Removal of 132kV Overhead Line and Pylons for P-Line

Monthly Audit Report No. 19 for November 2023

December 2023

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Mott MacDonald Hong Kong Limited
registered in Hong Kong no. 236497

Removal of 132kV Overhead Line and Pylons for P-Line

Environmental Verification Sheet

Environmental Permit No. EP-603/2022

Reference Document /Plan

Document/~~Plan~~ to be ~~Certified~~/ Verified:	Monthly Audit Report No. 19 for November 2023
Date of Report:	11 December 2023
Date prepared by IEC:	11 December 2023

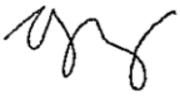
Reference EP Condition

Environmental Permit Condition:

Condition 2.1 of EP-603/2022:
An Independent Environmental Checker (IEC) shall be employed by the Permit Holder before commencement of construction of the Project. The IEC shall not be in any way an associated body of the Contractor for the Project. The IEC shall be a person who has at least 7 years of experience in Environmental Monitoring and Audit or environmental management. The IEC shall audit the implementation of all mitigation measures recommended in the Project Profile (Register No.: PP-636/2021) and required under this Permit, and to confirm full compliance of the mitigation measures through a monthly audit report. The Permit Holder shall, no later than 10 working days after the end of each reporting month, deposit with the Director 2 hardcopies and 1 electronic copy of the monthly audit report prepared by the IEC.

IEC Verification

I hereby verify that the above referenced document/~~plan~~ complies with the above referenced condition of EP-603/2022.

Ms Liz Lo,
Independent Environmental Checker (IEC): 

Date: 11 December 2023

Contents

Executive Summary

Mott MacDonald Hong Kong Limited (MMHK) was commissioned by The Hongkong Electric Co., Ltd. (HEC) as the Independent Environmental Checker (IEC) under the Environmental Permit (EP) (No. EP-603/2022 or as subsequently varied or superseded) to audit the implementation of all mitigation measures and Environmental Monitoring and Audit (EM&A) programme recommended in the EP and Project Profile (Register No. PP-636/2021), and to confirm full compliance of the mitigation measures through a monthly audit report.

Construction of the project was scheduled to commence on 22 April 2022 while the actual commencement date of construction was 24 May 2022 after approval of Ecological Management Plan (EMP) for pylons “P1” to “P6” by EPD.

This is the 19th IEC Monthly Audit Report prepared and submitted under Condition 2.1 of the EP, for the period from 1 November 2023 to 30 November 2023 (“the reporting month”).

Implementation of Mitigation Measures

One site inspection was carried out by IEC on 21 November 2023 during the reporting month. The inspection findings are summarised in **Section 2**.

Record of Environmental Complaint, Notification of Summons and Successful Prosecution

No environmental complaint was received in the reporting month.

No notification of summons or successful prosecution was received in the reporting month.

1 Introduction

1.1 Background

1.1.1 Project Description

The “P-Line” or “Parker Line” refers to a network of overhead lines, pylons and gantry towers totalling 4.7 km in length from Deep Water Bay Road to Tai Tam Road, a large portion of which is within Tai Tam Country Park, Tai Tam Country Park (Quarry Bay Extension) and Tai Tam Reservoir Catchment Area Site of Special Scientific Interest (SSSI). The P-Line was in service for more than 40 years and has aged at various extent depending on the locations of the pylons and localised climatic conditions. It is no longer in use.

The “Removal of 132kV Overhead Line and Pylons for P-Line” (the Project) involves the following works:

- Removal of overhead line (OHL) earth wire and conductor; and
- Dismantling of pylons (24 pylons in total, numbered from “P1” to “P24”), including removal of supporting plinths of pylons and the associated gantry towers, steel compounds and fencing at “P1” and “P24”.

1.1.2 Project Status under EIAO

Due to the P-Line’s location as described above, the Project is classified as a Designated Project (DP) by virtue of Item Q.1, Part I, Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499) and does not fall into any exception works under Item Q.1.

An Environmental Permit no. EP-603/2022 (EP) for the Project works was issued to the Project Proponent, The Hongkong Electric Co., Ltd. (HEC), on 14 January 2022.

Mott MacDonald Hong Kong Limited (MMHK) was commissioned by The Hongkong Electric Co., Ltd. (HEC) as the Independent Environmental Checker (IEC) under the EP to audit the implementation of all mitigation measures and Environmental Monitoring and Audit (EM&A) programme recommended in the EP and Project Profile (Register No. PP-636/2021), and to confirm full compliance of the mitigation measures through a Monthly Audit Report under Condition 2.1 of the EP.

Mitigation measures relating to ecology to be implemented are further regulated under Conditions 2.6 and 2.7 of the EP, as described in the following paragraphs.

Under Condition 2.6 of the EP, before commencement of the removal work within Tai Tam Country Park, pre-construction site visits/surveys shall be conducted to review the extent of works and verify the ecological baseline information collected within the Tai Tam Country Park and, subject to the findings of the site visits/surveys, an Ecological Management Plan (EMP) shall be certified by qualified ecologist, verified by the IEC and submitted to the Director for Environmental Protection (DEP) no later than one month before commencement of the respective removal work with the country park.

Under Condition 2.7 of the EP, the EMP shall include an implementation schedule in table form clearly listing out the ecological mitigation measures to be implemented, and by whom, when, where and what requirement. The mitigation measures recommended in the EMP, including the implementation schedule, will prevail over the corresponding measures in the Project Profile where applicable.

The EMP for pylons “P1” to “P6”, “P7” to “P14” and “P15” to “P19” were approved by DEP on 23 May 2022, 30 September 2022 and 27 January 2023 respectively.

1.1.3 Objectives of this Report

This is the 19th IEC Monthly Audit Report summarising the findings of the implementation status of the mitigation measures and EM&A programme under the Project from 1 November 2023 to 30 November 2023 (“the reporting month”).

The site location of the Project is presented in **Figure 1.1**.

1.2 Project Organisation

The contact information of key Project personnel is summarised in **Table 1.1**. An organisation chart is presented in **Appendix A**.

Table 1.1: Key Project Personnel

Party	Position	Contact Person	Telephone	Fax
Project Proponent The Hongkong Electric Co., Ltd. (HEC)	Acting Head of Mechanical Engineering	David S.N. Li	3143 3814	2810 0506
	Head of Sustainability	Steven H.Y. Ho	3143 3897	2810 0506
Independent Environmental Checker (IEC) Mott MacDonald Hong Kong Limited (MMHK)	IEC	Liz Lo	2828 5751	2827 1823
Contractor Kum Shing Engineering Co., Ltd.	Senior Project Engineer	Chan Yi Chun	2127 3121	8169 6333

1.3 Construction Activities

No construction activities were undertaken in this reporting month.

The Construction Programme of the Project is provided in **Appendix B**.

2 Environmental Site Inspection and Audit

2.1 Site Inspection

Site inspections are required to be conducted by IEC on a monthly basis to monitor the implementation of proper environmental pollution control and mitigation measures recommended in the PP of the Project, as required under the EP.

One site inspection was carried out on 21 November 2023 in the reporting month. The finding(s) of the site inspection is described below:

- No major environmental observations were found during inspection.

The Contractor is reminded that EP should be displayed at appropriate position to avoid damaging by wildlife. And the Contractor is reminded to avoid damage to surrounding vegetation/trees.

Only hand-held power tools and hand-held manual tools were used for carrying out the site works of the Project.

Ecological mitigation measures set out in the Table 4.2 implementation schedule of the EMP for “P1” to “P19” were implemented in the reporting month.

Cultural heritage mitigation measures set out in Section 5.1.7 and Appendix E of the Project Profile were not applicable in the reporting month, since no active site works at “P2” and “P3” were in progress.

Furthermore, weekly site audit of active works areas was conducted by HEC as set out in the implementation schedule of the EMP for “P1” to “P19”.

2.2 Advice on Waste Management Status

A billing account for disposal of construction waste was created for the Project on 19 December 2018.

According to information provided by the Contractor, the amount of waste produced by the Project sites during the reporting month is provided in **Appendix D**.

2.3 Status of Environmental Licences and Permits

The environmental licences and permits for the Project that were valid during the reporting month are summarized in **Table 2.1**.

Table 2.1: Summary of Environmental Licences and Permits

Licence/Permit	Reference No.	Date of Issue	Expiry Date (if any)	Status
Environmental Permit	EP-603/2022	14 Jan 2022	-	Valid
Billing account under Waste Disposal Ordinance (WDO)	7032720	19 Dec 2018	-	Valid

According to the Contractor, Notification of Work Commencement for Notifiable Works under Air Pollution Control (Construction Dust) Regulation was submitted to EPD on 6 February 2023.

2.4 Implementation Status of Mitigation Measures

The implementation status of mitigation measures recommended in the Project Profile (PP) is summarised in **Appendix C**.

3 Report on Complaints, Notifications of Summons and Successful Prosecutions

3.1 Record of Environmental Complaints Received

No environmental complaint was received in the reporting month.

3.2 Record of Notifications of Summons and Successful Prosecutions

No notification of summons or successful prosecution was received during the reporting month.

3.3 Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

Cumulative statistics of complaints, notifications of summons and successful prosecutions for the period from the date of commencement of construction to end of the reporting month are summarized in **Table 3.1**.

Table 3.1: Statistics for Complaints, Notifications of Summons and Successful Prosecutions

Period	Complaints	Notifications of Summons	Successful Prosecutions
Within this reporting month	0	0	0
From the date of commencement of construction to the end of the reporting month	0	0	0

4 Future Key Issues

4.1 Construction Works for the Next Reporting Month

No construction works are scheduled to be conducted in the coming reporting month (December 2023).

Construction activities will be tentatively resumed in January 2024.

The Construction Programme of the Project is provided in **Appendix B**.

5 Conclusions

5.1 Conclusions

The EM&A programme recommended in the Project Profile (PP) was commenced on 22 April 2022 and was continued during the reporting month.

No environmental complaint was received in the reporting month.

One site inspection was conducted in the reporting month by IEC, and the implementation of mitigation measures by the Contractor as recommended in the PP were audited. Weekly site audit of active works areas was also conducted by HEC.

No notification of summons or successful prosecution was received in the reporting month.

Figures

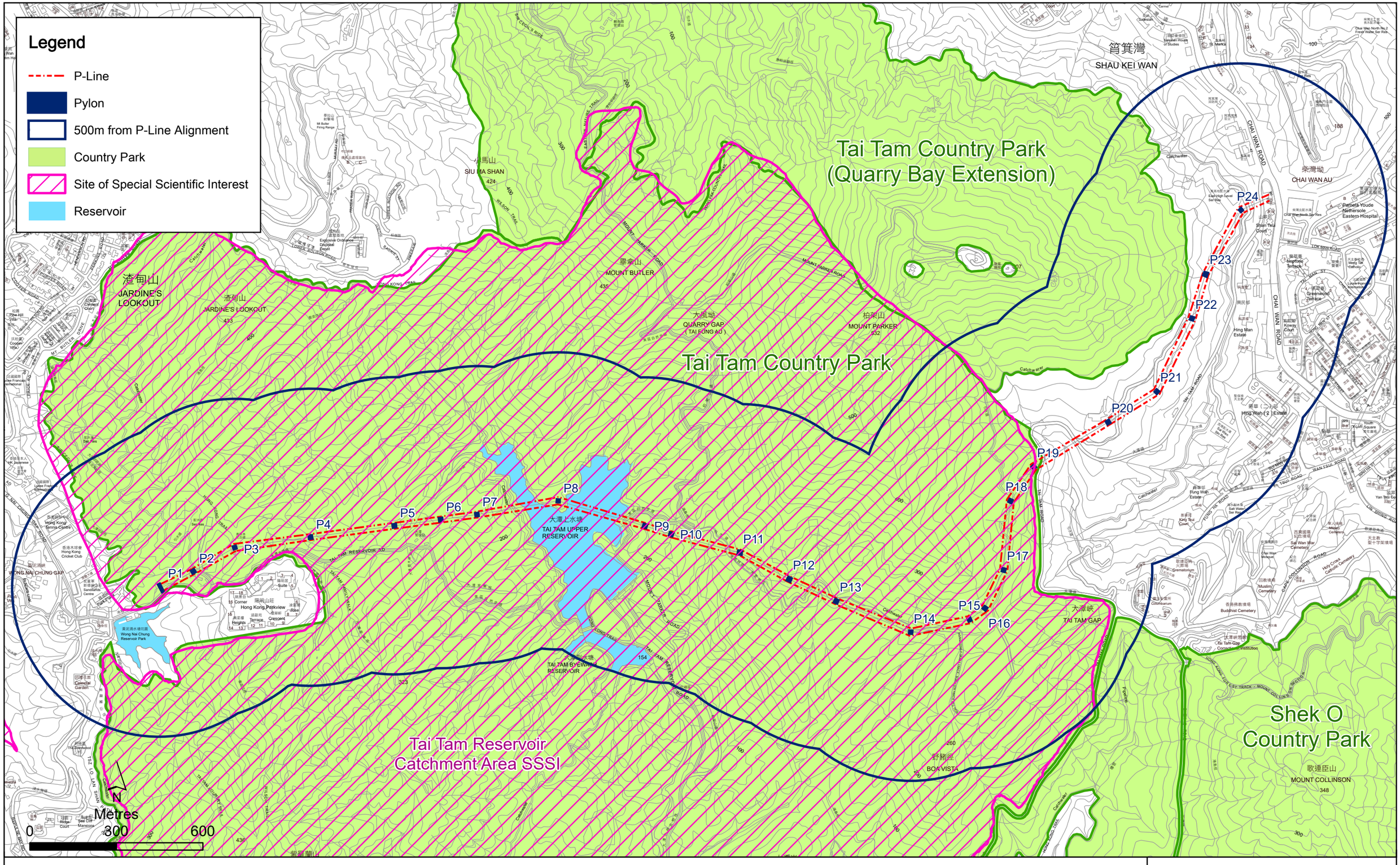


Figure 1.1 Site Location

Removal of 132kV Overhead Line and Pylons for P-Line

(extracted from Project Profile (Register No. PP-636/2021) prepared by ERM-Hong Kong, Limited, November 2021)

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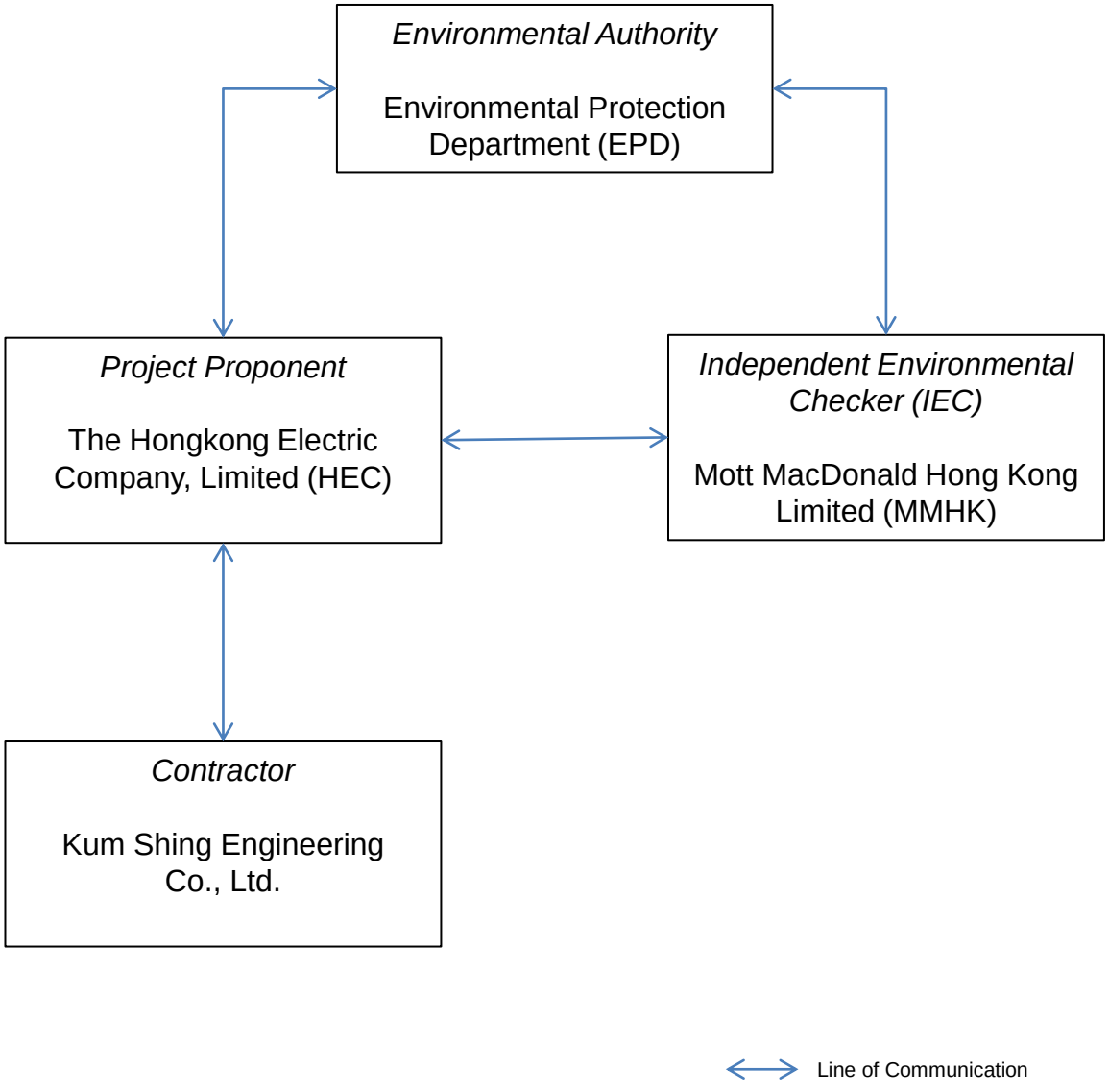
Appendices

A. Organisation Chart of the Project
B. Construction Programme
C. Summary of Mitigation Measures during Construction Phase
D. Waste Flow Table

A. Organisation Chart of the Project

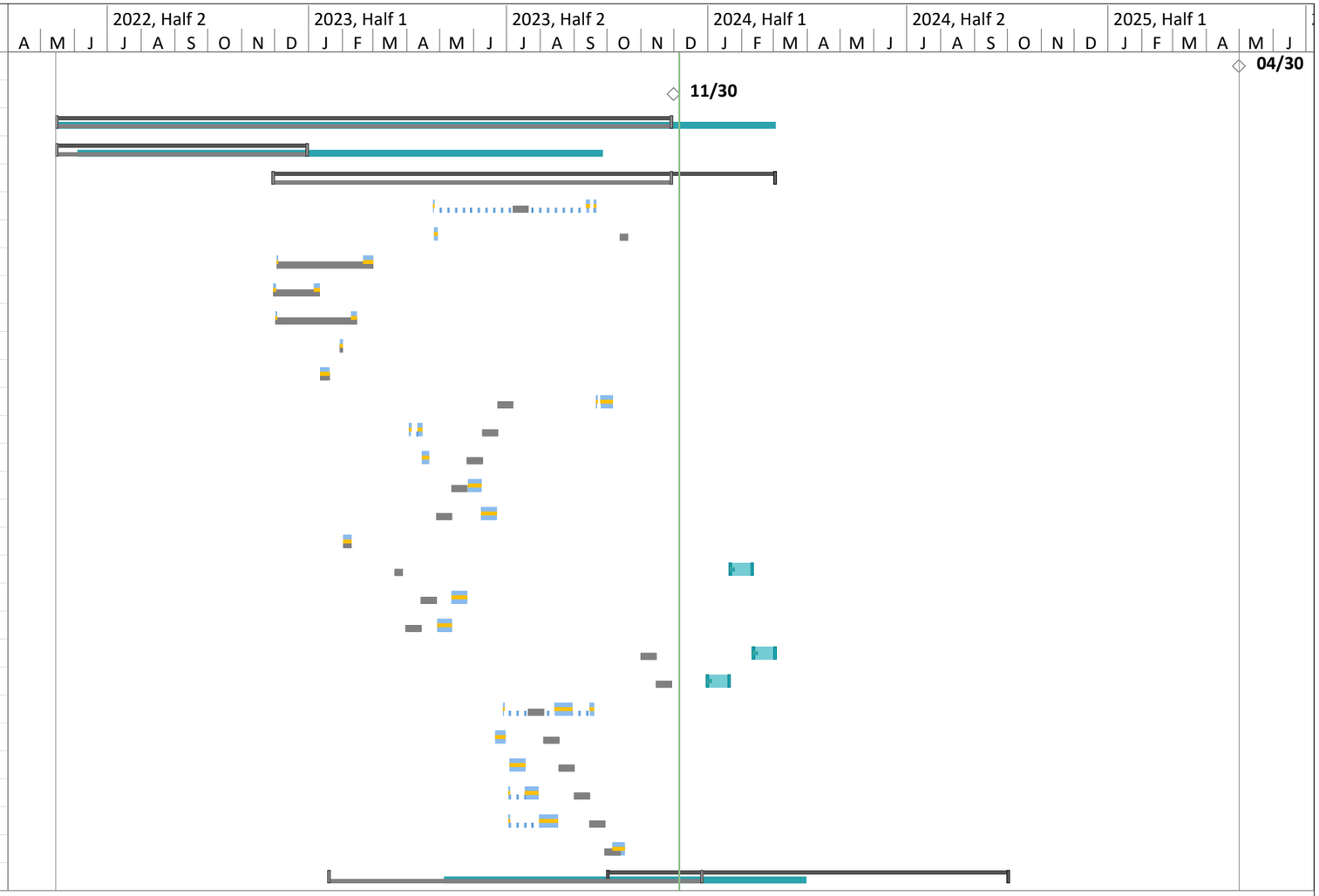
Organisation Chart of the Project



B. Construction Programme

(Note: Dates presented are in “Year/Month/Day” format)

ID	Task Name	Duration	% Complete	Start	Finish
1	P&W Line Contract Expiry Date	1 day?	0%	2025/04/30	2025/04/30
2	P-Line Insurance Expiry Date	1 day?	0%	2023/11/30	2023/11/30
3	**Removal of P Line**	**482 days**	**90%**	**2022/05/16**	**2023/11/28**
4	**Conductor Removal**	**197 days**	**100%**	**2022/05/16**	**2022/12/30**
11	**Pylon Removal**	**394 days**	**82%**	**2022/11/30**	**2024/03/02**
12	P1	6 days	100%	2023/04/25	2023/09/20
13	P2	3 days	100%	2023/04/26	2023/04/28
14	P3	9 days	100%	2022/12/03	2023/02/28
15	P4	1 wk	100%	2022/11/30	2023/01/10
16	P5	0.83 wks	100%	2022/12/02	2023/02/13
17	P6	2 days	100%	2023/01/30	2023/01/31
18	P7	1.17 wks	100%	2023/01/12	2023/01/19
19	P8	1.83 wks	100%	2023/09/21	2023/10/05
20	P9	1 wk	100%	2023/04/03	2023/04/14
21	P10	0.83 wks	100%	2023/04/15	2023/04/20
22	P11	1.67 wks	100%	2023/05/27	2023/06/07
23	P12	2 wks	100%	2023/06/08	2023/06/21
24	P13 (Close to Drainage)	1 wk	100%	2023/02/02	2023/02/08
25	P14 (Close to Drainage)	3 wks	20%	2024/01/22	2024/02/10
26	P15	2 wks	100%	2023/05/12	2023/05/25
27	P16	1.83 wks	100%	2023/04/29	2023/05/11
28	P17 (Close to Drainage)	3 wks	20%	2024/02/12	2024/03/02
29	P18 (Close to Drainage)	3 wks	20%	2024/01/01	2024/01/20
30	P19	3 wks	100%	2023/06/28	2023/09/18
31	P20	1.33 wks	100%	2023/06/21	2023/06/29
32	P21	2 wks	100%	2023/07/04	2023/07/17
33	P22	2 wks	100%	2023/07/03	2023/07/29
34	P23	2.67 wks	100%	2023/07/03	2023/08/16
35	P24	1.5 wks	100%	2023/10/06	2023/10/16
36	**Foundation Removal**	**314 days**	**0%**	**2023/10/02**	**2024/10/01**



Project: HEC18/9202 132kV Pylon
Date: 2023/12/06

Task	External Milestone	Manual Summary Rollup	Baseline Milestone
Split	Inactive Task	Manual Summary	Baseline Summary
Milestone	Inactive Milestone	Start-only	Baseline
Summary	Inactive Summary	Finish-only	Progress
Project Summary	Manual Task	Deadline	Manual Progress
External Tasks	Duration-only	Last Programme of Monthly Report	

C. Summary of Mitigation Measures during Construction Phase

Implementation Schedule of Recommended Mitigation Measures during Removal of Overhead Line and Pylons

Recommended Mitigation Measures for Air Quality Impact

PP Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
S5.1.1	Good site management practices for dust control detailed in the Air Pollution Control (Construction Dust) Regulation are referred to as appropriate. These include: • Exposed soil surfaces and stockpiles of dusty materials are covered with impervious sheeting or otherwise sheltered from rain. • Use of well-maintained equipment to avoid black smoke emissions.	N/A
	• All broken concrete and steel structures from dismantle works are contained in sandbags and removed from site on a daily basis to avoid fugitive dust emission by wind erosion. • Temporary hoarding is erected at the worksites as long as appropriate when carrying out the minor excavation and backfilling works. Note: Watering for dust suppression is not feasible for this Project and thus is not implemented as it is impracticable to control potential surface runoff generated as a result.	N/A
	• Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation requirements are followed to regulate emissions from non-road mobile machinery (NRMM) during the removal and dismantle works.	N/A

Recommended Mitigation Measures for Noise Impact

PP Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
S5.1.2	• The removal and dismantle works is carried out during daytime hours only, i.e. between 0700hr and 1900hr from Monday to Saturday (except public holidays).	N/A
	• Idling Powered Mechanical Equipment (PME) is switched off.	N/A
	• Noisy PME is sited as far away from the Noise Sensitive Receivers (NSRs) as practicable.	N/A
	• Quiet PME is used as far as practicable.	N/A
	• Work sequences to avoid the simultaneous use of noisy PME in close proximity to NSRs are planned ahead of the commencement of works.	N/A
	• Helicopters are operated over the 152m (i.e. 500 ft) threshold above NSRs according to the requirements of the Civil Aviation Department.	N/A

	Minimum buffer distances between helicopter and NSRs are implemented during different operation modes: • Approaching: 152m • Hovering: 180m • Flyover: 152m	N/A

Recommended Mitigation Measures for Water Quality Impact

PP Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
S5.1.3	Standard measures stipulated in EPD's "Professional Persons Environmental Consultative Committee Practice Note 1/94 on Construction Site Drainage" (ProPECC PN1/94) are implemented during the removal and dismantle works to properly control site run-off and drainage and to minimise potential water quality impacts. Specifically, applicable measures include: • Sand bag barriers (or equivalent) to stop storm water from getting into works.	N/A
	• Minimize stockpile on-site (by planning the backfilling material delivery and backfilling, as well as timely removal of dismantled material) and provide cover / protection with secured tarpaulin or similar fabric;	N/A
	• Public toilets are used.	N/A
	• All exposed surfaces and stockpiled materials not in use are covered by tarpaulin or similar fabric. Additional layer of tarpaulin is used to cover the entirety of the works area (on top of those mentioned in the previous sentence as well as the sand bag barriers) during non-work hours as well as rainstorm. In case of rainstorm or during non-work hours, machineries and handheld tools used are covered with tarpaulin or otherwise sheltered from rain.	N/A
S5.1.3	• Wastewater discharge licence (where appropriate) is applied for. Conditions/requirements under Water Pollution Control Ordinance (WPCO) (Chapter 358) and the Technical Memorandum on "Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters" (Chapter 358AK) respectively are complied with.	N/A
S5.1.3	• Proposed works at P13, P14 and P18 located in the close vicinity to watercourses are scheduled outside of wet season to further reduce risk of water quality impact on amphibian species of conservation importance in the vicinity.	N/A
S5.1.3	• Construction and demolition waste generated is removed on daily basis.	N/A
S5.1.3	• PMEs used on-site are not refuelled or repaired at the works areas, thus there is no storage of chemicals, lube or fuel on-site.	N/A
S5.1.3	For removal and dismantle works in close vicinity to watercourses and reservoirs, the good site practices outlined in ProPECC PN 1/94, as well as the control and design measures stipulated in ETWB TC (Works) No. 5/2005 "Protection of Natural Streams/Rivers from Adverse Impacts arising from Construction Works" are followed where practicable. The following specific measures are included:	N/A

PP Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
	• Construction works close to the inland waters are carried out in dry season as far as practicable where the flow in the surface channel or stream is low.	
	• Work site is temporarily isolated using sandbags in the proximity of watercourses and reservoirs.	N/A
	• Disturbance to existing vegetation alongside the stream banks is minimised.	N/A
	• Less or smaller construction plants may be specified in areas close to the watercourses and reservoirs to reduce the disturbance to the surface water.	N/A
	• Stockpiles of removal and dismantle material are covered and kept away from watercourses and reservoirs; and	N/A
	• Debris and spoil are covered and disposed of as soon as possible.	N/A
S5.1.3	• The “Conditions of Working within Water Gathering Ground” issued by WSD (see Project Profile Appendix F) are strictly followed for all works within Water Gathering Ground (WGG).	N/A

Recommended Mitigation Measures for Waste Management

PP Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
S5.1.4	• Good site management practice is adopted by the contractor and waste on-site is properly segregated to increase the potential for reuse and recycling.	N/A
S5.1.4	• The removed concrete generated during the pylon dismantlement is disposed of at an appropriate waste reception facility. • The dismantled materials including wire, conductor and steel are recycled. These are first transported by manual handling, Electric Vehicle (EV) trolley (Project Profile Appendix B4), lorry or helicopter to a nearby vehicular access, and subsequently transported off-site by lorry.	N/A
S5.1.4	• General refuse generated on-site is taken away from the site by the workers for proper disposal on a daily basis.	N/A
S5.1.4	• Different types of waste are disposed of in accordance with Waste Disposal Ordinance (WDO) (Chapter 354) and its subsidiary regulations.	N/A

Recommended Mitigation Measures for Terrestrial Ecology **(Details of Ecological mitigation measures for removal works within Tai Tam Country Park included in Table 4.2, EMP for P1-6 and Table 5.1, EMP for P7-14)**

PP Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
S5.1.5	• The contractor is avoiding any unnecessary encroachment of the Project onto natural habitats within the Country Parks and Site of Special Scientific Interest (SSSI), and uses minimal space as the works areas.	N/A
S5.1.5	• The equipment and materials are transported to the Project Site by crane lorry, or by helicopter for those areas which are not accessible via existing vehicular roads and/or footpaths (i.e. helicopter will be used for P20–P24), such that construction of new access route and associated vegetation clearance are not required.	N/A
S5.1.5	• Only small scale tree felling and pruning is carried out. (Note: The total works areas for 24 pylons have been reduced at design and pre-construction stages with most of the areas being disturbed / developed, i.e. woodland/shrubland habitats have been avoided as far as possible.)	N/A
S5.1.5	• Electrical hand-held breaker and other hand tools are used for the dismantle works instead of the mechanical equipment such as excavators to further minimise the potential disturbance to the surrounding natural habitats and associated wildlife (esp. fauna species of conservation importance).	N/A
S5.1.5	• The findings of the additional site visit(s) at the pre-construction phase and the final extent for works area have been submitted to AFCD for review and agreement prior to the commencement of dismantle works.	N/A
S5.1.5	*Preventive measures* • A number of plant species of conservation importance are present in the close vicinity of the proposed works area, including but not limited to *Enkianthus quinqueflorus*, *Gnetum luofuense*, *Diospyros vaccinioides*, *Artocarpus hypargyreus*, *Rhododendron simsii*, *Rhododendron sp., Pavetta hongkongensis*, *Canthium dicoccum*, *Castanopsis concinna*, *Ormosia pachycarpa*, *Cibotium barometz*, *Artabotrys hongkongensis* and *Arundina graminifolia*. • The identified flora species of conservation importance are retained in situ. • A protection zone for the species is established wherever practicable, and the workers are briefed to be aware and avoid trampling or any damaging the species. (See Project Profile Figures C2.1 to C2.24 for the anticipated protection zone.) • The identified individual plant is marked by warning sign during decommission work to ensure contractor is aware of the concerned plant.	N/A
S5.1.5	• Temporary protective structures are provided to protect the flora species of conservation importance identified within the works area, i.e. *Gnetum luofuense* at P22, *Pavetta hongkongensis* and *Gnetum luofuense* at P23, (see Project Profile Appendix C Annex C2 for reference photos).	Yes
S5.1.5	• For the *Pavetta hongkongensis* and *Gnetum luofuense* at P23, a temporary protective metal cage is built around the identified plant with the aim to avoid damage during the dismantling works.	Yes
S5.1.5	• For *Gnetum luofuense* at P22, protective nets are placed around the identified plant during dismantling works	Yes
S5.1.5	• The results of the pre-construction vegetation survey and associated protective measures have been submitted to AFCD for review before commencement of works.	Yes

PP Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
S5.1.5	• Before the commencement of dismantle works, additional ecological survey with focus to amphibian species of conservation importance has been conducted at pre-construction phase by qualified ecologist. For any amphibian species of conservation importance found within the works area, capture and translocation has been conducted to move amphibian species of conservation importance from the works area to suitable recipient sites. A detailed translocation proposal has been developed and submitted to AFCD for agreement.	Yes
S5.1.5	• The boundary of the works area is clearly marked by temporary fence where possible and soft PVC tape at area where space is limited. The works area boundaries are regularly checked to ensure that they are not breached and that no damage occurs to surrounding areas / Country Parks, particularly to any identified flora of conservation importance nearby.	N/A
S5.1.5	• Any damage and disturbance, particularly those caused by filling and illegal dumping to the surrounding natural habitats and especially those within the Country Park, is avoided. The contractor is providing proof of dismantled materials dumping (i.e. waste disposal ticket issued by landfill office and recycling receipt). The total weight of dumped materials is reviewed and endorsed.	N/A
S5.1.5	• Open fires within the works area boundary during construction and provide temporary firefighting equipment in the works areas are prohibited and prevented.	N/A
S5.1.5	• Good site practice is enforced. Works site is kept tidy at all times. Accumulation of construction waste and general refuse is not allowed.	N/A
S5.1.5	• Upon completion of the pylon footing removal works, the resulting pits are then backfilled with soil up to formation level. The works areas are then reinstated with native plant species.	N/A
S5.1.5	*Ecological Site Audit* • During the dismantle works, Hongkong Electric (HEC) will prepare a site audit checklist and conduct weekly site audit at the active works areas to ensure that proposed good site practices / protective measures are in place and effective.	Yes
	• During the dismantle works, monthly site visit by HEC's representative is conducted at the active works areas to ensure the appropriate and successful implementation of the measures mentioned above.	Yes*

Recommended Mitigation Measures for Landscape and Visual Impact

PP Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
S5.1.6	• Construction waste is managed appropriately.	N/A

PP Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
S5.1.6	• Upon completion of the removal works, natural reinstatement is carried out in the works area.	N/A
S5.1.6	• For tree compensation (if tree felling is unavoidable), a minimum ratio of 1:1 tree compensation with native species is applied.	N/A
S5.1.6	• Work site boundaries are regularly checked to ensure that they are not breached and that no damage occurs to surrounding vegetation/ tree.	N/A

Recommended Mitigation Measures for Cultural Heritage

PP Ref.	Recommended Mitigation Measures	Mitigation Measures Implemented? ^
S5.1.7	• As a precautionary measure, the project proponent and his/her contractor are required to inform Antiquities and Monuments Office (AMO) immediately when any antiquities or supposed antiquities under the Antiquities and Monuments Ordinance (Chapter 53) are discovered during the course of works, so that appropriate mitigation measures, if needed, can be timely formulated and implemented in agreement with AMO.	Yes
S5.1.7	• Existing access paths near structures G3 and G7 of the Grade 2 historic building, Wong Nai Chung Gap Military Site (as shown in Project Profile Appendices E1 and E2), are not used as access route for transportation of equipment/ tools and removed materials during the removal and dismantle works, in order to avoid and minimise potential damages to the structures, as recommended. Briefing to site staffs or workers as part of their safety and environmental inductions are provided to raise their awareness on avoidance of impacts and damage to these structures while working on site. If the use of the access paths for transportation of equipment/ tools and removal of materials is considered unavoidable, proper protection (such as fence off the structures) is provided prior to the use of the access paths for the removal and dismantle works.	N/A

Notes:

Yes = Implemented where applicable

Obs/Rem = Observations or reminders were issued, and items were rectified

N/A = Not applicable to the construction works implemented during the reporting period

^ Checked by HEC and IEC through site inspection and record provided by the Contractor

Table 4.2 Implementation Schedule of Recommended Mitigation Measures during Removal of Overhead Line and Pylons (P1 to P6)

Ref.	Recommended Mitigation Measures	Objectives of the recommended measures	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
Ecological Mitigation Measures						
EP condition 2.9	<u>Avoidance and minimisation on potential environmental impacts</u> • The flora species of conservation importance identified in close vicinity of the works areas will be retained in situ and protected during the works.	Avoid or minimize potential environmental impacts during the construction stage of the Project	Contractor	Relevant proposed works areas	Construction phase	EP condition 2.9
S5.1.5 of PP	<u>Avoidance encroachment onto natural habitats within the country parks and SSSI</u> • To avoid any unnecessary encroachment of the Project onto natural habitats within the country parks and SSSI and use minimal space as the works areas	Avoid direct impact to natural habitats within the country parks and SSSI	Contractor	Natural habitats within the country parks and SSSI	Pre-construction phase	N/A
EP condition 2.8 & S5.1.5 of PP	<u>Avoidance of use of mechanical equipment</u> • To use of electrical hand-held breaker and other hand tools will be used for the pylon foundation removal instead of the mechanical equipment such as excavators	Further minimise the potential disturbance to the surrounding natural habitats and associated wildlife (esp. fauna species of conservation importance).	Contractor	Proposed works areas	Construction phase	EP condition 2.8
EP condition 2.6 & S5.1.5 of PP	<u>To conduct pre-construction site visits/surveys</u> • Additional site visit(s) will be conducted at the pre-construction phase to review the validity and practicality of the proposed works areas. • Propose protective measure for the flora of conservation importance newly identified from pre-construction survey. • Additional ecological survey with focus to amphibian species of conservation importance will be conducted at pre-construction phase by qualified ecologist. • To prepare detailed translocation proposal for capture and translocation works if any amphibian species of conservation importance be found within the works area.	Minimise direct impacts on the woodland habitat (i.e. with minimum level of vegetation clearance), tree pruning and tree felling Minimise direct impacts on amphibian species of conservation importance	Contractor	Proposed works areas	Pre-construction phase (Pre-construction site visits/surveys for P1-6 completed on 18th February 2022, protective measure for newly identified flora of conservation importance and translocation proposal are not required based on the survey findings.)	N/A

Ref.	Recommended Mitigation Measures	Objectives of the recommended measures	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
Ecological Mitigation Measures						
S4 of the EMP	Site Inspection • During the dismantle works, HK Electric will prepare a site audit checklist and conduct weekly site audit at the active works areas to ensure the proposed good site practices / protective measures are in place and effective.	Minimise the potential disturbance to the surrounding natural habitats and associated wildlife (esp. fauna species of conservation importance).	Contractor	Relevant proposed works areas	Construction phase	N/A
S5.1.5 of PP and Table 4.1 of this EMP	Protection on flora species of conservation importance • For *Gnetum luofuense* at P1, it will be gently disentangled out of the fence before dismantling. The disentangled part will be put on adjacent unaffected vegetated area outside the works area which will not be affected by the dismantling work. • For *Artocarpus hypargyreus* at P2, a protective fencing with 1.5m-2m will be erected around the dripline of the tree to avoid potential impact under the Project subject to steep slope. The Contractor will ensure that the top parts of pylon segments will not have direct contact with the *Artocarpus hypargyreus* during dismantling works. • For the *Gnetum luofuense* at P3 and P6, a soft protective net with warning sign in sharp colour and fencing will be built around the identified plant with the aim to avoid damage during the dismantling works.	Minimise direct impacts on floral of conservation importance	Contractor	Relevant proposed works areas	Pre-construction phase / Construction phase	N/A
EP condition 2.5, S5.1.5 of PP and Table 4.1 of this EMP	Protection on nearby habitats and flora of conservation importance • The boundary of the works area will be clearly marked by temporary fence where possible and soft PVC tape at area where space is limited. The works area boundaries will be regularly checked to ensure that they are not breached and that no damage occurs to surrounding areas/ country parks, particularly to any identified flora of conservation importance nearby; • Safety briefing to workers will be provided to alert their awareness on species of conservation importance along the access road to pylons and pay extra attention when using the accesses. • Temporary fencing with soft PVC tape/net will be erected along the footpath to P5 in order to limit the activities by the workers and alert workers' awareness to protect the natural	Protect habitats and flora of conservation importance nearby the works area	Contractor	Proposed works areas	Construction phase	N/A

Ref.	Recommended Mitigation Measures	Objectives of the recommended measures	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
Ecological Mitigation Measures						
	stream. The Contractor will ensure the temporary fencing will not entangle any animal. A gap of at least 50cm at the bottom of the fencing will be arranged and allowed for the animals freely move across the fenced footpath. Temporary fencing will be setup and removed on each working day, and it will not be left on-site overnight and during non-working hours. Briefing to workers will be provided to avoid pollution to the natural stream adjacent to footpath. • Avoid any damage and disturbance, particularly those caused by filling and illegal dumping to the surrounding natural habitats and especially those within the Country Park. The contractors will be required to provide proofs of dismantled materials dumping (i.e. waste disposal ticket issued by landfill office and recycling receipt); • Prohibit and prevent open fires within the works area boundary during construction and provide temporary firefighting equipment in the work areas • Good site practice should be enforced. Works site should be kept tidy at all times. Accumulation of construction waste and general refuse should not be allowed • Upon completion of the pylon footing removal works, the resulting pits will then be backfilled with soil up to formation level. The works areas will then be reinstated with native plant species.					

Table 5.1 Implementation Schedule of Recommended Mitigation Measures during Removal of Overhead Line and Pylons (P7 to P14)

Ref.	Recommended Mitigation Measures	Objectives of the recommended measures	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
Ecological Mitigation Measures						
EP condition 2.9	<u>Avoidance and minimisation on potential environmental impacts</u> • The flora species of conservation importance identified in close vicinity of the works areas will be retained in situ and protected during the works.	Avoid or minimize potential environmental impacts during the construction stage of the Project	Contractor	Relevant proposed works areas	Construction phase	EP condition 2.9
S5.1.5 of PP	<u>Avoidance encroachment onto natural habitats within the country parks and SSSI</u> • To avoid any unnecessary encroachment of the Project onto natural habitats within the country parks and SSSI and use minimal space as the works areas	Avoid direct impact to natural habitats within the country parks and SSSI	Contractor	Natural habitats within the country parks and SSSI	Pre-construction phase	EP condition 2.6(b)
EP condition 2.8 & S5.1.5 of PP	<u>Avoidance of use of mechanical equipment</u> • To use of electrical hand-held breaker and other hand tools will be used for the pylon foundation removal instead of the mechanical equipment such as excavators	Further minimise the potential disturbance to the surrounding natural habitats and associated wildlife (esp. fauna species of conservation importance).	Contractor	Proposed works areas	Construction phase	EP condition 2.8
EP condition 2.6 & S5.1.5 of PP	<u>To conduct pre-construction site visits/surveys</u> • Additional site visit(s) will be conducted at the pre-construction phase to review the validity and practicality of the proposed works areas. • Propose protective measure such as temporary protective structures, temporary platform temporary protective metal cage and protective nets for the flora of conservation importance newly identified from pre-construction survey. • Additional ecological survey with focus to amphibian species of conservation importance will be conducted at pre-construction phase by qualified ecologist. • To prepare detailed translocation proposal for capture and translocation works if any amphibian species of conservation importance be found within the works area.	Minimise direct impacts on the woodland habitat (i.e. with minimum level of vegetation clearance), tree pruning and tree felling Minimise direct impacts on amphibian species of conservation importance	Contractor	Proposed works areas	Pre-construction phase	EP condition 2.6

Ref.	Recommended Mitigation Measures	Objectives of the recommended measures	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
Ecological Mitigation Measures						
S5.1.5 of PP and S4 of the EMP	Site Inspection • During the dismantle works, HK Electric will prepare a site audit checklist and conduct weekly site audit at the active works areas to ensure the proposed good site practices / protective measures are in place and effective.	Minimise the potential disturbance to the surrounding natural habitats and associated wildlife (esp. fauna species of conservation importance).	Contractor	Relevant proposed works areas	Construction phase	EP condition 2.6
S5.1.5 of PP and Table 4.1 of this EMP	Protection on flora species of conservation importance • For the *Gnetum luofuense* at P7, P9, P11 and P13, soft protective net, temporary fencing, temporary metal cage and temporary platform with warning sign in sharp colour and fencing will be built around the identified plant depending on site condition, with the aim to avoid damage during the dismantling works. • For *Rhododendron* spp. at P11, temporary metal cage will be erected around the dripline of the species to avoid potential impact under the Project. The Contractor will ensure that the top parts of pylon segments will not have direct contact with the *Rhododendron* spp. during dismantling works.	Minimise direct impacts on floral of conservation importance	Contractor	Relevant proposed works areas	Pre-construction phase / Construction phase	EP condition 2.6(c)
EP condition 2.9(a) and S5.1.5 of PP	Protection on natural watercourses and other potentially importance habitats for amphibians and freshwater fish • Proposed pylon dismantling works at P13 & P14 located in the close vicinity to watercourses will be scheduled outside wet season (April – October)	Minimise indirect impact to natural watercourses and other potentially importance habitats for amphibians and freshwater fish	Contractor	P13&P14	Construction phase	EP condition 2.9(a)
EP condition 2.6, EP condition 2.9, S5.1.5 of PP and Table 4.1 of this EMP	Protection on nearby habitats amphibian and flora of conservation importance • The boundary of the works area will be clearly marked by temporary fence where possible, and soft PVC tape at area where space is limited, before and during the proposed works to avoid impacts on the flora and fauna species of conservation importance recorded nearby. The works area boundaries will be regularly checked to ensure that they are not breached and that no damage occurs to surrounding areas/ country parks; • Safety briefing to workers will be provided to alert their awareness on species of conservation importance along the	Protect habitats and flora of conservation importance nearby the works area	Contractor	Proposed works areas	Construction phase	EP condition 2.6 and 2.9

Ref.	Recommended Mitigation Measures	Objectives of the recommended measures	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
Ecological Mitigation Measures						
	access road to pylons and pay extra attention when using the accesses to avoid any damage and disturbance, particularly those caused by filling and illegal dumping to the surrounding natural habitats and especially those within the Country Park. The contractors will be required to provide proofs of dismantled materials dumping (i.e. waste disposal ticket issued by landfill office and recycling receipt); • Prohibit and prevent open fires within the works area boundary during construction and provide temporary firefighting equipment in the work areas • Good site practice should be enforced. Works site should be kept tidy at all times. Accumulation of construction waste and general refuse should not be allowed • Upon completion of the pylon footing removal works, the resulting pits will then be backfilled with soil up to formation level. The works areas will then be reinstated with native plant species. • During the dismantle works, temporary fence with a height of 0.5m will be erected around the proposed works area at P13 & P14 to prevent amphibian species of conservation importance (if any) from returning to the works areas.					

Table 4.2 Implementation Schedule of Recommended Mitigation Measures during Removal of Overhead Line and Pylons (P15 to P19)

Ref.	Recommended Mitigation Measures	Objectives of the recommended measures	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
Ecological Mitigation Measures						
EP condition 2.9	Avoidance and minimisation on potential environmental impacts • The flora species of conservation importance identified in close vicinity of the works areas will be retained in situ and protected during the works.	Avoid or minimize potential environmental impacts during the construction stage of the Project	Contractor	Relevant proposed works areas	Construction phase	EP condition 2.9
S5.1.5 of PP	Avoidance encroachment onto natural habitats within the country parks and SSSI • To avoid any unnecessary encroachment of the Project onto natural habitats within the country parks and SSSI and use minimal space as the works areas	Avoid direct impact to natural habitats within the country parks and SSSI	Contractor	Natural habitats within the country parks and SSSI	Pre-construction phase	N/A
EP condition 2.8 & S5.1.5 of PP	Avoidance of use of mechanical equipment • To use of electrical hand-held breaker and other hand tools will be used for the pylon foundation removal instead of the mechanical equipment such as excavators	Further minimise the potential disturbance to the surrounding natural habitats and associated wildlife (esp. fauna species of conservation importance).	Contractor	Proposed works areas	Construction phase	EP condition 2.8
EP condition 2.6 & S5.1.5 of PP	To conduct pre-construction site visits/surveys • Additional site visit(s) will be conducted at the pre-construction phase to review the validity and practicality of the proposed works areas. • Propose protective measure such as temporary protective structures, temporary platform temporary protective metal cage and protective nets for the flora of conservation importance newly identified from pre-construction survey. • Additional ecological survey with focus to amphibian species of conservation importance will be conducted at pre-construction phase by qualified ecologist. • To prepare detailed translocation proposal for capture and translocation works if any amphibian species of conservation importance be found within the works area.	Minimise direct impacts on the woodland habitat (i.e. with minimum level of vegetation clearance), tree pruning and tree felling Minimise direct impacts on amphibian species of conservation importance	Contractor	Proposed works areas	Pre-construction phase	EP condition 2.6

Ref.	Recommended Mitigation Measures	Objectives of the recommended measures	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
Ecological Mitigation Measures						
S5.1.5 of PP and S4 of the EMP	Site Inspection • Safety and environmental awareness briefing to workers will be provided to alert their awareness on species of conservation importance along the access road to pylons and pay extra attention when using the accesses as some of flora species of conservation importance were found alongside the paths connecting to pylons, in particular P15, P16, P19 • The boundary of the works area will be clearly marked by temporary fence where possible and soft PVC tape at area where space is limited, before and during the proposed works to avoid impacts on the flora and fauna species of conservation importance recorded nearby. The works area boundaries will be regularly checked to ensure that they are not breached and that no damage occurs to surrounding areas/ country parks. • During the dismantle works, HK Electric will prepare a site audit checklist and conduct weekly site audit at the active works areas to ensure the proposed good site practices / protective measures are in place and effective.	Minimise the potential disturbance to the surrounding natural habitats and associated wildlife (esp. fauna species of conservation importance).	Contractor	Relevant proposed works areas	Construction phase	N/A
S5.1.5 of PP and Table 4.1 of this EMP	Protection on flora species of conservation importance • For one *Gnetum luofuense* at P15, soft protective net, temporary fencing with warning sign in sharp colour and fencing will be built around the identified plant depending on site condition, with the aim to avoid damage during the dismantling works. • For one *Gnetum luofuense* at P16, soft protective net, temporary fencing with warning sign in sharp colour and fencing will be built around the identified plant depending on site condition, with the aim to avoid damage during the dismantling works. • For two *Gnetum luofuense* at P18, soft protective net, temporary fencing with warning sign in sharp colour and fencing will be built around the identified plant depending on site condition, with the aim to avoid damage during the dismantling works. • For one *Gnetum luofuense* at P18 found not entangling the pylon tightly, would be gently disentangled and put on adjacent unaffected vegetated area outside the works area before dismantling work.	Minimise direct impacts on floral of conservation importance	Contractor	Relevant proposed works areas	Pre-construction phase / Construction phase	N/A

Ref.	Recommended Mitigation Measures	Objectives of the recommended measures	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
Ecological Mitigation Measures						
	• For one *Pavetta hongkongensis* at P19, soft protective net, temporary fencing with warning sign in sharp colour and fencing will be built around the identified plant depending on site condition, with the aim to avoid damage during the dismantling works. The Contractor will ensure that the top parts of pylon segments will not have direct contact with the *Pavetta hongkongensis* during dismantling works. • For two *Pavetta hongkongensis* seedlings at P19, temporary metal cage will be erected around the dripline of the species to avoid potential impact under the Project. The Contractor will ensure that the top parts of pylon segments will not have direct contact with the *Pavetta hongkongensis* during dismantling works.					
EP condition 2.9(a) and S5.1.5 of PP	<u>Protection on natural watercourses and other potentially importance habitats for amphibians and freshwater fish</u> • Proposed pylon dismantling works at P17 and P18 located in the close vicinity to watercourses will be scheduled outside wet season (April – October)	Minimise indirect impact to <u>natural watercourses and other potentially importance habitats for amphibians and freshwater fish</u>	Contractor	P17 and P18	Construction phase	EP condition 2.9(a)
EP condition 2.6 , EP condition 2.9, S5.1.5 of PP and Table 4.1 of this EMP	<u>Protection on nearby habitats amphibian and flora of conservation importance</u> • The boundary of the works area will be clearly marked by temporary fence where possible and soft PVC tape at area where space is limited. The works area boundaries will be regularly checked to ensure that they are not breached and that no damage occurs to surrounding areas/ country parks, particularly to any identified flora of conservation importance nearby; • Safety briefing to workers will be provided to alert their awareness on species of conservation importance along the access road to pylons and pay extra attention when using the accesses. Avoid any damage and disturbance, particularly those caused by filling and illegal dumping to the surrounding natural habitats and especially those within the Country Park. The contractors will be required to provide proofs of dismantled materials dumping (i.e. waste disposal ticket issued by landfill office and recycling receipt);	Protect habitats and flora of conservation importance nearby the works area	Contractor	Proposed works areas	Construction phase	EP condition 2.6 and 2.9

Ref.	Recommended Mitigation Measures	Objectives of the recommended measures	Implementation Parties	Location of the measure	When to implement the measure	Relevant requirements or standards for the measure to achieve
Ecological Mitigation Measures						
	• Prohibit and prevent open fires within the works area boundary during construction and provide temporary firefighting equipment in the work areas • Good site practice should be enforced. Works site should be kept tidy at all times. Accumulation of construction waste and general refuse should not be allowed • Upon completion of the pylon footing removal works, the resulting pits will then be backfilled with soil up to formation level. The works areas will then be reinstated with native plant species. • During the dismantle works, temporary fence with a height of 0.5m will be erected around the proposed works area at P17 and P18 to prevent amphibian species of conservation importance (if any) from returning to the works areas.					

D. Waste Flow Table

Table D-1: Monthly Waste Flow Table for Removal of 132kV Overhead Line and Pylons for P-Line

Month	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Disposed to Sorting Facility	Imported Fill	Metals	Paper/ Cardboard Packaging	Plastics	Wood/ Timber	Chemical Waste	Others, e.g. General Refuse
	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)
2023													
Jan	7.5	0.0	0.0	0.0	0.0	7.5	0.0	24.0	0.0	0.0	0.0	0.0	0.0
Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.0	0.0	0.0	0.0	0.0	0.0
Mar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0	0.0
Apr	6.9	0.0	0.0	0.0	6.9	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0
May	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0	0.0
Jun	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.0	0.0	0.0	0.0	0.0	0.0
Jul	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0
Aug	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0
Sep	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0	0.0	0.0	0.0	0.0	0.0
Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.0	0.0	0.0	0.0	0.0	0.0
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec													
Sub-total (2023)	14.4	0.0	0.0	0.0	6.9	7.5	0.0	257.0	0.0	0.0	0.0	0.0	0.0
Sub-total (2022)	30.4	0.0	0.0	0.0	18.1	12.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**44.8**	**0.0**	**0.0**	**0.0**	**25.0**	**19.8**	**0.0**	**257.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Notes:
1 - The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
2 - Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
3 - Broken concrete for recycling into aggregates.

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