香港青年協會
the hongkong federation of youth groups

Phase III Redevelopment of The Hong Kong Federation of Youth Groups Jockey Club Sai Kung Outdoor Training Camp

Environmental Monitoring and Audit Report for January 2014







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1	4 February 2014	Draft Issue
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Executive Summary

This is the thirty-first monthly Environmental and Audit (EM&A) Report for the project "Phase III Redevelopment of The Hong Kong Federation of Youth Groups Jockey Club Sai Kung Outdoor Training Camp" (VEP no. EP-410/2010/A).

As construction work was completed in November 2013 and no environmental deficiency was observed during recent site inspections, weekly site inspection was terminated in December 2013. The ET continued to implement the environmental monitoring & audit programme for the remaining items, including ecological monitoring of transplanted trees, on-site woodland compensatory planting, and replacement planting at off-site woodland compensatory planting site in accordance with the EM&A Manual and Environmental Permit requirements and EIA report. This report contains the results and findings of ecological monitoring undertaken during the period of 1 January to 31 January 2014.

There was no complaint, notification of any summons and successful prosecutions against the project received during the reporting period.

1. BASIC PROJECT INFORMATION

1.1 Project Background

1.1.1 The project "Phase III Redevelopment of The Hong Kong Federation of Youth Groups Jockey Club Sai Kung Outdoor Training Camp (hereinafter referred to as the "Project") is to redevelop the existing Jockey Club Sai Kung Outdoor Training Camp and increase the number of dormitories and canteen capacity in order to meet the increasing public demand. The Project Site is located at the southern extremity of Tai Mong Tsai, at the foothill of Cheung Shan and is accessed via Tai Mong Tsai Road. The Site Location Plan is shown in **Figure 1.1.**

1.1.2 The Project includes four major components: construct seven dormitory buildings comprising a total of 19 units on the lower portion of the slope southeast of the existing buildings; construct a new canteen block at the centre of the camp comprising a dining hall, a cafeteria, activity rooms and a drop off point for arrival of visitors; construct of two platform decks for outdoor activities; and construct a new wastewater treatment and reuse system. During the detailed design stage, the footprint of the new canteen block is slightly reduced, the total number of dormitory buildings is cut down to six, while only one platform deck (Deck A) will be constructed due to budgetary concerns. The new wastewater treatment system has also been located inside the existing sewage treatment plant, and therefore no new plant room is required. The Master Layout Plan is shown in **Figure 1.2**.

1.1.3 An Environmental Impact Assessment (EIA) study has been undertaken under the EIA Ordinance (Cap. 499) to provide information on the nature and extent of environmental impacts arising from the construction of the Project and was approved without conditions (AEIAR-157/2010) on 17 December 2010. An Environmental Permit (EP-410/2010) (EP) for the Project was granted to the Project Proponent, The Hong Kong Federations of Youth Groups on 10 January 2011. Under the requirements of Condition 4 of the EP, an Environmental Monitoring and Audit (EM&A) programme as set out in the EM&A Manual is required to be implemented. A Further Environmental Permit (FEP-01/410/2010) for the Project was granted on 5 January 2012 to the foundation contractor, Konwall Construction & Engineering Co., Ltd., who would take up the responsibility of the foundation and site formation works of the Project. Another Further Environmental Permit (FEP-02/410/2010) for the Project was granted on 19 July 2012 to the main contractor Fat Cheong (Hong Kong) Construction Co. Ltd., who would take up the responsibility of the remaining foundation and site formation works and superstructure works of the Project. Two Variation of Environmental Permits (EP/410/2010/A; EP-02/410/2010/A) (VEP) were granted to HKFYG and the main contractor respectively on 27 March 2013 to extend the construction period of Platform Deck A to 31 May 2013.

1.2 Project Organisation and Management

1.2.1 The foundation contract for the Project was awarded to Konwall Construction and Engineering Co. Ltd. (Foundation Contractor) in June 2011 by the Project Proponent, The Hong Kong Federations of Youth Groups. The foundation works was anticipated to complete in 8 months followed by superstructure works under a separate contract. Due to technical issues, the foundation work at the Canteen Section was extended to September 2012. Meanwhile, the

superstructure contract for the Project was awarded to Fat Cheong (Hong Kong) Construction Co. Ltd. (Main Contractor) in June 2012. The Main Contractor commenced the work at the Dormitory Section first followed by Canteen Section after the hand-over of the site by the Foundation Contractor in September 2012. Construction work was completed in November 2013 and the site is under maintenance period.

1.2.2 The Project Proponent has commissioned Ecosystems Ltd. as the Environmental Team (ET), which comprises the environmental team leader and the environmental technicians to undertake the environmental monitoring and audit work for this Project.

1.2.3 The Project Proponent has also commissioned Allied Environmental Consultants Ltd. as the Independent Environmental Checker (IEC) for the Project.

1.2.4 The contact person and telephone number of key personnel for the Project are shown in **Appendix A**.

1.2.5 The project organisation for environmental management is shown in **Appendix B**.

1.3 Purpose of the Report

1.3.1 This is the thirty-first monthly EM&A Report prepared for the Project, pursuant to Condition 4.4 of the EP and FEP and the EM&A Manual issued for the Project. The report presents a summary of the EM&A works in January 2014 (from 1 January to 31 January 2014).

2. MONITORING AND AUDIT REQUIREMENT

2.1 Noise, Air and Water Quality

2.1.1 According to the EM&A Manual, no quantitative measurement of air, water or noise parameters are required. Upon commencement of construction, weekly site audits will be implemented to ensure that appropriate environmental protection and pollution control mitigation measures are properly implemented (see Chapter 6 – Environmental Auditing).

2.2 Landscape and Visual

2.2.1 According to the EM&A Manual, monitoring and audit should be undertaken during the construction phase of the Project to ensure and check that the implementation and maintenance of landscape and visual mitigation measures are being properly carried out. Site inspections should be undertaken at least once every two weeks through the construction period to ensure the existing trees retained on-site are being well preserved, tree transplanting and felling operations are being undertaken in accordance with the requirements, procedures and specifications as stipulated in the contract and the approvals granted by concerned authorities, and all the newly planted vegetation are being maintained properly during the establishment period. In particular, the extent of the agreed works areas should be regularly checked during the construction phase. Any trespass by the Contractor outside the limit of the works, including any damage to existing trees, woodland and vegetation should be noted.

2.2.2 Contractor's submission and proposals on tree protection and transplanting should be reviewed, and the Contractor's landscape works should be monitored and audited.

2.2.3 Should non-compliance of the landscape and visual impacts occur, actions in accordance with the action plan stated in **Appendix C** should be carried out.

2.3 Ecology

2.3.1 According to the EM&A Manual, construction phase ecological monitoring includes the followings:

2.3.2 Inspect the transplanted individuals of *Aquilaria sinensis* the first three months after transplanting and quarterly thereafter for two years. Survival and growth should be observed and recorded with photo records.

2.3.3 Oversee the mangrove compensatory planting activities and monitor survival and growth of the mangroves quantitatively and monthly for the first three months and quarterly thereafter for one year. The mangrove seedlings planted at each stand will be sampled, and height and percentage survival measured.

2.3.4 Carry out site inspection for both on-site and off-site compensatory tree planting monthly for the first three month after planting and quarterly thereafter for two years. Survival and growth of representative species should be observed and recorded with photo records.

2.3.5 Weekly site inspections to ensure compliance of all construction activities with all appropriate environmental protection and pollution control measures which would in turn also safeguard the ecology of the Project Site.

2.3.6 Should non-compliance of the ecological impacts occur, actions in accordance with the action plan stated in **Appendix D** should be carried out.

2.4 Waste Management

2.4.1 According to the EM&A Manual, the weekly site inspections should include waste management issues to ensure compliance of all construction activities with all appropriate environmental protection and pollution control measures, including those set up in the Environmental Management Plan prepared by the main contractor. Waste management audit will also be carried out as part of the monthly audit by the IEC.

2.5 Site Inspections

2.5.1 According to the EM&A Manual, weekly site inspections should be conducted to ensure that appropriate environmental protection and pollution control mitigation measures are properly implemented. The Implementation Schedule of Mitigation Measures is attached in **Appendix E**. As construction work was completed in November 2013, weekly site inspection has been terminated in December 2013. The ET continues to implement the environmental monitoring & audit programme for the remaining items, including ecological monitoring of transplanted trees, on-site woodland compensatory planting, and replacement planting at off-site woodland compensatory planting site in accordance with the EM&A Manual and Environmental Permit requirement.

2.5.2 The monitoring schedule for the reporting month and the weather conditions

recorded during the monitoring period are shown in **Table 2.1**

Table 2.1 Monitoring Schedule and the Weather Conditions recorded during the Monitoring Period (January 2014)

Survey Date	2 January 2014
Survey Item	Ecological Monitoring for On-Site Woodland Compensatory Planting
Weather Condition	Fine
Monthly Mean Air temperature	12.1° C
Monthly Total Rainfall	Trace

3. LANDSCAPE AND VISUAL

3.1 Tree Protection and Transplanting

3.1.1 The Tree Protection and Transplantation Plan was submitted to EPD on 14 March 2011, pursuant to Condition 3.3 of the EP and FEP. The locations of the transplanted trees were fine-tuned in according to the site conditions and are shown in **Figure 3.1**. These included the 3 nos. of Incense Trees to be retained and 5 nos. of Incense Tree to be transplanted[1]. **Figure 3.2** shows the approved amended plan for woodland compensatory planting and planting specification.

[1] The label of the Incense tree TR776 reported dead during the baseline report was found to be swapped with another tree TR775 nearby. The tree label was therefore rectified and total number of transplanted Incense Tree remained to be five (i.e. TR775, TR 766, TR 643, TR 639 and TR 644). After the transplantation exercise, TR643 was identified as Cochin-china Homalium during the site inspection in April 2012. Therefore the transplantation record is further rectified to include 4 no. of Incense Tree (TR775, TR 766, TR639 and TR644) and one no. of Cochin-china Homalium (TR 643).

4. ECOLOGY

4.1 Monitoring of Transplanted Incense Trees

4.1.1 Transplantation of the Incense Trees *Aquilaria sinensis* was completed on 12 March 2012. Transplanted tree monitoring was conducted monthly for the first three months from March to May 2012 and then will be conducted quarterly for two years. Monitoring was conducted on 27 November 2013 and will continue in February 2014 to check the status of the trees.

4.2 Mangrove Monitoring

4.2.1 The Mangrove Planting Plan was submitted to EPD on 11 March 2011, pursuant to Condition 3.3 of the EP and FEP. The Planting Plan was approved on 23 March 2011.

4.2.2 Planting was commenced and completed on 29 April 2011. About 1243 droppers of *Kandelia obovata* were planted on about 0.01 ha of sandflat following the protocol in the mangrove planting plan under the supervision of the ET. The planting area was further fine-tuned to avoid rocky/shallow substrate to enhance the survival (**Figure 4.1)**.

4.2.3 Mangrove monitoring was conducted monthly for the first three months from June to August 2011 and then quarterly for one year. Monitoring results of compensatory mangrove planting in February 2012 show that survival and growth of mangrove seedlings was low. Since no mangrove loss caused by the Project is anticipated due to deletion of Platform Deck B in the revised Master Layout Plan, replanting of mangrove is not considered necessary. Mangrove planting however was carried out as part of the nature conservation education programme on 25 April 2012. About 1130 droppers were planted.

4.2.4 The last session of monitoring was conducted on 23 August 2012. Monitoring results showed that both growth and survival was stabilized. Mangrove monitoring is completed and planting will be implemented as a conservation education programme from time to time.

4.3 Off-Site Woodland Compensatory Planting

4.3.1 The Tree Whip Planting Plan for Off-Site Woodland Compensatory Planting at Lui Ta Shek was submitted to EPD on 14 March and 27 April 2011, pursuant to Condition 3.3 of the EP and FEP. **Figure 4.2** shows the approved plan and planting specification.

4.3.2 Planting was commenced and was reported to be completed by the landscape contractor on 13 June 2011. Monitoring was conducted on monthly basis from July to September 2011. Due to poor condition of the plantings, and according to the Event and Action Plan for Ecological Impact (**Appendix D**), actions due to non-compliance were taken in accordance with the action plan. Monitoring was increased to monthly in October and November 2011. IEC was informed. The landscape contractor was informed regarding the situation and reminded of the required remedial and maintenance work. It was reported with photo records by the landscape contractor that firming up for the seedlings was conducted in November 2011. A remedial action proposal including replacement planting in April 2012 was submitted to the Project Proponent. Due to issues of sourcing, the planting exercise was rescheduled to 28 June 2013 and inspected by the Project Landscape Architect, ET and IEC. It was

reported to be completed on 29 June 2013. Three species of whips, *Schima superba, Machilus breviflora* and *Sterculia lanceolata* were planted at the same location. The tree planting schedule is shown in **Figure 4.3**.

4.3.3 The last session of monitoring according to the EM&A requirement was conducted on 22 August 2013. Monitoring results ranged from fair to poor. According to the Event and Action Plan (**Appendix D**), remedial actions were discussed with IEC and the landscape contractor, who will further replant 1200 nos. tree whips. The anticipated planting date is late March/early April 2014. Monitoring will continue until rectification is completed.

4.4 On-site Woodland Compensatory Planting

4.4.1 The On-Site Woodland Compensatory Planting Plan was submitted to EPD on 11 September 2012 pursuant to Condition 3.3 of the EP and FEP and was approved on 14 September 2012. An amended On-Site Woodland Compensatory Planting Plan was submitted to EPD on 25 September 2013 and approved on 11 October 2013. **Figure 3.2** shows the approved amended plan and planting specification. Planting was completed on 25 November 2013 and is under the maintenance period. Monitoring will be conducted monthly for the first three months from November 2013 to January 2014 and then will be conducted quarterly for two years.

4.4.2 Monitoring was conducted on 2 January 2014 to monitor the conditions of the plantings. Overall conditions of the plantings varied among species. The tree whips of Schefflera heptaphylla, Castanopsis fissa, Machilus breviflora, Sterculia lanceolata and Litsea glutinosa were in good conditions. Leaves are well developed and robust. The stems of some individuals of Sapium discolor were slender and leaves withered. A wrong species of tree whip which was assumed to be Reevesia thyrsoidea was planted. Some of the plantings damaged by cattle grazing in Area C were replaced. The contractor was also notified to replace the remaining dead or mis-planted tree whips with the correct species or other species in the planting plan should Reevesia thyrsoidea be not available. Photo records of the planting are shown in **Figure 4.4**.

5. SUMMARY OF ENVIRONMENTAL PERMIT AND LICENSES

5.1.1 ET has checked with the Project Proponent for the status of all environmental permits and licenses for this project as of January 2014, which is summarized in **Table 5.1** below. Surrendering of the licenses or permits which are no longer in use is underway.

Table 5.1 Summary of Status of Environmental Permits/Licenses

Description	License/Permit/ Acc. No. #/Letter Ref. No.	License/ Permit Holder*	Date of Issue	Date of Expiry	Status/ Remarks
Environmental Permit	Permit No. EP-410/2010	HKFYG	10 Jan 2011	-	Issued
Tree Removal Applications	(18) in LM(3) to DLO/SK SX 1557(Pt. 5)	HKFYG	3 May 2011	-	Approved
Billing Account for Disposal of Construction Waste	7013108	KCE	30 Jun 2011	-	Issued
Registration of Chemical Waste Producer	WPN No. 5113-811-K2905-05	KCE	7 Jul 2011	-	Completed
WPCO Effluent Discharge License	WT00009985-2011	KCE	26 Oct 2011	31 Oct 2016	Issued
Further Environmental Permit	FEP-01/410/2010	KCE	5 Jan 2012	-	To be surrendered
Billing Account for Disposal of Construction Waste	701548525	FC	3 July 2012	-	Issued
Registration of Chemical Waste Producer	346354	FC	10 July 2012	-	Issued
WPCO Effluent Discharge License	WT00014684-2012	FC	28 January 2013	31 Oct 2017	To be surrendered
Further Environmental Permit	FEP-02/410/2010	FC	19 July 2012	-	To be surrendered
Variation of Environmental Permit	EP-410/2010/A	HKFYG	27 March 2013	-	Issued
Variation of Environmental Permit	EP-02/410/2010/A	FC	27 March 2013	-	Surrendered on 14 January 2014
WPCO Effluent Discharge License	WT00016060-2013	HKFYG	1 Aug 2013	31 Dec 2015	Issued

*HKFYG = The Hong Kong Federation of Youth Groups;
KCE = Konwall Construction and Engineering Co. Ltd.
FC = Fat Cheong (Hong Kong) Construction Co. Ltd.

6. CUMULATIVE LOG OF COMPLAINTS AND REMEDIAL ACTION

6.1.1 There was no complaint received in association with installation activities in the month. The cumulative log of complaints is referred in **Appendix F**.

7. CUMULATIVE LOG OF NOTIFICATION OF SUMMONS AND PROSECUTIONS

7.1.1 No notification of summons or prosecutions were received or made against the

Project in the month. The cumulative log of summons and prosecutions is referred in **Appendix F**.

8. FUTURE KEY ISSUES

8.1 Key Issues for Coming Month

8.1.1 As all the construction work was completed in November 2013 and the site is under maintenance period, no direct/ indirect environmental impact is anticipated.

8.2 EM&A Schedule for the Coming Month

8.2.1 The tentative date for environmental monitoring and audit for the next month is 20 February 2014.

9. CONCLUSIONS AND RECOMMENDATIONS

9.1.1 Monitoring of the transplanted Incense Trees in November 2013 showed that the transplanted trees were in fair conditions. Monitoring will continue in February 2014 as scheduled.

9.1.2 Monitoring results of off-site woodland compensatory and replacement planting in August 2013 at Lui Ta Shek showed that the overall conditions of the plantings ranged from fair to poor. According to the Event and Action Plan, remedial actions were discussed with IEC and the landscape contractor, who will further replant 1200 nos. tree whips tentatively in late March/early April 2014. Monitoring will continue until rectification is completed.

9.1.3 Monitoring results of the on-site woodland compensatory planting in January 2014 showed that the overall conditions of the plantings various among species. Five species were in good conditions, one was in fair to poor condition and another was mis-planted. The contractor was notified to rectify the situation. Monitoring will continue in April 2014 as scheduled.

9.1.4 The ET will continue to implement the environmental monitoring & audit programme for the remaining items, including ecological monitoring of transplanted trees, on-site woodland compensatory planting, and replacement planting at off-site woodland compensatory planting site in accordance with the EM&A Manual and Environmental Permit requirement.

FIGURES

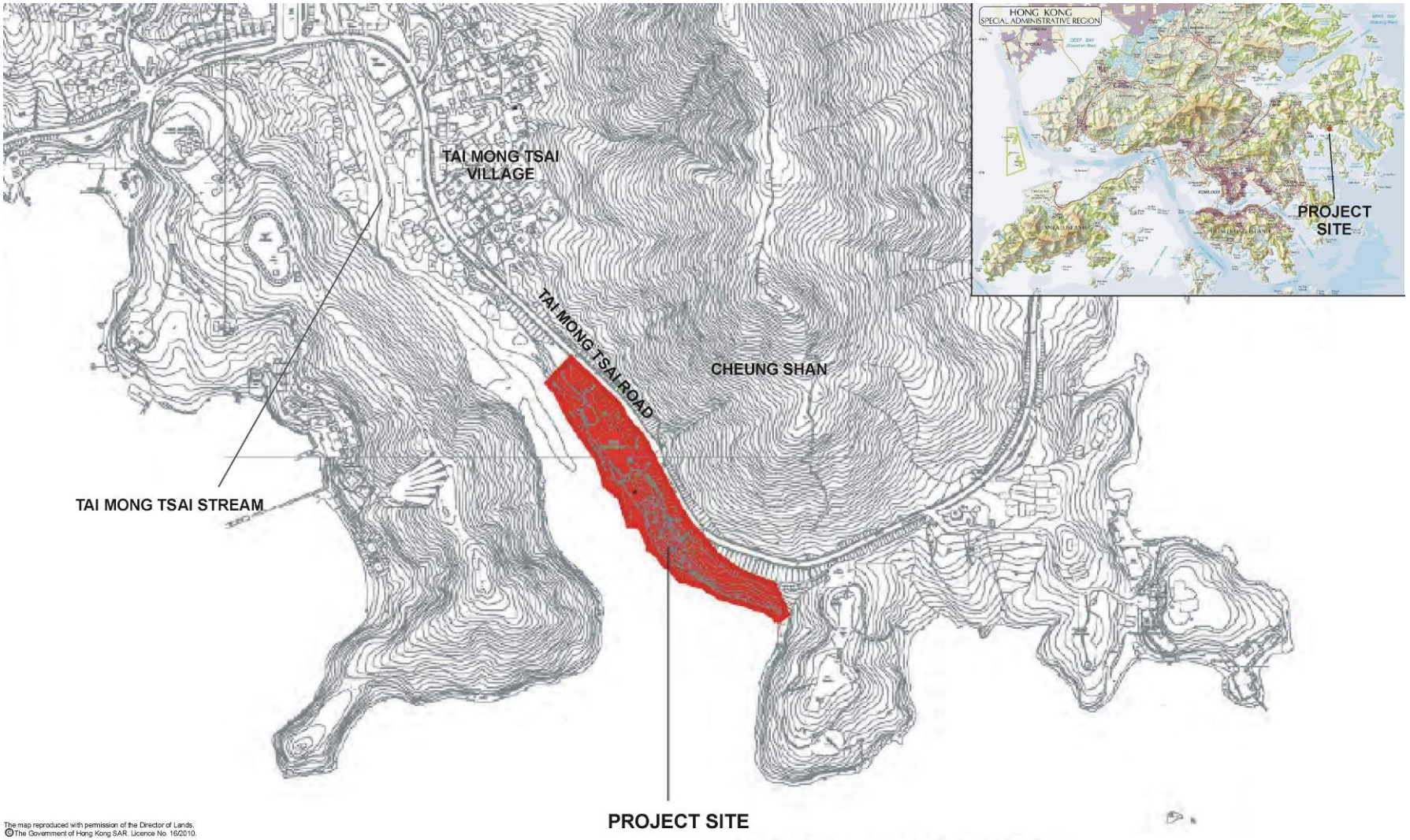
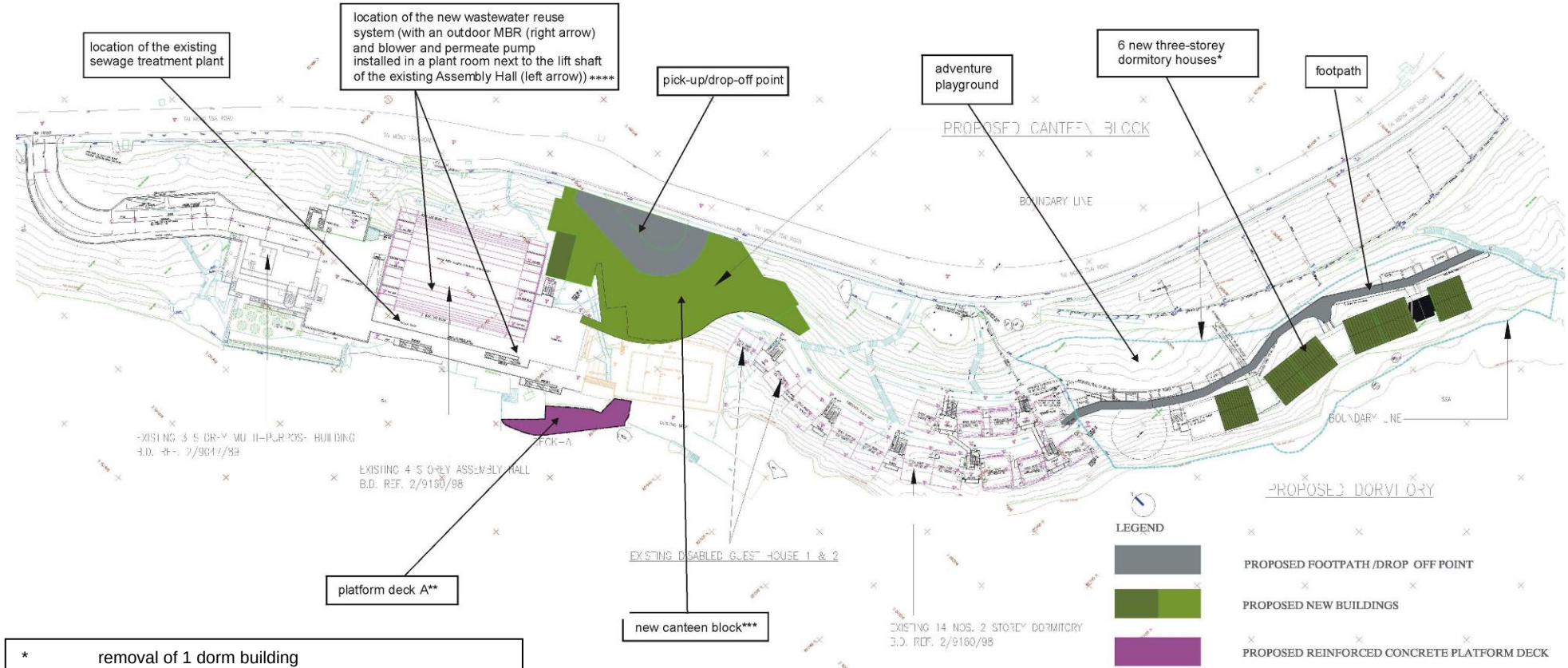


Figure 1.1 Site Location Plan



*	removal of 1 dorm building
**	removal of platform Deck B
***	reduction of size of canteen block
****	installation of new wastewater treatment and reuse system inside existing sewage treatment plant and no new plant room required.

Figure 1.2 Master Layout Plan



Figure 3.1 Location Plan for the Transplanted *Aquilaria sinensis*

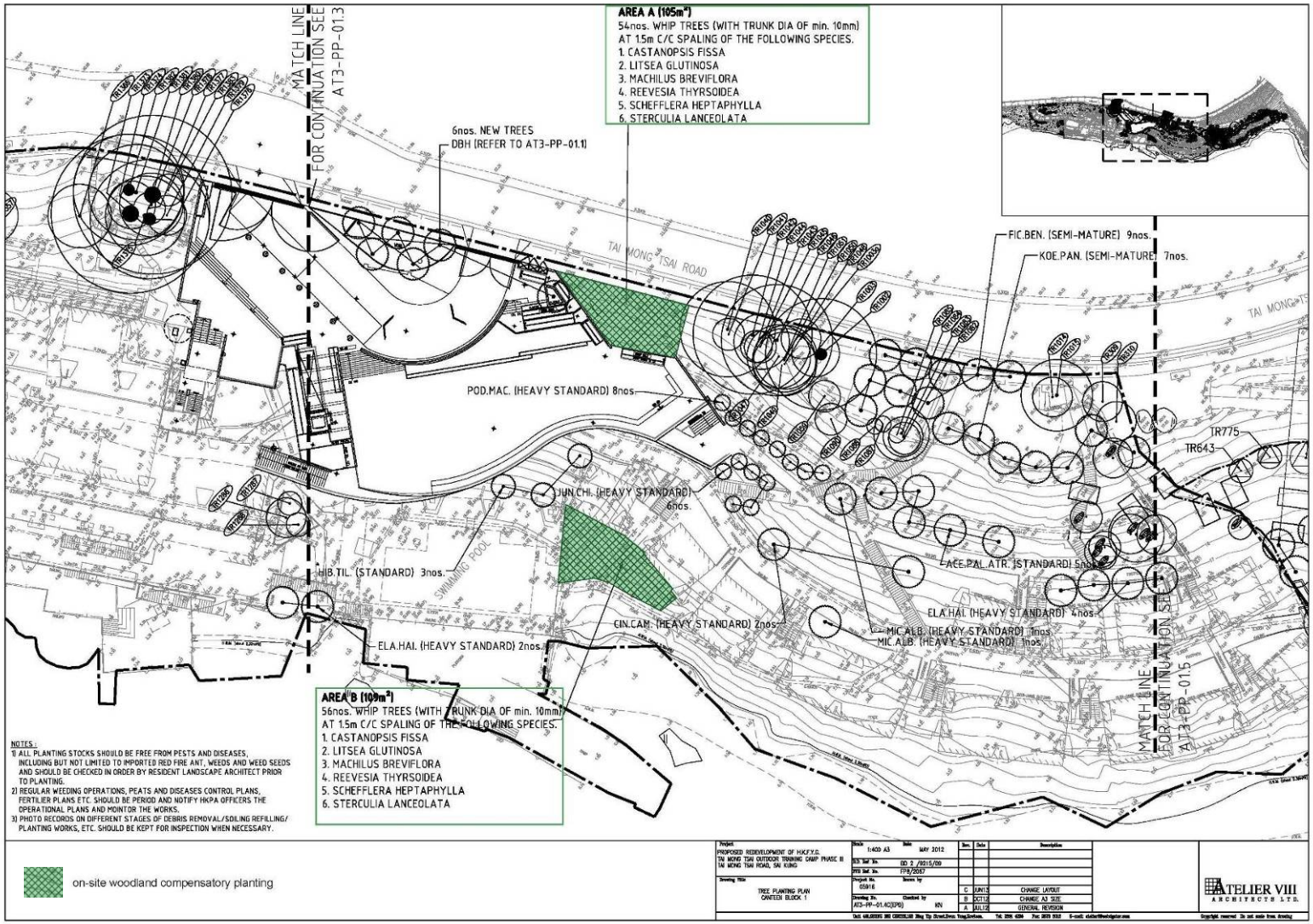


Figure 3.2 Amended On-Site Compensatory Woodland Planting Plan - Schedule of Drawings

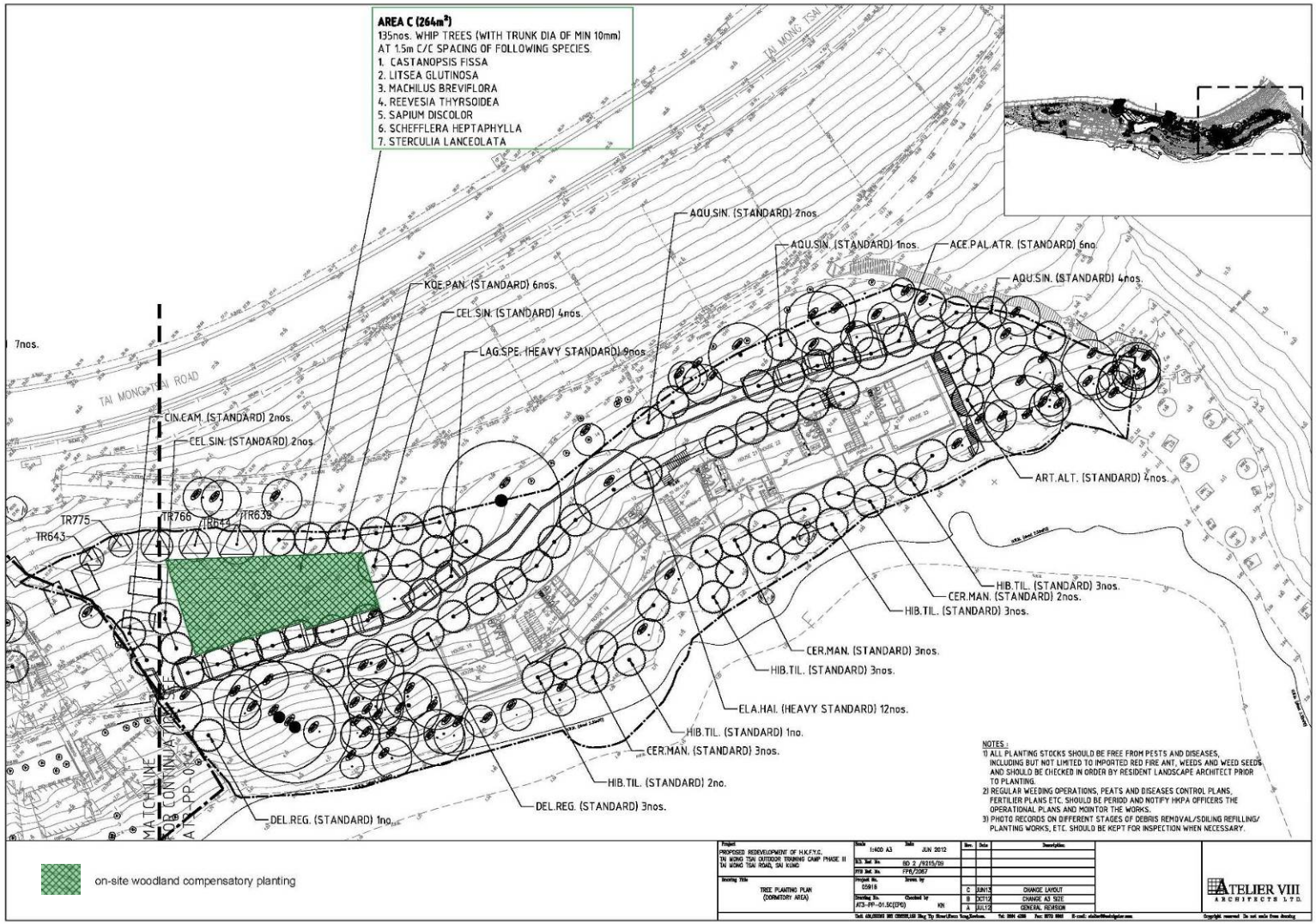


Figure 3.2 Amended On-Site Compensatory Woodland Planting Plan- Schedule of Drawings (cont.)

Type	Botanical Name	Chinese Name	Standard	Spacing	QUANTITY
CAS. FIS.	CASTANOPSIS FISSA	裂斗錐栗	TREE WHIP MIN 10MM TRUNK DIAMETER	1.5M C/C	39
MAC. BRE.	MACHILUS BREVIFLORA	短花楠	TREE WHIP MIN 10MM TRUNK DIAMETER	1.5M C/C	39
LIT. GLU.	LITSEA GLUTINOSA	潺槁樹	TREE WHIP MIN 10MM TRUNK DIAMETER	1.5M C/C	37
REE. THY.	REEVESIA THYRSOIDEA	梭羅樹	TREE WHIP MIN 10MM TRUNK DIAMETER	1.5M C/C	37
SAP. DIS.	SAPIUM DISCOLOR	山烏桕	TREE WHIP MIN 10MM TRUNK DIAMETER	1.5M C/C	19
STE. LAN.	STERCULIA LANCEOLATA	假蘋婆	TREE WHIP MIN 10MM TRUNK DIAMETER	1.5M C/C	37
SCH. HEP.	SCHEFFLERA HEPTAPHYLLA	鴨腳木	TREE WHIP MIN 10MM TRUNK DIAMETER	1.5M C/C	37

Figure 3.2 Amended On-Site Compensatory Woodland Planting Plan - Schedule of Drawings (cont.)

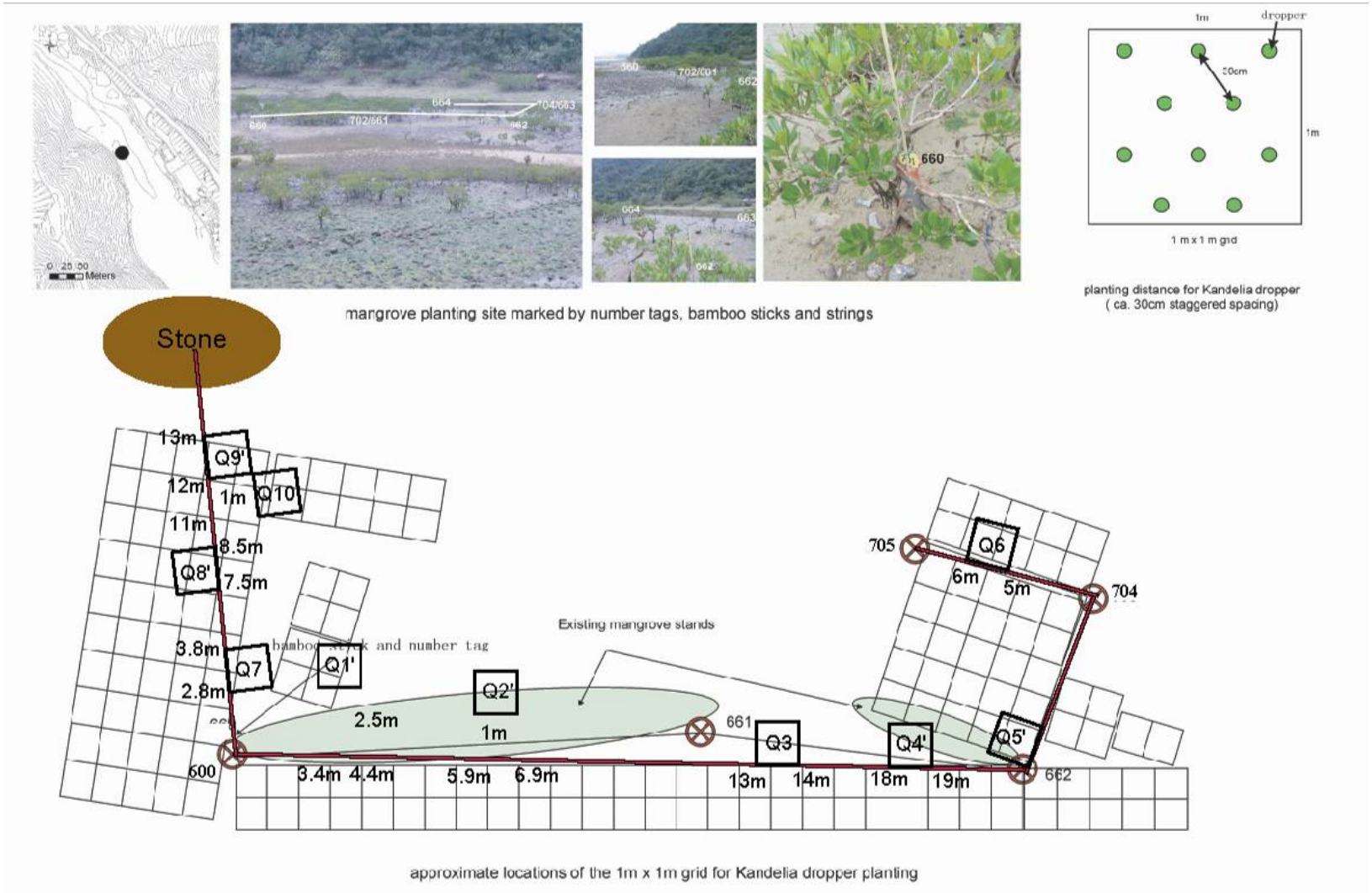


Figure 4.1 Mangrove Compensatory Planting Site and Sampling Locations

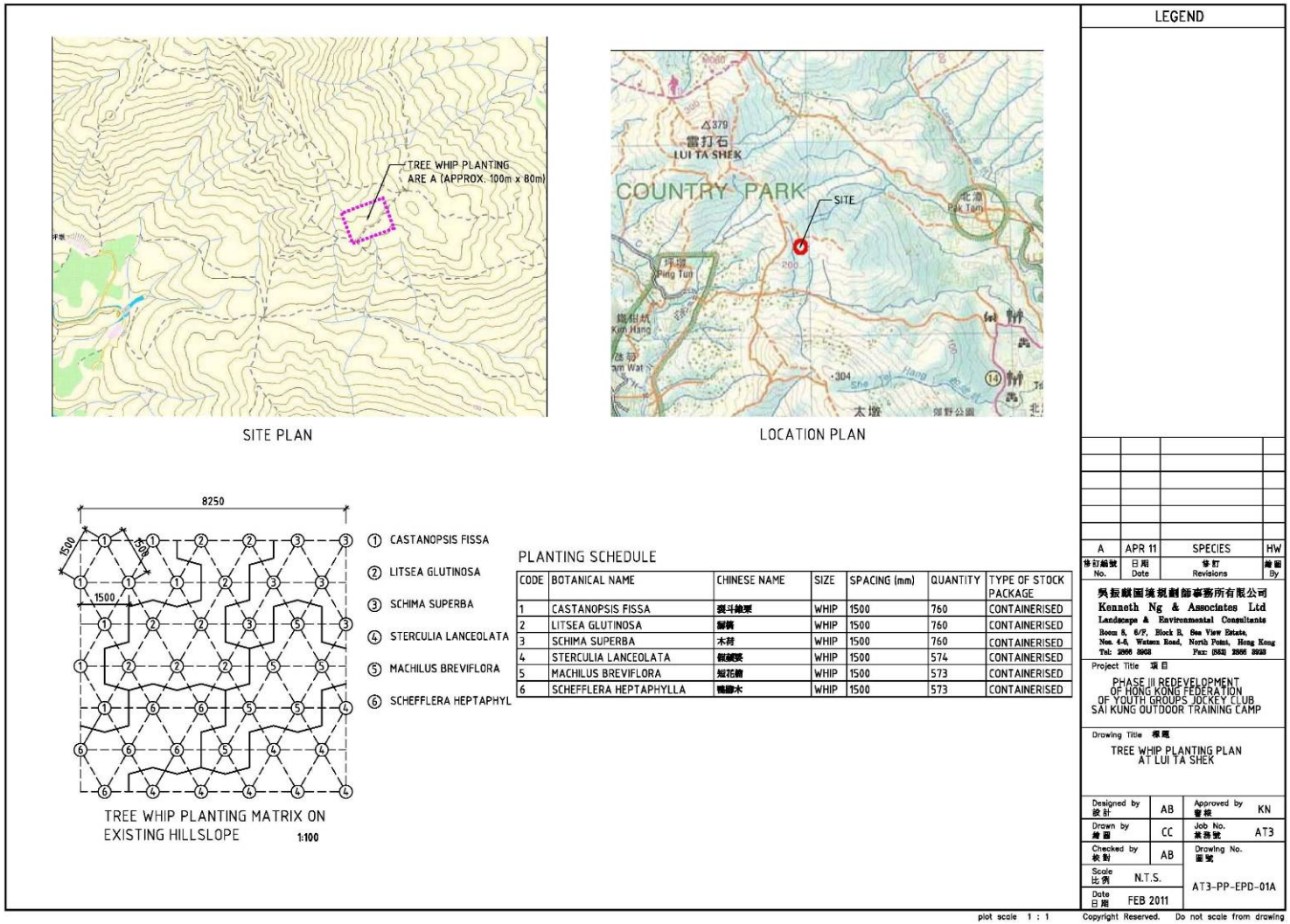


Figure 4.2 Tree Whip Planting Plan for Off-Site Woodland Compensatory Planting at Lui Ta Shek

Botanical Name	Chinese Name	Size	Spacing (mm)	Quantity
Schima superba	木荷	Whip	1500	2200
Sterculia lanceolata	假蘋婆	Whip	1500	930
Machilus breviflora	短花潤楠	Whip	1500	120

Figure 4.3 Planting Schedule for Off-Site Woodland Replacement Planting at Lui Ta Shek



Area A



Area B



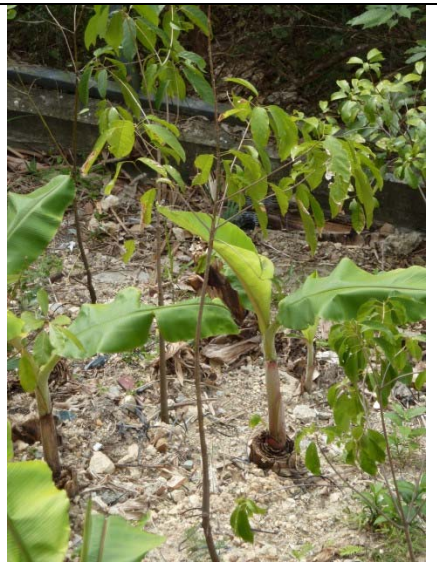
Area C



Schefflera heptaphylla



Litsea glutinosa



Sterculia lanceolata

Figure 4.4 Photo Records of the On-Site Woodland Planting



Sapium discolor



Castanopsis fissa



Machilus breviflora



Area C (tree whips damaged by feral cattle)

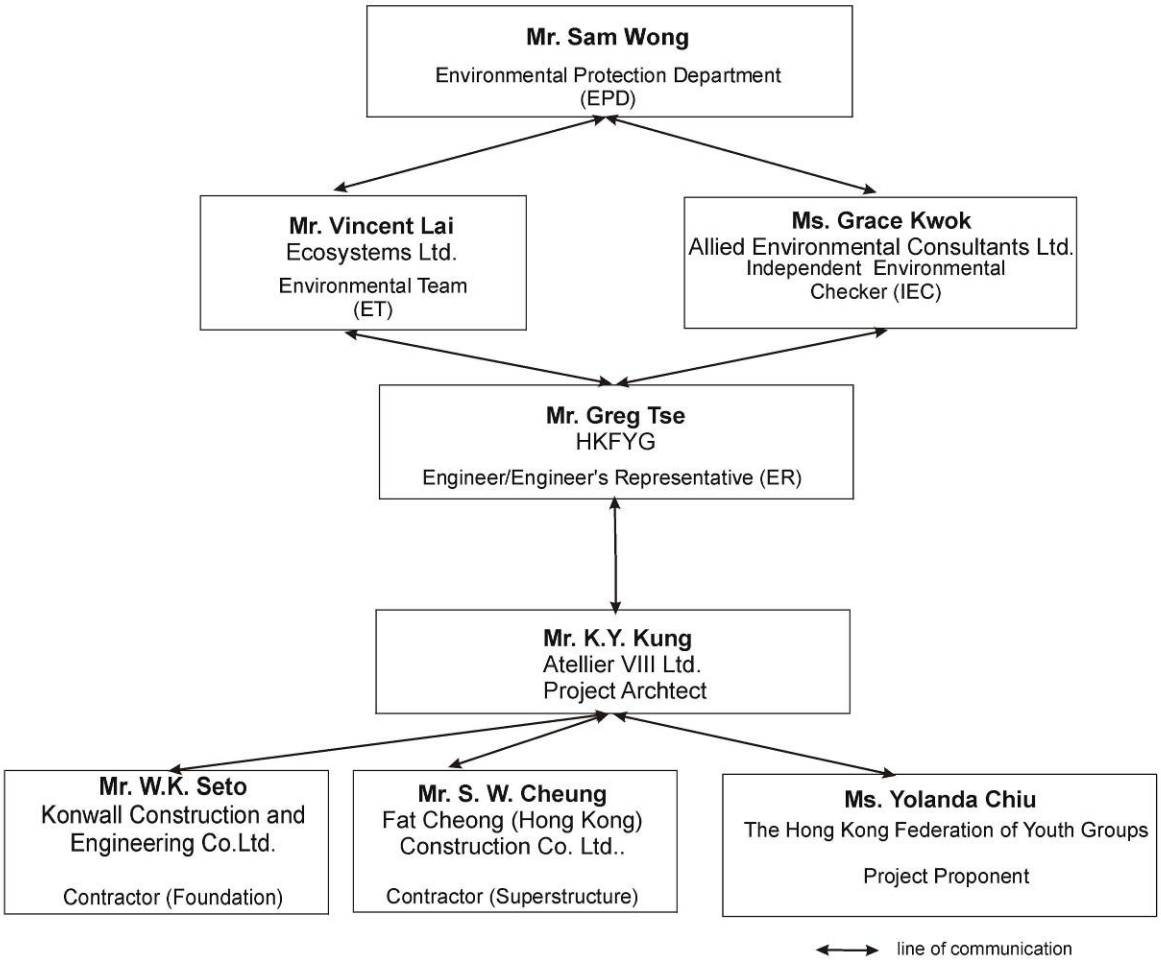
Figure 4.4 Photo Records of the On-Site Woodland Planting (cont.)

Appendices

Appendix A Key Contact Persons, Phone Numbers and Key Personnel

Party	Name	Telephone No.
Project Proponent		
The Hong Kong Federation of Youth Groups		
Deputy Executive Director	Ms. Yolanda CHIU	37557134
Engineer Representative	Mr. Greg TSE	97811411
Architect		
Atelier VIII Ltd.		
Project Architect	Mr. K.Y. KUNG	28914296
Project Architect	Ms. Stella LUK	28914296
Project Officer	Mr. Dennis LEUNG	28914296
Clerk of Works	Mr. Jovi Ha	28914296
Contractor (Foundation)		
Konwall Construction and Engineering Co. Ltd.		
Project Director	Mr. Eric KWOK	25631233
Project Manager	Mr. W. K. SETO	62020195
Site Agent	Mr. H.Y. Cheung	96348220
Environmental Officer	Mr. Joe LAM	63306705
Contractor (Superstructure)		
Fat Cheong (Hong Kong) Construction Co. Ltd.		
Project Director	Mr. S.W. Cheung	25272721
Site Agent	Mr. S.T. Kwok	91987112
Project Coordinator	Mr. Simon Lee	62747287
Environmental Officer	Mr. Gary Cheung	27912312
Independent Environmental Checker		
Allied Environmental Consultants Ltd.		
IEC Team Leader	Ms. Grace KWOK	28157028
IEC Team	Mr. Ronan CHAN	28157028
IEC Team	Ms. Viann LAU	28157028
Environmental Team		
Ecosystems Ltd.		
ET Leader	Mr. Vincent LAI	25530468
Deputy/Monitoring Team Leader	Ms. M. L. YAU	25530468
Environmental Pioneers and Solutions Ltd.		
Environmental Technician	Ms. Natalie Lai	25587699
Environmental Technician	Mr. Allen Chan	25587699
Environmental Technician	Mr. Lai Chi Hang	25587142

Appendix B Project Organisation



Appendix C
Event and Action Plan for Landscape and Visual Impact – Construction Phase

Action Level	Environmental Team (ET) Leader	Independent Environmental Checker (IEC)	Engineer's Representative (ER)	Contractor
Non-conformity on one occasion	1. Identify source 2. Inform the IEC and the ER 3. Discuss remedial actions with the IEC, the ER and the Contractor 4. Monitor remedial actions until rectification has been completed	1. Check report 2. Check the Contractor's working method 3. Discuss with the ER and the Contractor on possible remedial measures 4. Advise the ER on effectiveness of proposed remedial measures	1. Notify the Contractor 2. Ensure remedial measures are properly implemented	1. Amend working methods 2. Rectify damage and undertake remedial measures or any necessary replacement
Repeated Non-conformity	1. Identify source 2. Inform the IEC, the ER and EPD 3. Increase monitoring (site audit) frequency 4. Discuss remedial actions with the IEC, the ER and the Contractor 5. Monitor remedial actions until rectification has been completed 6. If exceedance stops, cease additional monitoring (site audit)	1. Check report 2. Check the Contractor's working method 3. Discuss with the ER and the Contractor on possible remedial measures 4. Advise the ER on effectiveness of proposed remedial measures 5. Supervise implementation of remedial measures	1. Notify the Contractor 2. Ensure remedial measures are properly implemented	1. Amend working methods 2. Rectify damage and undertake remedial measures or any necessary replacement

Appendix D
Event and Action Plan for Ecological Impact – Construction Phase

Action Level	Environmental Team (ET) Leader	Independent Environmental Checker (IEC)	Camp operator/ Landscape Contractor
Poor survival or health of mangrove planting	1. Identify source 2. Inform the IEC 3. Discuss remedial actions with the IEC and Camp operator 4. Monitor remedial actions until rectification has been completed	1. Check report 2. Discuss with the Camp operator on possible remedial measures 4. Advise the Camp operator on effectiveness of proposed remedial measures	1. Amend planting programme and replant as necessary
Poor survival or health of woodland planting	1. Identify source 2. Inform the IEC 3. Discuss remedial actions with the IEC and Landscape Contractor 4. Monitor remedial actions until rectification has been completed	1. Check report 2. Discuss with the Landscape Contractor on possible remedial measures 4. Advise the Landscape Contractor on effectiveness of proposed remedial measures	1. Amend maintenance programme and replant as necessary
Poor survival of transplanted trees	1. Identify source 2. Inform the IEC 3. Discuss remedial actions with the IEC and Landscape Contractor 4. Monitor remedial actions until rectification has been completed	1. Check report 2. Discuss with the Landscape Contractor on possible remedial measures 4. Advise the Landscape Contractor on effectiveness of proposed remedial measures	1. Amend maintenance programme and replant as necessary

Appendix E Implementation Schedules for Mitigation Measures

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
Noise								
3.6.1	2.3.1	• Contractor shall comply with and observe the Noise Control Ordinance (NCO) and its current subsidiary regulations; • Before the commencement of any work, the Contractor shall submit to the Engineer for approval the method of working, equipment and sound-reducing measures intended to be used at the Project Site; • Contractor shall devise and execute working methods that will minimise the noise impact on the surrounding environment, and shall provide experienced personnel with suitable training to ensure that these methods are implemented; • Only well-maintained plant and equipment should be operated on-site; • Plant/equipment should be serviced regularly during the construction programme; • Machines that may be in intermittent use should be shut down or throttled down to a minimum between work periods; • Silencers and/or mufflers on construction equipment should be utilised and should be properly maintained during the construction programme; • Noisy activities should be scheduled to minimise exposure of nearby NSRs to high levels of construction noise. For	Y Y Y Y Y Y Y Y	Good site practices to minimise construction Noise Impact	The Contractor	Construction Site	Construction Phase	EIAO and Environmental Permit; NCO and its regulations

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		example, noisy activities should be scheduled for midday or at times coinciding with periods of high background noise (such as during peak traffic hours); • Noisy equipment such as emergency generators shall always be sited as far away as possible from noise sensitive receivers; • Mobile plant/equipment should be sited as far away from NSRs as possible; and • Material stockpiles and other structures should be effectively utilised as noise barriers, where practicable.	Y Y N/A					
Water								
4.7.2	3.3.1	• High loading of suspended solids (SS) in construction site runoff shall be prevented through proper site management by the contractor; • The boundary of critical work areas shall be surrounded by sandbags, ditches, or embankments. Accidental release of soil or refuse onto the adjoining land should be prevented by the provision of site hoarding or earth bunds at the site boundary. These facilities should be constructed in advance of site formation works and roadworks; • Consideration should be given to plan construction activities to allow the use of natural topography of the Project Site as a barrier to minimise uncontrolled non-point source discharge of construction site runoff; • Temporary ditches or earthen bunds	Y Y Y Y	Good site practices to minimise construction water quality Impact due to potential site runoff and chemical leakage	The Contractor	Construction Site	Construction Phase	EIAO and Environmental Permit; WPCO and its regulations

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		should be provided to facilitate directed and controlled discharge of runoff into storm drains via sand/ silt removal facilities such as sand traps, silt traps and sediment retention basin. Oil and grease removal facilities should also be provided where appropriate, for example, in area near plant workshop/ maintenance areas;						
		• Sand and silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly by the contractor, and at the onset of and after each rainstorm to ensure that these facilities area functioning properly;	Y					
		• Slope exposure should be minimised where practicable especially during the wet season. Exposed soil surfaces should be protected from rainfall through covering temporarily exposed slope surfaces or stockpiles with tarpaulin or the like;	Y					
		• Haul roads should be hard paved by laying crushed rock, gravel or other granular materials to minimise discharge of contaminated runoff;	Y					
		• Plant workshop/ maintenance areas, if any, should be bunded and constructed on a hard standing. Sediment traps and oil interceptors should be provided at appropriate locations;	Y					
		• Manholes (including newly constructed ones), if any, should be adequately covered or temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage	Y					

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		system; • Construction works should be programmed to minimise soil excavation works where practicable during rainy conditions; • Chemical stores should be contained (bunded) to prevent any spills from contact with water bodies. All fuel tanks and/ or storage areas should be provided with locks and be sited on hard surface; • Chemical waste arising from the construction of the Project Site should be properly stored, handled, treated and disposed of in compliance with the requirements stipulated under the Waste Disposal (Chemical Waste) (General) Regulation; • Drainage facilities must be adequate for the controlled release of storm flows.	Y Y Y Y					
4.7.2	3.3.1	• Sewage generated from the construction workforce should be contained in chemical toilets until connection to public foul sewer can be provided. Chemical toilets should be provided at a minimum rate of about 1 per 50 workers. The facility should be serviced and cleaned by a specialist contractor at regular intervals; • Vehicle wheel washing facilities should be provided at the site exit such that mud, debris, etc. deposited onto the vehicle wheels or body can be washed off before the vehicles leave the Project site; • The section of the road between the wheel washing bay and the public road	Y Y Y	Good site practices to control the wastewater generated from the construction site	The Contractor	Construction Site	Construction Phase	

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		should be hard paved with backfill to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.						
4.7.3	3.3.1	• Spillage of fuel oils or other polluting fluids should be prevented at source. It is recommended that all stocks should be stored inside proper containers and sited on sealed areas, preferably surrounded by bunds	Y	Good site practices to minimise construction water quality Impact due to avoid spillage of chemical				
4.7.6	3.3.2	• Apart from the online monitoring and control system for the wastewater quality, regular sampling programme will be devised to further safeguard and ensure that the quality of the treated effluent is suitable for reuse. Should the treated effluent not meet the required standards for irrigation and flushing or in case of breakdown of the wastewater system, a contingency plan would be triggered. The wastewater reuse system will be shut down. The canteen wastewater from Phase III will be held in the new holding tank for the MBR. The new holding tank has a capacity of 15m^3 and a minimum storage time of half day capacity. The canteen wastewater will then be diverted to the existing sewage treatment plant via the coarse screen chamber, and it will be held in the equalisation holding tank, with a capacity of 96m^3, for screening and treatment. The existing sewage treatment plant (with maximum treatment capacity of 152.7m^3/d) for	N/A (treated effluent will only be used for flushing and not for irrigation)	Contingency plan to further safeguard the water quality of the surrounding environment and ensure that the quality of the treated effluent is suitable for reuse	Proponent	Project Area	During design, construction and operation	EIAO and Environmental Permit; WPCO and its regulations

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		Phase I & II has a daily flow of 35m^3 per day, so it has a spare capacity of more than 50%, which is adequate to treat the canteen wastewater. The treated effluent for direct discharge will not undergo any chlorination process. During this period, both irrigation system and flushing system will use the fresh water from city main as water source. The water reuse system would be fully inspected for problem fixing before re-operation.						
Air Quality								
5.7.2	4.3.1	• The designated haul road should be hard paved; • The site should be water sprayed four times a day during site formation work of the residential portion of the Project Site; • Dump truck beds for material transport should be totally enclosed using impervious sheeting; • any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading; • The stockpiled malodorous materials, if any, should be placed as far as possible from any ASRs and removed from Project Site as soon as possible, and they should be covered entirely by plastic tarpaulin sheets;	Y Y Y Y N/A	Good site practice to minimise construction fugitive dust impact	The Contractor	Construction Site	Construction Phase	EIAO and Environmental Permit; APCO and its regulations

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		• Dusty materials remaining after a stockpile is removed should be wetted with water; • The vehicle washing area and the section of the road between the washing facilities and the exit point should be paved with e.g. concrete, bituminous materials or hardcore or similar; • Stockpile of dusty materials to be either covered entirely by impervious sheeting, placed in an area sheltered on the top and the 3 sides; or sprayed with water so as to maintain the entire surface wet; • All dusty materials to be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet; • Vehicle speed to be limited to 10 kph except on completed access roads; • The portion of road leading only to a construction site that is within 30 m of a designated vehicle entrance or exit should be kept clear of dusty materials; • Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites; • The load of dusty materials carried by vehicles leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle; • The working area of excavation should be sprayed with water immediately before, during and immediately after (as necessary) the operations so as to	Y Y Y Y Y Y Y Y Y					

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		maintain the entire surface wet.						
Ecology								
6.9.3	5.2.2	Preserve three no. and transplant five no. of *Aquilaria sinensis*	Y	Minimise construction ecological impacts on species on protected species	Contractor	On Project Site	Construction Phase	ETWB(W) 3/2006: Tree Preservation. Agree on the maintenance requirement and programme
6.9.7	5.2.3	Compensatory mangrove planting (0.01 ha)	Y	Mitigate loss of 0.01 ha of mangrove	Proponent	Sandflat near Project Site	Construction Phase	Agree on the maintenance requirement and programme
6.9.8	5.2.4	Compensatory woodland planting (0.03 ha within Project Site and 0.8 ha in Sai Kung West Country Park)	Y (within Project Site) Y (both original and replacement planting in Sai Kung West Country Park)	Mitigate loss of 0.31 ha of woodland	Contractor	On Project Site and Lui Ta Shek inside Sai Kung West Country Park	Construction Phase	Agree on the maintenance requirement and programme
6.9.4	5.2.6	Good site practices	Y	To minimise environmental impacts and therefore potential ecological impacts within and near the construction site	Contractor	Entire construction site	Construction Phase	N/A
Landscape and Visual								
Table 7.12	Table 6.2	LMM1 – Minimizing construction area and contractor's temporary works area to avoid unnecessary impacts to landscape resources and	Y	Preservation of landscape resources and	Contractor	Project area	During design and construction	EIAO-TM Annex 10, 18

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		minimize visual intrusion.		minimize visual intrusion				
Table 7.12	Table 6.2	LMM2 – Sensitively designed site hoarding in both color and form to screen view to the construction works.	Y	Visual enhancement	Contractor	Project area	During design and construction	EIAO-TM Annex 10, 18
Table 7.12	Table 6.2	LMM3 – Preservation of existing tree to be retained on area not affected by the proposed development.	Y	Conservation of existing trees; Visual screen	Contractor	Project area	During construction	EIAO-TM Annex 10, 18 LAO PN No. 7/2007
Table 7.12	Table 6.2	LMM4 – Demarcation of the tree protection zone for retain trees.	Y	Preservation of existing trees	Contractor	Project area	During construction	EIAO-TM Annex 10, 18 Demarcation of temporary protective fencing shall be agreed and erected before other works commence
Table 7.12	Table 6.2	LMM5 – Operational time restrictions to limit after dark welding and lighting.	Y	Limit night time glare	Contractor	Project area	During construction	EIAO-TM Annex 10, 18
Table 7.12	Table 6.2	LMM6 – Selection of fast growing native trees and shrubs mix in compensation for the removal / disturbance area.	Y	Visual screen; Landscape compensation	Contractor for planting HKFYG for management and maintenance	Project area	During design, construction and operation	EIAO-TM Annex 10, 18 Selection and agree on the specified plant species
Table 7.12	Table 6.2	LMM7 – Landscape treatment such as green roof, vertical greening and screen planting including climber plants to screen and soften surface of built structures and mitigate the landscape and visual impact.	Y	Visual enhancement	Contractor during construction HKFYG for management and maintenance	Project area	During design, construction and operation	EIAO-TM Annex 10, 18 Selection and agree on the specified plant species

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
Table 7.12	Table 6.2	LMM8 – Staggered built form with building height corresponding to the natural sloping landform to enhance visual quality.	Y	To provide an interesting view on the visual receiver and to lower the overwhelming effect as may be created by the proposed building blocks	Contractor during construction HKFYG for management and maintenance	Project area	During design, construction and operation	EIAO-TM Annex 10, 18
Table 7.12	Table 6.2	LMM9 – Sensitive treatment and design to external finishes of the built structure to ensure element with colour, texture and tonal quality being compatible to the existing landscape context.	Y	Visual enhancement	Contractor during construction HKFYG for management and maintenance	Project area	During design, construction and operation	EIAO-TM Annex 10, 18
Table 7.12	Table 6.2	LMM10 – Maintenance of planting works upon completion.	Y	Landscape compensation	Contractor for planting and maintenance during establishment HKFYG for management and maintenance	Project area	During operation	EIAO-TM Annex 10, 18 Agree on the maintenance requirement and programme
Waste Management								
8.4.6	7.2.5	• Storage of different waste types – different types of waste should be segregated and stored in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal. An on-site temporary storage area equipped with required	Y	Waste management measures for construction phase	The Contractor	Construction Site	Construction Phase	EIAO and Environmental Permit; Various guidelines stated in paragraph

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Implementation Status of the Mitigation Measures*	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure?	Location of the measure	When to implement the measure?	What requirements or standards for the measure to achieve
		control measures (e.g. dust) should be provided; • Trip-ticket system – in order to monitor the proper disposal of non-inert C&D waste to landfills and to control fly-tipping, a trip-ticket system should be included as one of the contractual requirements and audited by the Environmental Team; • Records of Wastes – a recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed; • Training – The contractor should provide his workers with proper training of appropriate waste management procedure to achieve waste reduction as far as practicable and cost-effective through recovery, reuse and recycling and avoid contamination of reusable C&D materials; • Incorporate the "Recommended Pollution Control Clauses for Construction Contracts" in respect to removal of waste material from the construction site into the contract of the contractor.	Y Y Y Y					8.2 of the EIA report

*Y = implemented, N = not yet implemented, N/A = not applicable

Appendix F Cumulative Log of Complaints and Summons/Prosecutions

Reporting Month	No. of complaints in Reporting Month	No. of Summons/Prosecutions in Reporting Month
July 2011	0	0
August 2011	0	0
September 2011	0	0
October 2011	0	0
November 2011	0	0
December 2011	0	0
January 2012	0	0
February 2012	0	0
March 2012	0	0
April 2012	0	0
May 2012	0	0
June 2012	0	0
July 2012	0	0
August 2012	0	0
September 2012	0	0
October 2012	0	0
November 2012	0	0
December 2012	0	0
January 2013	0	0
February 2013	0	0
March 2013	0	0
April 2013	0	0
May 2013	0	0
June 2013	0	0
July 2013	0	0
August 2013	0	0
September 2013	0	0
October 2013	0	0
November 2013	0	0
December 2013	0	0
January 2014	0	0
Overall Total	0	0