

Major Works Project Management Office  
Highways Department of HKSAR

**Agreement No. CE 13/2021 (HY)**  
**Route 11 (Section between Yuen Long and**  
**North Lantau) – Investigation**

Application for Permission under Section 16 of the  
Town Planning Ordinance (Cap. 131) for  
New Permitted Burial Ground at Lam Tei

REP-188-01

Issue 2 | 28 March 2024

This report takes into account the particular  
instructions and requirements of our client.

It is not intended for and should not be relied  
upon by any third party and no responsibility  
is undertaken to any third party.

Job number 284104

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**ARUP**

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## Nomenclature and Abbreviations

BURGD22	Permitted Burial Ground Site No. BURGD22
ExCo	Executive Council
LegCo	Legislative Council
NWNT	Northwest New Territories
OVT	Old and Valuable Trees
OZP	Outline Zoning Plan
PBG	Permitted Burial Ground
R11	Route 11
TMDC	Tuen Mun District Council
TMRC	Tuen Mun Rural Committee
TPI	Tree of Particular Interest
TPO	Town Planning Ordinance

# 1 Background and Purpose of this Application

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## 1.1 Background

- 1.1.1 The objective of the Route 11 (Section between Yuen Long and North Lantau) is to enhance the connectivity between the Northwest New Territories (NWNT) and North Lantau to meet the traffic demands generated by the future developments. Route 11 will be a strategic highway to support the proposed developments in the NWNT.
- 1.1.2 In the Feasibility Stage, the Preferred Alignment passed through the central portion of Permitted Burial Ground (PBG) Site No. BURGD22 (BURGD22). To minimize the impact, the portal location of the Lam Tei Tunnel and the alignments of the connecting roads were optimised to shift the Route 11 alignment to the western portion of the PBG.
- 1.1.3 Public consultation was conducted to solicit views of the road alignments. Taking account of the comments received in the public consultation, the current road alignment was supported by Tuen Mun District Council (TMDC), Yuen Long District Council, Tsuen Wan District Council, Islands District Council, the concerned rural committees and village representatives.
- 1.1.4 During public consultation of the Route 11 project, requests for optimising existing PBGs for increased burial spaces have been raised by members of local rural community, including Hon LAU Ip-keung, Kenneth (ExCo and LegCo Member, Chairman of Heung Yee Kuk, TMDC member, and Chairman of Tuen Mun Rural Committee (TMRC)) and Mr TSANG Chin-Hung (1<sup>st</sup> Vice-chairman of TMRC), at the Traffic and Transport Committee of the TMDC on 9 June 2023, and at a joint meeting on 13 June 2023 attended by TMRC members, Tuen Mun District Office, District Lands Office/ Tuen Mun, and Highways Department. In response to their request, the Government has agreed to provide assistance to local stakeholders with the application for new PBGs at the joint meeting held on 13 June 2023. Highways Department agreed to provide assistance to the local stakeholders to submit planning application.
- 1.1.5 The selection of site for proposed new PBG should take the followings into consideration:
- The site should be in proximity to Nai Wai and Shun Fung Wai, who are the stakeholders for the proposed new PBG;
  - The site should not affect private lot;
  - The site should not interfere with potential / existing development; and
  - The site should be easily accessible, preferably near existing permitted burial ground.
- 1.1.6 Upon discussion with TMRC, TMRC proposed a site next to the existing PBG Site No. BURGD21 as a potential site for proposed new PBG. It is considered suitable as the criteria mentioned in Section 1.1.15 are fulfilled, hence adopted as the current application site (See **Figure 1** and **Drawing No. 284104/PBG/GA/1001**). The application site area is approximately 2.3ha.

## 1.2 Purpose of this Application

- 1.2.1 The application site is zoned “Green Belt” (“GB”) in the Approved Lam Tei and Yick Yuen Outline Zoning Plan (OZP) No. S/TM-LTY/12 and the Draft Tuen Mun OZP No. S/TM/38. Referring to the Schedule of Notes, the use of burial ground is under Column 2 of “GB” zone, i.e. the use that may be permitted with or without conditions on application to the Town Planning Board. To this, it is required to apply for permission under Section 16 of the Town Planning Ordinance (Cap. 131).
- 1.2.2 The current S16 Application of land use does not involve any construction works nor tree removal.

## 1.3 Description of Proposed Site

- 1.3.1 The application site of 2.3ha locates next to another Permitted Burial Ground No. BURGD21 as shown in **Figure 1**.
- 1.3.2 Based on the OZPs, the application site is zoned as "Green Belt" as shown in **Drawing No. 284104/PBG/OZ/1001**. According to the Schedule of Notes of the OZPs, "Burial Ground" is listed in Column Two Uses and hence a planning application to Town Planning Board will be submitted. The impact assessment on the proposed site is presented in **Chapter 2**.

## 1.4 Land Status

- 1.4.1 It is noted that the application site has interface with the Quarry Safety Zone (Lam Tei Quarry) and CLP’s engineering reserve. Both CEDD/GEO and CLP are consulted and no adverse comment were acquired, the related correspondence is included in **Annex A**.

## 2 Impact Assessment

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### 2.1 Impact on Existing Traffic System

- 2.1.1 The application site is relatively small (i.e. 2.3ha) compared to the extent of existing burial ground BURGD21 (i.e. 11.5ha) next to it. The number of visitors is unlikely to increase substantially. Furthermore, the application site is accessible via the existing Fu Fuk Road and local pedestrian access (~90m distance on plan from Fu Fuk Road to application site). The existing accesses to the application site are considered adequate and no additional access is required.
- 2.1.2 As it is not proposed to widen the existing accesses, it is expected that the traffic flow within the vicinity of proposed land use will remain the same as the current condition and hence no mitigation / improvement measure is required for the existing accesses.

### 2.2 Impact on Environmental Aspects

- 2.2.1 It is anticipated that the overall topography of the application site will not be materially changed. Also, no extensive site formation works such as slope works nor retaining wall will be carried out within the site. Only localised excavation at minimum may be involved in burial practices, hence the environmental impacts during burial activities are considered minimal.
- 2.2.2 Considering the application site is relatively small compared to the adjacent BURGD21, the grave sweeping activities around the area will not be materially changed. Moreover, visitors are anticipated to stay in the application site over a short duration only. As the visitors will not be substantial in number, no facility such as public toilet is proposed to provide for the application site. Hence the environmental impacts during grave sweeping are considered minimal.
- 2.2.3 For the impacts on landscape & visual, ecological, and heritage aspects, it will be discussed in the following sections.

### 2.3 Tree Survey

- 2.3.1 Tree survey was conducted for the application site, a total estimated 1,508 nos. of trees are recorded. All tree species recorded are common and widespread in Hong Kong. No Registered Old and Valuable Tree (OVT) nor other Tree of Particular Interest (TPI) is identified. The Tree Survey Report is included in **Annex B**.
- 2.3.2 It is noted from Ecological Impact Assessment that a sapling of Incense Tree was recorded and excluded from the application site as mentioned in **Section 2.5.1**. With reference to *Development Bureau Technical Circular (Works) No. 4/2020 Tree Preservation*, as the mentioned sapling has a trunk diameter less than 95mm at a height of 1.3m above ground level, it is not classified as “tree” and hence not included in the Tree Survey Report.
- 2.3.3 The current S16 Application of land use does not involve any construction works nor tree removal. In the operation stage, should any tree removal be involved, the respective burial applicant is required to obtain the consent from relevant

authorities in compliance with established protocols as required in the Application for Certificate for Burial within Permitted Burial Grounds.

## 2.4 Impact on Landscape & Visual

- 2.4.1 The graves would be approximate 1m in height surrounding with existing vegetation. The location of the application site is located far away from the existing rural settlement, and therefore, the graves will not be easily visible given the structure height of the graves. Further, the graves materials are mainly concrete, i.e. light grey or earth tone colour, will be able to blend in with the existing environment. Therefore, it is reasonably foreseeable that the application site would not generate adverse visual impact.
- 2.4.2 The current S16 Application of land use does not involve any construction works nor tree removal.
- 2.4.3 During the operation stage, only localised excavation would be involved in burial practices, it is anticipated that the application site would not generate adverse landscape impact. In case any grave construction would require the trees removal in the operation stage, the future burial applicant should obtain consent from relevant authorities in compliance with established protocols as required in the Application for Certificate for Burial within Permitted Burial Grounds.

## 2.5 Impact on Ecology

- 2.5.1 Ecological Impact Assessment was conducted and included in **Annex C**. The application site is located outside Tai Lam Country Park. The application site is covered by mixed woodland habitat, where only minimal habitat loss is anticipated as the current S16 Application of land use does not involve any site clearance nor construction works thus no direct impact. A sapling of Incense Tree of conservation importance was recorded and excluded from the application site. Other fauna species of conservation importance are mobile and can utilise habitats of same kind nearby, hence both direct and indirect impacts are considered insignificant.
- 2.5.2 Given the proximity to existing villages of the application site, the increase in disturbance to habitats and fauna nearby due to grave burial is considered minor. Regarding concern of hill fire, aerial photos in recent three decades of existing BURGD22 indirectly suggest that hill fires had not occurred for 30 years, hence it is prudent to consider that the risk of hill fire of the application site remains low. Moreover, appropriate receptacles shall be used for burning joss sticks, joss paper, etc. as stated in the Certificate for Burial within Permitted Burial Grounds.
- 2.5.3 Hence, ecological impacts due to operational disturbance and hill fire during the operational phase are all considered minor. The impact on recognized sites of conservation importance and species of conservation importance during the operational phase will either be minor or insignificant.

## 2.6 Impact on Geotechnical Aspect

- 2.6.1 It is anticipated that the overall topography of the application site will not be materially changed. Also, no extensive site formation works such as slope works

nor retaining wall will be carried out within the site. As such, it is considered the impact on this aspect is minimal.

## 2.7 Impact on Existing Drainage Network System

2.7.1 The application site is outside the low-lying area and not a flooding black spot. As the application site will not be paved / developed, the runoff being discharged to the adjacent drainage system will not be materially affected.

2.7.2 As no additional land will be formed and most of the woodland will not be paved, the soil characteristic within the application site will in general remain unchanged as existing condition. As a result, no additional drainage runoff will be discharged to the existing drainage network system.

2.7.3 It is therefore envisaged that there is no drainage impact within the area. As such, no proposed or upgrading works on the existing drainage network system is required.

## 2.8 Impact on Existing Sewerage Network System

2.8.1 There will be no residents to stay in the application site. For the visitors not substantial in number, no facility such as public toilet is proposed to provide for the application site. Hence no additional sewage will be generated by the proposed land use. The visitors are expected to use the existing toilets nearby such as the Fuk Hang Tsuen Public Toilet.

2.8.2 It is therefore envisaged that there is also no impact on the existing sewerage network system within the area due to the proposed land use. No proposed nor upgrading works on the existing sewerage network system is required.

## 2.9 Impact on Air Ventilation

2.9.1 The graves would be approximate 1m in height which are lower than the existing woodland. No building structure is planned to be built within the application site and hence there is no impact on air ventilation due to the proposed land use.

## 2.10 Impact on Heritage

2.10.1 Heritage Impact Study was conducted as the application site is within 50m of Fu Tei Ha Site of Archaeological Interest. The archaeological findings indicate the Song, and Ming/Qing dynasty findings are unrelated to the steep hills adjacent to the Fu Tei Ha SAI and thus the application site is not expected to have significant archaeological potential. There are no declared monuments, graded historic buildings, items pending grading assessment by the Antiquities Advisory Board or Site of Archaeological Interest located within the application site. The Heritage Impact Study report is included in **Annex D**.

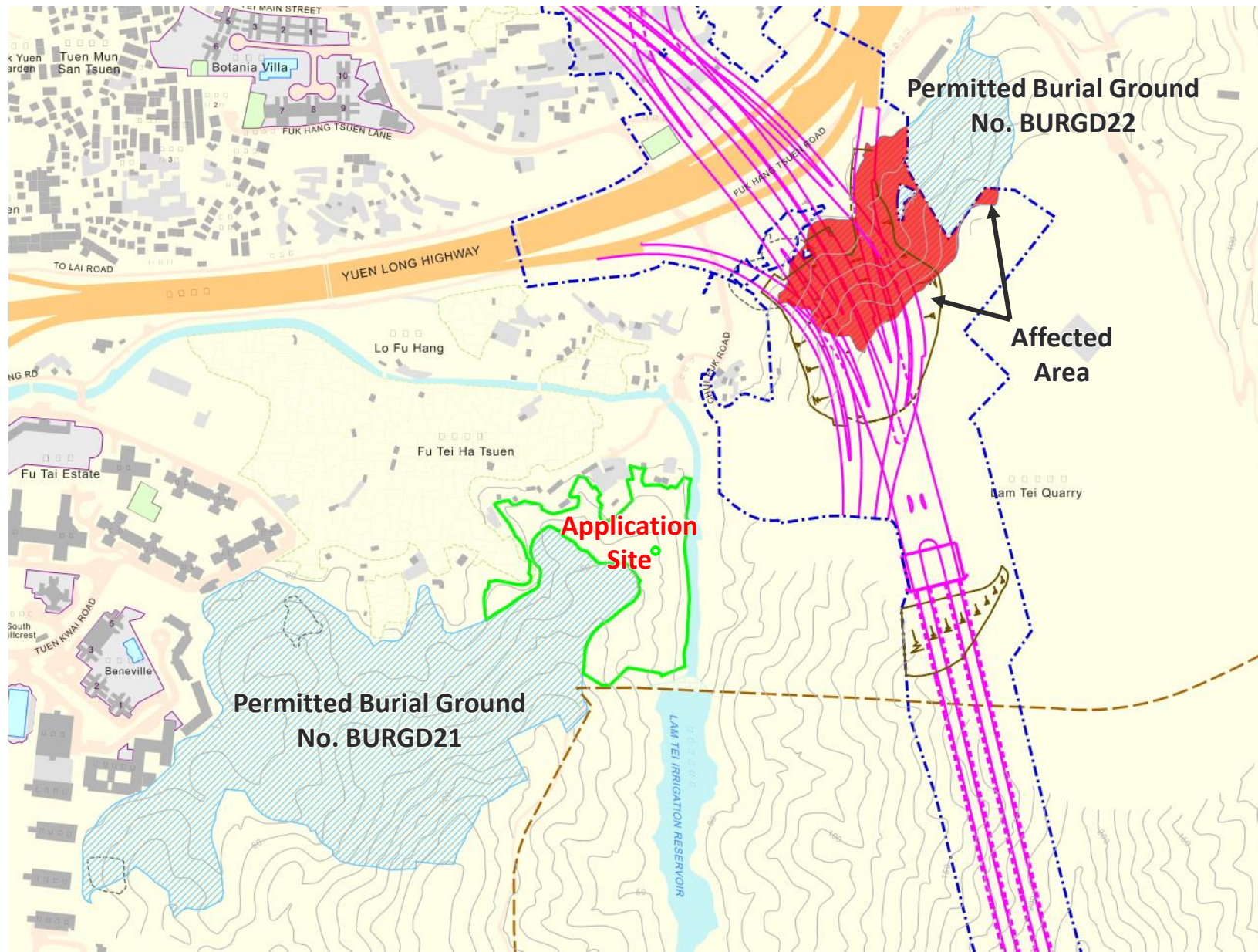
## 3 Conclusions

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- 3.1.1 During public consultation of the Route 11 project, requests for optimising existing PBGs for increased burial spaces have been raised by members of local rural community, including Hon LAU Ip-keung, Kenneth (ExCo and LegCo Member, Chairman of Heung Yee Kuk, TMDC member, and Chairman of TMRC) and Mr TSANG Chin-Hung (1<sup>st</sup> Vice-chairman of TMRC), at the Traffic and Transport Committee of the TMDC on 9 June 2023, and at a joint meeting on 13 June 2023 attended by TMRC members, Tuen Mun District Office, District Lands Office/Tuen Mun, and Highways Department. In response to their request, the Government has agreed to provide assistance to local stakeholders with the application for new PBGs at the joint meeting held on 13 June 2023. A potential site for proposed new PBG (i.e. “the application site”) is identified. The application site is located next to the existing PBG Site No. BURGD21 (See **Figure 1** and **Drawing No. 284104/PBG/GA/1001**), which is approximately 2.3ha.
- 3.1.2 The application site is zoned “Green Belt” (“GB”) in the Approved Lam Tei and Yick Yuen Outline OZP No. S/TM-LTY Y/12 and the Draft Tuen Mun OZP No. S/TM/38. Referring to the Schedule of Notes, the use of burial ground is under Column 2 of “GB” zone, i.e. the use that may be permitted with or without conditions on application to the Town Planning Board. To this, it is required to apply for permission under Section 16 of the Town Planning Ordinance (Cap. 131).
- 3.1.3 Impact assessments on various aspects including traffic, environmental, geotechnical, drainage, sewerage and air ventilation have been carried out. It is concluded that there is minor or insignificant impact due to the proposed land use.

## Figure



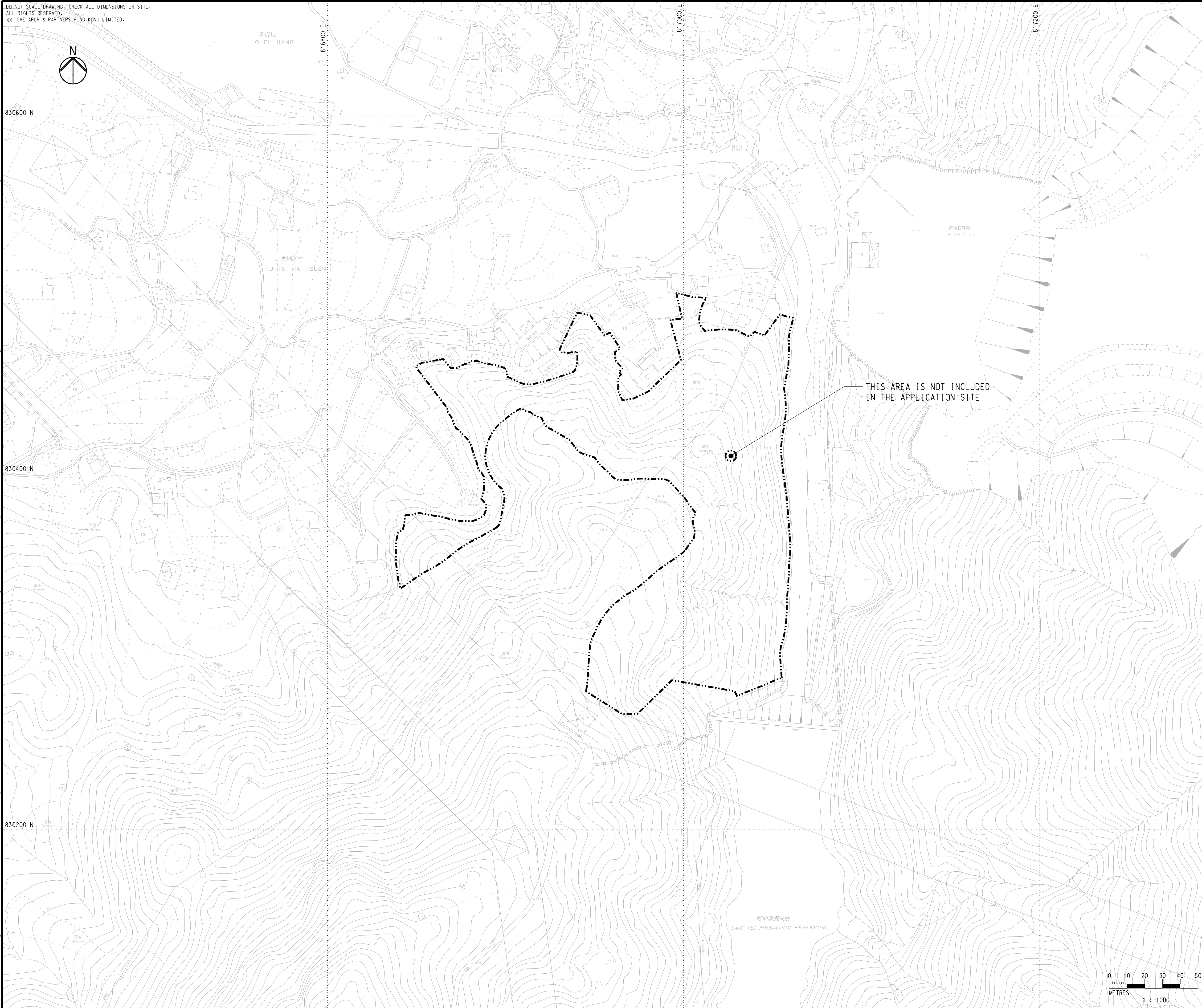


**Figure 1 Overall Layout of Affected Permitted Burial Ground No. BURGD22 and the Application Site for Burial Ground Use**

# Drawings



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LEGEND

APPLICATION SITE FOR BURIAL GROUND USE

THIS AREA IS NOT INCLUDED IN THE APPLICATION SITE

A	FIRST ISSUE	EF	01/24
Rev	Description	By	Date

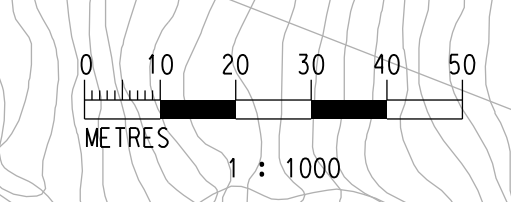
Consultant  
**ARUP**

Project title  
 Agreement No. CE 13/2021 (HY)  
 Route 11 (Section between Yuen Long and North Lantau)  
 - Investigation

Drawing title  
**APPLICATION SITE FOR BURIAL GROUND USE  
 GENERAL LAYOUT**

Drawing no. 284104/PBC/GA/1001		Rev. A	
Drawn RY	Date 01/24	Checked IL	Approved SK
Scale 1:1000 @ A1		Status PRELIMINARY	

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830600 N

816000 E

817000 E

817000 E

APPROVED LAM TEI AND  
YICK YUEN OUTLINE ZONING PLAN  
NO. S/TM-LTY/12

LO FU HANG  
FU TEI HA TSUEN

THIS AREA IS NOT INCLUDED  
IN THE APPLICATION SITE

DRAFT TUEN MUN  
OUTLINE ZONING PLAN  
NO. S/TM/38





DEMARICATION LINE BETWEEN  
OZP NO. S/TM-LTY/12 AND  
OZPNO. S/TM/38

830400 N

830200 N

藍地灌溉水塘  
LAM TEI IRRIGATION RESERVOIR

LEGEND

-  APPLICATION SITE FOR BURIAL GROUND USE
-  GREEN BELT
-  OTHER SPECIFIED USE (QUARRY)
-  RESIDENTIAL (GROUP A)

A	FIRST ISSUE	EF	01/24
Rev	Description	By	Date

Consultant  
**ARUP**

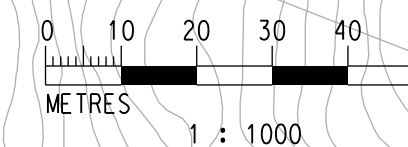
Project title  
Agreement No. CE 13/2021 (HY)  
Route 11 (Section between  
Yuen Long and North Lantau)  
- Investigation

Drawing title  
APPLICATION SITE FOR  
BURIAL GROUND USE  
OUTLINE ZONING PLAN

Drawing no. 284104/PBC/OZ/1001		Rev. A	
Drawn RY	Date 01/24	Checked IL	Approved SK
Scale 1:1000 @ A1		Status PRELIMINARY	

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## Annex A

### Response to Comments from Departmental Circulation & Correspondence on Land Interface


Comments received:	Responses:
<p>(1) <b>From: EPD</b> <b>Ref: () in EP I/TM/LTY/301</b> <b>Date: 16 February 2024</b></p> <p>I refer to your MUR under reference.</p> <p>2. The applicant, Highways Department (HyD), seeks planning permission for the proposed reprovisioning site for affected permitted burial ground no. BURGD22 at the application site. The Site falls within an area zoned "Green Belt" ("GB") in the approved Lam Tei and Yick Yuen No. S/TM-LTY/12 and the draft Tuen Mun OZP No. S/TM/38.</p> <p>3. According to the planning statement, a portion of Permitted Burial Ground (PBG) Site No. BURGD22 at Lam Tei (approximately 23ha) will be affected by the Recommended Alignment of Route 11, with the following details, including but not limited to :-</p> <ul style="list-style-type: none"> <li>• The number of visitors is unlikely to increase substantially. No additional access is required;</li> <li>• It is expected that the traffic flow within the vicinity of proposed development will be the same as the current condition;</li> <li>• Only localised excavation at minimum may be involved in burial practices; and</li> <li>• No facility (such as public toilet) is proposed to provide for the reprovisioning site. Hence, no additional sewage will be generated.</li> </ul> <p>4. According to PlanD's memo dated 24 August 1998 regarding the "Circulation of Planning Applications and Related Matters to EPD", Annex A sets out that the planning application for "Burial Ground" located within "Green Belt" zoning need not to be circulated to EPD for comments. Standard EPD comments have also been set out in Annex B of the memo for incorporation into TPB or PC Papers on planning applications which need not be circulated to EPD for comments. Please make reference to the enclosed memo and adopt the suitable standard comments as appropriate.</p> <p>If the application is approved, the applicant is advised to comply with all relevant environmental pollution control ordinance during construction and to implement appropriate mitigation measures / practices as set out in the Recommended Pollution Control Clauses for Construction Contracts which are available at the following website:- <a href="https://www.epd.gov.hk/epd/english/environmentinhk/eia_planning/guide_ref/rpc.html">https://www.epd.gov.hk/epd/english/environmentinhk/eia_planning/guide_ref/rpc.html</a></p> <p>5. For other aspects, such as landscape and visual (including tree impact), ecology, cultural heritage, I trust you would consult PlanD, AFCD and AMO, which were included in your circulation.</p> <div style="text-align: center;">  <p>Annex A &amp; B.pdf</p> </div>	<p>Typo in Section 1.1.6 of the submission is revised, the application site area is approximately 2.3ha.</p> <p>Noted that planning application for "Burial Ground" located within "Green Belt" zoning need not to be circulated to EPD for comments. For the standard EPD comments set out in Annex B, the application site should be categorised as item E of Annex B, which is "application for uses other than the above"; hence, it is noted that "EPD has no comment on the application".</p>

Comments received:	Responses:
<p>(2) <b>From: HyD/NTW</b> <b>Ref: (1DZLP) in HyD NT/13-8/1/1-TM</b> <b>Date: 16 February 2024</b></p> <p>I refer to your above referenced memo dated 14.02.2024 regarding the captioned subject. As the existing access adjacent to the reprovisioning site is not and will not be maintained by HyD, we have no comment on the captioned draft planning application from highways maintenance point of view. Presumably, relevant departments will provide their comments to you, if any.</p> <p>Should you have any query or require further information, please contact our DE/TM(E), Mr. CHOW Wan-yin, at tel. 2762 4904.</p>	<p>Noted with thanks.</p>
<p>(3) <b>From: CEDD/GEO</b> <b>Ref: PLN-50-2005-7-TM-LTYT</b> <b>Date: 22 February 2024</b></p> <p>I refer to your email under reference dated 5.2.2024.</p> <p>2. The Geotechnical Engineering Office has no comments on the pre-submission for the S.16 application.</p> <p>3. If you have any enquiries regarding the above, please contact Ms Celia Y Y Yang (tel. no. 2762 5372) of this Office for discussions.</p>	<p>Noted with thanks.</p>
<p>(4) <b>From: WSD/Construction Division</b> <b>Ref: (2) in WSD/M/SP 3051/470/216S/24 Pt.1</b> <b>Date: 23 February 2024</b></p> <p><u>Major Comments on the Application/Main Reasons of Objection:</u></p> <p>Nil.</p> <p><u>Other Detailed Comments (if applicable):</u></p> <p>Nil.</p>	<p>Noted with thanks.</p> <p>Noted with thanks.</p>
<p>(5) <b>From: FEHD</b> <b>Ref: Nil (by Email)</b> <b>Date: 27 February 2024 Time: 10:27am</b></p> <p>1) If any FEHD's facility (such as bin site) is affected by the development, FEHD's prior consent must be obtained. Local consultation / DC consultation should be conducted by the project proponent to the satisfaction of the locals and FEHD on the proposal of re-provisioning of the affected facilities under FEHD's management. Reprovisioning of the affected facilities by the project proponent up to the satisfaction of FEHD may be required. Besides, the project proponent should provide sufficient amount of additional recurrent cost for management and maintenance of the reprovisioned facilities to FEHD.</p> <p>2) If provision of cleansing service for new public roads, streets, cycle tracks, footpaths, paved areas, public carpark, footbridge, subway, etc, is required, FEHD should be separately consulted. Prior consent from FEHD must be obtained and sufficient amount of recurrent cost must be provided to us.</p>	<p>As the current S16 application of land use would not involve any construction works, no FEHD facility would be affected.</p> <p>As the current S16 application of land use would not involve any construction works, no new facilities would be provided.</p>

Comments received:	Responses:
<p>3) The associated works and operations shall not cause any environmental nuisance, pest infestation and obstruction to the surrounding. For any waste generated from the operations and works, the project proponent should arrange its proper disposal at their own expenses.</p> <p>(6) <b>From: HKPF/TMDIST</b> <b>Ref: (90) in NTN TMDIST 1-150/6 Pt.34</b> <b>Date: 27 February 2024</b></p> <p>Your MUR refers.</p>	<p>The current S16 application of land use would not involve any construction works. The mentioned requirements would be observed in operation stage by relevant department.</p>
<p>2. Tuen Mun Police District has no objection on the subject proposal at this stage</p> <p>3. Should you have any query, please contact Mr. LEUNG Ki-ching, Officer-in-charge of District Traffic Team of Tuen Mun Police District at 3661 5722.</p>	<p>Noted with thanks.</p>
<p>(7) <b>From: CEDD/WDO</b> <b>Ref: () in CEDD WDO-01-0055-140</b> <b>Date: 29 February 2024</b></p> <p>I refer to your above quoted memo and have no comment on the application.</p>	<p>Noted with thanks.</p>
<p>(8) <b>From: AFCD</b> <b>Ref: Nil (by Email)</b> <b>Date: 4 March 2024</b>                      <b>Time: 3:03pm</b></p> <p><b>Comment on draft supporting document</b></p> <p><u>S.2.5</u></p> <p>For sake of clarity, please specify in S.2.5 of the application document whether the proposed reprovisioning site is located outside Tai Lam Country Park (TLCP) and hence avoided direct impacts.</p> <p><b>Comments on Appendix B (EcoIA)</b></p> <p><u>General</u></p> <p>Please provide justifications on why the subject site is considered suitable for reprovisioning the affected PBG from ecological perspective, and whether alternative sites were considered.</p>	<p>Noted with thanks.</p> <p>Section 2.5.1 of the submission is revised to mention that the application site falls outside TLCP.</p> <p>The current S16 application is conducted upon TMRC’s request on new permitted burial ground at this particular location, hence alternative sites are not applicable in this context.</p> <p>TMRC’s requested location is considered suitable as a new permitted burial ground considering the close proximity to Nai Wai &amp; Shun Fung Wai (i.e. stakeholders for BURGD22) ; no private lot affected and no interface with potential / existing development. Different aspects of impact assessments are then conducted. A site with existing graves, where habitat(s) therein and in the vicinity, and wildlife has been subject to disturbance impact posed by grave burial and sweeping events, was selected.</p>



Comments received:	Responses:
<p><u>S.3.1.1</u></p> <p>Please check if we have provided our internal bat roost data of the assessment area of the subject S16 application. If negative, please delete “as well as internal bat roost data provided by AFCD” from the last sentence.</p> <p><u>S.3.1.2</u></p> <p>Please provide a figure showing the project site and the assessment areas of reviewed studies.</p> <p><u>Table 3.1 &amp; Figure 1.2</u></p> <p>According to Figure 9.4A of Route 11 EIA, Grey Nightjar was recorded within the current application site. However, its record was not reflected in Table 3.1 and Figure 1.2 of the subject submission. Please cross check the submission for the sake of consistency.</p> <p><u>S.4.1</u></p> <p>Please supplement when the ecological surveys for Route 11 and Tuen Mun Bypass (TMB) were completed.</p> <p><u>S.4.2.2. 1st sentence</u></p> <p>It is suggested to revise as “The recommended months and methodology of conducting surveys for specific taxa <u>have made reference to</u> the EIAO GN...”.</p> <p><u>S.5</u></p> <p>Please confirm and elaborate whether the survey results from Route 11 and TMB are still valid and suitable for impact assessment.</p> <p><u>S.5.1</u></p> <p>Please supplement whether any notable habitat change was spotted during verification surveys as compared to previous survey results from Route 11 and TMB.</p> <p><u>S.5.1.7</u></p> <p>This section mentioned that the application site is dominated by native and exotic tree species. However, according to S.3.2.1 of Tree Survey Report, the existing trees were largely dominated by exotic plantation species. Please clarify.</p>	<p>Noted the irrelevant information and deleted.</p> <p>To be in line with the recently approved EIA reports, a figure comprising the Project Site and the assessment areas of the reviewed studies has not been prepared.</p> <p>Noted and revised and cross-checked.</p> <p>Noted and supplemented.</p> <p>Noted and revised.</p> <p>Noted and supplemented in Section 5.10.1 of Annex C.</p> <p>Noted and supplemented in Section 5.1.13 of Annex C.</p> <p>Noted. To clarify, the canopy of the Application Site was dominated by exotic tree species (e.g. <i>Eucalyptus exserta</i> and <i>Lophostemon confertus</i>). However, the mid-storey and understorey, in which plant species not attaining a trunk diameter 95 mm or more at a height of 1.3m above the ground level were observed to be dominated by native plant species. Section 5.1.7 of Annex C has been revised to suggest that “The Application Site was entirely covered by mixed woodland, the canopy of which was dominated by exotic tree species, such as <i>Eucalyptus exserta</i> and <i>Lophostemon confertus</i> as tall as 12m.” to avoid confusion.</p>

Comments received:	Responses:
<p><u>S.5.1.12</u></p> <p>Please clarify if the following watercourse (encircled in blue) was recorded during the verification surveys and previous surveys for Route 11 and TMB. If positive, please supplement its condition as appropriate.</p>  <p><u>S.5.3</u></p> <p>Please supplement whether any bat roosting / breeding site was found within the assessment area.</p> <p><u>Table 5.7</u></p> <ul style="list-style-type: none"> <li>Given that exotic tree species dominated the canopy of the mixed woodland according to S.5.1.7, please review whether it is appropriate to consider the mixed woodland as “natural” under the criteria “Naturalness”.</li> <li>Please supplement the condition of mixed woodland within the application site as appropriate.</li> </ul> <p><u>S.6.2.1</u></p> <ul style="list-style-type: none"> <li>Since the construction of new and relocated graves would convert the mixed woodland, please review whether it is appropriate to conclude that habitat loss is not expected.</li> <li>In Line 8, it is suggested to revise as “As tree felling, <u>if unavoidably</u> required, would be of limited number for each burial application...”.</li> <li>A typo is spotted “...consent from relevant authorities <u>much</u> be obtained.”.</li> </ul> <p><u>S.6.2.4</u></p> <p>To avoid potential damage from future burial activities, please revise the PBG boundary to exclude the Incense Tree sapling and its vicinity.</p> <p><u>Ss.6.3.1-2</u></p> <p>Please supplement whether potential disturbance impacts from grave burial and grave sweeping activities are anticipated to be constant or not.</p>	<p>Noted. To clarify, there was no water flow observed at the concerned location during the verification surveys and surveys for Route 11. No watercourse was mapped in the approved EIA report for TMB.</p> <p>Noted and supplemented in Section 5.3.3 of Annex C that bat roost and breeding sites were not recorded within the assessment area.</p> <p>Noted and revised as "semi-natural".</p> <p>Noted and supplemented.</p> <p>Noted. It has been revised that it is anticipated that only minimal loss of mixed woodland will occur arising from potential tree felling applications. It has been assessed that the resulting impact would be insignificant.</p> <p>Noted and revised.</p> <p>Noted and revised as “... consent from relevant authorities <u>will</u> be obtained”.</p> <p>Noted, the application site boundary is revised to exclude the Incense Tree sapling and its vicinity.</p> <p>Noted and supplemented that they are not anticipated to occur constantly during the operation phase.</p>

Comments received:	Responses:
<p><u>S.6.3.9</u></p> <p>The sentence is incomplete. Please revise.</p> <p><u>S.6.3.10</u></p> <p>Assessment on the potential hill fire hazards on TLCP and whether there will be any fire control measures / administrative controls on the burial activities should be provided in S.6.3.10 of the EcoIA (appendix B).</p> <p><u>S.7.3</u></p> <p>Please provide justification(s) to support the conclusion that no compensation measure is required.</p> <p><u>Ss.8.1.2 &amp; 10.1.2</u></p> <p>S.8.1.2 mentioned that the recommended mitigation measures will mitigate the residual impacts to an acceptable level. It seems contradicted to S.10.1.2 which stated that no specific mitigation measure is considered necessary. Please clarify.</p> <p><b>Ref: Nil (by Email)</b> <b>Date: 12 April 2024 Time: 3:22pm</b></p> <p>I refer to your preceding email. Please see below my further comments on the subject submission.</p> <p><u>RtoC on S.6.2.1; S.6.2.3</u></p> <p>S.6.2.1 mentioned that minimal loss of mixed woodland is expected for the burial of new graves. However, S.6.2.3 stated that habitat loss due to new graves is not anticipated. Please review if there is any contradiction between Ss.6.2.1 and 6.2.3, and revise / remove S.6.2.3 as appropriate.</p> <p><u>RtoC on S.6.3.1</u></p> <p>It is suggested to revise the paragraph as "During the operational phase, <u>grave burial events may</u> increase human activities, noise disturbance from machinery, and dust ... .. Given the proximity to the existing villages, <u>and grave burial events will not occur constantly throughout a year</u>, any significant increase in disturbance impacts from the <u>grave burial activities</u> is not anticipated. The increase in disturbance due to grave burial is considered minor".</p> <p><u>S.6.2.6, Table 3.1 &amp; Fig. 1.2a</u></p> <p>Black Kite was recorded within the Application Site from reviewed literature as per Fig. 1.2a, but such record was not reflected in S.6.2.6 and Table 3.1. Please check and revise as appropriate.</p> <p><b>Ref: Nil (by Email)</b> <b>Date: 16 April 2024 Time: 1:45pm</b></p> <p>I refer to your preceding email. I have no further comment on the subject submission.</p>	<p>Noted and Sections 6.3.9 and 6.3.10 of Annex C have been restructured for the sake of clarity.</p> <p>Noted and supplemented in Section 6.3.9 of Annex C.</p> <p>Noted and supplemented.</p> <p>Noted and Section 8.1.2 of Annex C has been revised to reflect that no specific mitigation measure is considered necessary.</p> <p>Noted and Section 6.2.3 of Annex C has been updated to reflect that only minimal habitat loss is anticipated to occur.</p> <p>Noted and revised accordingly.</p> <p>Noted. With reference to the Approved Environmental Impact Assessment Reports for Route 11 (AEIAR-255/2023) and Tuen Mun Bypass (AEIAR-256/2023), Black Kite was recorded within the Application Site. As such, Section 6.2.6 and Table 3.1 of Annex C have been revised to reflect the record of Black Kite there.</p> <p>Noted with thanks.</p>

Comments received:	Responses:
<p>(9) <b>From: Buildings Department</b> <b>Ref: (7) in B.C. T.M. MISC. 368</b> <b>Date: 4 March 2024</b></p> <p><u>Part A: General Comments</u></p> <p>Noting that the proposed excavation and filling of land is carried out on Government Land, I am not in a position to comment the captioned application.</p> <p><u>Part B: Advisory Comments for the Applicant</u></p> <p>Nil</p>	<p>Noted with thanks.</p> <p>Noted with thanks.</p>
<p>(10) <b>From: FSD</b> <b>Ref: Nil (by Email)</b> <b>Date: 5 March 2024</b>                      <b>Time: 12:26pm</b></p> <p>Please be informed that I have no specific comment on the captioned submission provided that there will be no structures erected on the subject site.</p> <p>Should you have any enquiries, please feel free to contact the undersigned or Mr. YAN Chi-ho at 2733 7758.</p>	<p>Noted with thanks.</p>
<p>(11) <b>From: HAD</b> <b>Ref: Nil (by Email)</b> <b>Date: 6 March 2024</b>                      <b>Time: 10:55am</b></p> <p>Further to the email from DLO(TM) to your office on 15.2.2024, we have no further comments, please.</p>	<p>Noted with thanks.</p>
<p>(12) <b>From: HyD/MWPMO</b> <b>Ref: Nil (by Email)</b> <b>Date: 6 March 2024</b>                      <b>Time: 7:20pm</b></p> <p>After the discussion with subject officer of PlanD, please address our comments in the main text of the application document to cater the potential enquiry from the members of TPB as below for your review:-</p> <ol style="list-style-type: none"> <li>1. The justification on the selection of this site</li> <li>2. The assess to the site</li> <li>3. Tree felling issues in the operation stage</li> </ol>	<p>The revised Section 1.1.6 of the submission refers, the application site location is proposed by TMRC, and fulfils the criteria set out in Section 1.1.5.</p> <p>Section 2.1.1 of the submission is supplemented with approximate distance of local pedestrian access between the Application Site and Fu Fuk Road.</p> <p>Section 2.3.3 of the submission is supplemented on tree removal issues in operation stage.</p>
<p>(13) <b>From: PlanD/UD&amp;L</b> <b>Ref: Nil (by Email)</b> <b>Date: 6 March 2024</b>                      <b>Time: 3:06pm</b></p> <p>I refer to your email and MUR dated 14.02.2024 enclosed the captioned and seeking our comment on the Tree Survey Report.</p> <p><u>Background (for reference only)</u></p> <p>2. The Applicant proposed to reprovision a site for the permitted burial ground no. BURGD22 which will be affected by alignment of Route11. The application site (i.e. reprovioning site) is located abutting Fu Tei Ha Tsuen in Lam Tei, which falls</p>	<p>Referring to Section 1.1.4 of the submission, the application is an "Application for New Permitted Burial Ground by the local stakeholders". The title</p>

Comments received:	Responses:
<p>within a “GB” zone on the approved Lam Tei and Yick Yuen Outline Zoning Plan (OZP) No. S/TM-LTTY/12.</p> <p><u>Landscape Observations and Comments</u></p> <p>3. The application site is situated in an area of settled valleys landscape character predominated by temporary structures, tree groups and village as observed from aerial photo. The Lam Tei Irrigation Reservoir and Tai Lam Country Park are located closely at the south.</p> <p>4. With reference to the submitted information, noting majority of the application site (i.e. reprovisioning site) is “densely vegetated with trees”, approx. 1508 nos. of existing trees in common/ widespread species are recorded within the Site. According to Para. 2.2.1 and 2.5.1, “the reprovision of PBG would not involve any site clearance nor construction works” and “only localised excavation at minimum may be involved in burial practices”.</p> <p>5. Having reviewed the submitted information, please note below our observations/ initial comments on the submission from landscape planning perspective:</p> <p><u>Planning Statement ‘Impact Assessment’</u></p> <p>a) Section 2.4 – Noting Para.2.4.1 only covered visual impact, the Applicant is reminded to refer Guidance Notes ‘Application for Permission under Section 16 of the Town Planning Ordinance (Cap.131)’, assessment/ information on potential/ anticipated impact on landscape and existing trees should also be covered in the discussion as appropriate.</p> <p>b) Noting “localised excavation at minimum may be involved in burial practices ” within the Site, and the Site is “densely vegetated with trees ” with approx. 1508 nos. of existing trees but without indicating the proposed tree treatments in Section 2.3 and 2.4 of the Planning Statement as well as the ‘Tree Group Assessment Schedule’.</p> <p>In accordance with the mentioned GN in above comment (a), please illustrate the proposed changes and mitigation measures (if any) such as compensatory planting and/ or other landscape treatments as appropriate, and clarify in Section 2.3 ‘Tree Survey’ whether tree felling will be involved in the application.</p> <p>6. The above comments from landscape planning perspective serve as general advice for the Applicant to prepare the subsequent s.16 application, we reserve our views/ detailed comments upon receipt of submission under formal application.</p> <p>7. Please feel free to contact the undersigned should you have any queries.</p> <p><b>Ref: Nil (by Email)</b> <b>Date: 12 April 2024 Time: 2:24pm</b></p> <p>I refer to HyD’s email dated 03.04.2024 enclosed the revised draft application of the captioned for comment.</p>	<p>of the submission is amended to “Application for New Permitted Burial Ground at Lam Tei”.</p> <p>Noted. There is no temporary structure nor village in the application site.</p> <p>Noted.</p> <p>The current S16 Application of land use does not involve any construction works nor tree felling. In the operation stage, should any tree felling be involved, applicant is required to obtain the consent from relevant departments. Section 2.3.3 of the submission is supplemented accordingly.</p> <p>Section 2.4.3 of the submission is supplemented on landscape impact assessment.</p> <p>The current S16 Application of land use does not involve any construction works nor tree felling. In the operation stage, should any tree felling be involved, applicant is required to obtain the consent from relevant departments.</p> <p>Section 2.3.3 of the submission is supplemented accordingly.</p> <p>Noted.</p>

Comments received:	Responses:
<p>(14) 2. Having reviewed Para. 1.2.2, 2.3.3 and 2.4.3 of the revised draft application, noting the proposed use “does not involve any construction nor tree felling” and “in case any grave construction would require the trees removal in the operation stage, the future burial applicant should obtain consent from relevant authorities in compliance with established protocols as required in the Application for Certificate for Burial with Permitted Burial Grounds”. The Applicant may refer to TPB’s guidance note ‘Application for Permission under Section 16 of the Town Planning Ordinance (CAP.131)’ for preparing the subsequent formal s.16 application, we reserve our views from landscape planning perspective upon receipt of submission under formal application.</p> <p>3. Please feel free to contact the undersigned should you have any queries.</p> <p><b>From: LandsD/DLO(TM)</b> <b>Ref: (12) in L/M(2) to DLOTM 131/3/82/2</b> <b>Date: 6 March 2024</b></p> <p><u>Part A: General Comments</u></p> <p>1. The application site ("the Site") comprises Government land only. No occupation of Government is allowed without Government's prior approval.</p> <p>2. The Government land in the application site is not covered by any Short Term Tenancies (STT).</p> <p>3. Please notify the applicant of our comments/requirements as stated above.</p> <p><u>Part B: Advisory Comments for the Applicant</u></p> <p>1. I have other observations/advisory comments as follows:</p> <p>(i) It is noted that HAD was included in the circulation. Please note that DO(TM) of HAD should be consulted on whether or not they support the application and the application is in genuine need;</p> <p>(ii) The proposed burial ground will not constitute an unacceptable health, fire or erosion hazard or cause any nuisance, disturbance to nearby residents;</p> <p>(iii) In general, the proposed burial ground should avoid any conservation zones designated for protection of natural landscapes and habitats [e.g. Country Park, Coastal Protection Area, Site of Special Scientific Interest, Green Belt, Conservation Area and Other Specified Uses</p>	<p>Further to the telecom between PlanD/UD&amp;L and HyD/MWPMO on 12 April 2024, it is noted that the revised Sections 1.2.2, 2.3.3 and 2.4.3 of the submission have been reviewed, and there is no further comment on the aforementioned sections. As a general reminder, PlanD/UD&amp;L reminded that “The Applicant may refer to TPB’s guidance note ‘Application for Permission under Section 16 of the Town Planning Ordinance (CAP.131)’ for preparing the subsequent formal s.16 application, we reserve our views from landscape planning perspective upon receipt of submission under formal application.”</p> <p>Noted.</p> <p>Noted.</p> <p>Requests for optimising existing permitted burial grounds for increased burial spaces have been raised by members of local rural community, including Hon LAU Ip-keung, Kenneth (<i>ExCo and LegCo Member, Chairman of Heung Yee Kuk, Tuen Mun District Council member, and Chairman of Tuen Mun Rural Committee (TMRC)</i>) and Mr TSANG Chin-Hung (<i>1st Vice-chairman of TMRC, at the then Traffic and Transport Committee of the Tuen Mun District Council</i>) on 9 June 2023, and at a joint meeting on 13 June 2023 attended by TMRC members, Tuen Mun District Office, District Lands Office/ Tuen Mun, and Highways Department. In response to their request, the Government has agreed to provide assistance to local stakeholders with the application for New Burial Grounds at the joint meeting held on 13 June 2023.</p> <p>Noted.</p> <p>Noted. The application site is proposed by TMRC as mentioned in the Sections 1.1.4 to 1.1.6 of the submission. The application pre-submission with the technical assessments was circulated to relevant departments / office, so the submission has</p>

Comments received:	Responses:																								
<p>(Comprehensive Development and Wetland Enhancement Area / Comprehensive Development to include Wetland Restoration Area), etc.] on statutory town plans; or sites protected under the Country Parks Ordinance or the Marine Parks Ordinance. (e.g. Country Park, Special Area and Marine Park) / identified by Agricultural, Fisheries and Conservation Department as Sites of Special Scientific Interest, which may not be covered by any statutory town plans, so as to prevent causing damage to the ecological habitat with conservation value. However, if the proposed location inevitably covers or overlaps with these areas, the relevant legislation and any other applicable government requirements will have to be complied with before the application can be further processed; and</p> <p>(iv) The application site falls within the following land status items. You are required to seek comment from concerned allocates/departments direct.</p> <table border="1" data-bbox="220 813 906 1122"> <thead> <tr> <th></th> <th>Item</th> <th>Description</th> <th>Allocatees /Departments</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>1/MQR/69</td> <td>Quarry Safety Zone (Lam Tei Quarry)</td> <td>CEDD</td> </tr> <tr> <td>2.</td> <td>1/MQR/69 XIII</td> <td>Quarry Safety Zone (Lam Tei Quarry)</td> <td>CEDD</td> </tr> <tr> <td>3.</td> <td>Pylon B30/A</td> <td>Works Limit (Engineering Reserve)</td> <td>CLP</td> </tr> <tr> <td>4.</td> <td>SD-006/P(4CPA)</td> <td>License Relating to Rights Through, Over or Under Land</td> <td>CLP</td> </tr> <tr> <td>5.</td> <td>120/CPD/RN/66</td> <td>50m Corridor of Electricity Networks (Statutory Easements)</td> <td>CLP</td> </tr> </tbody> </table> <p>(15) <b>From: DSD/MND</b> <b>Ref: Nil (by Email)</b> <b>Date: 21 March 2024 Time: 11:37am</b></p> <p>I refer to your attached referenced memo dated 14.2.2024 regarding the captioned subject. We have no objection in principle to the proposed application from a drainage point of view. Thanks.</p> <p>(16) <b>From: AMO</b> <b>Ref: Nil (by Email)</b> <b>Date: 21 March 2024 Time: 11:37am</b></p> <p>I refer to your preceding emails dated 14 February 2024 regarding the captioned s.16 pre-submission.</p> <p>Since there are no declared monuments, graded historic buildings, items pending grading assessment by the Antiquities Advisory Board or Site of Archaeological Interest located within the application site, the Antiquities and Monuments Office has no comment on the captioned s.16 pre-submission from heritage conservation perspective. Thank you.</p> <p>(17) <b>From: TD</b> <b>Ref: Nil (by Email)</b> <b>Date: 3 April 2024 Time: 2:49pm</b></p> <p>Please find our comments from traffic engineering viewpoint:</p> <p>1. The subject site is located next to the existing burial ground BURGD21 and is accessible via Fu Fuk Road and Chui Fuk Road. As both Fu Fuk Road and Chui Fuk Road are not public roads managed by this Office, comments from relevant authorities and stakeholders should be sought.</p>		Item	Description	Allocatees /Departments	1.	1/MQR/69	Quarry Safety Zone (Lam Tei Quarry)	CEDD	2.	1/MQR/69 XIII	Quarry Safety Zone (Lam Tei Quarry)	CEDD	3.	Pylon B30/A	Works Limit (Engineering Reserve)	CLP	4.	SD-006/P(4CPA)	License Relating to Rights Through, Over or Under Land	CLP	5.	120/CPD/RN/66	50m Corridor of Electricity Networks (Statutory Easements)	CLP	<p>incorporated their comments and complied with the relevant legislation and government requirements.</p> <p>CEDD and CLP are consulted and no adverse comments are acquired. The related correspondence is attached in <b>Annex A</b>.</p> <p>Noted with thanks.</p> <p>Noted with thanks.</p> <p>Noted, both Fu Fuk Road and Chui Fuk Road are unallocated government land. The current submission was circulated to relevant authorities including LandsD and HAD for their comment.</p>
	Item	Description	Allocatees /Departments																						
1.	1/MQR/69	Quarry Safety Zone (Lam Tei Quarry)	CEDD																						
2.	1/MQR/69 XIII	Quarry Safety Zone (Lam Tei Quarry)	CEDD																						
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5.	120/CPD/RN/66	50m Corridor of Electricity Networks (Statutory Easements)	CLP																						

Comments received:	Responses:
<p>2. In the TIA of Route 11 and Tuen Mun Bypass, Chui Fuk Road is mentioned as a delivery route of construction materials. We also note from Route 11 gazette plan that a section of Chui Fuk Road will be modified. HyD should clarify the access arrangement of Chui Fuk Road during construction and operation of Route 11 and Tuen Mun Bypass, and confirm if there is no plan to convert Chui Fuk Road into a public road under TD management.</p> <p>3. We understand from HyD that Chui Fuk Road is planned to be used as maintenance access and emergency evacuation for Route 11 and Tuen Mun Bypass during operation. If the plan is still valid, HyD is suggested to take into consideration the traffic impact from the proposed burial grounds to Fu Fuk Road/Chui Fuk Road including arrangements of parking, loading and unloading and crowd management in particular during the grave sweeping periods to ensure there is no insurmountable impact to the maintenance/operation of Route 11/Tuen Mun Bypass.</p> <p>(18) <b>From: EMSD</b> <b>Ref: Nil (by Email)</b> <b>Date: 12 April 2024 Time: 1:16pm</b></p> <p>I refer to your memo of 6.3.2024 and would offer the following comments for your consideration:</p> <p><b><u>Electricity Safety</u></b></p> <p>Based on the information provided, there are 400kV extra high voltage overhead lines running above the application site, which is within the preferred working corridor of the concerned overhead lines as stipulated in the Hong Kong Planning Standards and Guidelines (HKPSG) published by the Planning Department. We have no objection in principle to the application subject to the following conditions pertaining to electricity supply safety and reliability, being strictly complied by the applicant and its contractor:-</p> <p>(a) Please observe the requirements of minimum safety clearance, minimum vertical clearance and preferred working corridor of the concerned overhead lines as stipulated in Clause 2.3.5, 2.3.6 and 2.3.14 under Chapter 7 - Utility Services of the HKPSG published by the Planning Department and ensure they shall be maintained at any time during and after construction;</p>	<p>Public could access the application site via the northern section of Chui Fuk Road and Fu Fuk Road during construction stage (which is away from the proposed Chui Fuk Road widening under R11) and operation stage of R11 &amp; TMB.</p> <p>The management of Chui Fuk Road should be reviewed in R11’s detailed design stage, which is independent of the current S16 application of land use.</p> <p>The main access for MOM maintenance vehicles and emergency vehicles would be via R11 / TMB to Lam Tei Administration Area. Chui Fuk Road would only serve as a secondary backup option.</p> <p>The application site is relatively small (i.e. 2.3ha) compared to the extent of existing burial ground BURGD21 (i.e. 11.5ha) next to it as shown in <b>Figure 1</b> of the submission. The number of visitors is unlikely to increase substantially. Hence, it is expected that the traffic flow within the vicinity of proposed land use will remain the same as the current condition.</p> <p>According to HKPSG Ch7 Cl. 2.3.5, the minimum safe working clearance would be 5.5m from the 400kV overhead lines. As specified in HKPSG Ch7 Cl. 2.3.6, the existing overhead lines are min. 7.6 m above ground and grave features are typically 1m high, adequate vertical clearance are anticipated.</p> <p>HKPSG Ch7 Cl. 2.3.6 specifies the vertical ground clearance of overhead lines, which does not relate to vertical clearance to other objects. For example, Cl. 2.3.18 mentions about vertical clearance between 400kV overhead lines and village houses underneath, which also refers to the 5.5m requirement specified in Cl 2.3.5.</p> <p>HKPSG Ch7 Cl. 2.3.14 specifies the preferred working corridor requirement, which aims at providing sufficient space for operation, inspection maintenance etc. CLP has been consulted of the</p>



Comments received:	Responses:
<p>(b) No scaffolding, crane and hoist shall be built or operated within 6m from the outermost 400kV conductors at all times. Warning notices should be posted at conspicuous locations to remind operators and workers of the site boundary. CLP Power shall be consulted on the safety precautions required for carrying out any works near the concerned overhead lines;</p> <p>(c) In any time during and after construction, CLP Power shall be allowed to get access to the working corridor area of the concerned overhead lines for carrying out any operation, maintenance and repair work including tree trimming;</p> <p>(d) The Electricity Supply Lines (Protection) Regulation and the “Code of Practice on Working near Electricity Supply Lines” established under the Regulation shall be observed by the applicant and his contractors when carrying out works in the vicinity of the electricity supply lines.</p> <p>(e) As regards the electric and magnetic fields arising from the transmission overhead lines, the applicant should be warned of possible undue interference to some electronic equipment in the vicinity, if any.</p>	<p>burial ground boundary and adequate setback from the pylon has been provided as per CLP’s comment. The related correspondence could be referred in <b>Annex A</b>.</p> <p>The grave features are typically 1m high, which are not likely to require scaffolding / heavy machinery including crane and hoist.</p> <p>Noted, the application site would remain as government land without access restriction.</p> <p>Noted, the current S16 Application of land use does not involve any construction works, only localized excavation may be involved in burial practices.</p> <p>Noted.</p>

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File Ref :  
EDMS No :

30/01/2024 10:48

**Re: \*Restricted: Route 11 - Planning Application  
Interface with the site at the west of Lam Tei Irrigation Reservoir , Tuen Mun  
[CEDD]** 

**JUN CHANG LIU** to: Pius HUGO

Cc: HO PONG LO

History: This message has been replied to and forwarded.

Dear Pius,

We have no adverse comment from the quarry control point of view.

Regards,

J C LIU

GE/Mines 5

Mines Division, GEO, CEDD

Tel: 3842 7227



土木工程拓展署  
Civil Engineering and  
Development Department



Pius HUGO

Dear Mr LIU, This is Pius from the Route 11 Proj...

18/01/2024 15:16:53

From: Pius HUGO/HYD/HKSARG@HYD  
To: jcliu@cedd.gov.hk  
Date: 18/01/2024 15:16  
Subject: \*Restricted: Route 11 - Planning Application  
Interface with the site at the west of Lam Tei Irrigation Reservoir, Tuen Mun [CEDD]

Dear Mr LIU,

This is Pius from the Route 11 Project of Highways Department.

As discussed, we are preparing the planning application under Cap. 131 to seek the permission from Town Planning Board (TPB) to approve the change in land use to "Burial Ground" for the site at the west of Lam Tei Irrigation Reservoir, Tuen Mun. The location and boundary of the site is shown in the attached location plan.

#### Location Plan

[附件檔 "Location Plan.dgn" 已被 JUN CHANG LIU/CEDD/HKSARG 刪除] [附件檔 "Location Plan.pdf" 已被 JUN CHANG LIU/CEDD/HKSARG 刪除]

As referred by the officer of Lands Department, I note that the aforementioned site is with the License / Regulated Use interface with your office as list as below:-

Category	Item	Description
----------	------	-------------

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Urgent  Return Receipt Requested  Sign  Encrypt  Mark Subject Restrict  Expand personal&pub



E3/R11  
Tel: 2762 3466  
26/01/2024 16:28

File Ref :  
EDMS No :

**\*Restricted: Route 11 - Planning Application Interface with the site at the west of Lam Tei Irrigation Reservoir , Tuen Mun [CLP][880.127.2188]** 📎

From: Pius HUGO/HYD/HKSARG  
To: "Choi, Karen Shuk Hang" <karen.choi@clp.com.hk>  
Cc: "Lau, Benson Yuk Shing" <benson.lau@clp.com.hk>, "Wong, Joey Wai Sze" <joey.wong@clp.com.hk>, "Lai, Margaret Cheuk Yin" <margaret.lai@clp.com.hk>, "Tang, Kai Man" <tangkm@clp.com.hk>  
Bcc: Martin CW LEUNG/HYD/HKSARG@HYD

Dear Karen,

Thank you for your information. As discussed, I note that there is no adverse comment and condition on your side on "SD-006/P(4CPA)" and "120/CPD/RN/66".

For "Pylon ER B30/A, Location Supplied by SLE (PL) - B30/A", I will contact K.M. for the details

Regards,  
Pius HUGO  
E3/R11, MWPMO, HyD  
Tel No. 2762 3466

"Choi, Karen Shuk Hang"

Dear Pius HUGO Please note that, Burial...

26/01/2024 15:54:44

From: "Choi, Karen Shuk Hang" <karen.choi@clp.com.hk>  
To: "e3r11.mw@hyd.gov.hk" <e3r11.mw@hyd.gov.hk>  
Cc: "Lau, Benson Yuk Shing" <benson.lau@clp.com.hk>, "Wong, Joey Wai Sze" <joey.wong@clp.com.hk>, "Lai, Margaret Cheuk Yin" <margaret.lai@clp.com.hk>, "Tang, Kai Man" <tangkm@clp.com.hk>  
Date: 26/01/2024 15:54  
Subject: RE: \*Restricted: Route 11 - Planning Application Interface with the site at the west of Lam Tei Irrigation Reservoir, Tuen Mun [CLP][880.127.2188]

Dear Pius HUGO

Please note that, Burial / Graves / Cemetery should **not** be located within the tower 4CPA36 Engineering Reserve - Pylon ER B30/A, Location Supplied by SLE (PL) – B30/A.

Should you have any further query, please feel free to contact our engineer, Mr. K.M. Tang at 2678-3545 for technical issue or the undersigned for any other assistance. Thank you.

*Best regards*

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Urgent  Return Receipt Requested  Sign  Encrypt  Mark Subject Restrict  Expand personal&pub



E3/R11 File Ref :  
Tel: 2762 3466 EDMS No :  
09/02/2024 15:44

**\*Restricted: Route 11 - Planning Application Interface with the site at the west of Lam Tei Irrigation Reservoir , Tuen Mun [CLP][880.127.2188]** 📎

**Pius HUGO** to: tangkm@clp.com.hk

Cc: karen.choi@clp.com.hk

Bcc: Martin CW LEUNG

Dear KM,

Further to our previous discussion and my email on 2024.02.02, I append the DGN file showing the revised boundary in green line for your information; hence, I note that the interface issue is settled due to the aforementioned revised boundary.

Thank you.



OAP-284104-P-CEX\_BURGD22\_240206 Submission.dgn Land Interface for reference\_A1\_1000.pdf

Regards,  
Pius HUGO  
E3/R11, MWPMO, HyD  
Tel No. 2762 3466

Pius HUGO

Dear KM, I append the location plan of Tower 4C...

02/02/2024 15:43:57

From: Pius HUGO/HYD/HKSARG  
To: "Tang, Kai Man" <tangkm@clp.com.hk>  
Cc: "Choi, Karen Shuk Hang" <karen.choi@clp.com.hk>  
Date: 02/02/2024 15:43  
Subject: \*Restricted: Route 11 - Planning Application Interface with the site at the west of Lam Tei Irrigation Reservoir, Tuen Mun [CLP][880.127.2188]

Dear KM,

I append the location plan of Tower 4CPA36 and its footprint in the base map for your information. According to our understanding on the attached plan, the footprint of the tower is 16.6 x 15.4m and the Engineering Reserve is around 59.5 x 59.5m.  
[attachment "Tower 4CPA36.pdf" deleted by Pius HUGO/HYD/HKSARG]

As discussed just now, after the study by our consultant, we could only offset around 8m from the footprint of the tower and I note that you have no comment on the above proposal. Hence, we will work out the revised boundary for your record subsequently.

Thank you. Happy to discuss.

Regards,  
Pius HUGO

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## Annex B

# Tree Survey Report



Major Works Project Management Office  
Highways Department of HKSAR

**Agreement No. CE 13/2021 (HY)**  
**Route 11 (Section between Yuen Long and  
North Lantau) – Investigation**

Application for Permission under Section 16 of the  
Town Planning Ordinance (Cap. 131) for  
New Permitted Burial Ground at Lam Tei - Tree Survey  
Report

This report takes into account the particular  
instructions and requirements of our client.

It is not intended for and should not be relied  
upon by any third party and no responsibility  
is undertaken to any third party.

Job number 284104

**Ove Arup & Partners Hong Kong Ltd**  
Level 5 Festival Walk  
80 Tat Chee Avenue  
Kowloon Tong  
Kowloon  
Hong Kong  
[www.arup.com](http://www.arup.com)

**ARUP**

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## Appendices

**Appendix A** – Tree Survey Plan and Aerial Photo

**Appendix B** – Tree Group Assessment Schedule

**Appendix C** – Tree Group Photographs

## Nomenclature and Abbreviations

AFCD	Agriculture, Fisheries and Conservation Department
DBH	Diameter at Breast Height
GB	Green Belt
IUCN	International Union for Conservation of Nature
OVT	Old and Valuable Trees
PBG	Permitted Burial Ground
TPI	Tree of Particular Interest
TLCP	Tai Lam Country Park
TMRC	Tuen Mun Rural Committee
WAPO	Wild Animals Protection Ordinance

# 1 Introduction

---

## 1.1 Purpose of this Report

- 1.1.1 The purpose of this Tree Survey Report is to record the existing trees and to identify any OVTs or other TPIs if found within the application site boundary of this S16 planning application.

## 1.2 Structure of this Report

- 1.2.1 This Report provides a general description of the project and surveyed area, tree survey methodology, tree survey findings as well as:
- (a) Tree Survey Plan and Aerial Photo (**Appendix A**)
  - (b) Tree Group Assessment Schedule (**Appendix B**)
  - (c) Tree Group Photographs (**Appendix C**)
- 1.2.2 All existing trees and tree groups located within the application site boundary have been recorded and assessed. Tree survey methodology and the criteria on assessing tree condition is provided in **Chapter 2**. A general description on the species and quantity of surveyed trees is provided in **Chapter 3**.

## 2 Tree Survey Methodology

---

### 2.1 Statutory and Technical Guidelines

2.1.1 In preparation of the Report, reference has been made to the following technical circulars, practice notes and publications:

- Town Planning Ordinance and Town Planning (Amendment) Ordinance (Cap.131);
- Country Park Ordinance (Cap. 208);
- Forests and Countryside Ordinance (Cap.96);
- Protection of Endangered Species of Animals And Plants Ordinance (Cap 586);
- Related Statutory Plans, e.g. Outline Zoning Plans;
- All relevant OSH legislation, including but not limited to Occupational Safety and Health Ordinance (Cap. 509), Factories and Industrial Undertakings Ordinance (Cap. 59), Electricity Ordinance (Cap. 406) and their subsidiary regulations;
- Landscape Value Mapping Study in Hong Kong;
- Hong Kong Planning Standards and Guidelines (HKPSG) (Ch. 4, 10 & 11);
- DEVB TC(W) No. 2/2011 – Encouraging the use of recycled and other Green Materials in Public Works Projects;
- DEVB TC(W) No. 9/2020 – Blue-Green Drainage Infrastructure;
- DEVB TC(W) No. 5/2020 - Registration and Preservation of Old and Valuable Trees;
- DEVB TC(W) No. 4/2020 - Tree Preservation;
- DEVB TC(W) No. 1/2018 - Soft Landscape Provisions for Highway Structures - Greening on Footbridges and Flyovers;
- DEVB TC(W) No. 5/2017 - Community Involvement in Planting Works;
- ETWB TCW No. 6/2015 - Maintenance of Vegetation and Hard Landscape Features;
- DEVB TC(W) No. 2/2012 - Allocation of Space for Quality Greening on Roads;
- DEVB TCW No.3/2012 on Site Coverage of Greenery for Government Building Projects;
- ETWB TCW No. 36/2004- The Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS);
- ETWB TCW No. 5/2005 - Protection of natural streams/rivers from adverse impacts arising from construction works;
- CEDD TC No. 03/2022 – Tree Works Vetting Panels;

- CEDD TC No. 12/2019 – Guidelines for Making Submissions to the Advisory Committee on the Appearance of Bridges and Associated Structures;
- Civil Engineering and Development (2020) – General Specifications for Civil Engineering Works, Sections 3 and 26;
- GEO Publication 1/2011 - Technical Guidelines on Landscape Treatment for Slopes;
- GEO Publication (2017) – Highway Slope Manual, Chapters 6 and 8;
- GEO Report No. 56 (1999) – Application of Prescriptive Measures to Slopes and Retaining Walls, 2nd Edition;
- GEO Report No. 116 (2001) – Review of Effective Methods of Integrating Man made Slopes and Retaining Walls (Particularly for Roadside Slopes) into Their Surroundings;
- GEO Report No. 136 (2003) – Guidelines on Safe Access for Slope Maintenance;
- GEO Report No. 183 (2006) – Performance Assessment of Greening Techniques on Slopes;
- GEO Report No. 248 (2009) – Planting Trial at Yuen Tun and Performance Assessment of Vegetation Species on 44 Man-Made Slopes;
- GEO Special Project Report No. SPR 7/2004 (2004) – Identification of Suitable Vegetation Species for Use on Man-made Slopes;
- Transport Planning & Design Manual Vol. 2 - Volume 2, Section 5.6 on Landscaping;
- Hong Kong Planning Standards and Guidelines (HKPSG) Chapter 4, Chapter 11 and Chapter 12;
- DEVB's Proper Planting Practice  
([http://www.greening.gov.hk/en/planting\\_knowledge/proper\\_planning\\_practicest.html](http://www.greening.gov.hk/en/planting_knowledge/proper_planning_practicest.html));
- DEVB's Use of Native Planting Species in Public Works Projects  
([http://www.greening.gov.hk/en/planting\\_knowledge/public\\_work\\_projects.html](http://www.greening.gov.hk/en/planting_knowledge/public_work_projects.html));
- DEVB's Street Tree Selection Guide  
([https://www.greening.gov.hk/en/knowledge\\_database/street\\_tree\\_selection\\_guide.html](https://www.greening.gov.hk/en/knowledge_database/street_tree_selection_guide.html));
- DEVB's Guidelines on Soil Improvement (2022)  
([https://www.greening.gov.hk/filemanager/greening/en/content\\_77/Guidelines%20on%20Soil%20Improvement\\_2022Oct.pdf](https://www.greening.gov.hk/filemanager/greening/en/content_77/Guidelines%20on%20Soil%20Improvement_2022Oct.pdf));
- Guidelines for Tree Risk Assessment and Management Arrangement (9th edition (Rev. 2A), 20 April 2021 or the latest version), GLTM of DEVB;
- Guidelines on Greening of Noise Barriers (4/2012), GLTM of DEVB;

- Highways Department Public Lighting Design Manual (Third Edition), Section 2.3.3.3 on Trees and Planters;
- Transport Planning & Design Manual Vol. 2 - Volume 2, Section 5.6 on Landscaping;
- Highways Department Technical Circular No. 10/2001 – Visibility of Directional Signs;
- Annex 5 (Tree Works Vetting Panel) of HyD GC No. 5/2016 – “Technical Administrative Committees in Highways Department”;
- HyD RD/GN/044C – Guidance Notes on Design and Construction of Pavements with Paving Units (September 2022);
- HyD BS/GN/047 – Guidelines Notes on Design of Covers for Walkways and Passenger Shelters;
- Requirements for Handover of Vegetation to Highways Department (2020 version);
- General Standards and Maintenance Requirements for Landscape Works to be Handed Over to LCSD for Horticultural Maintenance (2021);
- GLTMS, DEVB – Guidelines on Tree Preservation during Development;
- GLTMS, DEVB – Guidelines on Yard Waste Reduction and Treatment;
- GLTMS, DEVB – Management Guidelines for Mature Trees;
- GLTMS, DEVB – Guidelines for Tree Transplanting;
- GLTMS, DEVB – Guidelines on Soil Volume for Urban Trees;
- GLTMS, DEVB – Pictorial Guide to Plant Resources for Skyrise Greenery in Hong Kong;
- All other relevant guidelines and Proper Planting Practices published by GLTMS, DEVB;
- Hong Kong's Climate Action Plan 2030+, Environment Bureau;
- Study on Green Roof Application in Hong Kong (ArchSD, 2007); and
- Environmental Protection Department (EPD), 9/2019, Guidelines on Handling Yard Waste for Recycling and Disposal.

## 2.2 Tree Group Survey Methodology

- 2.2.1 In this Study, tree group survey is carried out to record and evaluate the general conditions of existing trees and to identify any OVTs or other TPIs if found, so as to provide baseline tree information for planning purpose. Any trees identified to have particular conservation value shall be studied for feasibility of preservation by retaining or transplanting.
- 2.2.2 Tree survey plans and aerial photos are included in **Appendix A**.
- 2.2.3 Tree group assessment schedule is included in **Appendix B**. This schedule presents the estimated number of trees within each tree group as estimated from site visits

and aerial photos, representative tree species, their percentage composition, size ranges as well as general tree conditions.

2.2.4 Representative tree group photographs are included in **Appendix C**. The location and direction where each photo taken is shown on the tree group survey plans in **Appendix A**.

2.2.5 For trees within each tree group, the following information and characteristics were noted:

- Tree group reference number;
- Estimated total no. of trees;
- Representative and any special tree species;
- Conservation status for each tree species;
- Estimated number of trees for each tree species;
- Typical size range (height, DBH and crown spread) for each tree species;
- Amenity value for each tree species;
- Form for each tree species;
- Health for each tree species;
- Structural condition for each tree species;
- Suitability for transplanting and remarks for each tree species; and
- Additional remarks.

2.2.6 If any OVTs or Trees of Particular Interest (TPI) are found during the tree group survey, they will be individually surveyed and assessed accordingly.

## 2.3 Assessment of Value

### 2.3.1 Amenity Value

“Amenity Value” is graded as **High**, **Medium** and **Low**, with High being the highest grade and Low the lowest grade. Factors that are taken into consideration include:

- Species characters: whether the species has attractive form, foliage, flowers or fruits.
- Functional value: the tree’s ability to provide functions like shade, shelter, screening, reduction of pollution and noise, etc.
- Significance to Surrounding: whether the tree has high visual value to the specific location (e.g. landmark tree) or Fung Shui significance.
- Tree condition including size, form, health and structure.
- Other special conditions: whether the tree is a OVT or TPI.



The grading of “Amenity Value” is classified as follows:

**High:** Landmark tree of large size, good form and no major health and/or structural problem; rare or precious species in good to fair condition; tree of Fung Shui significance.

**Medium:** Common amenity tree with good to fair form, health and structural condition. Rare or precious species or Fung Shui tree in poor condition.

**Low:** Undesirable species (e.g. *Leucaena leucocephala* which is an invasive exotic tree). Tree of wild growth in poor condition. Tree with poor form, health and/or major structural problem.

### 2.3.2

#### **Form**

Assessment of “Form” is classified as follows:

**Good:** Tree of well-balanced form, well-shaped crown, good branch scaffolding, high live crown ratio. Trunk intact, not topped, with good taper; for excurrent species a straight and upright leader; for decurrent species well distributed primary branches. Specimen tree that is an excellent representative of its species.

**Average:** Tree of generally balanced form, generally upright trunk with good taper, evenly branched; medium live crown ratio; tree more or less in accordance with the standard form for its species.

**Poor:** Tree of unbalanced form; leaning, crooked, bending trunk; multiple trunks or closely spaced competing leaders; tree suffering from loss of major branches, topped trunk; tree growing close to adjacent trees or structures with poor taper and low live crown ratio.

### 2.3.3

#### **Health**

Based on the below criteria, the classification of “Health” is as follows:

**Good:** Tree with no apparent health problem.

**Average:** Tree with small amount of health problems and a high chance of recovery.

**Poor:** Tree with serious health problems and with a low chance of recovery, even with remedial measure.

The “Health” of a tree is assessed according to the following criteria:

- ***Foliage and Twigs:***
  - general tree vigour;
  - whether the leaf density, colour and size is typical for the species at the season;
  - evidence of poor shoot growth, dieback twigs and epicormics; and
  - signs of pest and disease.
- ***Branches:***
  - presence and amount of dead branches;

- decay and/or open cavity on branches;
- wounds or mechanical damage on branches;
- bleeding or sap flow; and
- signs of pest, disease and fungal fruiting bodies.
- **Trunk:**
  - decay and/or open cavity on trunk;
  - wounds or mechanical damage on trunk;
  - abnormal bark crack, bleeding or sap flow; and
  - signs of pest, disease and fungal fruiting bodies.
- **Root:**
  - evidence of root rot, cracks or splits;
  - dead surface roots, exposed roots, mechanical injury; and
  - signs of pest, disease and fungal fruiting bodies.
- **Climbers / Parasitic Plants:**
  - occurrence and coverage of aggressive climbers and/or parasitic plants.

#### 2.3.4

#### **Structural Condition**

The classification of “Structural Condition” is as follows:

**Good:** Tree with no or insignificant structural problems.

**Average:** Tree with minor structural problems that can be tolerated, or that can be corrected with mitigation measures and a high chance of recovery afterwards.

**Poor:** Tree with serious structural problems that is not correctable, or requires severe pruning that would lead to extensive removal of live foliage, deformation of natural form, or large unrecoverable wound.

The “Structural Condition” of a tree is assessed according to the following criteria:

- **Crown and Branches:**
  - live crown ratio, symmetry of canopy, evidence of heavy crown load;
  - evidence of crown reduced, excessively thinned / topped / pollarded;
  - co-dominant branches / leaders, included bark;
  - crooks / abrupt bends;
  - decay and/or open cavity on branches;
  - dead branches, hangers, cross branches;
  - wounds, damages, cracks or splits; and
  - heavy lateral limb / lion’s tailing.

- **Trunk:**
  - degree of leaning;
  - co-dominant trunks, included bark;
  - crooks / abrupt bends;
  - wounds, damages, cracks or splits; and
  - decay, open cavity, abnormal bulge that may indicate internal rot.
- **Root:**
  - root flare condition;
  - girdling roots;
  - soil cracks or root plate movement; and
  - evidence of restricted rooting area, disturbed roots.

### 2.3.5

#### **Suitability for Transplanting**

The classification of “Suitability for Transplanting” is as follows:

**High:** Trees that are considered highly suitable for transplanting if necessary;

**Medium:** Trees that are considered fairly suitable for transplanting if necessary;

**Low:** Trees that are considered unsuitable for transplanting;

The “Suitability for Transplanting” of a tree is assessed according to the following criteria and the rationale elaborated in the “Remarks” column:

- **Tree Size:**
  - Generally the larger a tree, the more difficult to be transplanted in terms of logistics and engineering limitation.
  - Trees of very large size should not be considered suitable for transplanting, unless the feasibility to transplant is considered financially reasonable and technically feasible.
- **Maturity:**
  - The more mature a tree, the lower its post-transplant recovery power.
  - Trees with evidence of over-maturity and onset of senescence should not be considered suitable for transplanting.
- **Anticipated Form after Transplanting:**
  - Trees anticipated to have irrecoverable form after transplanting (e.g. if substantial crown and root pruning are necessary to facilitate the transplanting) should not be considered suitable for transplanting.
- **Health, Form and Structure:**
  - Trees with unrecoverable health problem, structural problem or poor form should not be considered suitable for transplanting.

- If the tree is already in poor health, it is highly unlikely to withstand the stress of transplantation. By the same token, a tree that has a balanced form and is in good health has a higher feasibility of successful transplantation.
- ***Survival Rate of that Particular Species:***
  - Different tree species have different tolerance to the stress of transplantation and also have different post-transplant recovery rate. The assessment of the survival rate of a species after transplantation is based on the observed performance of that species in previous transplantation experiences. Species with insufficient transplantation data are assumed to have a low survival rate.
- ***Amenity Value, Desirability and other Particular Characters of that Particular Species:***
  - Species having low amenity value (e.g. *Ficus hispida* which is a short-lived wild growth), undesirable species (e.g. *Leucaena leucocephala* which is an invasive weed), species that are prone to pest / disease or having well-known maintenance problems (e.g. *Erythrina variegata* which is prone to erythrina gall wasps infestation) etc. are usually not considered for transplanting, unless there are exceptional characters of that particular tree that make it worthy to preserve.
- ***Feasibility of Rootball Preparation:***
  - Site topography, ground condition and physical impediments in proximity of above and below ground structures such as wall, utilities, manholes, rocks, foundations, or distance from other trees are all major factors determining the feasibility of rootball preparation.
  - For example, a tree growing on rock crevices is infeasible to be extracted with a proper rootball. A tree growing on sloped ground has tilted root system that is unsuitable for transplanting to flat area. A tree rooted close to structures, surrounded by hard paving or which is crowded by other trees is unlikely to obtain a sufficiently large rootball after root cutting.
- ***Accessibility:***
  - A proper access to the tree's existing location is required for personnel and machineries to safely carry out the transplanting works. A tree cannot be transplanted if it is growing on inaccessible areas such as steep slopes and/or areas without proper vehicular/machinery access.
  - Topography of the proposed route, size limitation on public road transport, and any engineering limitations should also be considered.

### 2.3.6 **Conservation Status**

Indicates rarity and protection status under relevant ordinances of a species in Hong Kong. References are made from below publications and ordinances:

- AFCD Publication – Rare and Precious Plants of Hong Kong (2003);
- Forests and Countryside Ordinance (Cap. 96);

- Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586); and
- IUCN Red List of Threatened Species.

If the species of the tree is listed in any of the above publications / ordinances, its conservation status is recorded.

## 3 General Description of Existing Trees

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### 3.1 Tree Group Survey

- 3.1.1 A tree group survey was carried out in December 2023 to assess existing trees within the boundary of this S16 planning application.
- 3.1.2 Total 6 nos. of tree groups with a total estimated approx. 1,508 nos. of trees are recorded in this survey and are described below.
- 3.1.3 No Registered OVT nor other Tree of Particular Interest (TPI) is identified within the S16 application area.

### 3.2 General Description of Existing Trees

- 3.2.1 The surveyed area is located to the northwest of Lam Tei Irrigation Reservoir, and consist of eastward and northward facing hillsides covered with woodland/plantation with lush undergrowth. Apart from small portions of bare ground (as shown on the aerial photo in **Appendix A**), the whole area is otherwise densely vegetated with trees. Existing trees are largely dominated by the exotic woodland plantation species namely *Lophostemon confertus* and *Eucalyptus exserta* which account for over 75% of the total no. of recorded trees. The remaining trees consist of native wild growth like *Pinus massoniana*, *Schefflera heptaphylla*, *Sterculia lanceolata*, *Macaranga tanarius* var. *tomentosa*, *Ficus hispida*, *Acronychia pedunculata* as well as fruit trees like *Artocarpus heterophyllus*, *Averrhoa carambola*, *Carica papaya* etc. The surveyed trees are generally mature. All tree species recorded are common and widespread in Hong Kong; no tree belonging to species of conservation interest is recorded.

## 4 Conclusion

---

- 4.1.1 A total estimated 1,508 nos. of trees are recorded within the application site boundary of this S16 planning application. The application site consists of hillside woodland/plantation largely dominated by exotic woodland plantation species. All tree species recorded are common and widespread in Hong Kong. No Registered OVT nor other Tree of Particular Interest (TPI) is identified.

## **Appendix A**

Tree Survey Plan and Aerial Photo



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830600 N

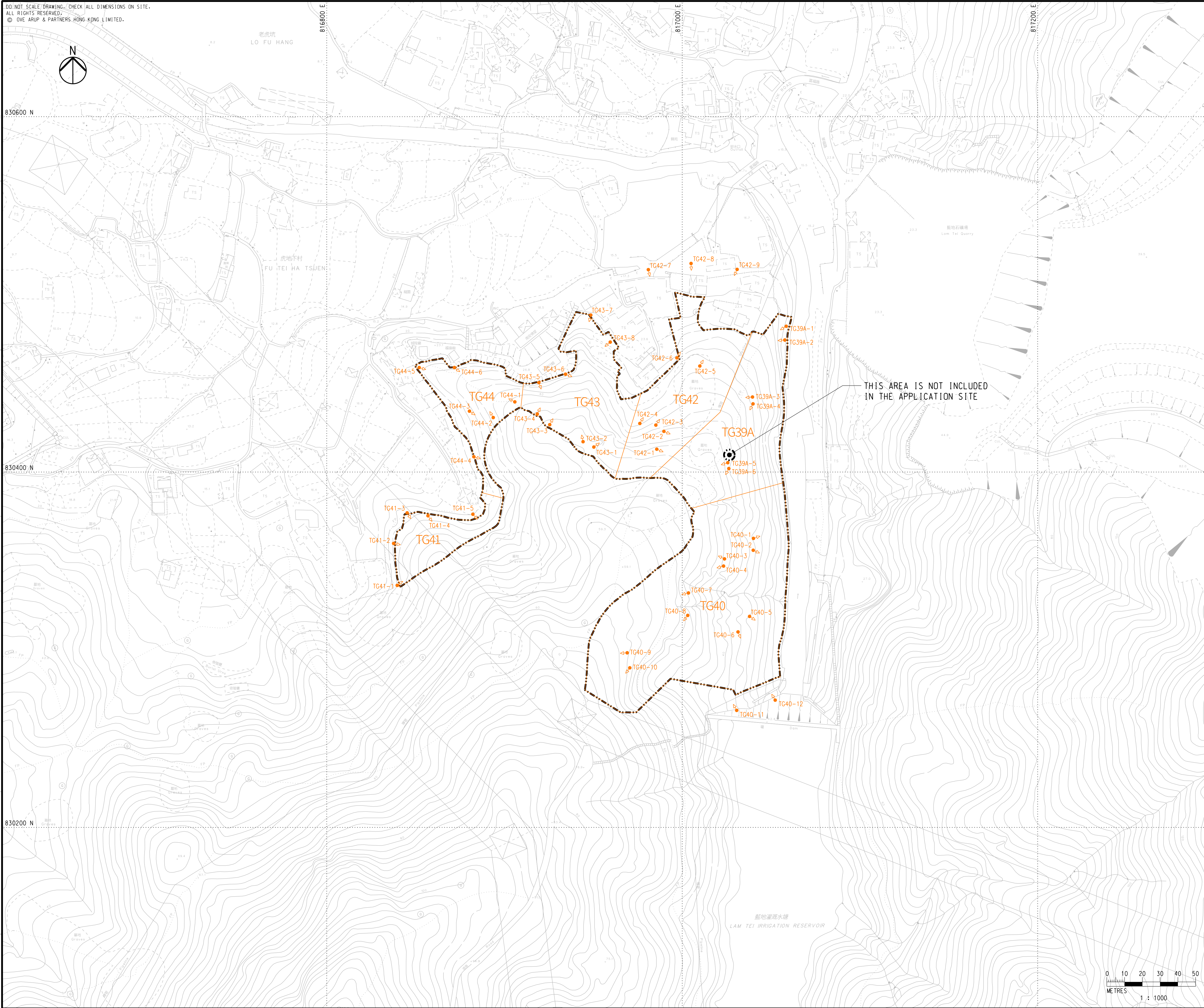
816000 E

817000 E




817200 E

830400 N

830200 N



LEGEND

-  APPLICATION SITE FOR BURIAL GROUND USE
-  TREE GROUP NO. AND BOUNDARY
-  PHOTO NO. AND DIRECTION

A	FIRST ISSUE	EL	12/23
Rev	Description	By	Date

Consultant

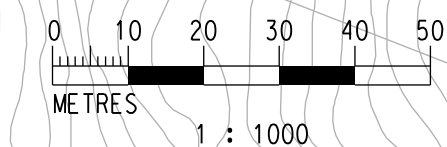
**ARUP**

Project title  
Agreement No. CE 13/2021 (HY)  
Route 11 (Section between  
Yuen Long and North Lantau)  
- Investigation

Drawing title  
APPLICATION SITE FOR  
BURIAL GROUND USE  
TREE SURVEY PLAN

Drawing no. 284104/PBC/TS/1001		Rev. A	
Drawn RY	Date 01/24	Checked IL	Approved SK
Scale 1:1000 @ A1		Status PRELIMINARY	

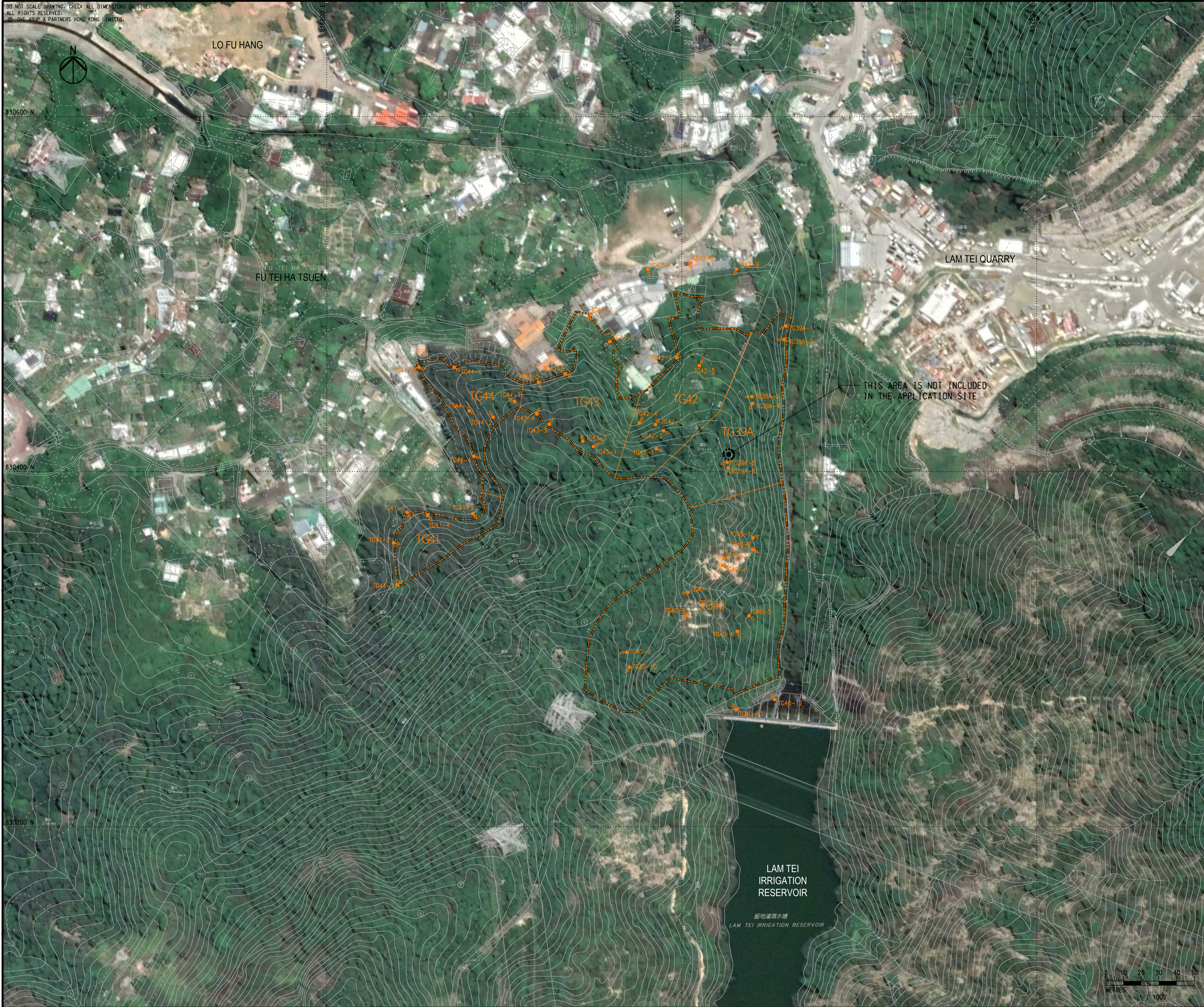
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HIGHWAYS DEPARTMENT



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**LEGEND**

- APPLICATION SITE FOR BURIAL GROUND USE
- TREE GROUP NO. AND BOUNDARY
- PHOTO NO. AND DIRECTION

AERIAL PHOTO DATED: 2022-08-01

A	FIRST ISSUE	EL	12/23
Rev	Description	By	Date

Consultant

ARUP

Project title

**Agreement No. CE 13/2021 (HY)  
Route 11 (Section between  
Yuen Long and North Lantau)  
- Investigation**

Drawing title

**APPLICATION SITE FOR  
BURIAL GROUND USE  
TREE SURVEY PLAN  
AERIAL PHOTO**

Drawing no.		Rev.	
284104/PBG/TS/1001		A	
Drawn	Date	Checked	Approved
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**HIGHWAYS DEPARTMENT**



## Appendix B

### Tree Group Assessment Schedule

Tree Group No.	Estimated Total no. of trees within group	Representative Species					Typical Size			Amenity Value (High(H) / Medium(M) / Low(L))	General Tree Condition (Good(G) / Average(A) / Poor(P))			Suitability for Transplanting		Recommendation *	Additional Remarks
		Scientific Name	Chinese Common Name	Conservation Status	Estimated No. of Trees	Estimate % within group	Height (m)	DBH (mm)	Crown Spread (m)		Form	Health	Structure	(High(H) / Medium(M) / Low(L))	Remarks		
TG39A	306	<i>Lophostemon confertus</i>	紅膠木	-	210	68.6%	6-12	100-430	3-6	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure	Retain	-
		<i>Schefflera heptaphylla</i>	鵝掌柴	-	35	11.4%	5-8	120-380	5-8	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Pinus massoniana</i>	馬尾松	-	14	4.6%	4-7	100-180	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Acronychia pedunculata</i>	山油柑	-	7	2.3%	3-6	100-150	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Averrhoa carambola</i>	楊桃	-	7	2.3%	5-8	150-280	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Ficus hispida</i>	對葉榕	-	7	2.3%	4-6	120-230	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Microcos nervosa</i>	破布葉	-	7	2.3%	3-8	110-180	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Sterculia lanceolata</i>	假蘋婆	-	7	2.3%	3-5	100-150	2-4	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Syzygium jambos</i>	蒲桃	-	7	2.3%	6-8	120-220	3-6	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Celtis sinensis</i>	朴樹	-	4	1.3%	3-6	150-250	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Bombax ceiba</i>	木棉	-	1	0.3%	10	350	5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
TG40	487	<i>Lophostemon confertus</i>	紅膠木	-	336	69.0%	6-12	100-300	3-6	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure	Retain	-
		<i>Pinus massoniana</i>	馬尾松	-	98	20.1%	4-8	100-180	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Acronychia pedunculata</i>	山油柑	-	21	4.3%	3-6	100-210	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Casuarina equisetifolia</i>	木麻黃	-	14	2.9%	5-10	100-380	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Melaleuca cajuputi</i> subsp. <i>cumingiana</i>	白千層	-	7	1.4%	6-8	150-280	2-4	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Celtis sinensis</i>	朴樹	-	7	1.4%	5-8	100-180	3-6	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Polyspora axillaris</i>	大頭茶	-	4	0.8%	3-6	100-150	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
TG41	112	<i>Eucalyptus exserta</i>	窿緣桉	-	98	87.5%	6-12	100-380	3-6	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure	Retain	-
		<i>Acronychia pedunculata</i>	山油柑	-	7	6.3%	3-6	100-180	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Sterculia monosperma</i>	蘋婆	-	7	6.3%	5-8	100-210	3-6	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-

Tree Group No.	Estimated Total no. of trees within group	Representative Species					Typical Size			Amenity Value (High(H) / Medium(M) / Low(L))	General Tree Condition (Good(G) / Average(A) / Poor(P))			Suitability for Transplanting		Recommendation *	Additional Remarks
		Scientific Name	Chinese Common Name	Conservation Status	Estimated No. of Trees	Estimate % within group	Height (m)	DBH (mm)	Crown Spread (m)		Form	Health	Structure	(High(H) / Medium(M) / Low(L))	Remarks		
TG42	182	<i>Lophostemon confertus</i>	紅膠木	-	140	76.9%	6-12	100-300	3-6	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure	Retain	-
		<i>Litchi chinensis</i>	荔枝	-	14	7.7%	5-8	100-350	3-6	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Macaranga tanarius</i> var. <i>tomentosa</i>	血桐	-	7	3.8%	3-6	180-250	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Mallotus paniculatus</i>	白楸	-	7	3.8%	3-6	120-180	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Schefflera heptaphylla</i>	鵝掌柴	-	7	3.8%	4-6	100-250	3-6	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Zanthoxylum avicennae</i>	筋櫟花椒	-	7	3.8%	3-5	100-150	2-4	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
TG43	168	<i>Lophostemon confertus</i>	紅膠木	-	112	66.7%	6-12	100-380	3-6	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure	Retain	-
		<i>Eucalyptus exserta</i>	窿緣桉	-	28	16.7%	6-10	100-280	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Broussonetia papyrifera</i>	構樹	-	7	4.2%	4-8	150-220	3-6	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Ficus hispida</i>	對葉榕	-	7	4.2%	3-6	100-180	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Litsea glutinosa</i>	潺槁樹	-	7	4.2%	3-6	120-600	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Macaranga tanarius</i> var. <i>tomentosa</i>	血桐	-	7	4.2%	3-8	120-180	3-6	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
TG44	253	<i>Eucalyptus exserta</i>	窿緣桉	-	140	55.3%	6-10	100-280	3-6	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure	Retain	-
		<i>Lophostemon confertus</i>	紅膠木	-	70	27.7%	6-12	120-340	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Artocarpus heterophyllus</i>	菠蘿蜜	-	7	2.8%	5-8	120-150	3-6	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Carica papaya</i>	番木瓜	-	7	2.8%	3-5	100-180	2-3	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Macaranga tanarius</i> var. <i>tomentosa</i>	血桐	-	7	2.8%	3-8	120-180	3-5	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Mallotus paniculatus</i>	白楸	-	7	2.8%	3-5	100-180	2-4	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
		<i>Podocarpus macrophyllus</i> var. <i>maki</i>	短葉羅漢松	-	7	2.8%	3-5	100-160	2-3	M	P-A	A	A	L	On sloping ground		Cultivated
		<i>Schefflera heptaphylla</i>	鵝掌柴	-	7	2.8%	4-6	100-250	3-6	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure		-
<i>Ficus microcarpa</i>	細葉榕	-	1	0.4%	10	650	8	L	P	A	P	L	On sloping ground; Low amenity value; Poor form / structure	-			

**Note on Recommendation \*:**

The current S16 Application of land use does not involve any construction works nor tree removal. In the operation stage, should any tree removal be involved, the respective burial applicant is required to obtain the consent from relevant departments in accordance with established protocols.

## Appendix C

### Tree Group Photographs



Photographic Record of Existing Trees - Tree Groups  
(Refer to Tree Survey Plan for location and direction of view)



TG39A\_View (1)



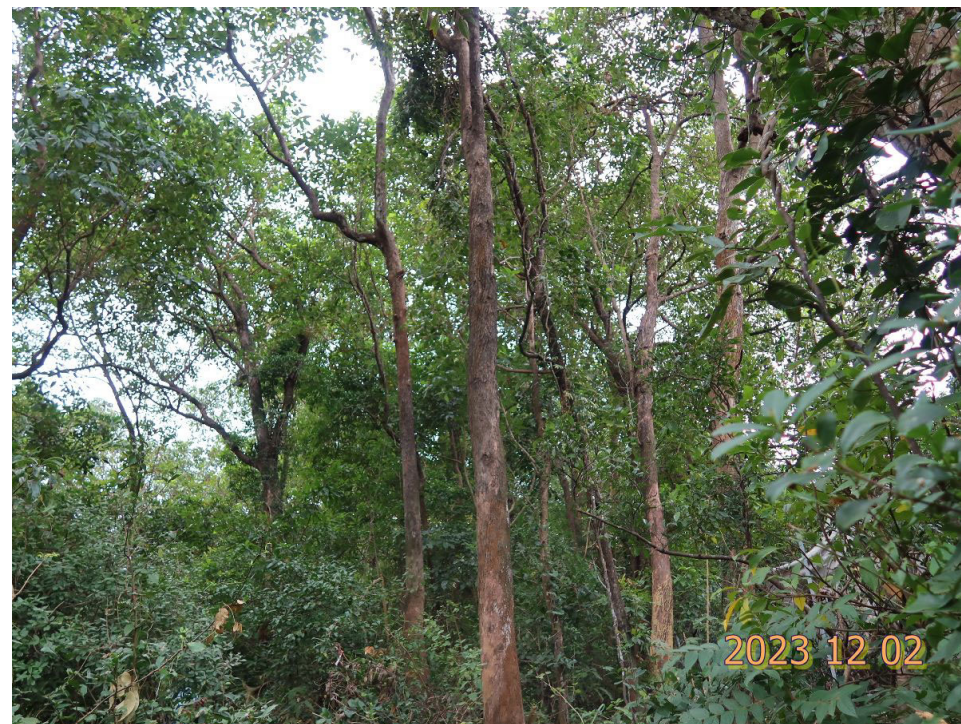
TG39A\_View (2)



TG39A\_View (3)



TG39A\_View (4)



TG39A\_View (5)



TG39A\_View (6)



Photographic Record of Existing Trees - Tree Groups  
(Refer to Tree Survey Plan for location and direction of view)



TG40\_View (1)



TG40\_View (2)



TG40\_View (3)



TG40\_View (4)



TG40\_View (5)



TG40\_View (6)



Photographic Record of Existing Trees - Tree Groups  
(Refer to Tree Survey Plan for location and direction of view)



TG40\_View (7)



TG40\_View (8)



TG40\_View (9)



TG40\_View (10)



TG40\_View (11)



TG40\_View (12)



Photographic Record of Existing Trees - Tree Groups  
(Refer to Tree Survey Plan for location and direction of view)



TG41\_View (1)



TG41\_View (2)



TG41\_View (3)



TG41\_View (4)



TG41\_View (5)



TG42\_View (1)



Photographic Record of Existing Trees - Tree Groups  
(Refer to Tree Survey Plan for location and direction of view)



TG42\_View (2)



TG42\_View (3)



TG42\_View (4)



TG42\_View (5)



TG42\_View (6)



TG42\_View (7)



Photographic Record of Existing Trees - Tree Groups  
(Refer to Tree Survey Plan for location and direction of view)



TG42\_View (8)



TG42\_View (9)



TG43\_View (1)



TG43\_View (2)



TG43\_View (3)



TG43\_View (4)



Photographic Record of Existing Trees - Tree Groups  
(Refer to Tree Survey Plan for location and direction of view)



TG43\_View (5)



TG43\_View (6)



TG43\_View (7)



TG43\_View (8)



TG44\_View (1)



TG44\_View (2)



Photographic Record of Existing Trees - Tree Groups  
(Refer to Tree Survey Plan for location and direction of view)



TG44\_View (3)



TG44\_View (4)



TG44\_View (5)



TG44\_View (6)



## Annex C

# Ecological Impact Assessment

Major Works Project Management Office  
Highways Department of HKSAR

**Agreement No. CE 13/2021 (HY)**  
**Route 11 (Section between Yuen Long and  
North Lantau) – Investigation**

Application for Permission under Section 16 of the  
Town Planning Ordinance (Cap. 131) for New  
Permitted Burial Ground at Lam Tei - Ecological  
Impact Assessment Report

This report takes into account the particular  
instructions and requirements of our client.

It is not intended for and should not be relied  
upon by any third party and no responsibility  
is undertaken to any third party.

Job number 284104

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**ARUP**



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## Nomenclature and Abbreviations

AFCD	Agriculture, Fisheries and Conservation Department
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
EcoIA	Ecological Impact Assessment
EIA	Environmental Impact Assessment
EIAO	Environmental Impact Assessment Ordinance
EIAO-TM	Technical Memorandum on Environmental Impact Assessment Process
GB	Green Belt
IUCN	International Union for Conservation of Nature
PBG	Permitted Burial Ground
TLCP	Tai Lam Country Park
TMRC	Tuen Mun Rural Committee
WAPO	Wild Animals Protection Ordinance

# 1 Introduction

---

## 1.1 Purpose of this Report

- 1.1.1 The purpose of this Ecological Impact Assessment Report is to identify the baseline condition of the application site, assess any ecological impact with the proposed land use, proposed necessary mitigation measure and evaluate the residual ecological impact to the proposed site for the S16 planning application.

## 1.2 Structure of this Report

- 1.2.1 This report presents the ecological impact assessment for the application site. It contains the following sections:
- Section 1 gives an introduction of this report;
  - Section 2 lists out the relevant legislation, standards and guidelines;
  - Section 3 presents the literature review;
  - Section 4 describes the verification survey methodology;
  - Section 5 presents the ecological baseline conditions;
  - Section 6 presents the impact evaluation;
  - Section 7 presents the mitigation measures;
  - Section 8 presents the residual impacts;
  - Section 9 presents environmental monitoring and audit; and
  - Section 10 summarises and concludes the assessment.

## 2 Legislation, Standards, and Guidelines

---

### 2.1 General

2.1.1 The ordinances and associated regulations/guidelines of the Hong Kong Special Administrative Region, which are relevant to the present ecological impact assessment (EcoIA) report include the following:

- Forests and Countryside Ordinance (Cap. 96) and its subsidiary legislation, the Forestry Regulations (Cap. 96A);
- Wild Animals Protection Ordinance (WAPO) (Cap. 170);
- Country Parks Ordinance (Cap. 208) and its subsidiary legislation;
- Environmental Impact Assessment Ordinance (EIAO) (Cap. 499) and the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM); and
- Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586) and its subsidiary legislation.

2.1.2 The present EcoIA makes reference to the following guidelines and standards:

- Hong Kong Planning Standards and Guidelines Chapter 10, "Conservation";
- Planning, Environment & Lands Branch Technical Circular No. 1/97 / Works Branch Technical Circular No. 4/97, "Guidelines for Implementing the Policy on Off-site Ecological Mitigation Measures";
- EIAO Guidance Note No. 3/2010 – Flexibility and Enforceability of Mitigation Measures Proposed in an EIA Report;
- EIAO Guidance Note No. 6/2010 – Some Observations on Ecological Assessment from the Environmental Impact Assessment Ordinance Perspective;
- EIAO Guidance Note No. 7/2023 – Ecological Baseline Survey for Ecological Assessment; and
- EIAO Guidance Note No. 10/2023 – Methodologies for Terrestrial and Freshwater Ecological Baseline Surveys.

2.1.3 This EcoIA also makes reference to the following Mainland legislation:

- List of Wild Animals under State Priority Conservation, promulgated by the National Forestry and Grassland Administration and the Ministry of Agricultural and Rural Affairs; and
- List of Wild Plants under the State Priority Conservation, promulgated by the National Forestry and Grassland Administration and the Ministry of Agriculture and Rural Affairs.

2.1.4 Other international conventions and guidelines that are relevant to this EcoIA report include the followings:

- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES);
- International Union for Conservation of Nature (IUCN) Red List of Threatened Species; and

- United Nations Convention on Biological Diversity.

## 2.2 Criteria of Evaluating Species of Conservation Importance

2.2.1 Species of flora and fauna with conservation importance will be given special attention. With reference to Table 3, Annex 8 of EIAO-TM, the ecological value of species will be assessed in terms of protection status, distribution and rarity. For faunal species, the protection status (e.g. fauna protected under WAPO (Cap. 170) (except birds as all wild birds are protected under the ordinance but their conservation importance is not equal), Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586), and/or regional/global laws/conventions), the species distribution (e.g. endemic), and the rarity (e.g. rare or very rare, or level of concern highlighted in Fellowes *et al.* (2002)) will be considered. Similarly, floral species of conservation importance will be considered from protection status (e.g. listed under Forestry Regulations and Cap. 586 in Hong Kong, listed by IUCN or CITES, or listed as Category I or II protected species in mainland China); species distribution (e.g. endemic); and rarity (e.g. considered rare or very rare by Corlett *et al.* (2000) and regarded as rare by Yip *et al.* (2010)). However, exotic species, escaped cultivars, captive species and vagrants will be excluded.

2.2.2 The following laws/regulations and conventions for conservation are relevant to the evaluation of the conservation importance of flora and fauna species:

- IUCN Red List of Threatened Species;
- China Plant Red Data Book;
- China Red Data Book of Endangered Animals;
- Category I or II protected species in mainland China in the List of Wild Animals and Plants under State Priority Conservation;
- Threatened Species List of China's Higher Plants;
- Red List of China's Vertebrates;
- CITES;
- Forestry Regulations (Cap. 96A) which are subsidiary legislation of the Forests and Countryside Ordinance (Cap. 96);
- WAPO (Cap. 170) (except birds as all wild birds are protected under the ordinance but their conservation importance is not equal);
- Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586);
- PRC Wild Animal Protection Law;
- Plant species considered 'Rare' or 'Very Rare' by Corlett *et al.* (2000), or regarded as "Rare" by Yip *et al.* (2010) where applicable; and
- Fauna species considered of concern in Fellowes *et al.* (2002).

## 3 Literature Review

---

### 3.1 General

- 3.1.1 With reference to Section 5.1.2.1 of the Annex 16 of EIAO-TM, existing information regarding the Application Site and its vicinity is reviewed. Such information includes both published materials (books, journals, reports, registers, etc.) and those made available by government and non-government bodies. The publicly available information regarding the ecological characters of the assessment area is collated and summarized as follows.
- 3.1.2 The assessment area for the present study is partially covered by those of the following studies:
- Tuen Mun Bypass (AEIAR-256/2023);
  - Route 11 (Section between Yuen Long and North Lantau) (AEIAR-255/2023);
  - Ground Investigation Works within Tai Lam Country Park for Route 11 (Section between Yuen Long and North Lantau) (DIR-295/2022);
  - Development at San Hing Road and Hong Po Road, Tuen Mun (AEIAR-227/2020);
  - Hung Shui Kiu New Development Area (AEIAR-203/2016);
  - Preliminary Land Use Study for Lam Tei Quarry and the Adjoining Areas – Feasibility Study – WP6 – Preliminary Feasibility Assessments on Preferred Land Use Option (4th Batch Draft Submission);
  - Agreement No. CE 39/2018 (WS) Strategic Cavern Areas to Accommodate Existing and Proposed Service Reservoirs in Lam Tei and Adjoining Areas – Feasibility Study; and
  - Feasibility Study for the Agreement No. CE 51/2016 (HY) Route 11 (between North Lantau and Yuen Long)

### 3.2 Recognized Sites of Conservation Importance

- 3.2.1 Adopting the definition of recognized sites of conservation importance as delineated in Note 1 of Appendix A of EIAO-TM, the only recognized site of conservation importance falling within the assessment area is Tai Lam Country Park (TLCP).

#### Tai Lam Country Park

- 3.2.2 The fringe of TLCP is situated as close as 3m away from the Application Site (**Figure 1.1** and **Figure 1.1a**). TLCP, which was designated in 1979 and spans across Tsuen Wan to Tuen Mun, occupies 5,412 hectares of land in the western New Territories (AFCD 2023) and is located as close as 3m south of the Application Site. After deforestation during the Second World War, the area of the present TLCP has been intensively reforested with exotic pioneer tree species. Plantation stands of *Acacia confusa*, *Eucalyptus robusta*, *Lophostemon confertus*, *Pinus elliottii* and other exotic tree species were established throughout the territory of TLCP to reduce soil erosion, restore the landscape and protect water catchments. Native tree species, such as *Machilus* spp. and *Castanopsis fissa*, have also been gradually incorporated and planted, to replace the aging exotic plantations and to enhance biodiversity and thus the ecological value of TLCP.



Lam Tei Irrigation Reservoir and Hung Shui Hang Irrigation Reservoir are present within TLCP.

### 3.3 Important Habitats

3.3.1 Adopting the definition of important habitat as delineated in Note 2 of Appendix A of EIAO-TM, no important habitat falls within the assessment area.

### 3.4 Species of Conservation Importance

3.4.1 Species of conservation importance from the reviewed literature, which also fall within the assessment area of the Project, are tabulated in **Table 3.1** and illustrated in **Figure 1.2** and **Figure 1.2a**.

**Table 3.1 Species of Conservation Importance from the Reviewed Literature**

Number	Species	Location <sup>1 2 3 4</sup>		Rarity and Distribution in Hong Kong <sup>5 6 7 8 9 10 11 12</sup>	Protection / Conservation status <sup>8 9 10</sup> 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	Source <sup>1 2 3 4</sup>
		Within the Application Site	Outside the Application Site but within the assessment area			
<b>Flora</b>						
1	Tutcher's Maple <i>Acer tutcheri</i>	/	West of Lam Tei Irrigation Reservoir	Restricted. Distributed in forest.	Rare and Precious Plants of Hong Kong	Ecosystems (2021)
2	Incense Tree <i>Aquilaria sinensis</i>	/	North of Lam Tei Irrigation Reservoir	Common. Found in lowland forest and fung shui woods.	IUCN Red List of Threatened Species (2024): VU  Appendix II of CITES  Threatened Species List of China's Higher Plants: VU  China Plant Red Data Book: VU  Included in Illustrations of Rare & Endangered Plant in Guangdong Province  Listed in "Rare and Precious Plants of Hong Kong"  Cap. 586	ERM (2023)  Ove Arup & Partners (2023)

Number	Species	Location <sup>1 2 3 4</sup>		Rarity and Distribution in Hong Kong <sup>5 6 7 8 9 10 11 12</sup>	Protection / Conservation status <sup>8 9 10 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27</sup>	Source <sup>1 2 3 4</sup>
		Within the Application Site	Outside the Application Site but within the assessment area			
					State Protection (Category II)	
3	Dense-flowered Geodorum <i>Geodorum densiflorum</i>	/	North of Lam Tei Irrigation Reservoir	Restricted. Distributed in grassland and forest edges.	Cap. 96A Cap. 586 CITES Appendix II	ERM (2023) Ove Arup & Partners (2023)
4	Pitcher Plant <i>Nepenthes mirabilis</i>	/	Eastern periphery of Lam Tei Irrigation Reservoir East of Lam Tei Irrigation Reservoir	Common. Distributed in wet, open places on granite and sedimentary rocks.	Cap. 96A Cap. 586 Appendix II of CITES	ERM (2023) Ove Arup & Partners (2023) Ecosystems (2021)
5	Red Azalea <i>Rhododendron simsii</i>	/	South of Lam Tei Quarry	Very common. Distributed in shrubland.	Cap. 96A	ERM (2023) Ove Arup & Partners (2023)
<b>Mammal</b>						
6	Pallas's Squirrel <i>Callosciurus erythraeus</i>	/	Northwest of Lam Tei Quarry	Fairly widely distributed, with the styani subspecies found in the New Territories (e.g. Tai Lam, Shing Mun and Tai Po Kau), and the thai subspecies found on the Hong Kong Island (e.g. Tai Tam and Pok Fu Lam)	Cap. 170	Ecosystems (2021)
7	Red Muntjac <i>Muntiacus muntjak</i>	/	Southwest of Lam Tei Irrigation Reservoir	Very common. Very widely distributed in countryside areas throughout Hong Kong.	Fellowes <i>et al.</i> (2002): PRC	ERM (2023) Ove Arup & Partners (2023)
8	Japanese Pipistrelle <i>Pipistrellus abramus</i>	/	West of Lam Tei Irrigation Reservoir	Very common. Widely distributed throughout Hong Kong.	Cap. 170	ERM (2023) Ove Arup & Partners (2023)
9	Chinese Noctule <i>Nyctalus plancyi</i>	Mixed woodland	/	Common. Fairly widely distributed in countryside areas throughout Hong Kong.	Fellowes <i>et al.</i> (2002): PRC, (RC) Cap. 170	ERM (2023) Ove Arup & Partners (2023)
10	Unidentified bat	/	North of Lam Tei Irrigation Reservoir	/	Cap. 170	ERM (2023)

Number	Species	Location <sup>1 2 3 4</sup>		Rarity and Distribution in Hong Kong <sup>5 6 7 8 9 10 11 12</sup>	Protection / Conservation status <sup>8 9 10 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27</sup>	Source <sup>1 2 3 4</sup>
		Within the Application Site	Outside the Application Site but within the assessment area			
						Ove Arup & Partners (2023)
11	Bat Species 1	/	Lam Tei Irrigation Reservoir	/	Cap. 170	Ecosystems (2021)
<b>Bird</b>						
12	Black-throated Laughingthrush <i>Garrulax chinensis</i>	/	1. North of the Application Site 2. West of Lam Tei Irrigation Reservoir 3. East of the upstream leading to Lam Tei Irrigation Reservoir	Common resident. Widely distributed in woodland and shrubland throughout Hong Kong.	Class 2 Protected Animal of China	ERM (2023)  Ove Arup & Partners (2023)
13	Black Kite <i>Milvus migrans</i>	Mixed woodland	East of the upstream leading to Lam Tei Irrigation Reservoir	Common resident and winter visitor. Widely distributed in Hong Kong.	Fellowes <i>et al.</i> (2002): RC Appendix 2 of CITES Cap. 586	ERM (2023)  Ove Arup & Partners (2023)
14	Greater Coucal <i>Centropus sinensis</i>	/	Northwest of Lam Tei Quarry	Common resident. Widely distributed in Hong Kong.	Class 2 Protected Animal of China China Red Data Book: VU	ERM (2023)  Ove Arup & Partners (2023)
15	Rufous-capped Babbler <i>Stachyridopsis ruficeps</i>	Mixed woodland	West of Lam Tei Quarry	Common resident. Found in Shing Mun, Tai Po Kau, Tai Mek Tuk, Ng Tung Chai, Fo Tan, Tai Mo Shan, The Peak, Kadoorie Agricultural Research Centre.	Fellowes <i>et al.</i> (2002): LC	ERM (2023)  Ove Arup & Partners (2023)
16	White-throated Kingfisher <i>Halcyon smyrnensis</i>	/	Lam Tei Irrigation Reservoir	Common resident. Widely distributed in coastal areas throughout Hong Kong.	Fellowes <i>et al.</i> (2002): (LC)	ERM (2023)  Ove Arup & Partners (2023)
<b>Herpetofauna</b>						
17	Chinese Bullfrog <i>Hoplobatrachus chinensis</i>	Mixed woodland	Watercourse downstream of Lam Tei Irrigation Reservoir	Widely distributed in Hong Kong.	Class 2 Protected Animal of China Fellowes <i>et al.</i> (2002): PRC Red List of China's Vertebrates: EN	ERM (2023)  Ove Arup & Partners (2023)

Number	Species	Location <sup>1 2 3 4</sup>		Rarity and Distribution in Hong Kong <sup>5 6 7 8 9 10 11 12</sup>	Protection / Conservation status <sup>8 9 10 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27</sup>	Source <sup>1 2 3 4</sup>
		Within the Application Site	Outside the Application Site but within the assessment area			
18	Lesser Spiny Frog <i>Quasipaa exilispinosa</i>	/	1. South of Lam Tei Irrigation Reservoir 2. Watercourse upstream of Lam Tei Irrigation Reservoir	Widely distributed in upland forest streams throughout Hong Kong.	Fellowes <i>et al.</i> (2002): PGC IUCN Red List of Threatened Species (2024): VU Red List of China's Vertebrates: VU	ERM (2023) Ove Arup & Partners (2023)
19	Many-banded Krait <i>Bungarus multicinctus multicinctus</i>	Mixed woodland	/	Common and widely distributed in Hong Kong.	China Red Data Book: VU Fellowes <i>et al.</i> (2002): PRC Red List of China's Vertebrates: EN	ERM (2023) Ove Arup & Partners (2023)
<b>Butterfly</b>						
20	Swallowtail <i>Papilio xuthus</i>	/	Southwest of Lam Tei Quarry	Rare. Kap Lung, Ma On Shan, Tai Tam, Sha Lo Wan, Kat O, Lung Kwu Tan, Wu Kau Tang, Lung Kwu Chau.	/	ERM (2023) Ove Arup & Partners (2023)
<b>Freshwater fauna</b>						
21	Predaceous Chub <i>Parazacco spilurus</i>	/	Watercourse downstream of Lam Tei Irrigation Reservoir	Common. A widespread species occurring in most unpolluted hill streams in both upper and lower courses	China Red Data Book: VU	ERM (2023) Ove Arup & Partners (2023) Meinhardt – Aurecon Joint Venture (2021)
22	<i>Cryptopotamon anacoluthon</i>	/	Watercourses upstream of Lam Tei Irrigation Reservoir	Widely distributed within Hong Kong; recorded throughout the New Territories, Hong Kong and Lantau Islands	IUCN Red List of Threatened Species (2024): VU Fellowes <i>et al.</i> (2002): PGC Endemic to Hong Kong	ERM (2023) Ove Arup & Partners (2023)
23	<i>Nanhaipotamon hongkongense</i>	/	Watercourse upstream of Lam Tei Irrigation Reservoir	Widely distributed within Hong Kong; recorded throughout the New Territories, Hong	Fellowes <i>et al.</i> (2002): PGC Endemic to Hong Kong	ERM (2023) Ove Arup & Partners (2023)

Number	Species	Location <sup>1 2 3 4</sup>		Rarity and Distribution in Hong Kong <sup>5 6 7 8 9 10 11 12</sup>	Protection / Conservation status <sup>8 9 10 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27</sup>	Source <sup>1 2 3 4</sup>
		Within the Application Site	Outside the Application Site but within the assessment area			
				Kong, Lamma and Lantau Islands		
24	<i>Somaniathelphusa zanklon</i>	/	Lam Tei Irrigation Reservoir	Distributed quite widely in the northern and western New Territories and Lantau Island of Hong Kong	Fellowes <i>et al.</i> (2002): GC IUCN Red List of Threatened Species (2024): EN Endemic to Hong Kong	ERM (2023) Ove Arup & Partners (2023)

Notes:

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- Corlett *et al.* (2000). Hong Kong Vascular Plants: Distribution and Status.
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- Stanton & Leven. (2016). Distribution, habitat utilisation and conservation status of the freshwater crab, *Somaniathelphusa zanklon* Ng & Dudgeon, 1992 (Crustacea: Brachyura: Gecarcinucidae) endemic to Hong Kong.
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- Tam *et al.* (2011). The Hong Kong Dragonflies.
- Convention on International Trade in Endangered Species of Wild Fauna and Flora. (2024). Appendices I, II and III.
- Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.
  - For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
- Forestry Regulations (Cap. 96A), the subsidiary legislation of the Forests and Countryside Ordinance (Cap. 96).
- Fu & Chin (1992). China Plant Red Data Book – Rare and Endangered Plants.
- Hu *et al.* (2003). Rare and Precious Plants of Hong Kong.
- International Union of Conservation for Nature (2024). IUCN Red List of Threatened Species. Version 2023-1.
- Jiang *et al.* (2016). Red List of China's Vertebrates.
- National Forestry and Grassland Administration and the Ministry of Agricultural and Rural Affairs. (2021). List of Wild Animals under State Priority Conservation.
- National Forestry and Grassland Administration and the Ministry of Agricultural and Rural Affairs. (2021). List of Wild Plants under the State Priority Conservation.
- Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586).
- Qin *et al.* (2017). Threatened Species List of China's Higher Plants.
- Wild Animals Protection Ordinance (Cap. 170)
- Wu *et al.* (1988). Illustration of Rare & endangered plant in Guangdong Province.
- Yue & Chen (1998). China Red Data Book of Endangered Animals: Pisces.
- Zheng and Wang (1998). China Red Data Book of Endangered Animals: Aves.
- Only protection/conservation status/protection status meeting the criteria of EIAO-TM are listed.
- All wild birds are protected under WAPO (Cap. 170).

Abbreviations:

- EN: Endangered; GC: Global Concern; LC: Local Concern; NT: Near Threatened; PGC: Potential Global Concern; PRC: Potential Regional Concern; RC: Regional Concern; VU: Vulnerable

## 4 Verification Survey Methodology

### 4.1 Objective of the Verification Survey

4.1.1 Aiming at identifying any notable habitat changes, whether due to natural causes or human influence, in order to confirm that the results of the previously completed surveys for the approved EIA reports for Route 11 and Tuen Mun Bypass, the ecological survey programme of which ended in May 2023 and December 2022 respectively, are still valid and suitable for the impact assessment, verification surveys were carried out. Verification surveys focusing on the Application Site, and their vicinity are required for assessing potential ecological impacts in detail.

4.1.2 The assessment area includes all areas within 500m distance from the Application Site (**Figure 1.1**).

### 4.2 Programme

4.2.1 Verification surveys on habitat and vegetation, terrestrial mammals, avifauna, herpetofauna, butterflies, odonates, fireflies, freshwater community were undertaken within the assessment area in December 2023 and January 2024 (**Table 4.2**). The transects and sampling points for carrying out verification surveys are shown in the figure in **Appendix 1.1** and **Appendix 1.1a**.

4.2.2 The recommended months and methodology of conducting surveys for specific taxa have made reference to the EIAO GN No. 7/2023 “Ecological Baseline Survey for Ecological Assessment” and No. 10/2023 “Methodologies for Terrestrial and Freshwater Ecological Baseline Survey”. The survey methodology for flora and each fauna group is described in the following sections.

**Table 4.2 Verification Survey Programme**

Types of verification survey	2023	2024
	Dry season	
	December	January
Habitat & vegetation	D	
Terrestrial mammal	D + N	D + N
Avifauna	D + N	D + N
Herpetofauna	D + N	
Butterfly	D	
Odonate	D	
Firefly	N	
Freshwater fish	D+N	
Freshwater invertebrates	D	

Abbreviations:

- D: Daytime; D + N: Daytime and night-time
- Fauna observed in surveys for other taxa (including daytime or night-time, within or beyond their active periods) were also recorded.

### 4.3 Methodology

#### Habitat and Vegetation

4.3.1 Habitats within the assessment area were mapped based on government latest aerial photos and field ground-truthing. Representative areas of each habitat type were surveyed

and verified on foot. Plant species of each habitat type encountered, and their relative abundance were recorded with special attention to species of conservation importance. The location(s) of any plant species of conservation importance encountered were recorded. Nomenclature and rarity of plant species in Hong Kong follow Corlett *et al.* (2000).

#### Terrestrial Mammal

4.3.2 **Non-Flying Mammal Survey** – All sightings, tracks, and signs of mammals (including droppings) within the representative area within the assessment area were surveyed actively during daytime and night-time, covering dusk. The location(s) of any mammal species of conservation importance encountered were recorded, along with notable behaviour, such as feeding, nesting or breeding and the associated habitats. Night surveys were conducted to survey nocturnal mammal species (e.g. bats). Hand torch was used to search for the nocturnal mammals. Nomenclature and rarity of mammals follows Shek (2006).

4.3.3 **Bat Acoustics Survey** – Acoustic survey was conducted for echolocating bats. Bat detector was adopted to locate bats, if necessary, and was conducted using a bat detector (Wildlife Acoustics – Echo Meter Touch 2 PRO) along the transects. Attention was also given to potential foraging and drinking sites. The bat species were located upon the detection location of echolocation calls and from direct observation. The acoustic information (species-specific echolocation calls) was recorded for later analysis. All bat echolocation calls recorded were identified according to species-specific echolocation call structure, supplemented with direct observations (e.g. size, flying pattern, flight height and utilization of nearby habitats).

#### Avifauna

4.3.4 The avifauna of each habitat type within the assessment area was surveyed using transect count method during daytime and night-time, covering early morning and dusk. The presence and abundance of avifauna species at various habitats observed from transects (**Appendix 1.1**) were recorded visually and aurally. Bird species encountered outside sampling transects but within the assessment area were also recorded. Night surveys were conducted to record nocturnal avifauna (e.g. owls). The location(s) of any avifauna species of conservation importance encountered was recorded, along with notable behaviour, such as feeding, nesting or breeding and the associated habitats. Ornithological nomenclature follows the most updated List of Hong Kong Birds from the Hong Kong Bird Watching Society.

#### Herpetofauna

4.3.5 Herpetofauna were surveyed through direct observation and active searching in potential hiding places such as among leaf litter, inside holes, under stones and logs within representative areas of the assessment area. During the surveys, all reptiles and amphibians sighted and heard were recorded. Attention was paid on species-specific calls of frogs and toads during night surveys. The location(s) of any herpetofauna species of conservation importance encountered was recorded, along with notable behaviours, such as feeding, nesting or breeding and the associated habitats. The nomenclature and conservation status follow Karsen *et al.* (1998) and Chan *et al.* (2005).

#### Butterfly and Odonate

4.3.6 Butterfly and odonate surveys were conducted by transect count method. All the butterflies and odonates encountered and their abundance were recorded. Butterfly and odonate species encountered outside transects but within the assessment area were also

recorded. The location(s) of any butterfly and odonate species of conservation importance encountered were recorded, along with notable behaviours if any. The nomenclature and conservation status for butterflies and odonates follow Chan *et al.* (2011) and Tam *et al.* (2011) respectively.

#### Firefly

- 4.3.7 Firefly survey was carried out along the transects at dusk and night. During the survey, fireflies observed, including larvae and adults, were identified to the species level, where possible. The location of firefly species of conservation importance or any notable behaviour (e.g. breeding) were recorded. Nomenclature and conservation status of fireflies follow Yiu (2023).

#### Freshwater Community

- 4.3.8 Aquatic fauna, including freshwater macro-invertebrates (e.g. freshwater crabs, shrimps, freshwater molluscs and aquatic insect larvae) and fishes, in the channels and watercourses were studied by direct observation and active searching, at representative habitats within the assessment area. Sampling locations are shown in **Appendix 1.1**. Organisms were recorded and identified to the lowest possible taxon, and their relative abundance were reported. The location(s) of any freshwater fauna species of conservation importance encountered was recorded, along with notable behaviours if any. Nomenclature for fish follows Lee *et al.* (2004), while those for the macro-invertebrates follows Dudgeon (1999).



## 5 Ecological Baseline Conditions

### 5.1 Habitat

- 5.1.1 Eight types of habitats were identified within the assessment area, namely agricultural land, channel, developed area, mixed woodland, plantation, reservoir, shrubland/grassland and watercourse. A habitat map based on recent aerial photographs and detailed ground-truthing is given in **Figure 1.3** and **Figure 1.3a**. Photos of each habitat within the assessment area are enclosed in **Appendix 1.2**.
- 5.1.2 The size and length of habitats within the assessment area, where applicable, and that within the Application Site are tabulated in **Table 5.3**. Description of all types of habitats within the assessment area is given in **Section 5.1.3** to **Section 5.1.12**.

**Table 5.3 Approximate Size and/or Length of Habitats within the Assessment Area**

Habitat	Approximate size/length of habitats (ha)/(km)	
	Application Site	Within the assessment area
Agricultural land	/	7.80ha
Channel	/	0.55km
Developed area	/	45.62ha
Mixed woodland	2.30ha	33.59ha
Plantation	/	9.09ha
Reservoir	/	1.33ha
Shrubland/Grassland	/	23.33ha
Watercourse	/	2.04km
Total area (ha) (excluding channel and watercourses)	2.30ha	121.92ha

Notes

- “/” is used where no such habitat falls within the Application Site.

#### Agricultural Land

- 5.1.3 Agricultural land patches were found near Fu Tei Ha Tsuen. Cultivated by villagers nearby, wide areas of cultivated food crop (e.g. *Vigna unguiculata* subsp. *sesquipedalis*) and fruit tree species (e.g. *Citrus limonia*) were observed.

#### Channel

- 5.1.4 Channels within the assessment area include drainage channels near villages. Receiving rainwater from the hills and channelized to facilitate the discharge of stormwater and alleviate flooding issue, the narrow width, coupled with concrete bed and straightened banks, unfavour flora and fauna from colonizing and utilizing respectively.

#### Developed Area

- 5.1.5 Developed area includes residential estates (e.g. Fu Tai Estate), academic institutions (e.g. Lingnan University), roads and public facilities (e.g. Tuen Mun Fresh Water Primary Service Reservoir). They were intensively and incessantly disturbed. Generally concrete-paved, landscaping and ornamental species were prevalently grown, and weedy herbs

prospered in limited growing space. Developed area is found within the boundaries of most major works elements.

#### Mixed Woodland

- 5.1.6 Mixed woodland stands scattered throughout the assessment area (**Figure 1.3**). Compared to plantation, the mixed woodland was dominated by native tree species and interspersed with exotic tree species. The dominant flora is typical of lowland secondary forests in Hong Kong (e.g. *Aporosa dioica* and *Schefflera heptaphylla*). Where the canopy was dense enough, the understorey was dominated by shade-tolerant native shrub species (e.g. *Psychotria asiatica*) and saplings of native tree species found at the canopy level. A closed canopy was not contiguously observed and where light gaps were available, light-demanding shrub species (e.g. *Eurya nitida* and *Litsea rotundifolia* var. *oblongifolia*) and climber species (e.g. *Desmos chinensis*) were readily observed. On the other hand, due to the close proximity to existing villages, self-regenerated fruit tree species, such as *Dimocarpus longan*, were also commonly encountered.
- 5.1.7 The Application Site was entirely covered by mixed woodland, the canopy of which was dominated by exotic tree species, such as *Eucalyptus exserta* and *Lophostemon confertus* as tall as 12m. The mid-storey and understorey, however, were mainly dominated by native tree (e.g. *Acronychia pedunculata* and *Schefflera heptaphylla*) and shrub species. Numerous graveyards scattering within the Application Site were observed during the verification survey.

#### Plantation

- 5.1.8 Plantations stands were established on engineered slopes or hillslopes maintained by different government departments for landscaping screening and soil erosion prevention purposes (**Figure 1.3**). Monodominant stands of fast-growing exotic tree species, like *Acacia confusa* and *Pinus elliottii*, were established. Besides, the available growing space beneath the exotic trees were colonized by naturally recruited native tree, shrub, climber and herb species dispersed from nearby habitats. In TLCP, plantation dominated by *Acacia confusa* was found near Lam Tei Quarry.

#### Reservoir

- 5.1.9 The only reservoir within the assessment area is Lam Tei Irrigation Reservoir (**Figure 1.3**), which is situated within TLCP. They are man-made waterbodies and mainly serve the purpose of storage of rainfall. Water level was maintained and droughting did not occur during the survey period.
- 5.1.10 Lam Tei Irrigation Reservoir adjoins the mixed woodland and shrubland/grassland nearby. Its periphery was bounded by rows of *Melaleuca cajuputi* subsp. *cumingiana*. They may have native freshwater fish species discharged from nearby natural watercourses and released exotic freshwater fish species.

#### Shrubland/Grassland

- 5.1.11 Shrubland/grassland was prominent in the exposed hillside (**Figure 1.3**) and was dominated by native shrub and herb species, particularly *Baeckea frutescens*, *Dicranopteris pedata*, *Rhodomyrtus tomentosa*. Scarce self-sown exotic trees, especially *Acacia confusa*, were also observed. *B. frutescens* and *D. pedata*, in particular, formed dense thickets.

#### Watercourse

- 5.1.12 Watercourses include those with natural bed and substrate. The upper sections were largely unmodified and scattered with boulders, discharging clear water flow to the lower

or lowland sections subject to more frequent sewage discharge by villagers and more intensive pollution. In general, the watercourses were lined with riparian vegetation/woodland which, at most, formed a semi-closed canopy. In most cases, the entire length of the watercourses was exposed to sunlight, except in their lowest reaches near villages.

- 5.1.13 No notable habitat change was observed during verification surveys as compared to previous survey results from Route 11 and TMB.

## 5.2 Vegetation

- 5.2.1 A total of 200 plant species were recorded within the assessment area, among which 126, 72 and 2 are known to be native, exotic and of unknown origin to Hong Kong respectively (**Appendix 1.4**). Among the plant species recorded within the assessment area, 64 of them could be found within the Application Site. *Aquilaria sinensis* was the only flora species of conservation importance recorded within the assessment area, but it falls outside the Application Site. Locations of the species of conservation importance are shown in **Figure 1.3** and **Figure 1.3a**, where appropriate. Photos of selected plant species of conservation importance are enclosed in **Appendix 1.3**. Plant species and their relative abundance within each habitat are listed in **Appendix 1.4**.

## 5.3 Mammal

- 5.3.1 6 mammal species were recorded within the assessment area, 5 of which are considered of conservation importance (**Appendix 1.5**). These 5 mammal species of conservation importance are all bat species and identified using bat detector. Locations of these species are shown in **Figure 1.3** and **Figure 1.3a**. The abundance of each mammal species recorded in each habitat within the assessment area is summed throughout the verification survey period and tabulated in **Appendix 1.5**.
- 5.3.2 Least Pipistrelle, the presence of which was confirmed by bat detector, is the only mammal species of conservation importance recorded within the Application Site (**Figure 1.3**, **Figure 1.3a** and **Appendix 1.5**). It produced echolocation calls for foraging purpose.
- 5.3.3 No bat roosting or breeding site was recorded within the assessment area during the verification survey period.

## 5.4 Avifauna

- 5.4.1 17 bird species were recorded within the assessment area, 1 of which is of conservation importance. Among the 17 bird species recorded, 3 of them were recorded within the Application Site, none of which are of conservation importance. All recorded bird species are common and widespread in Hong Kong (**Appendix 1.6**). No breeding record, nesting or roosting location or behaviour was exhibited by the observed bird species. All wild birds are protected under WAPO (Cap. 170). Locations of the bird species of conservation importance is shown in **Figure 1.3** and **Figure 1.3a**. The abundance of each avifauna species recorded in each habitat within the assessment area is summed throughout the verification survey period and tabulated in **Appendix 1.6**.

## 5.5 Herpetofauna

- 5.5.1 Asian Common Toad is the only herpetofauna species recorded within the assessment area and is not of conservation importance (**Appendix 1.7**). No herpetofauna species was recorded within the Application Site. The abundance of each herpetofauna species

recorded in each habitat within the assessment area is summed throughout the verification survey period and tabulated in **Appendix 1.7**.

## 5.6 Butterfly

5.6.1 5 butterfly species were recorded within the assessment area in total, none of which are considered of conservation importance (**Appendix 1.8**). Butterfly species was not recorded within the Application Site during the surveys. The abundance of each butterfly species recorded in each habitat within the assessment area is summed throughout the verification survey period and tabulated in **Appendix 1.8**.

## 5.7 Odonate

5.7.1 Odonate species was not recorded within the assessment area during the verification surveys.

## 5.8 Firefly

5.8.1 Firefly species was not recorded within the assessment area during the verification surveys.

## 5.9 Freshwater Community

5.9.1 2 freshwater fauna species were recorded within the assessment area, 1 of which is of conservation importance (**Table 5.12** and **Appendix 1.9**). The location of this freshwater fauna species of conservation importance is shown in **Figure 1.3** and **Figure 1.3a**. The relative abundance of each freshwater fauna species recorded in channels or watercourses within the assessment area throughout the verification survey period is tabulated in **Appendix 1.9**.

## 5.10 Ecological Evaluation of Habitats and Species

5.10.1 The ecological survey results collected for the approved EIA reports for Route 11 and TMB, which were completed in May 2023 and December 2022, are considered recent enough to form part of the basis of ecological evaluation and valid for subsequent impact assessment. The ecological importance of all habitats within the assessment area was evaluated with reference to the criteria stipulated in Annex 8 of EIAO-TM (**Table 5.4** to **Table 5.11**).

**Table 5.4 Evaluation of Agricultural Land within the Assessment Area**

Criterion	Description
Naturalness	Man-made
Size	About 7.80ha
Diversity	Low floral and faunal diversity
Rarity	Neither flora nor fauna species of conservation importance was recorded during the verification surveys
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	No significant ecological linkage with the remaining habitats within the assessment area
Potential value	Low under the current farming practices

Criterion	Description
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	Ecologically non-applicable
Abundance/richness of wildlife	Low faunal abundance
Overall ecological value	Low

**Table 5.5 Evaluation of Channel within the Assessment Area**

Criterion	Description
Naturalness	Man-made
Size	About 0.55km
Diversity	Low floral and faunal diversity
Rarity	Neither flora nor fauna species of conservation importance was recorded during the verification surveys
Re-creatability	Readily re-created
Fragmentation	Characteristically found in the downstream sections of major watercourses to alleviate flooding risk near urban areas
Ecological linkage	Hydrologically connected to the unmodified upstream and downstream watercourses
Potential value	Low given its current engineering design, unless more diverse and natural substrate and banks are used and ecological enhancement features, such as natural substrate and fish ladder, are applied
Nursery/breeding ground	None observed
Age	Ecologically non-applicable
Abundance/richness of wildlife	Low to medium abundance of amphibians and low abundance of the remaining fauna groups
Overall ecological value	Low

**Table 5.6 Evaluation of Developed Area within the Assessment Area**

Criterion	Description
Naturalness	Man-made and subject to intensive and incessant anthropogenic disturbance
Size	About 45.62ha
Diversity	Low floral diversity, comprising a high proportion of exotic flora species  Low faunal diversity, mainly consisting of disturbance-tolerant and locally widespread fauna species
Rarity	No flora species of conservation importance was recorded during the verification surveys  2 faunal species of conservation importance were recorded during the verification surveys: Greater Bent-winged Bat and Least Horseshoe Bat
Re-creatability	Readily re-created
Fragmentation	Developed area was found in different parts of the assessment area but is usually not functionally linked to adjacent habitats

Criterion	Description
Ecological linkage	Ecologically non-applicable
Potential value	Very low, given the intensive and incessant anthropogenic disturbance
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	Ecologically non-applicable
Abundance/richness of wildlife	Low abundance in general, comprising mainly locally widespread and disturbance-tolerant species
Overall ecological value	Very low

**Table 5.7 Evaluation of Mixed Woodland within the Assessment Area**

Criterion	Description	
	Within the Application Site	Within the assessment area
Naturalness	Semi-natural, interspersed with native and exotic plant species	Semi-natural. Its fringes have been subject to frequent disturbance, owing to its vicinity of villages.
Size	About 2.30ha	About 33.59ha
Diversity	Medium floral diversity and low to medium faunal diversity	
Rarity	No floral species of conservation importance was recorded during the verification surveys  1 fauna species of conservation importance was recorded during the verification surveys: Least Pipistrelle	1 floral species of conservation importance were recorded during the verification surveys: <i>Aquilaria sinensis</i>  4 fauna species of conservation importance were recorded during the verification surveys: Whiskered Myotis, Japanese Pipistrelle, Least Pipistrelle and Greater Coucal
Re-creatability	Re-creatable but need time to mature	
Fragmentation	Mixed woodland occurs as separated stands near/in developed areas are subject to fragmentation, while those at hillside valleys have certain connection with adjacent natural habitats, including those in TLCP	
Ecological linkage	Ecologically connected to other natural habitats within TLCP	
Potential value	Low to medium for mixed woodland within and outside TLCP, acknowledging the protection status of those within TLCP but limited by the heavy fragmentation and absence of shade-tolerant tree species indicative of more mature woodlands in Hong Kong	
Nursery/breeding ground	No significant nursery or breeding ground known or observed for all woodland	
Age	Vary, some may be over 30 years of age	
Abundance/richness of wildlife	Low abundance of different groups of fauna, possibly due to the small size of the Application Site, which was entirely covered by mixed woodland	Low abundance of different groups of fauna, possibly because the woodland stands within the assessment area are fragmented and its edges are subject to frequent anthropogenic disturbance, thereby unfavouring fauna from inhabiting
Overall ecological value	Low to medium on the overall, fragmentation observed for some patches especially those outside TLCP. Potentially be higher for the mixed woodland within TLCP, which has been protected under the Country Parks Ordinance (Cap. 208) since 1979 and under management	

**Table 5.8 Evaluation of Plantation within the Assessment Area**

Criterion	Description
Naturalness	Semi-natural, mainly comprising fruit tree species likely cultivated by villagers nearby and naturally recruited plant species
Size	About 9.09ha
Diversity	Low to medium floral diversity and low faunal diversity
Rarity	Neither flora nor fauna species of conservation importance was recorded during the verification surveys
Re-creatability	While planting is feasible, the in-planted species would take several decades to establish in the absence of both natural and artificial disturbance (e.g. hill fires)
Fragmentation	None observed
Ecological linkage	No significant ecological linkage with the remaining habitats within the assessment area
Potential value	Low
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	At least 30 years of age
Abundance/richness of wildlife	Low faunal abundance
Overall ecological value	Low for those outside TLCP. Low to medium for those within TLCP, which has been protected and managed under the Country Parks Ordinance (Cap. 208) since 1979.

**Table 5.9 Evaluation of Reservoir within the Assessment Area**

Criterion	Description
Naturalness	Man-made
Size	About 1.33ha
Diversity	Low floral and faunal diversity
Rarity	No floral species of conservation importance were recorded during the verification surveys  1 fauna species of conservation importance were recorded during the verification surveys: Greater Bent-winged Bat
Re-creatability	Readily re-created
Fragmentation	None observed
Ecological linkage	Hydrologically connected to the upstream and downstream channels and/or watercourses
Potential value	Low
Nursery/breeding ground	Potentially nursery and breeding ground of amphibians, odonates and freshwater fauna, although no significant breeding behaviour was exhibited by those observed during surveys
Age	Opened in 1957, but ecologically not applicable
Abundance/richness of wildlife	High abundance of amphibians, odonates and freshwater fauna which are common and widespread in Hong Kong
Overall ecological value	Low to medium

**Table 5.10 Evaluation of Shrubland/Grassland within the Assessment Area**

Criterion	Description
Naturalness	A natural habitat commonly found in the hillside of Hong Kong. Formed by natural succession from bare ground, with those outside TLCP and in the vicinity of developed area subject to more frequent disturbance and exhibiting lower naturalness.
Size	About 23.33ha
Diversity	Low floral and faunal diversity
Rarity	Neither flora nor fauna species of conservation importance was recorded during the verification surveys
Re-creatability	Readily re-created
Fragmentation	Shrubland/grassland in Lam Tei is fragmented by developed area (e.g. villages).
Ecological linkage	Contiguous shrubland/grassland connected to other habitats within TLCP (e.g. mixed woodland) and potentially providing corridor function among different areas  Partial resemblance and interchange of certain native flora species with mixed woodland. Non-preferential use of these two habitats by terrestrial fauna (e.g. mammals, butterflies and reptiles) as well.
Potential value	Low for the shrubland/grassland outside TLCP, as its extent has largely remained unchanged and natural succession has been arrested as a result of topographical limitations (e.g. granitic substrate does not favour the colonization and establishment of many native tree species) and lack of seed sources of native tree species.  Potentially comparatively higher for those within TLCP, given the protection status and hill fire control may facilitate natural succession
Nursery/breeding ground	No significant nursery or breeding ground known or observed
Age	Extent and condition have largely remained unchanged at least over the last 30 years
Abundance/richness of wildlife	Low abundance in general
Overall ecological value	Low in general. Low to medium for the contiguous shrubland/grassland within TLCP, which has been protected under the Country Parks Ordinance (Cap. 208) since 1979.

**Table 5.11 Evaluation of Watercourse within the Assessment Area**

Criterion	Description	
	Within TLCP	Outside TLCP
Naturalness	Mostly natural	More natural upstream connected to modified downstream to alleviate flood flow
Size	About 2.04km	
Diversity	Low floral diversity and low to medium faunal diversity	Low floral and faunal diversity
Rarity	Neither flora nor fauna species of conservation importance was recorded during the verification surveys	No floral species of conservation importance was recorded during the verification surveys  1 fauna species of conservation importance was recorded during the verification surveys: Predaceous Chub
Re-creatability	Natural sections are difficult to re-create, while modified sections can be re-created	



Criterion	Description	
	Within TLCP	Outside TLCP
Fragmentation	The lower courses of the watercourses are fragmented by modified section, although the stream flow is still maintained	
Ecological linkage	Mostly connected to the downstream section, channel and reservoir	Mostly connected to the upstream section, channel and reservoir
Potential value	Low to medium, no obvious sign suggesting that a higher diversity of freshwater-associated fauna, including amphibian, odonate and freshwater fauna species, can be supported	Low to medium, as the watercourses outside TLCP are generally modified and more susceptible to sewage and effluent discharge
Nursery/breeding ground	No significant nursery or breeding ground known or observed	
Age	Not ecologically applicable	
Abundance/richness of wildlife	Medium abundance of amphibians and freshwater fauna	
Overall ecological value	Medium	Low to medium

5.10.2 With reference to Table 3, Annex 8 of EIAO-TM, the ecological value of species recorded within the assessment area was assessed in terms of protection/conservation status (e.g. fauna protected under WAPO (except birds), and flora and fauna protected under regional/global legislation/conventions), species distribution (e.g. endemic), and rarity (e.g. rare or restricted). Flora and fauna species of conservation importance recorded within the assessment area were evaluated with reference to EIAO-TM.

**Table 5.12 Evaluation of Species of Conservation Importance Recorded within the Assessment Area**

Species	Location		Rarity and distribution in Hong Kong <sup>1 2 3</sup>	Protection or conservation status <sup>4 5 6 7 8 10 11 12 13 14 15 16</sup>
	Within the Application Site	Outside the Application Site but within the assessment area		
<b>Flora</b>				
Incense Tree <i>Aquilaria sinensis</i>	/	Mixed woodland	Common. Found in lowland forest and fung shui woods.	IUCN Red List of Threatened Species (2024): VU  Appendix II of CITES  Threatened Species List of China’s Higher Plants: VU  China Plant Red Data Book: VU  Included in Illustrations of Rare & Endangered Plant in Guangdong Province  Listed in “Rare and Precious Plants of Hong Kong”  Cap. 586  State Protection (Category II)
<b>Mammal</b>				
Least Horseshoe Bat <i>Rhinolophus pusillus</i>	/	Developed area	Uncommon. Widely distributed in forested areas throughout Hong Kong.	Fellowes <i>et al.</i> (2002): PRC, (RC)  Cap. 170
Japanese Pipistrelle <i>Pipistrellus abramus</i>	/	Mixed woodland	Very common. Widely distributed throughout Hong Kong.	Cap. 170
Whiskered Myotis <i>Myotis muricola</i>	/	Mixed woodland	Rare/Species of Conservation Concern. Only several records in the countryside areas in the New Territories and on Lantau.	Cap. 170
Greater Bent-winged Bat <i>Miniopterus magnater</i>	/	Developed area and reservoir	Data deficient.	Fellowes <i>et al.</i> (2002): PRC  Cap. 170

Species	Location		Rarity and distribution in Hong Kong <sup>1 2 3</sup>	Protection or conservation status <sup>4 5 6 7 8 10 11 12 13 14 15 16</sup>
	Within the Application Site	Outside the Application Site but within the assessment area		
Least Pipistrelle <i>Pipistrellus tenuis</i>	Mixed woodland	Mixed woodland	Uncommon. Recent records were found in Nam Chung, Sheung Woo Hang, Shek Pik, Shing Mun and Plover Cove Country Park.	Cap. 170
<b>Avifauna</b>				
Greater Coucal <i>Centropus sinensis</i>	/	Mixed woodland	Common resident. Widely distributed in Hong Kong.	Class 2 Protected Animal of China China Red Data Book: VU
<b>Freshwater community</b>				
Predaceous Chub <i>Parazacco spilurus</i>	/	Watercourse	A widespread species occurring in most unpolluted hill streams in both upper and lower courses.	China Red Data Book: VU

Notes:

1. AFCD (2022). Hong Kong Biodiversity Information Hub.
2. Corlett *et al.* (2000). Hong Kong vascular plants: distribution and status.
3. Shek (2006). A Field Guide to the Terrestrial Mammals of Hong Kong.
4. Convention on International Trade in Endangered Species of Wild Fauna and Flora (2024). Appendices I, II and III.
5. Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.
  - For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
6. Fu & Chin (1992). China Plant Red Data Book – Rare and Endangered Plants.
7. Hu *et al.* (2003). Rare and Precious Plants of Hong Kong.
8. International Union of Conservation for Nature. (2024). The IUCN Red List of Threatened Species. Version 2023-1.
9. National Forestry and Grassland Administration and the Ministry of Agricultural and Rural Affairs. (2021). List of Wild Plants under the State Priority Conservation.
10. National Forestry and Grassland Administration and the Ministry of Agricultural and Rural Affairs. (2021). List of Wild Animals under State Priority Conservation.
11. Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586)
12. Qin *et al.* (2017). Threatened Species List of China's Higher Plants.
13. Wild Animals Protection Ordinance (Cap. 170)
14. Wu *et al.* (1988). Illustration of Rare & endangered plant in Guangdong Province.
15. Yue and Chen (1998). China Red Data Book of Endangered Animals: Pisces.
16. Zheng and Wang. (1998). China Red Data Book of Endangered Animals: Aves.

Abbreviations:

- Conservation Status: LC = Local Concern; PRC = Potential Regional Concern; RC = Regional Concern; VU = Vulnerable

## 6 Impact Evaluation

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### 6.1 Project Description

- 6.1.1 The provision of PBG in application site does not involve any site clearance, construction works, or erection of boundary fence. During the operational phase, approval of government must be obtained before any graves may be buried there.
- 6.1.2 The following sections address the potential ecological impacts during the operational phase.

### 6.2 Operational Phase – Direct Impacts

#### Minimal Habitat Loss

- 6.2.1 Currently, the Application Site is covered by mixed woodland of low to medium ecological value and is dominated by common native and exotic tree species. While the provision of the PBG would not involve any site clearance or construction works and thus would have no direct impact on the mixed woodland, it is anticipated that the new graves in the future would, making reference to the current conditions of the PBG Site No. BURGD22, be of limited extent and scale, scatter within the Application Site, and are mostly situated in areas close to developed area downhill. If it involves tree felling, consent from relevant authorities will be obtained. As tree felling, if unavoidably required, would be of limited number for each burial application and the graves will mostly scatter within the Application Site, the trees to be lost would also be isolated. Loss of a continuous patch of trees is not likely. There would not be significant loss of trees within the mixed woodland, and thus only minimal loss of mixed woodland is expected and such impact is considered **insignificant**.
- 6.2.2 Taking PBG Site No. BURGD22 as a reference, only less than 10% of the area is excavated for grave and burial urn usage. These graves and burial urns scatter. PBG Site No. BURGD22, despite the presence of graves and burial urns, has been largely covered with mixed woodland in the absence of significant natural or anthropogenic interference (e.g. hill fire).
- 6.2.3 Similar to the distribution of graves at PBG Site No. BURGD22, it is expected that burial of new graves to the Application Site, though may involve potential tree felling, is only anticipated to constitute to minimal habitat loss.

#### Harm/Mortality to Species of Conservation Importance/Wildlife

- 6.2.4 A sapling of Incense Tree was recorded just outside the Application Site (**Figure 1.3** and **Figure 1.3a**). Direct impact on it will be avoided during the operational phase.
- 6.2.5 Least Pipistrelle, which is a bat species of conservation importance, flew over the Application Site during the verification survey period. Given its high mobility and the lack of evidence showing its fidelity to the Application Site (e.g. roosting sign), this species is not anticipated to be directly impacted during the operational phase.
- 6.2.6 From the reviewed literature, Chinese Noctule, Black Kite, Rufous-capped Babbler, Chinese Bullfrog and Many-banded Krait were recorded within the Application Site. Chinese Noctule, Black Kite, Rufous-capped Babbler and Many-

banded Krait are relatively mobile and there was no evidence demonstrating their fidelity to the Application Site. For Chinese Bullfrog, it generally inhabits aquatic habitats (e.g. downstream of Lam Tei Irrigation Reservoir as recorded in the reviewed literature) and the Application Site, which is entirely covered by mixed woodland, is not a typical habitat for this species. To sum up, it is not anticipated that direct impact will be exerted on Chinese Noctule, Rufous-capped Babbler, Chinese Bullfrog and Many-banded Krait during the operational phase.

## 6.3 Operational Phase – Indirect Impacts

### Operational Disturbance

- 6.3.1 During the operational phase, grave burial events may increase human activities, noise disturbance from machinery, and dust. Habitats and fauna nearby may be indirectly impacted. Animal usage in habitats in the vicinity of the Application Site may be deterred and there could be subsequent decrease in wildlife density. Given the proximity to the existing villages, and grave burial events will not occur constantly throughout a year, any significant increase in disturbance impacts from the grave burial activities is not anticipated. The increase in disturbance due to grave burial is considered **minor**.
- 6.3.2 During the operational phase, potential disturbance impact may arise from grave sweeping, particularly in Ching Ming Festival and Chung Yeung Festival, may impose potential disturbance to mixed woodland within the Application Site, and surrounding fauna. The potential disturbance impacts from grave sweeping activities are expected to fluctuate and therefore not constant throughout a year. Besides, constant disturbance has been in place in villages (i.e. Fu Tei Ha Tsuen) near the Application Site. The resulting noise disturbance impact is considered **minor**.
- 6.3.3 No artificial lighting will be placed within the Application Site during the operational phase. Therefore, no light glare impact is expected.

### Hill Fire

- 6.3.4 Grave sweeping, especially in Ching Ming Festival and Chung Yeung Festival, might involve burning of incense and other worshipping materials. Any unattended glowing materials may give rise to hill fires in suitable environmental conditions (e.g. low humidity and/or scarce rainfall) to start at the Application Site, and spread to habitats nearby, including those in TLCP.
- 6.3.5 Hill fire is a hazard of grave concern to habitats of relatively higher ecological value, such as mixed woodland, including those in TLCP. In the presence of Lam Tei Irrigation Reservoir and its upstream and downstream, the spread of potential hill fire will be topographically restricted to the western part of the assessment area.
- 6.3.6 With reference to the aerial photos taken in the last three decades, major changes in habitat have not occurred within the assessment area. In particular, the extent of mixed woodland has largely remained unaltered in the presence of graves within PBG Site No. BURGD22 and the Application Site, indirectly suggesting that major hill fires had not occurred for 30 years. The application site is of roughly the same habitat type, it is prudent to consider that the risk of hill fire remains low.

Nevertheless, using appropriate receptacles for burning joss sticks, joss paper, etc. is stated in the Certificate for Burial within PBG.

Absence of Habitat Fragmentation

- 6.3.7 No major animal movement was recorded near the Application Site. Thus, no habitat fragmentation impact is expected to arise during the operational phase.

Absence of Water Quality Impact

- 6.3.8 Grave burial will not discharge pollutants to watercourses nearby. Water quality impact is thus not anticipated during the operational phase.

Potential Operational Phase Impacts on Recognized Site of Conservation Importance and Species of Conservation Importance

- 6.3.9 Recognized Site of Conservation Importance: The only recognized site of conservation importance identified within the assessment area is TLCP, which is situated as close as 3m from the Application Site. Direct impact on it will be avoided during the operational phase. The disturbance effect is anticipated to be **minor**, given the minor scale of grave burial within the Application Site. Furthermore, with the requirement of using appropriate receptacles for burning joss sticks, joss paper, etc. stated in the Certificate for Burial within PBG, it is anticipated that the risk of potential fire hazards on TLCP is limited.

- 6.3.10 Species of Conservation Importance: The fauna species of conservation importance recorded may be indirectly impacted through disturbance by grave sweeping and potential tree felling. However, they are all mobile and can utilize habitats of the same kind nearby. The effect of operational disturbance on them will be temporary and **insignificant**.

## 7 Mitigation Measures

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### 7.1 Avoidance

- 7.1.1 The provision of PBG in Application Site, which does not involve any site clearance nor construction works, will not encroach on recognized sites of conservation importance (i.e. TLCP). No ecological impact will be exerted on recognized sites of conservation importance.

### 7.2 Minimization

- 7.2.1 In minimization terms, the minimum separation distance between the graves to be buried and TLCP can be lengthened as far as practicable. The slope in the northern and northwestern portion of the Application Site is gentler and relatively more favorable for grave burial, which is also evidenced by the existing distribution of graves within the Application Site.

### 7.3 Compensation

- 7.3.1 As detailed in **Section 6.2.1**, only minimal loss of mixed woodland is expected. The resulting impact is considered **insignificant**. No compensation measure is required.



## 8 Residual Impacts

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- 8.1.1 Residual ecological impacts refer to the ecological impacts which will still arise despite the adoption and implementation of ecological mitigation measures.
- 8.1.2 The identified indirect impacts during the operational phase would be of **minor** or **insignificant** magnitude. No unacceptable residual impact is anticipated during the operational phase.

## **9 Environmental Monitoring and Audit (EM&A)**

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- 9.1.1 The assessment presented above indicates that unacceptable operational phase impacts to ecological resources are not expected to occur. No ecological monitoring or audit requirement is considered necessary.

## 10 Conclusions

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- 10.1.1 The ecological baseline has been established based on literature review and verification surveys conducted in December 2023 and January 2024. A total of 8 habitat types, including agricultural land, channel, developed area, mixed woodland, plantation, reservoir, shrubland/grassland and watercourse, were identified within the assessment area. The number of species of conservation importance recorded within the Application Site were limited.
- 10.1.2 The provision of PBG site in application site does not involve any construction works, and ecological impacts are anticipated to only occur during the operational phase. Ecological impacts due to operational disturbance and hill fire during the operational phase are all considered **minor** in nature. The impact on recognized sites of conservation importance and species of conservation importance during the operational phase will either be **minor** or **insignificant** in nature. No specific ecological mitigation measure is considered necessary.

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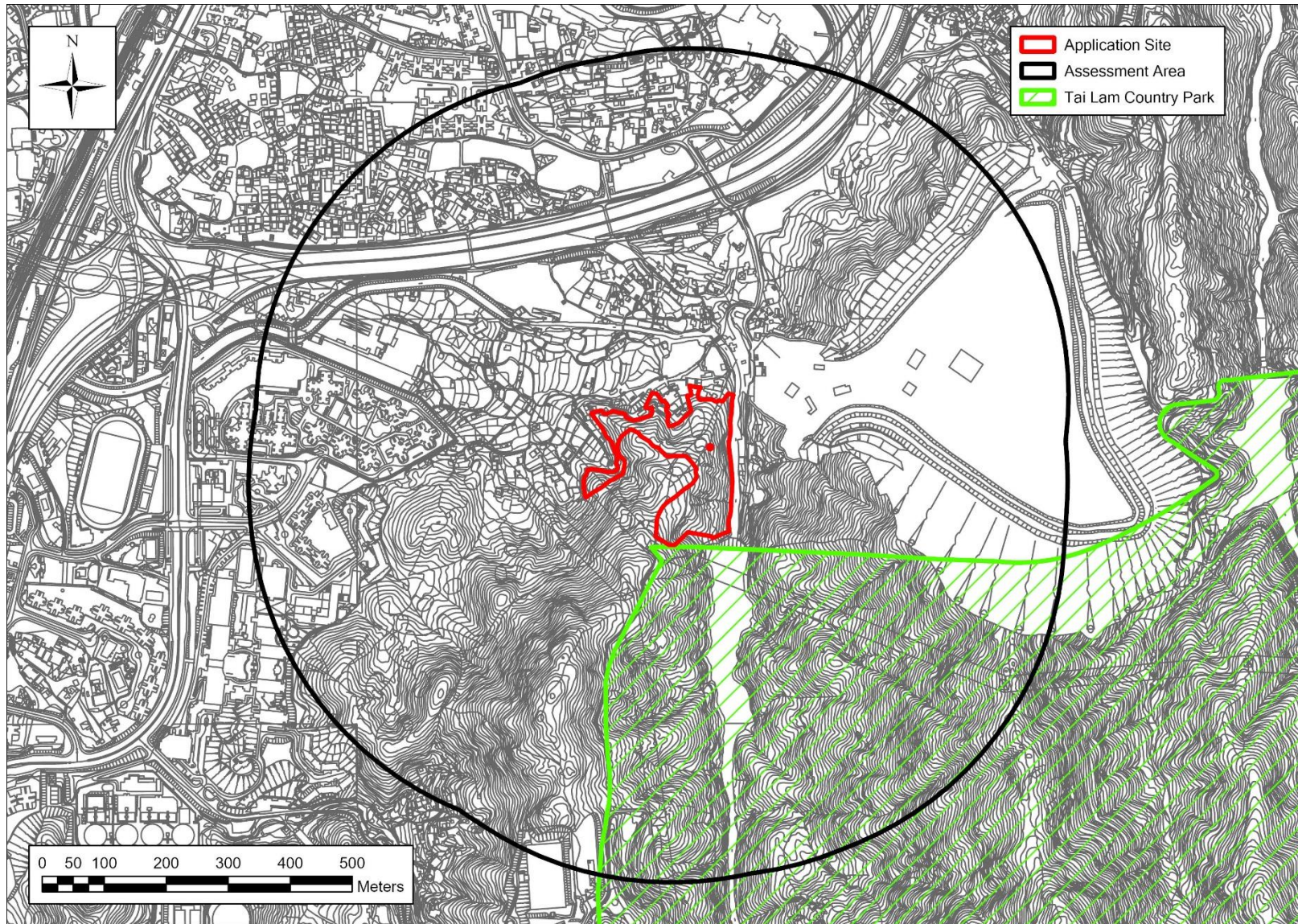
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## Figures

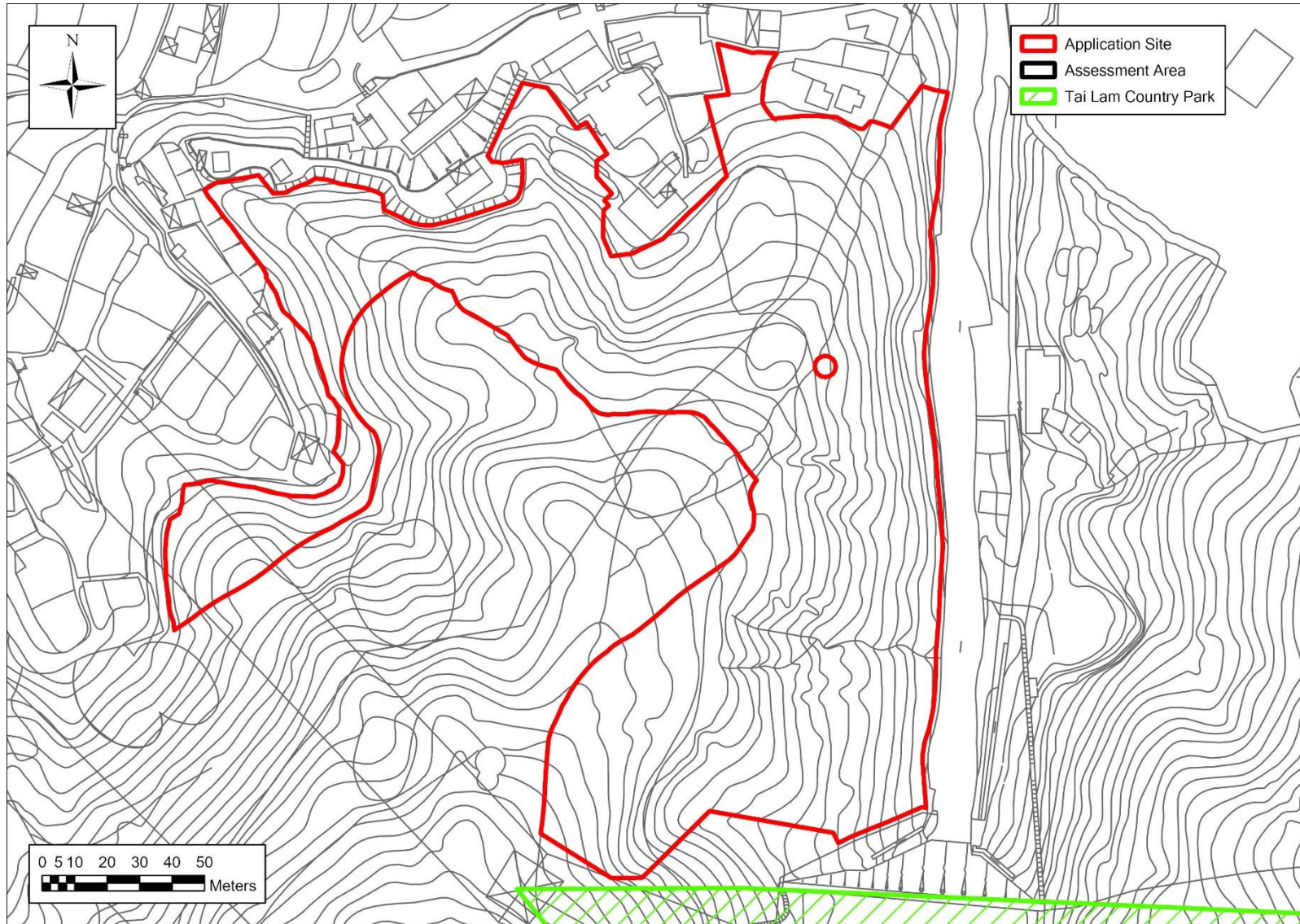


**Figure 1.1** Location of Application Site, Assessment Area, and Recognized Sites of Conservation Importance



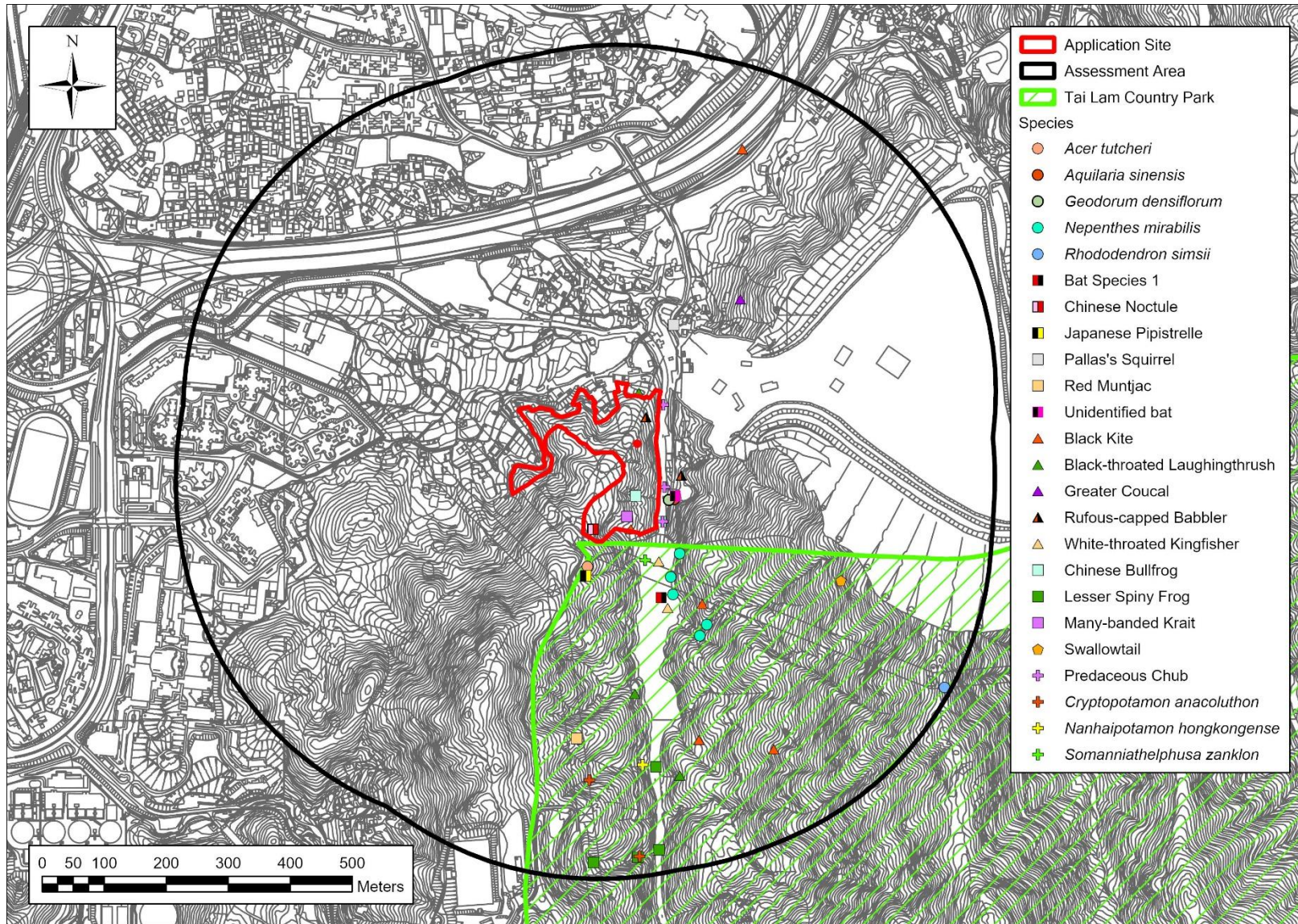


**Figure 1.1a**      **Zoom-in Extent of the Application Site**



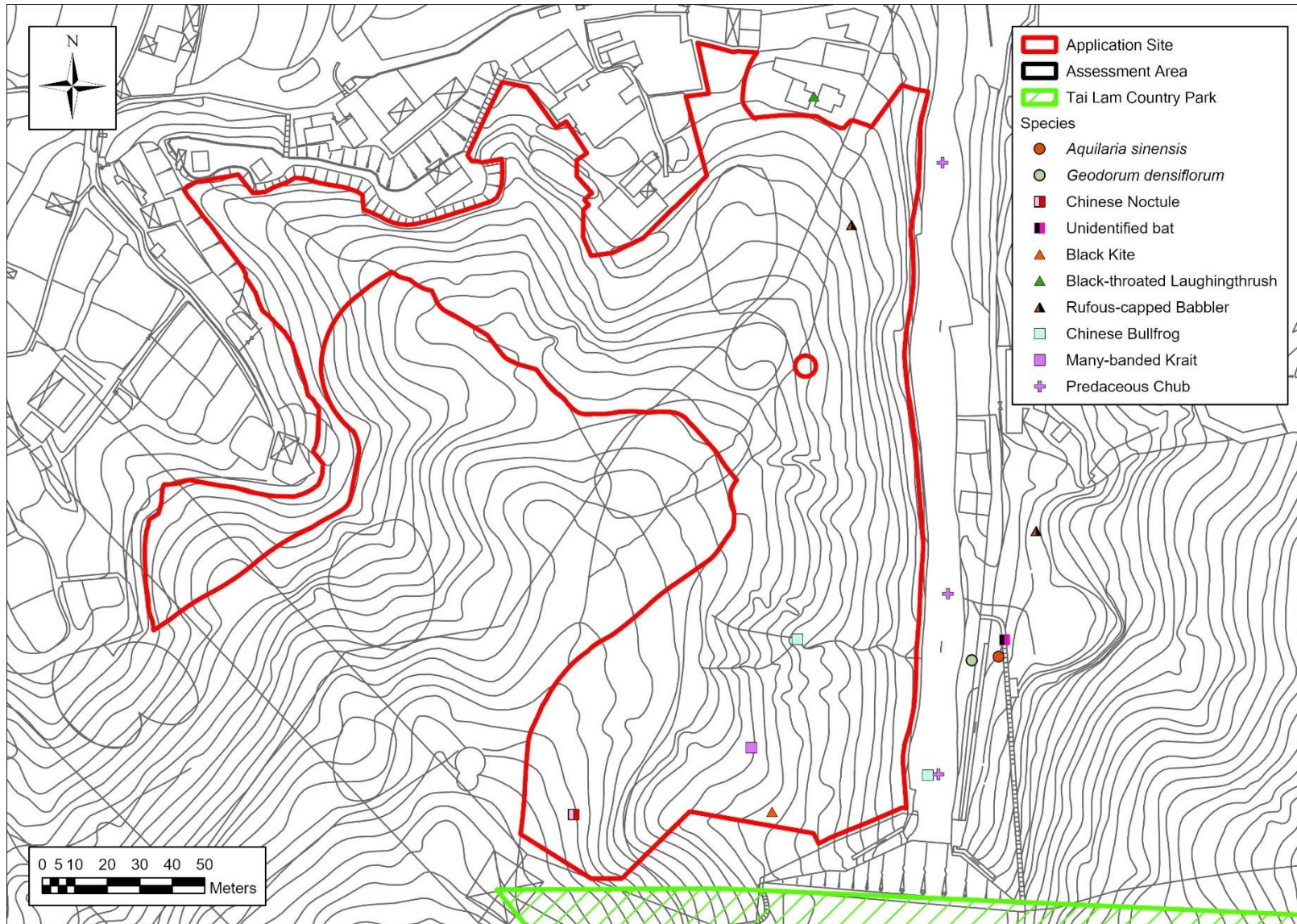


**Figure 1.2** Location of Species of Conservation Importance from the Reviewed Literature



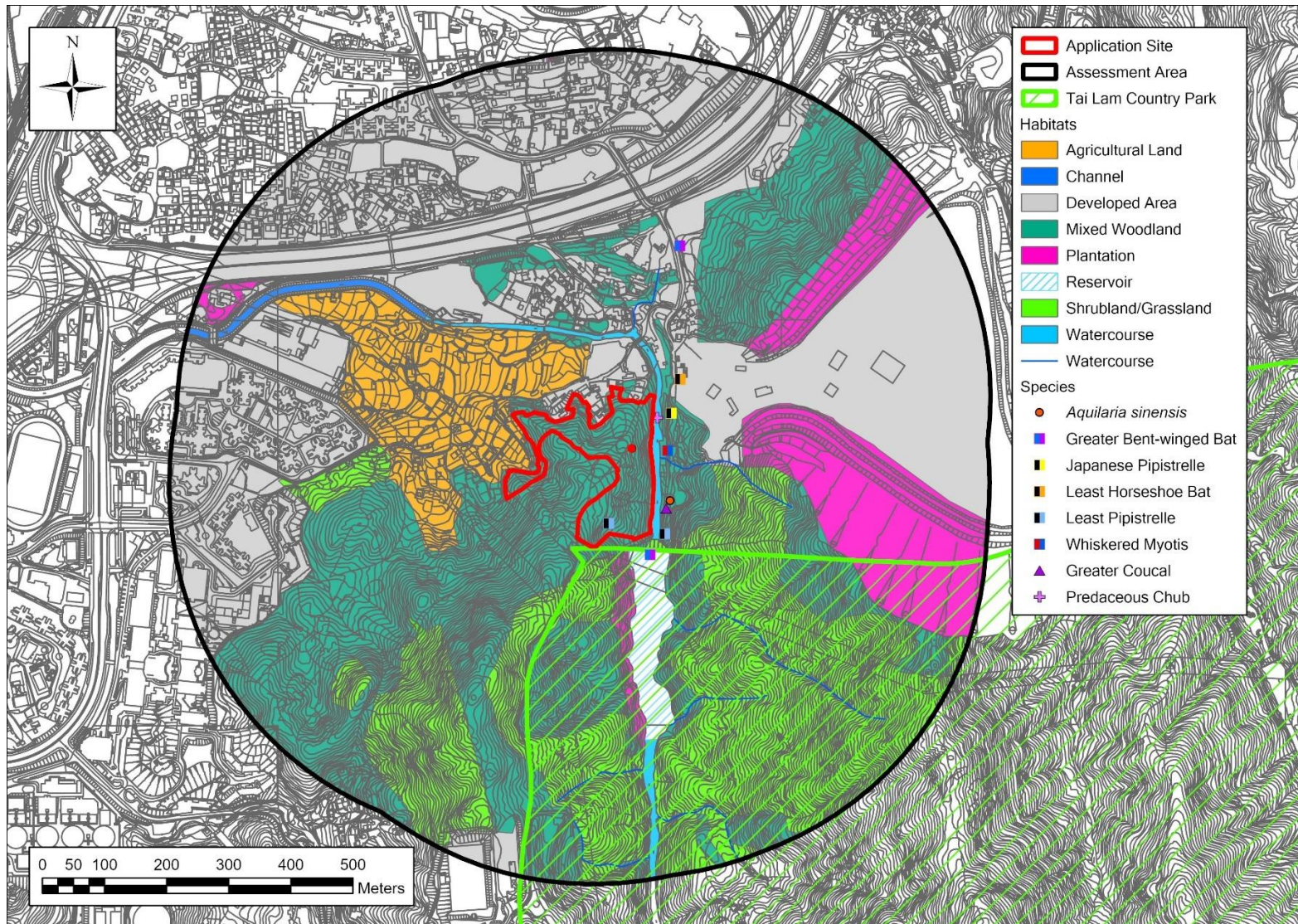


**Figure 1.2a** Location of the Reviewed Species of Conservation Importance within and in the vicinity of the Application Site



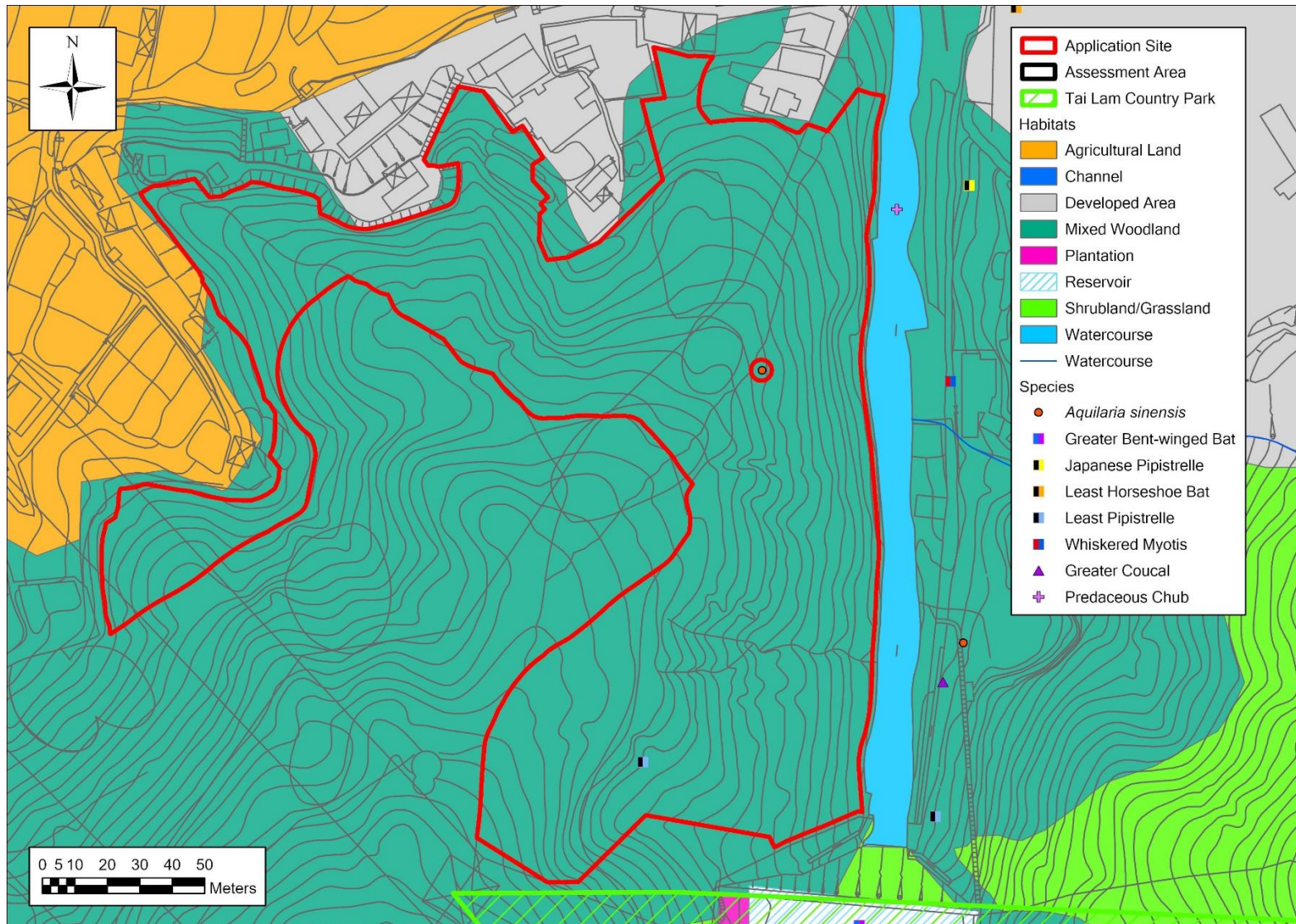


**Figure 1.3 Habitats and Species of Conservation Importance Recorded within the Assessment Area during the Verification Surveys**





**Figure 1.3a** Habitats and Species of Conservation Importance Recorded within and in the vicinity of the Application Site during the Verification Surveys

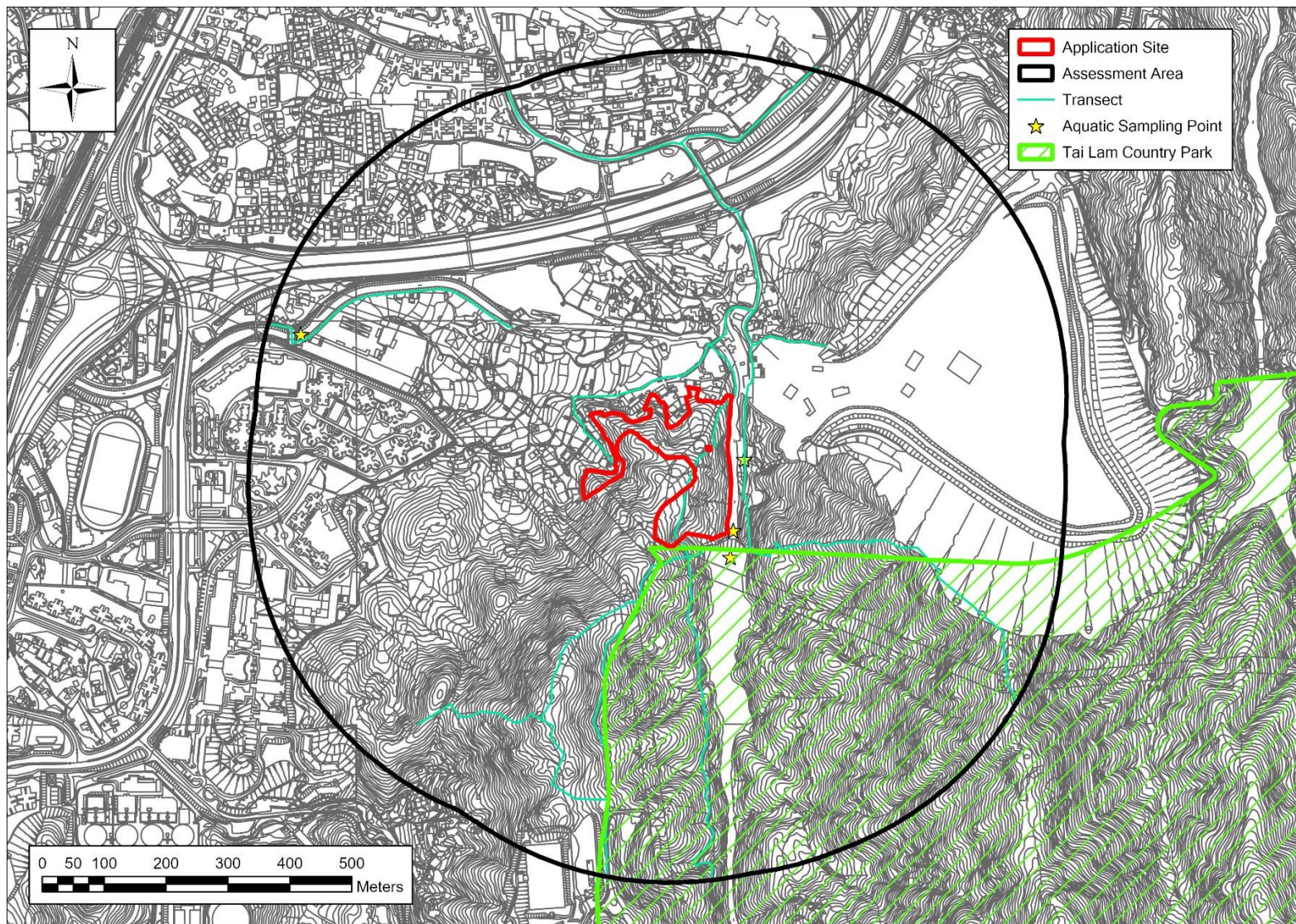


## Appendix 1.1

### Location of Application Site, Assessment Area, Ecological Survey Transects and Sampling Points



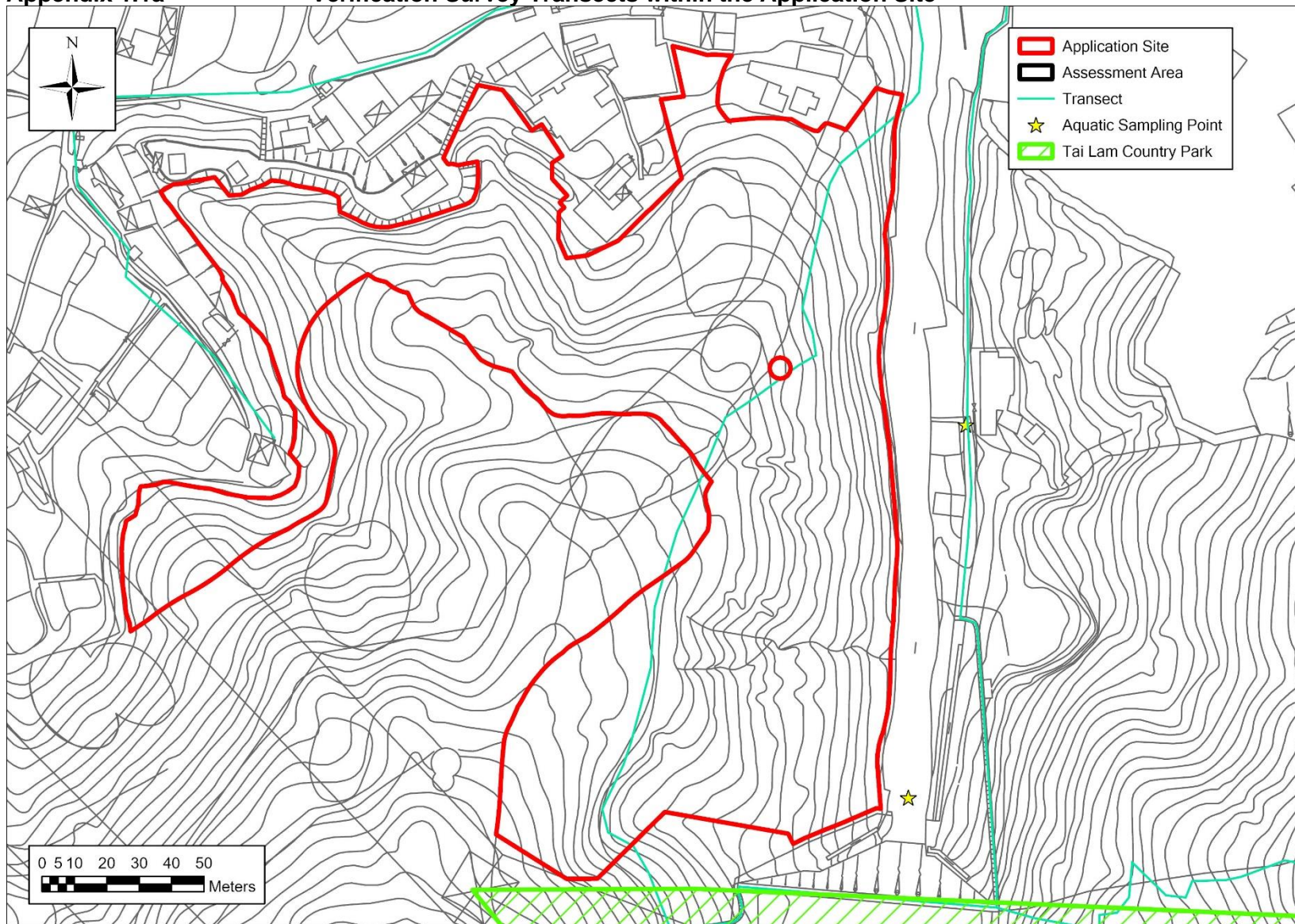
### Appendix 1.1 Location of Application Site, Assessment Area, Verification Survey Transects and Aquatic Sampling Points



Note: Please refer to Appendix 1.1a for the zoom-in extent of the Application Site



**Appendix 1.1a Verification Survey Transects within the Application Site**



## Appendix 1.2

### Photos of the Habitats within the Assessment Area



**Appendix 1.2 Photos of the Habitats within the Assessment Area**

		
<p>Agricultural land</p>	<p>Channel</p>	<p>Developed area</p>
		
<p>Mixed woodland</p>	<p>Plantation</p>	<p>Reservoir</p>


Route 11 (Section between Yuen Long and North Lantau) – Investigation  
Section 16 Application for New Permitted Burial Ground at Lam Tei - Ecological Impact Assessment Report

		
<p>Shrubland/Grassland</p>	<p>Watercourse</p>	

## Appendix 1.3

Photos of Selected Species of  
Conservation Importance  
Recorded within the Assessment  
Area during the Verification  
Surveys

**Appendix 1.3      Photos of Selected Species of Conservation Importance Recorded within the Assessment Area during the Verification Surveys**

Flora		
		
<i>Aquilaria sinensis</i>		

## Appendix 1.4

### Plant Species Recorded within the Assessment Area



## Appendix 1.4 Plant Species Recorded within the Assessment Area

Number	Scientific name	Growth form	Origin	Rarity and distribution in Hong Kong <sup>1</sup>	Protection or conservation status <sup>23456789</sup>	Relative abundance in each habitat within the Application Site	Relative abundance in each habitat within the assessment area							
						MW	AL	C	DA	MW	P	R	S/G	W
1	<i>Acacia confusa</i>	Tree	Exotic	-	-				C		C		S	
2	<i>Acronychia pedunculata</i>	Tree	Native	Very common	-	S			S	C				
3	<i>Adinandra millettii</i>	Shrub	Native	Common	-				S					
4	<i>Agave americana</i> var. <i>marginata</i>	Herb	Exotic	-	-				S					
5	<i>Ageratum conyzoides</i>	Herb	Exotic	Common	-				S					
6	<i>Alocasia macrorrhizos</i>	Herb	Native	Very common	-				S					O
7	<i>Alocasia macrorrhizos</i>	Herb	Native	Very common	-	S	S		O	O				
8	<i>Alternanthera pungens</i>	Herb	Exotic	-	-				S					
9	<i>Alyxia sinensis</i>	Climber	Native	Common	-				C	S				
10	<i>Amaranthus viridis</i>	Herb	Native	Very common	-	S			C	S				
11	<i>Annona squamosa</i>	Tree	Exotic	-	-				O					
12	<i>Aporosa dioica</i>	Tree	Native	Very common	-				C	C				
13	<i>Aquilaria sinensis</i>	Tree	Native	Common	Cap. 586 Rare and Precious Plants of Hong Kong China Plant Red Data Book: VU Listed in Illustrations of Rare & endangered plant in Guangdong Province Wild plant under State protection (category II) Threatened Species List of China's Higher Plants: VU IUCN Red List of Threatened Species (2024): VU CITES Appendix II					S	S			
14	<i>Artemisia indica</i>	Herb	Native	-	-	S	O		O	S	S		S	
15	<i>Artocarpus heterophyllus</i>	Tree	Exotic	-	-	S			S	S				
16	<i>Aster baccharoides</i>	Herb	Native	Very common	-				S					
17	<i>Baeckea frutescens</i>	Shrub	Native	Very common	-				S				C	
18	<i>Bambusa</i> sp.	Herb	Unknown	-	-				S					
19	<i>Bauhinia purpurea</i>	Tree	Exotic	-	-				S					
20	<i>Bauhinia x blakeana</i>	Tree	Native	-	-		S		S	S				
21	<i>Beta vulgaris</i>	Herb	Exotic	-	-				S					
22	<i>Bidens alba</i>	Herb	Exotic	Very common	-				S					
23	<i>Blechnum orientale</i>	Herb	Native	Very common	-			S	C					
24	<i>Bombax ceiba</i>	Tree	Exotic	-	-	S			C	S				
25	<i>Bougainvillea spectabilis</i>	Climber	Exotic	-	-				S					
26	<i>Brassica juncea</i>	Herb	Exotic	-	-				O	O				
27	<i>Brassica oleracea</i> var. <i>italica</i>	Herb	Exotic	-	-				O					
28	<i>Breynia fruticosa</i>	Shrub	Native	Very common	-				S					



Number	Scientific name	Growth form	Origin	Rarity and distribution in Hong Kong <sup>1</sup>	Protection or conservation status <sup>23456789</sup>	Relative abundance in each habitat within the Application Site	Relative abundance in each habitat within the assessment area							
						MW	AL	C	DA	MW	P	R	S/G	W
29	<i>Bridelia tomentosa</i>	Shrub	Native	Very common	-				O		C		S	
30	<i>Broussonetia papyrifera</i>	Tree	Native	Very common	-	S			S	S				
31	<i>Calliandra haematocephala</i>	Shrub	Exotic	-	-				C	S				
32	<i>Carica papaya</i>	Tree	Exotic	-	-				C					
33	<i>Cassia fistula</i>	Tree	Exotic	-	-		S		O	S				
34	<i>Cassytha filiformis</i>	Climber	Native	Very common	-				S					
35	<i>Castanopsis fissa</i>	Tree	Native	Common	-				S					
36	<i>Casuarina equisetifolia</i>	Tree	Exotic	-	-		O			O				
37	<i>Catharanthus roseus</i>	Shrub	Exotic	Common	-				S					
38	<i>Celtis sinensis</i>	Tree	Native	Common	-	S		O	S	S				
39	<i>Chloris barbata</i>	Herb	Native	Very common	-		S		S					
40	<i>Chrysophyllum cainito</i>	Tree	Exotic	-	-				S					
41	<i>Chukrasia tabularia</i>	Tree	Exotic	-	-		O		O	S				
42	<i>Citrus limonia</i>	Tree	Exotic	-	-		S		S					
43	<i>Citrus reticulata</i>	Tree	Exotic	-	List of Wild Plants under State Priority Conservation: Class 2				S	S				
44	<i>Clausena lansium</i>	Tree	Exotic	-	-				S					
45	<i>Clematis crassifolia</i>	Climber	Native	Restricted	-				S					
46	<i>Clerodendrum fortunatum</i>	Shrub	Native	Common	-	S				S				
47	<i>Coccinia grandis</i>	Climber	Native	Very rare	-	S				C	S			
48	<i>Cocculus orbiculatus</i>	Climber	Native	Common	-		S			S				
49	<i>Cordia dichotoma</i>	Tree	Native	Restricted	-					S				
50	<i>Cordyline fruticosa</i>	Shrub	Exotic	-	-					S				
51	<i>Cratogeomys cochinchinense</i>	Tree	Native	Very common	-					S				
52	<i>Cyclosorus parasiticus</i>	Herb	Native	Very common	-					S				
53	<i>Cymbopogon hamatulus</i>	Herb	Native	Very common	-		C			O				
54	<i>Cyperus difformis</i>	Herb	Native	Rare	-					S				
55	<i>Dalbergia millettii</i>	Climber	Native	Common	Cap. 586 CITES Appendix II					S				
56	<i>Daucus carota</i> var. <i>sativa</i>	Herb	Exotic	-	-					S				
57	<i>Delonix regia</i>	Tree	Exotic	-	-					S				
58	<i>Dendrotrophe varians</i>	Climber	Native	Very common	-					S				
59	<i>Desmodium styracifolium</i>	Herb	Native	Very rare	-					S				
60	<i>Desmos chinensis</i>	Shrub	Native	Common	-					S				
61	<i>Dianella ensifolia</i>	Herb	Native	Very common	-		S			S	S		S	
62	<i>Dicranopteris pedata</i>	Herb	Native	Very common	-					S			C	
63	<i>Dimocarpus longan</i>	Tree	Exotic	Restricted	China Plant Red Data Book: VU List of Wild Plants under State Priority Conservation: Class 2 Threatened Species List of China's Higher Plants: VU					S				
64	<i>Dioscorea cirrhosa</i>	Climber	Native	Common	-					S				

Number	Scientific name	Growth form	Origin	Rarity and distribution in Hong Kong <sup>1</sup>	Protection or conservation status <sup>23456789</sup>	Relative abundance in each habitat within the Application Site	Relative abundance in each habitat within the assessment area							
						MW	AL	C	DA	MW	P	R	S/G	W
65	<i>Dypsis lutescens</i>	Shrub	Exotic	-	-					S				
66	<i>Eclipta prostrata</i>	Herb	Native	Common	-					S				
67	<i>Eleusine indica</i>	Herb	Native	Very common	-					S				
68	<i>Epipremnum aureum</i>	Climber	Exotic	-	-			C		S				
69	<i>Eragrostis atrovirens</i>	Herb	Native	Common	-					S				
70	<i>Eriobotrya japonica</i>	Tree	Exotic	-	-					S				
71	<i>Eucalyptus exserta</i>	Tree	Exotic	-	-			C		O				
72	<i>Eurya nitida</i>	Shrub	Native	Very common	-					O				
73	<i>Fagraea ceilanica</i>	Shrub	Exotic	-	-					S				
74	<i>Fallopia multiflora</i>	Herb	Native	Restricted	-					S				
75	<i>Ficus elastica</i>	Tree	Exotic	-	-					S				
76	<i>Ficus hirta</i>	Shrub	Native	Common	-			S		S	S		O	
77	<i>Ficus hispida</i>	Shrub	Native	Very common	-			S		S				S
78	<i>Ficus microcarpa</i>	Tree	Native	Common	-				S	S				
79	<i>Ficus pumila</i>	Climber	Native	Very common	-			O		C			S	
80	<i>Ficus subpisocarpa</i>	Tree	Native	-	-					S				
81	<i>Ficus variegata</i> var. <i>chlorocarpa</i>	Tree	Native	Common	-			S		S	S		C	
82	<i>Ficus variolosa</i>	Tree	Native	Very common	-					S				
83	<i>Gahnia tristis</i>	Herb	Native	Very common	-					S	O			
84	<i>Garcinia oblongifolia</i>	Tree	Native	Very common	-					S				
85	<i>Gardenia jasminoides</i>	Shrub	Native	Common	-			S		S				
86	<i>Glochidion eriocarpum</i>	Shrub	Native	Very common	-			S		S	S		S	
87	<i>Gnaphalium pensylvanicum</i>	Herb	Native	-	-			O		O			S	
88	<i>Gnetum luofuense</i>	Climber	Native	Very common	-					S	S		S	
89	<i>Gnetum parvifolium</i>	Climber	Native	Common	-			O		O	S			
90	<i>Gymnanthemum amygdalinum</i>	Shrub	Exotic	-	-			C		C				
91	<i>Gymnema sylvestris</i>	Climber	Native	Very common	-			S		S				
92	<i>Hedyotis corymbosa</i>	Herb	Native	-	-			O		O				
93	<i>Helicteres angustifolia</i>	Shrub	Native	Very common	-			S		S				
94	<i>Hibiscus rosa-sinensis</i>	Shrub	Exotic	-	-					S			S	
95	<i>Homalium cochinchinensis</i>	Tree	Native	Common	-			O		O			C	
96	<i>Hypserpa nitida</i>	Climber	Native	Very common	-					S				
97	<i>Ilex asprella</i>	Shrub	Native	Very common	-			S		S				
98	<i>Ilex pubescens</i>	Shrub	Native	Very common	-			S		S				
99	<i>Ixora chinensis</i>	Shrub	Native	Restricted	-			S		S				
100	<i>Jatropha integerrima</i>	Shrub	Exotic	-	-					S				
101	<i>Juniperus chinensis</i>	Tree	Exotic	-	-					S			S	
102	<i>Kyllinga polyphylla</i>	Herb	Exotic	Common	-					S				
103	<i>Lactuca sativa</i>	Herb	Exotic	-	-					S				
104	<i>Lantana camara</i>	Shrub	Exotic	Very common	-					S	C		O	
105	<i>Lasianthus chinensis</i>	Shrub	Native	Common	-			S		S	S			
106	<i>Lasianthus fordii</i>	Tree	Native	-	-					S				
107	<i>Lemna minor</i>	Herb	Native	Common	-			S		S			S	
108	<i>Lepidosperma chinense</i>	Herb	Native	Very common	-					S				
109	<i>Leucaena leucocephala</i>	Tree	Exotic	Common	-					S				
110	<i>Ligustrum sinense</i>	Tree	Native	Common	-					S				



Number	Scientific name	Growth form	Origin	Rarity and distribution in Hong Kong <sup>1</sup>	Protection or conservation status <sup>23456789</sup>	Relative abundance in each habitat within the Application Site	Relative abundance in each habitat within the assessment area							
						MW	AL	C	DA	MW	P	R	S/G	W
111	<i>Lindernia rotundifolia</i>	Herb	Exotic	-	-					S	S			
112	<i>Lindsaea ensifolia</i>	Herb	Native	Very common	-	S				S			S	
113	<i>Lindsaea orbiculata</i>	Herb	Native	Very common	-	O				O	C		S	
114	* <i>Litchi chinensis</i>	Tree	Exotic	Restricted	China Plant Red Data Book: VU Threatened Species List of China's Higher Plants: EN	S				S			S	
115	<i>Litsea cubeba</i>	Shrub	Native	Common	-	S				S				
116	<i>Litsea glutinosa</i>	Tree	Native	Very common	-	S				S			O	
117	<i>Litsea monopetala</i>	Tree	Native	Restricted	-					S				
118	<i>Litsea rotundifolia</i> var. <i>oblongifolia</i>	Shrub	Native	Very common	-					S				
119	<i>Livistona chinensis</i>	Tree	Exotic	-	Threatened Species List of China's Higher Plants: VU					S				
120	<i>Lophatherum gracile</i>	Herb	Native	Very common	-					S				
121	<i>Lophostemon confertus</i>	Tree	Exotic	-	-	C				C				
122	<i>Lycopersicon esculentum</i>	Herb	Exotic	-	-	S				S				
123	<i>Lygodium japonicum</i>	Herb	Native	Very common	-	S				S				
124	<i>Macaranga tanarius</i> var. <i>tomentosa</i>	Tree	Native	Common	-	S				S				
125	<i>Mallotus repandus</i>	Climber	Native	Common	-	S		S		S			S	
126	<i>Mallotus paniculatus</i>	Tree	Native	Very common	-	S				S				
127	<i>Mangifera indica</i>	Tree	Exotic	-	-	O				S			S	
128	<i>Melaleuca cajuputi</i> subsp. <i>Cumingiana</i>	Tree	Exotic	-	-	O				S	C		C	
129	<i>Melastoma malabathricum</i>	Shrub	Native	Common	-	S				S	S		S	
130	<i>Melastoma sanguineum</i>	Shrub	Native	Common	-	S				S			S	
131	<i>Melia azedarach</i>	Tree	Exotic	Common	-								S	
132	<i>Melicope pteleifolia</i>	Shrub	Native	Common	-								S	
133	<i>Mentha canadensis</i>	Herb	Exotic	Restricted	-	S				S			S	
134	<i>Microcos nervosa</i>	Shrub	Native	Common	-	S				S			C	
135	<i>Mikania micrantha</i>	Herb	Exotic	Very common	-	S				S			S	
136	<i>Millettia nitida</i>	Climber	Native	Very common	-								S	
137	<i>Morella rubra</i>	Tree	Native	Common	-								S	
138	<i>Musa x paradisiaca</i>	Herb	Exotic	-	-						S			
139	<i>Mussaenda pubescens</i>	Climber	Native	Very common	-	O				O	S			
140	<i>Neyraudia reynaudiana</i>	Herb	Native	Very common	-	S				S	S			
141	<i>Opuntia</i> sp.	Herb	Exotic	-	-						S			
142	<i>Oxalis debilis</i> subsp. <i>corymbosa</i>	Herb	Exotic	Common	-						S			
143	<i>Panicum maximum</i>	Herb	Exotic	Common	-						S			
144	<i>Passiflora edulis</i>	Climber	Exotic	-	-	S				S				
145	<i>Passiflora suberosa</i>	Climber	Exotic	Common	-	S				S				
146	<i>Persicaria chinensis</i>	Herb	Native	Very Common	-	S				S				
147	<i>Phyllanthus cochinchinensis</i>	Shrub	Native	Very common	-	S				S				
148	<i>Pinus elliotii</i>	Tree	Exotic	-	-	S				S	C			
149	<i>Pisum sativum</i>	Herb	Exotic	-	-	S				S				

Number	Scientific name	Growth form	Origin	Rarity and distribution in Hong Kong <sup>1</sup>	Protection or conservation status <sup>23456789</sup>	Relative abundance in each habitat within the Application Site	Relative abundance in each habitat within the assessment area							
						MW	AL	C	DA	MW	P	R	S/G	W
150	<i>Plumbago zeylanica</i>	Shrub	Native	Restricted	-	S				S				
151	<i>Plumeria rubra</i>	Tree	Exotic	-	-	S				S				
152	<i>Pogonatherum crinitum</i>	Herb	Native	Common	-									S
153	<i>Polyspora axillaris</i>	Shrub	Native	Very common	-	S				S				
154	<i>Psidium guajava</i>	Tree	Exotic	Common	-	S				S				
155	<i>Psychotria asiatica</i>	Tree	Native	Very common	-		S							
156	<i>Psychotria serpens</i>	Climber	Native	Very common	-		C							
157	<i>Pteris ensiformis</i>	Herb	Native	Common	-		S							
158	<i>Pteris linearis</i>	Herb	Native	Restricted	-		S							
159	<i>Pyrrosia adnascens</i>	Herb	Native	Common	-		C							
160	<i>Pyrrosia lingua</i>	Herb	Native	Common	-		S							
161	<i>Raphanus sativus</i>	Herb	Exotic	-	-		S							
162	<i>Rhaphiolepis indica</i>	Shrub	Native	Very common	-		O							
163	<i>Rhodomyrtus tomentosa</i>	Shrub	Native	Very common	-								C	
164	<i>Rhus hypoleuca</i>	Shrub	Native	Common	-								S	
165	<i>Rhus succedanea</i>	Shrub	Native	Common	-								S	
166	<i>Rhynchosia volubilis</i>	Climber	Native	Restricted	-								S	
167	<i>Rosa rugosa</i>	Shrub	Exotic	-	List of Wild Plants under State Priority Conservation: Class 2  Threatened Species List of China's Higher Plants: VU					C				
168	<i>Rourea microphylla</i>	Climber	Native	Common	-			C						
169	<i>Saccharum officinarum</i>	Herb	Exotic	-	-			S						
170	<i>Sapium sebiferum</i>	Tree	Native	Common	-			S						
171	<i>Schefflera arboricola</i>	Climber	Exotic	-	-			O						
172	<i>Schefflera heptaphylla</i>	Tree	Native	Very common	-	O		S		O				
173	<i>Scleria ciliaris</i>	Herb	Native	Very common	-			C						
174	<i>Sinosideroxylon wightianum</i>	Tree	Native	Common	-			S						
175	<i>Smilax china</i>	Climber	Native	Very common	-			S						
176	<i>Smilax glabra</i>	Climber	Native	Very common	-		S							
177	<i>Smilax hypoglauca</i>	Climber	Native	-	-		S							
178	<i>Spathodea campanulata</i>	Tree	Exotic	-	-		S							
179	<i>Spermacoce remota</i>	Herb	Unknown	-	-		S							
180	<i>Stephania longa</i>	Climber	Native	Common	-		S							
181	<i>Sterculia lanceolata</i>	Tree	Native	Very common	-	S	O			S				
182	<i>Strophanthus divaricatus</i>	Climber	Native	Common	-		O							
183	<i>Strychnos angustiflora</i>	Climber	Native	Common	-		O							
184	<i>Synedrella nodiflora</i>	Herb	Exotic	Very common	-		S							
185	<i>Syngonium auritum</i>	Herb	Exotic	-	-		S							
186	<i>Syzygium buxifolium</i>	Shrub	Native	Common	-		O							
187	<i>Syzygium jambos</i>	Tree	Exotic	Common	-	S	S			S				
188	<i>Syzygium rehderianum</i>	Tree	Native	Rare	-		S							
189	<i>Tetracera asiatica</i>	Climber	Native	Very common	-		S							
190	<i>Tetradium glabrifolium</i>	Tree	Native	Common	-		S							
191	<i>Thysanolaena latifolia</i>	Herb	Native	Common	-		S							
192	<i>Trema tomentosa</i>	Shrub	Native	Common	-		S							
193	<i>Tridax procumbens</i>	Herb	Exotic	Very common	-		S							
194	<i>Uvaria macrophylla</i>	Climber	Native	Common	-		S							



Number	Scientific name	Growth form	Origin	Rarity and distribution in Hong Kong <sup>1</sup>	Protection or conservation status <sup>2 3 4 5 6 7 8 9</sup>	Relative abundance in each habitat within the Application Site	Relative abundance in each habitat within the assessment area							
						MW	AL	C	DA	MW	P	R	S/G	W
195	<i>Vigna unguiculata</i> subsp. <i>sesquipedalis</i>	Climber	Exotic	-	-		O							
196	<i>Vitex negundo</i>	Shrub	Native	Common	-		S							
197	<i>Wedelia trilobata</i>	Herb	Exotic	Common	-		S							
198	<i>Wikstroemia indica</i>	Shrub	Native	Common	-		S							
199	<i>Zanthoxylum avicennae</i>	Tree	Native	Common	-		S							
200	<i>Zanthoxylum nitidum</i>	Climber	Native	Very common	-		S							
Number of plant species recorded in each habitat within the Application Site/assessment area						64	43	11	44	122	24	0	37	3
Total number of plant species recorded within the Application Site/assessment area						64	200							

Note

1. Corlett *et al.* (2000). Hong Kong vascular plants: distribution and status.
  2. Convention on International Trade in Endangered Species of Wild Fauna and Flora (2023). Appendices I, II and III.
  3. Fu & Chin (1992). China Plant Red Data Book – Rare and Endangered Plants.
  4. Hu *et al.* (2003). Rare and Precious Plants of Hong Kong.
  5. International Union of Conservation for Nature. (2024). The IUCN Red List of Threatened Species. Version 2023-1.
  6. National Forestry and Grassland Administration and the Ministry of Agricultural and Rural Affairs. (2021). List of Wild Plants under the State Priority Conservation.
  7. Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586)
  8. Qin *et al.* (2017). Threatened Species List of China's Higher Plants.
  9. Wu *et al.* (1988). Illustration of Rare & endangered plant in Guangdong Province.
- **Species in bold are considered of conservation importance. Only the protection and/or conservation status of species fulfilling the criteria of being considered of conservation importance according to Note 3 of the most updated EIAO-TM are supplemented.**
  - \*The encountered individuals of *Citrus reticulata*, *Dimocarpus longan*, *Litchi chinensis*, *Livistona chinensis*, *Rosa rugosa* and *Syzygium rehderianum* are all exotic to Hong Kong and therefore not considered of conservation importance.
  - #*Dalbergia* spp. are listed under Appendix II of CITES and are protected under the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586) because of harvesting for timber. As *Dalbergia millettii* is a climber species and is not known to be exposed to any conservation threat in Hong Kong, this species is not considered of conservation importance in this study.

Abbreviations

- Habitats: AL = Agricultural Land; C = Channel; DA = Developed Area; MW = Mixed Woodland; P = Plantation; R = Reservoir; S/G = Shrubland/Grassland; W = Watercourse
- Relative abundance: C = Common; O = Occasional; S = Scarce
- Protection/Conservation status: EN = Endangered; VU = Vulnerable

## Appendix 1.5

### Mammal Species Recorded within the Assessment Area



## Appendix 1.5 Mammal Species Recorded within the Assessment Area

Number	Common name	Scientific name	Rarity and distribution in Hong Kong <sup>1 2</sup>	Protection or conservation status <sup>3</sup> <sub>4 5 6</sub>	Abundance/Relative abundance in each habitat within the Application Site	Abundance/Relative abundance in each habitat within the assessment area								
					MW	AL	C	DA	MW	P	R	S/G	W	
1	Domestic Dog	<i>Canis lupus familiaris</i>	Common. Widely distributed in urban and countryside areas throughout Hong Kong.	-		3			1					
2	Least Horseshoe Bat	<i>Rhinolophus pusillus</i>	Uncommon. Widely distributed in countryside areas throughout Hong Kong.	<b>Fellowes <i>et al.</i> (2002): PRC, (RC)</b> <b>Cap. 170</b>					+					
3	Whiskered Myotis	<i>Myotis muricola</i>	Rare/Species of Conservation Concern. Only several records in the countryside areas in the New Territories and on Lantau.	<b>Cap. 170</b>					+					
4	Japanese Pipistrelle	<i>Pipistrellus abramus</i>	Very common. Widely distributed throughout Hong Kong.	<b>Cap. 170</b>					+					
5	Least Pipistrelle	<i>Pipistrellus tenuis</i>	Uncommon. Ten-something records found in Nam Chung, Sheung Wo Hang, Lin Ma Hang, Plover Cove Country Park, Yuen Long, Shek Pik, Deep Water Bay, Ho Pui and Ho Chung.	<b>Cap. 170</b>	+				++					
6	Greater Bent-winged Bat	<i>Miniopterus magnater</i>	Data deficient.	<b>Fellowes <i>et al.</i> (2002): PRC</b> <b>Cap. 170</b>					+			+		
Number of mammal species recorded in each habitat within the Application Site/assessment area					1	1	0	1	5	0	1	0	0	
Total number of mammal species recorded within the Application Site/assessment area					1	6								

### Notes

- Agriculture, Fisheries and Conservation Department (2022). Species Database of the Hong Kong Biodiversity Information Hub.
- Shek (2006). A Field Guide to the Terrestrial Mammals of Hong Kong.
- Fellowes *et al.* (2002). Wild animals to watch: Terrestrial and freshwater fauna of conservation concern in Hong Kong.
  - For conservation status listed by Fellowes *et al.* (2002), letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence
- Wild Animals Protection Ordinance (Cap. 170)
  - Species in bold are considered of conservation importance. Only the protection and/or conservation status of species fulfilling the criteria of being considered of conservation importance according to Note 3 of Annex 16 of EIAO-TM will be supplemented.**
  - For bat species identified based on their echolocation call shape and/or structure, only their relative abundance in the habitat where they were encountered is expressed.**

### Abbreviations

- Habitats: AL = Agricultural Land; C = Channel; DA = Developed Area; MW = Mixed Woodland; P = Plantation; R = Reservoir; S/G = Shrubland/Grassland; W = Watercourse
- Protection or conservation status: LC = Local Concern; PRC = Potential Regional Concern; RC = Regional Concern
- Relative abundance: +++ = Common; ++ = Occasional; + = Scarce

## Appendix 1.6

### Bird Species Recorded within the Assessment Area



## Appendix 1.6 Bird Species Recorded within the Assessment Area

Number	Common name	Scientific name	Rarity and distribution in Hong Kong <sup>1</sup>	Protection or conservation status <sup>2,3</sup>	Abundance in each habitat within the Application Site	Abundance in each habitat within the assessment area								
					MW	AL	C	DA	MW	P	R	S/G	W	
1	Domestic Pigeon	<i>Columba livia</i>	Locally common resident. Widely distributed in urban area throughout Hong Kong.	-					2					
2	Spotted Dove	<i>Spilopelia chinensis</i>	Abundant resident. Widely distributed in Hong Kong.	-				1	1					
3	Greater Coucal	<i>Centropus sinensis</i>	Common resident. Widely distributed in Hong Kong.	China Red Data Book: Vulnerable List of Wild Animals under State Priority Conservation: Class 2						1				
4	Red-billed Blue Magpie	<i>Urocissa erythroryncha</i>	Common resident. Widely distributed in woodland edges throughout Hong Kong.	-	1				3					
5	Large-billed Crow	<i>Corvus macrorhynchos</i>	Common resident. Widely distributed in Hong Kong.	-										
6	Cinereous Tit	<i>Parus cinereus</i>	Common resident. Widely distributed in Hong Kong.	-	1				1	3			1	
7	Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	Abundant resident. Widely distributed in Hong Kong.	-		2			1	2				
8	Chinese Bulbul	<i>Pycnonotus sinensis</i>	Abundant resident. Widely distributed in Hong Kong.	-					2					
9	Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	Abundant winter visitor and migrant. Widely distributed in woodland throughout Hong Kong.	-	1				1	1				
10	Common Tailorbird	<i>Orthotomus sutorius</i>	Common resident. Widely distributed in Hong Kong.	-										
11	Masked Laughingthrush	<i>Garrulax perspicillatus</i>	Abundant resident. Widely distributed in shrubland throughout Hong Kong.	-					4	2				
12	Crested Myna	<i>Acridotheres cristatellus</i>	Abundant resident. Widely distributed in Hong Kong.	-					2					
13	Oriental Magpie Robin	<i>Copsychus saularis</i>	Abundant resident. Widely distributed in Hong Kong.	-						2				
14	Eurasian Tree Sparrow	<i>Passer montanus</i>	Abundant resident. Widely distributed in Hong Kong.	-		30		5						
15	Grey Wagtail	<i>Motacilla cinerea</i>	Common passage migrant and winter visitor. Widely distributed in hill streams throughout Hong Kong.	-				1						1
16	White Wagtail	<i>Motacilla alba</i>	Resident, common passage migrant and winter visitor. Widely distributed in Hong Kong.	-				3						2
17	Chinese Blackbird	<i>Turdus mandarinus</i>	Common winter visitor and migrant. Widely distributed in Hong Kong.	-				2						
Number of bird species recorded in each habitat within the Application Site/assessment area					3	2	5	9	6	0	0	1	2	
Total number of bird species recorded within the Application Site/assessment area					3	17								

#### Notes

1. All wild birds are protected under the Wild Animals Protection Ordinance (Cap. 170).
  2. Agriculture, Fisheries and Conservation Department. (2022). Species Database of the Hong Kong Biodiversity Information Hub.
  3. National Forestry and Grassland Administration and the Ministry of Agricultural and Rural Affairs. (2021). List of Wild Animals under State Priority Conservation.
  4. Zheng and Wang. (1998). China Red Data Book of Endangered Animals: Aves.
- **Species in bold are considered of conservation importance. Only the protection and/or conservation status of species fulfilling the criteria of being considered of conservation importance according to Note 3 of Annex 16 of EIAO-TM will be supplemented.**

#### Abbreviations

- Habitats: AL = Agricultural Land; C = Channel; DA = Developed Area; MW = Mixed Woodland; P = Plantation; R = Reservoir; S/G = Shrubland/Grassland; W = Watercourse



## Appendix 1.7

### Herpetofauna Species Recorded within the Assessment Area

## Appendix 1.7 Herpetofauna Species Recorded within the Assessment Area

Number	Common name	Scientific name	Distribution in Hong Kong <sup>1</sup>	Protection or conservation status	Abundance in each habitat within the Application Site	Abundance in each habitat within the assessment area							
					MW	AL	C	DA	MW	P	R	S/G	W
1	Asian Common Toad	<i>Duttaphrynus melanostictus</i>	Widely distributed in Hong Kong.	-					1				
Number of herpetofauna species recorded in each habitat within the Application Site/assessment area					0	0	0	0	1	0	0	0	0
Total number of herpetofauna species recorded within the Application Site/assessment area					0	1							

### Notes

1. Agriculture, Fisheries and Conservation Department (2022). Species Database of the Hong Kong Biodiversity Information Hub.

### Abbreviations

- Habitats: AL = Agricultural Land; C = Channel; DA = Developed Area; MW = Mixed Woodland; P = Plantation; R = Reservoir; S/G = Shrubland/Grassland; W = Watercourse



## Appendix 1.8

### Butterfly Species Recorded within the Assessment Area

## Appendix 1.8 Butterfly Species Recorded within the Assessment Area

Number	Common name	Scientific name	Rarity and distribution in Hong Kong <sup>1 2</sup>	Protection or conservation status	Abundance in each habitat within the Application Site	Abundance in each habitat within the assessment area							
					MW	AL	C	DA	MW	P	R	S/G	W
1	Common Tiger	<i>Danaus genutia</i>	Common. Widely distributed throughout Hong Kong.	-								1	
2	Dark Brand Bush Brown	<i>Mycalesis mineus</i>	Very common. Widely distributed throughout Hong Kong.	-								1	
3	Great Mormon	<i>Papilio memnon</i>	Very common. Widely distributed throughout Hong Kong.	-				1					
4	Red-base Jezebel	<i>Delias pasithoe</i>	Very common. Widely distributed throughout Hong Kong.	-				1				1	
5	Indian Cabbage White	<i>Pieris canidia</i>	Very common. Widely distributed throughout Hong Kong.	-		1			1				
Number of butterfly species recorded in each habitat within the Application Site/assessment area					0	1	0	2	1	0	0	3	0
Total number of butterfly species recorded within the Application Site/assessment area					0	5							

### Notes

1. Agriculture, Fisheries and Conservation Department (2022). Species Database of the Hong Kong Biodiversity Information Hub.
2. Chan *et al.* (2011). A review of the local restrictedness of Hong Kong Butterflies.

### Abbreviations

- Habitats: AL = Agricultural Land; C = Channel; DA = Developed Area; MW = Mixed Woodland; P = Plantation; R = Reservoir; S/G = Shrubland/Grassland; W = Watercourse

## Appendix 1.9

### Freshwater Fauna Species Recorded within the Assessment Area





## Annex D

### Heritage Impact Study

Major Works Project Management Office  
Highways Department of HKSAR

**Agreement No. CE 13/2021 (HY)**  
**Route 11 (Section between Yuen Long and**  
**North Lantau) – Investigation**

Application for Permission under Section 16 of the  
Town Planning Ordinance (Cap. 131) for  
New Permitted Burial Ground at Lam Tei - Heritage  
Impact Study

This report takes into account the particular  
instructions and requirements of our client.

It is not intended for and should not be relied  
upon by any third party and no responsibility  
is undertaken to any third party.

Job number 284104

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## Nomenclature and Abbreviations

ERM	Environmental Resources Management
HIS	Heritage Impact Study
HKIA	Hong Kong Institute of Archaeology
PBG	Permitted Burial Ground
SAI	Site of Archaeological Interest
TMDC	Tuen Mun District Council

# 1 Introduction

---

## 1.1 Purpose of this Report

1.1.1 This report presents the Heritage Impact Study (HIS) for the application site as the application site is within 50m of Fu Tei Ha Site of Archaeological Interest (SAI).

## 1.2 Structure of this Report

1.2.1 This report contains the following sections:

- Section 1 gives an introduction of this report;
- Section 2 presents the baseline study of the application site;
- Section 3 presents the existing impact and constraints of the application site;
- Section 4 describes the proposed land use;
- Section 5 presents the evaluation of archaeological potential and assessment; and
- Section 6 summarises the study.

# 2 Baseline Study

---

## 2.1 Geological and Topographical Background

2.1.1 The application site covers steep slopes of granite and metasiltstone and phyllite with meta sandstone (**Figure 2**). The application site sits roughly on elevations between +20 to +70mPD (**Figure 3**). The area includes some graves and small burial areas and consists mainly of steep slopes.

## 2.2 Historical Background

2.2.1 Fu Tei Ha Tsuen is the closest village to the Application Site. Archaeological findings suggest that Fu Tei Ha was settled since the Song dynasty, but the current Hakka village does not appear until late Qing dynasty (LUSUPB 2014; TMDC 2003:88). Fu Tei Tsuen in general is a listed branch-off village from a registered traditional village – Shum Tseng of Tsuen Wan (Fu families) – that was established before 1898 (HYK 1988:3). Fu Tei Ha Tsuen (lower village) is a hamlet of Fu Tei Tsuen (which also includes Fu Tei Sheung Tsuen and Fu Tei Chong Tsuen). In the 1990s, the government built a public housing estate in Fu Tei Tsuen and relocated Lingnan University to the village area. As the area of Chong Tsuen is now replaced by Lingnan University's main campus, the main village now only comprises of Sheung Tsuen (south to Ha Tsuen) and Ha Tsuen (LUSUPB 2014).

2.2.2 Fu Tei Ha Tsuen is a multi-surnamed hamlet, but the Chan clan forms the majority. The villagers previously relied on vegetable farming and sold their crops in Tsuen



Wan Market or even further in West Point (LUSUPB 2014; TMDC 2003:88). The village houses were scattered around the farming land instead of concentrated within a traditional village (**Figure 4**).

- 2.2.3 On the lower hill area of Fu Tei Ha Tsuen is a temple named Nam On Buddhist Monastery (**Plates 5-6**). Four buildings inside the monastery, Nam On Buddhist Monastery main building, Sin Fat Hang Yuen, Fuk Tak Temple and Shing Wong Temple, had been proposed for grading but were confirmed No Grade items by the AAB on 4 February 2010. The monastery allegedly has a Qing Daoguang origin and was a matched construction in the mid-1940s. In the 1960s, the monastery expanded (AAB 2023) and the main building was rebuilt in 1964 (TMDC 2010:117). Fuk Tak Temple and Shing Wong Temple were added in the same year. In the 1970s, the four buildings were renovated. Nam On Buddhist Monastery is one of the few monasteries in Hong Kong which serves Monkey King or Chai Tin Tai Shing as the main deity. Besides, Sin Fat Hang Yuen, Fuk Tak Temple and Shing Wong Temple respectively houses Buddha, Earth God, and Shing Wong (AAB 2023). The villagers who lived near the temple were Hoklos coming from Haifeng and Lufeng in the 1940-50s (AAB 2023).
- 2.2.4 According to folklore, the hill land to the southeast of Fu Tei Ha Tsuen has a shape which resembles the mouth of a tiger whence the name of Fu Tei (Tiger's Land) was derived (LUSUPB 2014; TMDC 2003:88). The Heung Yee Kuk's List of Branch-off Villages, however, indicates that the original settlers' surname was Fu. A more likely explanation is Fu's land was changed into the Chinese character of Tiger (sound Fu as well). The upper hill area has been the traditional burial grounds of nearby villages, including Fu Tei Tsuen and Lam Tei San Tsuen (LUSUPB 2014). Grave sweeping activities have been popular during the Qingming Festival (LUSUPB 2014).

## 2.3 Archaeological Background

- 2.3.1 The application site is located to the southeast of Fu Tei Ha Site of Archaeological Interest (SAI). In 1998, as part of the Second Territory-wide Archaeological Survey, two test pit excavations and seven auger holes were conducted within farming land at Fu Tei Ha Tsuen (Zhongshan University 1998). Within Test pit T1, located near the hillside, five layers were recorded. The second layer produced a mixture of ancient and recent porcelain sherds, which suggests a disturbed deposit and was interpreted by the authors dated to Ming/Qing period. Very little was found below this layer in T1. In contrast, Test pit T2 revealed relatively rich findings in the third and the fourth layer. The finds included Song dynasty porcelain sherds and grey, red and orange tile fragments with cloth imprint. Based on the findings of the two test pits, the site was determined to include two cultural layers dated to Ming/Qing period and Song dynasty respectively. The authors suggested the centre of the site is situated around T2 excavation (Zhongshan University 1998) (**Figure 3**).
- 2.3.2 In 2001, an archaeological survey conducted for the Deep Bay Link Project tested an area in and around the north-eastern of the SAI (**Figure 3**). Eighteen auger tests, five face cuts and a single test pit excavation were investigated but did not yield any significant findings. It was suggested that the north-eastern part of the site had been previously destroyed (HKIA 2002).

- 2.3.3 From January 2012 to May 2013, an archaeological watching brief programme was conducted within the SAI during the works for the replacement and rehabilitation of water mains in Tuen Mun (ERM 2004) (**Figure 3**). Results from two tested locations within the SAI suggested highly disturbed stratigraphy due to modern construction or utility works.
- 2.3.4 There is another area of previous archaeological findings at the middle slope of Chung Shan at the back of the Lam Tei Quarry where in 2000, a large, polished stone axe (isolated find) was discovered from during an archaeological investigation carried out for the Deep Bay Link Project (HKIA 2002). The exact location of the isolated find is unknown and can thus not be mapped. The presence of the axe on the slopes cannot be explained and no other archaeological finds were noted.

### 3 Existing Impacts and Constraints

---

- 3.1.1 A field visit was conducted on 13 December 2023 (**Plates 1-6; Figure 5**). The Application Site comprises on the west and more extensively on the east of a ridge spur running down hill from the south to its termination at a series of temples on the low ground to the north. The slopes are often steep and are vegetated with natural bushes and trees with natural rock outcrops. Along the east of the Application Site the slope is west bank of an incised river valley descending north from the reservoir. There is soil erosion on most slopes. Furthermore, the soil across the site is thin and poor. There are however a handful scatter graves and hikers' trails across the application site.
- 3.1.2 With the exception of some graves, burial areas and some paths, there are no obvious existing impacts within the Application Site. There are no paths on early 20<sup>th</sup> century maps onto the hills further indicating that the current marked paths are more recent and suggesting that the slopes were not regularly used in historical times.

### 4 Proposed Land Use

---

- 4.1.1 The application site (~2.3ha), which includes existing graves, is proposed for the land use of burial ground (**Figure 1**). Burial practices may include some localized excavation at minimum to the ground.

### 5 Evaluation of Archaeological Potential and Assessment

---

- 5.1.1 The previous archaeological investigations have focussed on the flat areas below the application site and typically the steep slopes of the application site are not known to have major archaeological potential. The results of the previous investigations indicate a Song and Ming/Qing dynasty presence or settlement which is likely concentrated in centre of the Fu Tei Ha SAI (Zhongshan University 1998). Archaeological testing in 1998 and 2001 near the base of the slopes did not reveal secondary deposited materials derived from eroded slope deposits further suggesting no associated archaeology is present on the slopes.
- 5.1.2 The topography of the application site, i.e. steep slopes make it unlikely that ancient settlers would have used the hill slopes beyond low key impact activities such as foraging. Furthermore, the field visit did not highlight any possible areas of occupation or use. No archaeological potential is expected on the (steep) slopes behind Fu Tei Ha SAI.



## 6 Summary

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- 6.1.1 The archaeological findings indicate the Song, and Ming/Qing dynasty findings are unrelated to the steep hills adjacent to the Fu Tei Ha SAI and thus the application site is not expected to have significant archaeological potential. There are no recorded built heritage items in the Application Site but nevertheless it is recommended to incorporate the existing graves. The proposed land use of burial ground is deemed acceptable.

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Ordnance Survey (1968a) Topographic map. Sheet No. 124-NW-A (Ed 1968). Scale 1:1200.

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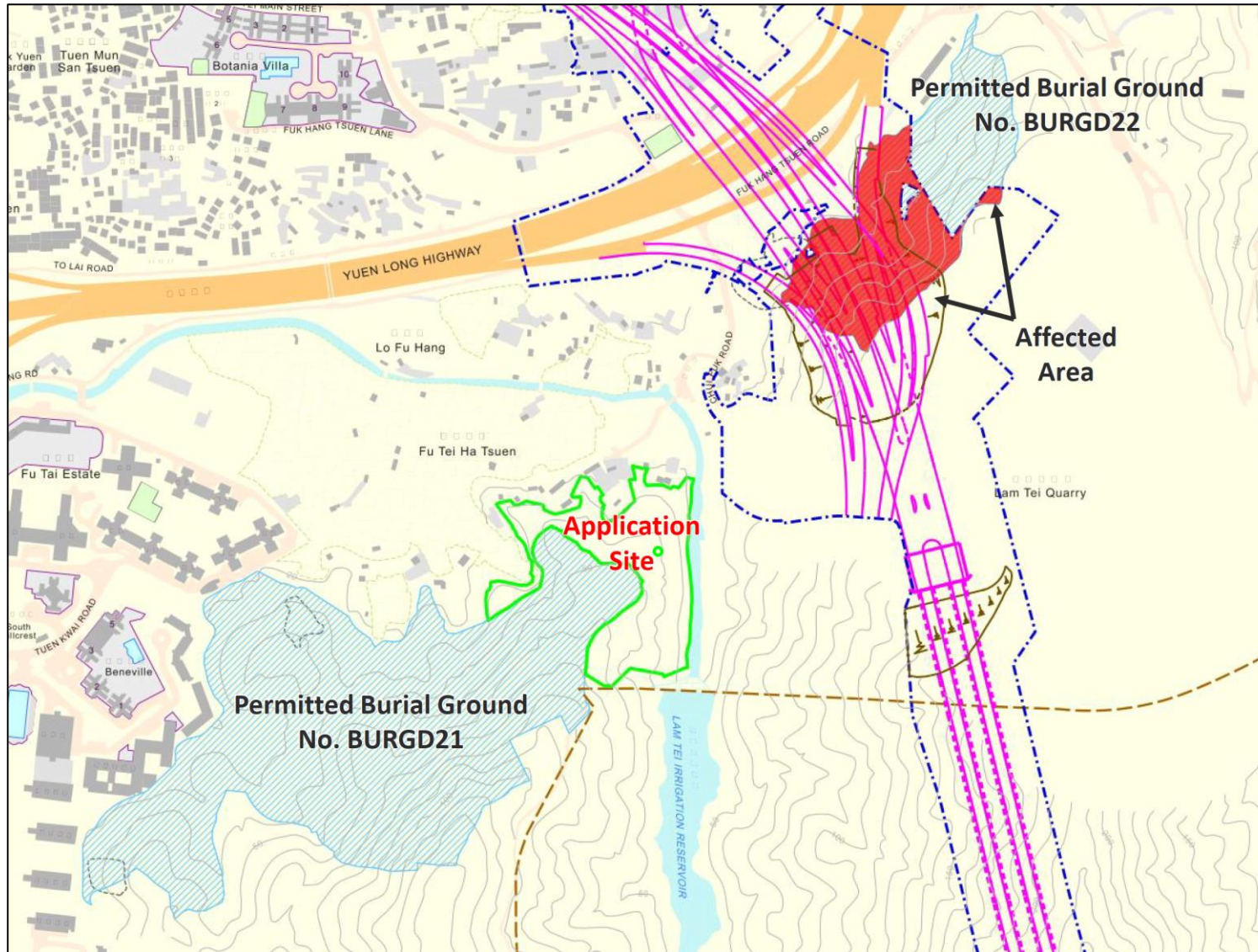
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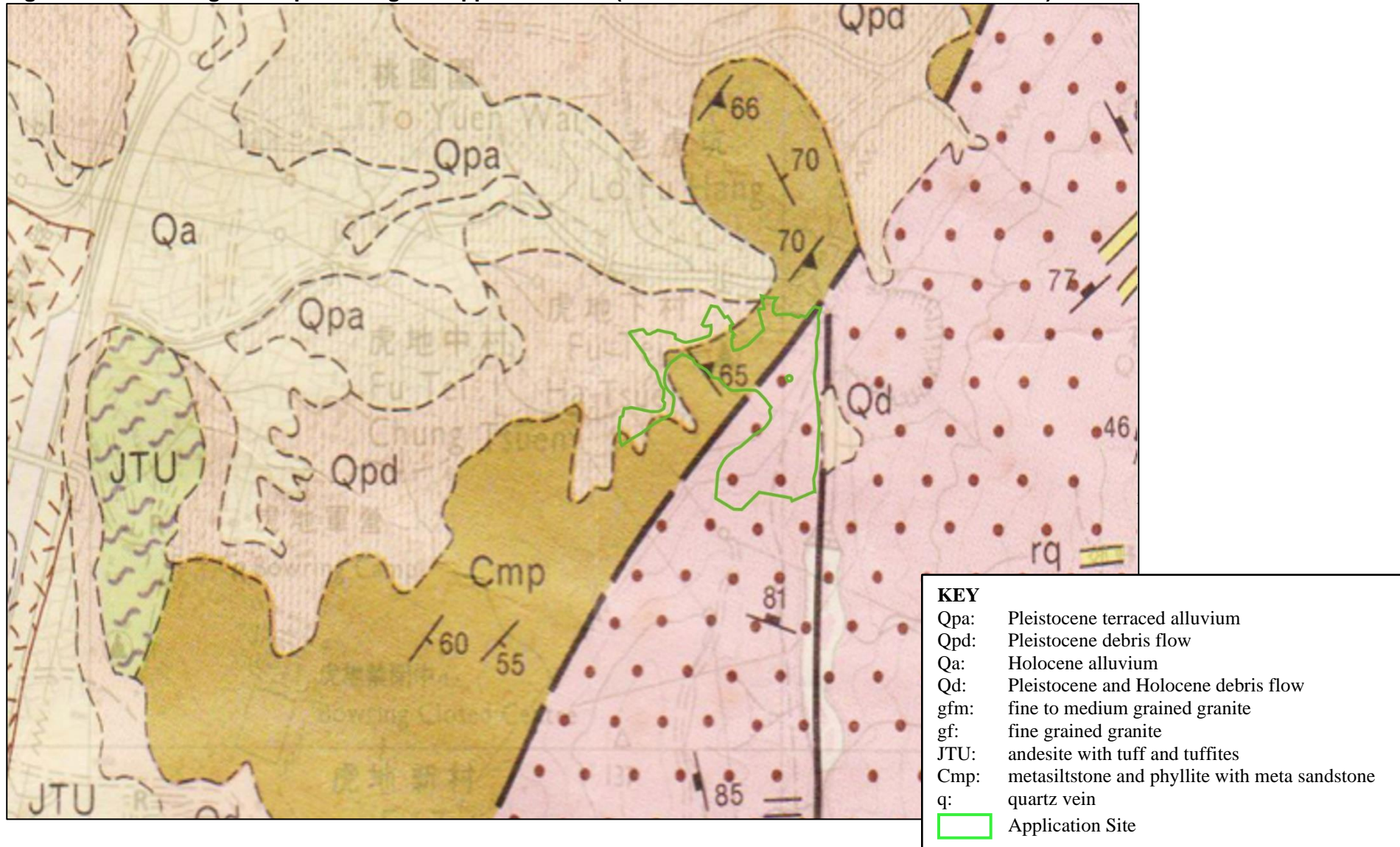
## Figures



**Figure 1** Map showing the Application Site

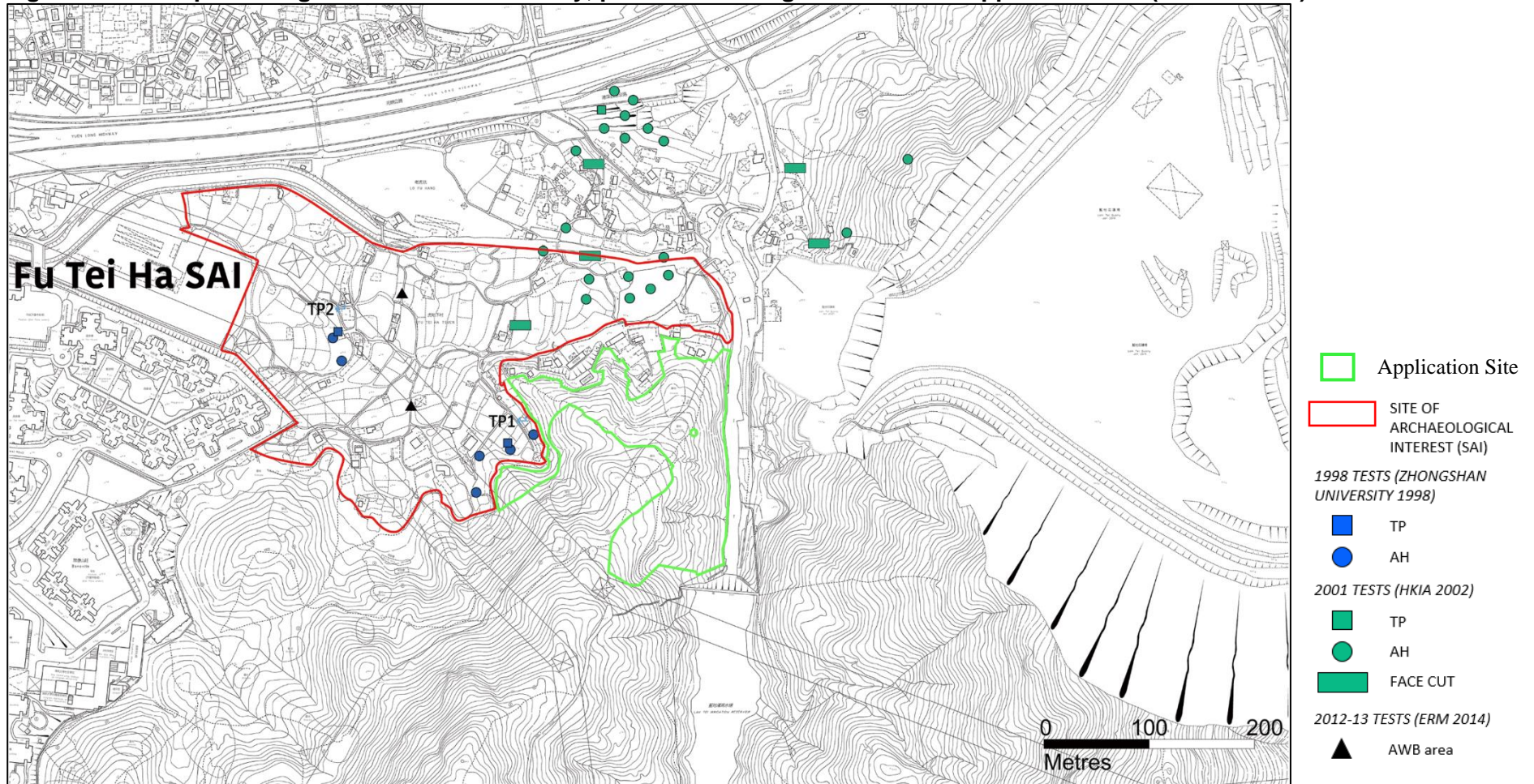


**Figure 2** Geological map showing the Application Site (source: Geotechnical Control Office 1988)



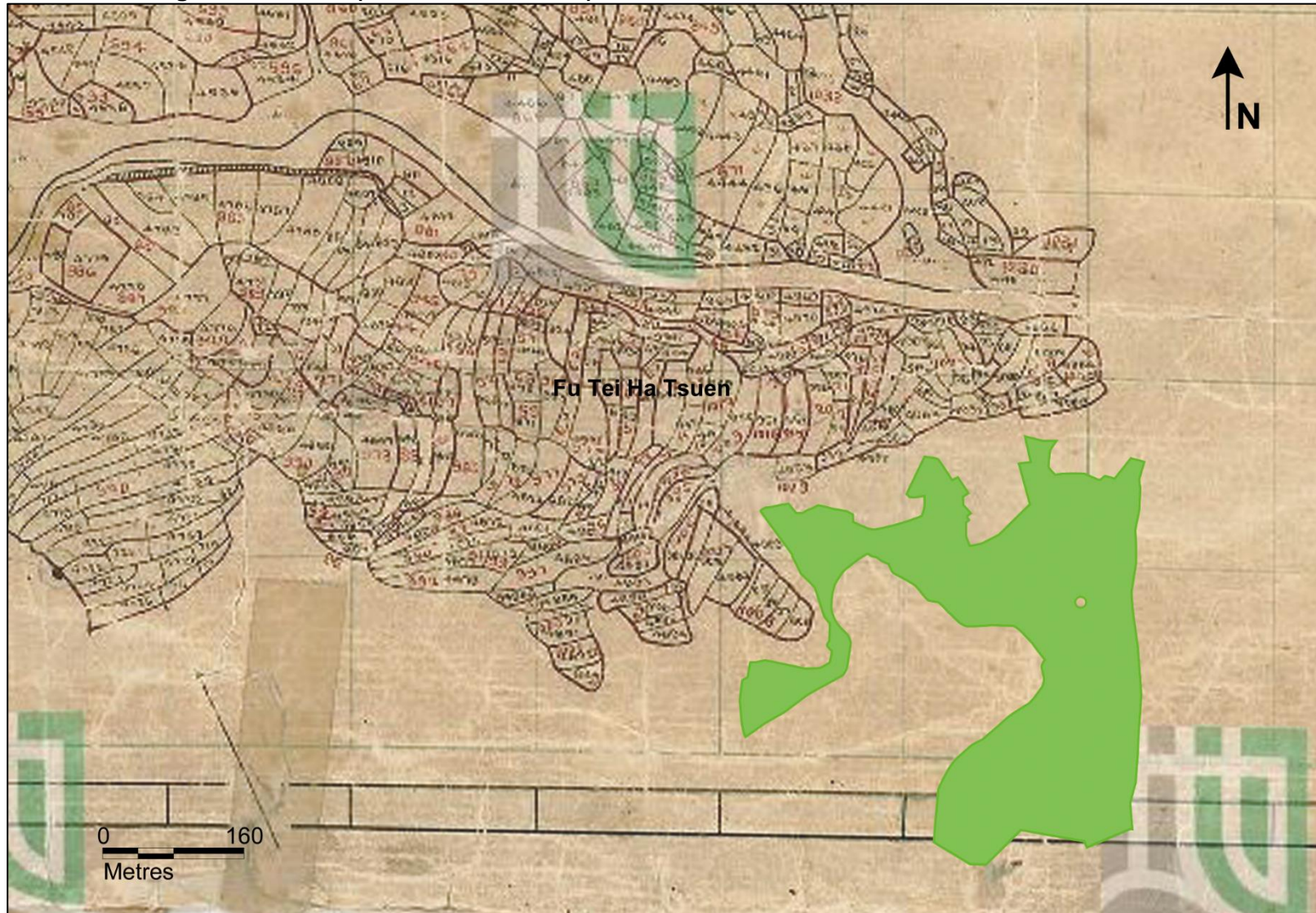


**Figure 3** Map showing Fu Tei Ha SAI boundary, previous investigations and the Application Site (source: AAL)





**Figure 4** 1903 DD Field Survey Map showing Fu Tei Ha Tsuen and green area on hill land; Note the current village area was all agricultural field (Sources: SMO 1903)





**Figure 5** Current Map showing Fu Tei Ha Tsuen and the green area on hill land; note burial grounds on hill (source: HKMS 2022)



## Plates





**Plate 1 Hiking trail**



**Plate 2 View of reservoir from the Application Site**





**Plate 3 Thin soil cover**



**Plate 4 Existing graves**





**Plate 5 Nam On Buddhist Monastery**



**Plate 6 Nam On Buddhist Monastery**