCSD
10.9	7.6	Aesthetically pleasing design (visually unobtrusive and non-reflective) as regard to the form, material and finishes shall be incorporated to all buildings, engineering structures and associated infrastructure facilities (OM5)	All areas/detailed design/ during Construction/ post construction	Design Consultant/ Contractor	TMEIA	Y	Y	Y	N/A
10.9	7.6	Avoidance of excessive height and bulk of buildings and structures (OM6)	All areas/detailed design/ during Construction/ post construction	Design Consultant/ Contractor	TMEIA	Y	Y	Y	N/A

Remarks:

- ✓ Compliance of Mitigation Measures
- <> Compliance of Mitigation Measures but need improvement.
- × Non-compliance of Mitigation Measures
- ▲ Non-compliance of Mitigation Measures but rectified by Contractor
- △ Deficiency of Mitigation Measures but rectified by Contractor
- N/A Not Applicable in Reporting Period

Legend: D=Design, C=Construction, O=Operation

Note: Funding Agent for all mitigation measures will be the Highways Department of the Hong Kong SAR Government

Appendix H

Cumulative Statistics on Exceedance and Complaint

Table H-1 Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics					
	Frequency	Cumulative	Complaint Nature			
			Air	Noise	Water	Others
August 2022	0	0	NA	NA	NA	NA
Cumulative since Contract commencement	0	0	NA	NA	NA	NA

Table H-2 Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics				
	Frequency	Cumulative	Complaint Nature		
			Air	Noise	Water
August 2022	0	0	NA	NA	NA
Cumulative since Contract commencement	0	0	NA	NA	NA

Table H-3 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics				
	Frequency	Cumulative	Complaint Nature		
			Air	Noise	Water
August 2022	0	0	NA	NA	NA
Cumulative since Contract commencement	0	0	NA	NA	NA

Appendix I

Minor Landscape Modification at Lung Fu Road, Lung Mun Road and in the Vicinity

Minor Landscape Modifications at Lung Fu Road, Lung Mun Road and in the Vicinity

Background

Tuen Mun – Chek Lap Kok Link (“TM-CLKL”) – Northern Connection was opened to the public on 27 December 2020. Further to the road enhancement measures at the Lung Fu Road Roundabout proposed by Transport Department (TD) and the consequent landscape amendments as reported in July 2021, Leisure and Cultural Services Department (LCSD) reviewed the site condition and requested some landscape amendments.

The planting and the establishment period were completed according to the LCSD’s approved planting proposal. As LCSD reviewed the various roadside planting on site, LCSD requested some landscape amendments for the enhancement of safe work condition for their routine maintenance of vegetation. The landscape amendments proposed by LCSD at the Lung Fu Road Roundabout and the roadside planters in the vicinity would be slightly different from the approved Landscape and Visual Plan, however, the landscape amendments are considered minor.

Minor landscape amendments compared to the approved Landscape and Visual Plan

- (i) The surrounding planters of the Lung Fu Road Roundabout would be modified, resulting in minor rearrangement of trees within the planters;
- (ii) The plant species for roadside planters are proposed to be changed to smaller size species to enhance the safe work condition. The quantity of tree planting remains unchanged; and
- (iii) The landscape area at the Lung Fu Road Roundabout and planters in the vicinity would not be reduced.

The Lung Fu Road Roundabout and planters in the vicinity in the approved Landscape and Visual Plan and the proposed arrangements are juxtaposed in the following pages.

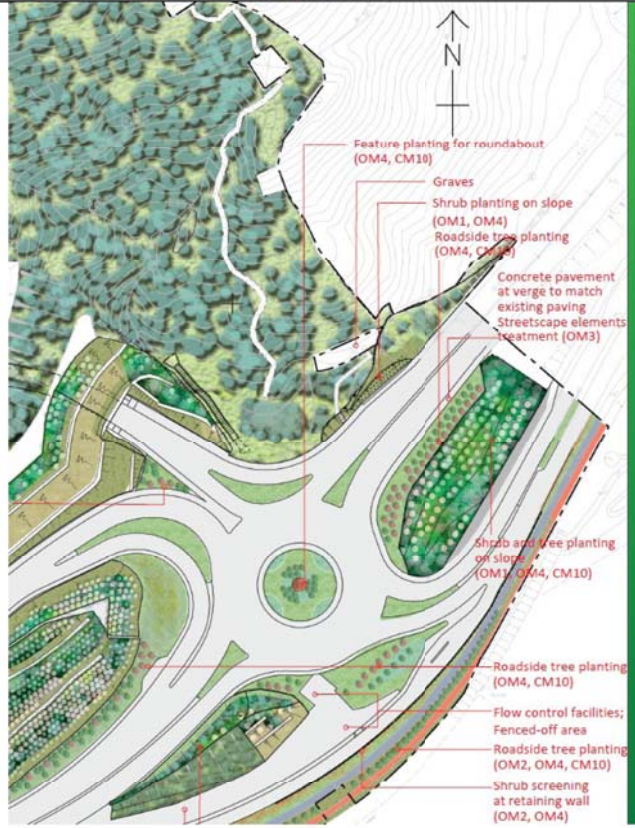
Establishment period for the trees at the Lung Fu Road Roundabout and Planters in the Vicinity

The trees planted at the Lung Fu Road Roundabout together with the other planting works implemented under Contract No. HY/2013/12 have undergone the 24-month establishment period monitoring as required in the Environmental Monitoring and Audit (“EM&A”) Manual which the monitoring was ended on 31 May 2022.

The proposed road enhancement works at the Lung Fu Road Roundabout will commence after 31 May 2022. The landscape amendment works proposed by LCSD will be carried out during their routine maintenance of vegetation, after the fully completed monitoring of the planting works required under the EM&A Manual. Therefore, the associated planting works due to the road enhancement works at the Lung Fu Road Roundabout and due to LCSD’s proposed landscape amendments would not be subject to the monitoring tasks under the EM&A Manual.

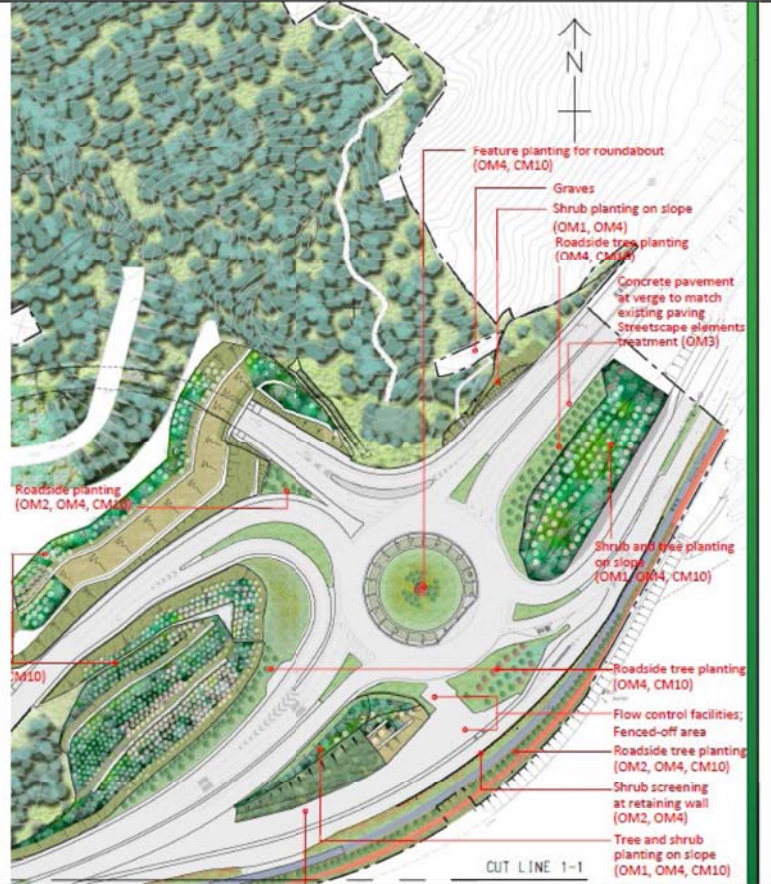
(i) The surrounding planters of the Lung Fu Road Roundabout would be modified, resulting in minor rearrangement of trees within the planters.

Lung Fu Road Roundabout arrangement in the approved Landscape and Visual Plan



Extracted from the approved Landscape and Visual Plan, Drawing no. C3/LM/030.

Proposed road enhancement arrangement at the Lung Fu Road Roundabout

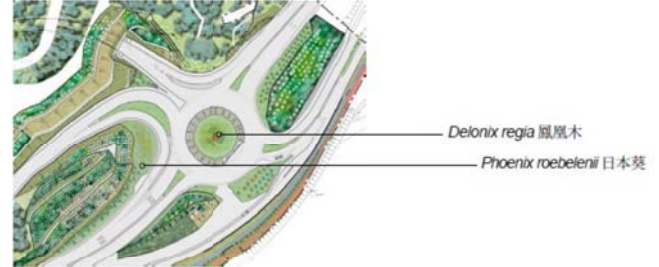
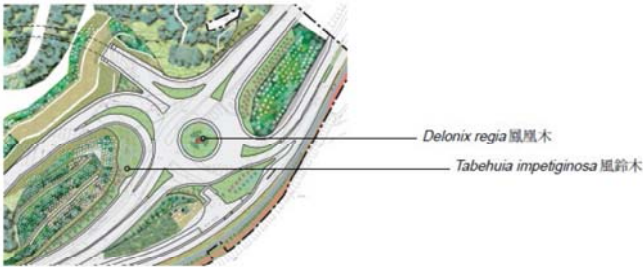


The proposed road enhancement arrangement at the Lung Fu Road Roundabout would result in a slightly different outlook and tree arrangement at the planters in the vicinity.

(ii) The plant species for roadside planters are proposed to be changed to smaller size species to enhance the safe work condition. The quantity of tree planting remains unchanged.

Lung Fu Road roundabout arrangement in the approved Landscape and Visual Plan

Proposed road enhancement arrangement at the Lung Fu Road Roundabout



Extracted from the approved Landscape and Visual Plan, Drawing no. Figure 4.2.

The species of tree planting within the surrounding roadside planters are proposed to be changed to smaller species. The quantity of tree planting remains unchanged.



AECOM
 TUN MUN - CHEK LAP KOK LINK
 LANDSCAPE MASTER PLAN
 DRAWING NO. LVP-010
 DATE: 15/03/2024

Planter Area C3_PA01 (roadside of Lung Fu Road): 21 nos. *Tabebuia impetiginosa* 風鈴木 proposed to be changed to *Phoenix roebelenii* 日本葵.

Planter Area C3_PA06 (roadside of Lung Mun Road): 3 nos. *Tabebuia impetiginosa* 風鈴木 and 3 nos. *Livistona chinensis* 蒲葵 proposed to be transferred to the adjacent planter within the same Planter Area C3_PA06.

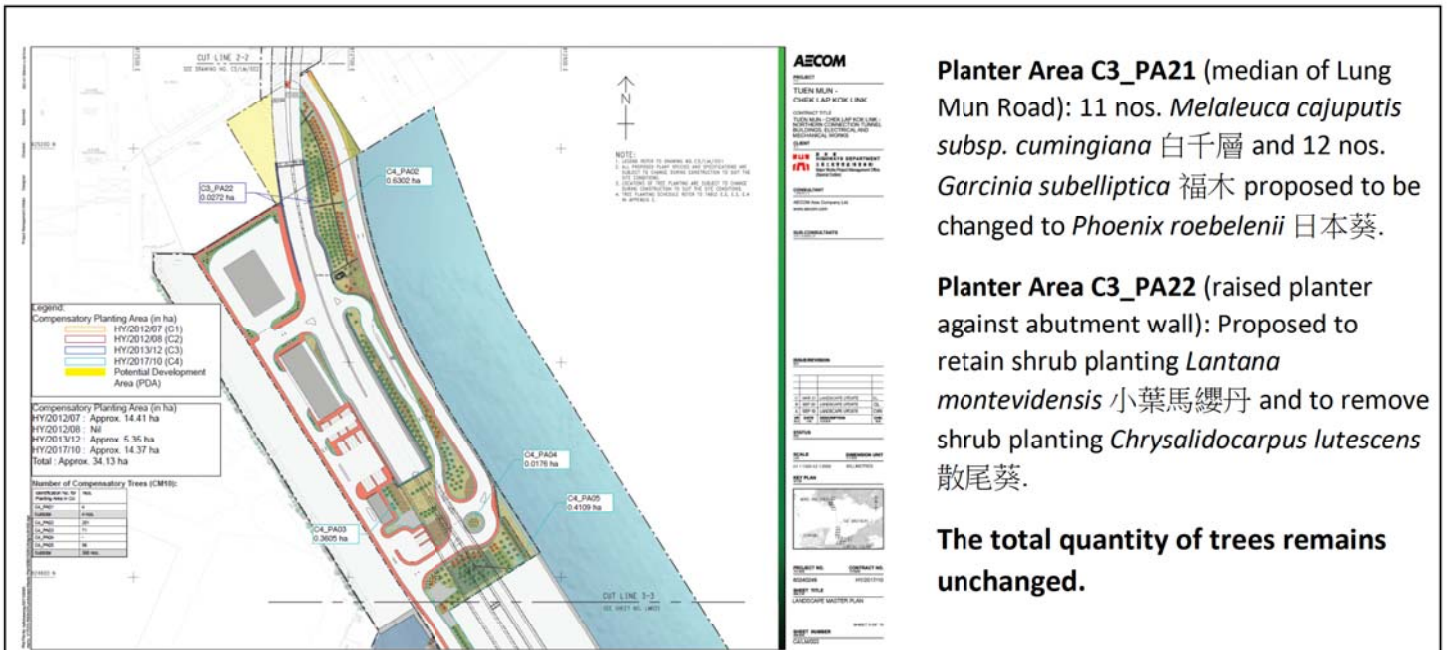
Planter Area C3_PA09 (roadside of Tuen Mun Chek Lap Kok Tunnel Road): 3 nos. *Tabebuia impetiginosa* 風鈴木 and 3 nos. *Sterculia lanceolata* 假蘋婆 proposed to be changed to *Phoenix roebelenii* 日本葵.

Planter Area C3_PA10 (roadside of Tuen Mun Chek Lap Kok Tunnel Road): 12 nos. 風鈴木 and 11 nos. *Livistona chinensis* 蒲葵 proposed to be changed to *Phoenix roebelenii* 日本葵.

Planter Area C3_PA12 (median of Lung Mun Road): 8 nos. *Melaleuca cajuputi subsp. cumingiana* 白千層 and 4 nos. *Garcinia subelliptica* 福木 proposed to be changed to *Phoenix roebelenii* 日本葵.



AECOM
 TUN MUN - CHEK LAP KOK LINK
 LANDSCAPE MASTER PLAN
 DRAWING NO. LVP-010
 DATE: 15/03/2024



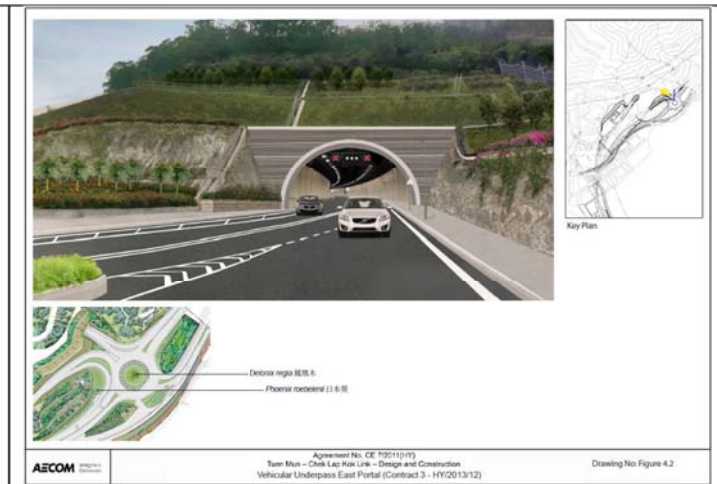
Planter Area C3_PA21 (median of Lung Mun Road): 11 nos. *Melaleuca cajuputis subsp. cumingiana* 白千層 and 12 nos. *Garcinia subelliptica* 福木 proposed to be changed to *Phoenix roebelenii* 日本葵.

Planter Area C3_PA22 (raised planter against abutment wall): Proposed to retain shrub planting *Lantana montevidensis* 小葉馬纓丹 and to remove shrub planting *Chrysalidocarpus lutescens* 散尾葵.

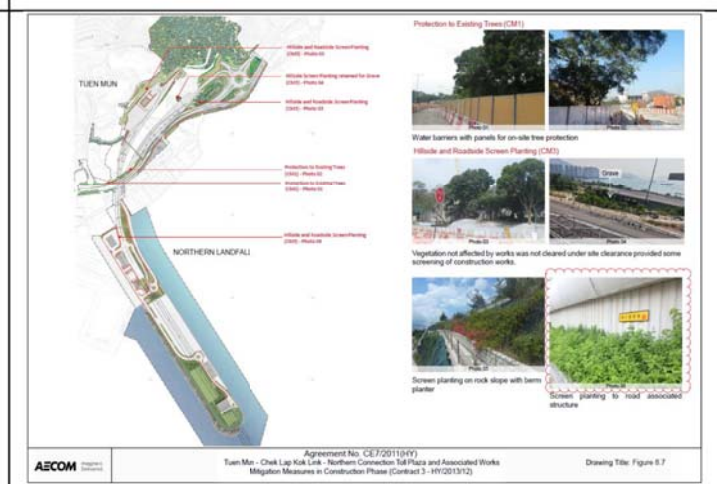
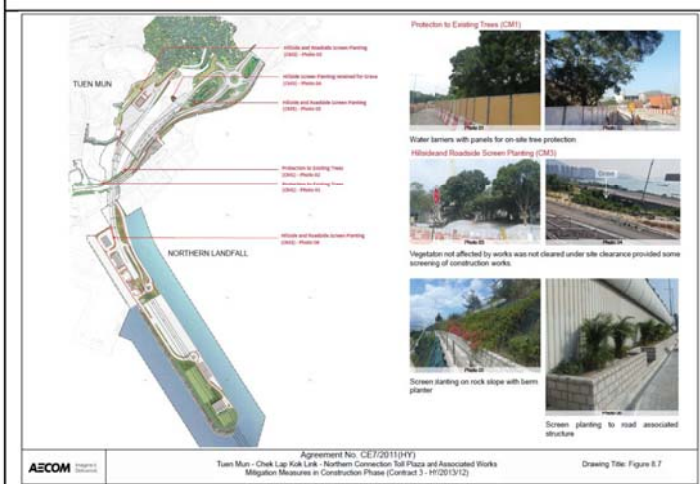
The total quantity of trees remains unchanged.



Extracted from the approved Landscape and Visual Plan, Drawing no. Figure 4.2.

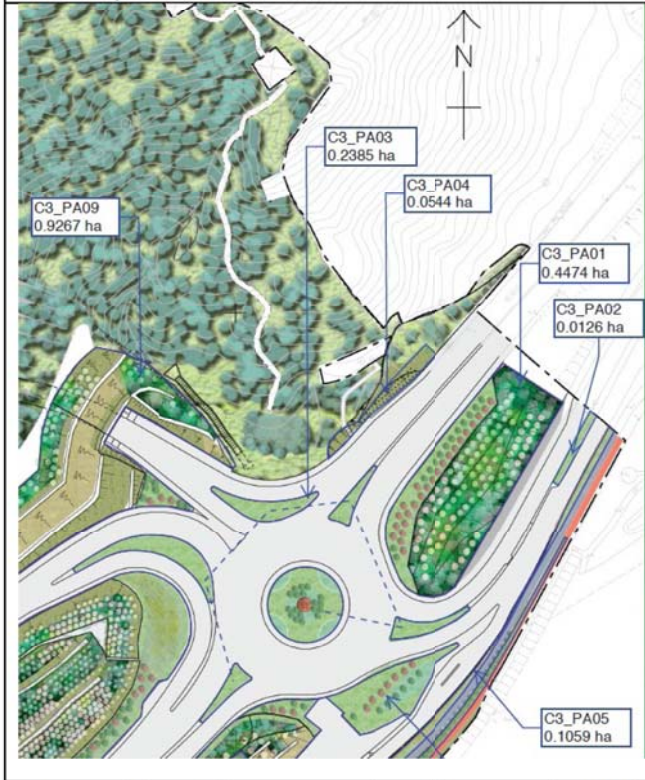
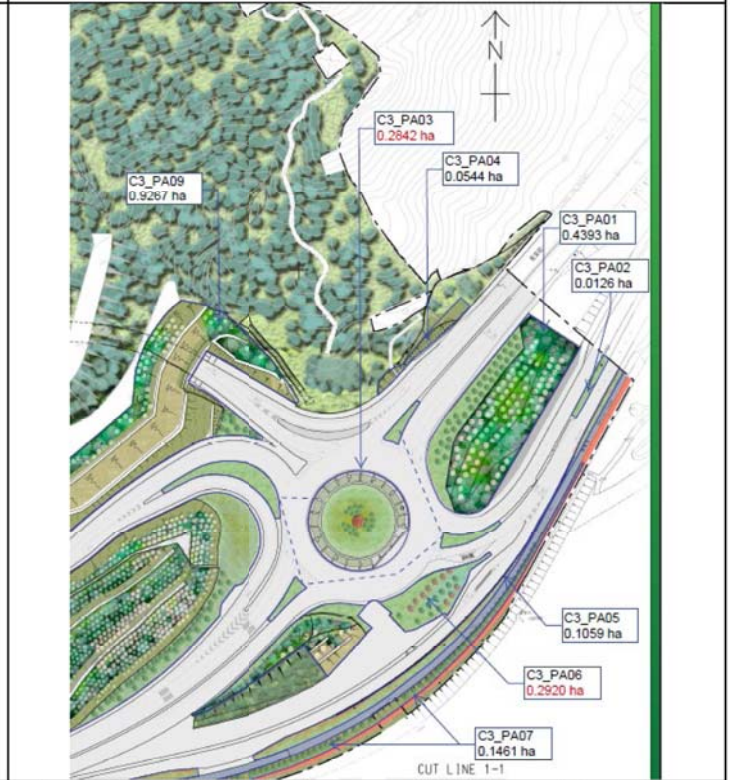


The species of tree planting within the surrounding planters are proposed to be changed to smaller size species. The quantity of tree planting remains unchanged.



<p>Extracted from the approved Landscape and Visual Plan, Drawing no. Figure 8.7.</p>	<p>Planter Area C3_PA22 (raised planter against abutment wall in Photo 06): Proposed to retain shrub planting <i>Lantana montevidensis</i> 小葉馬纓丹 and to remove shrub planting <i>Chrysalidocarpus lutescens</i> 散尾葵.</p>
---	---

(iii) The landscape area at the Lung Fu Road Roundabout and planters in the vicinity would not be reduced.

<p>Lung Fu Road roundabout arrangement in the approved Landscape and Visual Plan</p>	<p>Proposed road enhancement arrangement at the Lung Fu Road Roundabout</p>
	
<p>Extracted from the approved Landscape and Visual Plan, Drawing no. C3/LM/001.</p>	<p>The landscape area at the Lung Fu Road Roundabout due to the proposed roadway arrangement would not be reduced.</p>

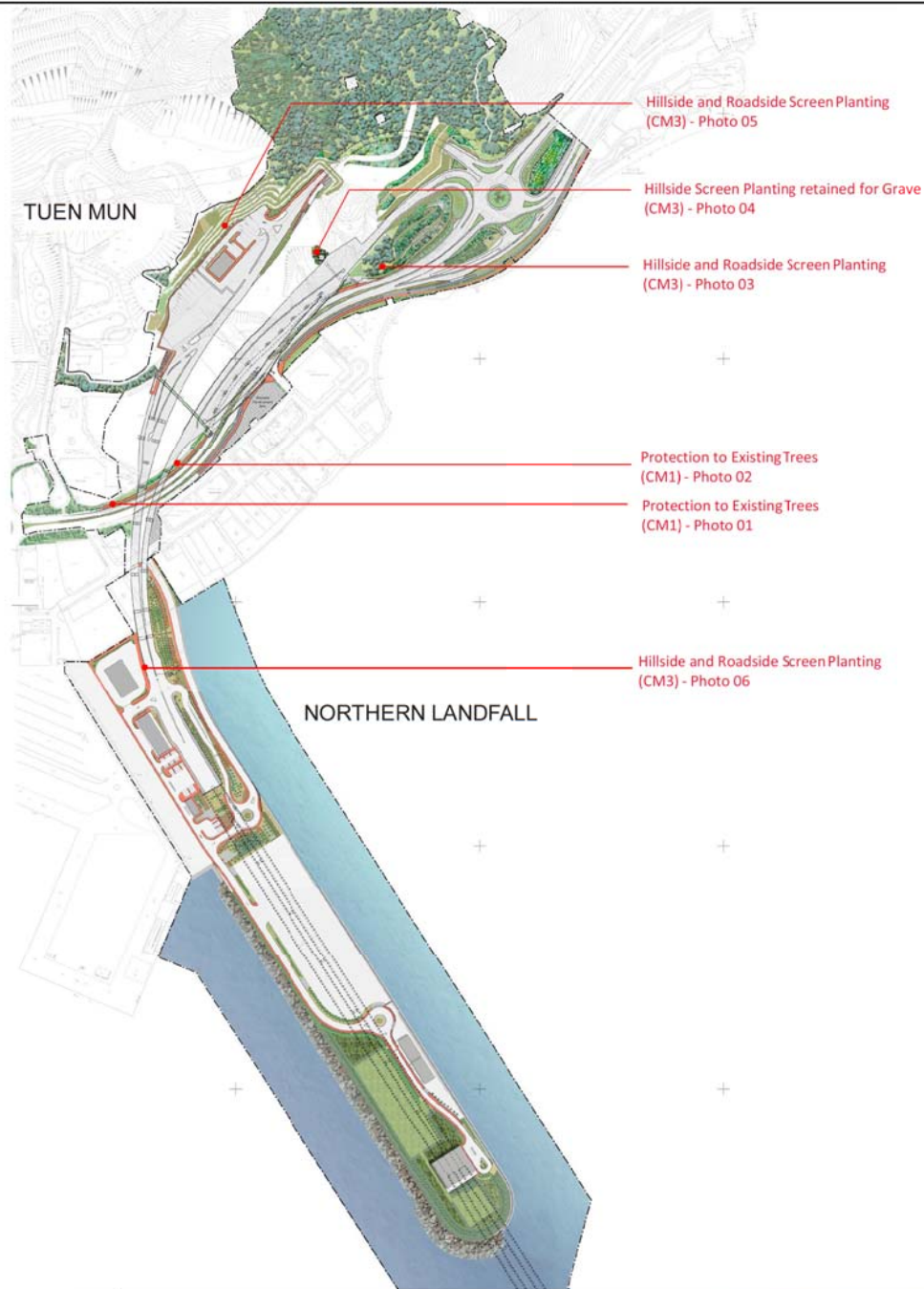


Key Plan



Delonix regia 鳳凰木

Phoenix roebelenii 日本葵



Protection to Existing Trees (CM1)



Water barriers with panels for on-site tree protection

Hillside and Roadside Screen Planting (CM3)



Vegetation not affected by works was not cleared under site clearance provided some screening of construction works.



Screen planting on rock slope with berm planter



Screen planting to road associated structure

Agreement No. CE7/2011(HY)

Tuen Mun - Chek Lap Kok Link - Northern Connection Toll Plaza and Associated Works
Mitigation Measures in Construction Phase (Contract 3 - HY/2013/12)

Drawing Title: Figure 8.7

Table E.1

Tuen Mun - Chek Lap Kok Link (TM-CLKL)

Summary of Tree Felling & Tree Compensation Quantity

	Tree Quantity as in EIA Report (Approx. no.)					Tree Quantity as in Tree Removal Applications (no.)					** Tree Compensation Quantity as in Tree Removal Applications (no.) (CM10)				*** Tree Planting Quantity as in Approved Planting Proposals (no.)				Transplanted Tree Planting Quantity as in Approved Planting Proposals/ as in Landscape and Visual Plan (no.)	
	* Fell	Undersirable Species (Weed Tree)	**** Transplant	***** Retain	** Tree Compensation	* Fell (Living Tree)	Dead Tree	Undersirable Species (Weed Tree)	**** Transplant	***** Retain	Heavy Standard	Standard	Light Standard	Whip	Heavy Standard	Standard	Light Standard	Whip	**** Transplant	
EIA Report (Year 2009)	3460	480	100	1360	6300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tree Removal Application and Compensatory Planting Proposal (Ref. A35-03) (approved on 8 January 2013)	-	-	-	-	-	2293	701	652	182	2554	2965	0	893	0	-	-	-	-	-	
HY/2012/07	C1 - Supplementary Tree Removal Applications	-	-	-	-	886	28	0	8	154	372	44	298	90	-	-	-	-	-	
	C1 - Adjustments made from the approved Tree Removal Application (Ref. A35-03) through Supplementary Tree Removal Applications	-	-	-	-	-	-	-	-76	-136	-	-	-	-	-	-	-	-	-	
	C1 - Missing Tree Report	-	-	-	-	-168	0	0	-33	-86	-144	0	0	0	-	-	-	-	-	
	C1 - Approved Planting Proposal	-	-	-	-	-	-	-	-	-	-	-	-	-	557	25	665	143	11	
HY/2012/08	C2 - Supplementary Tree Removal Applications	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	C2 - Approved Planting Proposal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
HY/2013/12	C3 - Supplementary Tree Removal Applications	-	-	-	-	1688	103	341	24	40	24	-	207	359	-	-	-	-	-	
	C3 - Adjustments made from the approved Tree Removal Application (Ref. A35-03) through Supplementary Tree Removal Applications	-	-	-	-	-	-	-	-7	-705	-	-	-	-	-	-	-	-	-	
	C3 - Missing Trees on site	-	-	-	-	-217	-30	-205	-14	-261	-	-	-	-	-	-	-	-	-	
	C3 - Approved Planting Proposal	-	-	-	-	-	-	-	-	-	-	-	-	250	-	859	411	24	-	
HY/2017/10	C4 - Supplementary Tree Removal Applications	-	-	-	-	-	-	-	-	-	-	-	-	-	2997	-	-	-	-	
	C4 - Approved Planting Proposal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
HY/2014/10	C5 - Supplementary Tree Removal Applications	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	C5 - Approved Planting Proposal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Sub-Total	3460	480	100	1360	6300	4482	802	788	84	1560	3217	44	1398	449	3804	25	1524	554	35
	Total	* 3460	480	**** 100	1360	** 6300	*4482	802	788	**** 84	1560	** 5108	44	1398	449	3804	25	1524	554	**** 35

Notes:

- * The tree felling quantity stated in the EIA report and in the Tree Removal Applications varied. The quantity in the EIA report was estimated in an early design stage of the Project and with the development of the Project design, either civil, site formation or slope designs, the trees required to be felled for the construction of works became more accurate. In addition, the trees in Year 2009 were likely to have grown to sizes that require the process of tree removal application which also contributed to the variation in the tree felling quantity.
- ** The tree compensation quantity stated in the EIA report and in the Tree Removal Applications varied. Mitigation Measure 'CM10' in Table 10.9 of the EIA report: "Compensatory tree planting shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Felling Application process ...". The required number for Tree Compensation as listed in "Tree Compensation Quantity as in Tree Removal Applications" was agreed with the relevant Government departments through the applications "Tree Preservation and Removal Proposals". The locations and tree species were subsequently agreed with the relevant Government departments through the submissions on detailed planting design proposals. The quantity in the EIA report was estimated in an early design stage of the Project and with the development of the Project design, either civil, site formation or slope designs, the tree compensation quantity and quality as appropriate for the different environmental conditions of the site and the **Design Considerations** as listed in **Section 2** were agreed with the relevant Government departments.
- *** Through the detailed planting design proposals, the quantity of tree planting exceeds the required tree compensation quantity in the Tree Removal Applications.
- **** The possible change of condition of the trees to be transplanted and the development of the Project design contributed to the variation in the transplant tree quantity in the EIA and in the Landscape and Visual Plan. Missing transplant trees, 47 nos., were recorded from the initial tree surveys before works commenced. In Contract No. HY/2012/07, 18 nos. transplant trees could be retained on site instead of transplanting.
- ***** The quantity of trees to be retained in the EIA report and in the Tree Removal Applications varied. The quantity in the EIA report was estimated in an early design stage of the Project and with the development of the Project design, either civil, site formation or slope designs, and the possible change of condition of the trees, the retained tree quantity became more accurate in the Tree Removal Applications.
- To satisfy the tree compensation requirement, the higher quantity from the approved EIA report was used, i.e. 6,300 nos. instead of 5108 nos. from the tree removal applications. In order to meet 6,300 nos., compensatory tree planting outside the project boundary is necessary. Information on tree planting outside the project boundary is described in **Section 3.3** and in **Appendix E.3**.

Summary of Tree Compensation - Approved EIA Report and Landscape and Visual Plan Comparison (Table E.1i)

Description	Approved EIA Report (nos.)	Landscape and Visual Plan (nos.)	
		Within Project Boundary	Outside Project Boundary
Nos. of Compensatory Tree Planting	6,300 approx. (Tree Size: Light Standard, Heavy Standard)	5,353	1,040
Total	6,300	6,393 (Tree Size: Light Standard - Heavy Standard)	

Summary of Tree Transplant - Approved EIA Report and Landscape and Visual Plan Comparison (Table E.1ii)

Description	Approved EIA Report (nos.)	Landscape and Visual Plan (nos.)		Remarks
		Within Project Boundary	Outside Project Boundary	
Nos. of Tree Transplant	100	35	0	47 nos. transplant trees surveyed as missing on site; 18 nos. transplant trees retained on site in Contract No. HY/2012/07; 35 nos. actual transplant trees.
Total	100	35		100

Table E.3
Tuen Mun - Chek Lap Kok Link - Northern Connection Toll Plaza and Associated Works
Contract No. HY/2013/12 (Contract 3)
Tree Planting Schedule

BOTANICAL NAME	CHINESE NAME	SIZE (mm) HEIGHT (H) X SPREAD (S)	SPACING (mm)	QUANTITY (nos.)	IDENTIFICATION NO. FOR PLANTING AREA IN CONTRACT 3																					
					PA01	PA02	PA03	PA04	PA05	PA06	PA07	PA08	PA09	PA10	PA11	PA12	PA13	PA14	PA15	PA16	PA17	PA18	PA19	PA20	PA21	PA22
WHIP																										
<i>Bauhinia variegata</i>	宮粉羊蹄甲	WHIP	1000	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
<i>Bridelia tomentosa</i>	土密樹	WHIP	1000	93	-	-	-	-	-	-	-	-	-	68	25	-	-	-	-	-	-	-	-	-		
<i>Gordonia axillaris</i>	大頭茶	WHIP	1000	140	-	-	-	-	-	-	-	-	-	18	52	-	-	-	70	-	-	-	-	-		
<i>Litsea glutinosa</i>	湧檀樹	WHIP	1000	38	-	-	-	-	-	-	-	-	-	-	38	-	-	-	-	-	-	-	-	-		
<i>Melilotus paniculatus</i>	白楸	WHIP	1000	38	-	-	-	-	-	-	-	-	-	-	38	-	-	-	-	-	-	-	-	-		
<i>Phyllanthus emblica</i>	餘甘子	WHIP	1000	38	-	-	-	-	-	-	-	-	-	-	38	-	-	-	-	-	-	-	-	-		
<i>Sapium discolor</i>	山烏柏	WHIP	1000	12	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-		
			Subtotal	411	0	0	0	0	0	0	0	0	0	86	255	0	0	0	70	0	0	0	0	0		
TREE (HEAVY STANDARD)																										
<i>Bauhinia variegata</i>	宮粉羊蹄甲	HEAVY STANDARD	4000-4500	41	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
<i>Bombax ceiba</i>	木棉	HEAVY STANDARD	4500-5000	16	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
<i>Brachychiton acerifolius</i>	絨葉蘋婆	HEAVY STANDARD	4500-5000	36	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	-	-	-	-	-		
<i>Cinnamomum burmannii</i>	陰香	HEAVY STANDARD	4500-5000	23	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
<i>Sterculia lanceolata</i>	假蘋婆	HEAVY STANDARD	4500-5000	10	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
<i>Delonix regia</i>	鳳凰木	HEAVY STANDARD	N/A	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
<i>Melaleuca cajuputi subsp. cumingiana</i>	白千層	HEAVY STANDARD	4000	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-		
<i>Tabebuia chrusantha</i>	黃花風鈴木	HEAVY STANDARD	4500-5000	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-		
<i>Tabebuia impetiginosa</i>	風鈴木	HEAVY STANDARD	4500-5000	13	3	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
<i>Terminalia mantaly</i>	小葉欖仁	HEAVY STANDARD	4500-5000	8	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
			Subtotal	166	93	0	1	0	0	10	8	0	0	0	0	0	0	18	4	0	0	0	16	0		
TREE (LIGHT STANDARD)																										
<i>Bauhinia variegata</i>	宮粉羊蹄甲	LIGHT STANDARD	3000	225	-	-	-	-	-	8	-	-	34	180	-	-	-	-	-	-	-	-	3	-		
<i>Bridelia tomentosa</i>	土密樹	LIGHT STANDARD	3000	81	-	-	-	-	-	-	-	-	15	46	-	-	-	-	-	-	-	-	20	-		
<i>Bombax ceiba</i>	木棉	LIGHT STANDARD	3000	32	-	-	-	-	-	-	-	-	-	32	-	-	-	-	-	-	-	-	-	-		
<i>Cinnamomum burmannii</i>	陰香	LIGHT STANDARD	3000	51	-	-	-	-	-	-	-	-	-	43	2	-	-	-	-	-	-	6	-	-		
<i>Liquidambar formosana</i>	楓香	LIGHT STANDARD	3000	32	-	-	-	-	-	-	-	-	-	32	-	-	-	-	-	-	-	-	-	-		
<i>Litsea glutinosa</i>	湧檀樹	LIGHT STANDARD	3000	19	-	-	-	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-		
<i>Machilus chekiangensis</i>	浙江潤楠	LIGHT STANDARD	3000	61	-	-	-	-	-	-	-	-	17	44	-	-	-	-	-	-	-	-	-	-		
<i>Reevesia thyrsoidea</i>	梭羅樹	LIGHT STANDARD	3000	36	-	-	-	-	-	4	-	-	7	25	-	-	-	-	-	-	-	-	-	-		
<i>Schima superba</i>	木荷(荷樹)	LIGHT STANDARD	3000	32	-	-	-	-	-	-	-	-	-	32	-	-	-	-	-	-	-	-	-	-		
<i>Sterculia lanceolata</i>	假蘋婆	LIGHT STANDARD	3000	53	-	-	-	-	-	-	-	-	6	30	3	-	-	-	-	-	-	-	14	-		
<i>Viturnum odoratissimum</i>	珊瑚樹	LIGHT STANDARD	3000	74	-	-	-	-	-	-	-	-	16	58	-	-	-	-	-	-	-	-	-	-		
<i>Garcinia subelliptica</i>	福木	LIGHT STANDARD	3000	14	-	-	-	-	-	-	-	-	-	-	-	-	-	3	7	-	-	4	-			
			Subtotal	710	0	0	0	0	0	12	0	0	114	522	5	0	0	3	7	0	0	4	43	0		
PALM																										
<i>Archontophoenix alexandrae</i>	假檳榔	HEAVY STANDARD 3500(H) X 1500(S)	4000	58	-	-	-	-	-	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
<i>Livistona chinensis</i>	蒲葵	LIGHT STANDARD 2000(H) X 1500(S)	2500	10	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
<i>Phoenix roebelenii</i>	日本葵	LIGHT STANDARD 2000(H) X 1500(S)	2500-3000	139	34	-	18	-	-	-	-	-	10	42	-	12	-	-	-	-	-	-	-	23		
<i>Wodyetia bifurcata</i>	狐尾椰子	HEAVY STANDARD 2500(H) X 1500(S)	3500	26	-	-	-	-	-	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-		
			Subtotal	233	34	0	18	0	0	10	58	0	10	42	0	12	0	26	0	0	0	0	0	23		
			Contract 3 Total	1520	127	0	19	0	0	32	66	0	210	819	5	12	18	103	7	0	0	20	43	16		

- NOTE:
- All proposed plant species and specifications are subject to change to suit the site conditions.
 - Locations of tree planting area subject to change to suit the site conditions.
 - The standards of trees follow General Specification for Civil Engineering Works Clause 3.11-3.16; the sizes are also subject to the special feature according to species.
 - The palms are accounted as heavy or light standard trees according to species and sizes for tree compensation accounting purpose.
 - Refer to drawing nos. C3/LM/001, C3/LM/002 in Appendix D for the locations of planting area in Contract 3.

Tree Size	C3	
Whip	411	
Subtotal	411	411
Light Standard	859	
Standard	0	
Heavy Standard	250	
Subtotal	1109	1109
Total	1520	

Legend:

- Compensatory Planting Area (in ha)
 - HY/2012/07 (C1)
 - HY/2012/08 (C2)
 - HY/2013/12 (C3)
 - HY/2017/10 (C4)
 - Potential Development Area (PDA)

Compensatory Planting Area (in ha)
 HY/2012/07 : Approx. 14.41 ha
 HY/2012/08 : Nil
 HY/2013/12 : Approx. 5.35 ha
 HY/2017/10 : Approx. 14.37 ha
 Total : Approx. 34.13 ha

Number of Compensation Trees (CM10):

Identification No. for Planting Area in C3:	Nos.	Identification No. for Planting Area in C4:	Nos.
C3_PA01	127	C4_PA01	4
C3_PA02	-		
C3_PA03	19		
C3_PA04	-		
C3_PA05	-		
C3_PA06	32		
C3_PA07	66		
C3_PA09	210		
C3_PA10	819		
C3_PA11	5		
C3_PA13	18		
C3_PA14	103		
Subtotal	1399 nos.	Subtotal	4 nos.



LEGEND

- Site Boundary
- New Tree Planting
- Transplanted Trees
- Existing Trees and Shrubs (at-grade)
- Proposed Shrub, Ground cover, Grass Planting
- Existing Woodland Tree Groups
- Proposed Tree planting for Slope
- Proposed Tree and Shrub Mix Planting

AECOM

PROJECT
 TUEN MUN - CHEK LAP KOK LINK

CONTRACT TITLE
 TUEN MUN - CHEK LAP KOK LINK - NORTHERN CONNECTION TOLL PLAZA AND ASSOCIATED WORKS

CLIENT
 路政署 HIGHWAYS DEPARTMENT
 主要工程管理處 (專員辦事處) Major Works Project Management Office (Special Duties)

CONSULTANT
 AECOM Asia Company Ltd.
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SUB-CONSULTANTS

ISSUE/REVISION

NO.	DATE	DESCRIPTION	CHK
D	JUN 22	ROUNDBOUNT UPDATE	GL
C	MAY 21	ROUNDBOUNT UPDATE	CL
B	SEP 20	LANDSCAPE UPDATE	CL
A	SEP 19	LANDSCAPE UPDATE	CWN
IR	DATE	DESCRIPTION	CHK

STATUS

SCALE
 A1 1:1000 A3 1:2000
 DIMENSION UNIT: MILLIMETRES

KEY PLAN

PROJECT NO. 60240249
CONTRACT NO. HY/2013/12

SHEET TITLE
 LANDSCAPE MASTER PLAN

SHEET NUMBER
 C3/LM/001

SHEET 1 OF 15

Plot File by: \\aifm\engineering\091112020\DATA_VTC\GIS_HSS\CD\landscape\Master_Plan\20201029\C3\LM\001.dgn
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