

	<b>Responses</b>
<b>A</b>	<b>Geotechnical Engineering Office, Civil Engineering and Development Department (GEO, CEDD) (comments received on 3.11.2022) (Contact: Mr. K.W. CHOI; Tel.: 2762 5371)</b>
i	<p>2. It is noted that the applicant has committed, in the revised Geotechnical Planning Review Report (GPRR) to undertake a natural terrain hazard study (NTHS) and to implement mitigation measures, if necessary, as part of the proposed development. However, the applicant marked the study area on a hillshade model and it is difficult to check whether the proposed study area covers the entire catchment overlooking the proposed site. The applicant is advised to mark the extent of study area clearly on a base map for our further review.</p> <p>Noted. The proposed study area for NTHS is marked on the base map in <b>Appendix A</b>.</p>
<b>B</b>	<b>Environmental Protection Department (EPD) (comments received on 7.11.2022 and 10.11.2022) (Contact: Ms. Ada FUNG; Tel.: 2835 1186)</b>
	<b><u>Comments on Appendix F – Revised Pages of Sewerage Impact Assessment (SIA) Report</u></b>
i.	<p>1. It is noted from RtoC Page 2 that there will be no bathing/showering facilities provided. In order to ease public concerns regarding “any wastewater from baths, sinks and other sanitary fitments”, please consider to include the relevant description in the SIA report.</p> <p>Section 5.1 of the SIA (<b>Appendix B</b>) has been amended.</p>

<b>Comments</b>		<b>Responses</b>
	<b><u>Comments on Appendix H – Revised Preliminary Environmental Review (PER) Report</u></b>	
	<b><u>Potential EIAO Implication</u></b>	
ii.	<p>1. It is noted from the RtoC Page 12 that ground investigation (GI) works related to slope maintenance works would be required for the project. Please be reminded that if GI works would be carried out within Tai Po Kau Nature Reserve (Special Area), the following information should be provided for our consideration on the potential EIAO implications:</p>	<p>Preliminary review on the geological conditions including the loading from the proposed buildings and surrounding natural terrain/ slopes is conducted as part of the GPRR. Two geotechnical features are identified adjacent to the application site. Since the application site is located at a lower level to the two geotechnical features, no adverse geotechnical impact will be imposed to the surrounding slopes and slope upgrading works are not anticipated to be required. The small-scale building works will not affect the slope stability both within our application site and the Tai Po Kau Nature Reserve (TPKNR) in the vicinity.</p> <p>While in view of the small scale of the building works and no adverse geotechnical impact on the surrounding slopes, GI works may not be required. Nevertheless, the detail requirement will be subject to NTHS and confirmation with the CEDD in later stage.</p> <p>Should any GI works be carried out within TPKNR (Special Area) and EPD consider it required to obtain environmental permit for carrying out necessary GI works under the EIAO, the applicant will follow the statutory process and obtain the necessary environmental permit accordingly. Prior permission form AFCD will also be sought accordingly.</p>
iii.	<p>i. The estimated total volume of materials to be excavated from the proposed GI works; and</p>	<p>The need of GI works and total volume of materials to be excavated from the proposed GI works will be subject to detail study in NTHS stage and agreement with CEDD. In addition, no net excavation volume is expected</p>

<b>Comments</b>		<b>Responses</b>
		for the proposed GI works. All the excavation works such as Trial Pits and Boreholes will be reinstated with the original materials after the GI works.
iv.	ii. Whether any species of conservation importance are found within the works boundary for the proposed GI works (with findings agreed with AFCD).	A total of five species of conservation importance, namely White-spotted Slug Snake, <i>Gnetum luofuense</i> , <i>Cibotium barometz</i> , <i>Neottopteris nidus</i> and <i>Ania hongkongensis</i> were recorded within the NTHS Study Area.
	<u>Water Quality</u>	
v.	<p>2. Please clarify if the advance registration policy is required for all visitors of the 3 proposed buildings (both general visitor, invited guest/guided visitor as covered in Figure 4.3 of Landscape Master Plan). Concern is whether the general public can freely access to the proposed buildings without administrative control, which in turn affect the total sewage generation.</p> <p>Please confirm if the proposed toilets (within Visitor Centre, Activity Centre &amp; Plant Nursery) are open for general public use or just for the advanced reserved visitors and staffs.</p>	<p>Prior registration is needed before any visit to the Nature Academy, which included all three proposed buildings i.e. Visitor Centre, Activity Centre &amp; Plant Nursery. The toilets within the proposed buildings are not open to general public use. They are just for the use of visitors with advanced registration to the Nature Academy and the staffs.</p> <p>Section 4.4.6 of the PER report (<b>Appendix C</b>) has been updated to incorporate the above.</p>
vi.	3. Section 4.4.1: Water quality impacts associated with “sewage effluent from workforce”, “demolition works” and “accident spillage of chemicals” were mentioned, however the corresponding mitigation measures were not provided, please supplement the relevant information.	Relevant information was supplemented in Sections 4.5.3 to 4.5.5 of the PER report ( <b>Appendix C</b> ).

<b>Comments</b>		<b>Responses</b>
	4. Section 4.4.4:	
vii.	i. Please clarify if there are any UV disinfection of the proposed MBR STP.	UV Disinfection is not required to meet the relevant discharge standards. It is hence not adopted in the proposed STP.
viii.	ii. For the “ <b>similar</b> on-site treatment facilitates have been provided for the Lady MacLehose Holiday Village”, it adopted Reverse Osmosis (RO) technology to achieve Group A inland water standard within WGG, please clarify if the RO technology is adopted in this project as well. If not, please remove the last sentence as the target treatment level is different.	The MBR treatment unit at the Lady MacLehose Holiday Village is similar to the unit proposed for this project. However, the sewerage treatment plant at the Lady MacLehose Holiday Village has ‘add-on’ RO facilities after the MBR treatment unit to achieve the higher discharge standards for the Holiday Village while the RO technology is not adopted in the proposed Nature Academy. Relevant description in Section 4.4.3 and 4.4.4 has been revised in the PER report ( <b>Appendix C</b> ).
ix.	5. Section 4.4.5: Please check if the preventive measures for overflow of raw sewage below is applicable for the project: <ul style="list-style-type: none"> <li>– With design capacity to be able to treat 3 times of Average Dry Weather Flow (ADWF);</li> <li>– Equalization tank to restore the ADWF for up to 48 hours to handle emergency situation;</li> </ul>	<p>Please refer to Section 4.4.7 of the revised PER report (<b>Appendix C</b>).</p> <p>Standard Peaking Factors from EPD’s Guidelines for Estimating Sewage Flows (GESF) will be adopted for the STP. Please refer to Section 4.4.4 of the revised PER report (<b>Appendix C</b>).</p> <p>There will be an equalization tank provided. However, as the contributing population mainly only comprises staff and day visitors, emergency situations will be managed more by control of the population (and associated flow) rather than providing expensive and unnecessary facilities to store raw sewage. In the unlikely event of partial shut-down of the STP, organized activities and overnight camping would be restricted/suspended. In the extremely unlikely event of total failure of the STP, the Site would simply be shut-down until repairs could be completed. It is noted that the STP will</p>

Comments	Responses
<ul style="list-style-type: none"> <li>– Provision of effluent storage tank with volume of 2 times ADWF;</li> <li>– Apart from backup power, standby unit of the STP should be provided;</li> <li>– According to ProPECC 5/93, “Where sewage treatment plants are designated to cater for a peak flow of 3 times the daily average flow rate, two duty and one standby pumps should be provided in equalization tanks”;</li> <li>– Sensors with alarm system and flowmeter will be provided to monitor the flow rate to avoid overflow;</li> <li>– The STP plant room shall be water-tight and leak proof;</li> <li>– Apart from toilet facilities would be temporarily closed, the handwashing basins facilities should also be closed as those are the main sewage flow;</li> </ul>	<p>be provided with local and remote alarm systems to alert the operating Contractor/Site Management of any failure.</p> <p>Treated effluent will be discharged to the nearby streamcourse, so there would appear to be no need for effluent storage. Untreated sewage would be retained within the equalization tank and the STP unit itself.</p> <p>The STP will be provided with parallel treatment streams to enable some continuity of treatment in the event of partial failure. As noted above, emergency failure situations will be managed by controlling the population.</p> <p>Noted. Relevant requirements will be complied with.</p> <p>The STP will be provided with comprehensive monitoring and alarm systems.</p> <p>Water-tight and leak proof equalization tank, parallel treatment streams, back-up power supply and comprehensive monitoring and alarm systems for the STP will be provided. The provision of elaborated waterproof doors, etc. will not be necessary.</p> <p>Noted. The toilet and handwashing basins facilities would be closed in very unlikely event of total failure of the STP.</p>

<b>Comments</b>		<b>Responses</b>
	– Contingency/ emergency plan and maintenance program should be prepared and implemented.	Noted, contingency/ emergency plan and maintenance program will be prepared and implemented at the later stages.
	6. Section 4.4.7:	
x.	i. For the application amount of fertilizer and pesticide, please convert to L/day. And please clarify if the estimated amount includes those applied for the event lawn and plant nursery building.	Section 4.4.8 of the PER report is updated ( <b>Appendix C</b> ). 10m from the existing stream as buffer and no-spray area will be adopted to avoid impact on water quality. In fact, no pesticide and fertilizer will be used outside the Plant Nursery which is more than 10m to the existing stream.
xi.	ii. As there are public concerns regarding the usage of pesticide and fertilizer, it is highly recommended to adopt the “buffer zone and no spray areas” practice (similar approach was adopted in an EIA project ‘Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung”, see Section 6.3.35 of EIA-112/2005) to protect the sensitive stream.	Noted. The “buffer zone and no spray areas” practice will be adopted. Please refer to Sections 4.4.8 and 4.5.12 of the revised PER report ( <b>Appendix C</b> ).
xii.	iii. Please check if the following mitigation measures are applicable in this project: <i>“All of the proposed biological products are registered pesticides by AFCD under the Pesticides Ordinance” &amp; “Good management practices should be adopted to properly manage the application rate and time during irrigation to minimise chance of run-off. Use of fertilisers and pesticides should be properly controlled, e.g. applications prior to forecasted heavy rain event should be avoided</i>	The suggested mitigation measures are applicable and incorporated in Section 4.5.11 of the revised PER report ( <b>Appendix C</b> ).

<b>Comments</b>		<b>Responses</b>
	<p><i>to minimise the potential for run-off of residual fertilizer. Priority would be given to remove infected/sick plantings over the use of pesticides. In addition, use of more specific, systemic and biodegradable pesticides should follow the Pesticide Ordinance and Code of Practice for the Safe and Proper Use of Pesticides in Public Areas by AFCD, Food and Health Bureau (FEHD) and Leisure and Cultural Services Department (LCSD).”.</i></p>	
	<p>7. Section 4.5.1:</p>	
xiii.	<p>i. Noted from the RtoC Page 12 that site-specific GI works will be conducted, hence item 11 from ProPECC 1/94 regarding boring and drilling water should be included as mitigation measures.</p>	<p>No adverse geotechnical impact will be imposed to the surrounding slopes and slope upgrading works are not anticipated to be required based on the preliminary assessment in the GPRR. The small-scale building works will not affect the slope stability both within our application site and the TPKNR in the vicinity. Thus, site-specific GI works may not be required. Nevertheless, the detail requirement will be subject to NTHS and confirmation with the CEDD in later stage. Should any GI works be necessary to be conducted, water used in ground boring and drilling for site investigation or rock/soil anchoring should as far as practicable be recirculated after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains via silt removal facilities. Please refer to Section 4.5.1 of the revised PER report (<b>Appendix C</b>).</p>
xiv.	<p>ii. If GI works and MIC STP are proposed, trusted that there will be construction vehicles for material delivery, hence, please include the mitigation measures for wheel washing water.</p>	<p>Mitigation for wheel washing water is supplemented in Section 4.5.1 of the revised PER report (<b>Appendix C</b>).</p>

<b>Comments</b>		<b>Responses</b>
xv.	<p>8. Section 4.5.4: Please revise the last sentence “shall be observed” to “shall be complied with”, and the requirement standard (Table 1-1 of WSD’s Technical Specifications on Grey Water Reuse and Rainwater Harvesting) should be included in the submission.</p> <p>And please clarify if the proposed technology of sewage treatment plant (STP) (modular Integrated Construction STP with Membrane Bio-Reactor (MBR) can achieve the WSD’s target water quality objectives, especially for the non-detectable E coli. Since the treatment standard for reuse of rainwater will be more stringent than Group D inland water, the target treatment standard should be specified in this stage. According to the RtoC, noted that it may be inappropriate to adopt rainwater harvest design for this project, hence please consider to remove all the description of rainwater harvest design, especially those in the Planning Statement. Otherwise, the STP design should comply with WSD Rainwater Effluent Water Quality Standard at the planning stage.</p>	<p>Noted, Section 4.5.9 of the PER report (<b>Appendix C</b>) is revised and Table 4.2 is incorporated regarding grey water re-use and rainwater standard.</p> <p>The sewage treatment plant is proposed for processing treated effluent generated from the toilets at the application site before discharge. Reuse of grey water and rainwater harvesting generally requires different standards of treatment with greywater/rainwater treatment facilities (Please refer to Water Supplies Department’s Technical Specifications on Grey Water Reuse and Rainwater Harvesting). Reuse of grey water is considered not appropriate as there are only small volume of waste water generated from the hand wash basins. Reuse of rainwater harvesting will be further explored in later stage. If they are considered feasible in the implementation stage, the Water Quality Standards for Rainwater Effluent Reuse in WSD’s Technical Specifications on Grey Water Reuse and Rainwater Harvesting will be strictly followed.</p>
xvi.	<p>9. Please assess the water quality impacts associated with non-point source surface runoff and chemical spillage during operation phase.</p>	<p>Noted. The water quality impact associated with non-point source surface runoff and chemical spillage was assessed. Please refer to Sections 4.4.8 and 4.4.9 of the revised PER report (<b>Appendix C</b>), with mitigation measures proposed incorporated in Section 4.5.11 and 4.5.12.</p>
xvii.	<p>10. Please include a summary of SIA &amp; DIA report to demonstrate there are no unacceptable drainage and sewerage impact anticipated during operation phase.</p>	<p>Noted. Please refer to Section 4.4.7 of the revised PER report (<b>Appendix C</b>).</p>



<b>Comments</b>		<b>Responses</b>
xviii.	11. Please clarify if there are any administrative measures to prevent discharge of wastewater towards the Tai Po Kau Stream from the visitors or campers during the operation phase. For instance, warning sign board, camping agreement and campground rules (signature required) and so on.	Any discharge of wastewater towards the Tai Po Kau Stream will be strictly prohibited. Clear visitor's code of conduct will be shown in notable places including inside the Visitor Centre and around the tented area. Buffer zone would be set up to prevent visitors coming close to the stream to avoid waste falling into the stream. On-site staff would be assigned to conduct regular patrol along the stream areas to prevent any prohibited use of the stream. Participants of the overnight education activity will be required to sign a declaration with the agreement to comply with all code of conducts before joining the activity. Designated point of waste discharge will be provided to visitors and campers to prevent improper disposal of waste on site.
	<u>Waste Management</u>	
xix.	12. Section 5.3.3: Please review whether the cut-and-fill balance approach would still be adopted as Table 5.1 indicated that no inert C&D materials would be used on site.	Noted. Section 5.3.4 and Table 5.1 of the PER are revised. The cut-and-fill balance approach would be adopted to minimise the need of off-site disposal.
xx.	13. Section 5.3.3: Please clarify what registration would be required for recyclable materials collector.	There is no statutory registration requirement other than chemical waste. Section 5.3.3 of the revised PER report ( <b>Appendix C</b> ) was revised.
	<u>Air Quality</u>	
	Please find our comments on the air quality chapter in the PER for the captioned application below:	
xxi.	1. Table 2.2 This table is showing the obsolete Air Quality Objectives (AQOs). Please show the prevailing AQOs which have been effective since 1.1.2022.	Noted and revised accordingly. Please refer to the revised PER report in <b>Appendix C</b> .

<b>Comments</b>		<b>Responses</b>
xxii.	2. Table 2.3 Please check the values of "Annual RSP" and "Annual FSP" for PATH (41,45).	Noted and revised accordingly. Please refer to the revised PER report in <b>Appendix C</b> .
xxiii.	3. Please identify the air sensitive receiver(s) within the proposed Project.	Noted. Section 2.4.1, Table 2.4 and Figure 2.1 updated accordingly. Please refer to the revised PER report in <b>Appendix C</b> .
<b>C</b>	<b>Agriculture, Fisheries and Conservation Department (AFCD) (comments received on 8.11.2022)</b> <b>(Contact: Ms. June LEUNG; Tel.: 2150 6953)</b>	
i.	Our previous comments remain largely unaddressed. We could not locate any supplementary information in the FI, the PER nor the ecological impact assessment report in response to our comments/concerns on the potential impacts on the Tai Po Kau Nature Reserve (TPKNR) and the wildlife there. In addition, we have the following comments on the R-to-C table.	Noted. Supplementary information is provided in Sections 6.3.7, 6.4.5, 6.4.6, 6.4.7, 6.4.9, 7.6.1, 7.6.2, 7.6.3, 7.6.5 and 7.6.6 of the Ecological Impact Assessment (EcoIA) ( <b>Appendix D</b> ) to address the previous comments.
ii.	R-to-C (iii) Potential impacts on TPKNR arising from the increase in traffic and the use of 7m-long construction vehicles are yet to be assessed and addressed. It is uncertain if the use of heavy machineries and construction vehicles within TPKNR could be avoided (e.g. by using smaller vehicles)/ further reduced during the dry season when uncommon migrants and overwintering birds are known to occur at TPKNR.	Relevant paragraphs under Section 6.3 and 7.6 of the EcoIA ( <b>Appendix D</b> ) have been revised to address the previous comments. Although uncommon migrants and overwintering birds are known to occur in the TPKNR during the dry season, their abundance/density would be lower than that of the resident breeding species, and it is considered that birds and other fauna would be more susceptible to disturbances during breeding period. Further reduction of frequency of works (which are already restricted to the dry season months) would extend the overall construction period and result in prolonged disturbances which is considered not desirable in ecological point of view.

<b>Comments</b>		<b>Responses</b>
iii.	R-to-C (iv) For clarity, please substantiate S.6.4.6 of the Ecological Impact Assessment Report (“The potential increase of visitors to the Tai Po Kau Nature Reserve due to the operation of the Academy is not considered significant”) with clarifications on the projected maximum accommodation capacity/visitor flow of the centre contained in Section 4.3.1 of the Traffic Impact Assessment.	As stated in the application, the daily maximum number of visitors at the Academy is set at 400. Further substantiation has been provided in Sections 6.4.5 to 6.4.7 of the EcoIA Report ( <b>Appendix D</b> ).
iv.	R-to-C (vii) Our previous comments remain valid. Slope works within TPKNR should be avoided as far as possible and shall required an environmental impact assessment to demonstrate the acceptability of the potential impacts. To holistically assess the potential impacts on TPKNR rising from the subject application, the need and extent of NTHS and the associated slope works within TPKNR (if any) should be ascertained, without which we shall reserve our comments at this stage.	<p>Preliminary review on the geological conditions including the loading from the proposed buildings and surrounding natural terrain/ slopes is conducted as part of the GPRR. Two geotechnical features are identified adjacent to the application site. Since the application site is located at a lower level to the two geotechnical features, no adverse geotechnical impact will be imposed to the surrounding slopes and slope upgrading works are not anticipated to be required. The small-scale building works will not affect the slope stability both within our application site and the TPKNR in the vicinity. Nevertheless, detail requirement will be subject to NTHS and confirmation with the CEDD in later stage.</p> <p>In the unlikely case that GI works be required within TPKNR, the applicant will follow the statutory process and obtain the necessary environmental permit under EIAO accordingly. Prior permission form AFCD will also be sought should the necessary GI works involve area within Tai Po Kai Nature Reserve.</p>

<b>Comments</b>		<b>Responses</b>
<b>D</b>	<b>Transport Department (TD) (comments received on 10.11.2022) (Contact: Ms. Yanny LI; Tel.: 2399 6936)</b>	
	<i>Public Comments</i>	
i.	2. We concur with the comment no. 40 of Temple Chambers that the applicant shall assess the additional parking demand induced by the project.	<p>Upon mandatory prior online registration before visit, all visitors will be informed that they shall take public transport to the Site as a general house rule of the nature academy and the use of private cars is discouraged. Only visitors with disabilities and staffs are allowed to book for a car parking space at the application site. As such, no parking demand is anticipated from the visitors. Besides, it should be noted that Tai Po Kau Forest Track – Kau Lead Section (TPKFT-KL) is a controlled road under the management of AFCD. Vehicles without permit is not allowed to enter.</p> <p>The crowd control management mechanism will be reviewed from time to time to make sure the effectiveness in controlling visitors numbers by prior online registration system.</p>
	<i>Applicant's Response to Comments (RtC)</i>	
	3. For Item H of the RtC	
ii.	a) RtC a) – The applicant shall provide details to justify the proposed parking provision and L/UL spaces is sufficient to meet the operational need, such as the number of staff in full operation, estimated material delivery trips etc.;	<p>Please be clarified that the one disabled car parking space is for visitors with disabilities and another car parking spaces is for staff only. Both spaces should be booked in advance.</p> <p>It is estimated that only one loading/unloading trip every week is required to deliver seeds or other materials to the Plant Nursery. Hence, the provision of one LGV L/UL space is considered adequate.</p>

<b>Comments</b>		<b>Responses</b>																																														
iii.	b) RtC b) – The applicant shall assess whether the existing transport services could accommodate the additional demands at non-peak hours during which the public transport services is less frequent;	<p>Noted. Please refer to <b>Appendix E</b> for the bus utilization survey result in individual hours on weekday and weekend. Result shows that the existing public transport services can accommodate the pedestrian flows induced by the nature academy.</p> <p>The occupancy rates in the peak hours are updated and shown in the following table:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="text-align: center;">Item</th> <th colspan="2" style="text-align: center;">Weekday AM Peak (0800-0900)</th> <th colspan="2" style="text-align: center;">Weekday PM Peak (1700-1800)</th> <th colspan="2" style="text-align: center;">Weekend Peak (1600-1700)</th> </tr> <tr> <th style="text-align: center;">EB</th> <th style="text-align: center;">WB</th> <th style="text-align: center;">EB</th> <th style="text-align: center;">WB</th> <th style="text-align: center;">EB</th> <th style="text-align: center;">WB</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Observed No. of Buses [A]</td> <td style="text-align: center;">7</td> <td style="text-align: center;">9</td> <td style="text-align: center;">7</td> <td style="text-align: center;">7</td> <td style="text-align: center;"><u>8</u></td> <td style="text-align: center;"><u>8</u></td> </tr> <tr> <td style="text-align: center;">Total Capacity (pax/hour) [B] = [A] x 120</td> <td style="text-align: center;">840</td> <td style="text-align: center;">1080</td> <td style="text-align: center;">840</td> <td style="text-align: center;">840</td> <td style="text-align: center;"><u>960</u></td> <td style="text-align: center;"><u>960</u></td> </tr> <tr> <td style="text-align: center;">Observed No. of Passengers [C]</td> <td style="text-align: center;">260</td> <td style="text-align: center;">290</td> <td style="text-align: center;">275</td> <td style="text-align: center;">385</td> <td style="text-align: center;">230</td> <td style="text-align: center;">305</td> </tr> <tr> <td style="text-align: center;">Occupancy (%) [C] / [B]</td> <td style="text-align: center;">31%</td> <td style="text-align: center;">27%</td> <td style="text-align: center;">33%</td> <td style="text-align: center;">46%</td> <td style="text-align: center;"><u>24%</u></td> <td style="text-align: center;"><u>32%</u></td> </tr> </tbody> </table>						Item	Weekday AM Peak (0800-0900)		Weekday PM Peak (1700-1800)		Weekend Peak (1600-1700)		EB	WB	EB	WB	EB	WB	Observed No. of Buses [A]	7	9	7	7	<u>8</u>	<u>8</u>	Total Capacity (pax/hour) [B] = [A] x 120	840	1080	840	840	<u>960</u>	<u>960</u>	Observed No. of Passengers [C]	260	290	275	385	230	305	Occupancy (%) [C] / [B]	31%	27%	33%	46%	<u>24%</u>	<u>32%</u>
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iv.	c) RtC d) – the applicant shall carry out sensitivity test to cater for the likely scenario that visitors would arrive at and dismissal from the site at the beginning of each pre-booking time slot;	<p>Noted. Please be clarified that <b>Table 4.4</b> of the TIA report demonstrates the scenario that visitors arrive at (50 ped/hr) and dismissal from (50 ped/hr) the Site in the same hour.</p> <p>Taking the time period 0900-1000 on weekday as an example, the number shown under the column “additional pedestrian flows” is 100 ped/hr, i.e. 50 arrive plus 50 dismissal from the Site.</p>																																														

<b>Comments</b>		<b>Responses</b>
v.	d) RtC g) – As the access road to the centre is narrow, the applicant shall advise the measures to be implemented to ensure public safety and avoid conflict between the construction vehicles and the hikers/existing road users using the track;	<p>During construction stage, site staffs will be stationed at the site gantry and the entrance of TPKFT-KL. Once a construction vehicle arrives, the staff stationed at the entrance of TPKFT-KL will inform the staff at the site gantry. If necessary, additional staffs will assist to direct the pedestrians to safe place such that to allow the construction vehicle to pass through. Similar arrangement will be carried out for the construction vehicle to leave the nature academy.</p> <p>The vehicular access near the visitor centre is located in short distance (about 600m) from Tai Po Road and there will be no more than 5 construction vehicles in construction peak hour. The conflict between construction vehicles and other road users is considered minimal.</p>
vi.	e) RtC h) – The applicant shall provide further details such as the level difference between the two accesses to justify the need for two accesses;	Both two accesses are existing vehicular accesses for the Site. As the Site is located along a terrain, the levels of the two vehicular accesses are at +105.36 and +110.81, respectively, which has over 5m level difference. In order to avoid extensive construction work within the Site to build an internal road, the existing two accesses will be maintained for the nature academy.
vii.	4. For bullet point ix of Item E of the RtC, we note that the centre would accommodate a maximum of 50 visitors per hours which is controlled under a pre-book arrangement. The applicant shall confirm whether the planned 50 visitors per hour has catered for visitors of night safari tours and bird watching activities.	The planned 50 visitors per hour has included the visitors for night safari tours and bird watching activities.

<b>Comments</b>		<b>Responses</b>
<b>E</b>	<b>Drainage Services Department (DSD) (comments received on 11.11.2022)</b> <b>(Contact: Ms. Doris LAU; Tel.: 2300 1545)</b>	
	<u>Drainage Impact Assessment (DIA)</u>	
i.	(a) Section 5.2, Appendix E&F – It appears the peak runoff adopted in section 5.2, Appendix E&F has yet included the increase in rainfall intensity due to climate change. Please revise.	The main table in Appendix E of the DIA report sets out the runoff under current conditions, with increases in runoff due to climate change set out at the bottom of the table. The peak flows in Appendix F of the DIA report is updated to include the potential future increases. Please refer to <b>Appendix F</b> of the R-to-C for the revised DIA report.
ii.	(b) Section 5.2.5 – Please provide the details for the mentioned “simple catchpit”.	The catchpit would be generally in accordance with CEDD Standard Drawing No. C2406 (Catchpit with Trap).
iii.	(c) Appendix E – Please provide the checking of 1 in 50-year scenario as mentioned in Notes No. 5	Noted. Please refer to the revised DIA report ( <b>Appendix F</b> ).
iv.	(d) Appendix E – Some of the figures for checking of the existing situation in the table are unreadable. Please review.	Noted, the table has been reformatted to show all figures. Please refer to <b>Appendix F</b> for the revised DIA report.
v.	(e) Appendix F – Please elaborate the assumption that “the Peripheral Channel divided into 2 sections”.	It would be impractical to provide the peripheral channel in one continuous section, so it would be arranged in a number of shorter sections with cross-connections from the peripheral channel on the southern boundary to the main streamcourse at the north. For simplicity and as a conservative assessment, it has been assumed that the channel will be provided in only two sections.
vi.	(f) Appendix F – Allowance of freeboard shall be considered in accordance with Section 6.5 of Stormwater Drainage Manual.	The small channels i.e. channels of the same order of size as the freeboard allowances proposed at the application site is not applicable to the freeboard allowances in Section 6.5 of the SDM. It is noted that Section 6.5 of the SDM refers to rivers and drainage systems with manholes, i.e. “downstream”

<b>Comments</b>		<b>Responses</b>
		elements of the system, rather than “upstream” elements such as peripheral channels.
vii.	(g) Response to Comment C item (viii) – Please provide the monitoring requirements/programme during construction stage and operation stage to ensure that the project’s expected drainage performance is achieved.	Noted. The monitoring requirements will be developed during the detailed design stage.
	<u>Sewerage Impact Assessment (SIA)</u>	
viii.	(h) The SIA report needs to meet the satisfaction of EPD, the planning authority of sewerage infrastructure.	Note. The SIA is reviewed by the EPD.
<b>F</b>	<b>Public Comments</b>	
i.	The proposed tent camping ground is not compatible to the nature education purpose. The need of overnight educational programme is not clearly explained. It poses risk of being used as a quasi-commercial glamping site/ resort.	<p>The tent camping area is only a small ancillary area which is to support overnight programmes and nature education of the Nature Academy. It will not be used as leisure or recreational purpose. It will only be used when there is relevant overnight field study/ educational programme in the Nature Academy (i.e. only during March to April and September to November, with maximum number of 4 programmes each month). A maximum of 18 people including tutors and participants will be allowed for each overnight programme. Since it is an integral part of the overnight field study/educational activities organized by the operator, no separate booking on the tent camping area will be allowed. It is not commercially operated like other glamping/ resort sites. All tents will be removed after each overnight programme.</p> <p>Stringent camping rules will be imposed, including no bathing/showing within the site and stream, no cooking and no making fire will be allowed.</p>



<b>Comments</b>		<b>Responses</b>
		<p>The camping is only part of a low-profile educational activity with absolutely no intention/possibility for quasi-commercial glamping site/resort.</p> <p>The overnight education activities will be crucial to nurture participants' awareness of the nature and biodiversity in Hong Kong and to conserve TPKNR as a whole. Literatures demonstrate that the length of field-based programme could influence learner's outcomes. Long-term or repeated experiences were found to be important for the extension and continuation of implicit self-nature associations and there is considerable evidence indicating that longer programmes are more effective than shorter ones. The overnight programmes will facilitate bird biodiversity education and experience of nature and wilderness. The overnight camping will support early morning bird watching activities and can also enhance the nature education function of the programme where participants can immerse into and create bonding with the nature. Hence, this is in line with the conservation and educational purposes of the TPKNR.</p>
ii.	<p>The application site is located at the country park "enclave". The proposed locations of the three buildings are close to the core of the TPKNR. The proposed development should be confined to the existing built-up and paved area and should not encroach to natural features.</p>	<p>The visitor centre, activity centre and plant nursery will be redeveloped from the existing structures and located on the existing paved platforms. They are small single-storey buildings with minimal change in the original setting at the application site. The proposed structures will be built on the existing level with 15m to 30m away from the streamcourse.</p> <p>The application site is located outside the TPKNR Special Area. All construction works including footpaths will be undertaken within the application site boundary only.</p>

Comments	Responses
<p>iii. Clarifications on the methodology for wildlife survey in the Ecological Impact Assessment is needed.</p>	<p><u>Methodology for firefly survey</u></p> <p>Firefly surveys were conducted at least once a month during the 12-month survey period (i.e. Jan 2021 to Dec 2021). In certain months, more than one surveys were carried out to search of particular target species. Survey dates were determined with reference to known peak period of individual species. Dates of surveys are listed here: 14/1/2021, 24/2/2021, 23/3/2021, 6/4/2021, 12/4/2021, 19/4/2021, 24/5/2021, 25/6/2021, 29/6/2021, 29/7/2021, 26/8/2021, 30/9/2021, 5/11/2021, 22/11/2021, 7/12/2021, 21/12/2021. Surveys for fireflies were conducted via transects, with species detected by direct observation. Surveys commenced immediately after sunset time and lasted for approximately 2 hours after sunset. Surveys were carried out under suitable weather conditions (i.e. without rain or strong wind). All fireflies observed, including both adults and larvae, were identified to species level and quantified.</p> <p><u>Night survey for nocturnal species</u></p> <p>Night-time surveys for avifauna, mammal and herpetofauna were conducted at least once a month during the 12-month survey period (i.e. Jan 2021 to Dec 2021). Detailed methodology has been provided under Section 3.4 of the EcoIA (<b>Appendix D</b>). Surveys commenced at approximately 30 minutes after sunset and generally ended at between 10p.m. to 11p.m.</p> <p><u>Bird species recorded at the application site</u></p> <p>It should be noted that the records of 166 species by BirdLife International and 218 species by HKBWS refer to species recorded from the TPKNR as a whole, which is much larger than the current 500m Assessment Area and</p>

<b>Comments</b>	<b>Responses</b>
	<p>covers far more mature woodland and stream habitats. Furthermore, these number of species were recorded and accumulated from a certain number of years, instead of within 12 months. Therefore, it is not valid to directly compare these results to the current findings. Published information that could be verified have already been included in the literature review of the EcoIA (<b>Appendix D</b>).</p> <p>Locations of bird species of conservation importance were not provided given their high mobility. Text description has been incorporated in the EcoIA (<b>Appendix D</b>) to present the relevant findings. which the same approach has also been adopted in some approved EIAs.</p> <p><u>Evaluation on ecological value and linkage to adjoining habitat</u></p> <p>The Application Site comprises of an open habitat of simple vegetation composition dominated by exotic invasive species, while the dominant habitat outside of the Site are mature, closed-canopy secondary woodland. These are highly contrasting habitats with a sharp structural and ecological interface. This is likely due to the site was found for farming (though now abandoned) with human interference for a long time.</p> <p>The findings from the ecological surveys also revealed far lower diversity and abundance of wildlife within the Site compared to habitats outside of the Site. Species recorded from the Site are mostly habitat generalists, while typical woodland species are practically absent from the Site, despite the fact that the Site is surrounded by mature woodland. If the Site indeed had had good ecological linkage with the nearby habitats, the diversity/abundance of woodland species at the Site would be the same as or at least similar to the surrounding habitats, which it demonstrably is not.</p>

<b>Comments</b>		<b>Responses</b>
		<p>Tristram’s Bunting and Brown Fish Owl were only recorded once throughout the 12-month period, showing no signs of dependence of the Site. The low frequency of occurrence demonstrates that the site is not ecologically well connected to the adjacent streams and woodland.</p> <p>Therefore, it is concluded that the ecological linkage between the Site and the adjoining habitats is limited.</p>
iv.	<p>Habitat map is over-simplified and identifying habitat within the application site as “Village/Developed Area” is not accurately reflecting the existing ecological conditions at the site.</p>	<p>Farmland patches within the EcoIA Assessment Area, either active or abandoned, are all classified as village/developed area due to the fact that are very small, fragmented/isolated, and readily disturbed.</p> <p>The pond habitat has already been presented on the habitat map and in the EcoIA Report. There is no seasonal stream or wetland within the Site. The isolated shrubs comprised both exotic and native species, are too small that, in an ecological sense, could not be classified as shrubland.</p> <p>Whilst there are a number of trees located along the Site boundary, many of the tree species (such as <i>Artocarpus heterophyllus</i>, <i>Averrhoa carambola</i>, <i>Citrus maxima</i>, <i>Delonix regia</i>, <i>Dimocarpus longan</i>, <i>Ilex rotunda</i>, <i>Lagerstroemia speciosa</i>, <i>Mangifera indica</i>, <i>Murraya paniculata</i>, and <i>Platycladus orientalis</i>) are exotic and typically associated with human settlements. The species composition of these areas is drastically different from that of the woodland in the TPKNR. Therefore, these wooded areas are not treated as part of the larger woodland, but instead are considered to be part of the “Village/Developed Area” habitat within the Site.</p> <p>In general, the Application Site, where farming practice has ceased for over a decade, is heavily overgrown with weedy and ruderal vegetation; many of which are exotic invasive species, including <i>Ageratum conyzoides</i>, <i>Bidens</i></p>

<b>Comments</b>		<b>Responses</b>
		<i>alba</i> , <i>Kyllinga polyphylla</i> and <i>Mikania micrantha</i> . As demonstrated in Appendix 1 of the EcoIA Report, 31 of the 90 species of plants recorded from the Site are exotic. This clearly reflects the Site’s disturbed history and justifies the classification as “Village/Developed Area” habitat.
v.	Possible ecological impact will be generated from the proposed drainage works.	No substantial drainage works are proposed at the application site. Peripheral channels and a simple catchpit generally in accordance with CEDD Standard Drawing No. C2406 (Catchpit with Trap) will be provided subject to detail design. Runoff from the Site will continue to pass overland across the application site. As such, no significant ecological impact is expected to arise from the proposed drainage works.
vi.	The overnight programme will bring possible light or glare disturbance and noise impact to the wildlife and night time hikers. The smell of food will attract wildlife to the application site and cause conflict with the visitors.	<p>It is anticipated that the overall ecological impact will be at acceptable level as demonstrated in the EcoIA. Nature-friendly lighting such as fully shielded fixtures will be adopted to minimise light disturbance to the wildlife. The overnight programme will only be held during March to April and September to November, with maximum number of 4 programmes each month. No overnight programme will be organised during peak firefly watching season.</p> <p>All participants including both day visitors and participants of the overnight programme will be well-educated and well-monitored to follow the code of conducts for joining the activities during the briefing session to make sure no negative impacts will be posed to the environment. All overnight programme participants would need to strictly follow on the house rules. No cooking or camp fire will be allowed. They are required to pack their own food as no cooking will be allowed, keep their voices low and use minimum level of light. All garbage and food waste (if any) will be carefully handled and prevent disturbance to wildlife so as the conflict with the visitors.</p>

<b>Comments</b>		<b>Responses</b>
vii.	Detail management and operation plan with consideration on various issues have to be established. It is suggested to regularly review the site management and operation plan to ensure optimal benefits to biodiversity and better monitor on the traffic impact generated by the proposed development.	<p>The Tai Po Kau Nature Academy will be collaboratively operated by the Outdoor Wildlife Learning Hong Kong (OWLHK) and Pine Garden Foundation Limited (the Applicant). OWLHK is a professional environmental education organization equipped with expertise in ecology, biodiversity and nature conservation, in a wide array of specialised fields, including environmental education, environmental management and ecotourism. Details management and operation plan and work programme will be formulated based on the precautionary approach in conserving the ecological value in TPKNR and bring lowest disturbance to the public visitors in the Nature Reserve.</p> <p>OWLHK and Pine Garden Foundation Limited as the future operators will regularly and carefully review on the site management during operation to assess its impact to the surrounding environment. The crowd control management mechanism will be reviewed annually to make sure the effectiveness in controlling visitors numbers by prior online registration system. Regular biodiversity survey will be conducted to monitor and evaluate the site implementation.</p>
viii.	Possible slope works will be needed to ensure to ensure safety of the visitors. Ground investigation works in NTHS stage will cause uncertainty to the ecological impact to the TPKNR. The submission of a full EIA report and obtaining an environmental permit with strict conditions for any slope/GI works is required.	Preliminary review on the geological conditions including the loading from the proposed buildings and surrounding natural terrain/ slopes is conducted as part of the GPRR. Two geotechnical features are identified adjacent to the application site. Since the application site is located at a lower level to the two geotechnical features, no adverse geotechnical impact will be imposed to the surrounding slopes and slope upgrading works are not anticipated to be required. The small-scale building works will not affect the slope stability both within our application site and the TPKNR in the vicinity.

<b>Comments</b>		<b>Responses</b>
		<p>While in view of the small scale of the building works and no adverse geotechnical impact on the surrounding slopes, GI works may not be required. Nevertheless, the detail requirement will be subject to NTHS and confirmation with the CEDD in later stage.</p> <p>Should any GI works be carried out within TPKNR (Special Area) and EPD consider it required to obtain environmental permit for carrying out necessary GI works under the EIAO, the applicant will follow the statutory process and obtain the necessary environmental permit accordingly. Prior permission form AFCD will also be sought accordingly.</p>
ix.	<p>There will be possible sewerage impact brought by pesticides, weed control, fertilisers, facilities cleansing and sewerage discharge with improper waste water discharge. Proper treatment of sewerage before discharge is questionable since the water are not proposed to recycle for flushing and harvesting. Sewerage discharge will affect downstream wildlife. Buffer zone to ponds and stream is suggested to minimise the impact.</p>	<p>The domestic sewage will be treated to the appropriate standard according to the Technical Memorandum on Effluent Standards under the Water Pollution Control Ordinance. A discharge license issued by EPD will be obtained for discharging effluent from the application site with control on effluent quality during implementation stage. Any discharge of wastewater towards the Tai Po Kau Stream will be strictly prohibited.</p> <p>The use of fertilizers and pesticides will be very limited and only applied on need basis. The estimated amount of fertilizer and pesticide required by the Plant Nursery will be 0.0006 L/day and 0.0167 L/day respectively. 10m from the existing stream as buffer and no-spray area will be adopted to avoid impact on water quality. In fact, no pesticide and fertilizer will be used outside the Plant Nursery which is more than 10m to the existing stream.</p> <p>All of the proposed biological products shall be registered pesticide by AFCD under the Pesticides Ordinance. Only environmentally friendly fertilizer (e.g. organic compost) and pesticide (e.g. biokill) will be used.</p>

<b>Comments</b>		<b>Responses</b>
		<p>Good management practices will be adopted to properly manage the application rate and time during irrigation to minimize chance of run-off. Use of fertilisers and pesticides will be properly controlled, e.g. applications prior to forecasted heavy rain event should also be avoided to minimize the potential for run-off of residual fertilizer. Priority would be given to remove infected/ sick plantings over the use of pesticides. In addition, use of more specific, systemic and biodegradable pesticide in low dosage is more preferred. The use and handling of fertilisers and pesticides should follow the Pesticides in Public Areas by AFCD, Food and Health Bureau (FEHD) and Leisure and cultural Services Department (LCSD).</p> <p>As a result, no adverse water quality impact is anticipated. Please refer to the PER report (<b>Appendix C</b>) for assessment on the water quality impact.</p> <p>The sewage treatment plant is proposed for processing treated effluent generated from the toilets at the application site before discharge. Reuse of grey water and rainwater harvesting generally requires different standards of treatment with greywater/rainwater treatment facilities (Please refer to Water Supplies Department's Technical Specifications on Grey Water Reuse and Rainwater Harvesting). Reuse of grey water is considered not appropriate as there are only small volume of waste water generated from the hand wash basins. Reuse of rainwater harvesting will be further explored in later stage. If they are considered feasible in the implementation stage, the Water Quality Standards for Rainwater Effluent Reuse in WSD's Technical Specifications on Grey Water Reuse and Rainwater Harvesting will be strictly followed.</p>
x.	<p>Suggestions on different enhancement measures and mitigation measures to maximise biodiversity value at the application site.</p>	<p>The proposed Nature Academy will adopt sustainable building design with consideration on the biodiversity of the Nature Reserve. All existing trees will be preserved and maintained, except two dead trees and one existing tree</p>



Comments	Responses
	<p>in direct conflict with the proposed access, which is in poor form and not suitable for transplant. Existing invasive vegetation cover will be replaced by new and native plantings. Lush and additional plantings with local and diverse species commonly found in the TPKNR will be provided. They will provide food and habitat for the wildlife and enhance biodiversity of the Nature Reserve. To further increase greeneries at the application site, green wall and green roof will be incorporated as appropriate upon detail design.</p> <p>Outdoor plant nursery areas and seed preparation areas will be provided and equipped with ecological-friendly facilities such as perches and nesting boxes. The existing pond will be retained and enhanced with introduction of sandpits to attract dragonfly and butterfly as ecological enhancement. A butterfly garden is proposed near the pond in the Master Landscape Plan (<b>Appendix G</b>) with introduction of selective plant species to attract butterflies. Bird-friendly windows will be adopted to prevent bird collision at the application site.</p> <p>Other suggested measure including the adding of bat boxes, log piles/loggeries, insect hotel and carrying out further pond enhancement is considered feasible and will be incorporated in implementation stage to maximise biodiversity value at the application site. Regular biodiversity survey will be conducted to monitor and evaluate the site implementation. The applicant will continue to explore ways to optimise the conservation value at the application site during detail design stage and operation.</p>