Some key observations of the EcolIA

1. Incomplete methodology for ecological baseline study
2. Under-recording of diversity of bats and moths
3. Under-recording of species of conservation importance in Sub-area 1
4. Limitations in assessment and evaluation for light pollution impacts
5. Potential impacts from woodland compensation not addressed
6. Under estimation of habitat evaluation (esp. for Sub-area 1)

1. Incomplete methodology for ecological baseline study

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- Incomplete literature review with key references overlooked
- Survey methodologies lacking in details esp. for bats & moths (stated in SB)
- Inappropriate survey method for Chinese Swamp Cypress - abundance of seedlings not enumerated
- Surveys in the Project Site apparently did not cover a full 12-month period based on HKGC records

2. Under-recording of diversity of bats and moths

Species	Number of bat detections (Total and average per survey night)									
	Sub-Area 1		Sub-Area 2		Sub-Area 3		Sub-Area 4		Clubhouse	
	Total	Avg.	Total	Avg.	Total	Avg.	Total	Avg.	Total	Avg.
Chinese Horseshoe Bat	1	0.01	11	0.12	-	-	146	1.70	-	-
Intermediate Horseshoe Bat	179	2.59	75	0.83	172	21.50	6,374	74.12	-	-
Least Horseshoe Bat	19	0.28	23	0.26	-	-	24	0.28	-	-
Himalayan Leaf-nosed Bat	253	3.67	800	8.89	-	-	-	-	132	8.80
Chinese Myotis	-	-	1	0.01	-	-	-	-	-	-
Rickett's Big-footed Myotis	1	0.01	285	3.17	-	-	-	-	-	-
Chinese Noctule	2,324	33.68	12,354	137.27	130	16.25	4,331	50.36	2012	134.13
Japanese Pipistrelle	14,550	210.87	10,354	115.04	-	-	-	-	-	-
Least Pipistrelle	14,795	214.42	19,188	213.20	-	-	-	-	-	-
Pipistrelle Group	50	0.72	5,338	59.31	616	77.00	23,003	267.48	7,861	524.07
Chinese Pipistrelle	5,343	77.43	885	9.83	-	-	-	-	-	-
Lesser Bamboo Bat	1	0.01	904	10.04	-	-	31	0.36	75	5.00
Lesser Yellow Bat	1,438	20.84	3,608	40.09	10	1.25	723	8.41	873	58.20
Lesser Bent-winged Bat	1,791	25.96	3,627	40.30	-	-	-	-	-	-
Wrinkle-lipped Free-tailed Bat	-	-	99	1.10	-	-				
Short-nosed Fruit Bat	Present		-		-		-		Present	
Number of bat species recorded	13		14		4		8		6	
Total number of bat species recorded	15									

- aec recorded **13** bat species in Sub-area 1 alone
- Only **1** bat was recorded in the EIA in Sub-area 1, and was listed as “scarce”

2. Under-recording of diversity of bats and moths

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No. of Moth Species recorded by the EIA & by Dr. Roger Kendrick

Area	Total no. of all moth species recorded		No. of species of conservation concern recorded	
	Surveys for the EIA	Surveys by Dr. Kendrick	Surveys for the EIA	Surveys by Dr. Kendrick
Sub-area 1	13	**142**	0	**10**
Sub-area 2	8	**297**	1	**24**
Sub-area 3*	19	**-**	0	**-**
Sub-area 4	13	**249**	0	**12**
Sub-total - Project Site	38	**453**	1	**34**
500m Assessment Area	30	**329**	1	**23**
Total	**59**	**593**	**2**	**48**

** No surveys conducted for Sub-area 3*

3. Under-recording of species of conservation importance in Sub-area 1

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aec recorded 37 fauna species of conservation importance in Sub-area 1:

- **15 mammals** (Chinese Horseshoe Bat; Intermediate Horseshoe Bat; Least Horseshoe Bat; Himalayan Leaf-nosed Bat; Rickett's Big-footed Myotis; Chinese Noctule; Japanese Pipistrelle; Least Pipistrelle; Chinese Pipistrelle; Lesser Bamboo Bat; Lesser Yellow Bat; Lesser Bent-winged Bat; Short-nosed Fruit Bat; Pallas's Squirrel; Masked Palm Civet);
- **8 birds** (Chinese Pond Heron; Eastern Cattle Egret; Besra; Black Kite; White-throated Kingfisher; Grey-chinned Minivet; Collared Crow; Rufous-capped Babbler);
- **1 reptile** (Common Wolf Snake);
- **13 moths** (*Stereodytis acutidens; Athetis hongkongensis; Anatrachyntis* sp. B; *Acidon evae; Drachmobola* sp. A; *Scaeosopha* sp. A; *Lysimelia lucida; Scopula* sp. C; *Spodoptera pectinicornis; Kophene* sp. A nr. *cuprea; Epimactis talantias; Bosara emarginaria; Phaecasiophora cornigera)*

The EIA reported 4 fauna species of conservation importance in Sub-area 1:

- **1 mammal** (Japanese Pipistrelle);
- **2 birds** (Chinese Pond Heron; Crested Eagle Serpent);
- **1 dragonfly** (Scarlet Basker)

4. Limitations in assessment and evaluation for light pollution

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Artificial Light

9.7.2.47 Artificial light will increase during operational phase, and the light glare will potentially affect the behaviour and distribution of nocturnal animals, including bats, birds, and herpetofauna, in habitats adjacent to the residential area, including the woodland habitats.

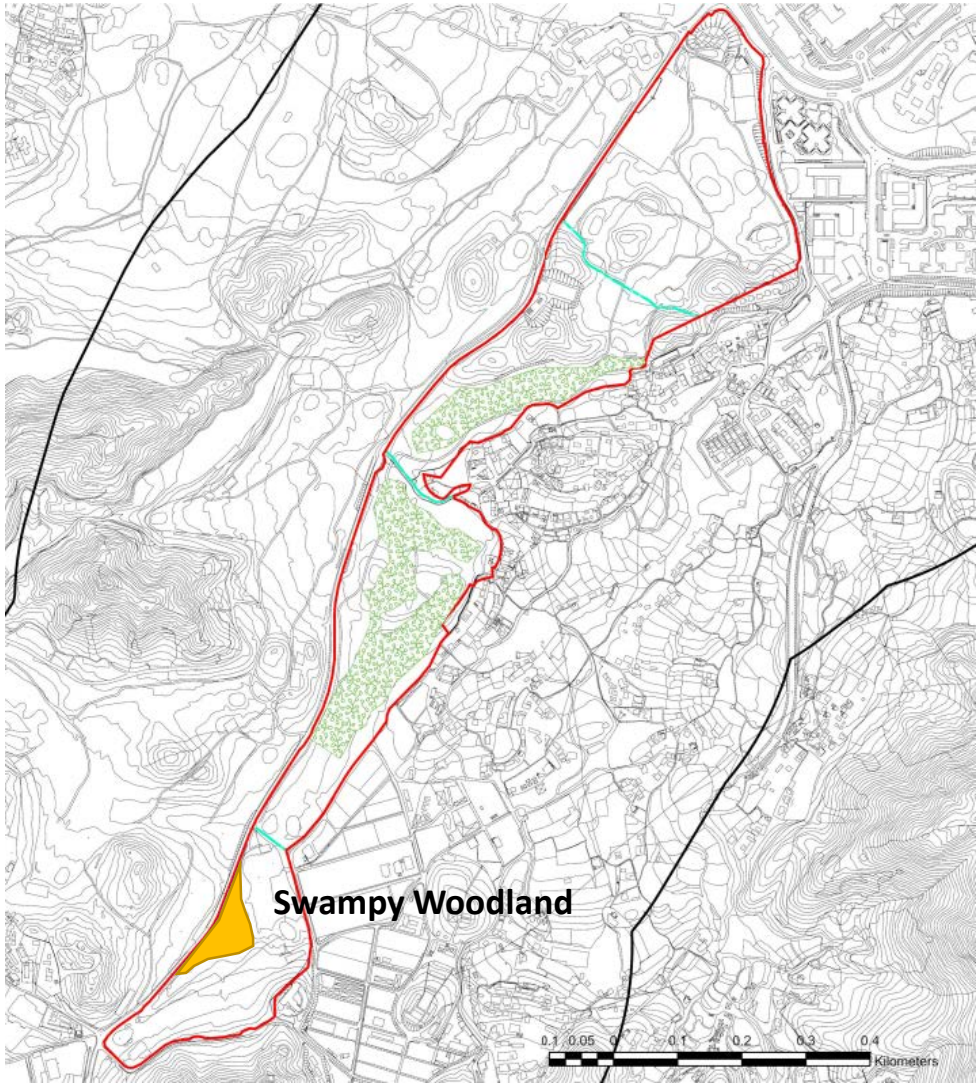
9.7.2.48 There are also existing light sources in the vicinity of Sub-Area 1, e.g. village houses at Ping Kong and public housing estates (Cheung Lung Wai Estate and Ching Ho Estate), street lamps. Fauna sensitive to light might have already avoided these habitats. Hence, the potential impact of light glare from artificial lightings on habitats near Sub-Area 1 is considered **minor**. To take a precautionary approach, it is recommended that light glare in the operational phase can be further reduced through careful planning of lighting e.g. control on light level generated from public roads and footpaths within Sub-Area 1, directing the lighting inwards to the proposed development but not to the nearby habitats in Sub-Area 2, provision of screen planting to avoid light glare from external lighting to the habitats in Sub-Area 2 where nocturnal fauna were recorded.

(text extracted from the EIA Report)

- No attempt made to measure existing light levels or to quantify the increase of artificial light
- Potential impacts not discussed in detail
- Invalid claim due to the under-recording of bats and moths
- Only “glare” has been considered, but no consideration on the increase in ambient light sky brightness at night is given.
- Mitigation measures only focused on ground level lightings

5. Potential impacts from woodland compensation not addressed

- Impacts from the 5.1ha proposed woodland compensation are not mentioned or assessed.
- The woodland compensation proposed in Sub-Area 3 is within the catchment area of the Chinese Swamp Cypress (CSC) Swampy Woodland.
- Impacts to CSC include run-off and sedimentation (both of which could impact seedlings or pneumatophores).
- Hydrological impacts i.e. changes to the water table as the woodland matures could have impacts on the CSC and Swampy Woodland.
- EIA fails to demonstrate that the hydrology will be maintained for the benefit of ecology.
- Only surface water drainage has been considered and there is no groundwater analysis, as required under the Study Brief and TM.
- Recent publication recommends protection of catchment for CSC.



6. Under estimation of habitat evaluation (esp. for Sub-area 1)

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- Under-recording of fauna diversity (esp. bats and moths)
- Under-recording of species of conservation importance
- Rarity of habitat not evaluated (not accord to EIAO-TM)
- Lack of consideration for the difficulty in re-creation of old woodland with, mature trees
- Age of habitat not included
- Under-recording of faunal abundance

Criteria	Sub-area 1	
	Evaluation by aec	Evaluation in the EIA (Table 9.20)
Naturalness	A mosaic of managed artificial habitats (turf and developed area) and semi-natural habitats (woodland and mixed woodland) with little disturbance. Low to moderate human disturbances in day-time and virtually no disturbance in night-time	*Although the dominant species Cratoxylum cochinchinense seems to be artificially planted a long time ago but also considered as natural with other native species; the mixed woodland is mixed with exotic and native plant species; while turfgrass and developed area are man-made*
Size	Woodland: 0.39 ha; Mixed woodland: 3.72ha; Turfgrass: 5.07ha; Developed area: 1.82ha	*Woodland: 0.39 ha; Mixed woodland: 3.72ha; Turfgrass: 5.07ha; Developed area: 1.82ha*
Diversity	Moderate diversity for bats and moths; low to moderate diversity to other flora and fauna.	*Low to moderate diversity of flora and low diversity of fauna*
Rarity	This mosaic of open and closed/semi-closed habitat is rare in a Hong Kong's context. Turfgrass managed in an eco-friendly approach and swampy woodland are also uncommon in Hong Kong 4 flora species of conservation importance and over 37 fauna species of conservation importance recorded	*(Assessment of the rarity of the habitat was not given in the EcolIA; which is not in accordance with the EIAO-TM)* *4 flora species of conservation importance and 4 fauna species of conservation importance:*
Re-creatability	Could be re-created given sufficient land area; although woodland habitats re-created would take a considerable time to reach to current maturity	*Woodland habitats can be recreated but takes time*

Re-creatability	Could be re-created given sufficient land area; although woodland habitats re-created would take a considerable time to reach to current maturity	*Woodland habitats can be recreated but take time*
Fragmentation	Although the wooded areas occur as distinct stands, they form a mosaic with the adjacent open turfgrass habitat. Between the two types of habitats, there are no major physical barriers, and wildlife have been sighted to move freely between these habitats. Therefore, it is not considered that any habitats within sub-area 1 is not significantly fragmented.	*The woodland is fragmented and the mixed woodland mostly formed thin belt*
Ecological linkage	Good ecological linkage to sub-area 2; some linkages to the golf course area west of Fan Kam Road and to the adjacent rural areas at Ping Kong	*Only the southern end functionally linked to habitats of Sub-Area 2*
Potential value	Good potential for enrichment planting in the wooded areas as well as other ecological management	*Low, due to surrounded by developed area*
Nursery/breeding ground	Not known to be significant	*No significant record*
Age	Old in Hong Kong's context (over 100 years)	*N/A*
Abundance/ Richness of wildlife	Moderate abundance for bats; low to moderate for other flora and fauna	*Low abundance of terrestrial fauna*
Ecological Value	Moderate	*Low to medium*

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The EIA Report of FGC-PD --- Important Points of Concerns

TPIs = Potential OVTs

- EIA statement that there are “no OVTs” is misleading – The criteria for identifying Trees of Particular Interest (TPIs) and Old and Valuable Trees (OVTs) is the same but by definition only Government land can have OVTs. All TPIs at FGC are thus potential OVTs if Government resumes the land.
- According to EIA FGC-PD has **459 TPIs** which is the same as the total amount of registered OVTs (459) in all HK.
- The **70 TPIs** located within Sub-Area 1 is more than the 53 OVTs located in the entire North District.
- DEVB TC(W) 5/2020, requires tree surveys to identify potentially registrable OVTs and submit details to GLTMS for assessment. The presence in Sub-Area 1 of 70 potentially registrable OVTs would likely preclude the development of Sub-Area 1 as a public housing development, since **removal of living OVTs is prohibited under DEVB TC(W) 5/2020**.


TPI – ‘T03’ (Retain within Special School Site)


TPI – ‘T37’ (Remove) &
TPI – ‘T36’ (Retain within PHD)

Tree Survey Errors / Omissions

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- Some factual Errors in the Tree Survey were identified during a quick sample audit over 3 days in Late May / Early June 2022 in Sub Area 1
  - **25 missing trees** were found, including one very large Delonix tree listed as a Heritage Tree by Prof Jim in his 2020 Scientific Paper and
  - **incorrect tree sizes** were recorded which, when corrected, **adds 4 TPIs** increasing the number of large TPIs in Sub Area 1 from 24 to **28.**
- Some apparent underestimation of tree quality in the Tree Survey. Of 1255 trees surveyed (including the 70 TPIs identified in survey) **only one tree** is considered of 'High' Amenity Value, which is surprising.
- No evidence is provided to support the feasibility of the tree retention and tree transplanting proposals, which appear **not** feasible according to accepted arboricultural and industry best practice / standards.

OVT Tree Register

- **TPIs** of large size (over 1000mm DBH) located within Sub-Area 1 are **larger** than most of the same tree species on the Tree Register, while there are three species for which there are no registered OVTs. (Note that many of the existing OVTs have DBH less than 1000mm.)

Tree No. of TPI in Tree Survey	Species		No. of this species currently on the HK Tree Register - Range of Sizes (DBH)
	Scientific name	Chinese Name	
T01 (1030DBH)	*Lophostemon confertus*	紅膠木	0 registered as OVTs on Tree Register
T03 T880 (1080-1100DBH)	*Celtis sinensis*	朴樹	3 registered as OVTs (1025-1104DBH)
T05 T16 T18 T21 T24 T27 T111 T165 T166 T167 (1000-1300DBH)	*Melaleuca cajuputi* subsp. *cumingiana*	白千層	12 registered as OVTs (700-1565DBH)
T36 T37 (1343-2000DBH)	*Pterocarpus indicus*	紫檀	4 registered as OVTs (1100-1415DBH)
T56 T57 (1060DBH)	*Eucalyptus exserta*	窿緣桉	0 registered as OVTs on Tree Register
T60 (1000DBH)	*Adenanthera microsperma*	海紅豆	0 registered as OVTs on Tree Register
T71 (1000DBH)	*Ficus microcarpa*	細葉榕	192 registered as OVTs (703-7710DBH) + 30 registered as O&S (730-3000DBH)
T90 T91 T1399 (1157-2000DBH)	*Cinnamomum camphora*	樟	44 registered as OVTs (700-3007DBH)
T786 (2500DBH)	*Ficus virens*	大葉榕	28 registered as OVTs (989-2700DBH) + 2 registered as O&S (1066-1102DBH)
T1900 (1300DBH)	*Eucalyptus citriodora*	檸檬桉	2 registered as OVTs (1015-1095DBH)

24 TPIs of Large Size

Landscape Impact Assessment

- Landscape Impact Assessment does not satisfy the explicit requirements of the Study Brief, the EIAO TM and EIAO Guidance Note 8/2010, and it includes **over 80 factual errors, omissions and methodological deficiencies** that render it incomplete, inaccurate, incorrect, and unreliable as a basis for rational decision-making.
- For example, no identification of existing topographical features, hydrological features, topsoil, and climate, including micro-climate, as **landscape resources**, although this is explicitly required by EIAO TM and EIAO Guidance Note 8/2010 (e.g. no assessment of impact on swampy habitat of Chinese Swamp Cypress).
- Failure to correctly identify the age and sensitivity, as well as the national and international importance, of resource '**LR2 – Grassland**' which is an integral part of the oldest 18-hole golf course grassland in China and Asia. (Instead, the grassland is assessed as any standalone grass field.)

Landscape Impact Assessment

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- Lack of recognition of the value and sensitivity of the **UNIQUE and historic landscape character** of the 110+ years old Fanling Old Course that is **unlike any other landscape in Hong Kong** and which is important in the national and international context. (Surely one purpose of the EIAO is to protect unique resources?)
- Absence of adequate description of the proposed construction methodology to explain the sources and nature of the impacts on landscape resources (as is required by EIAO TM and GN 8/2010)
- Basic objective errors in the measurement of affected areas of the LRs, in the Sensitivities of the LRs and LCAs and in the Magnitudes of Change to the LRs and LCAs, which have consequential impact on the assessment of significance
- Lack of recognition that the proposed landscape mitigation measures OM1 and OM4 in Sub Areas 2 & 3 as potential sources of adverse landscape impact on those Sub Areas (and subsequent failure to assess those impacts). And no identification of the Management and Maintenance Agencies for these MMs which therefore requires these MMs to be discounted as per GN 8/2010 cl.3.8c (but they are not discounted).

Landscape Impact Assessment

- The consequence of these 80+ errors, omissions and deficiencies is the failure to identify **five permanent and irreversible substantial adverse impacts** to landscape resources and landscape character that cannot be practically mitigated.
- This in turn means that the landscape impacts are '**Unacceptable**' in strict accordance with Annex 10 of the EIAO TM. "*The impact is **unacceptable** if the adverse effects are considered too excessive and are unable to mitigate practically*."

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The EIA Report of FGC-PD --- Important Points of Concerns

HKGC FGC-PD Submission Conclusions

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- 300 non-compliances with the EIAO TM and the SB with evidence: please review
- Public consultation: EIA SB Cover letter: “As such you are strongly advised to engage the public and interest groups (affected by the Project) during the course of the EIA study”
- Lack of coordination between sections eg: shows two different compensatory tree planting areas in ecology and LVIA sections
- Ecology states ages of woodlands are “Not Available”, yet clearly shown in appendices of land contamination and cultural heritage

HKGC FGC-PD Submission Conclusions

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- aec spoken what should be correct eco survey methods, periods and times for bats, moths, nocturnal animals and species of conservation importance
- Potential hydrological disruption and reduction of groundwater infiltration from SA1 paving and diversion of groundwater replenishment flows, impacts from ~100 m deep SA1 foundations to Long Valley, and >5 ha of tree planting within 250 m from Chinese Swamp Cypress
- Urbis spoken FGC-PD being oldest part of oldest golf course in China, OVTs, unique irreplaceable landscape

HKGC FGC-PD Submission Conclusions

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- HKGC protected from development and nurtured >110 years by meticulous custodianship
- Non-compliance with the EIAO TM and SB are not subjective points but scientific facts, errors and omissions and unequivocal and incontrovertible facts
- NB: no Club comment on visual Impact assessment due to its subjectivity

HKGC FGC-PD Submission Conclusions

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- aec have shown hard scientific omissions lead to wrong ecological value determination of SA1 as ‘low to medium’ rather than ‘moderate’, wrong overall conclusions of EIA as a decision-making tool and its credibility
- We thank CEDD and ACE EIA SC for their exceptional visit, time and generous questions
- Finally, we offer tour to full Council and stand by to present to ACE on 18 Jul and 15 Aug