

<u>Submission to the Environmental Protection Department in Response to the Environmental</u> <u>Impact Assessment Report of Technical Study on Partial Development of Fanling Golf</u> <u>Course Site – Feasibility Study (EIA-282/2022)</u>

17 June 2022

Hong Kong Golf Club Lot No. 1 Fan Kam Road Sheung Shui New Territories

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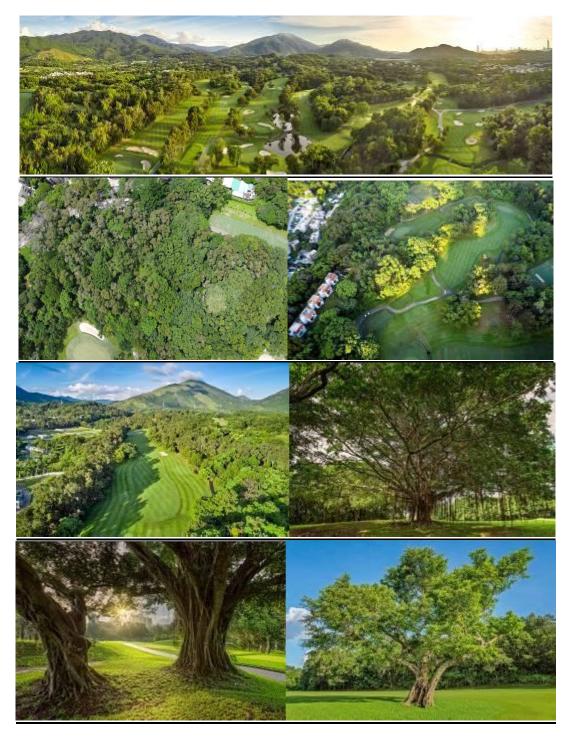
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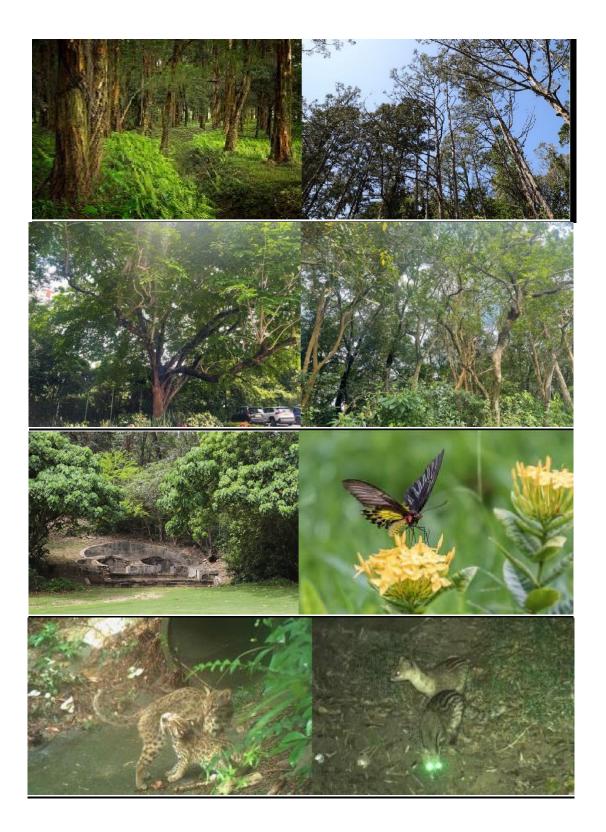
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Flora, Fauna and Heritage of FGC







<u>1. INTRODUCTION</u>

1.1 Decision Makers' Précis

- 1.1.1 This is the Critical Overview of the Submission of the Hong Kong Golf Club ("**HKGC**") in response to the <u>Environmental Impact Assessment Report of Technical Study on Partial</u> <u>Development of Fanling Golf Course Site ("FGC-PD") Feasibility Study (EIA-282/2022)</u> ("EIA Report").
- 1.1.2 Having conducted a comprehensive review of this EIA Report, by local and international environmental experts, Hong Kong Golf Club ("HKGC") considers this EIA Report falls far short of the EIA Ordinance (Cap 499) ("EIAO"), its Technical Memorandum ("TM") and the EIA Study Brief ("SB") in every technical section. There are 301 substantive prima facie omissions and errors that materially and substantively affect each technical section's conclusions and the overall EIA Report conclusions regarding FGC-PD's residual environmental acceptability and the overarching developability of the FGC-PD site. If FGC-PD EIA is passed it will create long lasting damage to a unique, irreplaceable living landscape and cultural landscape and irreversible and unmitigable damage to sites of ecological value, deteriorate Hong Kong's tree resources and potentially create substantive adverse hydrological impacts upon Chinese Swamp Cypress ("CSC") and the Long Valley Nature Park. Major baseline survey omissions for both bats and moth species, omission of the age of woodlands, and the omission of a CSC nursery and a stream in Sub-Area 4, lead to erroneous impact assessment. These and the lack of recognition of the 70 potential OVTs in Sub-Area 1, leads to erroneous ecological and landscape values, impact assessments and technical and overall EIA conclusions. The approval of this substandard and Cap 499 noncompliant EIA Report will create highly undesirable legal precedent of an EIA which is so grossly non-compliant with EIAO-TM and SB. Such an approval of this Cap 499 noncompliant EIA Report will materially and adversely harm Hong Kong's international standing, and the reputation of the EIAO Authority and the Environmental Protection Department ("EPD"), both of whom diligently serve to protect Hong Kong's environment and community from such substantive environmental damage as arises due to FGC-PD. Furthermore, if this EIA Report is approved by the EIAO Authority, it will damage Hong Kong's international reputation as a world-leading city, and also the reputation of the respected environmental jurisdiction with strict adherence to the rule of law, that is globally recognised for its stringent and consistent implementation of the Cap 499, EIAO, since it was enacted in 1998.
- 1.1.3 This Submission aims to provide as much detailed supporting evidence as possible of the non-compliance for the three key decision makers, i.e. the EIAO Authority, Advisory Council on the Environment ("ACE"), and the Town Planning Board ("TPB") to consider in making their important decision regarding the EIA Report and the project.
- 1.1.4 Further, for all the over 300 *prima facie* EIAO-TM and SB non-compliances cited below, this Submission, comprising this Critical Overview, Executive Summary, the three major technical EIA Reviews Summary Sections 2.1-2.4, the comprehensive, section-by-section

analysis EIA Checklist (Appendix 3.1) and all supporting evidence in Appendices 3.1-3.9 should all be provided unabridged and in full to ACE and TPB.

1.1.5 Finally, HKGC hereby offers to make a presentation to the EIAO Authority and ACE at both the ACE EIA Subcommittee and ACE full council meetings on 18 July 2022 and 15 August 2022, respectively, and in due course at TPB. HKGC's presentation from our experts' perspectives and findings on Fanling Golf Course ("FGC")'s natural, environmental, community and social assets should be wholly of interest to ACE's Terms of Reference ("TOR") and *modus operandi*, and will allow the EIAO Authority, ACE and in due course the TPB, to make a fully informed decision under the EIAO on the overall environmental acceptability, or otherwise, of the FGC-PD project.

1.2 Executive Summary

- 1.2.1 This is the Executive Summary of the Submission of the HKGC in response to the EIA Report.
- 1.2.2 This Executive Summary provides a brief background to the FGC, describes the major concerns the HKGC has with the proposal to resume and redevelop an indivisible part of the historic Old Course at the FGC, and the numerous respects which the EIA Report fails to comply with the EIAO, the TM, SB and how that affected the technical conclusions of the individual technical sections and the EIA's overall conclusions.
- 1.2.3 This is accompanied by detailed technical reviews of the EIA Report prepared by the HKGC's expert independent consultants. These technical reviews disclose literally hundreds of major failings in the EIA Report's assessment of the environmental impact of the proposed development, spanning across the aspects of ecology, landscape and trees, and other environmental, planning, engineering and traffic analyses. A comprehensive EIA Checklist is provided listing out the major heads of non-compliance with the EIAO, TM, and/or SB (Appendix 3.1). The technical reviews are supported by appendices showing the data and evidence independently gathered by the HKGC's consultants regarding the ecology, tree, landscape value, cultural landscape of the FGC (see Appendix 3.3 and 3.5), which have been under grading consideration as a heritage cluster by the Antiquities Advisory Board ("AAB") since 2018. There is a potential role which the retained FGC can play within the Northern Metropolis (see Appendix 3.2), together with further planning, engineering (see Appendix 3.9) and traffic supporting evidence for the EIAO Authority, the ACE and the TPB in due course to consider in making their decision regarding the EIA Report and the project.
- 1.2.4 Numerous significant material errors, omissions and deficiencies in the Landscape and Visual Impact Assessment ("LVIA") in Section 11 result in the failure to identify five adverse landscape impacts of substantial significance including permanent and irreversible loss of 8 holes of the historic 18-hole Old Course grassland thereby removing the functionality of the entire nationally and internationally importance 18-hole course; permanent and irreversible loss of 3.09ha ancient secondary woodland with over 1,000 trees including many Trees of Particular Interest ("TPIs") that, if registered as Old and Valuable Trees ("OVTs") would double the current amount of OVTs in the whole of Hong Kong; and permanent and irreversible loss of the unique cultural and historic landscape character of the PDA which is unlike any other landscape in Hong Kong (see Appendix 3.3 and 3.4). None of these impacts can be practically mitigated which requires that the correct objective conclusion of the assessment, in accordance with the five criteria in TM Annex 10, should be that the landscape impacts are 'Unacceptable'.
- 1.2.5 As background, FGC-PD will make the development area the third largest public housing estate in Hong Kong, and the largest public housing estate when combined with the two adjacent existing public housing estates (Ching Ho Estate, Cheung Lung Wai Estate). Meanwhile, it is proposed that the remaining 23ha be turned into a "recreation-cum-conservation" area, although the EIA also designates the vast majority of this area as a 5.1ha compensatory tree planting area to mitigate 4.1ha comprising nearly 1,000 ancient felled trees. For the reasons detailed in this document and the accompanying technical reviews, the

HKGC submits that the environmental impact of the proposed FGC-PD – which has been systematically underestimated in the EIA Report – is wholly unacceptable under the EIAO.

- 1.2.6 As a custodian of FGC, since its construction in 1911, the HKGC has always respected and protected its biodiversity through its meticulous management. The HKGC has conducted detailed ecological surveys, using TM methodologies and has also shared these, along with other technical assessments conducted by independent expert consulting firms, with the Task Force on Land Supply ("TFLS") and relevant government bureaus and departments during public consultation (26 September 2018). On 11 June 2019, the HKGC again provided their technical studies to EPD, and also to relevant government departments and bureaus, in response to the public inspection of the FGC-PD Project Profile submitted under the EIAO by the Civil Engineering and Development Department ("CEDD"). Although this detailed ecological data was widely referenced in the EIA Report's literature review, the findings were inexplicably not used for assessment in the EIA Report. The HKGC continued its ecological surveys, adding its own tree surveys and inventory in 2020, and continues its meticulous ecological and environmental management and custodianship. This is as part of its Audubon Cooperative Sanctuary Programme for Golf (an award-winning education and environmental certification programme accreditation, achieved by only ~2% of all global golf courses), that was awarded to the FGC in 2020, but is not mentioned in the EIA Report.
- 1.2.7 The EIA Report contains numerous substantive and consequential omissions and errors in baseline ecological, tree and landscape character surveys. The EIA Report fails to comply with the TM and SB. Among the major methodological flaws underpinning the EIA Report are the following: (1) a full, 12-month ecological survey was not conducted within the project site, despite being required in the SB; (2) bird surveys within the project site never commenced before 10am, thereby missing the period when birds are most active; (3) other ecological surveys within the project site rarely continued after 10pm, thereby missing much of the night when nocturnal animals and insects are active. As a result, the EIA Report failed to identify more than 90% of moth and bats species present (both specifically referenced in the SB), and identified only 8 species of conservation importance present in Sub-Area 1 (versus 42 species detected during FGC's surveys). This substantively underestimates the conservation importance of Sub-Area 1, as it has (based on the results of the EIA Report) a higher ecological value of than Sub-Areas 2, 3 or 4, rendering the finding that Sub-Area 1 alone being suitable for housing development inexplicable and unjustified. There are over 100 prima facie non-compliances of the EIAO-TM and the SB requirements relating to ecology. These serious errors and omissions are compounded by, and cascade into, the associated assessments, evaluations, mitigation analyses, residual impact and statements, and EIA conclusions – including the wholly incorrect ecological, tree and landscape value gradings. The conclusion of the EIA Report – that the ecological value of Sub-Areas 1 is "low to medium" and as such that high-rise housing development there would be acceptable and its ecological value is "relatively lower" (sic) than Sub-Areas 2-4 - is also entirely incorrect, because with all available baseline data taken into consideration, Sub-Area 1 should be graded as "moderate" ecological value.

- 1.2.8 The ecological value of Sub-Areas 2 and 3 were similarly wrongly graded as "medium" and Sub-Area 4 was wrongly graded as "medium to high". With all available baseline data taken into consideration as it should be the correct gradings for Sub-Area 2 and 3 would be "moderate" and Sub-Area 4 should be "very high" ecological value, due the presence of Chinese Swamp Cypress ("CSC") (*Glyptostrobus pensilis*). This species is listed as "critically endangered" by the International Union for the Conservation of Nature ("IUCN"), but the CSC's local and global importance is not recognised in the EIA Report as two key literature publications on CSC are referenced in the literature review. Furthermore, the ecological assessment does not even reference Sub-Area 4 as being a nursery area for CSC, which is most certainly is.
- 1.2.9 In total, there are over 80 prima facie non-compliances of the EIAO-TM and SB requirements relating the LVIA, including the assertion that "No Registered Old and Valuable Trees ("OVT") were recorded during survey". This is seriously misleading. A tree can be registered as an OVT only if it is on unleased Government Land. The FGC is currently on leased land, and by definition has no OVTs. It is, however, populated with numerous highly valuable Trees of Particular Interest ("TPIs"), many if not all of which would become registrable as OVTs if the Government were to resume the land - these would comprise 463 OVTs, more than the existing registered 459 OVTs in the whole of Hong Kong. The EIA Report fails to recognise or confront this basic, but critical, fact. Furthermore, the EIA consultant has apparently failed to advise CEDD of the procedures laid down in DEVB TC(W) 5/2020 requiring submission of details of potentially registrable OVTs to the Greening, Landscape and Tree Management Section ("GLTMS") and furthermore, that if the correct procedure is followed, there is high likelihood that identification of the presence in Sub-Area 1 of 70 potentially registrable OVTs effectively precludes the development of Sub-Area 1 as a public housing development, since removal of living OVTs is prohibited. Of the over 1,321 trees impacted by FGC-PD, many of which are old and valuable, 75% are felled, 22% retained, while it is proposed that 2% would be transplanted. However, leading Hong Kong tree experts, including academic Prof CY Jim, expects very few, if any, retained or transplanted trees could survive in the new, dense, urban and shaded environment that would exist after FGC-PD redevelopment. Further, the mitigation measures proposed in the EIA Report are unrealistic and unsupportable in light of academic literature and industry standards (see Section 2.2 and Appendix 3.4).
- 1.2.10 In addition, the environmental impact of 5.1ha of compensatory tree planting (for the 1000+ trees to be felled in Sub-Area 1) and new mitigation saplings planted into Sub-Areas 2 and 3 (destroying the grassland fairways that have existed there for some 110 years) has not been environmentally assessed at all. The drawdown of the water table and the hydrological impacts to CSC (located only ~250m away in the same catchment) have also not been considered. Further, the hydrological and groundwater table impacts from the 9ha Sub-Area 1 (to comprise 11# +150-160 mPD high rise towers with ~100m deep foundations) are stated not to impact CSC to the south, nor Long Valley to the north, but there is no detailed, quantitative hydrological impact assessment to support this assertion as required by the SB. These shortcomings, again, comprise material, substantive, and consequential failings which are inconsistent with the TM and SB, and affect the conclusions of the EIA Report.

- 1.2.11 In terms of the introductory and project description sections, assessments of air, noise, water quality, sewerage and sewage treatment, waste management, contaminated land and cultural heritage, 109 *prima facie* non-compliances with the TM and the SB are found (see Section 2.3 and Appendix 3.1). Also, in general, there has been a lack of details provided and too many unsupported assumptions. Significant shortcomings include the lack of any reference to Schedule 2 Designated Projects ("**DPs**"), even though three were identified in the Project Profile, in particular the need for a >2,000m³/day sewage pumping station. The waste management assessment contains significant errors in calculation, such as underestimating the volume of some waste types by around 20% and the number of trucks to transport waste off-site by at least 250%. The land contamination assessment, which was based only on a desk study, concludes no adverse residual impacts based on the flawed assumption that unspecified remediation will be 100%, which is unprovable.
- 1.2.12 Further, the EIA Report fails to mention the national policy of "ecological civilization", HK's Biodiversity Strategy and Action Plan in 2016 ("**BSAP**") and does not refer to the 4 different policy bureau alignments of HKGC, which cement FGC's significant social value beyond golf all underscoring the inadequacies in the EIA Report as a decision-making or environmental protection tool.
- 1.2.13 In 2018, the AAB voted to assess the whole of the FGC site (the Old Course central among it) for heritage status, and give its unique, historic status as an undulating, inland golf course developed during the "Golden Age" of golf course design (see Appendix 3.3 and 3.5). This is still under AAB consideration. The Cultural Heritage Impact Assessment ("CHIA") recognises correctly that a final assessment, and therefore approval for the development, cannot be reached until the AAB decision is made, as it directly affects the conclusions of CHIA. As such, TM 4.4.3(a)(x) states that "if the adverse environmental impacts are uncertain, they shall be treated more cautiously than impacts for which the effects are certain and the precautionary principle shall apply" (please refer to the last paragraph of this Introduction). In addition, there is no mentioning of direct cultural heritage impacts including potential subsidence from FGC-PD bored piling only 110 m from the Grade 2 listed HKGC Clubhouse, and the indirect impacts to routine worship at FGC's ancestral graves and to an area with a history dating back to the Ming Dynasty have not been adequately considered. The CHIA does not reference the fact that the Old Course is the oldest championship golf course in Asia, and hosted of the first 11 editions of the Hong Kong Open, which is Hong Kong's oldest professional sporting event, and has been hosted at the FGC for over 60 years (see Section 2.3).
- 1.2.14 There is a chronic absence of coordination between the elements of the EIA Report, leading to piecemeal analysis without a proper, holistic view. For example, woodland compensation is shown as different areas in Section 9 and Section 12, leading to serious EIAO compliance failures. There is also the absence of woodland "age" in Section 9 (shown as "Not/Available"), while the appendices to both Section 8 (Land Contamination) and 12 (Cultural Heritage) show numerous aerial photographs that allow woodland age to be readily determined. The absence of an age assessment and findings, which amounts to a key TM element in the correct ecological value gradings, is critical, and most materially affects the development potential of Sub-Area 1 as described above.

- 1.2.15 Systematic scientific failures and instances of non-compliance with the EIAO, TM and SB populate every technical section of the EIA Report, and substantively and materially affect both the EIA Report's conclusions and credibility. Within the short public consultation period available, the FGC's independent consultants have identified 301 *prima facie*, substantive, material, and consequential flaws in the EIA Report. This is coupled with inadequate details, as required by the TM and SB, regarding essential project description and details of infrastructure requirements, individual construction stage timings, external population and traffic assumptions, air and land uses such as "recreation-cum-conservation", which does not allow for an informed or reasonable determination of the acceptability of the EIA Report by any party, including the EIAO Authority, TPB and ACE. These significant failures result in a consistently poor, unscientific and the EIAO non-compliant EIA Report, which is well below an acceptable standard for the internationally-respected Hong Kong EIA system, making it impossible for advisory bodies such as the ACE, the TPB, and the EIAO Authority to reasonably make a decision to approve this EIA Report.
- 1.2.16 The errors begin even from the cover page of the EIA Report, which depicts a "before" image of the site as a golf course and natural paradise as it now is, rather than presenting a depiction of the site after it is destroyed by the construction of a 12,000-unit high rise housing development. Indeed, the Executive Summary of the EIA Report, which is the document that will be most widely read by the general public, shows no layout of this massive and dense development. In EIA Sections 1.6.3 1.6.8 and 2.5.2 2.5.7 respectively, 'Green and Environmental Initiatives' comprise examples of "greenwash". These, along with apparent repeated examples in the ecology and LVIA sections, appear to hint a pattern of conduct downplaying the FGC's conservation values, numbers and facts, in order to favour the development of the 12,000-unit high rise housing development. An objective reader is left in doubt with either the competence or independence (or both) of those responsible for preparing the EIA Report. The EIA Report unfortunately has the propensity to mislead advisory bodies, the EIAO Authority, relevant bureaux and departments, green groups, stakeholders, and the public-at-large about the true environmental value and development potential of the FGC.
- 1.2.17 Finally, and for all the over 300 *prima facie* EIAO reasons cited above, the HKGC considers the FGC-PD project EIA should not be approved by the EIAO Authority, should be abandoned by its Project Proponent (which is allowable under the EIAO). Further, and more importantly, the whole of HKGC as a local, national and international conservation asset should be protected in perpetuity from any future development threat by appropriate statutory protection and by continued custodianship of the HKGC for sports, biodiversity and heritage conservation that is proven to have served Hong Kong so well for the last 111 years.

1.3 Precautionary Principle

- 1.3.1 In the context of an environmental impact assessment ("EIA") in Hong Kong, the EIAO TM requires that the precautionary principle be applied: see §4.4.3(x). The mandatory nature of this was confirmed by the Court of Appeal in *Chu Yee Wah v Director of Environmental Protection* [2011] 5 HKLRD 469 at [117].
- 1.3.2 Where there is scientific uncertainty as to the existence or extent of risks to the environment, the precautionary principle allows (or, where mandatory, requires) protective measures to be taken without having to wait until the reality and seriousness of the risks become fully apparent or until the adverse effects materialise: see *R* (Sinclair Collis) v Secretary of State for Health [2012] QB [394] at [142] (Court of Appeal, England & Wales) Du Pont de Nemours (France) and Others v Commission, T-31/07, EU:T:2013:167 (12 April 2013) at [135] (Court of Justice of the European Union).
- 1.3.3 In the context of the EIAO TM, §4.4.3(x) stipulates that an EIA must evaluate both the likelihood and degree of uncertainty of any possible adverse environmental impacts, factoring any mitigating measures. If the net impacts are uncertain, then "they shall be treated <u>more cautiously</u> than impacts for which the effects are certain and the precautionary principle shall apply."
- 1.3.4 The mandatory application of the precautionary principle in the context of an EIA means that:
 - In assessing the likelihood of an adverse impact, a "*risk is deemed to be present <u>where</u> <u>it cannot be ruled out</u>" having regard to the best scientific knowledge in the field, that the plan or project might affect the conservation objectives of the site: <i>Case C-254/19 Friends of the Irish Environment*, ECLI:EU:C:2020:680 at [51], 9 September 2020.
 - b. The relevant authority is to authorise an activity "only if [it has] made certain that it will not adversely affect the integrity of that site". This is so "when there is no reasonable doubt from a scientific point of view as to the absence of such effects": Case C-411/17, Inter-Environment Wallonie and Bond Beter Leefmilieu Vlaanderen, EU:C:2019:622, 29 July 2019 at [120].
 - c. An assessment "cannot be regarded as appropriate if it contains gaps and lacks complete, precise and definitive findings and conclusions <u>capable of removing all</u> reasonable scientific doubt as to the effects of the proposed works on the protected site": Case C-404/09, Commission v Spain, C-404/09, EU:C:2011:768, 24 November 2011 at [100].
- 1.3.5 These legal principles apply both to an assessment of the impact of a proposed development alone, and also to its 'net impact' (i.e. its impact after mitigating measures are taken into account). Thus, protective measures cannot be considered sufficient or appropriate to mitigate adverse impact to a sufficient degree unless this is clearly established on the basis of complete, precise, and definitive findings and conclusions. Speculation, assumptions, or conjecture about the effectiveness of mitigating measures will not satisfy the requirements of the EIAO TM.

- 1.3.6 For the FGC-PD EIA the following comprise *prima facie* areas where FGC's expert opinion is that the precautionary principle should be exercised, as a risk is deemed to be present where it cannot be ruled out:
 - Adverse and substantive potential hydrological damage from FGC-PD to the Long Valley Nature Park and Chinese Swamp Cypress stand, Swampy Woodland and CSC's nursery area;
 - Adverse and substantive potential hydrological damage from FGC-PD's Sub-Area 2 and 3 compensatory tree plantings to Chinese Swamp Cypress, Swampy Woodland and CSC's nursery area;
 - Adverse and substantive potential damage from FGC-PD's Sub-Area 1 housing on the ecology and integrity of Sub-Areas 2-4;
 - Adverse and substantive potential damage from FGC-PD proposal to Chinese Swamp Cypress from human disturbance and use as 'recreation-cum-conservation' area;
 - Adverse substantive damage from FGC-PD to retained trees in Sub-Area 1 and trees transplanted to Sub-Areas 2 and 3 due to overly optimistic estimation of survivability;
 - Adverse substantive damage to the unique, irreversible cultural landscape of FGC from FGC-PD, which has not been assessed;
 - Adverse substantive damage to potential OVTs in Sub-Area 1 from FGC-PD;
 - Adverse substantive impact to FGC heritage cluster, presently under AAB assessment, from FGC-PD;
 - Adverse substantive potential damage from FGC-PD to The Grade 2 listed Clubhouse (1914) and FGC buildings, and Fan Kam Road due to subsidence from high-rise deep foundation work; and
 - Adverse impact on Hong Kong's international image.

<u>2 – TECHNICAL REVIEWS</u>

2.1 EIA Review – Ecology

- 2.1.1 This is a brief summary of the technical review (the "**Technical Review**") of the Ecological Impact Assessment ("**EcolIA**") contained in Chapter 9 of the EIA Report prepared under Agreement No. CE 17/2019 Technical Study on Partial Development of Fanling Golf Course Site. The full Technical Review is available in Section L of Appendix 3.1.
- 2.1.2 The report was generated by Paul Leader, David Stanton, Tommy Hui, Lag Wan, Dr Michael Leven (aec Ltd.) and Dr Roger Kendrick (C & R Wildlife). The review was undertaken with reference to the EIA Study Brief (EIA-SB) No.: ESB-318/2019 (**"SB"**), and all relevant parts of the TM and Guidance Notes (**"EIAO-GN"**). Reference was made to the ecological survey data collected at FGC by the review team during 2018 to 2022.
- 2.1.3 The Technical Review demonstrates that the EcolIA contains, among other things:
 - numerous serious and significant errors and omissions in the baseline ecological survey
 - flaws in the assessment of potential impacts
 - a significant underestimation of the species of conservation importance within the Project Area and Development Site
 - a lack of adequate detail regarding the mitigation proposals
- 2.1.4 These errors and omissions compromise the EcolIA and the EIA Report as a whole, the conclusions of which are therefore fundamentally unsound. Correctly analysed, the only possible conclusion that an objective study can reach and the conclusion we do reach is that the proposed development will result in a significant adverse ecological impact. The EcolIA consistently and repeatedly fails to meet the requirements of the EIA-SB and the relevant TM and EIAO-GN. These are detailed in **Section L of Appendix 3.1** below.
- 2.1.5 Major errors, omissions and deficiencies include (but are not limited to) the following:
 - The literature review misses critical references. The literature identified is not subsequently referred to in the EcolIA.
 - The survey methodology for most surveys is almost entirely lacking in relevant details.
 - The data collected on bats and moths do not reflect the true value of the project site and assessment area (Sub-Area 1 in particular) for both and are categorically inadequate for the purposes of the EIA Study.
 - The Evaluation of Habitats and Species of Conservation Importance is based upon an inadequate ecological baseline and ignores relevant species detailed in the literature review. As such the Overall Ecological Value of Habitats (and Sub-Areas) are consistently underestimated.
 - The age of habitats is simply ignored, for instance, for woodlands, age is an essential and integral component in the assessment of ecological value.
 - Potential direct impacts are only assessed for Sub-Area 1, even though it is noted that development will take place beyond this area.

- Construction Phase Impacts to habitats outside of the project site are not considered.
- There is a predicted habitat loss of 5.1 ha within Sub-Areas 2-4 which equates to about 20% of that area; this has not been addressed or considered, even though the ecological value of these Sub-Areas has been assessed as being in the medium to high range.
- The Chinese Swamp Cypress ("CSC") is a critically endangered species and occurs within the Project Area. The EcolIA misses critical references (including one referring specifically to the Project Area); uses an inappropriate survey methodology to assess its abundance; fails to consider its complex ecology; and proposes a land-use change within the water catchment of the CSC that could have a devastating impact.
- Noise, traffic, and human activities during operation phase outside of Sub-Area 1 but within the 500m assessment area are not assessed.
- Impacts from artificial light are not properly assessed. There is no attempt to measure or describe existing or predicted light levels.
- With regard to the proposed mitigation measures, the EIA SB requires that the applicant shall "evaluate the feasibility and effectiveness of the recommended mitigation measures and define the scope, type, location, implementation arrangement, resource requirement, subsequent management and maintenance of such measures." This has not been done.
- In failing to recognise numerous significant adverse ecological impacts, inevitably there are no corresponding mitigation measures proposed for these impacts.

Ecology Overarching Statement Regarding Substantive Damage Resulting from FGC-PD's TM and ESB Omissions and Errors and Consequent Material Adverse Impacts to EIA Conclusions

2.1.6 The EIA fails to establish an accurate baseline for certain faunal groups specified in the SB, most notably for bats and moths. That and other failings of the baseline survey result in a comprehensive under evaluation of the conservation value of the project site and assessment area, the habitats present, the number and the complexity of the species of conservation importance that occur there. As such, the applicant has missed wide ranging and significant ecological impacts that will occur should the proposed development proceed. This is further compounded by a failure to assess multiple direct and indirect impacts and in not using suitable methodologies to assess many of the impacts that are recognised. The proposed mitigation measures lack sufficient details regarding their implementation to demonstrate that they are feasible. Therefore, the conclusion in the EcoIIA that with the implementation of mitigation measures the residual ecological impacts of the project is considered acceptable is fallacious. The proposed development will result in major, irreversible and unmitigated ecological impacts, such as the loss of a large area of breeding and foraging habitat for moths and foraging habitat for bats.

2.2 EIA Review – Landscape and Trees

- 2.2.1 The "EIA Review Landscape and Trees" attached in Appendix 3.4 summarizes the findings of a Technical Review of the Landscape Impact Assessment (LIA) contained within Chapter 11 of the Environmental Impact Assessment (EIA) Report prepared under Agreement No. CE 17/2019 (CE) Technical Study on Partial Development of Fanling Golf Course Site.
- 2.2.2 Technical Review reveals that the LIA contains numerous significant errors and omissions in the baseline survey; significant errors and omissions in the identification of sources of impact; lack of any evidentiary support for the effectiveness of the proposed mitigation measures; and numerous significant errors, omissions, and deficiencies in the assessment methodology. As a whole, the assessment fails to identify five Adverse Landscape Impacts of Substantial Significance, rendering the conclusions of the LIA invalid and unsustainable. On a correct, objective assessment, performed using proper, scientific methodology in accordance with the five criteria laid down in Annex 10 of the Environmental Impact Assessment Ordinance Technical Memorandum (EIAO TM), the landscape impacts of the proposed development must be graded 'Unacceptable'.
- 2.2.3 This Review also reveals that the EIA consultant has apparently failed to advise Civil Engineering and Development Department (CEDD) of the procedures laid down in DEVB TC(W) 5/2020 requiring submission of details of potentially registrable Old and Valuable Trees (OVTs) to the Greening, Landscape and Tree Management Section (GLTMS) and furthermore, that if the correct procedure is followed, there is high likelihood that identification of the presence in Sub-Area 1 of 70 potentially registrable OVTs <u>effectively precludes the development of Sub-Area 1 as a public housing development</u>, since removal of living OVTs is prohibited.
- 2.2.4 This Review also reveals that LIA does not follow correctly, nor satisfy numerous requirements of the Environmental Impact Assessment Study Brief (SB), the EIAO TM, and EIAO Guidance Note 8/2010 (EIAO GN 8/2010). Accordingly, the findings and conclusions of the LIA should be rejected and dismissed for that further and additional reason.
- 2.2.5 Major errors, omissions and deficiencies include (but are not limited to) the following:
 - Failure to consider the Northern Metropolis in the Review of Planning and Development Control Framework (this fails to satisfy the requirements of the SB, EIAO TM and EIAO GN 8/2010).
 - Failure to provide sufficient plans, elevations, and section drawings to convey the findings of the Landscape and Visual Impact Assessment (LVIA) to the readers to enable them to understand what is being proposed, interrogate the findings, and provide a meaningful response (this fails to satisfy the requirements of SB, EIAO TM and EIAO GN 8/2010).
 - Failure to identify existing topographical features, hydrological features, topsoil, and climate, including micro-climate, as landscape resources (this fails to satisfy the requirements of the EIAO TM and EIAO GN 8/2010). Most critically, there is a failure to identify the important hydrological swampy habitat of the Chinese Swamp Cypress which is listed as Critically Endangered according to the IUCN Red List.

- Failure to correctly identify the sensitivity and national and international importance of LR2 'Grassland' (the oldest 18-hole golf course grassland in China and probably the oldest in Asia).
- Failure to identify the unique and historic landscape character of the 110+ years old Fanling Old Course that is unlike any other landscape in Hong Kong and Asia and which is important in the national and international context.
- Multiple factual errors in the Tree Survey (identified in a 3-day sample audit conducted in late May/ early June 2022) including:
 - one very obvious, very large (917mm DBH^[11]) 'Heritage Tree' (specifically referred to in academic literature: see 2020 report by Prof. CY Jim) near the Car Park is missing;
 - 24 other smaller trees (at least) also missing from the survey in the area near the Car Park;
 - \circ failure to identify (at least) four Trees of Particular Interest (TPIs) with DBH >1000mm; and
 - incorrect tree species identification.
- Consistent underestimation of tree quality in the Tree Survey. Of 1255 trees surveyed (including 70 TPIs identified in survey) only one tree is considered of 'High' amenity value, which is objectively wrong.
- Failure to follow the correct procedures under DEVB TC(W) 5/2020 'Registration and Preservation of Old and Valuable Trees' for the identification of potentially registrable OVTs and submit details to GLTMS for assessment.
- Failure to identify that the presence in Sub-Area 1 of 70 potentially registrable OVTs would effectively preclude the development of Sub-Area 1 as a public housing development, since removal of living OVTs is prohibited.
- Failure to adequately describe the proposed construction methodology to explain sources and nature of impacts on landscape resources (this fails to satisfy the requirements of the EIAO TM and EIAO GN 8/2010).
- Failure to identify proposed Mitigation Measures OM1^[2] & OM4 in Sub-Areas 2 and 3 as potential sources of adverse landscape impact (and adverse ecological impact) in those Sub-Areas (this fails to satisfy the requirements of the EIAO TM) and subsequent failure to assess those impacts.
- Failure to identify change in landscape management as a source of adverse landscape impact (this fails to satisfy the requirements of the EIAO TM and EIAO GN 8/2010).
- Basic errors in measurement of affected landscape resources (which significantly underestimate affected areas).
- Basic errors in assessments of Sensitivities of Landscape Resources and Landscape Character Areas (which significantly underestimate sensitivities).
- Basic errors in assessments of Magnitude of Change to Landscape Resources and Landscape Character Areas (which significantly underestimate magnitude).
- Failure to identify the correct Management and Maintenance Authorities for Mitigation Measures (MMs) CM1^[3], OM1 and OM4 which means that the effects of these MMs should be discounted from the LIA, but they are not discounted (this fails to satisfy the requirements of the EIAO TM and EIAO GN 8/2010).

- Failure to provide any evidential support for the feasibility of the tree retention and tree transplanting proposals, which appear not feasible according to industry standards (this fails to satisfy requirements of the EIAO TM and EIAO GN 8/2010).
- Failure to correctly identify Residual Adverse Impacts of Substantial Significance on LR1.2, LR2, LR8.1 and LR8.2 (which together cover ~90% of Sub-Area 1) and LCA1 (which covers 100% of Sub-Area 1).
- Failure to conclude the overall residual landscape impact of the project with reference to the five criteria in Annex 10 of the EIAO TM (this fails to satisfy the requirements of the EIAO GN 8/2010 and EIAO TM).
- Failure to refer to relevant published papers or scientific research previously undertaken at Fanling Golf Course.
- 2.2.6 In addition to the above list, numerous further errors, omissions, and deficiencies have been identified in the Review and are catalogued in a 'Checklist of Requirements for LVIA' in *Annex C* of the 'EIA Review Landscape and Trees'.
- 2.2.7 In short, the LIA is replete with numerous significant errors, omissions, and deficiencies. As a result, the findings and conclusions of the LIA are objectively unsustainable including its fundamental conclusion as to whether the environmental impact of the proposed project is acceptable. The LIA falls far short of the standards required by the EIAO GN 8/2010, the EIAO TM, and the SB, is not capable of being accepted as a valid EIA Report under the EIAO and does not provide the Advisory Council on the Environment and Director of Environmental Protection with a sound basis for a rational decision.

2.3 EIA Review – Environmental

- 2.3.1 The following technical review assesses whether the remaining sections of the EIA Report (pertaining to Air Quality, Noise, Water Quality, Sewage and Sewage Treatment, Waste Management, Land Contamination and Cultural Heritage) satisfy the requirements of the EIAO, the TM and the SB. For the reasons summarised below (details of which are contained in Appendix 3.1), these sections of the EIA Report are considered to be deficient and not compliant with the required standards:
 - Section 2 Air Quality. Impacts resulting from the transport of material off-site for disposal have not been addressed. The identification of existing chimneys has not been carried out properly. There are errors in the calculation of boiler emissions from North District Hospital.
 - Section 3 Noise. The Eden Course and the New Course at FGC, and the new Special School in year 2028-2029, have not been identified as sensitive receivers when there is provision to do so in the TM. This is a significant omission. Ground-borne noise from the use of mini Tunnel Boring Machines ("TBMs") has been dismissed as "insignificant" without any assessment. The traffic noise impact assessment (for operation stage) is based on the existing 2-lane Fan Kam Road; the analysis fails to consider the planned widening of Fan Kam Road (which brings greater traffic volumes 10 m closer to residential units, according to plans shown in the LVIA Appendix). Provision in terms of a "10 m Setback for Future Road" has been made for this within the project site in Sub-Area 1, and it is a significant flaw in the operational noise impact assessment that this was not considered.
 - Section 5 Water Quality. The EIA presents an over-simplified, two-dimensional approach to the water systems that fails to consider hydrological changes (including groundwater flows) brought about by changes in land use both above and below ground. No quantitative modelling of hydrological (including groundwater flow) changes has been presented either during construction or operation, despite explicit reference in the SB. EIA Report Section 5.6.7 identifies polluting potential of the Public Transport Interchange but only states that "Mitigation measures should be implemented" without providing any specifics. Section 5.6.19 concludes that the impacts of the proposed deep foundations are "insignificant" without any quantitative assessment for justification. There are also significant shortcomings in the assessment of stormwater.
 - Section 6 Sewerage and Sewage Treatment. The SB specifies that a computer model is used to assess the impacts on sewerage capacity, but no model output is provided to justify the assumptions made of spare capacity downstream. Inexplicably, there is no mentioning as to how the sewage from 33,600 residents will be conveyed from the proposed residential blocks to the municipal sewer. In the Project profile, a >2,000m³/day sewage pumping station, one of three Schedule 2 DPs, was proposed, but in the EIA Report, there is no mentioning of any of these DPs. Without justification to the contrary, the EIA Report is flawed by omitting justification of the need, or otherwise, of a 2,000m³/day sewage pumping station, and thereby is potentially in breach of the section 4(4), Part II of the EIAO, Part II, 4(4), which relates to avoiding the purposes of the EIAO by purposefully neglecting to identify DPs.
 - Section 7 Waste Management. The key problems here are in the conclusions and are as a result of the unsubstantiated assumptions and basic errors in calculation. The quantity of inert Construction and Demolition ("C&D") Material has been

underestimated by around 20%, while truck trips transporting this offsite have been underestimated by at least 250% (not less than 42 truck trips per working day, compared to 16 truck trips stated in the EIA Report). There is no assessment of the impacts arising from waste transportation or disposal. These errors and omissions render the unsustainable the conclusions in Section 7.8.1 (that *"adverse residual waste management implications are not anticipated ..."*) and Sections 7.10.4 and 15.6.6 (that *"... no unacceptable adverse environmental impacts arising from the handling, storage, transportation or disposal of the waste generated by the Project would be envisaged"*).

- Section 8 Land Contamination. Based only upon a desktop study and site walkover (in just one day), Section 8.7.5 concluded that "... no adverse residual impacts are anticipated from the construction and operation of Project activities as the land contamination assessment and remediation would be completed before the commencement of any construction works". This conclusion is not supported by the limited assessments carried out during the EIA Study and is based on the assumption that unspecified remediation will be 100% successful. Also, no assessment of the impacts of remediation have been considered. Indeed, the EIA Report expressly accepts (see Section 13.5.16 and following) that a proper land contamination assessment will have to be conducted in future (albeit only after an archaeological survey has been completed see Sections 12.6.5.1 and 12.6.5.3, which in turn cannot occur unless and unless the land is resumed by the Government). In this respect, the EIA Report is simply incomplete.
- Section 12 Cultural Heritage. The cultural heritage value of the FGC is not assessed with in a suitable consideration and methodology. No assessment of the heritage value of the whole of FGC (New item N340, pending for AAB grading) is conducted. According to EIA Report Section 12.3.2.6, "cultural landscape" is included in the category of assessed cultural heritage, but it was not covered throughout the entire report. As a result, the cultural heritage potential of FGC is not assessed sufficiently. Besides, for the mitigation measures on the existing antiquities, the EIA Report did not provide adequate data and evidence as requested in TM 4.3.1, Putting the assessment into cultural heritage context, the procedure would be "Attribute Identification & Mapping Value Assessment Impact Assessment (Prediction & Evaluation) Mitigation", in which all impact evaluation and mitigation proposals have to be based on attribute mapping and value assessment. However, no section in the EIA Report was dedicated to the value assessment of the cultural heritage elements. Without a foundation on the value of the elements, impact assessment could not be conducted, and thereby mitigation measures would not directly address the affected cultural heritage elements.
- 2.3.2 In general, not only do the all of the above assessments fail to comply fully with the EIAO, the TM and/or the SB, the assessments and, therefore, the conclusions, are flawed and thus throw doubts on the environmental acceptability of the Project overall. On this basis it would be unreasonable for the EIA Authority to approve or ACE to endorse this EIA Report given the significant problems.

Air Quality Impact Assessment (EIA Report, Section 3)

- 2.3.3 The following non-compliances with the EIAO, the TM and/or the SB have been identified:
 - Section 3.4.3.2 of the SB provides the requirements for identifying air pollution sources arising from the Project. The last sentence of section 3.4.3.2 states "*The Applicant shall*

describe the transportation routings and frequency of the dump trucks, if any, with a view to addressing potential nuisance caused by dump truck movements during the construction phase of the Project". However, in Section 3 of the EIA Report on Air Quality Impact, no information regarding dump trucks is mentioned to address the potential nuisance caused by dump truck movement during construction. This SB requirement has not been met.

- SB Appendix B Item 2 (iii) requires identification of existing chimneys and to obtain relevant chimney emission data within the assessment area. While chimney emissions from North District Hospital have been identified as mentioned in section 3.5.16, this SB requirement has not been met for the following reasons:
 - there is no confirmation as to whether any other chimneys are located within the study area.
 - section 3.5.29 states that Towngas is the fuel used by the identified chimneys. While this paragraph does not state the ownership of the chimneys, it implies that they belong to North District Hospital, since only the chimneys of North District Hospital are mentioned in section 3.5.16. That is, all the chimneys NDHC01-03 of North District Hospital and NDHE01-03 of North District Hospital Expansion shown in Figure 3.3 are for Towngas combustion only. No correspondences from the Hospital Authority regarding the chimney details such as fuel type, fuel consumption rate, physical dimension of chimneys, etc. is appended to the EIA Report.
 - this EIA Report contradicts the EIA Report for North-East New Territories New Development Areas approved by the EPD on 18 October 2013 (AEIAR-175/2013) in that not only Towngas but also Ultra Low Sulphur Diesel (ULSD) combustion for North District Hospital were mentioned in Section 3.5.2.5 of AEIAR-175/2013.
 - this significant discrepancy has not been recognised or explained, leaving major question marks hanging over the conclusions reached in this section.
- **TM Annex 12** Guidelines for Air Quality Assessment Section 3.6 Impact Prediction and Assessment item (a) stipulates that "Assessment results shall provide information on the worst-case meteorology; areas of maximum impacts in the study area and cumulative impacts due to background and identified sources". However, the operation air quality impact was not assessed based on the worst-case scenario because:
 - there is no confirmation as to whether any pollution sources such as chimneys other than those mentioned in sections 3.5.16 and 3.5.17 of the EIA Report for the major pollution sources during the operation phase are located within the study area.
 - according to Appendix 3.10 Emission Inventory and Calculations on Chimneys of the EIA Report, the maximum monthly consumption rate 5,863,104 MJ in 2019 of the boilers NDHC01–03 of North District Hospital Boiler was adopted and it was treated as a conservative approach. Whilst the calculation details were not shown, the monthly Towngas consumption rate was divided by 31 days/month, 24 hours/day, 60 minutes/hour and 60 seconds/minute, resulting in 0.2027 kWh/s/boiler. This is an unreasonable assumption resulting in potential underestimation in nitrogen dioxide concentration for both 1-hour average and 1year average no₂ concentrations at the Air Sensitive Receivers (ASRs) due to Towngas combustion from the boilers. For such an assessment chimney emission must be conducted based on:

- the installed/design capacity of each boiler.
- the hourly usage of each boiler as confirmed by the chimney operator.

As such, the TM Annex 12 requirement has not been met.

Noise Impact Assessment (EIA Report, Section 4)

- 2.3.4 The following non-compliances with the EIAO, the TM and/or the SB have been identified.
 - SB Appendix C items 2.2.1(b), 3.2.1(b), 4.2.1(b) and 5.2.1(b) require identification of *all* existing Noise Sensitive Receivers ("NSRs") in the assessment area. In Section 4.4 of the EIA Report, it is noted that residential buildings, schools, church, hospital and social welfare facilities were selected as representative NSRs, but not the remainder of FGC including the Eden Course or the New Course which host major international golf tournaments such as the Hong Kong Open. Annex 13 of the TM does not limit the definition of NSRs, meaning that other NSRs can be added as needed. It is well known that golfers require a quiet environment when playing and, particularly during competitions, tournament marshalls hold up "Quiet Please" signs. It is a significant omission that the Eden Course and the New Course at FGC were not identified as representative NSRs for the noise assessment. Furthermore, there is no justification as to why the Special School, which will be completed one year ahead of the rest of the Project, is not considered as a NSR during the final year of construction. As such, TM Annex 13 and this SB requirement have not been met.
 - SB Appendix C item 2.2.2 requires identification and quantification of an inventory of noise sources for representative construction equipment, which shall include the ground-borne construction noise (mentioned in SB Appendix C item 2.1.2). However, Section 4.5.1.3 of the EIA Report "Considered the small-scale of pipe jacking works and the size of mini TBM, the ground-borne noise impact associated with the mini TBM is anticipated to be insignificant". No information has been provided to quantify the level of the ground-borne noise sources, such as the mini-TBM, and the predicted ground-borne impact at the NSRs. There is no justification as to why the impact was regarded as "insignificant". Therefore, this SB requirement has not been met as the EIA Report has not addressed the ground-borne noise impact in accordance with the SB.
 - SB item 3.2.1(i) requires the acceptability of cumulative effects of the Project and associated works at all stages of implementation and cumulative effects due to interfacing existing, committed and planned projects in the vicinity of the Project to be addressed. As discussed below, the planned widening of Fan Kam Road within the project site (indicated in Sub-Area 1 ("SA1") on various drawings in the EIA Report, e.g., CE17/R09/2.7.2) has not been addressed in the noise assessment, where it would significantly change the current conclusions, and therefore, this SB requirement has not been met.
 - SB Appendix C item 3.2.2 requires identification of new and existing road sections for the purpose of road traffic noise impact assessment. The noise impact at future residential blocks facing Fan Kam Road has been attenuated by virtue of the setback provided by the 10m "proposed amenity area" strip that runs along the west side of SA1. However, in the drawings, the EIA Report also identifies this "proposed amenity area" as a "10m Setback for Future Road", i.e., the widening of Fan Kam Road, which is within the project site. However, the noise assessment in the EIA Report has not, however,

addressed the increased noise levels at future residential blocks due to the "amenity area" being replaced by a "future road". Therefore, **this SB requirement has not been met.**

- SB Appendix C item 4.2.2(a) requires identification and quantification of an inventory of noise sources for fixed noise sources impact assessment. Golf shots generate impulsive and intermittent noise that could affect surrounding noise sensitive uses. Early morning grass-cutting at FGC (before 7am) should be considered as a noise source for future NSRs, given that EPD has previously received complaints about noisy operations at FGC. These noise sources have not been taken into account in the EIA. Therefore, this SB requirement has not been met.
- 2.3.5 There are no Schedule 2 DPs identified in the EIA Report, which means that no Environmental Permit ("EP") is required and that the EIAO limit of 75dB(A) is not enforceable for daytime construction noise levels (the Noise Control Ordinance only applies from 7pm to 7am and all day on Sundays and Public Holidays). It is therefore possible that golfers on the Eden Course and the New Course could be affected by the high levels of construction noise from across the road and would have no statutory recourse. Although it is mentioned in Section 4.5.4.7 of the EIA Report that "the future contractor will be required through contract specifications to provide and implement sufficient direct mitigation measures with reference to the recommendations in this EIA" this is not enforceable under the EIAO. Given that the contract specifications will be written by the CEDD, we cannot expect that these to be particularly onerous.

Water Quality Impact Assessment (EIA Report, Section 5)

- 2.3.6 The following non-compliances with the EIAO, the TM and/or the SB have been identified:
 - SB Appendix D item 2 requires identification of the quantity and quality of water quality arising from the construction and operation of the project. Where mathematical modelling is necessary the proposed modelling shall be approved by the Director of EPD. The EIA Report presents an over-simplified, two-dimensional approach to the water systems that fails to consider groundwater flows and changes brought about by the change in land use both above and below ground. No quantitative modelling of these changes has been presented either during construction or operation. Therefore, this SB requirement has not been met.
 - SB Appendix D item 3 (v) requires the water quality assessment to include potential hydrological impacts resulting from the change in infiltration of rainfall. An oversimplified qualitative assessment of the permeability has been considered with no consideration of interception, overland flow patterns, and abstraction for arboreal needs. Section 5.7.6 concludes that there is no change in runoff when Areas 2 and 3 change from fairway to woodland simply because it does not become paved, and incorrectly assumes that there will be no stormwater runoff from Areas 2 and 3 contributing to Area 1 without confirming where the overland flow will discharge. Therefore, **this SB requirement has not been met.**
 - SB Appendix D item 4 (v) requires a review of the specific construction methods and configurations, and operation of the Project to identify and predict the likely water quality impacts arising from the Project. Limited construction methods are described in the EIA Report. Section 6.7 of the EIA Report does refer to trenchless methods being necessary in Choi Yuen Road where the 750mm diameter sewer passes under a

stormwater box culvert and where the 900mm diameter sewer passes under the MTR East Rail line. It is assumed that open cut methods are proposed elsewhere, including crossing the Tai Tau Leng interchange, but it is highly unlikely that this method would be approved at this location. A single sand trap is recommended during construction (Dwg No Appendix 5-2-1), but no details are provided to establish the site formation levels. The EIA Report provides are no specific details of the construction methodologies for the foundations. Section 5.6.7 identifies the polluting potential of the Passenger Transport Interchange ("**PTI**") but only states that "*Mitigation measures should be implemented*" without providing any specifics. No specific measures are included in Section 5.6.17 for the management of groundwater pumped out during excavation and groundworks. Section 5.6.19 concludes that the impact of the foundations "*would be considered insignificant*" without any quantitative assessment for justification of this statement. With no analysis included, the EIA Report fails to demonstrate that the proposed planting in Zones 2 and 3 will not have an adverse impact on the CSC. Therefore, **this SB requirement has not been met.**

- SB Appendix D item 4 (vi) requires identification of any water courses, natural streams, ponds, wetlands; change of water holding/flow regimes of water bodies, change in underground water table, change of catchment types or areas; erosion or sedimentation due to the Project and any other hydrological changes in the assessment area. Total water management consideration has not been quantified in the EIA Report. Change of land use, both above and below ground level as required under Section 2.1 of the SB are not included. Additional on-site studies in accordance with TM Annex 14 are recommended to identify and assess the impact on the ecological and conservation "beneficial users". Therefore, this SB requirement has not been met.
- SB Appendix D item 4 (ix) requires a report on the adequacy of the existing sewerage and sewage treatment facilities for the handling, treatment and disposal of wastewater arising from the Project, as required in SB item 3.4.6 and also refenced in Appendix E1. No supporting mathematical modelling results from Infoworks (as required under Appendix E1 (ii)) are included to demonstrate adequate capacity in downstream sewers connecting to Shek Wu Hui Sewage Treatment Works ("SWHSTW") as stated in the conclusions in Section 6.8. An alternative solution providing a dedicated sewer in San Wan Road (i.e., all the way from the development to SWHSTW) is provided in Section 6.7.4, suggesting that the spare capacity over this final length is not generous. Therefore, this SB requirement has not been met.
- SB Appendix D item 4 (x) requires a review of possible sewage overflow or temporary/ accidental discharge due to capacity constraints of the sewerage system, and emergencies arising from the Project. Section 5.7.13 considers that with adequate spare capacity in the system there is no need to provide for emergency discharge. Therefore no mitigation measures are included in the EIA Report. The capacity of the sewerage system and its capacity to intercept accidental discharge has not been demonstrated. Therefore, this SB requirement has not been met.
- SB Appendix D item 4 (xi) requires the water quality assessment to take into account and include possible different construction and operation phases of the Project. Table 2.1 of the Executive Summary of the EIA Report presents all construction considered as a single activity, with no phased construction or operational phases. The initial site clearance and formation works will be highly disruptive with regard to rainfall and runoff and should be considered as a specific phase of the Project. Therefore, this SB requirement has not been met.

- **SB** Appendix D item 4 (xiv) requires a review of infrastructure upgrading or provision. • contingency plan, water pollution prevention and mitigation measures to be implemented during the construction and operation phases, including temporary/accidental sewage discharge. Section 6.7 describes a short 15m length of sewer that requires upgrading to 1800mm in San Wan Road to effect the downstream connection to the existing sewers discharging to SWHSTW, but includes no supporting calculations. The EIA Report includes no detailed description of the construction phase. Therefore, this SB requirement has not been met.
- **SB** Appendix D item 4 (xv) requires a review of the adequacy of the stormwater drainage • system to manage potential pollution during construction and operation. A four-hour storm has been used in Appendices 5.3a and 5.3b to justify sizing the development stormwater drains for a 51.95 mm/hr intensity storm. This would be suitable for a broader catchment assessment, however, the sufficiency of the downstream connection is not demonstrated in the EIA Report, nor is it confirmed acceptable by the Director of the Drainage Services Department ("DSD"), as required under TM Annex 14 section 14.6.5.f. The drainage serving the immediate development should be designed for a more appropriate time of concentration, e.g., a 30-minute storm of 167 mm/hr intensity. No details are provided as to how the rainfall runoff will be captured by the stormwater system. The stormwater drains are considered undersized, and the potential stormwater impacts not sufficiently addressed during both construction and operation. Insufficient technical details are provided in the EIA Report of the proposed construction and any phasing/ programming. All construction activities are considered as a single activity (2024-2029) in Table 2.1 of the Executive Summary. Sections 5.7. 8 to 5.7.10 describe potential pollution from the stormwater systems with focus on managing "first flush" suggesting that control *could* be achieved but failing to quantitatively demonstrate that it can and would be achieved. The Stormwater Water Pollution Control Plan in Appendix 5.3 is considered generic and fails to provide quantified and practical control measures. Sections 5.10.5 and 5.9.5 conclude that the drainage impact can be "limited with the implementation of proper drainage systems" and therefore no mitigation measures are required. This is not established in the EIA Report. Quantity, quality, velocity, and time to peak runoff are not addressed. The EIA Report alludes generically to "proper measures" of mitigation, but provides insufficient details such as locations, sizes and types of measures / installations. A single sand trap is recommended during construction (Dwg No Appendix 5-2-1), but with no details of how overland flow/runoff will be directed to it. Therefore, this SB requirement has not been met.
- 2.3.7 The EIA Report fails to include sufficient technical details of the construction methods to make an informed assessment of the construction impacts. At the very least, the formation works should be considered as a distinct package of works. There is also insufficient analysis of drainage impacts arising from or acting upon adjacent lands and drainage systems, including groundwater. The EIA Report also fails to describe any measures that could contribute to DSD's "Blue-Green strategy" of sustainable development.

Sewerage and Sewage Treatment Implications (EIA Report, Section 6)

2.3.8 The following non-compliances with the EIAO, the TM and/or the SB have been identified:

- SB Appendix E item 1(i) requires, with reference to TM Annex 14, a review to establish whether there is adequate capacity in the existing, committed and planned sewerage systems, and sewage treatment works in North District for the Project, in particular SWHSTW. The review is required to take into account the sewage arising from the existing sources and committed and planned developments. Insufficient data and analysis are provided to demonstrate that this has been achieved. Insufficient consideration has been given to committed and planned developments and strategic risk assessment of population parameters and delivery timelines. The conclusion of Section 6.8 states that the "*latest available information*" (planning data) has been used, but does not stated what this is. No interim or phased development is considered. Therefore, **this SB requirement has not been met.**
- SB Appendix E item 1 (ii) specifies that the computer model "InfoWorks" or an equivalent computer models is used to assess the impacts on sewerage capacity. No "InfoWorks" or equivalent computer model output is provided to justify the assumptions of spare capacity downstream. The offsite modifications/connections to existing sewerage have not been endorsed by the Director of DSD as required by TM Annex 14, section 6.5f. Therefore, this SB requirement has not been met.
- SB Appendix E item 1 (iv) requires a review of the potential impacts arising from emergency discharge from on-site sewage. The EIA Report fails to consider the construction phase. Likewise, there is no consideration of the development pumping systems that will deliver development effluent to the gravity sewer discharging off site. There is no consideration of the failure of any grease traps traps/oil interceptors, either commercial or associated with the Public Transport Interchange ("PTI"). No potential impacts have been identified and so no mitigation measures have been included in the report. Therefore, this SB requirement has not been met.
- SB Appendix E item 1(v) requires identification of offsite sewerage connections. The EIA Report describes an alignment of 750 mm diameter gravity sewer from Po Kong Road into Po Kin Road and then Fan Kam Road, across the roundabout, through the housing estate (parallel to an existing sewer) and under the MTR East Rail. Section 6.7.1 suggests a single "tapping" point for the entire development in Ping Kong Road, while four connections are indicated on CE17/SIA/001/032. There are no supporting calculations to demonstrate that these pumped sewage connections meet the requirements of not exceeding 2,000m³/day, engaging other requirements under the EIAO. Therefore, **this SB requirement has not been met.**
- SB Appendix E item 1 (vi) requires a description of operation and maintenance of onsite sewerage facilities. No such descriptions are provided although it is assumed that each block will have its own wet well and pumped sewage outfall to the gravity sewer. Buildings Department regulations, if enforced, provide competent sewage systems for residential tower blocks. Therefore, this SB requirement has not been met.
- 2.3.9 The Project profile identified three potential Schedule 2 DPs, including "a sewage pumping station with an installed capacity of more than 2,000m3/day". However, there is no discussion of any of these DPs in Section 6; there is no mentioning of the how the sewage from 33,600 residents will be conveyed from the proposed residential blocks to proposed offsite municipal sewer and hence to SWHSTW. No details of the number or capacity of pumping stations are provided. Our view is in line with the Project profile that a >2,000m3/day sewage pumping station is more likely than not required, and without justification to the contrary, the EIA

Report errored in omitting the need for a >2,000m3/day sewage pumping, which is a Schedule 2 DP and would therefore require an EP.

Waste Management Implications (EIA Report, Section 7)

- 2.3.10 The following non-compliances with the EIAO, the TM and/or the SB have been identified:
 - SB Appendix F item 1 (i) requires identification of the quantity and timing of waste arising. While quantities arising have been identified, there is no information as to the timing of the waste arising Table 7.5.3 only lists waste arising within a timeline that spans across the whole construction phase, from 2024 to 2028/29, when yearly waste volumes are needed in order to be able to evaluate impacts of transportation off-site (which has not been provided). Therefore, this SB requirement has not been met.
 - SB Appendix F item 2 (i) requires the opportunities for reuse and recycling to be fully evaluated and the measures to maximise waste reduction to be separately considered. There is no such full evaluation provided, only an assumption in section 7.5.19 (without any justification) that 9% of inert C&D materials can be reused and an assumption in Table 7.5.4 (also without any justification) that 20% of non-inert C&D materials can be reused. Therefore, this SB requirement has not been met.
 - SB Appendix F item 2 (i) requires the opportunities for reuse and recycling to be fully evaluated and the measures to maximise waste reduction to be separately considered. Topsoil is a vital landscape resource, yet it is treated as waste. Only 56,000 m³ of non-inert C&D material (including an unspecified quantity of topsoil) is proposed to be reused as backfill. For the remaining 274,000 m³, it has been assumed (without any justification) that 20% can be recycled but not reused (and topsoil would not be recycled, only reused). From Table 7.5.4, it can therefore be inferred that the majority of the topsoil excavated from the Site is intended to be disposed of at the North East New Territories ("NENT") Landfill and not reused. Therefore, this SB requirement has not been met.
 - SB Appendix F item 2 (ii) requires an estimation to be provided in terms of the quantity of waste to be disposed of. Disposal of inert C&D material has been estimated at 570,000m³ (without any calculation or justification), but no bulking factor (typically 1.2x) has been applied. The excavated volume should therefore be 684,000m,³ and so the EIA Report has significantly underestimated the volume of inert C&D material to be transported offsite.
 - SB Appendix F item 2 (iii) requires the frequency of trucks involved in transporting material off site to be stated. Section 7.5.36 claims that this would require "... *16 vehicles per day during the construction phase (Year 2024 to 2029)*". This is wrong. Even assuming the (incorrect) volume of 570,000m³ of inert C&D material, a six-year construction phase, and a truck capacity of 7.5m³ (typically this ranges from 5.5m³ to 7.5m³), there will be a total of 76,000 truckloads to be transported offsite. Excluding Sundays and general holidays, where there will be no construction activities, this equates to at least 42 vehicles per working day on average, not 16, which is an underestimate of at least 250%. Given that there will be much more material excavated at the start of the construction than at the end (although no phasing has been provided), the EIA Report has <u>significantly</u> underestimated the average daily number of truck trips and has not even mentioned the more important daily maximum in each phase of the construction stage (no phasing is provided anywhere in the EIA Report).

- SB Appendix F item 2 (iv) requires that the impacts caused by handling, collection, transportation, and re-use/disposal of waste be addressed in terms of potential hazard, air and odour emissions, noise, wastewater discharge, ecology, and public transport. There is no assessment of any of these impacts for inert C&D material, only a brief mention that "water-tight containers and covered trucks are used", and so this SB requirement has not been met.
- 2.3.11 The conclusion in EIA Report section 7.8.1 of the EIA Report provides "adverse residual waste management implications are not anticipated ..." and in sections 7.10.4 and 15.6.6 that "... no unacceptable adverse environmental impacts arising from the handling, storage, transportation or disposal of the waste generated by the Project would be envisaged" cannot be substantiated, given the quantity of inert C&D material is underestimated by around 20%, the number of truck trips transporting this off site is underestimated by at least 250% (even assuming, uniform distribution throughout the construction period) and there is no assessment of the impacts arising from the transport or disposal of inert C&D material, which is by far the largest proportion of overall waste for offsite disposal.
- 2.3.12 Furthermore, Section 7 has not taken into account the potential additional material arising if the soil within the project site is found to be contaminated (a land contamination assessment, required by the TM and SB, having not been performed) based on a future site investigation and contamination assessment. Such quantities could be in the millions of cubic metres if onsite remediation is not possible, and the collection, transport, and disposal of this has not been even considered, still less evaluated.

Land Contamination Assessment (EIA Report, Section 8)

- 2.3.13 The following non-compliances with the EIAO, the TM and/or the SB have been identified:
 - SB item 3.2.1 (vi) requires the potential extent of land contamination arising from natural occurrence and anthropogenic input to be addressed. Based on the findings of the approved EIA Report of *NENT New Development Areas*, it has been concluded that the entire PDA is unlikely to have a high level of naturally occurring arsenic-containing soil. But since no Site Investigation ("SI") was carried out during the EIA Study, this cannot be confirmed. Furthermore, after a future SI is carried out, it is recommended that "... *further assessment would be conducted to review whether the elevated concentration is due to natural sources or anthropogenic activities*", but there is no indication as to how the two sources would be identified. Given that the removal of "contaminated" material offsite for treatment is one of the options considered in the EIA Report, there is insufficient information as to the potential treatment quantities and, hence, the potential impacts of remediation.
 - SB Appendix G item 3 (ii) requires a land contamination impact assessment to be carried out and thereafter a submission of a Contamination Assessment Report ("CAR") to the EPD for endorsement. The EIA consultant did not carry out any SI and did not prepare a CAR during the EIA Study and therefore, this SB requirement has not been met; the EIA Report is simply incomplete.
 - **SB Appendix G item 3 (iii)**, however, allows for the submission of "supplementary" land contamination reports at a later date if the site cannot be accessed to carry out the SI during the EIA Study. It has been indicated in the EIA Report that this will be done and

that there should be no construction on site until completion of the land contamination assessment and any required remediation.

- 2.3.14 Based only upon a desktop study and a site walkover (in a single day), Section 8.7.5 concluded that "... no adverse residual impacts are anticipated from the construction and operation of Project activities as the land contamination assessment and remediation would be completed before the commencement of any construction works". This conclusion is not supported by the limited assessments carried out during the EIA Study and is based on the unproven assumptions that:
 - (i) whatever remediation options are chosen, it will be 100% effective in removing contamination to acceptable levels; and
 - (ii) there will be no secondary impacts from the remediation activities themselves, including potential transport impacts if large volumes of soil have to be moved offsite.
- 2.3.15 Adopting these assumptions effectively means that any impacts, whatever their magnitude, can somehow be mitigated to acceptable levels such that there is no adverse residual impact. These assumptions have no basis and cannot be reasonably justified.
- 2.3.16 In general, Section 8 does not provide a sufficient level of assessment to draw the conclusions it has made, i.e. that there will be no adverse residual impacts relating to land contamination. At best, Section 8 can only say that there is insufficient information available at this time to draw any conclusion as to the extent and level of contamination within the site and therefore the impacts (or residual impacts after any remediation) cannot be predicted at this time.

Overarching Statement Regarding Substantive Damage Resulting from FGC-PD's EIAO TM and ESB Omissions and Errors and Consequent Material Adverse Impacts to EIA Conclusions

2.3.17 The assessments of air, noise, water quality, sewerage and sewage treatment, waste management, contaminated land and cultural heritage have been reviewed. In general, there has been a lack of details provided in the assessments and too many unsupported assumptions. In the air quality and waste management sections there are also basic errors in calculations, yet conclusions have been drawn as to the acceptability of impacts. In a number of other assessments, impacts are concluded to be "insignificant" without any actual assessment. Significant shortcomings include the lack of any reference to Schedule 2 DPs, even though three were identified in the Project profile, in particular the need for a >2,000m3/day sewage pumping station. The waste management assessment contains significant errors in calculation, such as underestimating the volume of some waste types by around 20% and the number of trucks to transport waste off-site by at least 250%. The land contamination assessment, which was based only on a desk study, concludes no adverse residual impacts based on the flawed assumption that unspecified remediation will be 100%, which is unprovable. In general, not only do these various assessments fail to comply with specific TM and/or SB requirements, the assessments themselves, and therefore the conclusions, are sufficient flawed to throw into reasonable doubt the environmental acceptability of the Project overall.

2.4 Other Environmental Issues

- 2.4.1 The following issues are not covered by the TM or SB but, nevertheless, are legitimate areas of concern relating to the project as presented in the EIA Report:
 - AAB's Ongoing Classification of the Whole FGC Site and Requirement for FGC-PD Project Delay. It would be premature to approve the EIA Report or to start the Outline Zoning Plan ("OZP") process until after the AAB have made a decision on the classification of the FGC site. We note that the EIA Report accepts that a grading by the AAB of the heritage status of the FGC – and its historic Old Course in particular – required before an assessment of the project's environmental acceptability can be concluded (see Section 12.5.5.1 and Table 3, noting the "Undetermined impact" of the proposed development). We agree. To approve this EIA Report would involve preempting the AAB process and generate significant consequences. Hence, for the reasons already outlined, the EIA Report should not be approved but instead returned to the Project Proponent to revise and update to address its many shortcomings. Similarly, the OZP process should also be delayed (Appendix 3.1, 3.3 and 3.5).
 - Increased Risk of Offsite Flooding. Due to the conversion of ~95% porous grass and woodland land to ~95% permeable hard concrete surfaces, there will be increased surface runoff and consequently and increased risk of flooding in adjacent villages and roads.
 - **Road Obstruction.** During the construction stage there will be 600m of sewerage mains and 350m of stormwater drains (the majority outside road improvement works that are part of the Project) that will require excavation of roads and therefore cause significant disruption to traffic flow and as a result will also adversely affect local residents and, potentially, the operation of North District Hospital.
 - Air Ventilation. With new high-rise development, there will be a reduction in the availability of breezes to ventilate the existing villages adjacent to the site. This loss of amenity has not been addressed in the FGC-PD's Air Ventilation Assessment and also not reflected in the LVIA in the EIA Report under changes in microclimate, which is should have.
 - Intangible Loss. The construction of 12,000 housing units in a series of tall towers will cause an intangible loss to existing villagers and the users of FGC: There will be a loss of tranquillity as new high rise high density urban tower blocks encroach into the existing low-rise low density village environment traffic will increase and ambient noise levels will increase. Furthermore, light pollution from the new development will increase night-time light impacts and will lead to loss of star gazing opportunities (Appendix 3.1, 3.3 and 3.5).
 - There will be permanent loss of night-time nature walks and proximity to high-value ecological areas by local villagers and Sheung Shui residents who currently enjoy access to Old Course Holes 1-3 where they can walk with their families and dogs to enjoy nature and birdsong.
 - There will be adverse, unmitigable and irreversible Feng Shui impacts to an area with a history dating back to before the Ming Dynasty, particularly for local villagers who can currently worship ancestors at the ancestral graves within FGC without let or hindrance.
 - **No control of the Project under the EIAO.** The EIA Report did not identify any Schedule 2 DPs, although we question the assumptions underpinning that elsewhere in

this EIA Report. If correct, it would mean that no EP is needed for the project, which means that it is not further subject to the EIAO. As such, none of the recommendations made in the EIA Report would be enforceable, such as the need for mitigation measures or Environmental Monitoring and Audit Requirements ("EM&A"). The only control over what happens on site will be in the construction contract, which will be written for the CEDD's contractors by CEDD itself and so it is unlikely to have any particularly onerous requirements. Without an EP, there are no statutory checks and balances, no oversight, no public scrutiny and no transparency. This is a significant worry. The only way around this would be for the EPD to make approval conditions, such as "*the project shall be constructed and operated in accordance with findings and recommendations of the EIA Report*" and "*all mitigation measures in the EIA report shall be fully implemented*". They have done this in the past for Schedule 3 EIAs but there is no guarantee that they will do so for this EIA.

- Lack of Alignment with Both the National Policy of "Ecological Civilization "and Local Biodiversity Strategy and Plan ("BSAP")". FGC serves many public purposes and preservation values which align with multiple local and national policies, such as "Construction of Ecological Civilization", Hong Kong's Environment Bureau's nature conservation, BSAP alignment through its 110-year custodianship and meticulous management. The FGC-PD is wholly contrary to both the national ecological civilization principles and Hong Kong's BSAP, and on this basis it would be unreasonable for the EIA Authority to approve this EIA Report (Appendix 3.1, 3.6 and 3.8).
- FGC's Role to Support to Home Affairs Bureau ("HAB")'s Policies on Sports Development. In addition to the ecological, landscape and visual impact assessment defects of the EIA, sections 2 and 12 of the EIA Report significantly underestimate the value of FGC in terms of its support to HAB's three sports policy objectives for sports development for public golf, elite golf, and the venue to host large scale sports events. Not only is FGC the training ground for Hong Kong national golf team and nurtured professional golfers like Tiffany Chan, and FGC is also open for public golfing in which nearly half of the golf rounds are played by non-members. It is also the venue for several charitable events like HKGC's Annual Cup of Kindness, North District Hospital Walkathon etc. and serve as sports venue for local schools. All these community contributions are not mentioned in the EIA which demonstrates the lack of consideration of FGC's societal impacts towards nearby communities.
- Role of FGC to boost Hong Kong's International Image. FGC is the only venue to host of the Hong Kong Open ("HKO") in Hong Kong, since 1959. The HKO attracts world class golf players like Justin Rose and Sergio Garcia. It attracts around 10,000 visitors from outside Hong Kong to watch the competition, in which they contribute an estimated HK\$186-440M to Hong Kong's economy annually, and the event was broadcasted to 414 million homes around the world in 2017 bringing reputational benefit to Hong Kong's international image. It would be unreasonable for the EIA Authority to approve this EIA Report without such consideration.
- **Contribution of FGC to Northern Metropolis ("NM").** With the custodianship and active management for sports, recreation, and education under the stewardship of Hong Kong Golf Club, FGC can actively and readily contribute to the HKSAR's biodiversity conservation and recreation plans for NM in terms of immediately providing more green, open, recreational, and sports development spaces, as an actively functioning green lung, climate-friendly, district cooling space in North District. On the basis that the FGC-PD EIA Report wholly ignores FGC's contribution to NM it would be

unreasonable for the EIA Authority to approve this EIA Report (please refer to Appendix 3.2 for the previous submission by FGC to the government on how FGC can contribute to NM vision).

- No EIA Consideration as to the Use of FGC's Use for the General Public and • Public Bodies for Golf, Recreation and Enjoyment. FGC has long been cooperating and integrating with the community, and non-members can play on the courses at FGC on weekdays throughout the year. The night-time driving range, where golfers practice, is open to the public every day of the year. Non-member play on the golf courses accounts for a considerable amount of the total play. In 2021, 72,201 rounds of golf were enjoyed by non-members, which equates to approximately 40% of total play. More importantly, the cost for the public to practice at FGC's night-time driving range at HK\$70/hour is cheaper than the driving range at the Jockey Club Kau Sai Chau Public Golf Course. In addition, for many decades, FGC has hosted, promoted, and fostered public and community golf, supported the HAB's public sports development policy objectives and the Hong Kong Golf Association (HKGA) throughout the year by welcoming numerous eligible outside public bodies, non-member and non-profit groups, including Sheung Shui District Rural Committee, the Hong Kong Police, and many eligible golf societies.
 - FGC has also always had a significant role in the development of young and under privileged golfers from grassroots families, and continues to enhance its public purpose and social value contributions.
 - Beyond golf, FGC's Old Course is open for public access from 6-10pm every day serving the function as an informal 'district nature park' for families (and their dogs on leads) to enjoy a sunset walk recreation and star gazing. It can continue and expand this role to the wider NM in the future.
 - Most of these community contributions are provided by Old Course Holes 1-3, which is the site of the PDA's Sub-Area 1 high-rise housing area, and thus it would be wholly unreasonable for the EIA Authority to approve this EIA Report without such impact assessment and due consideration of the irreversible losses of this material contribution to the community, and it would be unreasonable for the EIA Authority to approve this EIA Report without such impact asprove this EIA Report without such approve this EIA Report without the community.