

TOWN PLANNING BOARD

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INCREASING LAND SUPPLY BY RECLAMATION
AND ROCK CAVERN DEVELOPMENT

Increasing Land Supply by Reclamation and Rock Cavern Development

1. Purpose

- 1.1 This paper briefs Members on the Administration's planned studies and public engagement exercise on increasing land supply by reclamation outside Victoria Harbour and rock cavern development.

2. Background

- 2.1 The Financial Secretary announced in his 2011-12 Budget Speech that an amount of about \$300 million will be allocated for conducting relevant studies and public engagement exercise for increasing land supply by reclamation outside Victoria Harbour and rock cavern development in the next few years. The initiative is a visionary attempt to provide land to meet Hong Kong's social and economic needs in the long run.
- 2.2 Under the Hong Kong 2030 Planning Vision and Strategy announced in 2007, we will utilize the available development potential of the Metro Area, further development of the Tseung Kwan O and Tung Chung New Towns and new development areas in Kai Tak and the northern New Territories to meet our housing and economic development needs up to 2030. However, over the past few years, some challenges in land development have hindered realization of the strategy and affected housing land supply. They include rising public concerns about building heights and high development density as well as nature and heritage conservation and problems of land resumption, compensation and clearance for developments in the New Territories.
- 2.3 Moreover, in the longer term, more land is required to accommodate the population growth. The Administration's initiatives to develop the six industries may also require more land. Further, the building up of a "land bank"¹ will enable us to capture windfall opportunities for economic development projects to suit the fast changing market conditions. Against the above, we need to consider increasing land

¹ Ensuring timely and adequate land supply in different economic and social sectors is key to providing a quality living and economic environment. At present, the land formation process, from study to implementation of associated infrastructure, normally takes about 10 to 15 years to complete. Creating a land bank could therefore help to ensure that there will be no delay in the delivery of land to meet requirements. Under the Hong Kong 2030 Planning Vision and Strategy, the "land bank" concept has particularly been floated to ensure land will be available in time to capture "windfall" opportunities. This concept may be applicable to land use the demand of which is less predictable, e.g. special industries or other unconventional economic activities brought about by technological advancement. In his 2010-11 Policy Address, the Chief Executive has also referred to creating a land reserve to meet the housing needs.

supply by other ways in addition to the current land development approach. Two possible ways of increasing land supply are reclamation on an appropriate scale outside Victoria Harbour and rock cavern development.

Reclamation outside Victoria Harbour

- 2.4 Reclamation has long been a well-established means to generate more land to serve the social and economic development of Hong Kong. Following the enactment of the Protection of the Harbour Ordinance (Cap. 531) in 1997 and the Court of Final Appeal's ruling in 2004, reclamation within Victoria Harbour to create new land is legally constrained but such constraint is not applicable to other sea area outside the Harbour. A possible way to increase land supply is thus reclamation on an appropriate scale outside Victoria Harbour.
- 2.5 Based on past data², about 500 to 700 hectares (ha) of land was created by reclamation every five years from 1985 to 2004. Reclamation substantially declined to 84 ha only in 2005 to 2009, which will have knock-on effect on land supply for housing and other uses in the coming years. It is necessary to consider resuming land production by reclamation in addition to the current land development approach³ so as to sustain the social and economic development of Hong Kong in the long run. In general, the reclaimed areas could accommodate a wide range of uses, including housing, commercial, industrial, recreational as well as community and utility facilities.
- 2.6 Separately, to handle the surplus public fill generated from the on-going and forthcoming major infrastructure projects, apart from the measures in use in local reuse and recycling, we are delivering them to the Taishan (台山) for reclamation. However, reliance on a single spot outside Hong Kong to accept our surplus public fill is vulnerable, not to mention the substantial carbon footprint arising from the long haulage as well as hefty delivery cost. The two temporary fill banks at Tuen Mun and Tseung Kwan O under management of Civil Engineering and Development Department (CEDD) can offer a buffer to address the timing-mismatch of fill generation and demand. Yet they are not the outlets for the surplus public fill and will be full readily if there is no reliable local outlet to accommodate the public fill. In addition to public fill, we have contaminated sediments to handle, which are generated from dredging of harbour fairways and other marine works. All the existing and planned local mud pits will be used up by 2017. Due to stringent environmental and site requirements, identifying new offshore mud pits within Hong Kong waters is a remote possibility. CEDD has conducted research on the technology of near-shore reclamation which can replace the mud pits to contain the

² According to the Hong Kong Geographic Data published by the Lands Department, 6,824 ha of land has been reclaimed since 1887. The areas of reclaimed land in the periods of 1985-1989, 1990-1994, 1995-1999, 2000-2004 and 2005-2009 are respectively 697, 1,741, 577, 550 and 84 ha. The exceptional high figure in 1990-1994 includes reclamation of 1,274 ha for the Chek Lap Kok Airport and West Kowloon Reclamation.

³ Other measures of housing land supply being pursued by the Administration include development projects through lease modification and land exchange, review of industrial land for residential use, redevelopment of old buildings, new development areas in Kai Tak and the northern New Territories, use of quarry sites and the proposed remaining development of Tung Chung.

contaminated sediments. Reclamation at near-shore locations can thus accommodate both the surplus public fill and contaminated sediments, and help resolve their disposal problems at the same time.

- 2.7 Further, the two remaining local quarries at Anderson Road and Lam Tei currently supply about one third of our demand for aggregates and rock products, with the rest supplied from the Mainland. These local quarries will be closing down within the next decade. Development of new quarry site(s) is of strategic importance to regulate aggregate supply to meet the needs of the local construction industry. To maintain local supply of rock products including armour rocks which are necessary for reclamation, CEDD is now conducting a consultants selection exercise to undertake a feasibility study to identify new quarry sites in Hong Kong. Pending the results of this feasibility study, we will conduct further detailed studies to develop new quarries in Hong Kong.

Rock cavern development

- 2.8 The hilly areas in the urban fringes of Hong Kong with strong rocks and convenient access are particularly suitable for rock cavern development. According to the recent findings of the “Study on the Enhanced Use of Underground Space in Hong Kong” completed by CEDD, Hong Kong is particularly suitable for developing rock caverns from the geological perspective. By reprovisioning suitable government facilities⁴ inside caverns and releasing the original land as well as the adjacent sterilized land for housing and other uses, cavern development is a viable option to increase land supply. Cavern development could also be a good source of land supply for accommodating new infrastructure facilities⁵ which will otherwise occupy land and territorial space. Particularly for those “Not-in-My-Backyard” (NIMBY) facilities like sewage treatment works and refuse transfer station, the cavern option may help reduce adverse impacts on the local environment and alleviate the NIMBY sentiment. Other specific land uses with potential for development in rock caverns, as set out in the Hong Kong Planning Standards and Guidelines, include retail, storage/warehousing, oil and liquefied petroleum gas bulk storage, power station, civic centre, indoor games / sports hall, transportation connections and networks, etc.

3. Planned Studies and Public Engagement

- 3.1 We recognise that these land creation strategies are not without their respective challenges and controversies and extensive public engagement is needed to build a general consensus. This exercise should also be underpinned by scientific evidence and research. A consultancy study is required to review sites identified for cavern development, conduct site search and broad technical assessment for reclamation and carry out preliminary feasibility studies on selected sites. Some possible

⁴ The salt water service reservoir at the University of Hong Kong is a recent example of government facility reprovisioned to rock cavern, making available land for the University’s campus expansion.

⁵ The Stanley Sewage Treatment Plant and the Island West Refuse Transfer Station are two examples of infrastructure facilities housed in rock caverns in Hong Kong.

reclamation sites and some existing public facilities that can be relocated into cavern will be identified.

- 3.2 In conjunction with these technical studies, a wide range of public engagement activities will be undertaken to gauge public opinion, including consultations with established boards and committees⁶, focus group discussions with relevant stakeholders, public fora, roving exhibitions and interviews, e-Forum, telephone surveys, radio programmes, etc. We will also invite relevant professional institutions and academic bodies to partner with us in conducting some of these activities.
- 3.3 We briefed the Panel on Development of the Legislative Council in May 2011. Information papers have been issued to the District Councils to seek their initial views.
- 3.4 CEDD commenced the consultancy for the preliminary feasibility study and public engagement on 4 July 2011. We will formally launch the public engagement exercise in the fourth quarter of 2011, which comprises the following two stages -

(a) Stage 1 : Roadmap setting

The public will be briefed at territory-wide level on the existing conditions and issues of land supply and demand, pros and cons of land creation by reclamation and cavern development, the problem of handling surplus public fill and contaminated sediment and their potential for gainful reuse, and application of the "land bank" concept. The briefings aim to arouse public's interests and suggestion of possible ways of increasing land supply, and the guiding principles and site selection criteria for accepting a proposal. For well-received proposal identified during this stage, we may advance further detailed studies for the proposed development so as to expedite its implementation.

(b) Stage 2 : Site selection

The key issues and concerns as identified in Stage 1 will be discussed and addressed at this stage. We will also engage the public at both territory-wide and district levels to discuss and deliberate potential sites for generating new land. Based on the outcome of Stage 1 and the established guiding principles, Stage 2 will evaluate a proposed list of potential sites drawn up during Stage 1 and seek public views. Acceptable sites will be taken forward for further detailed studies.

- 3.5 The tentative timeline of the forthcoming public engagement exercise is shown in the following table.

⁶ Established boards and committees to be consulted include Legislative Council, Town Planning Board, Advisory Council on Environment, Hong Kong Housing Authority, Heung Yee Kuk and District Councils.

Quarter/Year	Public Engagement Activities
3 rd Quarter 2011	- Information paper to District Councils - International conference on the optimal use of underground space in Hong Kong - Set up dedicated website
4 th Quarter 2011 to 1 st Quarter 2012	Stage 1 Public Engagement – Roadmap Setting - Territory-wide public engagement including established boards, committees and institutions, the Hong Kong Housing Authority and District Councils - Focus groups engagement - Public forums / workshops
Subject to outcome of Stage 1, 3rd quarter 2012 the earliest	Stage 2 Public Engagement – Site Selection - Public forums/workshops - Relevant District Councils and Rural Committees consultations - Focus groups engagement

- 3.6 Whilst we will raise the two options to increase land supply in addition to the current land development approach so that the related issues can be widely canvassed and properly addressed through the public engagement exercise, we are prepared to consider other new and innovative ways that may be raised by the public during the public engagement exercise.

4. Way Forward After Public Engagement

- 4.1 On completion of the proposed preliminary feasibility study for the potential sites for reclamation and cavern development and subject to the results of the public engagement exercise, we will carry out detailed environmental and engineering studies, as well as detailed planning for the sites identified for reclamation and for the relocation of selected public facilities into cavern. To address the pressing need for accommodating the surplus public fill and contaminated sediments, preparation for the detailed studies of reclamation will be advanced to expedite its implementation if circumstances permit.
- 4.2 In the longer term, we target to formulate a list of environmentally acceptable and engineering feasible sites for reclamation for implementation in stages to meet future development needs. For cavern development, we will develop a long-term strategic plan for systematic relocation of suitable above-ground facilities to release surface land for other uses, prepare cavern development master plans to reserve strategic cavern areas, and a step further, to formulate policy guidelines to facilitate cavern development for both public and private sectors.

5. Advice Sought

- 5.1 Members are invited to note the Administration's planned studies and public engagement exercise and offer views on the Administration's initiative of increasing land supply by reclamation and rock cavern development.

**DEVELOPMENT BUREAU
JULY 2011**