

**Confirmed Minutes of the 131st Meeting of
the Environmental Impact Assessment Subcommittee
held on 22 January 2016 at 2:00 pm**

Present:

Prof Nora TAM, BBS, JP (Chairperson)
Dr HUNG Wing-tat, MH (Deputy Chairman)
Ir Cary CHAN
Prof CHAU Kwai-cheong, BBS, JP
Dr Billy HAU
Dr Michael LAU
Prof Albert LEE
Ir MA Lee-tak, SBS
Prof John NG
Dr Eric TSANG
Ms Becky LAM (Secretary)

Absent with Apologies:

Miss Yolanda NG, MH
Mr Luther WONG

In Attendance:

| | |
|---------------------------|---|
| Prof Paul LAM, SBS, JP | Chairman, ACE |
| Dr Carrie WILLIS, SBS, JP | Member, ACE |
| Mr Andrew LAI | Deputy Director of Environmental Protection (3), Environmental Protection Department (EPD) |
| Mr K F TANG | Assistant Director (Environmental Assessment), EPD |
| Mr Louis CHAN | Principal Environmental Protection Officer (Regional Assessment), EPD |
| Mr Lawrence NGO | Senior Environmental Protection Officer (Regional Assessment)1, EPD |
| Dr Kenneth LEUNG | Senior Environmental Protection Officer (Strategic Assessment)5, EPD |
| Mr LEE Chee-kwan | Senior Environmental Protection Officer (Assessment & Noise)3, EPD |
| Mr Simon CHAN | Assistant Director (Conservation) (Acting), Agriculture, Fisheries and Conservation Department (AFCD) |
| Mr CHEUNG Ka-shing | Senior Nature Conservation Officer (South) (Acting), AFCD |
| Mr Dick CHOI | Senior Marine Conservation Officer (West), AFCD |
| Miss Dora CHU | Executive Officer (CBD), EPD |

Project Proponent Team
*Civil Engineering and
Development Department*

Mr Bosco CHAN, Deputy Project Manager (Hong Kong Island & Islands)
Mr David LO, Chief Engineer/Islands
Mr Kenneth WONG, Senior Engineer 9 (Islands Division)
Ms Donna TAM, District Planning Officer/Sai Kung & Islands

Planning Department

Ove Arup & Partners Hong Kong Ltd. (ARUP)

Mr Franki CHIU, Director
Mr Henry SHIU, Associate Director
Ms Amanda MO, Associate Director
Mr Gerald KAM, Consultant
Mr Jeffrey LO, Associate

Ecosystems Ltd.

Mr Vincent LAI, Managing Director

Action

Item 1 : EIA Report on “Tung Chung New Town Extension”
(ACE-EIA Paper 1/2016)

Internal Discussion Session

The Chairperson advised that the meeting would continue to discuss the EIA report on “Tung Chung New Town Extension”. Supplementary information as requested by Members from the last meeting on 18 January 2016 had been received from the project proponent (i.e. the Civil Engineering and Development Department (CEDD)) and circulated for Members’ information before the meeting.

2. The Chairperson informed Members that the discussion would be divided into the Presentation and Question-and-Answer Session which would be opened to the public. The Internal Discussion Session would remain closed.

3. The Chairperson suggested and Members agreed that for a more structured and focused discussion at today’s meeting, questions should be raised on the key subject areas in the order of –

- (a) air quality;
- (b) noise impact;
- (c) sewerage and sewage treatment implications;
- (d) waste management implications;
- (e) land contamination;
- (f) landscape and visual; and
- (g) cultural heritage.

Members were advised to follow up on the supplementary information provided by CEDD after the discussion of the above subject areas.

[The project proponent team joined the meeting at this juncture.]

Presentation Session (Open Session)

4. Mr Franki Chiu briefed Members on the air quality, noise impact, sewerage and sewage treatment implications, waste management implications, land contamination, landscape and visual and cultural heritage aspects of the Tung Chung New Town Extension project, key comments received during the public inspection period and response to these comments.

Question-and-Answer Session (Open Session)

Air quality

5. In response to a Member's query on the peak hour traffic flow on North Lantau Highway after the completion of the project, Mr Franki Chiu said that the air quality was mainly dependent on the amount of nitrogen oxides (NO_x) emitted, and explained that the study area for air quality impact assessment included the proposed development area (PDA) and a distance of 500 metres from the boundary of the PDA and associated infrastructures. While there would be an expected increase in the Vehicle-KM Travelled (VKT) after year 2023, Mr Chiu explained that there would be an anticipated progressive decrease in NO_x emission from vehicle tailpipe as a result of enhancing emission reduction measures over motor vehicles by the Government. The Member opined that while capitalizing on the Government's policy, more efforts should be committed by the project proponent to further improve the air quality. He suggested the project proponent to make reference to the low emission transportation system in Southeast Kowloon.

6. With proposed railway stations at Tung Chung East (TCE) and Tung Chung West (TCW), Mr Bosco Chan said that railway would serve as the backbone of the transport system connecting Tung Chung to other districts in Hong Kong. As for connectivity within the Tung Chung New Town Extension, vehicles with low emissions such as electric buses would be introduced, and space would be provided for installing charging facilities at proposed public transport interchanges. He informed the meeting that a study was being commissioned by CEDD to promote the use of electric vehicles in the public transport system of North Lantau. As the study would be completed after the commencement of population intake in the New Town, it was not included as a recommendation in the EIA study. A Member opined that as Tung Chung was widely used as a hub for connection to the Hong Kong International Airport (HKIA), electric railway services should be deployed to cover the short distance from Tung Chung to HKIA. With reference to the initiative of promoting the use of electric vehicles in the public transport system in the 2016 Policy Address, the

Member suggested to include complete use of electric buses within the PDA as a recommendation in the Environmental Permit (EP), which he considered could help reduce roadside air pollution and at the same time enhance the image of Hong Kong.

7. In response to a Member's enquiry on the model assumptions for air quality impact assessment, Ms Amanda Mo said that the model included an estimated site traffic generation of 300,000 m² gross floor area (GFA) from the mainly retail and commercial land use inside the Topside Development at Hong Kong Boundary Crossing Facilities Island. As regards the suggestion of the Lantau Development Advisory Committee to open up the South Lantau Road for the access of private vehicles, Mr Bosco Chan informed that the Transport Department was considering the relaxation of traffic restrictions in phases for tourist coaches and private cars to enter the closed roads in South Lantau during weekdays. He added that as an effort to promote environmental protection, it would be relatively easier for electric vehicles to obtain closed road permits for access to South Lantau. Replying to the Member's question on whether such increase in traffic flow at southern Lantau was included in the model of air quality impact assessment, Mr Chan clarified that as the traffic restrictions in southern Lantau would only be slightly relaxed, the contribution to air quality impact was considered to be insignificant.

8. A Member sought clarification on the rationale for setting 2023 as the assessment year when the Road P1 and district distributor in TCE would not be commissioned until 2024 and 2029 respectively. Mr Franki Chiu explained that although the Road P1 and district distributor would not be physically present in 2023, the traffic flow from Road P1, district distributor and other roads at their commission years within the PDA, as well as all road networks within 500 metres of the assessment area had already been accounted for in the assessment model in order to determine the highest emission and the worst scenario. The Member suggested and the Chairperson agreed that the project proponent should provide Members with data on peak hour traffic flow beyond 2023 for better clarity.

CEDD

9. A Member enquired about the prevailing wind direction and whether there was any identified source of air pollutants blowing towards the residential areas especially during the summer season. Mr Jeffrey Lo informed that the annual prevailing winds were from northeast to southwest direction, and vice versa during summer. As regards the source of air pollutants, Mr Franki Chiu said that the pollutants were mainly emitted from the transport network, HKIA and the Organic Waste Treatment Facilities (OWTF) at Siu Ho Wan. These sources of emissions were already included in the assessment model. In reply to the Member's further question on whether there were any blockages on the air corridor, Mr Lo replied that the heights of proposed developments in TCW was low, and there were planned open spaces in TCE which would link up the open spaces in the existing developed areas to provide better air ventilation. With reference to the prevailing wind directions, the Member commented that while the PDA would be well-ventilated in summer, it could be very windy in winter. He opined that the project proponent should conduct a study to investigate the appropriate land use and locations of constructions to mitigate the situation. Mr Lo said that an air ventilation assessment (AVA) was conducted in

accordance with the relevant Government guidelines. On the request of the Member, Mr Lo agreed to supplement the AVA report with information on the current and projected future air quality conditions to Members for reference after the meeting.

10. A Member opined that while the concepts of green city and low carbon design were introduced in various projects, including the development of Lok Ma Chau Loop, North East New Territories New Development Areas and the Hung Shui Kiu New Development Area, however, such concepts were not emphasized in the Tung Chung New Town Extension project. He observed that the percentage coverage by roads in the PDA was far greater than that in the other projects. Another Member agreed with the Member and followed that the concept of low carbon should be strengthened via the land use planning and transportation system design of the PDA. Mr Franki Chiu replied that in addition to the proposed railway stations at TCE and TCW, the PDA would be covered by comprehensive cycling tracks and pedestrian walkways. Mr Henry Shiu supplemented that in order to enhance the greenery and sustainability of the New Town, cycling tracks would run adjacent to roads, linear parks and green belts, and the use of electric buses would be promoted within the PDA. The Member opined that “low carbon” was not mentioned at all in the EIA report, and the word “greenery” should be better replaced with “green”. A Member further commented that more details, including the cycling routes, parking spaces for bicycles and ancillary facilities for pedestrians and cyclists should be presented to show the sustainability of the project.

11. In view of the high NO_x level in the PDA and its proximity to HKIA and the developing Pearl River Delta, a Member suggested to consider including titanium dioxide in cement during construction which was proven to be effective in the removal of NO_x.

Noise Impact

12. In response to a Member's concern on the noise generated at the joints of bridge decks, Mr Jeffrey Lo said there would only be a few bridges spanning over the Tung Chung Stream in TCW for access to existing villages and areas in the PDA with low plot ratios. As the traffic flow was expected to be low, and there would only be a small number of joints given the short length of the bridges, he considered the noise generated by vehicles travelling across the joints be insignificant. Mr Bosco Chan supplemented that there would be no bridges in TCE. The Member opined that while a higher traffic flow would increase the incidence of the noise generated from the joints, more attention should be placed on the high noise level generated which would be very disruptive to the nearby residents especially during the night time. He suggested the project proponent to consider using joints that would generate less noise. Mr Chan said that efforts would be made by CEDD to work with the relevant departments to design better joints to address the issue.

13. The Member opined that the project proponent should confirm whether the three runway system (3RS) of HKIA would be fully commissioned in 2023 so that the Noise Exposure Forecast (NEF) 25 contours of the 3RS would be shifted away as

predicted from the boundary of TCE by that time. A Member followed that even after the full commission of the 3RS, the PDA in Tung Chung could still be affected by aircraft noise in the event of the maintenance of airport runways. Mr Franki Chiu replied that the NEF 25 contours would fall outside the Tung Chung New Town Extension area as stated in the 3RS EIA report, and this should be a commitment made by the project proponent of the 3RS project. In reply to the Chairperson's enquiry on measures to be taken to ensure the future population would not be impacted by the noise from aircrafts in case of any slippage in the implementation programme of the proposed 3RS, Mr Chiu said that the project proponent would review the dates of population intake to ensure that all the noise sensitive receivers within TCE would not be adversely affected by aircraft noise. Mr David Lo supplemented that only phase 4 with the population intake scheduled for 2030 would fall within the NEF 25 contours in case of delay in the commissioning of the 3RS.

14. The Chairperson opined that the project proponent should assess the noise impacts to noise sensitive receivers if 3RS could not be commissioned as scheduled. Mr Bosco Chan replied that even before the commission of 3RS, the NEF 25 contours would only encroach into only the periphery of phase 4. A Member echoed the comment of another Member that there would be occasions when the third runway were scheduled for maintenance, which would lead to the shifting back of the NEF 25 contours to the PDA. He pointed out that the Airport Authority Hong Kong was not fully committed to shift out the NEF 25 contours. Mr Franki Chiu clarified that the NEF 25 contour showed the annual average noise exposure. Ms Donna Tam supplemented that the areas falling within the NEF 25 contours before the commission of 3RS were mainly designated for commercial use which was comparatively less sensitive to noise. While some areas were zoned for residential use, the programme of delivery of these sites would be reviewed if there was any slippage in the commissioning of 3RS. The Member suggested including this as one of the recommendations in the EIA report.

15. A Member shared his observation that road traffic noise was mitigated by distance or by noise barriers in many proposed areas. While using distance might require the setting back of developments, noise barriers would affect the ventilation and aesthetics, and he suggested the project proponent to consider using open spaces and landscape barriers instead. Mr Bosco Chan replied that noise barriers were used as a last resort when other mitigation measures, such as the application of low noise road surfacing materials was found to be infeasible in certain areas. Mr Franki Chiu supplemented that the noise barriers planned for 3 spots in TCE and 1 spot in TCW would approximately cover up to a length of 270 metres only, with application of low noise road surfacing materials for a length of 530 metres. He said that the planned open space had already been fully utilized for the minimization of noise impacts. The Member asked the project proponent to take into consideration the impact of noise mitigation measures such as barriers on the microclimate, as well as the accessibility and ventilation of the area, and further suggested the use of photovoltaic noise barriers for the generation of renewable energy. Mr Chiu explained that in view of the relatively short length of noise barriers, the renewable energy generated by photovoltaic cells on the barriers would be very limited, but he agreed to take into

consideration the views of the Members during the detailed design stage.

16. Mr Bosco Chan said that the Highways Department was currently conducting a study on the use of low noise road surfacing materials of greater durability for certain road intersections, which might reduce the need for using noise barriers. He agreed to assess the feasibility of using new and proven technology to reduce traffic noise during the detailed design stage. In reply to a Member's enquiry concerning the durable material under study by the Highways Department, Mr David Lo said that subject to the findings of the study, the material might be suitable for deployment to more road sections to reduce the need for noise barriers. The study was estimated to complete in 2018.

17. In reply to the Chairperson's enquiry concerning the feasibility of using low noise road surfacing materials instead of noise barriers in TCE, Mr Franki Chiu explained that due to the nature of traditional low noise road surfacing materials being easily corroded by heavy vehicles, its use was limited in TCE. He reiterated the study on low noise road surfacing materials of greater durability, which might reduce the need for using noise barriers, was being conducted by the Highways Department. The Chairperson suggested maximizing the use of low noise road surfacing materials in order to reduce the use of noise barriers.

Sewerage and sewage treatment implications

18. A Member questioned the effectiveness of providing standby pumping facilities at the same location of the sewage pumping stations (SPSs) under emergency situations. To mitigate the risks of breakdown, Mr David Lo replied that 100% standby pumping capacity within each SPS, with spare pump up to 50% pumping capacity would be stockpiled in each SPS for any emergency use. There would also be emergency storage facilities with up to 6-hours average dry weather flow (ADWF) capacity which would provide a considerable timeframe for the urgent repair in case of any breakdown of pumping facilities. He added that the short distance between Siu Ho Wan Sewage Treatment Works and the proposed SPSs would enable the Drainage Services Department (DSD) to provide timely support to the SPSs. The Member reiterated that in the event of disasters such as landslides, the standby capacity and spare pumps situated within the SPSs would not be able to alleviate the situation. He suggested and Mr Bosco Chan agreed to review with DSD the feasibility of constructing an independent standby system at a separate location.

19. In reply to two Members' question on whether grey water could be recycled, Mr David Lo said that while there was no independent sewage treatment works within the PDA, grey water within the New Town would be discharged to Siu Ho Wan Sewage Treatment Works. He said that stormwater collected and treated by stormwater attenuation and treatment ponds would be reused for irrigation and street cleansing purposes. The Chairperson suggested that an independent sewage treatment works could enable the recycling of grey water and at the same time reduce the discharge volume to Siu Ho Wan Sewage Treatment Works.

Waste management

20. A Member enquired the need for sourcing construction and demolition (C&D) materials such as rocks from the Mainland. He opined that concurrent projects, such as the site formation works of the Mass Transit Railway Corporation (MTRC) would generate large amounts of C&D materials that could be used for reclamation works of the project. Mr Jeffrey Lo replied that the Fill Management Division of CEDD had already maximized the project's use of locally available C&D materials from fill banks and concurrent projects. Only construction materials that were not available in Hong Kong, such as sandfill for the drainage layer as well as rockfill and armour rocks for the seawall, would be sourced from the Mainland. While the project proponent had already liaised with various departments for the sourcing of C&D materials from concurrent projects, Mr Lo mentioned that the timing of the excavation works as well as the size and grading of rocks excavated might not be able to match with the project requirements. As the sourcing of materials from some projects, including the developments at Sandy Ridge Cemetery, was still under liaison and hence not included in the EIA report, Mr Lo said that the final amount of C&D materials to be imported from the Mainland should be lower than the current estimate of 7.13 million tonnes, i.e. about 20% of the total C&D materials required for the project. In reply to the Member's comment that the sourcing of materials from concurrent projects should be included as a contract term, Mr Bosco Chan agreed to include this in the consultancy agreement of the detailed design stage.

21. In reply to a Member's enquiry on the feasibility of using recycled glass for reclamation, Mr Bosco Chan informed that a study was being commissioned by CEDD and they would keep in view of the publication of study results.

Landscape and visual

22. A Member suggested the project proponent to make reference to overseas examples for the schematic polder design. In view of the high ecological value of the Tung Chung Stream, he opined that the use of artificial elements such as fencing and grasscrete should be avoided so as to preserve the natural character and ecological connection throughout the stream as far as possible. For the buffer zones, he opined that there should be guiding principle for the planting of vegetation which would take into the consideration the height, colours, seasonality and shapes of different plant species so as to enhance the aesthetic value as far as possible. Mr Bosco Wong assured that the natural characteristics of the stream would be preserved as far as possible, and the engineered section of the Tung Chung Stream would be revitalized. He agreed that the consultant would be required to engage experienced landscape architects during the detailed design stage.

23. A Member opined that as the Tung Chung Stream was of high ecological value, more focus should be placed on its conservation rather than the landscape design. He pointed out that the vegetation on the riparian zones would provide nutrient input to the stream, and different species would affect the stream ecology in

different ways. The Member suggested engaging stream ecologists during the detailed design stage to advise on the planting of vegetation on the riparian zones to help enrich the ecology of the stream as well as wetlands in the area. Mr Bosco Chan agreed that experts specializing in stream ecology would be engaged in the detailed design stage.

24. A Member concurred with another Member that the natural characteristics of the Tung Chung Stream should be preserved by the adoption of a biophysical approach. He further pointed out that the proposed high-rise buildings at the south of TCW would block the views of the valley and ridgeline when facing the southeast near Tung Chung Stream. He suggested that these high-rise buildings should be included in the northern Fong Yuen area which was also assigned for “residential special” (RS) land use. Mr Franki Chiu replied that it was undesirable to further expand the residential area of northern Fong Yuen, as the larval food plant of a rare butterfly species was found near the middle section of wet abandoned agricultural land at Fong Yuen. Based on the avoidance principle, no developments were proposed at these areas. In reply to the Member’s question on whether the rare butterfly species could be translocated to the area at the south of TCW with proposed high-rise buildings by the planting of its larval food plant, Mr Chiu said that priority would be given to avoidance over compensation of habitats of conservation interests. Mr Bosco Chan supplemented that there were risks associated with the translocation of the rare butterfly species to the area at the south of TCW which was a disturbed area with existing roads.

25. Apart from blocking the views of the valley and ridgeline, a Member was concerned that the RS area at southern Fong Yuen would be located farther away from the facilities in the town centre, and suggested the project proponent to consider allocating the proposed high-rises in this area to the RS area at northern Fong Yuen. Another Member concurred that the southern Fong Yuen area could be assigned to be a village-type development zone (V-zone) in view that the construction of small houses would be less disruptive to the view, and this would at the same time reduce the need for assigning V-zones at ecologically significant areas with Fung Shui Wood and secondary woodlands. Ms Donna Tam explained that the proposed RS site to the south of Fong Yuen was accessible as it was adjacent to Tung Chung Road and would be well-connected to the proposed TCW railway station. The site was considered suitable for higher-density residential development. She further explained that as this area was away from the indigenous villages, it would not be designated for village development.

CEDD

26. For the appearance of TCE viewing from outside, a Member opined that the visual variety of the seawall should be enhanced by integrating with recreational facilities such as open spaces and playgrounds. He further suggested that with the proposed marina in TCE, more blue infrastructures such as canals and lagoons should be introduced in the design of the waterfront to promote a water-friendly culture and activities. The Member opined that the introduction of blue infrastructures should be considered during the planning stage to reserve sufficient space for their construction. Mr Bosco Chan said that the introduction of blue infrastructures to the waterfront

would be assessed in the detailed design stage, and concurred that the possible creation of stagnant water areas should be avoided.

27. A Member enquired whether it was possible to retain the view of the downstream waters rather than directing the discharge via an outfall into the sea. Another Member concurred with the Member, and further requested the project proponent to provide photomontages views of the Tung Chung New Town Extension from nearby developments. Mr Franki Chiu informed that the stream was a seasonal water course which could be dried up during some seasons in the year.

28. A Member followed up his request of the last meeting for information on the spatial distribution and usage of marinas in Hong Kong. He pointed out that with heavy marine traffic at the sea area near the proposed marina, it would be undesirable to construct a marina which would further increase the pressure on the marine traffic. He raised that it was neither a tourist attraction nor scenic view nearby the proposed marina location, and opined that marinas should be built along the coasts which would provide better resources and privacy for its users. To differentiate Tung Chung New Town Extension from other stereotyped new towns, the Member also opined that the design should capitalize on the proximity to HKIA and to introduce innovative ideas to create iconic features for the district. He also suggested relocating the proposed sports ground at the east of TCE to the centre of TCE so as to enhance the accessibility of the sports ground, the visual elements of the town centre as well as the connection of open spaces for better air ventilation.

29. In reply to the Member's comment on the location of the sports ground, Mr Franki Chiu explained that the south and east of TCE would be subject to noise generated by the traffic on the North Lantau Highway and Tuen Mun – Chek Lap Kok Link. Infrastructures that were less sensitive to noise, including the sports ground and post-secondary institution with central air-conditioning system, were therefore planned in these areas. Ms Donna Tam supplemented that from the visual perspective, low-density recreational facilities including the sports ground located at the gateway to the Tung Chung New Town could enhance the visual openness from the North Lantau Highway. For more efficient land use, high-density residential developments were proposed in areas near the TCE railway station to enable convenient access to public transport facilities.

30. A Member enquired whether the land planned for the commercial sector could be put to other better uses. Using Sha Tin New Town as an example, he opined that it would take a considerable time for the commercial sector to mature and reach the targeted employment level. Ms Donna Tam said that as the southern part of TCE was subject to noise impacts from Tung Chung Line and the North Lantau Highway, the area was planned for commercial land use which was less sensitive to noise. She added that during the planning stage, many public comments were received concerning the availability of local employment opportunities in Tung Chung New Town. Different types of commercial uses were planned in the New Town Extension to minimize the need for residents to work outside Tung Chung. The Member commented that the hotel guests inside the commercial zone should be considered as

noise sensitive receivers.

31. A Member pointed out that there would be substantial employment opportunities provided in the nearby areas, including the Hong Kong - Zhuhai - Macao Bridge (HZMB) Hong Kong Boundary Crossing Facilities and the North Commercial District of HKIA. He questioned the need for a commercial sector within the PDA and agreed with another Member that the land planned for the commercial sector could be better used for residential developments, so that the overall density of the residential developments within the PDA could be lowered.

32. A Member said that it was a good idea to use the commercial belt as noise buffer, but expressed his concern that the commercial buildings would create a negative visual impact on the townscape. He suggested the planting of trees to enhance the visual elements in the commercial areas, and to design the façade of commercial buildings in the way that would allow occupants to see the scenery outside while keeping traffic noise impacts to a minimum.

33. Reflecting the views of residents of the Tung Chung New Town, Mr Bosco Chan said that the variety employment opportunities at HKIA and the Hong Kong Disneyland were too limited. While the North Commercial District of HKIA would mainly provide employment opportunities in the retail industry, Mr Chan explained that the commercial sector within the PDA would serve as a supplement to provide different types of employment opportunities including office work and hotel management. Ms Donna Tam supplemented that a critical mass should be reached for the development of a major commercial node within the PDA. In reply to a Member's question on the accessibility of the commercial areas, Mr Chan said that most of the commercial areas would be easily accessible by the railway systems at TCE and TCW. He added that the Ying Hei Road adjacent to the Caribbean Coast which currently led to a dead end would be extended towards the east into the PDA, and the proposed commercial areas in TCE would also be well-connected by Road P1 as well as other primary and district distributors.

34. A Member was concerned that the commercial areas would not be attractive to people from outside. On Mr Bosco Chan's reply regarding the accessibility of the areas, the Chairperson opined that the focus should be placed on whether there were any special and attractive features in the area. Another Member followed that the Tung Chung New Town Extension could capitalize on the waterfront promenade and the proximity to HKIA to create iconic features to attract people from outside the district. He agreed with the comments of Mr Chan and Ms Donna Tam that there were needs for employment opportunities within the PDA and a critical mass must be achieved for the robust development of the commercial sector. Mr Henry Shiu said that there would be street shops along the linear parks which would link up the Metro Core Area to the waterfront to enhance the vibrancy of the area. He added that there would also be a large open space at the centre of the reclamation area named the "Central Green", and there would be facilities and focal points provided at the waterfront promenade. To reserve sufficient land for the continuity of open space from the Metro Core Area to the waterfront, Mr Jeffrey Lo supplemented that a road

section would be built in the form of an underpass.

35. A Member opined that the concepts of green, ecological-friendly and cultural conservation should be emphasized throughout the design to create iconic features to attract people from outside. Another Member followed that the concept of low carbon should also be introduced. He observed that there would be a road cutting across and thereby breaking the continuity of the Central Green and greenery walkways between the Metro Core Area and the waterfront promenade. He suggested the project proponent to consider planning a continuous route for pedestrians from the Metro Core Area to the waterfront promenade. He also suggested that there should be an integrated concept underlying the street shops along the linear parks to enhance the commercial viability especially at areas farther away from the Metro Core Area.

36. In reply to a Member's suggestion that there should be a pedestrian walkway linking up TCE to the TCW River Park, Mr Bosco Chan said that a route connecting TCE and TCW via the waterfront promenade was under planning. Another Member shared his observation of high utilization rates of large grasslands, such as Nam Sang Wai and the marina barrack at Singapore which featured a green roof and large grasslands alongside a reservoir, while they were difficult to access and/or had minimal facilities. In view of the high demand for large grasslands, he suggested further expanding the green areas at the waterfront promenade into large grasslands for leisure activities. A Member suggested constructing rain gardens that would store and use storm water in the cultivation of plants, thereby reducing the pressure on the proposed drainage system. He opined that the rain gardens could also enhance the integration of the natural landscape and greenery.

Cultural heritage

37. A Member suggested that apart from preservation, more resources should be deployed to attract visitors by promoting the historical values of relics such as the Tung Chung Fort. While the Tung Chung Fort was outside the PDA of the project, Mr Bosco Chan informed the meeting that the Lantau Development Advisory Committee was devising strategies to promote the values of Tung Chung Fort and other relics in Lantau.

38. In reply to a Member's question concerning the seven potentially registrable old and valuable trees (OVT) at Tung Chung Valley, Mr Vincent Lai confirmed that these trees would be preserved and due effort would be made to protect them from the impact arising from the construction works. Replying to another Member's enquiry on whether the project proponent would make a suggestion to the Government to include these trees in the OVT register, Mr Lai advised that it would be outside the purview of the project.

Follow up on issues raised in the last meeting

39. With the aid of a PowerPoint presentation, the presentation team briefed Members on the supplementary information as requested in the meeting of 18 January 2016. The supplementary information was circulated to Members for information before the meeting.

40. A Member questioned the suitability of the sites proposed for compensatory woodland planting which were very steep in general, as reflected by the compact contour lines, and observed that the proposed woodland planting list mainly comprised species from secondary woodlands, with only a few species from Fung Shui Wood. Another Member followed that the lack of vegetation on the proposed areas for compensatory woodland planting was evidence showing that these were fire-prone sites. To determine appropriate locations for providing fire breaks and planting fire resistant species, he suggested the project proponent to first conduct a hill fire risk assessment to identify the possible sources and potential of hill fire. He reiterated that Fung Shui Wood and secondary woodlands should be compensated separately, and pointed out that the proposed woodland planting list contained non-terrestrial species, such as *Cerbera manghas*. The Member further suggested setting trigger and action levels for compensatory woodland planting, such that the maintenance period would be extended if a certain percentage of canopies could not be formed within a targeted duration. He stressed that it was very difficult to recreate Fung Shui Wood and would offer advice on this aspect if required. Mr Bosco Chan agreed that the maintenance period could be extended if the establishment of the compensatory woodland was not satisfactory.

41. As only 0.2 ha of Fung Shui Wood would be lost due to the project, Mr Vincent Lai said that compensatory woodland planting would be aimed at compensating for the ecological function provided by the lost Fung Shui Wood, rather than recreating a Fung Shui Wood. This explained the inclusion of plant species recorded in Fung Shui Wood in the proposed woodland planting list. A Member opined that in view of the continuous decline of Fung Shui Wood in Hong Kong, all losses regardless of the size should be compensated. He further pointed out that apart from the 0.2 ha of Fung Shui Wood loss within the PDA, the 0.38 ha of Fung Shui Wood within the V-zones were also anticipated to be lost and hence should be compensated. Otherwise, the Member questioned whether the project would be able to meet the “like-for-like” compensation requirements as stipulated in the Technical Memorandum (TM). CEDD pointed out that the total area of woodland compensation was much more than the loss.

42. As regards the eco-shoreline at the seawall of TCE, a Member opined that it should be designed to simulate a natural shoreline and at the same time promote a water-friendly culture. The Chairperson opined that the proposed eco-shoreline with an artificial design would stall the restoration of natural condition as before reclamation, and it would not be an attractive habitat for marine organisms. CEDD explained the effectiveness of their eco-shoreline design and quoted examples from overseas.

43. A Member expressed appreciation for the expansion of the no entry zone for works vessels to cover approximately 90% of the Brothers Marine Park (BMP), such that works vessels would only encroach into the periphery of the BMP under adverse weather or special traffic conditions. He suggested to further strengthen the control by requiring the works vessels to obtain approval from supervisory staff as well as the environmental team before gaining entry into the BMP. In reply to the Member's suggestion on the setting of baseline, limit and action levels in EM&A to assess the impact of the project on Chinese White Dolphins (CWDs) in the BMP, Mr Bosco Chan clarified that the BMP was not planned and managed under this project. While works vessels would avoid encroaching into the BMP with an aim to reduce the impact on CWDs, the project proponent was not responsible for assessing the effectiveness of the BMP in protecting CWDs. The Member said that the increase in marine traffic caused by the works vessels as well as the reclamation-induced habitat loss would inevitably have an impact on CWDs, especially when there were many concurrent projects in the vicinity. He insisted that the impact caused by the project on the BMP should be assessed and monitored. With reference to the EIA study, Mr Chan advised that the project would have a very low impact on CWDs, hence measures to mitigate impacts on marine parks had not been adopted.

44. A Member pointed out that the conclusion of low impact on CWDs made in the EIA report was deduced solely from the results of other studies without conducting further field studies during the night time. While there was no data of CWDs available before the construction of the HKIA, the AFCD long-term marine mammal monitoring programme had recorded occasional detection of CWDs in the area. In view that the entire North Lantau waters could serve as potential habitats for CWDs, he opined that the impact of reclamation-induced habitat loss on CWDs was arguable. Based on the precautionary principle, he opined that all CWD habitat loss in North Lantau waters due to reclamation should be compensated by the establishment or expansion of marine parks. He further opined that the effectiveness of enhancement measures, including the deployment of artificial reefs and release of fish fry in marine parks, was unknown.

45. A Member echoed the comment of another Member that the design of the eco-shoreline should be as natural as possible, and a water-friendly culture should be promoted by ensuring the safety and providing facilities such as fishing grounds. As regards the loss of Fung Shui Wood, the Member pointed out that "V" zones had already been designated on the outline zoning plans (OZPs) to reflect the existing villages, hence it was outside the purview of the project proponent to change the land use of the already planned V-zones to protect the Fung Shui Wood. He further mentioned that as the soil layer at the proposed compensatory woodland planting site was expected to be thin due to gravitational erosion on the steep slopes, it would be very improbable for the formation of native woodlands in 10 years as anticipated by the project proponent. In this regard, the Member opined that the project proponent should consider complete avoidance of Fung Shui Wood loss outside the V-zones.

46. In reply to two Members' enquiries on the locations, frequency, quantity and

actual benefits that could be yielded by the deployment of artificial reefs and release of fish fry, Mr Vincent Lai said that details of the enhancement measures would be confirmed in the detailed design stage. To achieve the relevant safety requirements, Mr Franki Chiu explained that 0.04 ha of Fung Shui Wood to the north of Shek Mun Kap Village would be lost to the widening of Shek Mun Kap Road to accommodate the future traffic, and another 0.16 ha of Fung Shui Wood will be lost due to the construction of polders in protecting existing villages from the risk of flooding. Replying to a Member's enquiry on the need for the widening of Shek Mun Kap Road, Ms Amanda Mo explained that the widening of the road was proposed to enhance traffic safety with expected increase of traffic volume after development of the Tung Chung New Town Extension. As Shek Mun Kap Road currently only allowed one-way traffic, severe traffic jam would be resulted in the incidence of any accidents. The Member suggested widening Shek Mun Kap Road only at sections that would not encroach into the Fung Shui Wood for provision of laybys along the one-way road. Mr Bosco Chan agreed to provide supplementary information on the feasibility of the Member's suggestion after the meeting.

CEDD

47. The Member followed up on his request from the last meeting for information on the research conducted by dolphin experts from Zhuhai and Zhongshan on the impact of underwater noise generated by works vessels on CWDs. Mr Vincent Lai replied that the research mainly concerned the use of works vessels for marine construction works, hence would not be applicable to the reclamation works of the current project.

48. There being no further questions from Members, the Chairperson thanked the project proponent for their presentation and clarification on the project.

[The project proponent team left the meeting at this juncture.]

Internal Discussion Session

49. The Chairperson proposed and Members agreed to recommend to ACE that the EIA report could be endorsed with conditions and recommendations.

Protection of CWDs

50. On behalf of a Member who had left the meeting due to other commitments, the Chairperson proposed three conditions with regard to CWDs which required the project proponent to (1) conduct a field study on CWDs with dolphin experts to properly set the baseline, (2) avoid using waters in the BMP, and (3) cap the number of works vessel movements to a maximum of 56 and 10 round trips on a daily and hourly basis respectively. On the first condition suggested by the Member, the Chairperson said that as advised by AFCD in the last meeting, data collected from conducting field study at this stage might not be meaningful with on-going constructions work of concurrent projects in the area. In reply to a Member's enquiry on whether there would be a window for conducting baseline study after designation of the BMP, a Member advised that CWDs might not re-colonize the BMP

immediately after its designation, and suggested with agreement from another Member that the baseline could be set at the number of CWDs recorded in the proposed BMP area before the construction of the HZMB.

51. While various marine parks had been designated as a mitigation measure under other projects, including the 3RS and the HZMB, a Member pointed out that the areas inside the proposed marine parks were in fact existing CWD habitats. With the rapid decline in CWD habitats due to reclamation, the Member said that CWDs would possibly inhabit areas that were less frequented by them in the past. In this regard, he maintained that reclamation-induced habitat loss under this project must be compensated, or else it would set a precedent that compensation would not be required for future reclamation works leading to CWD habitat loss. He mentioned that as recommended by the Swire Institute of Marine Science, the Hong Kong waters along Sha Chau and Lung Kwu Chau to Tai O and Soko Islands should be designated to form a large marine park matrix for the protection of CWDs. While the Southwest Lantau and Soko Islands marine parks were under planning, the Member suggested expanding the proposed sizes of these marine parks to mitigate for the reclamation-induced habitat loss under this project.

52. A Member was concerned that supporting a conclusion that was made without sufficient scientific evidence would send a wrong message to the public and future project proponents. He suggested including as a recommendation to review the need for implementing effective measures to protect and enhance the habitats of CWDs. Another Member followed that as the project proponent had already missed the opportunity to collect more data via conducting field surveys, mitigation measures should be adopted based on the precautionary principle. In this regard, the Chairperson suggested recommending relevant Government departments to review the need for implementing effective measures to mitigate the loss of CWD habitats, which should include further expanding the Southwest Lantau and Soko Islands marine parks or establishing a new marine park at Tai O.

53. A Member opined that the monitoring data under various studies had shown that many CWDs had migrated from the proposed BMP area to Tai O. He was concerned that recommendations made by ACE could be easily disregarded by the project proponent, and suggested to impose a condition to request the project proponent to establish a new marine park in Tai O. Mr K F Tang advised that recommendations would be considered by the Government. In view that the conclusion of insignificant impact on CWDs made in the EIA report had been agreed by AFCDD, and the establishment of a marine park was not under the purview of CEDD, it might not be appropriate to require the project proponent to establish a new marine park in Tai O. He advised that the putting forward of a recommendation should be sufficient to demonstrate the stance of ACE on this matter. Mr Simon Chan concurred and advised that while he supported including the recommendation to review the need for implementing measures to mitigate the loss of CWD habitats, more flexibility should be allowed such that effective measures other than expanding existing marine parks or establishing a new marine park at Tai O could be considered.

54. A Member suggested to establish marine parks at Tai O and along west Lantau in the long term to link up the BMP, the 3RS Marine Park and the Sha Chau and Lung Kwu Chau Marine Park to the proposed Southwest Lantau Marine Park and Soko Island Marine Park. In view that there were no data before the construction of the HKIA and the CWD habitats in Lantau had been under rapid decline, the Chairperson suggested and Members agreed to strongly advise the Government to take a precautionary approach to address the public concern on the cumulative impacts of the major works projects in the Lantau waters, and implement effective measures which should include but not be limited to further expanding marine protected areas in the Lantau waters.

55. A Member said that although the EIA report of the HZMB project had claimed that there would be insignificant impact on CWD after the implementation of mitigation measures, the quarterly reports revealed occasions of exceedance of limit levels and action levels. In this regard, he suggested to monitor the effectiveness of the BMP in the EM&A programme, even though it was claimed in the EIA report that the project would have very low impact on the BMP. The Chairperson explained that it would be outside the ambit of the project to assess the effectiveness of the BMP which was a mitigation measure of the HZMB project, especially when the project was expected to have insignificant impact on the BMP. To further minimize the impact of the project on the BMP, she proposed on behalf of a Member to impose a condition to control the marine traffic routing of works vessels, such that works vessels would not enter the no entry zone of the BMP unless under special circumstances including adverse weather conditions and special traffic conditions.

56. Mr K F Tang said that while it was not possible to completely prohibit the project proponent from entering the BMP, the project proponent could be required under the EM&A programme to provide justification for every incidence of tracked encroachment of works vessels into the no entry zone. He added that works vessels should obtain consent from the supervisory staff as well as project engineers before gaining entry into the no entry zone. Mr Tang replied in the affirmative to a Member's question on whether the statistics on the encroachment of works vessels would be included in the EM&A monthly reports, and he added that the design of the EM&A report was under review. The progress and irregularities of projects would be clearly reflected in the report such that Director of Environmental Protection (DEP) and the public could monitor the projects in a more effective manner. In reply to another Member's enquiry on penalties for unauthorized entry of works vessels into the no entry zone, Mr Tang replied that it could be included as a condition in the works contract that the contractor would be banned from using the concerned works vessels for the project in the event of any unauthorized entry into the no entry zone. The Member further opined to include in the condition that works vessels should avoid encroaching into CWD hotspots near Sha Chau and Lung Ku Chau Marine Park as far as possible when travelling along Urmston Road. A Member suggested and another Member echoed that applications for entry into the no entry zone under special circumstances should be considered and approved by the environmental team as they specialize in monitoring and following up of non-compliance actions.

57. The Chairperson proposed and Members agreed to impose a condition to request the project proponent to submit a Works Vessel Travel Route Plan to the DEP for approval before commencement of the reclamation work at TCE. The Plan should include restricting works vessels from travelling within the BMP and the hotspots of the CWDs near the Sha Chau and Lung Ku Chau Marine Park along the Urmston Road as far as practicable. The Plan should set out the special circumstances that require deviations from the normal operational routings, and the approval mechanism involving the Environmental Team Leader and the Independent Environmental Checker for the purpose. The Plan should also set out ways to minimize trips of works vessels and to cap the number of works vessels at 56 and 10 round trips on a daily and hourly basis respectively. All works vessels should be equipped with Global Positioning System for real time tracking and monitoring of their travel routings and anchorage points.

Implementation of eco-shoreline and other enhancement measures

58. The Chairperson proposed to impose a condition to request the project proponent to submit an Eco-shoreline Implementation Plan to DEP for approval before commencement of construction of the eco-shoreline, which should include detailed management plan and a monitoring programme with indicators for success. A Member suggested providing some guiding principles for the plan, including ecological, recreational and visual functions.

59. As the effectiveness of deployment of artificial reefs and release of fish fry was unknown, a Member advised against implementing these measures.

Conservation of Tung Chung Stream

60. On behalf of a Member, the Chairperson suggested and Members support to impose a condition to request the project proponent to designate buffer zones with a width of no less than 30 metres along the eastern and western branches of the Tung Chung Stream. While some areas would be subject to site constraints, Mr K F Tang opined that it was reasonable to set the general width of the buffer zones at 30 metres along the Tung Chung Stream. A Member was concerned that the lack of management of the buffer zones would lead to high incidence of illegal dumping especially when the areas were surrounded by V-zones. He opined that the inclusion of these areas into the River Park should not be held back by the need for land resumption. Mr Tang informed that CEDD agreed to set up a surveillance team that was independent from the contractors to report on illegal dumping in Tung Chung Valley throughout the construction phase.

61. A Member suggested that the issue of illegal dumping could also be addressed by the design of the buffer zones, such as by making them less accessible by large trucks. He further opined that the design of the polders and buffer zones should be compatible with the natural setting of Tung Chung Valley. A Member suggested and Mr K F Tang agreed to recommend the project proponent to first

revitalize the channelized section of Tung Chung Stream and construct polders for protection of the Tung Chung Stream before the commencement of construction works in the surrounding area. The Member echoed the comment of another Member and suggested to restrict vehicles from access to roads leading to the Tung Chung Stream. Mr Tang agreed to discuss with CEDD the feasibility of the suggestions of Members after the meeting. A Member further suggested to recommending the project proponent to preserve the riparian function of the stream via the design of the buffer zones.

EPD

Protection of amphibian species of conservation importance

62. A Member opined that it was important to carry out habitat enhancement and to make sure there was no decline in the population of amphibian species of conservation importance after translocation. He suggested and Members support to impose a condition to require the project proponent to submit a Habitat Enhancement and Translocation Plan for the Romer's Tree Frogs to DEP for approval.

Compensation of Fung Shui Wood and secondary woodlands

63. A Member reiterated his earlier suggestion to introducing quantifiable targets for the establishment of compensatory woodland planting. Mr K F Tang agreed that trigger and action levels for compensatory woodland planting could be set in the EM&A programme, such that the maintenance and monitoring period would be reviewed if the targets could not be reached. He suggested that the project proponent could be requested to submit a detailed plan to the EPD for approval. AFCD and suitable experts should be engaged to advise on plant species and the planting schedule. The Member opined that this should be set as a condition and the plan should also include the carrying out of a hill fire risk assessment to identify the possible sources and potential of hill fire hazards.

64. A Member opined that the project proponent should also be advised to consider avoidance of encroachments into Fung Shui Wood. Mr K F Tang said that CEDD had been requested to provide supplementary information to Members on the feasibility of avoidance before the full Council meeting on 15 February 2016. The Chairperson proposed and Members supported to recommend the project proponent to review the scale of public infrastructures so as to minimize disturbance to the Fung Shui Wood as far as practicable.

65. Two Members enquired whether it was possible to exclude Fung Shui Wood from the V-zones in TCW. The Chairperson echoed the comment of a Member that the land use zoning was already mapped out by the Planning Department in the OZPs, hence it was outside the purview of the project proponent to change the land use of the already planned V-zones. A Member pointed out that as the draft OZPs were still subject to discussion by the Town Planning Board, hence the land zoning were not confirmed yet. While pointing out that the land use zoning should be discussed by the Town Planning Board rather than by EIASC, the Chairperson said that Members' views would be recorded in the notes of meeting.

Air quality

66. With reference to the comments of Members, the Chairperson proposed and Members supported to recommending the project proponent to design a low emission transportation system and explore the use of electric buses to enhance connectivity within the PDA. Further recommendations would be considered after reviewing the AVA report as well as simulations on the dispersal of air pollutants along the air corridor to be supplemented by CEDD. In reply to a Member's suggestion for removing NO_x from the air via mixing titanium dioxide in the road paving materials, Mr K F Tang advised that it would be more suitable to use titanium dioxide for coating building surfaces and road pavements. While expressing reservations towards the effectiveness as well as sustainability of this measure, he agreed that it could be included as a recommendation for the further consideration of the project proponent.

Noise impacts

67. A Member opined that noise impacts should be mitigated via spatial allocation, and the use of noise barriers should be minimized as far as practicable. The Chairperson proposed and Members agreed to recommend the project proponent to further reducing traffic noise and to minimize the use of visually intrusive noise barriers via using low noise road surfacing materials wherever practicable. Low noise bridge joints design should be adopted for all public roads in the project areas.

68. The Chairperson also proposed with support from Members that in the event of significant implementation programme slippage of the proposed 3RS project such that certain areas of the land in Tung Chung West would fall within the NEF 25 contour, the use and sale programme of the areas affected should be reviewed.

Sewerage and sewage treatment implications

69. In reply to a Member's suggestion on the reuse of grey water, Mr K F Tang advised that the reuse of grey water would require the upgrading of the sewerage treatment plants in Tung Chung from primary to secondary or tertiary treatment levels, which would be against the low carbon concept. He further advised that a salt water supply system had been deployed for toilet flushing in Tung Chung, hence the use of the sewerage would be very limited.

Waste management implications

70. On behalf of a Member, the Chairperson suggested and Members supported to recommend CEDD to maximize the use of local fill materials for the reclamation work as far as practicable.

Landscape and Visual

71. With reference to the earlier comments of two Members, the Chairperson suggested and Members agreed to recommend the project proponent to consider the compatibility of the polder design with the natural setting of Tung Chung Valley. Qualified professionals with expertise in riparian ecology should be engaged for the proper planning and implementation of the proposed landscape planting.

72. On the suggestion of two Members, the Chairperson suggested and Members agreed to recommend the project proponent to alleviate the landscape and visual impact of the high-rise residential buildings to the south of Fong Yuen, such as by exploring the feasibility of reducing the heights of the buildings.

73. The Chairperson also suggested recommending the project proponent to consider the visual impacts caused by the commercial buildings, and the project proponent would be requested to provide photomontage of Tung Chung New Town Extension with views from the waterfront, the HKIA and the HZMB Hong Kong Boundary Crossing Facilities.

CEDD

[Post meeting note: The supplementary information as well as the Air Ventilation Assessment Report provided separately by CEDD were circulated to Members for reference on 2 and 4 February 2016 respectively.]

Others

74. The Chairperson further proposed with support from Members to recommending the project proponent to provide a continuous pedestrian walkway connecting the TCE Metro Core Area to the water promenade. The project proponent should also consider providing a continuous pedestrian walkway connecting the TCE to the River Park at TCW to enhance connectivity and walkability of the entire Tung Chung New Town Extension.

75. A Member opined that while there was a territorial need for marinas, the proposed location in TCE was not desirable for the construction of a marina. Another Member followed that the marina would increase the marine traffic at nearby marine parks. Mr K F Tang advised that the construction of the proposed marina, sports ground and the two railway stations at TCE and TCW were designated projects specified under relevant schedules of EIAO, hence independent EIA studies for each of these projects had to be conducted before the commencement of construction works and would be subject to the comments of the public and ACE Members. The Chairperson suggested and Members agreed to recommending the project proponent to further review the need and suitability of a marina at the proposed location.

76. The Chairperson concluded that Members had the general consensus to endorse the subject EIA report with a list of conditions and recommendations, and reminded Members to keep confidentiality of the discussion on the EIA report. Members should refer any enquiries to the Secretariat in case they were approached on the discussion and/or decision of EIASC.

[Post-meeting note: The list of proposed conditions and recommendations were circulated to Members for comments on 29 January 2016.]

77. The meeting agreed that the project proponent team would not be required to attend the full Council meeting on the report.

Item 3 : Any other business

78. There was no other business for discussion at the meeting.

Item 4 : Date of next meeting

79. The Chairperson informed that the Secretariat had not received any EIA reports for discussion at the February meeting. Members would be advised on the date of the next meeting and the agenda in due course.

**EIA Subcommittee Secretariat
February 2016**