



Environmental Permit (No. EP-537/2017)

19 March 2019

The EIA Ordinance Register Office,
Environmental Protection Department,
27th floor, Southorn Centre,
130 Hennessy Road,
Wanchai, Hong Kong

By Hand & Fax
(fax no. 2591 0558)

Attn: Director of Environmental Protection

Dear Sir/ Madam,

**Expansion of Research and Residential Facilities for
The Swire Institute of Marine Science, Faculty of Science,
The University of Hong Kong at Cape d' Aguilar, Shek O, Hong Kong
Submission of Monthly Environmental Monitoring and Audit Report No.17**

Refer to the Environmental Permit No. EP-537/2017 under Environmental Impact Assessment Ordinance (Chapter 499) Section 10.

We are pleased to submit three hard copies and three electronic copies of the monthly environmental monitoring report certified by the IEC in responded to the Specific Conditions 2.3 of the Environmental Permit (No. EP-537/2017).

Should you have any queries, please feel free to contact our Mr Cliff Ip at 2957 9611.

Thank you for your attention.

Yours faithfully
For and on behalf of
Percy Thomas Partnership (HK) Ltd.

Vetus T C Lau
Authorized Person

VL/CI/31122(1)31.3/ Z000744

P:\31122 Swire Institute of Marine Science\Correspondence\Letter\EPD\2019-3-19 IEC report.docx

Encl.

cc

The University of Hong Kong

- Mr John Sung w/o (Fax: 2517 0456)

- Mr K B Wong

Wong & Cheng Consulting Engineers Ltd

- Mr Sammy Cheng w/o (Fax: 2865 6610)

- Mr KW Yeung

Arcadis

- Mr Chris Cheng1 w/o (Fax: 2805 5028)

Acuity Sustainability Consulting Limited

- Mr Jacky Leung w/o (Fax: 2333 1316)

- Mr Kevin Li



Acuity Sustainability Consulting Limited

Unit 1908, Nos. 301-305 Castle Peak Road, Kwai Chung, N.T.
Temporary Office: Lot 12, Tam Kon Shan Road, Tsing Yi, N.T.
Tel.: (852) 2333 6823 Fax.: (852) 2333 1316

MONTHLY ENVIRONMENTAL MONITORING AND AUDIT (EM&A) REPORT (NO. 17)

FOR

**Expansion of Research and Residential Facilities for the Swire Institute of
Marine Science, The University of Hong Kong at Cape D'Aguilar, Shek O**

(Rev. 0)

**MONTHLY ENVIRONMENTAL
MONITORING AND AUDIT
(EM&A) REPORT (NO.17) -**

FOR

**EXPANSION OF RESEARCH AND RESIDENTIAL
FACILITIES FOR THE SWIRE INSTITUTE OF
MARINE SCIENCE**




	Name	Signature
Prepared by	Ms. Cheung, Karen, K.Y.	
Checked & Reviewed by	Mr. Tsui, Nelson, T. H.	
Approved by	Mr. Li, Kevin, W. M. Independent Environmental Checker (IEC)	

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1. INTRODUCTION

- 1.1 PROJECT BACKGROUND**
- 1.2 ORGANIZATION STRUCTURE**
- 1.3 SCOPE OF REPORT**
- 1.4 SUMMARY OF CONSTRUCTION WORKS**

2. EM&A RESULTS

- 2.1 EM&A BACKGROUND**
- 2.2 ENVIRONMENTAL LICENSES AND PERMITS**
- 2.3 IMPLEMENTATION OF ENVIRONMENTAL MITIGATION MEASURES**
- 2.4 EM&A SITE INSPECTIONS**
- 2.5 SUMMARY IF EXCEEDANCES OF ENVIRONMENTAL QUALITY PERFORMANCE LIMIT**

3. FUTURE KEY ISSUES

- 3.1 CONSTRUCTION PROGRAMME FOR COMING MONTHS**
- 3.2 KEY ISSUES FOR THE COMING MONTH**

4. CONCLUSIONS AND RECOMMENDATIONS

- 4.1 SUMMARY**

LIST OF APPENDICES

Appendix A	Location of Construction Activities
Appendix B	Project Organization
Appendix C	Cumulative Statistics on, Complaints, Notifications of Summons and Successful Prosecutions
Appendix D	Updated Landscape and Tree Preservation Proposals
Appendix E	Environmental Monitoring Checklist

EXECUTIVE SUMMARY

- A.1 Pursuant to the Environmental Impact Assessment (EIA) Ordinance, the Director of Environmental Protection (“DEP”) granted the Environmental Permit (No. EP- 537/2017) to The University of Hong Kong (“HKU”) to construct and operate the designated project for “Extension of Academic Block, The Swire Institute of Marine Science, Faculty of Science, The University of Hong Kong, Cape D’Aguilar Road, Shek O” (“The Project”).
- A.2 Seemly Building Construction Company Limited (“SBC”) was commissioned by HKU to undertake the construction of the extension works until 9 February 2018. Percy Thomas Partnership (HK) Limited (“PTP”) was appointed by HKU as the Architect. For implementation of the environmental monitoring and audit (EM&A) requirement under the Project Profile, Acuity Sustainability Consulting Limited (“ASC”) was appointed by PTP as the Independent Environmental Checker (IEC).
- A.3 The construction phase of the Contract commenced on 6 October 2017 for completion by end of 2018. The environmental site inspections of the EM&A programme commenced on October 2017.
- A.4 Main contract of the project between Seemly SBC and HKU was terminated on 9 February 2018, whole contract period of SBC covered from 28 March 2017 to 9 February 2018. Notification of suspension of works had been submitted to Building Department on 9th February 2018 by PTP. HKU will take up all responsibility of the Contractor until further notice.
- A.5 This is the 17th monthly Environmental Monitoring and Audit Report for this Contract covering the period from 6 February 2019 to 5 March 2019 (the Reporting Period). The contract with SBC was terminated on 9 February 2018, thus no construction activities was conducted in the reporting period.
- A.6 IEC Monthly Environmental Site Audit under the EM&A requirement in this reporting period was conducted on 26 February 2019.
- A.7 PTP updated the Landscape and Tree Preservation Proposals (“LTPP”). No landscape and visual impact compare to the LTPP indicated in Project Profile (PP-548/2017) under the Environmental Impact Assessment Ordinance (EIAO) from the landscape planning perspective.
- A.8 No environmental complaint was received via EPD in this reporting period.
- A.9 No notification of any summons and successful prosecutions was received in this reporting period.
- A.10 No reporting change was made in this reporting period.
- A.11 No major works for this Project in February 2019 will be conducted.
- A.12 EM&A monitoring for the 17th reporting period has been completed. The 18th monthly EM&A report will cover the period from 6 March 2019 to 5 April 2019.

1. INTRODUCTION

1.1. PROJECT BACKGROUND

- 1.1.1. Pursuant to the Environmental Impact Assessment (EIA) Ordinance, the Director of Environmental Protection (“DEP”) granted the Environmental Permit (No. EP- 537/2017) to The University of Hong Kong (“HKU”) to construct and operate the designated project for “Extension of Academic Block, The Swire Institute of Marine Science, Faculty of Science, The University of Hong Kong, Cape D’Aguilar Road, Shek O” (“The Project”).
- 1.1.2. Seemly Building Construction Company Limited (“SBC”) was commissioned by HKU to undertake the construction of the extension works until 9 February 2018. Percy Thomas Partnership (HK) Limited (“PTP”) was appointed by HKU as the Architect. For implementation of the environmental monitoring and audit (EM&A) requirement under the Project Profile, Acuity Sustainability Consulting Limited was appointed by PTP as the Independent Environmental Checker (IEC).
- 1.1.3. Main contract of the project between Seemly SBC and HKU was terminated on 9 February 2018, whole contract period of SBC covered from 28 March 2017 to 9 February 2018. Notification of suspension of works had been submitted to Building Department on 9 February 2018 by PTP. HKU will take up all responsibility of the Contractor until further notice.
- 1.1.4. The construction phase of the Contract commenced on 6 October 2017 for completion by end of 2018. The general layout plan of the Contract components is presented in Appendix A.

1.2. ORGANIZATION STRUCTURE

- 1.2.1. The organization structure of the Contract is shown in Appendix B. Contact details of key personnel are summarized in below table:

Table 1-1: Key Personnel Contact for Environmental Works

Party	Position	Name	Telephone
The University of Hong Kong	Assistant Director	John Sung	2816 8208
Percy Thomas Partnership (HK) Ltd	Senior Architect	Cliff Ip	2957 9611
Acuity Sustainability Consulting Limited	Independent Environmental Checker (IEC)	Li, Kevin, W. M.	2698 6833

1.3. SCOPE OF REPORT

- 1.3.1. This is the 17th monthly IEC Report for “Extension of Academic Block, The Swire Institute of Marine Science, Faculty of Science, The University of Hong Kong, Cape D’Aguilar Road, Shek O” covering the period from 6 February 2019 to 5 March 2019 (the reporting period).
- 1.3.2. The EM&A requirements for impact monitoring are set out in the approved Project Profile (Register No. PP-548/2017). All mitigation measures recommended in the Project Profile such as the construction air quality, noise, water quality, waste management, landscape and visual, cultural heritage and ecology were identified as the key issues during the construction phase of the Project.

1.4. SUMMARY OF CONSTRUCTION WORKS

- 1.4.1. The construction phase of the Contract commenced on 6 October 2017.
- 1.4.2. The contract was terminated on 9 February 2018, thus no construction activities was conducted in the reporting period.
- 1.4.3. The locations of the construction activities are shown in Appendix A.

2. EM&A RESULTS

2.1. EM&A BACKGROUND

2.1.1. The Environmental Permit (No. EP-537/2017) required Independent Environmental Checker (IEC) to certify the implementation status of mitigation measures in a monthly audit report during the construction of the Project. Environmental site inspection for air quality, noise, water quality, waste management and ecology mitigation measures was conducted on 26 February 2019. A summary of mitigation measure is presented in Table 2-2.

2.1.2. The contract between SBC and HKU was terminated on 9 February 2018. Thus, some of the mitigation measures will not be applicable for this stage. The monitoring checklist is shown in Appendix E.

2.2. ENVIRONMENTAL LICENSES AND PERMITS

2.2.1. The status of environmental license and permit is summarized in Table 2-2 below:

Table 2-1: Summary of Environmental License and Permit

License / Permit	License / Permit No.	Date of Issue	Date of Expiry	License / Permit Holder	Remark
Environmental Permit	EP-537/2017	18/05/2017	N/A	HKU	
Billing Account	Account No. 7027765	10/05/2017	-	SBC	
Waste Water Discharge License	-	-	-	-	N/A
Chemical Waste Producer	5292-197-S3753-02	01/12/2017	-	SBC	-
Air Pollution Control Ordinance	Ref. No. 422086	12/10/2017	-	SBC	-
Construction Noise Permit	-	-	-	-	N/A

2.3. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

2.3.1. In response to the Project Profile (Registrar No. PP-548/2017). The status of the environmental mitigation measures implemented by the Contractor in this Reporting Period was audit on 26 February 2019 and the checklist is showed in Appendix E.

2.3.2. The environmental mitigation measures that recommended in the project profile and environmental permit covered the issues of dust, noise, air quality, water, ecology, landscape and visual, cultural heritage and waste management and they are showed Table 2-2.

Table 2-2: Environmental Mitigation Measures

Issues	Environmental Mitigation Measures
Air Quality	<ul style="list-style-type: none"> - Erection of hoarding of not less than 2.4m high from ground level along the works area that adjoins a road or other area accessible to the public, where appropriate; - The works area of any excavation or earth moving operation shall be sprayed with water to maintain the entire surface wet; - All dusty materials shall be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet; - Cover stockpile of dusty materials by impervious sheeting or sprayed with water so as to maintain the entire surface wet or removed or backfilled within 24 hours of the excavation or unloading; - Any debris shall be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the 3 sides; - Ultra Low Sulphur Diesel (ULSD i.e. Sulphur content not more than 0.005%) should be used for all the onsite PME; - Every vehicle shall be washed to remove any dusty materials from its body and wheels; - Where a vehicle leaving the construction works area is carrying a load of dusty materials, the load shall be covered by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle; - Unpaved road shall be regularly compacted and the road surface shall be kept clear of loose materials; - The speed of all vehicles moving within the Site shall be restricted to minimize fugitive dust emission; - All on-site PME shall be well-maintained and operated in a good manner that no black smoke will be emitted; and - No PME in operation that any black smoke is emitted for more than 6 minutes in any period of 4 hours or for more than 3 minutes continuously at any one time.
Noise	<ul style="list-style-type: none"> - Care in the placement and orientation of noisy plants away from the NSRs and effective utilization of material stockpiles and other structures in screening noise from the on-site construction activities; - Careful planning of construction sequence; - The operation time of noisy PME should be kept at minimum; - Hoarding will be erected along the site boundary for noise screening purpose; - Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program; - All hoods, cover panels and inspection hatches of power mechanical plant such as generator, air compressor etc. should be closed during operation; - Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; - Utilization of silencers or mufflers on the construction equipment to reduce noise without impairing machine efficiency,
Water	<ul style="list-style-type: none"> - Contractor shall obtain construction site discharge license from the EPD under WPCO; - To prevent sewage from entering the inland water and inshore water, hoardings will be erected along the site boundary. Surface run-off from construction site shall be treated via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation tank or

Issues	Environmental Mitigation Measures
	<p>STP first to prevent sewage from entering the inland water and inshore water, and then collected by licensed collector and discharged off site;</p> <ul style="list-style-type: none"> - The vehicle washing bay shall be located on paved area and away from the sensitive receivers and provided with a suitable backfill to prevent the site run-off from entering the public roads; - All water used on site shall be re-circulated and re-used for beneficial uses as dust suppression, wheel washing and general cleaning; - Online standby water sump pumps of sufficient capacity and with automatic devices shall be provided to prevent overflow of sewage from any water recycling system; - Open stockpiles of construction materials on site or exposed earth surface shall be avoided as far as practicable or, where unavoidable, should be covered with impervious sheet such as tarpaulin sheet or similar fabric during rainstorms; - Stagnant water shall be removed every day. Extra pumps shall be used to pump the water into sedimentation tank during rainy days when necessary; - Earth bund or sand bag barriers shall be provided onsite to properly direct storm water to the silt removal facilities such as sedimentation tank provided; - Good site practices shall be adopted to remove rubbish and litter from construction site to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction sites on a regular basis; - Sufficient chemical toilets shall be provided in the works area and a licensed waste collector should be deployed to clean the chemical toilets on a regular basis; - Notices shall be posted at conspicuous locations to remind the workers not to discharge any sewage or sewage into the nearby environment; and - It is recommend that the Contractor include the sewage control measures during their onsite toolbox talk to increase the awareness of all workers.
<p>Waste Management</p>	<ul style="list-style-type: none"> - Construction works shall be carefully planned to minimize the amount of wastes generated and avoid unnecessary generation of wastes; - Sufficient waste disposal points and regular collection of wastes shall be provided; - Different types of wastes shall be segregated and stored properly to promote reuse or recycling; - Dump truck leaving the Site shall be covered properly with impervious sheeting; - Contractor shall register as a Chemical Waste Producer if chemical wastes such as spent lubricants are generated onsite. All chemical waste shall be properly handled, stored, labeled, packaged and collected in accordance with the requirements of the Waste Disposal (Chemical Waste) (General) Regulation; - Surplus C&D materials (inert and non-inert) generated from the proposed works requiring disposal shall be properly transported to the designated disposal facilities managed by CEDD and EPD. A trip-ticket system shall be implemented by the Contractor and monitored as a standard item in the relevant technical audit, in accordance with the requirements specified in DEVB TC(W) No. 6/2010 Trip Ticket System for Disposal of Construction & Demolition Materials; - Waste Management Plan shall be prepared in accordance with the requirement specified in Building Departments Practice Note for

Issues	Environmental Mitigation Measures
	<p>Authorized Persons and Registered Structural Engineers – Construction and Demolition Waste (ADV-19);</p> <ul style="list-style-type: none"> - Toolbox talks shall be arranged to workers on relevant topics including site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling.
Ecology	<ul style="list-style-type: none"> - Access route and placement of equipment and stockpile in works area shall be selected at existing developed area and disturbed land to minimize disturbance on vegetation. The chosen temporary storage or stockpiling area and access routes shall be far away from any identified plant species of conservation importance; - Construction activities will be restricted to the clearly defined works area; - Temporary works area will be reinstated immediately after completion of the construction works; - Disposal and treatment of waste shall be carried out in a timely and proper manner - Open fires will be strictly prohibited to prevent any risk of wildfire; - Fire-fighting equipment should be provided in the works area before the commencement of works and - Resident site personnel shall ensure the Implementation of the mitigation measures
Landscape and Visual	<ul style="list-style-type: none"> - Design with minimum vegetation clearance - Compensatory planting of native trees and shrubs - Retain and preserve all plant species of conservation importance on site - Amenity value improved by compensatory planting and natural regeneration of plants - Erection of hoarding with colour compatible to the surrounding around works areas
Cultural Heritage	<ul style="list-style-type: none"> - No-entry zone will be fenced off by eye-catching net at the Cape D' Aguilar Lighthouse - Placement of equipment and stockpile at the road section close to the Lighthouse are prohibited - Using manual gear for trenching work near the Lighthouse - Monitor the vibration near the Lighthouse

2.3.3. The necessary mitigation measures were implemented properly for this Contract in the reporting period.







2.3.4. PTP has updated the Landscape and Tree Preservation Proposals (“LTPP”). The updated LTPP is attached in Appendix D.

2.4. EM&A SITE INSPECTION

2.4.1. Site inspection was carried out on a monthly basis to monitor the implementation of mitigation measures under the Contract. In the reporting period, site inspection was carried out on 26 February 2019.

2.4.2. Minor deficiencies were observed during site inspection. Key observations during the site inspections are summarized in Table 2-3.

Table 2-3: Site Observations

Date	Environmental Observations	Follow-up Status
26-Feb-2019	General refuse was found in the academic block and in the drums.	Rectified by HKU site contractor on 5 March 2019 General refuse was removed from the Academic Block and the drums.
		
		

<p>26-Feb-2019</p>	<p>Orange nets should be repaired regularly.</p> <p><i>Elaeagnus tutcheri</i></p>  <p><i>Millettia oraria</i></p> 	<p>Rectified by HKU site contractor on 5 March 2019</p> <p>Orange meshes were replaced.</p> <p><i>Elaeagnus tutcheri</i></p>  <p><i>Millettia oraria</i></p> 
<p>26-Feb-2019</p>	<p>Dusty material should be three-sided covered by tarpaulin sheet in the academic block.</p>  	<p>Rectified by HKU site contractor on 5 March 2019</p> <p>Dusty material was covered three-sided by tarpaulin sheet in the Academic Block.</p> 

HKU has rectified most of the observations identified during environmental site inspection in the reporting period.

- 2.4.3. Ecology and landscape and visual monitoring had been conducted on 21 February 2019. As reported by Qualified Ecologist, observations and recommendation are summarised as below.
- 2.4.4. Damages by the Typhoon Mangkhut remained, especially on *Lysimachia mauritiana*. (濱海珍珠菜) and the retained tree TA.
- 2.4.5. Coastal vegetation had been wholly destroyed and removed by the typhoon, including most *Lysimachia mauritiana* (濱海珍珠菜). The two young *Lysimachia mauritiana* (濱海珍珠菜) rediscovered since the typhoon remained. Seed-bearing individual in poor condition without leaves still existed.
- 2.4.6. The coastal area where *Lysimachia mauritiana* (濱海珍珠菜) was growing should still be fenced off and free from any construction works and human disturbance. Next few monitoring would be important to confirm the re-establishment of this plant species of conservation importance from seed bank in the area. Building up additional assurance colonies of *Lysimachia mauritiana* (濱海珍珠菜) by collecting seeds may still be feasible.
- 2.4.7. The only patch of *Vitis bryoniifolia* (蔓莢) was found in poor conditions. Yellow and wilted foliage was observed at its original point and around the protection zone. Such change is probably initiated by previous Typhoon Mangkhut. Next few monitoring would be critical to verify any regrowth of young vines, or any new individual might be discovered.
- 2.4.8. The other five plant species of conservation importance are still in good to fair condition.
- 2.4.9. No human disturbance on the protected plants was detected or reported. Staff on site shall keep reminding hikers/ visitors not to enter/ disturb all fenced area/ plant protection zones and wildlife.
- 2.4.10. Clear signs and notice showing the right way to the lighthouse shall be put near the fence of *Pittosporum tobira* (海桐) in order to prevent people from climbing upslope directly to the lighthouse along the fence.
- 2.4.11. Protection zone has been provided in accordance with Condition 2.6 of the Environmental Permit. Any damage of the protection zone (due to coastal weather condition or disturbance of hikers and visitors) should be repaired promptly. Warning sign should be maintained at prominent positions within the works area to encourage hikers and visitors keeping away from any no-entry area or protection zone.
- 2.4.12. Broken branches in the retained tree TA due to the typhoon damage remained. Relevant authority shall be contacted for appointing a Certified Arborist or equivalent to conduct a Tree Risk Assessment (TRA) on this tree, in order to get Lands Department's approval on taking corresponding actions (e.g. pruning).
- 2.4.13. Once the TRA appointment is confirmed, good written and photographic records (e.g. personal, date and time, actions, etc.) should be made before, during and after any actions of treatment for the assessed tree (i.e. TA).

- 2.4.14. Construction works should be optimized to avoid encroaching into the protection zones as far as possible. Any works inevitably conducted in the protection zone of the three retained trees (e.g. removing man-made concrete surface of a path) shall be minimized its impact to the root system and avoid any damage to the anchor roots.
- 2.4.15. The 15 trees applied for felling are still awaiting approval by Lands Department. Good written and photographic records should be made right before, during and after the tree removal works.
- 2.4.16. To avoid/ reduce potential negative impacts to local native plant community and survival of plant species of conservation important, exotic and highly invasive tree *Leucaena leucocephala* (銀合歡), herb *Bidens alba* (白花鬼針草) and climber *Mikania micrantha* (薇甘菊) should be cleared and removed in whole, including the roots, whenever encountered throughout the construction phase, and packed properly before disposed as waste to prevent regrowth and dispersal of pollens and seeds.

2.5. SUMMARY OF COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTIONS

2.5.1. The Environmental Complaint Handling Procedure is shown in below table:

Table 2-4: Environmental Complaint Handling Procedure

Complaint Received via Liaison Officer	Complaint Received via 1823 or from other government departments
Contractor notify PTP, HKU and IEC	Contractor notify PTP ,HKU, and IEC
Register of the complaint. Contractor to conduct investigation of complaint and report to HKU,PTP and IEC the investigation results	
If complaint is considered not valid	If complaint is found valid
HKU or Contractor to reply the complainant if necessary	Contractor to implement necessary improvement measures in consultation with the IEC, HKU and PTP. HKU to check and inspect if the situation is improved. IEC to conduct further inspection as necessary.
	HKU to report the follow up actions done by Contractor and reply to complainant is necessary. If the complaint is referred by the EPD, Contractor to prepare interim report on the status of the complaint investigation and follow-up action
Contractor prepare complaint report for submission to EPD and to record the complaint case in monthly EM&A report	

2.5.2. No environmental complaint was received in the reporting period.

2.5.3. No notification of summons and prosecution was received in the reporting period.

3. FUTURE KEY ISSUES

3.1. CONSTRUCTION PROGRAMME FOR THE COMING MONTHS

3.1.1. The contract of the Contractor was terminated on 9 February 2018, tendering for new Contractor is under progress, thus no construction activities will be conducted in the coming reporting period.

3.2. KEY ISSUES FOR COMING MONTH

3.2.1. Potential environmental impacts arising from the upcoming activities in March 2019 are mainly associated with ecology and housekeeping issues.

3.2.2. Particular issues to be considered in the coming month include:

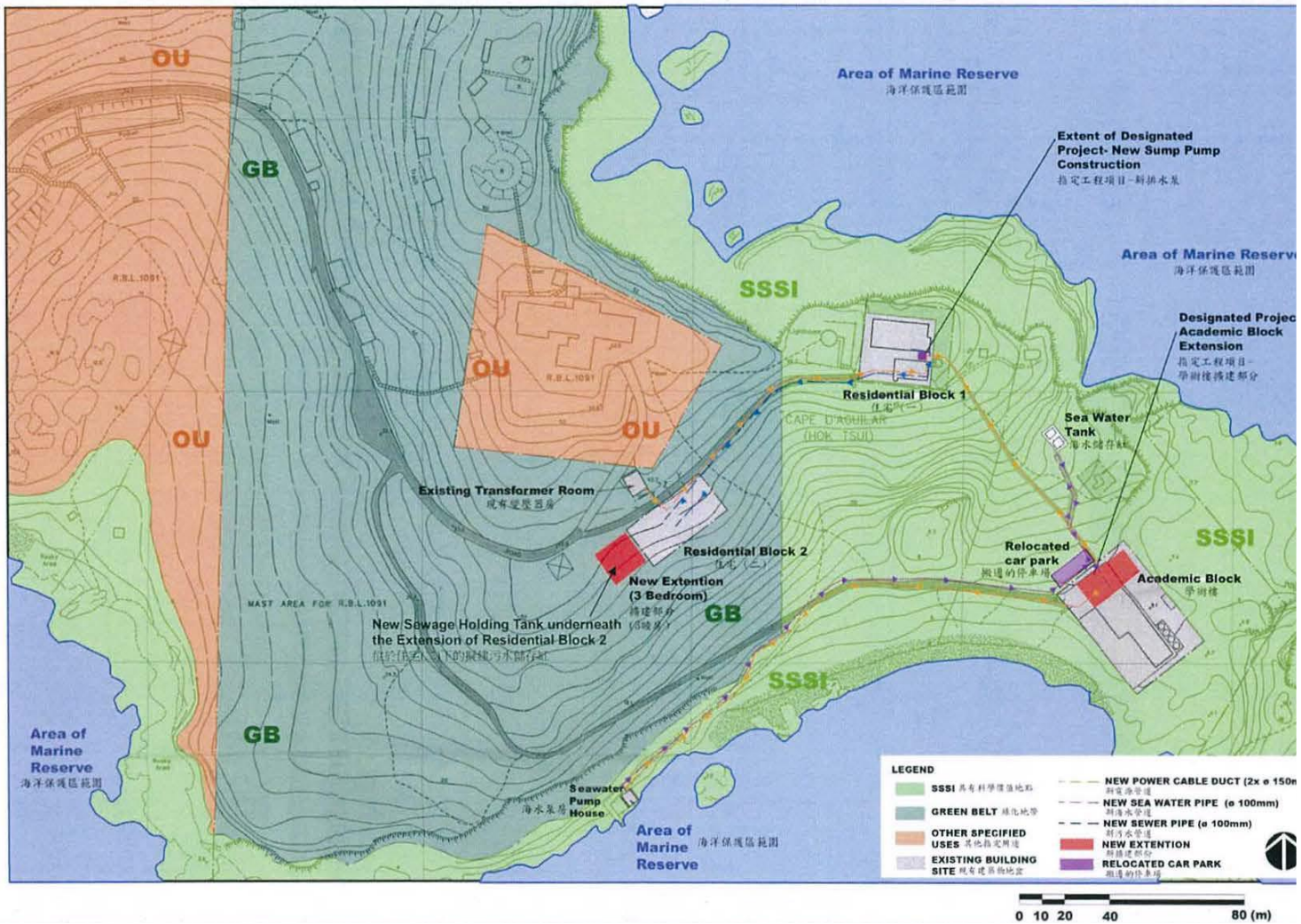
- Implementation of ecology mitigation measures
- Housekeeping of the site area

4. CONCLUSIONS AND RECOMMENDATIONS

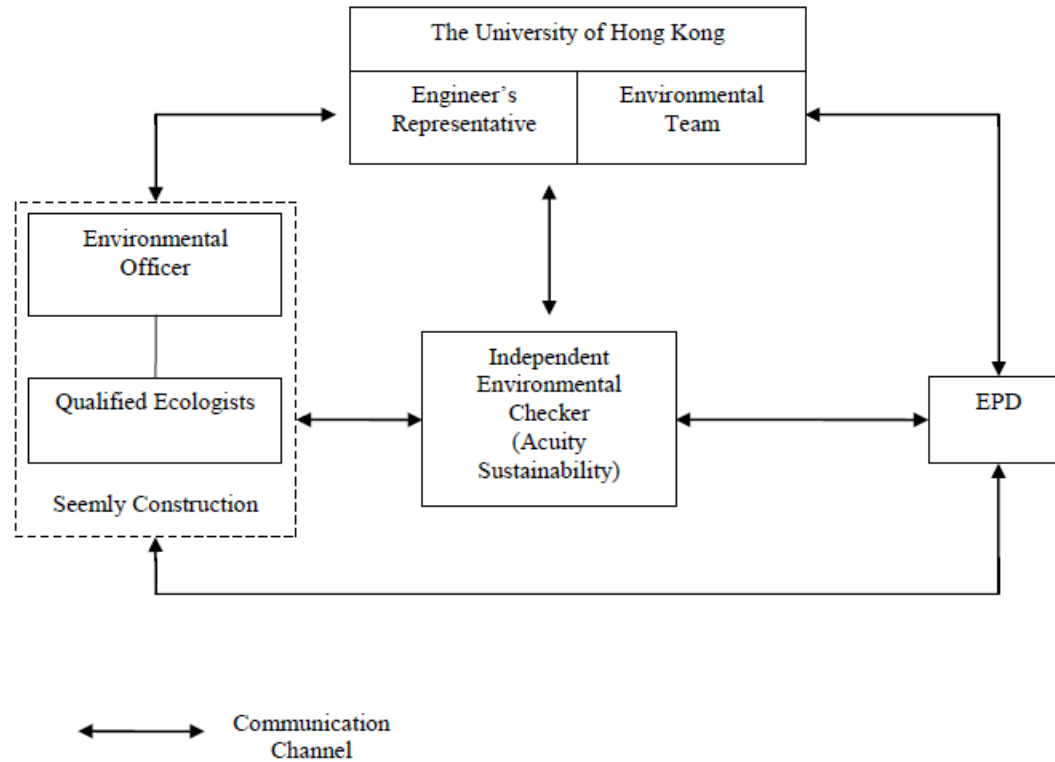
4.1. SUMMARY

- 4.1.1. Inspection was carried out on 26 February 2019. Minor deficiencies were observed during site inspection and has been rectified within the reporting period. Some mitigation measures were not applicable for the current construction stage, the mitigation measures were implemented properly in general. The environmental performance of the Project was therefore considered satisfactory.
- 4.1.2. HKU is also reminded to implement the recommended environmental mitigation measures according to the Project profile and Environmental Permit.
- 4.1.3. Ground covering vegetation at coastal shore, where the *Lysimachia mauritiana* located, had been wholly destroyed and removed by Typhoon Mangkhut. The two young *Lysimachia mauritiana* (濱海珍珠菜) rediscovered since the typhoon remained. Seed-bearing individual in poor condition without leaves still existed. Next few monitoring would be important to confirm the re-establishment of the plant species of conservation importance from seed bank in the area. The condition of *Lysimachia mauritiana* is being concerned and HKU is reminded to inspect the condition more frequent.
- 4.1.4. The only patch of *Vitis bryoniifolia* (蘼藨) was found in poor conditions. Yellow and wilted foliage was observed at its original point and around the protection zone. Such change is probably initiated by previous Typhoon Mangkhut. Next few monitoring would be critical to verify any regrowth of young vines, or any new individual might be discovered.
- 4.1.5. Broken branches in the retained tree TA due to the typhoon damage remained. HKU is reminded to contact for appointing a Certified Arborist or equivalent to conduct a Tree Risk Assessment (TRA) on this tree, in order to get Lands Department's approval on taking corresponding actions (e.g. pruning).
- 4.1.6. Main contract of the project between SBC and HKU was terminated on 9 February 2018. Notification of suspension of works had been submitted to Building Department on 9th February 2018 by PTP. HKU will take up all responsibility of the Contractor until further notice. Tendering for new Contractor is under progress, thus no construction activities was conducted in the reporting period.
- 4.1.7. PTP updated the Landscape and Tree Preservation Proposals ("LTPP"). No landscape and visual impact compare to the LTPP indicated in Project Profile (PP-548/2017) under the Environmental Impact Assessment Ordinance (EIAO) from the landscape planning perspective.
- 4.1.8. No environmental complaint was received in the reporting period.
- 4.1.9. No notification of summons or prosecution was received since commencement of the Contract.
- 4.1.10. HKU will keep track on the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Appendix A : Location of Construction



Appendix B: Project Organization



Appendix C: Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
6 Feb 2019-5 Mar 2019	0	1	N/A

Statistical Summary of Environmental Summons

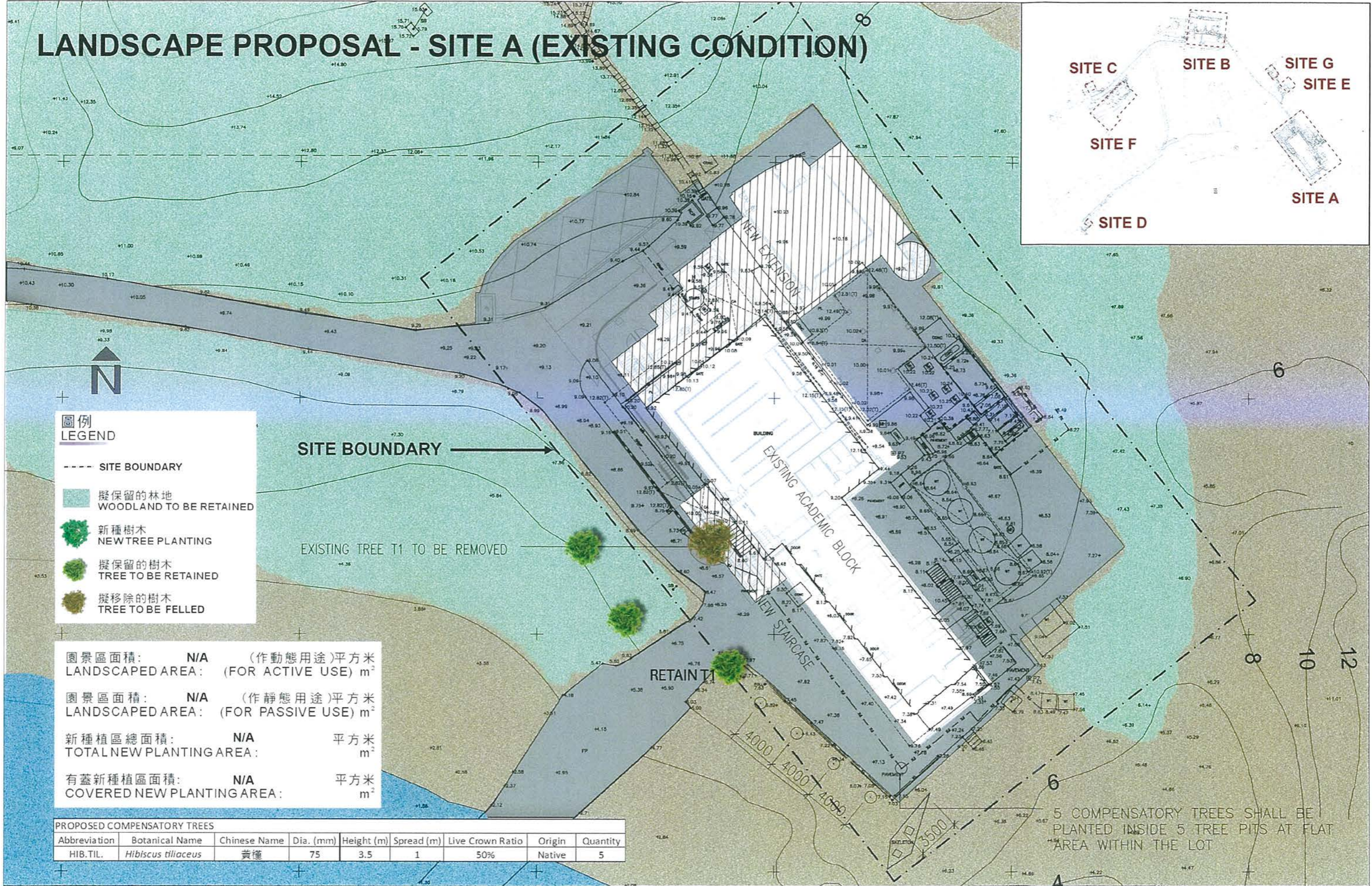
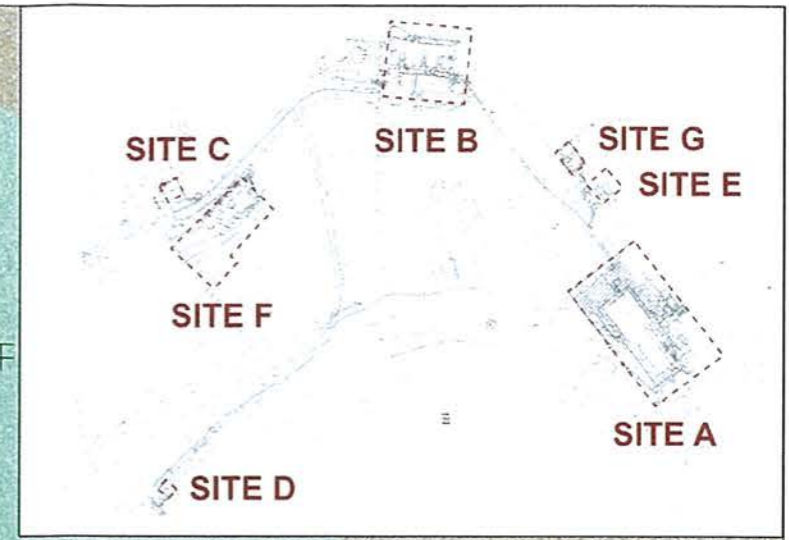
Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Details
6 Feb 2019-5 Mar 2019	0	0	N/A

Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Details
6 Feb 2019-5 Mar 2019	0	0	N/A

Appendix D: Updated Landscape and Tree Preservation Proposals

LANDSCAPE PROPOSAL - SITE A (EXISTING CONDITION)



圖例 LEGEND

- SITE BOUNDARY
- 擬保留的林地 WOODLAND TO BE RETAINED
- 新種樹木 NEW TREE PLANTING
- 擬保留的樹木 TREE TO BE RETAINED
- 擬移除的樹木 TREE TO BE FELLED

園景區面積: N/A (作動態用途)平方米
 LANDSCAPED AREA: (FOR ACTIVE USE) m²

園景區面積: N/A (作靜態用途)平方米
 LANDSCAPED AREA: (FOR PASSIVE USE) m²

新種植區總面積: N/A 平方米
 TOTAL NEW PLANTING AREA: m²

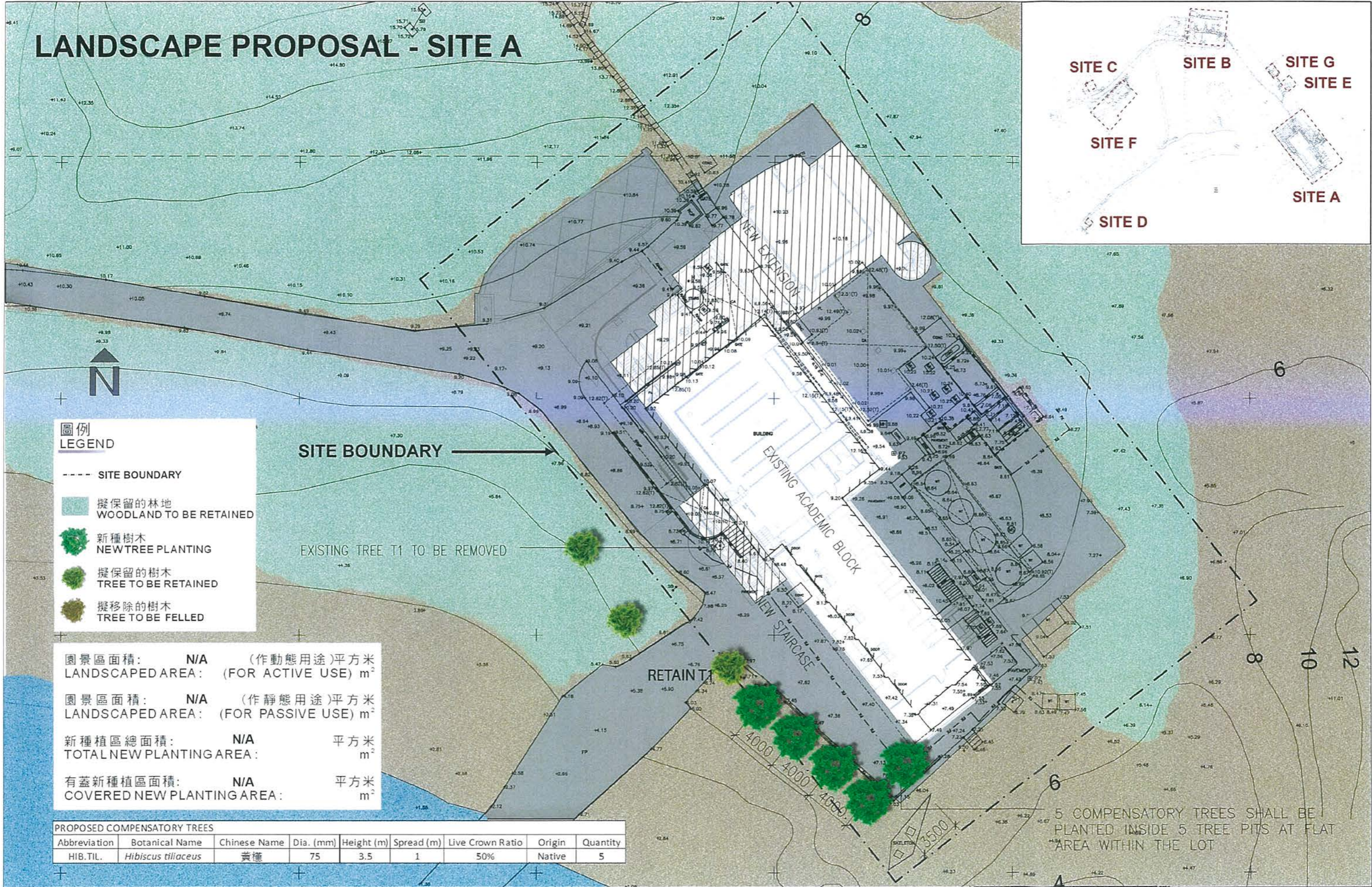
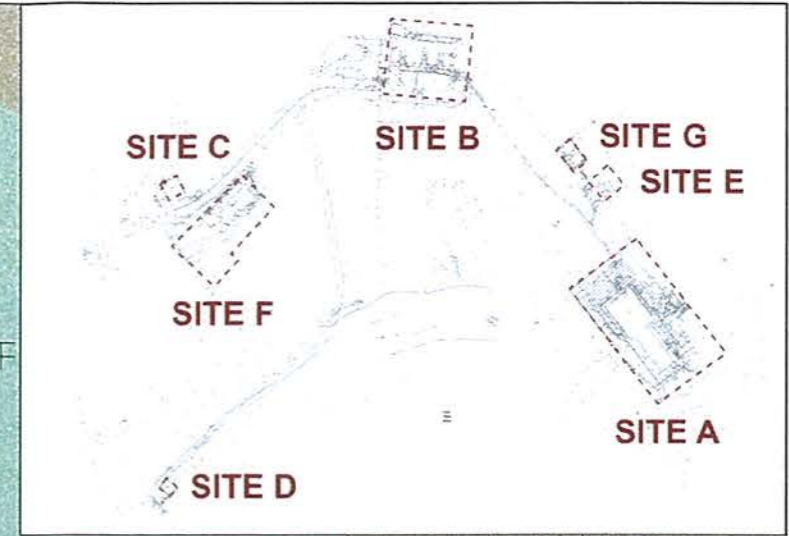
有蓋新種植區面積: N/A 平方米
 COVERED NEW PLANTING AREA: m²

PROPOSED COMPENSATORY TREES

Abbreviation	Botanical Name	Chinese Name	Dia. (mm)	Height (m)	Spread (m)	Live Crown Ratio	Origin	Quantity
HIB.TIL	<i>Hibiscus tiliaceus</i>	黃槿	75	3.5	1	50%	Native	5

5 COMPENSATORY TREES SHALL BE PLANTED INSIDE 5 TREE PITS AT FLAT AREA WITHIN THE LOT

LANDSCAPE PROPOSAL - SITE A



圖例
LEGEND

- SITE BOUNDARY
- 擬保留的林地
WOODLAND TO BE RETAINED
- 新種樹木
NEW TREE PLANTING
- 擬保留的樹木
TREE TO BE RETAINED
- 擬移除的樹木
TREE TO BE FELLED

園景區面積: N/A (作動態用途) 平方米
LANDSCAPED AREA: (FOR ACTIVE USE) m²

園景區面積: N/A (作靜態用途) 平方米
LANDSCAPED AREA: (FOR PASSIVE USE) m²

新種植區總面積: N/A 平方米
TOTAL NEW PLANTING AREA: m²

有蓋新種植區面積: N/A 平方米
COVERED NEW PLANTING AREA: m²

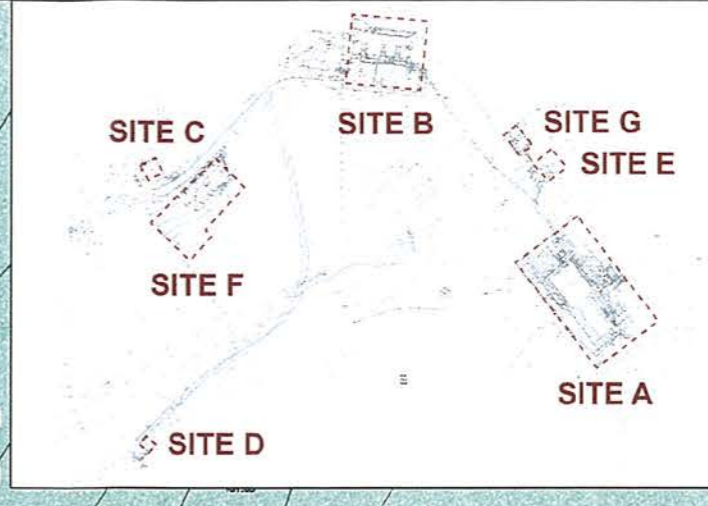
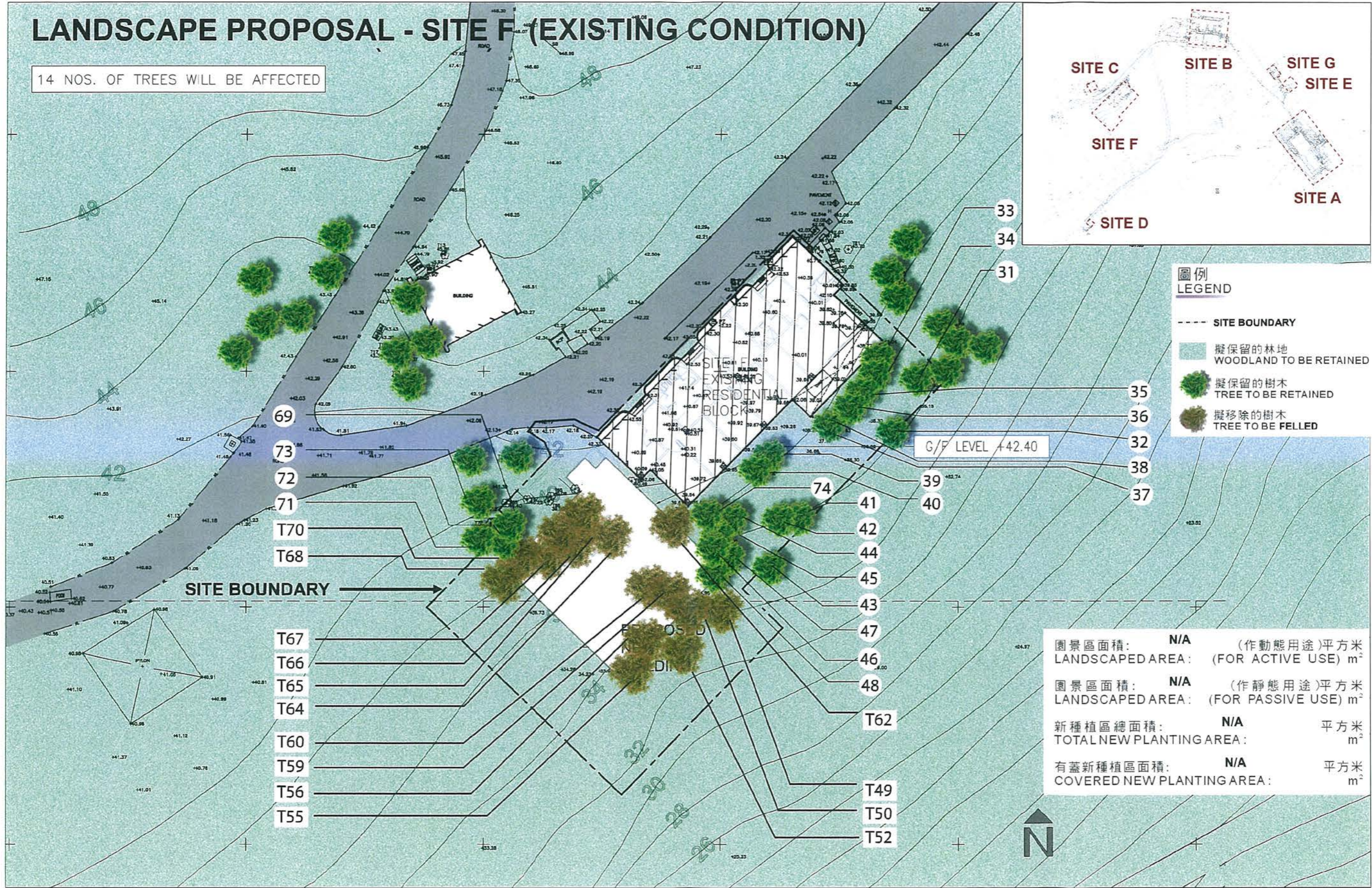
PROPOSED COMPENSATORY TREES

Abbreviation	Botanical Name	Chinese Name	Dia. (mm)	Height (m)	Spread (m)	Live Crown Ratio	Origin	Quantity
HIB.TIL.	<i>Hibiscus tiliaceus</i>	黃槿	75	3.5	1	50%	Native	5

5 COMPENSATORY TREES SHALL BE PLANTED INSIDE 5 TREE PITS AT FLAT AREA WITHIN THE LOT

LANDSCAPE PROPOSAL - SITE F (EXISTING CONDITION)

14 NOS. OF TREES WILL BE AFFECTED



圖例
LEGEND

- SITE BOUNDARY
- 擬保留的林地
WOODLAND TO BE RETAINED
- 擬保留的樹木
TREE TO BE RETAINED
- 擬移除的樹木
TREE TO BE FELLED

園景區面積:	N/A	(作動態用途)平方米
LANDSCAPED AREA:		(FOR ACTIVE USE) m ²
園景區面積:	N/A	(作靜態用途)平方米
LANDSCAPED AREA:		(FOR PASSIVE USE) m ²
新種植區總面積:	N/A	平方米
TOTAL NEW PLANTING AREA:		m ²
有蓋新種植區面積:	N/A	平方米
COVERED NEW PLANTING AREA:		m ²

G/F LEVEL +42.40

LANDSCAPE PROPOSAL - SITE F

14 NOS. OF TREES WILL BE AFFECTED

Compensatory Shrub Planting Schedule

Scientific Name	Chinese Name	Height	Spread	Quantity
<i>Schefflera octophylla</i>	鴨腳木	300 mm	300 mm	2250 nos.



VERTICAL GREENING



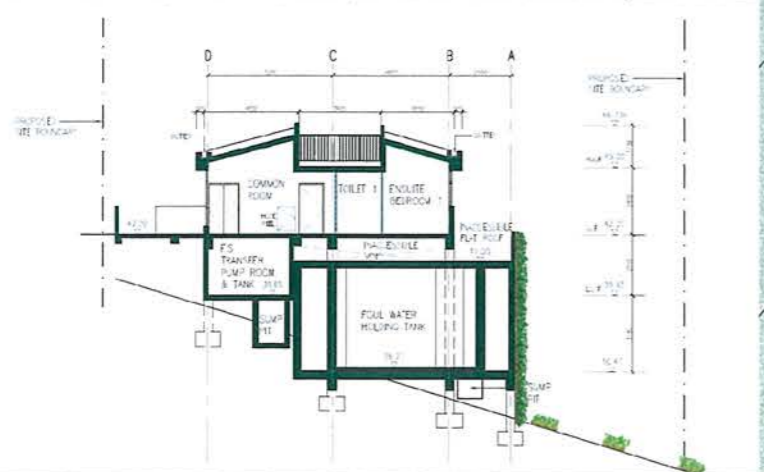
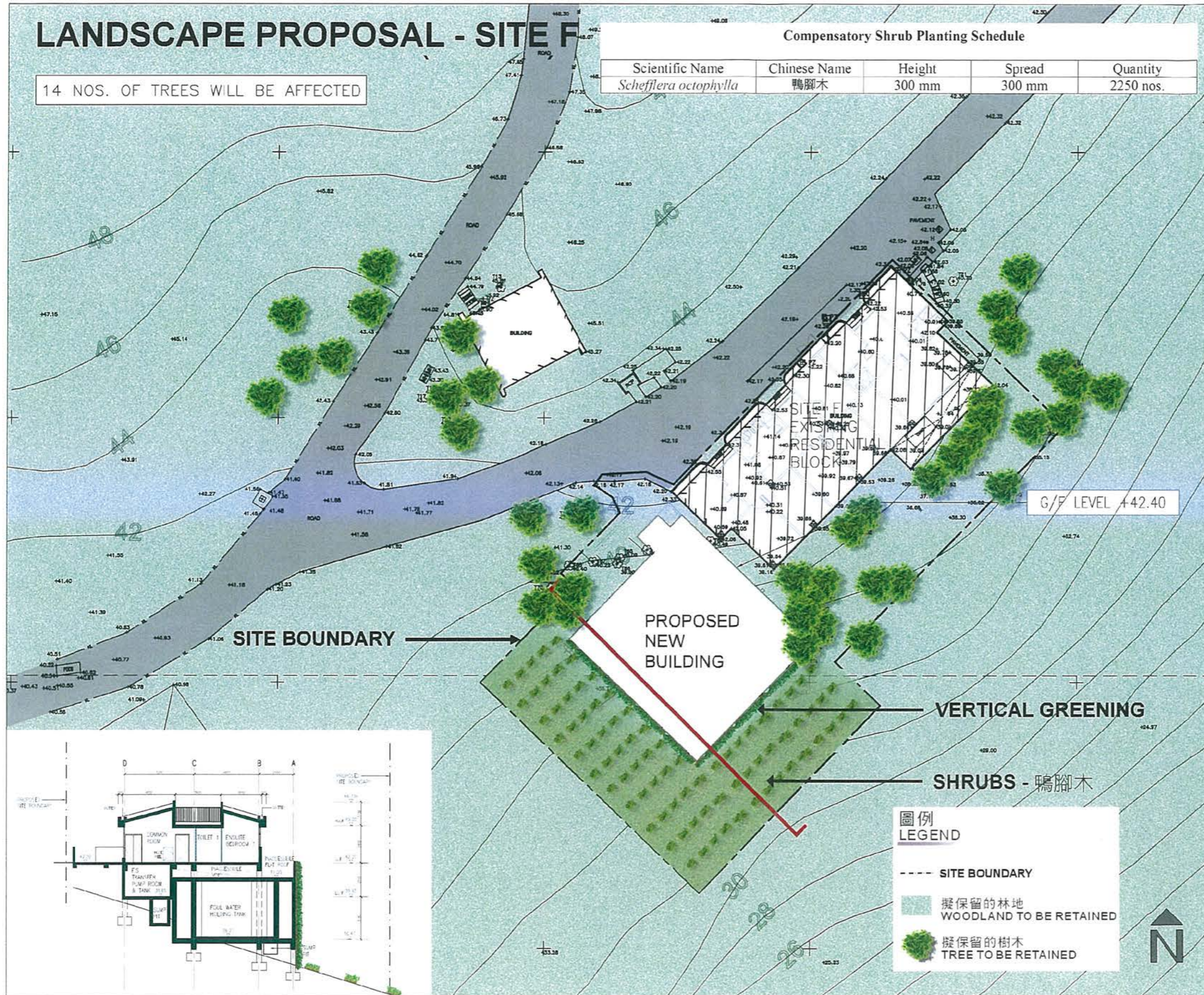
VERTICAL GREENING



SHRUBS - 鴨腳木



SHRUBS - 鴨腳木



圖例 LEGEND

- SITE BOUNDARY
- 擬保留的林地 WOODLAND TO BE RETAINED
- 擬保留的樹木 TREE TO BE RETAINED



Appendix E: Environmental Monitoring Checklist

**In-situ Provisioning of Proposed Extension of Academic Block,
The Swire Institute of Marine Science,
Faculty of Science, The University of Hong Kong,
Cape D'Aguiar Road, Shek O**

Inspection Date:	26/2/2019
Inspected by:	Andy Wong (IEC) Chiff Ip (PIP)
Inspection Time:	10:30 am
Weather Condition:	Cloudy
Temperature:	18°C
Wind:	Fair

		N/A	Yes	No	Remarks
1. Noise					
1.1	Is the placement and orientation of noisy plants away from the NSRs in screening noise from the on-site construction activities?	✓			
1.2	Is the construction sequence carefully planned?	✓			
1.3	Is the operation time of noisy PME keep at minimum?	✓			
1.4	Are the hoarding erected along the site boundary for noise screening purpose?	✓			
1.5	Do all plants operate on-site are well-maintained?	✓			
1.6	Do all plants service regularly during the construction program?	✓			
1.7	Do all hoods, cover panels and inspection hatches of power mechanical plant close during operation?	✓			
1.8	Are the machines and plant shut down between work periods or throttled down to a minimum?	✓			
2. Air Quality					
2.1	Is the erection of hoarding not less than 2.4m high from ground level along the works area?	✓			
2.2	Is the hoarding not adjoined a road or other area accessible to the public?	✓			

**In-situ Provisioning of Proposed Extension of Academic Block,
The Swire Institute of Marine Science,
Faculty of Science, The University of Hong Kong,
Cape D'Aguilar Road, Shek O**

		N/A	Yes	No	Remarks
2.3	Is the excavation or earth moving operation in the site sprayed with water to maintain the entire surface wet?	✓			
2.4	Are all dusty materials sprayed with water prior to any loading, unloading or transfer operation to maintain the dusty materials wet?	✓			
2.5	Are the stockpile of dusty materials covered by impervious sheeting or sprayed with water to maintain the entire surface wet or removed or backfilled within 24 hours of the excavation or unloading?	✓			
2.6	Are debris covered entirely by impervious sheeting, placed in an area sheltered on the top and 3 sides?	✓			
2.7	Is Ultra Low Sulphur Diesel used for all PME onsite?	✓			
2.8	Do the site vehicles use the wheel wash at the site exits?	✓			
2.9	Are materials transported on trucks covered?	✓			
2.10	Are all trucks loaded to a level within the side and tail boards?	✓			
2.11	Is all operation less than 6 minutes in any period of 4 hours or for less than 3 minutes continuously at any one time?	✓			
2.12	Is the unpaved road compacted regularly?		✓		
2.13	Is the road surface kept clear of loose materials?		✓		
2.14	Is the speed restricted for all vehicles moving within the site to minimize fugitive dust emission?	✓			
2.15	Are PME operated in a good manner and no black smoke emitted? (If yes, skip to part 3)	✓			
2.16	Are PME in operation not emitted for more than 6 minutes in any period of 4 hours or for more than 3 minutes continuously at any one time?	✓			

**In-situ Provisioning of Proposed Extension of Academic Block,
The Swire Institute of Marine Science,
Faculty of Science, The University of Hong Kong,
Cape D'Aguiar Road, Shek O**

		N/A	Yes	No	Remarks
3. Water Quality					
3.1	Does the discharge licence obtain from EPD under WPCO by contractor?	✓			
3.2	Is the waste water prevented from entering the inland water and inshore water, and collected by licensed collector and discharged off site?	✓			
3.3	Is the surface run-off from construction site treated via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation tank	✓			
3.4	Is the STP first to prevent sewage from entering the inland water and inshore water, and then collected by licensed collector and discharged off site?	✓			
3.5	Is the vehicle washing bay located on a paved area and away from the sensitive receivers?	✓			
3.6	Is the contractor provide with a suitable backfill to prevent the site run-off from entering the public roads	✓			
3.7	Is that all water used on site re-circulated and re-used as dust suppression, wheel washing and general cleaning?	✓			
3.8	Are the online standby water sump pumps of sufficient capacity and with automatic devices provided on site?	✓			
3.9	Are the open stockpiles of construction materials on site or exposed earth surface avoided as far as practicable?(If yes, answer 3.11)	✓			
3.10	Are the open stockpiles covered with impervious sheet such as tarpaulin sheet or similar fabric during rainstorms?	✓			
3.11	Is the site clear from stagnant water?		✓		

**In-situ Provisioning of Proposed Extension of Academic Block,
The Swire Institute of Marine Science,
Faculty of Science, The University of Hong Kong,
Cape D'Aguilar Road, Shek O**

		N/A	Yes	No	Remarks
3.12	Are the extra pumps used to pump the water into sedimentation tank during rainy days?	✓			
3.13	Is the Earth bund or sand bag barriers provided onsite to properly direct storm water to the silt removal facilities?	✓			
3.14	Is the construction sites cleaned on a regular basis?		✓		
3.15	Are the good site practices adopted to remove rubbish and litter from construction site		✓		
3.16	Are there sufficient chemical toilets provided in the works area?		✓		
3.17	Is a licensed waste collector deployed to clean the chemical toilets on a regular basis?		✓		
3.18	Are there notices posted at conspicuous locations to remind the workers not to discharge any sewage or sewage into the nearby environment?	✓			
3.19	Does the contractor include the sewage control measures during their onsite toolbox talk to increase the awareness of all workers?	✓			
4. Waste Management					
4.1	Did the construction works carefully plan to minimize the amount of wastes generated and avoid unnecessary generation of wastes?		✓		
4.2	Are the sufficient waste disposal points and regular collection of wastes provided?	✓			
4.3	Does the contractor segregate and store different types of waste properly?	✓			
4.4	Are the dump trucks covered properly with impervious sheeting when leaving the site?	✓			
4.5	Do the Contractor register as a Chemical Waste Producer?	✓			

**In-situ Provisioning of Proposed Extension of Academic Block,
The Swire Institute of Marine Science,
Faculty of Science, The University of Hong Kong,
Cape D'Aguiar Road, Shek O**

		N/A	Yes	No	Remarks
4.6	Do all chemical waste properly handled, stored, labeled, packaged and collected in accordance with the requirements of the Waste Disposal (Chemical Waste) (General) Regulation?	✓			
4.7	Do all C&D wastes be transported to the designated disposal facilities managed by CEDD and EPD?	✓			
4.8	Did the contractor prepare Waste Management Plan?		✓		
4.9	Did the toolbox talks include the specific topics?	✓			
5. Ecology					
5.1	Is the access route and placement of equipment and stockpile in work area selected at existing developed area and disturbed land to minimize disturbance on vegetation?	✓			
5.2	Is the chosen temporary storage or stockpiling area and access routes far away from any identified plant species of conservation importance?	✓			
5.3	Are the construction activities restricted to the clearly defined works area?	✓			
5.4	Are the temporary works area reinstated immediately after completion of the construction works?	✓			
5.5	Are the disposal and treatment of waste carried out in a timely and proper manner	✓			
5.6	Are the open fires strictly prohibited to prevent any risk of wildfire?	✓ X	✓		
5.7	Are the firefighting equipments prohibited in the works area before the commencement of works?	✓			
5.8	Is there proper implementation of the mitigation measures ensured by the resident site personnel?		✓		

**In-situ Provisioning of Proposed Extension of Academic Block,
The Swire Institute of Marine Science,
Faculty of Science, The University of Hong Kong,
Cape D'Aguilar Road, Shek O**

		N/A	Yes	No	Remarks
5.9	Do the peripheral plant individuals have a setback of at least 1.5m in the protection zones?		✓		
5.10	Are the protection zones set up by contractor to fence off 6 plant species during construction with orange nets of at least 1m in height?		✓		
6. Landscape and Visual					
6.1	Do LR1,LR2,LCA1 and LCA2 compensated with planting of native trees and shrubs?	✓			
6.2	Do LR1,LR2,LCA1 and LCA2 designed with minimum vegetation clearance?		✓		
6.3	Do LR1,LR2,LCA1 and LCA2 retain and preserve all plant species of conservation importance on site?		✓		
6.4	Do LR3 improve its amenity value by compensatory planting and natural regeneration of plants	✓			
6.5	Do VSR1,VSR2 and VSR3 erect hoarding with colour compatible to the surrounding around works area?	✓			
7. Cultural Heritage					
7.1	Is the no-entry zone at the Cape D' Aguilar Lighthouse not fenced off by eye-catching orange net?		✓		
7.2	Is the road section close to the Lighthouse clear?		✓		
7.3	Is there no excavator used at the road section close to the Lighthouse?		✓		
7.4	Is the manual gear used for trenching work near the Lighthouse?	✓			
7.5	Do they monitor the vibration near the Lighthouse?	✓			
8. Others					
8.1	Are the mitigation measures properly implement in general?		✓		

**In-situ Provisioning of Proposed Extension of Academic Block,
The Swire Institute of Marine Science,
Faculty of Science, The University of Hong Kong,
Cape D'Aguiar Road, Shek O**

<p>Observation:</p> <p>① General refuse was found in the academic block and in the drums.</p> <p>② Orange nets should be repaired regularly.</p> <p>③ Dusty material should be three-sided covered by tarpaulin sheet.</p>		
<p>Signatures:</p>		
<p>IEC's Representative/ Designated Staff</p> <p align="center"><i>Wong Ho Wai</i></p> <p>(Name: Andy Wong)</p>	<p>Main Contractor's Representative/ Designated Staff</p> <p align="center">(Name:)</p>	<p>Architect's Representative/ Designated Staff</p> <p align="center"><i>Ip Wai Ho</i></p> <p>(Name: Ip Wai Ho.)</p>