

For discussion on
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LANTAU DEVELOPMENT ADVISORY COMMITTEE

Work Progress of the Sustainable Lantau Office

PURPOSE

This paper aims to brief Lantau Development Advisory Committee (LanDAC) on the work progress of the Sustainable Lantau Office (SLO).

BACKGROUND

2. The Sustainable Lantau Office (SLO) of the Civil Engineering and Development Department (CEDD) was set up on 1 December 2017 to take forward the planning, assessment, design and implementation of various development projects and initiatives in conservation, local improvement and leisure and recreation in Lantau in a well prioritised, integrated and coordinated manner.

PROGRESS OF MAJOR TASKS UNDERTAKEN BY SLO

Development Projects

3. The SLO has been pressing ahead with the major economic and housing developments planned in Lantau to meet the long-term development of Hong Kong.

Tung Chung New Town Extension (TCNTE)

- (a) The TCNTE comprises Tung Chung East (TCE) and Tung Chung West (TCW) extension areas¹. The 130-hectare reclamation

¹ Upon full development in 2030, the TCNTE would provide about 49 600 housing flats, a commercial hub with gross floor area of about 870 000 m² for office, retail and hotel uses, and some 40 000 job opportunities.

(Translated Version)

works in TCE has commenced in late 2017, with a view to handing over the first land parcel in 2020 for public housing development and having the first population intake in 2023/24. The associated road and sewerage works in TCE have been authorised in September 2018 and the detailed design of infrastructure is in progress. We are undertaking an urban design study for TCNTE and exploring measures to develop it as a pilot of smart, green and resilient community.

- (b) To protect the Tung Chung Stream more effectively, we are working on a series of detailed design the sustainable urban drainage system to control the amount and water quality of surface runoff discharged into the stream. To further enhance the environmental capacity and contribute to a sustainable Lantau, a River Park is proposed along the stream. Its detailed design is underway and the views of the relevant stakeholders will be taken into consideration.

- (c) The road and sewerage works in Ma Wan Chung, Tung Chung Road North and Yu Tung Road in TCW were gazetted in the second quarter of 2018. The sewerage works in Yu Tung Road were authorised in August 2018.

Government Flying Service (GFS) Kai Tak Division

- (d) In order to unleash the development potential of the TCNTE while maintaining the effectiveness and efficiency of the GFS's helicopter emergency services under all weather conditions, a GFS Division is proposed at the tip of the Ex-Kai Tak Runway. The construction works commenced in November 2018 and are scheduled for completion in the first quarter of 2021.

Infrastructure Works for Public Housing Development at Area 54, Tung Chung

- (e) We are taking forward the infrastructure construction works to support the proposed public housing development² in Tung

² It will provide about 3 300 housing flats for a population of about 10 000.

(Translated Version)

Chung Area 54. Phase 1 works comprising footpaths, cycle track and parking area, bus lay-bys, etc., are scheduled for completion in mid-2019. Phase 2 works, including new carriageway and sewers, are scheduled for completion in end 2020 to tie in with the completion of the proposed public housing development in 2021-22.

Studies related to Artificial Islands in the Central Waters

- (f) We have conducted a preliminary broad technical review on increasing the extent of reclamation study area in the Central Waters. The review made reference to the East Lantau Metropolis proposed under the "Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030" , and took into account major factors including water flow, water depth, navigation channel, marine traffic and marine ecology. Relevant details are at Annex 1.

- (g) We conducted a desktop study for Lantau's strategic traffic and transport infrastructure under the "Study on Traffic, Transport and Capacity to Receive Visitors for Lantau" commenced in July 2017. We have completed the desktop review in board terms on the preliminary technical feasibility of possible alignment of the strategic rail link connecting the artificial islands near Kau Yi Chau, Hong Kong Island, Lantau and Tuen Mun coastal areas.

- (h) We are preparing to seek Legislative Council (LegCo)'s funding approval to conduct studies related to artificial islands in the Central Waters with a view to increasing land supply.

Engineering Study on Road P1 (Tai Ho - Sunny Bay Section)

- (i) To meet the anticipated traffic demand along North Lantau, a new strategic Road P1 running parallel to the North Lantau Highway is proposed. We plan to commission an engineering study on the section of Road P1 between Tai Ho and Sunny Bay³.

³ The section of Road P1 between TCE and Tai Ho has been included as part of the TCNTE project.

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Topside Development at Hong Kong Boundary Crossing Facilities (HKBCF) Island of Hong Kong-Zhuhai-Macao Bridge (HZMB)

- (j) Jointly with the Planning Department, we conduct study on the feasibility of developing the topside development at HKBCF island of HZMB. Considering that the Government has already invited the Airport Authority Hong Kong to submit a proposal for the topside development, we will keep in view the situation and revisit the topside development plan when appropriate.

Conservation Initiatives

4. The SLO endeavours to take forward various initiatives to enhance conservation while promoting leisure and recreation proposals that are sustainable and compatible with the local context of Lantau.

Conservation of Ecologically Important Habitats

- (a) We commissioned the Ecological Study for Pui O, Shui Hau, Tai O and Neighbouring Areas in December 2017 to review the existing ecological information in Lantau, explore appropriate conservation measures for the priority sites (i.e. Pui O, Shui Hau and Tai O) as well as prioritise the need of conducting detailed ecological surveys in other areas in Lantau. The study also collates the ecological data as an input to the database capturing the current conditions of Lantau. The study is scheduled for completion in 2019.

Funding Support for Conservation Projects

- (b) A special theme on “Nature Conservation in South Lantau” was created under the Environmental Education and Community Action Projects funding scheme of the Environment and Conservation Fund (ECF) in 2017-18 to support non-profit making organisations to take forward community engagement and education activities on nature conservation in South Lantau. A total of nine projects have been approved with a total grant of around \$9 million. Another \$10 million has been earmarked for the same purpose under the ECF in 2018-19 and the respective applications are being assessed.

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- (c) We are preparing to set up a \$1 000 million Lantau Conservation Fund (LCF) to promote conservation of rural Lantau and to improve the rural environment.

Strengthening Controls on Landfilling and Dumping of Construction and Demolition (C&D) Waste

- (d) We have been adopting administrative measures to tackle landfilling and dumping of C&D waste at source in collaboration with relevant policy bureaux and departments:
- i. Prohibit all dump trucks engaged for TCNTE's works contracts from using Tung Chung Road for delivery of C&D waste, and requiring them to be equipped with global positioning system or equivalent for better monitoring;
 - ii. Requested relevant stakeholders to enhance their monitoring and control over disposal of C&D waste through briefing and letters;
 - iii. Promulgated a circular memorandum to restrict contractors of newly tendered public works contracts from occupying or renting private land of ecological value;
 - iv. Tabulate information on environmental blackspots in Lantau to help monitor the situation;
 - v. Plan to commence a Proof-of-Concept study on feasibility of identifying vehicles entering South Lantau without valid Closed Road Permit; and
 - vi. Collaborate with relevant departments in stepping up the effort to reinstate government land affected.
- (e) The Government will review the legislation concerned and map out more effective means to control landfilling, dumping of wastes and the associated development activities causing environmental damage to areas of high ecological value in Lantau, with a view to enhancing protection for these beautiful natural environments.

Local Improvement Works

5. To enhance the living environment and quality of life for locals and

(Translated Version)

visitors, we have been carrying out the following studies and local improvement works:

Improvement Works at Mui Wo

- (a) We are taking forward the extension of a carpark, carriageway construction, access road realignment and landscaping works for completion in mid-2019. The review on planning and design of the remaining works are ongoing.

Improvement Works at Tai O

- (b) We have commenced the construction of public open space, transport terminus, public car park, loading/unloading area and cycle parking area for completion in early 2020. The design of Phase 2 Stage 2 works, comprising footbridge construction, enhancing community and cultural event space and upgrading of Yeung Hau Temple garden, is in progress.

Improvement Works at Ma Wan Chung

- (c) We are taking forward the relevant improvement works including the construction of a coastal pedestrian access, provision of car parking facilities, beautification works, and the commencement of drainage and sewerage works, etc. The beautification works were scheduled for completion by June 2019. Detailed design of the remaining works is in progress.

Local Roads and Pier Facilities Improvement Works in South Lantau

- (d) We are undertaking the “Study on Traffic, Transport and Capacity to Receive Visitors for Lantau” to examine the internal traffic and transport (including possible road and pier improvement works), possible green transport as well as the capacity to receive visitors for Lantau. The study is anticipated to be completed in 2019.

Sustainable Leisure and Recreation Facilities

6. The SLO has contributed to developing the Northeast Lantau into a node for leisure, entertainment and tourism as well as promoting sustainable leisure and recreation activities in Lantau for public enjoyment.

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Sunny Bay Reclamation

- (a) We plan to seek LegCo's funding approval in 2019 for taking forward the study on Sunny Bay Reclamation⁴.

Improvement Works for Mountain Bike Trail Networks

- (b) The improvement works include the expansion of mountain bike trail networks in Mui Wo and Chi Ma Wan and the provision of a practice ground in Mui Wo. The works are scheduled for substantial completion in mid-2019 tentatively.

Improvement Works for Leisure and Recreation Facilities

- (c) We have formulated the Tai O Leisure and Recreation Plan that provides guidance on different routes outside Tai O town centre to encourage visitors to get to know more about the place. In parallel, a trial scheme to increase weekend ferry schedules to/from Tai O was implemented. Besides, the improvement works on signage to the Tung Chung Development Pier were completed to promote water transport.
- (d) We plan to commission the study on the Lantau Trails and Recreation Plan in 2019 to improve trails and recreation facilities in Lantau. We have completed the pilot toilet improvement works at Tsin Yue Wan and Lo Kei Wan, and commenced the toilet improvement works at Nam Shan Campsite in early 2019. We will also carry out various quick-win improvement works to enhance the facilities along Tung O Ancient Trail and Nei Lak Shan Country Trail.

Public Engagement

7. We actively engage relevant academics, professionals, experts in our studies and projects. We have arranged three expert groups on topics related to the Ecological Study for Pui O, Shui Hau, Tai O and Neighbouring Areas, receiving capacity for visitors and green transport for Lantau, and the Lantau Trails and Recreation Plan. We have been collaborating with relevant

⁴ Include detailed planning of land uses and various assessments to establish the technical feasibility of supporting infrastructure.

(Translated Version)

government departments and non-governmental organisations through different activities to promote public awareness and community engagement on Lantau conservation. We jointly organised the “Conservation of Coastal Areas in Lantau” campaign with the Hong Kong University of Science and Technology in 2018, which includes roving exhibitions, guided tours and workshops, to enhance public awareness of conservation of coastal habitats in Lantau and promoting sustainable development of Lantau.

CONCLUSION

8. Members are invited to note the work progress of SLO.

**Civil Engineering and Development Department
February 2019**

Preliminary Broad Technical Analysis on the Study Extent of the Reclamation in the Central Waters

Objective

1. This paper aims to provide a gist of the preliminary broad technical analysis carried out by the Civil Engineering and Development Department (CEDD) in mid-2018 in assessing the feasibility of expanding the extent of the study on reclamation in the Central Waters.

Background

2. In October 2016, the Government conducted public engagement activities for the “Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030” (“Hong Kong 2030+”) study. The proposed “East Lantau Metropolis” (“ELM”) is one of the strategic growth areas. The ELM is located in the Central Waters between Hong Kong Island and Lantau. The preliminary concept is mainly to create artificial islands through reclamation to provide about 1,000 hectares of land with development potential to support housing and economic development.

3. Since the establishment of the Task Force on Land Supply (TFLS) in September 2017 up to mid-2018, the Government from time to time received suggestions from members of the public requesting the Government to increase land supply. On 26 April 2018, the TFLS pointed out at the press conference¹ of a public engagement exercise that it considered that the land shortage will be far more than 1 200 hectares because this figure had not been taken into account the citizens’ aspirations for “more spacious living environment”. The present estimate did not comprehensively consider the ageing population, which led to the demand for more healthcare and elderly facilities, etc. In addition, the TFLS considered that there was a genuine need for building a land reserve to meet the foreseeable and unforeseeable development needs of the society and to create more possibilities. Taking into account all these factors, the actual

¹ Relevant press release can be downloaded from:
https://www.devb.gov.hk/tc/publications_and_press_releases/press/index_id_9929.html

shortage would be more. The public engagement booklet² published by the TFLS in April 2018 also pointed out that there was a pressing need to increase land supply.

4. Under this context, CEDD conducted a preliminary broad technical analysis in mid-2018 with internal resources and, with the participation of the Planning Department (PlanD), explored whether there was a ground for expanding the study extent of the reclamation in the Central Waters.

Preliminary Broad Technical Analysis

5. The Government had previously conducted preliminary analysis of the reclamation proposal for the development of artificial islands in the Central Waters or the ELM under two studies. These two studies were the “Enhancing Land Supply Strategy Study” completed by the CEDD in 2014 and the “Hong Kong 2030+” study currently being conducted by the PlanD. For documents about the “Enhancing Land Supply Strategy Study” and “Hong Kong 2030+” study in the public domain, please refer to the following websites:

- “Enhancing Land Supply Strategy Study”
<https://www.cedd.gov.hk/eng/our-projects/project-reports/index-id-4.html>
- “Hong Kong 2030+” study
https://www.hk2030plus.hk/document/ELM_EN.pdf

6. When conducting the preliminary broad technical analysis, we mainly referred to the relevant analysis in the “Enhancing Land Supply Strategy Study” and “Hong Kong 2030+” study to analyse reclamation schemes of different scales based on considerations such as water flow, water depth, navigation channel and marine traffic, and marine ecology. Details of the preliminary broad technical analysis are summarised as follows:

a) Water Flow

Too slow the water flow might lead to sedimentation³ and affect water

² The public engagement booklet can be downloaded from:
[https://www.landforhongkong.hk/file/pamphlet/TFLS%20PE%20Pamphlet%20\(English%20Version\).pdf](https://www.landforhongkong.hk/file/pamphlet/TFLS%20PE%20Pamphlet%20(English%20Version).pdf)

³ Excessive sediments may affect the habitats of seabed organisms (including fishes and corals), and the navigation safety of large ocean-going vessels due to reduced water depth.

quality⁴, while too rapid the water flow might affect the navigation safety of vessels and lead to severe erosion of the seabed⁵. We made use of the existing hydrodynamic computational model of the CEDD to conduct preliminary analysis of the impact of different reclamation schemes on the water flow of the nearby water bodies.

b) Water Depth

The site selected for reclamation was subject to the seabed level. If the reclamation was to be carried out in a deep water location (for example, at a seabed level of more than 30 meters below the Chart Datum), it would involve more complicated seawall structure, the construction would be more difficult and the engineering cost would be higher. We made use of the Nautical Charts published by the Marine Department (MD) to preliminarily analyse the depth of reclamation involved in different reclamation schemes.

c) Navigation Channel and Marine Traffic

Apart from avoiding too rapid the water flow at the navigation channel, if an individual reclamation scheme involved narrowing or changing the existing Principal Fairways (such as the Western Fairway), it might seriously affect marine traffic. In this regard, we preliminarily analysed the impact of different reclamation schemes on the existing Principal Fairways based on the Hong Kong Harbour Facilities & Layout and Nautical Charts published by the MD.

d) Marine Ecology

When preliminarily analysing different reclamation schemes, we considered the following factors related to marine ecology:

- i) When selecting potential artificial island sites under the “Enhancing Land Supply Strategy Study” completed in 2014, we had preliminarily reviewed the eastern, central and western waters of Hong Kong and found that the ecological sensitivity

⁴ Too slow the water flow may lead to reduction of oxygen level of the seawater, affecting the water quality.

⁵ Severe erosion of the seabed may affect the habitats of the organisms at the seabed and shorelines.

of the central waters east of Lantau was relatively less ecological sensitive.

- ii) The “Preliminary Concepts for the East Lantau Metropolis” booklet of the "Hong Kong 2030+" study mentioned that the reclamation extent should not affect areas with high ecological sensitivity, such as the coral areas at the shores surrounding Kau Yi Chau, and the rare Bogadek’s Burrowing Lizard was recorded in Hei Ling Chau and Sunshine Island.
- iii) We made reference to the Marine Mammals Monitoring Reports of the Agriculture, Fisheries and Conservation Department (AFCD) to analyse whether individual reclamation schemes would touch on the usual habitats of Chinese White Dolphins and finless porpoises.
- iv) Based on the information relating to fisheries from the AFCD, we analyzed whether individual reclamation schemes would encroach into the extent of artificial reefs areas, fish culture zones, major fish nursery grounds and spawning grounds.

Analysis Findings and Recommendations

7. After consolidating the findings of the analyses on a number of key factors mentioned above, we preliminarily considered that there was potential to enlarge the reclamation study extent in the Central Waters to about 1 700 hectares, including about 1 000 hectares adjacent to Kau Yi Chau and about 700 hectares adjacent to Hei Ling Chau. The related scheme involved several artificial islands and generally maintained the speed of the water flow in adjacent waters, and the depth⁶ of the seabed in the reclamation extent was similar to that of the ELM of about 1 000 hectares⁷. As for the marine ecology, the related scheme was still in the central waters which were relatively less ecological sensitive, capable of preserving the existing natural shorelines of Kau Yi Chau, Hei Ling Chau and Sunshine Island, and without touching on the usual habitats of Chinese White Dolphins or finless porpoises. The enlarged reclamation extent also did not encroach into artificial reefs deployment areas, fish culture zones, major fish

⁶ The average water depth of the proposed artificial islands in the vicinity of Kau Yi Chau is about 7 metres.

⁷ It refers to the reclamation extent broadly shown in the Sustainable Lantau Blueprint. The Sustainable Lantau Blueprint announced by the Government in June 2017 can be downloaded from https://www.lantau.gov.hk/filemanager/content/sustainable-lantau-blueprint/full_report.pdf

nursery grounds and spawning grounds.

8. We wish to point out that about 1 700 hectares is only assessed via the preliminary broad technical analysis, and the actual reclamation extent is still subject to further studies.

**Civil Engineering and Development Department
December 2018**