

Letterhead of Friends of the Earth

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To Honourable Christine Loh

Comments by Friends of the Earth (Hong Kong) on the EIA study for the International Theme Park proposed for Penny's Bay.

Summary

Friends of the Earth (Hong Kong) is deeply concerned about the quality of the EIA report submitted by the CED on *Construction of an International Theme Park in Penny's Bay of North Lantau and its Essential Associated Infrastructure*. Overall, both the spirit of careful examination of environmental impacts which Hong Kong's EIA Ordinance has set down and the principle of precaution that the Hong Kong Government claims to uphold by honoring the principles of sustainable development, seem to be seriously compromised by the EIA for the International Theme Park. Based on this and other inappropriate behaviour which we believe constitute mal-administration on the part of some of the involved Government departments or officers, FoE has lodged a complaint to the Ombudsman against this project.

In particular, we note the fact that the Hong Kong Disney Theme Park will be co-located with a contaminated shipyard which requires remediation by law. To date, no approved EIA has been conducted to assess the shipyard pollution, despite the fact that reclamation and site formation for the Disney Theme Park could be seriously affected. We consider that it is highly risky and irresponsible for any party to allow works to begin without a quantitative analysis of potential risks and environmental liabilities. Furthermore, FoE considers many of the statements in the Final EIA Report to be incomplete and many of the conclusion sections appear to be inconsistent with earlier sections, making the report unconvincing and completely inappropriate for the purpose of approving a major project like the Disney Theme Park.

Air

1. Though the EIA considered many possible sources of air pollutants, would the proponent provide us with relevant information on the emission of the gaseous pollutants from marine vessels, which will be used in reclamation and construction?

2. In figure 8.5a of the Final Report, a reserve area indicates the possible siting of the container terminals 12 and 13 and a container back up area. Would the proponent clarify if, in the future, the container terminals are located there, will gaseous pollutants from increased container vessels affect the overall air quality of the theme park? What will be the possibility of violation of the air quality objectives for such a siting?
3. The report lacks an assessment of secondary pollution (ozone and particulate matter). Because of its rural location, Lantau Island has shown much lower levels of directly emitted pollutants compared to urban areas of Hong Kong. Due to the unique wind circulation on the Western side of Hong Kong, photochemical smog pollution has been found to be serious at northern Lantau (as the Tung Chung data has shown). Given that the Government plans to locate more than 320,000 people in Northern Lantau, there should be extreme care on additional direct emission of air pollutants (e.g. the fireworks). Would the proponent provide the current status on ozone pollution and data on visibility at Penny's Bay, and how much will the developments of the theme park affect future trends of air pollution and visibility? The report lacks information on this very important issue. It is therefore recommended that a baseline survey study be conducted at Penny's Bay and an assessment using a photochemical air quality model like EPD's PATH model be performed.
4. We have grave concern over the firework issue. We have all watched fireworks for over 10 years in Hong Kong and should be aware of the enormous amount of smoke that is produced. Particularly when viewed from Central and Western districts, the fireworks can hardly be seen due to the smoke although many of these fireworks already claim to be environmentally friendly types. This is a very important issue for this EIA. It appears in the EIA report that the duration of the proposed fireworks is missed out, and if so, would the proponent advise this council on the duration and intensity of the fireworks?
5. To produce colours for the fireworks, various heavy metals are used. The impact of this large smoke plume which contains fine particulates of heavy metals (toxic and non-toxic) on the adjacent Lantau country park is one of our major concerns. We see no detailed deliberation of potential impacts of smoke on Lantau's upland ecosystem in this EIA study, especially as the particulates which settle on vegetation will be eaten by livestock which regularly graze in the area.
6. The choice of wording in this EIA report seems misleading. Fireworks that do not contain toxic metals should NOT be considered as an environmental benefit and many of the other "environmental benefits" that appear in this report are merely mitigation

measures. Likewise, the "environmental disbenefits" should not be described as "potential" disbenefits because even if the firework plume contains no toxic heavy metals, the particulates emitted will still be environmentally undesirable. We observe that this sets the tone for the rest of the EIA report and we consider that this is inappropriate and should be reviewed.

7. Given the fact that Penny's Bay is a half enclosed valley, and there will be fireworks every evening, we consider that a four season air dispersion model to study the microclimate of the valley would be needed to study the air dispersion pattern so as to ensure there will not be unacceptable levels of air pollutant accumulation in the valley.

Fishery

8. In section 9.11.2 of the Final EIA report, it states that the identified residual impact occurring during the construction of the Yam O and Penny's Bay reclamations is the permanent loss of 10 ha of the Yam O Fishing Zone, (1.9%); 205 ha of the Penny's Bay Fishing zone (73.7%); and 75 ha of the Pa Tau Kwu Fishing Zone(9.2%). It further states that the loss of this part of these fishing grounds, although potentially detrimental to some fisherman is unlikely to cause a noticeable reduction in fish catches. Would the proponent provide a more detailed analysis of how this conclusion was drawn and if there is sufficient quantitative analysis to confirm such a claim. Would the proponent provide this council with the total length of rocky coastlines that will be lost through this project and other projects and if the cumulative impact can be offset by the provision of the rubble mound seawall? Is there any international experience suggesting this kind of compensation is acceptable? Would the AFCD please comment and verify the feasibility of this?
9. Would the proponent estimate even if Penny's Bay is not considered as a core activity area of the dolphins and the finless porpoise, how much of their seasonal activities would be affected? How many Chinese White Dolphins could be affected?
10. Although the report recommends the deployment of 4,350 cubic meters of Artificial Reef, and suggests that one potential location would be at the north of the Luk Keng headland, the report limited itself by stating that the location and the scale of AR deployment within a particular site is constrained by a variety of factors detailed in full in the Final Report for the Artificial Reef Deployment Study. In order to avoid any confusion and the discharge of responsibility, would the Government confirm with this council how effective the recommended AR deployment would be and what the

relevance is of the remote location of AR deployment in relation to compensated losses in this project. Is there a time frame for implementation and who will be the responsible authority for this task?

11. As there will be high levels of suspended sediments at the Ma Wan Fish Culture Zone during periods of dredging, and the sediment plumes from the dredging activity would be expected to impact the Ma Wan Fish Culture Zone on the flood phase of the tidal cycle, causing short duration "spikes" in the suspended sediment concentrations, what would be the possibility of a sudden death of the fishery stock and will the fishermen be entitled to have compensation for the loss?
12. Although it has been recommended in the EM&A Manual that an Environmental Projects Office (ENPO) be set up for the project, this does not imply that there will be no adverse impacts of on water quality at sensitive receivers as indicated in section 5.7.19 in the EIA full report. This clause is considered misleading and is technically incorrect.
13. The previous EIA for the container port development concluded that the configuration of the CT 10 and 11 would impair flushing in Discovery Bay, potentially down to zero. Would the proponent/consultant confirm with this council if this will be the case? Would the consultant please explain in detail the worst case scenario of the impacts to fish culture operations at Ma Wan due to the change of the hydrodynamic regime of the East Lantau coastline because impacts of this nature could lead to decreased flushing and water exchange of that area and this could lead to reduction in dissolved oxygen and increase in nutrients and impact the fish culture operations and fish growth. Would the AFCD please comment and confirm the validity of this part of the EIA report (section 9.8.2)?

Terrestrial Ecology

14. The TM of the EIAO suggested that a four season ecological survey should be conducted to assess the ecological impacts arising from a project or proposal; to allow a complete and objective identification, prediction and evaluation of the potential ecological impacts. Would the EPD please comment and verify if this fundamental principle was followed in this EIA and if it is acceptable for an independent EIA to skip this part? Moreover, the EPD should also clarify if this EIA report, on its own, contains a complete ecological assessment.

15. Would the authority clarify if it is acceptable that two months of field surveys in the Theme Park Assessment Area in the dry season and a night survey of wildlife are sufficiently understand the complex terrestrial ecosystem in that part of Lantau Island? Will this practice set the standard to be allowed in other projects in the future?
16. The pitcher plant, *Nepenthes mirabilis* was found at the back slope of the Shipyard. The report stated that the proponent will erect fences where practical along the boundary of construction sites before the commencement of the construction works. Would the AFCD please comment and verify the distance of the fencing for guaranteed protection. If relocation needed to take place, would the Government advise when, how, and where such transplanting would take place, and the criteria to evaluate whether such a transfer was successful or not?
17. Would the consultant advise and the AFCD please verify the possibility of the abandonment of the White Bellied Sea Eagle from their nests, and provide the evidence that this pair of rare birds could adapt to the noise and disturbance of the construction and operation of the theme park? Please also indicate in what way and how severe the impact of the proposed fireworks will be on this pair of birds. The authority should also comment if it is acceptable or not acceptable to state that no residual impacts is predicted as indicated in the ecological chapter, Table 7.10a?
18. Would the proponent clarify how much quality control they have on the work of the contractors and the construction workers? Particularly, would a company with a record of fraudulent work quality be awarded the contract? If so, we believe that actions such as illegal burning that could affect the hillsides, and destruction of streams due to short-cuts in construction protocol, and other disturbances to ecologically sensitive areas will be uncontrollable.

Land Contamination

19. Given the fact that the consultants cannot get access to take soil samples from the Cheoy Lee shipyards which is believed to contain a number of toxic and harmful substances, on what basis is the proponent of the view that it will be safe for land formation work to start? Without a quantitative analysis of the soil samples of the shipyard contamination, how would the government formulate mitigation measures to safeguard the workers' safety for land formation work?
20. At this stage, property access for site specific investigations for the shipyard site in

Penny's Bay has not been obtained, and therefore, information on the potential land contamination within the shipyard site was only based upon on-site observations, interviews with various site operators (many of them may not know exactly what they are handling), and regulatory personnel, and review of available documentation. Given Cheoy Lee shipyard was very active in the breaking of large-scale vessels in the past, we have legitimate reason to classify the shipyard as a contaminated land. In accordance to the Government's statutory requirements and evaluation criteria for assessment of land contamination and its potential impacts, the assessment evaluation should

- (a) provide a clear and detailed account of the present use of the land in question and the relevant past land use history, in relation to possible land contamination;
- (b) identify those areas of potential contamination and associated impacts, risks or hazards; and
- (c) as required, submit a plan to evaluate the actual contamination conditions for soil and/or groundwater. Would the authority comment and verify if the theme park EIA and/or and NLDFS EIA fully addressed these issues or not? If not, why is it considered that the present Theme Park EIA reports have met the TM of the EIAO?

21. If the authority is of the view that a detailed decommissioning of the shipyard EIA can be done in a later stage, on what basis was this judgement made? How likely is it that the pollutants from the shipyard have and will continue to migrate to adjacent areas and affect the workers and pollute the area if there is massive scale of land formation and earth work on going? It seems more prudent to wait for the detailed site investigation and formulation of appropriate methods and procedures prior to the commencement of the land formation work. Has the consultant conducted a risk assessment on this issue and what is the confidence level of this?
22. What is the ground water table of the shipyard area concerned? If there is no data about the ground water table available, on what basis has the proponent based his confidence that the pollution migration pathway will not affect the construction of the theme park. If in the future, it was found that the pollution level is far more severe than expected, will relevant parties consider to stop the theme park construction or to close the theme park after it opens? It would seem that the desktop research and limited site observation performed for the NLDFS EIA is inadequate in addressing the land contamination issue and in the absence of a Contamination Assessment which is a standard requirement under the EIAO Annex 19, this report should not be accepted as it stands.
23. To supplement the above argument, a shipyard is likely to possess the following

chemicals as indicated on page 12-5, Table 12.5a, heavy metals (lead, cadmi etc); TBT, persistent organic compounds and many of them are carcinogenic in nature, polycyclic aromatic hydrocarbons (PAHs), acids, solvents and degreasants, antifouling paints, scrap metals and grinding swarf, asbestos, anticorrosive compounds, petroleum fuel storage, including benzene, toulene, ethyl benzene and xylene (BETX), arsenic trioxide, and chlorophenols, paints and pigments, thinner and solvents etc. Many of them are toxic by inhalation and contact which may cause health problems for workers even if the pollutants have not migrated to adjacent land. Would the proponent clarify what the plan is to mitigate the pollution impact if construction is to be rushed to start in May this year? Would the EPD advise if this is acceptable and if the authority has accepted a different standard when compared with the land contamination assessment in the case of the Kai Tak airport?

24. The 110,000 cubic meters of contaminated mud which will be fully dredged and removed from the project area is designed to be dumped at East Sha Chau contaminated mud dumping area. Given the two locations are habitats of the Chinese White Dolphin, would the proponent provide a detailed feasibility plan for the dumping activity demonstrating there should not be insurmountable impacts on the marine ecology?
25. Would the proponent also provide a detailed plan to dispose of contaminated ground water and appropriate remediation methods?
26. Would the proponent provide the confidence levels of risk assessment done on whether the residual contamination will migrate or impact the proposed artificial lake at the Water Recreation Centre. Also, could the authority please clarify who will bear the liability should remediation measures fail?
27. In the selection of an appropriate methodology to perform the contaminated site clean-up, in-situ immobilization of contaminants and containment of contaminants are believed to be the best methods. Would the proponent explain why there is the need to excavate and transport the contaminated mud for dumping in the East Tung Lung Chau area, considering that the EPD already advised that in-situ remediation methods should be adopted wherever possible due to a serious limitation of available dumping sites?
28. We are frustrated to see inappropriate wording being used in the final EIA report. For instance, in section 12.7.11 it is stated that "Based upon the lack of any study documenting previous spill incidents, and the fact that the construction in the area of the Study will be performed after a separate decommissioning Schedule 2 EIA study and remediation (if required) is completed, the potential for future negative land contamination impacts are not expected". This clause is confusing and

incomprehensible and should be re-phrased correctly using simple and comprehensible language as this is also a requirement of the EIAO.

29. Likewise, in section 12.7.12, the report indicates that due to access restrictions, residual environmental impacts cannot be fully assessed at this time. However, given that the CLS facility will undergo a separate Schedule 2 EIA decommissioning study, and that remediation will be employed to EPD satisfaction, the potential for residual impacts for future land contamination will be minimal. This is equally confusing and unreasonable. It seems the proponent is trying to discharge responsibility to the up-coming EIA study and is being unreasonably confident that there will not be unacceptable environmental impacts arising from the shipyard despite the present situation of unknown pollution levels. Would the EPD comment if this kind of statement is appropriate or not?
30. In the conclusion session of the report, it mentions that appropriate remediation will be performed for the CLS site before construction of the theme park road and rail elements, so that further potential negative land contamination impacts are judged to be minimal. Thus, it concludes that there will be no potential residual negative impacts and no insurmountable constraints associated with the future use of the site for the theme park and associated developments. Again it is very misleading and confusing. We consider that it is too premature and inappropriate to make such a conclusion at this stage and the statement is not made in accordance with the spirit of the EIA process and the spirit of the EIAO.
31. Would the proponent advise this council if it is appropriate to co-locate an international theme park with a contaminated shipyard, a diesel power plant and a container reserve area with constant vessel movements? Would the proponent also please advise this council if alternative siting options were considered in the initial stage? If so, where are the possible alternate sites?

General

32. In a paper prepared by the proponent for various concerned parties dated March 22, 2000, CED ref.(81) in SD (CR) L/M2, para.2.3.2, it stated that on the northern shore of Yam O, three major land uses are proposed. At the western end is a Gateway Complex, in the centre there is a Tourist and Convention Village, and at the eastern end is a Technodrome. Would the government clarify if there are any plans to build a Technodrome or similar feature as part of its technology corridor concept somewhere

close to Tai Po? Is the Government also proposing to build a major convention and exhibition complex at Chap Lap Kok airport community?

33. It is further stated in paragraph 2.5.2 that the Yam O log ponds will also be affected by road works reclamation along the northeast coast and that furthermore, log ponds would be incompatible with major tourism and recreational uses of Yam O and northshore Lantau. Would the proponent please justify this claim? Why is a log pond considered incompatible with tourism and recreation purpose but a power plant, and container reserve areas are considered as compatible and allowed?

Cultural heritage

34. Paragraph 11.4.5 states that the base line review of information indicated that the volume and quality of archaeological material found during land excavation at Penny's Bay and Wan Tuk gives the area high archaeological potential and the soft, silty Hang Hau Formation sediments provide an excellent preservation environment for such materials. Detailed analysis of geophysical data identified 49 seabed areas considered to have high marine archaeological potential. However, it was concluded in the EIA report that no significant marine archaeological deposits were identified as buried in the seabed of the Penny's Bay reclamation area and the AMO have confirmed that no further underwater archaeological investigation is required after two diversions to inspect the areas identified from the two MAIs. These two statements are contradictory and basically suggest two very different observations.
35. Likewise, it is also stated in paragraph 11.4.6 that a baseline review indicated a high archaeological potential of shipwrecks within the proposed 10 ha reclamation area at Yam O. Blue-and-white porcelain shards retrieved from Luk Keng Bay suggested that the Yam O area may have been used as an anchorage for overseas trade ships. After a geological survey and a diver survey, it was concluded that no significant marine archaeological deposits were identified as buried in the seabed and again it was said that the AMO have confirmed that no further underwater archaeological investigation is required. Would the proponent please clarify if this kind of archaeological survey has followed any international standard? If not, why not? Could this council please be provided with the written confirmation of the above claims and relevant information on international practice of cultural and archaeological heritage preservation measures?
36. Would the proponent please provide a detailed plan to protect the sites of cultural and archaeological value, details of implementation, ownership rights, and future

responsibility?

37. The NLDFS EIA report concluded that the Penny's Bay reclamation should avoid and minimize the filling of the bay, and in paragraph 11.7.2 of the theme park EIA, as the Penny's Bay reclamation would result in limitation on accessibility for future archaeological investigation at the area, a total rescue excavation instead of a partial rescue excavation could be considered, if necessary, before the construction of these transport infrastructural elements associated with the theme park development so that the archaeological deposits of the area could be preserved by record in totality. Would the proponent supplement information on this and brief this council on the detailed implementation plan? Would the authority consider the so called preservation by record in totality, i.e. a 1 month full rescue excavation sufficient? Can this council also obtain a formal position from the AMO if they consider this is necessary?
38. The EIA final report suggested a number of mitigation measures to protect cultural and archaeological heritage. However, due to the urgency of the project handover date, it is unlikely that most of the mitigation measures will be carried out. Therefore, without a detailed implementation plan, it is far too early to judge whether or not the impacts to the cultural heritage resources are acceptable, as concluded in para. 11.9.6.

Water

39. With reference to paragraph 5.9.13, would the proponent please clarify why no data were provided for Total Toxic Metals (TTM) and E. coli. and please also clarify how and on what basis the proponent can conclude the TTM and E. coli condition in Table 5.9c and 5.9d?
40. With reference to paragraph 5.9.34, the artificial lake is to be constructed in an area where the land may have been contaminated by the shipyard. There may be the potential for contaminants to leach into the ground water, or through surface run off (emphasis added), which may then enter the artificial lake, with primary contaminant concern of TBT. Would the proponent present members of this council with evidence of a proper risk assessment on this issue?
41. Would the Authority confirm with this council whether the theme park would be closed in order to avoid the discharge of untreated sewage to marine waters in the event of any mal-functioning of the Siu Ho Wan STW or due to the delay of the proposed upgrading work? In paragraph 5.9.37, the report indicates that the impacts would likely be in the

form of elevated E. coli concentrations, which would primarily cause adverse effects on bathing beaches and secondary contact recreation sub-zones, decreased dissolved oxygen concentrations, affecting marine ecology and fish culture zones and increased nutrient levels, which would increase the risk of algae growth. Would the proponent indicate by probability, how likely, under this special situation, there will be the spread of red-tide, and what area of Hong Kong's marine water will be affected?

42. With reference to paragraph 5.10.10 the dissolved oxygen concentration in the bottom of the water columns are predicated to decrease from 3.7 mg/L to 3.4 mg/L which is mostly likely due to a decrease in the flushing of this area resulting from the sheltering effect of the Penny's Bay reclamation for the theme park. Moreover, in paragraph 5.10.12 it further states that the WQO for E. coli will be exceeded at bathing beaches in both the wet and dry seasons. Although in all cases the operation of the theme park is not predicated to contribute to the exceedance levels, the theme park will still result in small increases of E. coli concentration at a few of the bathing beaches. It is therefore misleading for the report to conclude that the theme park is not causing adverse impacts as shown in paragraph 5.10.12.
43. Following the question asked in 42 (above), should there be any red-tide formation during and after the construction of the theme park, will the proponent bear the responsibility for compensation?
44. In paragraph 5.10.25 the report indicated that the water in the artificial lake will be extracted to provide irrigation waters for the landscaped areas of the theme park. Given the close vicinity to the contaminated shipyard, it is imprudent to make such a decision when detailed investigation of the contamination level and its migration pathway are yet to be conducted. The fundamental question is whether it is appropriate to have such an artificial lake adjacent to a "brown field" which carries unknown and unlimited environmental liabilities.
45. The proponent proposed to use the potable water from Tai Lam Chung Reservoir to replenish the lake during dry season. May this council be informed what would be the amount of water needed for a typical dry year and how much it costs? In any situation, this is a waste of fresh drinking water for irrigation purposes which is against WSD guidelines and is also against the spirit of sustainable development which is a policy adopted by the SAR government and publicly announced the Chief Executive in his last Policy Speech.
46. A comparison of the data in Tables 5.10j and 5.10k shows that in 2011 and for the

ultimate case the peak flows are predicted to exceed the design capacity of the Siu ho Wan STW. Would the authority justify why this is allowed and what is the time frame to upgrade the Siu Ho Wan STW in order to prevent overloading of the STW and the potential for overflow of untreated sewage effluent? In addition, in paragraph 5.10.45 the report notes that any measures for reducing the risk of over-flow at the Siu Ho Wan STW will be the responsibility of the DSD and not the theme park developer or operator. What is the justification for taxpayers shouldering this responsibility? Would DSD confirm with this council in writing that they are fully aware of this claim?

47. In paragraph 5.10.46 the report warns that in case of failure of systems, such as pumping stations, which would result in the discharge of raw sewage to the surrounding waters for periods of days likely leading to adverse water quality impacts, there should therefore be provision of suitable redundant/back up systems. Would the proponent provide such information?
48. Many toxic substances contained in the storm-water runoff (particularly from higher elevation at the back of the shipyard and solid residue of the fireworks) are soluble or can be carried by water and will not be stopped by silt traps. The accumulation of hazardous substances in the lake, together with the amount of sodium hypochlorite used as a disinfecting agent and as a biocide may pose health risks to the visitors or other animals using the water in the lake. Would the proponent provide risk assessment data on this issue?
49. Para 5.11.15 suggests that the liner of the lake be replaced once the manufacturer's specified life span is reached in order to ensure impermeability is maintained. Would the proponent advise how long the lifespan of this layer of lining is? Given all the risk factors, waste of fresh portable water, and the close proximity of the shipyard, would the proponent give this council a cost benefit analysis of creating this lake and maintaining it?
50. Given the explanations contained from paragraphs 5.11.16 to 5.11.21 we would not consider the conclusion drawn in paragraph 5.11.22 to be justified. It is unreasonable to predict that no adverse impacts to water quality will occur and to assume that all the unclear responsibilities and problems will be resolved. There is no clear indication of responsibilities and no assurance of an alternative plan for provision of a suitable back up system as suggested in 5.10.46? The conclusion here is confusing and misleading.

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