For discussion on 26 March 2019

Legislative Council Panel on Development

Studies related to Artificial Islands in the Central Waters, Lantau Conservation Fund and Work Progress of the Sustainable Lantau Office

PURPOSE

This paper briefs Members on the following items:

- (a) the proposal to upgrade **768CL Studies related to artificial islands in the central waters** to Category A at an estimated cost of \$550.4 million in money-of-the-day prices, for undertaking the studies related to the artificial islands in the Central Waters between Hong Kong Island and Lantau;
- (b) the proposal to set up a **Lantau Conservation Fund** (LCF) of \$1,000 million to support conservation and related projects and minor local improvement works in Lantau; and
- (c) the progress of work made by the Sustainable Lantau Office (SLO) ¹ of the Civil Engineering and Development Department (CEDD).
- 2. Details of the proposals for (a) and (b) above and the progress report for (c) above are at **Enclosures 1** to **3** respectively.

¹ The SLO was set up on 1 December 2017 under the auspices of the overarching principle of "Development in the North; Conservation for the South". It takes 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, coordinated and integrated manner.

LANTAU TOMORROW VISION

Key Initiatives

- 3. The Chief Executive has announced the Lantau Tomorrow Vision (the Vision) in the 2018 Policy Address to meet the long-term development needs of Hong Kong. We have briefed Members on the key initiatives of the Vision, amongst other initiatives under the Development Bureau in the 2018 Policy Address, at the meeting on 23 October 2018 via LC Paper No. CB(1)15/18-19(01).
- 4. One of the key initiatives of the Vision is to commence studies on the phased reclamation for the formation of artificial islands in the Central Waters which will provide multiple strategic benefits. The artificial islands will be supported by a comprehensive network of strategic roads and rails that connects the Hong Kong Island, Lantau and the coastal areas of Tuen Mun, benefiting not only the artificial islands but also the Northwest New Territories as well as the territory. The first phase of the development under the Vision will focus on the artificial islands around Kau Yi Chau (KYC Artificial Islands), with a total reclaimed area of about 1 000 hectares (ha). It is estimated that the KYC Artificial Islands are capable of providing 150 000 to 260 000 housing units, 70% of which are public housing. The KYC Artificial Islands will also support the development of the third Core Business District (CBD3)² providing some 200 000 diversified employment opportunities. The conceptual development and strategic transportation plan of the Vision is at Enclosure 4.
- 5. While pressing ahead with development projects, the Government is equally committed to conserving the rural Lantau. Further to the overarching principle of "Development in the North; Conservation for the South" mapped out in the Sustainable Lantau Blueprint promulgated in June 2017, the dedicated LCF is proposed to be set up to support projects that would contribute to the overall conservation of rural Lantau, raise community awareness and mobilise the community to put conservation into practice.

² The first two CBDs of Hong Kong are Central and Kowloon East.

Recommendations of the Task Force on Land Supply

- 6. On 31 December 2018, the Task Force on Land Supply (TFLS) tendered its Report to the Government after five-month in-depth public engagement exercise. As stated in the Legislative Council Brief dated 20 February 2019³, the Government fully endorses the TFLS's recommended land supply strategy and all eight land supply options worthy of priority studies and implementation.
- 7. In response to TFLS's recommendations, the Government has committed, inter alia, taking forward the following studies related to the Vision (details at **Enclosure 5**):
 - (a) Studies related to the artificial islands in the Central Waters,
 - (b) Studies for near-shore reclamation at Lung Kwu Tan, Sunny Bay and Siu Ho Wan, and
 - (c) Studies on the re-planning of the coastal area of Tuen Mun including the River Trade Terminal site.

Ballpark Estimate on the Construction Cost and Benefit of the Vision

The Government is mindful of the divergent views expressed over the Vision after the announcement of the Policy Address on 10 October Many people welcome the proposals as it would provide more land to address the acute housing needs and the strategic transport infrastructure plan that creates capacity for the future development of Hong Kong. Some members of the public are, however, concerned about the environmental impacts of the project and its implications on the Government's fiscal reserves. While the LCF has highlighted our commitments to the environment (further details at Enclosure 2), with a view to addressing the latter concern on financial implications, notwithstanding that it is not an usual practice for the Government to provide estimate on the construction cost for a project of this scale before the conduct of a formal planning and engineering study, we have, on an exceptional basis, crudely estimated the construction cost of the key projects under the Vision. For the key projects with studies planned to start in 2019 or 2020, the ballpark construction cost estimate is in the order of \$624 billion in September 2018 prices, as set out at **Enclosure 6**.

³ File Ref: DEVB(PL-CR)13/2006

- 9. To provide a balanced picture, it is also worth noting that the Hong Kong Institute of Surveyors (HKIS) has published their professional estimate of the land sale revenue to be generated from the KYC Artificial Islands alone in the order of \$974 billion to \$1,143 billion, which is of very high reference value. With reference to the relevant report⁴ published by the HKIS, the HKIS's estimate is based on the upper-end of the preliminary planning parameter for private residential development (i.e. 78 000 housing units) and assuming each unit be 75 square metres in size. If the lower-end parameter (i.e. 45 000 housing units) or the mid-range parameter (i.e. 61 500 housing units) are adopted for estimation, the land sale revenue would become \$707 billion to \$823 billion and \$840 billion to \$983 billion respectively. The Lands Department as the Government's land agent has examined HKIS's assessment and found its estimates reasonable.
- 10. Further, HKIS's land sale revenue estimation has not yet taken into account the economic value of land in other development areas under the Vision and of land for public housing development which would produce a large number of public housing units of considerable social and economic value.
- 11. Upon full development of the KYC Artificial Islands, it is crudely estimated that the commercial and retail space thereon, when fully utilised to accommodate the economic activities concerned, would generate around \$141 billion in 2018 prices of value-added each year⁵, amounting to about 5% of the Gross Domestic Product.
- 12. Once again, at the risk of being over cautious, it should be emphasised that, given the early stage we are in and the relatively long time horizon of the Vision, the above estimate are inevitably indicative in nature at this very juncture, and would be subject to revisions as more information becomes available in the course of the coming studies.

WAY FORWARD

13. For the proposed studies under **768CL**, we plan to seek funding

⁴ The HKIS's preliminary report on land sale revenue estimation for the Vision could be downloaded from the HKIS's website [https://www.hkis.org.hk/ufiles/hkisviews-20190222.pdf].

⁵ The estimate is based on the operating characteristics of the major economic sectors in 2017 and some crude assumptions, especially in respect of the allocation of commercial floor space to different economic activities, as well as the relevant price trend between 2017 and 2018.

approval from the Finance Committee (FC) in the second or third quarter of 2019 after consulting the Public Works Subcommittee.

14. For the LCF, we plan to seek funding approval from the FC in the second or third quarter of 2019.

Development Bureau Civil Engineering and Development Department Planning Department

March 2019

PWP Item No. 768CL – Studies related to Artificial Islands in the Central Waters

PROJECT SCOPE AND NATURE

We propose to upgrade the **768CL** to Category A, which comprises –

- (a) a detailed planning and engineering (P&E) study for the artificial islands around Kau Yi Chau (KYC Artificial Islands) to establish the reclamation extent, land uses and technical feasibility, including the formulation of detailed land use proposals, preparation of preliminary design of the associated engineering works, and conducting statutory environmental impact assessment (EIA) as well as public engagement exercise in relation to the formulation of development proposals;
- (b) a transport infrastructure study which covers
 - (i) an area-wide transport study covering the priority road and rail links as well as the possible road and rail links for longer term, between the Hong Kong Island, the artificial islands in the Central Waters, Lantau and coastal areas of Tuen Mun;
 - (ii) an engineering study to ascertain the feasibility of the priority road and rail links; and
 - (iii) an investigation study for the priority road link between Hong Kong Island and Northeast Lantau, via KYC Artificial Islands, including preliminary design, statutory EIA and other detailed impact assessments;
- (c) collection of information¹ on waters within and in the vicinity of the possible artificial islands near Hei Ling Chau (HLC) and Cheung Chau South for future reference in long-term planning; and

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¹ The information to be collected will mainly include the preliminary ecological, environmental and geological conditions.

(d) associated site investigation including supervision.

A location plan is at **Figure 1**.

2. Subject to funding approval of the Finance Committee, we plan to commence the Studies related to Artificial Islands in the Central Waters (the Study) in the latter half of 2019 for completion in 42 months.

JUSTIFICATIONS

3. The Chief Executive has announced the Lantau Tomorrow Vision (the Vision) in the 2018 Policy Address. The Vision spanning two to three decades has proposed various land supply initiatives to greatly increase land supply thereby alleviating the acute shortage of land in the medium-to-long term. Together with a new strategic transport network, we can capitalise on Lantau's geographical advantage to improve intraconnectivity within Hong Kong and connection to our neighbouring cities and the rest of the world. The Vision can promote economic development, enable the public to live and work in contentment, and improve our livelihood. The Study is an important step to take forward the Vision.

From East Lantau Metropolis to Lantau Tomorrow Vision: Boosting Land Supply

4. As stated in the public engagement booklet "Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030" (Hong Kong 2030+) promulgated in October 2016, it was broadly estimated that the land shortage is no less than 1 200 hectares (ha). In that context, the Hong Kong 2030+ Study has already proposed the development of an East Lantau Metropolis (ELM), which covers also the KYC area, as one of the two strategic growth areas for Hong Kong. The preliminary concept of the ELM is to create artificial islands in the Central Waters by reclamation to provide about 1 000 ha of potential developable area to support housing and economic development. The Report of the Task Force on Land Supply (TFLS)² published on 31 December 2018 points out that the land shortage of about 1 200 ha identified under the Hong Kong 2030+ Study has underestimated the actual needs of Hong Kong in the long run. It is

² Paragraph 2.2 of the Report of the TFLS is referred.

because such estimates have assumed amongst other things that all existing land supply projects, including rezoning and New Development Areas (NDAs), could be implemented smoothly in terms of scale and schedule (which is in reality often not the case). Also, the Hong Kong 2030+ Study is yet to fully take into account the society's aspiration for a more spacious living environment; the strong demand for more elderly and healthcare facilities in light of the quickly ageing population; as well as the need of decanting space to speed up urban renewal against the backdrop of our ageing building stock. The TFLS thus is of the view that the actual land shortage will be far more than 1 200 ha, bearing in mind that we would also need a land reserve in the future to enable Hong Kong to overcome bottlenecks constraining our development that are caused by land shortage. This assessment of the TFLS has given further support to the development of artificial islands off KYC as a strategic growth area catering to our need for land supply in the medium to long term.

- 5. On the demand for housing alone, the Hong Kong 2030+ Study promulgated in 2016 has broadly estimated that the housing demand between 2016 and 2046 is about one million units. Among the various land supply initiatives, different short-to-medium initiatives (including rezoning suitable sites for housing development, Kai Tak development, and other various projects) are expected to provide about 380 000 units, while major medium-to-long term land supply initiatives, together with other railway property development projects) may provide some 230 000 units. Comparing with the total flat supply of some 610 000 units from these major land and housing projects, the estimated quantum of housing supply of 150 000 to 260 000 units from KYC Artificial Islands alone suggests its huge potential in narrowing the gap between housing demand and supply in the coming 30 years. Furthermore, 70% of these units (viz. 105 000 to 182 000 units) are for public housing. This compares favourably with the four NDAs and new town extension projects³ that are ongoing or under planning, which will altogether provide just about 130 000 public housing units.
- 6. The TFLS⁴ recognises the strategic importance of the ELM in terms of creating new land masses for integrated planning and development crucial to Hong Kong's long-term interests, expanding our strategic

These projects are Kwu Tung North/Fanling North NDA, Hung Shui Kiu NDA, Yuen Long South Development and Tung Chung New Town Extension.

⁴ Paragraphs 5.72 to 5.74 of the Report of the TFLS are referred.

transport network and building a land reserve. Further, the TFLS ⁵ considers that developing the 1 000 ha ELM artificial islands is a key initiative to resolve the problem of land shortage in the medium-to-long term. The TFLS recommends that the Government should commence the preliminary studies and planning to collect more information and data for deciding the next step.

7. The Vision has strengthened the ELM proposal with various proposed land supply initiatives to alleviate the acute shortage of land in Hong Kong. In particular, the location, scale, broad development mode and potential development benefits of KYC Artificial Islands match with the ELM proposal. With the new strategic transport network proposed under the Vision, we can capitalise on the Lantau's advantage of connection to the world to promote economic development as well as enabling the public to live and work in contentment.

Providing Opportunity to Develop a Livable Community of Higher Standards

8. There are multiple strategic advantages which make the KYC Artificial Islands distinctively important and not easily replaced by other land supply options. The KYC Artificial Islands can generate large areas of land at waters that are ecologically less sensitive without affecting the existing land uses and triggering the long-drawn land resumption and clearance process. Given their large scale, the KYC Artificial Islands will enable comprehensive planning for liveable and sustainable communities with a range of compatible uses and community facilities, ample open spaces and greening, and state-of-the-art infrastructure. In the process, the KYC Artificial Islands will allow Hong Kong to develop its first large-scale near carbon-neutral neighbourhoods as well as a genuinely smart city infrastructure.

Unique Strategic Advantages given the Location

- a) Providing solution space for redevelopment in urban area
- 9. At a time when the building stock of Hong Kong will soon age rapidly⁶, the KYC Artificial Islands, given that it will become part of our

⁵ Paragraph 5.76 of the Report of the TFLS is referred.

As stated in "Consolidated Land Requirement and Supply Analysis" under Hong Kong 2030+ in October 2016, assuming no demolition from now on, a total of 326 000 private housing units would be aged 70 or above by 2046, which is nearly 300 times of the building

urban area enjoying a high level of living convenience, will provide land to support large-scale urban redevelopment projects that might not otherwise be realistic, as there is limited decanting space and affected residents normally prefer living in the urban area to more remote areas. Opportunity could be seized to provide a better urban living environment with more quality open spaces and community facilities.

b) Providing traffic relief to Northwest New Territories

10. From a transport perspective, the KYC Artificial Islands, given its strategic location to the west of the Hong Kong Island and to the southeast of Lantau and the Northwest New Territories, will support the development of road and rail links, which would otherwise not have a case, that can effectively alleviate the traffic problems besetting residents of the Northwest New Territories.

c) <u>Providing a third Core Business District in a strategic location</u>

The unparalleled strategic location of KYC Artificial Islands to 11. provide the third Core Business District (CBD) takes advantage of clustering effect with the traditional CBD at the Central (just 10 km away) and the "Aerotropolis" at Hong Kong International Airport (just 15 km away) that cannot be achieved anywhere in Hong Kong. complement and serve as an extension of the CBD in the Central to form a metropolitan business core. At the same time, it could create synergy with the "Aerotropolis", strengthening the position of Lantau as a "Double Gateway" to the world and connecting the cities in the Guangdong-Hong Kong-Macao Greater Bay Area. With the anticipated overall economic growth of Hong Kong brought about by being a global financial and business hub as well as the continued development of the financial industry, it is expected that the strong demand for Grade A office space cannot be met by the limited supply in the Central CBD. Office buildings in the Central CBD are already several decades old and cannot fully meet the needs of modern business operations. To maintain our economic competitiveness, Hong Kong is in need of the CBD3 to provide abundant Grade A office with building specifications as well as advanced designs and high-tech features meeting the needs of global headquarters or multi-The creation of the CBD3 and plenty of employment national firms. opportunities within an integrated mega development with a good mix of

stock of the same age in 2016, i.e. about 1 100 units only.

residential and other complementary uses can also improve the current situation of uneven spatial distribution of homes and employment in Hong Kong. Coupled with the fact that KYC Artificial Islands will be right at the heart of a sophisticated road and rail network, the proposed development is uniquely blessed by all important factors to become a successful CBD.

The Study

- 12. Taking into account the TFLS's recommendation as well as the above considerations, we propose undertaking the Study, the scope of which is set out in detail in paragraph 1 above so as to press ahead with the planning of the KYC Artificial Islands (including the formulation of detailed land use proposals) as well as the road and rail connections linking the KYC Artificial Islands with Hong Kong Island, Northeast Lantau and coastal area of Tuen Mun.
- Given the need to shorten the long lead time for land and infrastructure production as far as possible, and leveraging on the findings and positive results of previous and relevant studies⁷, it is proposed that the Study should cover the scope sets out in paragraph 1 above, including the P&E study for the proposed KYC Artificial Islands and the transport infrastructure study for the required strategic road and rail links (which the engineering feasibility of priority road and rail links will be established) and an investigation study for the priority road link connecting the KYC Artificial Islands with Hong Kong Island and Northeast Lantau. proposed that these components be taken forward in parallel as far as possible. Subject to funding approval from the Finance Committee, we anticipate that the Study could commence in the latter half of 2019 for completion in 42 months. If it can commence as scheduled and complete in mid-2023, we propose to commence the first phase of reclamation works in 2025 with a view to making available the first population intake in 2032. It is also our target to timely commission the priority road link connecting Hong Kong Island, KYC Artificial Islands and Northeast Lantau to facilitate the first population intake, as well as the traffic mobility between Hong Kong Island, Hong Kong International Airport at Chek Lap Kok, and the Northwest New Territories.

The relevant studies include the "Technical Study on Transport Infrastructure at Kennedy Town for Connecting to East Lantau Metropolis (by the Civil Engineering and Development Department, completed in November 2017).

14. The Study will also cover the collection of basic information on waters within and in the vicinity of the possible artificial islands near HLC and South of Cheung Chau. This is in line with the TFLS's recommendations regarding establishing a land and planning reserve for the long-term development needs of Hong Kong. The information collected will facilitate the long-term planning down the road as well as forming a basis for objective discussion with the community on these land supply options at a suitable time in future.

FINANCIAL IMPLICATIONS

15. We estimate the capital cost of the Study under **768CL** to be \$550.4 million in money-of-the-day prices.

PUBLIC CONSULTATION

- 16. Members of the Islands District Council (DC), Tsuen Wan DC, Tuen Mun DC and Central and Western DC were briefed on the Vision and the Study at the meeting of 25 February 2019, 5 March 2019, 5 March 2019 and 7 March 2019 respectively.
- 17. During the consultation of the above-mentioned four DCs, majority of the members supported the proposal of taking forward the Study. We are aware of the general concerns about the cost-effectiveness of the KYC artificial islands, the potential environmental and ecological impacts, the resilience against climate change, and land use planning in meeting the long-term needs of the society. Many DC members have unanimously expressed concern about the traffic issues, in particular the connection with the new strategic road and rail networks and the potential traffic impact to local roads. They requested the Government to plan ahead and ensure the proposed transport networks could meet the future traffic demand. Besides, some members of the Islands DC were specifically concerned about the potential impacts on fisheries due to reclamation works.
- 18. To address these concerns, we will conduct site investigation, technical studies, and traffic, fisheries and environmental impact assessments, etc. in the Study. In the course of the Study, public engagement activities will be conducted to provide more comprehensive information for consulting the public and gathering their views and suggestions.

ENVIRONMENTAL IMPLICATIONS

- 19. The P&E study for the KYC Artificial Islands is a designated project under Schedule 3 of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499). Development proposals under the P&E study may involve designated projects under Schedule 2 of the EIAO which will require Environmental Permits for their construction and operation. The road link between Hong Kong Island and Northeast Lantau is also a designated project under Schedule 2 of the EIAO. We will conduct the EIA studies for the KYC Artificial Islands and this road link under the requirements of the EIAO. The EIA studies will consider cumulative environmental impacts arising from the proposed works and will assess key environmental issues including, but not limited to, air quality, water quality, ecology, fisheries, cultural heritage, noise, landscape and visual impact.
- 20. The Study and the associated site investigation works will only generate very little construction waste. We will require the consultants to fully consider measures to minimise generation of construction waste and to reuse and recycle construction waste as much as possible in the future implementation of construction projects.
- 21. We strive to adopt most suitable environment-friendly methods that can effectively reduce pollution caused by the removal of seabed sediments. We will explore other more advanced and environment-friendly reclamation technologies and designs in the Study with a view to further protecting the environment. In addition, we will explore in the Study to retain the existing natural shorelines with high ecological value as far as possible and establish eco-shorelines at artificial islands if situation warrants.

HERITAGE IMPLICATIONS

22. The Study and the associated site investigation works will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

23. The Study and the associated site investigation works will not require any land acquisition. The Study will examine the need and extent of land acquisition and/or clearance required for implementation of the projects related to the artificial islands.

BACKGROUND INFORMATION

- 24. In July 2011, the Civil Engineering and Development Department commissioned the Enhancing Land Supply Strategy Study to identify suitable locations for reclamation outside Victoria Harbour. The study concluded that, apart from five near-shore reclamation sites⁸, the Central Waters between Hong Kong Island and Lantau have good potential for developing artificial islands since they are ecologically less sensitive and sizable reclaimed land can be supplied for comprehensive land use planning. The major concerns of the public are on marine ecology, ecological conservation, transport infrastructure, cost-effectiveness and the need to expedite land supply.
- 25. We upgraded **768CL** to Category B in September 2013.
- 26. Upon getting the general support from the Legislative Council Panel on Development on 7 April 2014, we submitted paper PWSC(2014-15)11 for the upgrading of **768CL** to Category A to the Public Works Subcommittee (PWSC). The paper was discussed at the meetings on 18, 24 and 25 June 2014, 2 July 2014, 29 October 2014 and 26 November 2014. The item was withdrawn at the PWSC meeting on 26 November 2014 and later re-submitted for discussion on 15 June 2016. However, it was not discussed by the PWSC before the closure of the legislative session of 2015-16.
- 27. From end January to April 2016, the Lantau Development Advisory Committee and the Government conducted a public engagement exercise on the proposals of Lantau development together which include the artificial islands in the Central Waters. We briefed the Panel on Development on the proposed development strategy for Lantau, with the artificial islands in the Central Waters as one of the components, on 23

⁸ The five potential near-shore reclamation sites are Sunny Bay, Lung Kwu Tan, Ma Liu Shui, Siu Ho Wan and Southwest Tsing Yi.

February 2016. The proposal of the artificial islands in the Central Waters was included in the Sustainable Lantau Blueprint promulgated in June 2017.

- 28. Under the Hong Kong 2030+ Study, a public engagement exercise was conducted between 27 October 2016 to 30 April 2017 to collect views from the public on the territorial development strategy of Hong Kong beyond 2030, including the strategic growth areas at New Territories North and ELM. The development strategy is being finalised taking into account public comments received, findings of various technical assessments as well as recommendations of the TFLS. The Hong Kong 2030+ Study is anticipated to be completed in 2019.
- 29. Between 26 April and 26 September 2018, the TFLS carried out public engagement exercise to invite views on 18 land supply options identified, including the construction of 1 000 ha artificial islands in the Central Waters. According to the Report of TFLS, about 60% of the respondents of the questionnaire and telephone surveys conducted by TFLS were in favour of this option, demonstrating a general support in the community.

Development Bureau Civil Engineering and Development Department Planning Department

March 2019

圖例: 概念性位置 LEGEND: CONCEPTUAL LOCATION 擬議交椅洲人工島 PROPOSED KAU YI CHAU ARTIFICIAL ISLANDS 可能的喜靈洲人工島 POSSIBLE HEI LING CHAU ARTIFICIAL ISLANDS 0% T 可能的長洲南人工島 द्भेSING Y POSSIBLE CHEUNG CHAU SOUTH ARTIFICIAL ISLAND 九龍 KOWL OON 優先鐵路連接 PRIORITY RAIL LINK 交 榜 洲 KAD YI CHAD 優先道路連接 PRIORITY ROAD LINK 大嶼山 可能的較遠期鐵路連接 香港島 LANTAU ISLAND POSSIBLE RAIL LINK IN LONGER TERM 喜-靈/洲 HELLING CHAU HONG KONG ISLAND 可能的較遠期道路連接 POSSIBLE ROAD LINK IN LONGER TERM 研究中的十一號幹線 [870TH - 十一號幹線(北大 嶼山至元朗)的可行性研究] CHEWNG CHAU ROUTE 11 BEING STUDIED UNDER 870TH "FEASIBILITY STUDY ON ROUTE 11 (BETWEEN NORTH LAMMA ISLAND LANTAU AND YUEN LONG)" 圖則名稱 drawing title 項目編號 item no. 辦事處 office 768CL 可持續大嶼辦事處 SUSTAINABLE LANTAU OFFICE 比例 scale 中部水域人工島相關研究 1 : 200 000 STUDIES RELATED TO ARTIFICIAL ISLANDS IN THE CENTRAL WATERS 圖則編號 drawing no. 土木工程拓展署 CEDD CIVIL ENGINEERING AND SL0-Z0221 DEVELOPMENT DEPARTMENT

Lantau Conservation Fund

PROPOSAL

We propose to set up a \$1,000 million Lantau Conservation Fund (LCF) to take forward conservation and related projects as well as minor local improvement works in rural Lantau.

JUSTIFICATIONS

Current Situation

- 2. Lantau, being the largest island of Hong Kong, is endowed with splendid mountains and natural shoreline, and is rich in natural and cultural assets. It is the city's back garden for locals and overseas visitors to spend their holidays and appreciate the natural beauty and cultural richness of the island. The strategic position of the island also offers enormous potential development opportunities which can benefit the overall social and economic development of the territory.
- 3. While pressing ahead with development projects, the Government is committed to conserving the rural Lantau. The Sustainable Lantau Blueprint promulgated in June 2017 has already mapped out the overarching principle of "Development in the North, Conservation for the South" and set out various conservation initiatives, involving multi-dimensional aspects integrating environmental and nature enhancement, revitalisation of villages and sustaining rural culture, cultural cum ecorecreation, etc.
- 4. To further harness Lantau's advantages in its connections to the world, the Government promulgated in the 2018 Policy Address the "Lantau Tomorrow Vision" (the Vision), for which "Conservation to precede Development" is one of the policy directives with a view to carrying out conservation work as soon as possible for enhancing environmental capacity of Lantau to achieve sustainability.

Challenges Besetting Conservation Efforts

- 5. At present, Lantau's conservation resources, particularly in South Lantau, are largely private-owned. The fragmented private land ownership has rendered considerable difficulties in implementing conservation initiatives. Non-governmental organisations (NGOs), local communities, landowners, etc., could be motivated through financial incentive and support to take part in conservation and related projects. Each of the existing statutory funds or funding schemes under the Government supports conservation initiatives related to specific areas, which may not be sufficient to cater for the direction of "Conservation to precede Development" set out for implementing the Vision.
- 6. A dedicated funding scheme for conserving Lantau is recommended for handling the conservation of rural resources in Lantau in a coordinated and integral manner, with a view to enhancing the resources and effectiveness of conservation efforts.

ESTABLISHMENT OF THE LCF

- 7. The LCF will be used to support projects that would contribute to the overall conservation of rural Lantau, raise community awareness on the conservation of rural Lantau, and mobilise the community to put conservation into practice, with a view to fostering a quality living environment for the current generation and beyond.
- 8. The proposed \$1,000 million LCF will consist of two parts:
 - (a) conservation and related projects; and
 - (b) minor local improvement works.
- 9. The Development Bureau will oversee the implementation of the LCF and the Director of Civil Engineering and Development will be the vote controller. The day-to-day administration of the LCF and secretariat support will be the responsibility of the Sustainable Lantau Office of the Civil Engineering and Development Department.

(A) Conservation and Related Projects

- 10. We propose that half of the LCF, i.e. \$500 million, will be dedicated to providing financial support to NGOs, local communities, landowners, etc., to carry out conservation and related projects involving private land¹, and promote community involvement, education or research projects in Lantau. This part of the LCF will comprise two streams. The first stream will cover (i) conservation projects involving management and conservation of privately-owned land of high ecological significance and/or buildings with cultural values; and (ii) conservation-related scientific research and local history collection. The other stream will cover initiatives or activities for community involvement, public education and promotion purposes.
- 11. The conservation efforts to be covered by this part of the LCF include natural environment, ecology, culture, history, rural character, landscape, geomorphology and other relevant elements. Through provision of resources for implementing these conservation and related projects on private land, it is anticipated that the environmental capacity can be enhanced, culture and rural character can be conserved and sustainable development of rural countryside can be promoted.
- 12. To guarantee a fair and transparent operation of the LCF, an Advisory Committee (AC) comprising official members and non-official members from relevant fields appointed by the Secretary for Development will be set up upon approval of funding from the Finance Committee. The AC will advise on the scope and procedures of the funding application and in matters relating to the administration and operation of the LCF, vet applications, monitor the implementation of the approved projects, etc.

(B) Minor Local Improvement Works

13. We propose that the other half of the LCF, i.e. \$500 million, will

¹ While this part of the LCF is mainly for projects to be carried out on private land, project proponents must seek the prior approval of relevant government departments in accordance with the established procedures before implementation if government land is involved.

be spent on minor local improvement works to be carried out by the Government on government land in Lantau, with a ceiling of \$30 million for each project.

- 14. These projects aim to enhance the accessibility of remote villages in Lantau or improve the livelihood of the local residents whilst conserving/enhancing the rural environment in Lantau, and are generally small in scale. The projects will include (i) improvement works in remote villages to enhance the accessibility, environment and livelihood of villagers; (ii) improvement works to recreation facilities; (iii) improvement works to promote eco-recreation as well as public education on environmental protection; (iv) reinstatement works on government land affected by environmentally damaging activities, such as planting works and removal of illegal structures as may be requested by other departments, etc.; and (v) enhancement, rehabilitation and other projects for the natural environment/habitat and buildings on government land.
- 15. Further details of the operation of the LCF will be worked out after funding approval from the Finance Committee.

IMPLEMENTATION PRIORITY

- 16. It was announced in the 2017 Policy Address that, to underpin the sustainable development and conservation of Lantau, the Government would implement rural conservation projects in selected pilot areas such as Tai O, Shui Hau and Pui O. Different government and community resources will be deployed to take forward various rural conservation initiatives to promote the revitalisation of rural areas, including nature conservation and education, revitalisation of old village buildings, as well as promotion of ecological and cultural tourism etc. To follow this policy directive, we recommended starting the LCF by giving priority to those conservation and related projects concerning such pilot areas. Quality projects in other areas of high conservation value will also be welcomed.
- 17. The pilot areas possess ecological important habitats rich in biodiversity, including sandflat and marsh at Shui Hau, marsh and stream

at Pui O, and mangrove and wetland at Tai O. In addition, Tai O has valuable cultural assets such as the iconic stilt houses, some historic buildings and intangible cultural heritage. The conservation and related projects to be implemented in the pilot areas through collaboration with NGOs, local communities and landowners can be diverse and innovative, including but not limited to strengthening the conservation of habitats through active management and habitat enhancement, rehabilitation of fallow farmland at suitable locations, controlling invasive or exotic species, restoring or enhancing degraded freshwater regime, biodiversity monitoring, raising public awareness on conservation through education or community engagement programmes, exploring revitalisation of historic buildings or structures, organising local tours for cultural learning and nature appreciation, improving facilities for conservation and related education, research and tourism activities, etc.

FINANCIAL IMPLICATION

- 18. The Government's commitment for the LCF is \$1,000 million:
 - (a) Non-recurrent expenditure of \$500 million to support cooperation between NGOs, local communities, landowners, etc., to carry out conservation and related projects involving private land in Lantau (paragraphs 10 to 12 above); and
 - (b) Capital works expenditure of \$500 million for government to carry out minor local improvement works on government land in Lantau (paragraphs 13 to 14 above).

PUBLIC REACTIONS

19. Members of the Islands District Council and the Tsuen Wan District Council were briefed on the proposal at the meeting of 25 February 2019 and 5 March 2019 respectively. The feedback is generally supportive.

BACKGROUND

20. The 2018 Policy Address announced that a \$1,000 million LCF would be set up to promote and implement conservation of rural Lantau, and to pursue minor local improvement works in remote villages and communities.

Development Bureau Civil Engineering and Development Department

March 2019

Work Progress of Sustainable Lantau Office

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, coordinated and integrated manner.

2. As committed at the meeting of the Finance Committee (FC) held on 18 November 2017, the SLO will report the progress of their work to the relevant Panel(s) of the Legislative Council (LegCo) regularly.

PROGRESS OF MAJOR TASKS

Development Projects

3. The SLO has been pressing ahead with the major economic and housing developments planned in Lantau which are important to 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 areas ¹. The 130-hectare reclamation works in TCE extension area 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 2023/2024. The associated road and sewerage works in TCE extension area were 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 the detailed design of the sustainable urban drainage system to control the amount and water quality of surface runoff discharged into the stream. To further enhance the environmental

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.

capacity and contribute to a sustainable Lantau, a River Park is proposed along the stream. Its detailed design is underway in collaboration with stakeholders.

(c) The road and sewerage works in Ma Wan Chung, Tung Chung Road North and Yu Tung Road in TCW extension area 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 maintain the effectiveness and efficiency of the GFS's helicopter emergency services under all weather conditions while unleashing the development potential of the TCNTE, a GFS helicopter base is being established at the tip of the Ex-Kai Tak Runway. Construction works commenced in November 2018 and are scheduled for completion by the first quarter of 2021.

<u>Infrastructure Works for Public Housing Development at Area 54,</u> Tung Chung

(e) We are taking forward the infrastructure construction works to support the proposed public housing development² in Tung 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 2021-2022.

Studies related to Artificial Islands in the Central Waters

- (f) We have conducted a preliminary broad technical review on the extent of reclamation study area in the Central Waters. The review took into account major factors including water flow, water depth, navigation channel, marine traffic and marine ecology.
- (g) We commenced the "Study on Traffic, Transport and Capacity to Receive Visitors for Lantau" in July 2017 which include a desktop study for Lantau's strategic traffic and transport infrastructure. We have completed the desktop review in broad terms on the preliminary technical feasibility of possible alignment of the strategic rail link connecting the artificial islands near Kau Yi Chau,

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

Hong Kong Island, Lantau and Tuen Mun coastal areas.

(h) We have completed the preparatory work for seeking funding approval from the Legislative Council on the studies.

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.

<u>Topside Development at Hong Kong Boundary Crossing Facilities</u> (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 development 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

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

Projects funding scheme of the Environment and Conservation Fund (ECF) in 2017-18 and 2018-19 to support non-profit making organisations to take forward community engagement and education activities on nature conservation in South Lantau. Nine projects with a total grant of around \$9 million in 2017-18 and two projects with a total grant of around \$2.7 million in 2018-19 have been approved respectively.

(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.

<u>Strengthening Controls on Landfilling and Dumping of Construction and Demolition (C&D) Waste</u>

- (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. Prohibiting 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. Tabulated 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. Collaborating with relevant departments in stepping up the effort to reinstate government land affected.

Local Improvement Works

5. To enhance the living environment and quality of life for locals, 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 and design of remaining works are ongoing.

Improvement Works at Tai O

(b) We commenced construction of the 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 construction of a coastal pedestrian access, provision of car parking facilities, beautification works, 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.

Sunny Bay Reclamation

(a) We plan to seek Legislative Council's funding approval in this year

for taking forward the Planning and Engineering Study on Sunny Bay Reclamation⁴.

Improvement Works for Mountain Bike Trail Networks

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

Improvement Works for Leisure and Recreation Facilities

- 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 and 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 some quick-win improvement works to enhance the facilities along Tung O Ancient Trail and Nei Lak Shan Country Trail.

Public Engagement

our studies and projects.

collaborating

7.

views 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 with relevant government departments governmental organisations through different activities to promote public awareness and community engagement on Lantau conservation. jointly organised the "Conservation of Coastal Areas in Lantau" campaign with the Hong Kong University of Science and Technology in 2018, which

We actively engage relevant academics, professionals, experts in

We have arranged three expert groups to provide

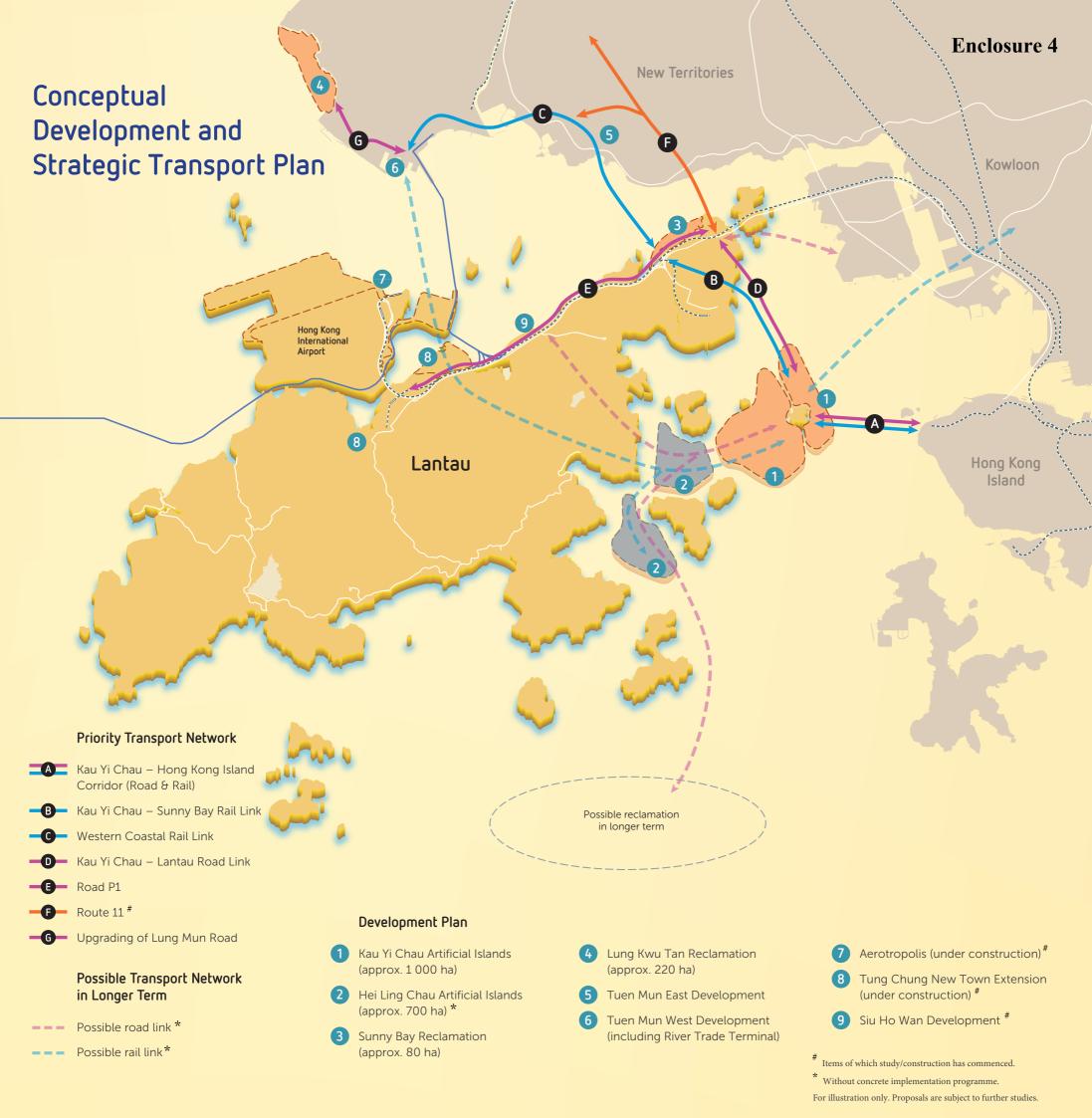
includes roving exhibitions, guided tours and workshops, to enhance public

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

awareness of conservation of coastal habitats in Lantau and promoting sustainable development of Lantau.

Civil Engineering and Development Department

March 2019



The Government's Response to Recommendations and Major Comments in Report of Task Force on Land Supply (TFLS)

Extract of Parts relevant to Lantau Tomorrow Vision

TFLS's Recommendations/ Observations

(reference in the Report)

Government's Response

Near-shore reclamation outside Victoria Harbour

1. The Task Force supports in principle the reclamation projects at the five proposed near-shore locations, namely Lung Kwu Tan in Tuen Mun, Siu Ho Wan and Sunny Bay in North Lantau, Ma Liu Shui in Sha Tin, and Tsing Yi Southwest.

(paragraph 5.60)

The Government should carry out 2. thorough preliminary studies and planning, as well as conduct environmental impact assessment according to the statutory mechanism. Appropriate measures should be devised to mitigate the impact of reclamation works on the environment and ecology.

(paragraph 5.63)

3. The Government should provide more information and analyses to address the concerns directly relevant to local residents, especially those relating to whether the

- ✓ The Government proposes to take forward detailed studies for the projects at Lung Kwu Tan, Sunny Bay and Siu Ho Wan Note, with a target to submit funding applications for the related studies to LegCo in the second half of 2019.
- ✓ Reclamation at **Ma Liu Shui** will be put on hold subject to review to address concerns over traffic impact and public/private housing mix in slower time.
- ✓ The Government does not intend to proceed with reclamation at Tsing Yi Southwest reclamation, as its possible uses and potential are limited by the hazardous facilities (e.g. oil tanks) nearby.

Note The reclamation at Siu Ho Wan will be a small-scale one involving the construction of a new highway running parallel to the North Lantau Highway.

TFLS's Recommendations/ Observations					

Government's Response

carrying capacity of existing transportation infrastructure is sufficient, with the aid of feasibility and planning studies.

(paragraph 5.64)

Developing the East Lantau Metropolis (ELM)

4. The Task Force recognises strategic importance of the ELM in terms of creating new land masses integrated planning and crucial development to Hong Kong's interests. long-term expanding our strategic transport network and building a land reserve.

(paragraphs 5.72 to 5.74)

5. The Government should address and handle with caution the impact of construction of artificial islands on the marine environment and ecology; costs and time involved; and whether the artificial islands could stand up to the impact of climate change and extreme weather conditions.

(paragraph 5.75)

6. The Task Force considers that developing the 1000-hectare ELM

- The Government will take forward the detailed studies for the reclamation of the Kau Yi Chau artificial islands, with an area of about 1000 ha, and related infrastructure, being part of the Lantau Vision Tomorrow, and seek funding approval from LegCo in the first half of 2019.
- The Government is aware of the public's concerns relating to the artificial islands. We will conduct the needed site investigations, technical studies, and traffic and environmental impact assessments, etc. in the future studies and then draw up a detailed proposal. the course of the studies, public will engagement activities conducted provide to more comprehensive information consulting the public and gathering their views and suggestions.

TFLS's Recommendations/ Observations (reference in the Report)	Government's Response
artificial islands is a key initiative to resolve the problem of land shortage in the medium-to-long term. The Government should commence the preliminary studies and planning to collect more information and data for deciding the next step.	
(paragraph 5.76)	

Developing the River Trade Terminal (RTT) Site

- 7. The Government should consider holistically the land uses of the entire coastal area of Tuen Mun West (including the RTT site, the Lung Kwu Tan reclamation site as well as the industrial and special industrial facilities nearby) and rationalisation examine and realignment of operations on different sites, so as to increase planning flexibility.
- The Government will seek funding approval from LegCo in the second half of 2019 to initiate study on the re-planning of the coastal area of Tuen Mun including the RTT site as part of the detailed study for the proposed reclamation at Lung Kwu Tan.

(paragraph 5.99)

Remark:

Please refer to the Legislative Council Brief dated 20 February 2019 (File Ref: DEVB(PL-CR)13/2006) for details of the Government's response to the Report of TFLS.

Lantau Tomorrow Vision Ballpark Estimate on Construction Cost

- 1. The ballpark estimate on construction cost contains a number of design and construction related assumptions. These assumptions are derived from existing available information and professional judgement.
- 2. In the estimate, we have made reference to the priced unit rates of the works in recent projects of similar nature, including "Tung Chung New Town Extension Reclamation and Advance Works", "Site Formation and Infrastructure Works for Development of Anderson Road Quarry Site", "Hong Kong–Zhuhai–Macao Bridge Hong Kong Link Road", "Tuen Mun Chek Lap Kok Link", "Tseung Kwan O Lam Tin Tunnel", "Central Wan Chai Bypass and Island Eastern Corridor Link", "Shatin to Central Link", and "Hong Kong section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link".
- 3. Relevant factors such as site conditions (e.g. geological condition and water depth), construction method, provision of supporting infrastructure (e.g. roadwork, water supply system, stormwater drainage, sewage disposal and treatment facility) and possible effect of climate change have been taken into account. For transport facilities, we have taken into account the relevant factors, such as alignment, stations and other operational facilities for railway, and possible impact to existing facilities, etc. Contingency has also been allowed to cater for project risks.
- 4. We crudely estimated that the total construction cost of the key projects under the Lantau Tomorrow Vision (i.e. the studies of which planned to start in 2019 or 2020) is in the order of \$624 billion (in September 2018 prices), with breakdown as follows:

	Projects	Ballpark Estimate of Construction Cost [September 2018 prices]				
Development Areas						
		Reclamation	Infrastructure	Total		
(A)	Kau Yi Chau Artificial Islands	\$140 billion	\$116 billion	\$256 billion		
(B)	Sunny Bay Reclamation, Lung Kwu Tan Reclamation and Tuen Mun coastal area development (including River Trade Terminal)	\$34 billion	\$61 billion	\$95 billion		
	(A) to (B)	\$ 174 billion	\$177 billion	\$351 billion		

	Projects	Ballpark Estimate o Construction Cost [September 2018 price						
Prior	Priority Transport Network							
(C)	Kau Yi Chau – Hong Kong I	sland Corridor (Road)	\$55 billion					
(D)	(D) Kau Yi Chau– Hong Kong Island Corridor (Rail)							
(E)	E) Kau Yi Chau – Lantau Road Link							
(F)	F) Kau Yi Chau – Sunny Bay Rail Link							
(G)	Western Coastal Rail Link		\$82 billion					
(H)	Road P1 + Upgrading of Lur	ng Mun Road	\$27 billion					
	(C) to (H)							
		(A) to (H)	\$624 billion					

5. At the risk of being over cautious, it should be emphasised that, given the early stage we are in and the relatively long time horizon of the Lantau Tomorrow Vision, the above estimates are inevitably indicative in nature at this very juncture. The assumptions for estimation are subject to the findings of subsequent studies, design changes and construction price level adjustment. A more accurate estimate can only be established after the completion of the studies of the relevant projects.