

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 705 – CIVIL ENGINEERING

Civil Engineering – Land development

768CL – Studies related to artificial islands in the Central Waters

Members are invited to recommend to the Finance Committee the upgrading of **768CL** to Category A at an estimated cost of \$550.4 million in money-of-the-day prices.

PROBLEM

We plan to conduct studies related to the phased reclamation for the formation of artificial islands in the central waters between the Hong Kong Island and Lantau (the Central Waters) to alleviate the acute shortage of land in the medium-to-long term as well as meeting the long-term housing and economic development needs of Hong Kong.

PROPOSAL

2. The Director of Civil Engineering and Development, on the advice of the Director of Planning, proposes to upgrade **768CL** to Category A at an estimated cost of \$550.4 million in money-of-the-day (MOD) prices to engage consultants to conduct the studies related to artificial islands in the Central Waters (the Study) and the associated site investigation works. The Secretary for Development supports this proposal.

/PROJECT.....

PROJECT SCOPE AND NATURE

3. The scope of works under **768CL** 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) and other detailed impact assessments (including fisheries impact assessment) 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 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 links between Hong Kong Island, the KYC Artificial Islands and Northeast Lantau, and the priority rail links between Hong Kong Island, the KYC Artificial Islands, Northeast Lantau and coastal areas of Tuen Mun; and
 - (iii) an investigation study for the priority road links between Hong Kong Island and Northeast Lantau, via the KYC Artificial Islands, including preliminary design, statutory EIA and other detailed impact assessments;

/(c)

- (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 (CCS) for future reference in long-term planning; and
- (d) associated site investigation including supervision.

———— A location plan is at Enclosure 1.

4. Subject to funding approval of the Finance Committee, we plan to commence the Study in the latter half of 2019. The Study is expected to be completed in 42 months.

JUSTIFICATION

5. The Chief Executive has announced the Lantau Tomorrow Vision (Vision) in the 2018 Policy Address. The Vision spanning two to three decades has proposed various initiatives to increase land supply thereby alleviating the acute shortage of land in the medium-to-long term in Hong Kong. Together with a new strategic transport network, we can capitalise on Lantau's geographical advantage to improve intra-connectivity 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. 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 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 about 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 Study is an important step to take forward the Vision.

/From

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

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

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

6. 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 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 of 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 meet the housing needs and promote economic development. The Report of the Task Force on Land Supply (TFLS)³ 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. 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 however is often not the case in reality. 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 for 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 of KYC as a strategic growth area catering to our need for land supply in meeting the medium-to-long term development needs of Hong Kong.

/7.

³ Paragraph 2.2 of the Report of the TFLS is referred.

7. On the demand for housing, the Hong Kong 2030+ Study promulgated in 2016 has broadly estimated that the housing demand between 2016 and 2046 is about one million units. The Government has all along adopted a multi-pronged approach to increase land supply. 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 supply and housing projects, the estimated quantum of housing supply of about 150 000 to 260 000 units from the KYC Artificial Islands alone is substantial 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 projects⁴ that are ongoing or under planning, which will altogether provide just about 130 000 public housing units, and suggests the huge potential of KYC Artificial Islands in addressing the long-term housing demand.

8. The TFLS recognises the strategic importance of the ELM in terms of creating new land masses for integrated planning and development that is crucial to Hong Kong's long-term interests, expanding our strategic transport network as well as building a land reserve⁵. Further, the TFLS 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 term⁶. The TFLS recommends that the Government commence the preliminary studies and planning as soon as possible to collect more information and data for deciding the next step.

/9.

⁴ These projects are Kwu Tung North/Fanling North NDA, Hung Shui Kiu NDA, Yuen Long South Development and Tung Chung New Town Extension.

⁵ Paragraphs 5.72 to 5.74 of the Report of the TFLS are referred.

⁶ Paragraph 5.76 of the Report of the TFLS is referred.

9. The Vision promulgated in the 2018 Policy Address has strengthened the ELM proposal and 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 the 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 Liveable Community of Higher Standards

10. There are multiple strategic advantages which make the KYC Artificial Islands distinctively important and not be easily replaced by other land supply options. The KYC Artificial Islands can generate large areas of land at waters that are ecologically less sensitive for housing and economic development 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 community facilities, ample open spaces and greening, state-of-the-art infrastructure and smart city design. In the process, the KYC Artificial Islands will allow Hong Kong to develop its first large-scale near carbon-neutral neighbourhoods as well as genuinely smart city infrastructure.

Unique Strategic Advantages given the Location

a) Providing solution space for redevelopment in urban area

11. At a time when the building stock of Hong Kong will soon age rapidly⁷, the KYC Artificial Islands, given that it will become part of our urban area enjoying a high level of living convenience, will provide large pieces of land to support large-scale urban redevelopment projects that might not otherwise be realistic, as there is limited decanting space to satisfy affected residents' usual preference for living in the urban area to more remote areas. Opportunity could also be seized to provide a better urban living environment with lower residential density and more quality open spaces and community facilities.

/b)

⁷ As stated in "Consolidated Land Requirement and Supply Analysis" under Hong Kong 2030+ Study 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 stock of the same age in 2016, i.e. about 1 100 units only.

b) Providing traffic relief to Northwest New Territories

12. 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) Providing a third Core Business District in a strategic location

13. The unparalleled strategic location of the KYC Artificial Islands to provide the CBD3 takes advantage of clustering effect with the traditional CBD at the Central (just 10 kilometres away) and the “Aerotropolis” at the Hong Kong International Airport (just 15 kilometres away) that cannot be achieved anywhere else in Hong Kong. It could 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 demand for Grade A office space will grow steadily and 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-national firms. The creation of plenty of employment opportunities in the CBD3 together with an integrated and comprehensive development comprising a good mix of 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 the 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

The Study

14. Taking into account the TFLS's recommendation as well as the above considerations, we propose undertaking the Study 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. Detailed scope is set out in paragraph 3 above.

15. 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 studies⁸, it is proposed that the Study should cover the P&E study for the proposed KYC Artificial Islands, the transport infrastructure study for the strategic road and rail links, the engineering study to ascertain the feasibility of priority road and rail links, and an investigation study for the priority road links connecting the KYC Artificial Islands with Hong Kong Island and Northeast Lantau. It is proposed that these components be taken forward in parallel as far as possible. If the Study can commence as scheduled and complete in mid-2023, we expect to commence the first phase of reclamation works in 2025 with a view to making available the first population intake in 2032. We will also strive to timely commission the priority road links connecting Hong Kong Island, the KYC Artificial Islands and Northeast Lantau in 2032 to facilitate the first population intake, as well as enhancing the traffic capacity between Hong Kong Island, the Hong Kong International Airport at Chek Lap Kok, and the Northwest New Territories.

16. 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 CCS. This is in line with the TFLS's recommendations regarding establishing a land 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 by the community on these land supply options at a suitable time in future.

/FINANCIAL

⁸ The relevant studies include the public engagement booklet of the Hong Kong 2030+ Study and the corresponding topical papers and reports such as the "Transport Infrastructure and Traffic Review" and "Environmental Protection and Nature Conservation for Sustainable Growth" (issued by the Planning Department in October 2016) as well as the "Technical Study on Transport Infrastructure at Kennedy Town for Connecting to East Lantau Metropolis" (completed by the Civil Engineering and Development Department in November 2017).

FINANCIAL IMPLICATIONS

17. We estimate the capital cost of the Study to be \$550.4 million in MOD prices, broken down as follows -

	\$ million (in MOD prices)
(a) Consultants' fees for KYC Artificial Islands	189.6
(i) P&E study	129.8
(ii) environmental impact assessment	55.2
(iii) supervision of site investigation works	4.6
(b) Consultants' fees for transport infrastructure	160.4
(i) area-wide transport study	4.5
(ii) an engineering study to ascertain the feasibility of the priority road links between Hong Kong Island, the KYC Artificial Islands and Northeast Lantau, and the priority rail links between Hong Kong Island, the KYC Artificial Islands, Northeast Lantau and coastal areas of Tuen Mun	79.8
(iii) statutory EIA and other detailed impact assessments for the priority road links between Hong Kong Island and Northeast Lantau, via the KYC Artificial Islands	31.1

/\$ million

		\$ million (in MOD prices)
(iv)	preliminary design for the priority road links between Hong Kong Island and Northeast Lantau, via the KYC Artificial Islands	38.0
(v)	supervision of site investigation works	7.0
(c)	Consultants' fees for collection of information on waters within and in the vicinity of the possible artificial islands near HLC and CCS	7.9
(i)	collection of information (mainly include the preliminary ecological, environmental and geological conditions)	6.6
(ii)	supervision of site investigation works	1.3
(d)	Expenses for public engagement exercise covering items (a) and (b)	11.6
(e)	Site investigation works	128.4
(f)	Contingencies	52.5
	Total	<u>550.4</u>

18. In view of the complex and multi-disciplinary nature of the Study, we propose to engage consultants to undertake the Study and supervise the associated site investigation works. A breakdown of the estimates for the consultant's fees by man-months is at Enclosure 2.

19. Subject to funding approval, we plan to phase the expenditure as follows –

Year	\$ million (MOD)
2019-2020	11.9
2020-2021	123.2
2021-2022	161.7
2022-2023	128.5
2023-2024	90.4
2024-2025	34.7
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	550.4
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20. We have derived the MOD estimates on the basis of the Government's latest set of assumptions on the trend rate of change in the prices of public sector building and construction output for the period from 2019 to 2025. We will engage consultants to undertake the Study on a lump sum basis. We will tender the proposed site investigation works under a standard re-measurement contract because the quantity of works involved may vary depending on actual ground conditions.

21. The Study and the associated site investigation works will not give rise to any recurrent consequences.

PUBLIC CONSULTATION

22. Members of the Islands District Council (DC), Tuen Mun DC, Tsuen Wan DC and Central and Western DC were briefed on the Vision and the Study at the meetings of 25 February 2019, 5 March 2019, 5 March 2019 and 7 March 2019 respectively.

23. During the consultation of the above-mentioned four DCs, majority of the members supported the proposal of taking forward the Study. Members' general concerns were 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 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.

24. We briefed the Legislative Council Panel on Development on the Vision and the Study on 26 March 2019. Members generally supported implementing the Study while some members have expressed concern about the traffic issues, potential impacts to the fisheries industry and the environment, etc. The Panel on Development held special meetings on 13 and 27 April 2019 to receive public views on the Study. Majority of the members of the public attending the two special meetings supported the proposal of taking forward the Study. They considered that the artificial islands in the Central Waters can provide large pieces of land for housing development to solve the housing problem in Hong Kong and the proposed CBD3 can drive Hong Kong's economy forward. We also understand the concerns expressed by some members of the public, including the construction cost, potential impacts on marine ecology, the resilience against climate change, and planning aspects in relation to the development of artificial islands. We will address the issues and concerns raised by the members and the public in the course of the Study.

25. To address the concerns raised by the members of the Panel on Development and relevant DC as well as the public, we need to conduct site investigation, technical studies and impact assessments (including traffic, fisheries and environmental, etc.) as covered in the Study to obtain the required information for formulation of specific proposals. In the course of the Study, public engagement activities will be conducted to provide more comprehensive information for consulting the public.

ENVIRONMENTAL IMPLICATIONS

26. 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 to comply with 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.

27. 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 the site investigation works.

28. 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

HERITAGE IMPLICATIONS

29. 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

30. 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 KYC artificial islands and the related transport infrastructure.

BACKGROUND INFORMATION

31. 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 sites⁹, the Central Waters have good potential for developing artificial islands since they are ecologically less sensitive and sizable new reclaimed land can be supplied for comprehensive planning. The major concerns of the public are on marine ecology, ecological conservation, transport infrastructure, cost-effectiveness and the need to expedite land supply.

32. We upgraded **768CL** to Category B in September 2013 for formulation of proposals at strategic level for potential artificial islands and associated reclamation in the Central Waters.

33. 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.

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⁹ The five potential near-shore reclamation sites are Sunny Bay, Lung Kwu Tan, Ma Liu Shui, Siu Ho Wan and Southwest Tsing Yi.

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

35. 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.

36. Between 26 April and 26 September 2018, the TFLS carried out a public engagement exercise to invite views on 18 land supply options identified, including the 1 000 ha artificial islands in the Central Waters that can be developed to the ELM for forming a strategic growth area and a CBD3. According to the Report of TFLS, about 60% of the respondents of the questionnaire and telephone surveys were in favour of this option, demonstrating a general support in the community.

37. Hong Kong is facing acute shortage of land supply. As mentioned in paragraph 15 above, we need to shorten the lead time for provision of land and infrastructure as far as possible. With leveraging on the findings and positive results of previous and relevant studies, we have revised the scope of **768CL** which had been submitted to the PWSC in 2014. The latest project scope and nature is set out in paragraph 3 above.

38. The Study and the associated site investigation works will not involve any tree removal or planting proposals.

39. We estimate that the Study and the associated site investigation works will create 105 jobs (25 for labourers and 80 for professional or technical staff) providing a total employment of 3 750 man-months.

Development Bureau
May 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



可能的長洲南人工島
POSSIBLE CHEUNG CHAU SOUTH
ARTIFICIAL ISLAND



優先鐵路連接
PRIORITY RAIL LINK



優先道路連接
PRIORITY ROAD LINK



可能的較遠期鐵路連接
POSSIBLE RAIL
LINK IN LONGER TERM



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]
ROUTE 11 BEING STUDIED UNDER
870TH "FEASIBILITY STUDY ON
ROUTE 11 (BETWEEN NORTH
LANTAU AND YUEN LONG)"



圖則名稱 drawing title

中部水域人工島相關研究

STUDIES RELATED TO ARTIFICIAL ISLANDS IN THE CENTRAL WATERS

項目編號 item no.

768CL

比例 scale

1 : 200 000

A4

圖則編號 drawing no.

SLO-Z0221

辦事處 office

可持續大嶼辦事處
SUSTAINABLE LANTAU OFFICE

土木工程拓展署
CEDD CIVIL ENGINEERING AND
DEVELOPMENT DEPARTMENT

768CL – Studies related to artificial islands in the Central Waters

Breakdown of the estimates for consultants' fees (in September 2018 prices)

			Estimated man- months	Average MPS* salary point	Multiplier (Note 2)	Estimated fees (\$ million)
Consultants' fees for ^(Note 1)						
(a) Kau Yi Chau Artificial Islands						
(i)	planning and engineering study	Professional	431	38	2.0	70.7
		Technical	738	14	2.0	42.4
(ii)	environmental impact assessment	Professional	173	38	2.0	28.4
		Technical	298	14	2.0	17.1
(iii)	supervision of site investigation works	Professional	13	38	2.0	2.1
		Technical	33	14	2.0	1.9
					Sub-total	162.6 #
(b) Transport Infrastructure						
(i)	area-wide transport study	Professional	16	38	2.0	2.6
		Technical	26	14	2.0	1.5
(ii)	an engineering study to ascertain the feasibility of the priority road links between Hong Kong Island, the KYC Artificial Islands and Northeast Lantau, and the priority rail links between Hong Kong Island, the KYC Artificial Islands, Northeast Lantau and coastal areas of Tuen Mun	Professional	268	38	2.0	43.9
		Technical	460	14	2.0	26.4
(iii)	statutory EIA and other detailed impact assessments for the priority road links between Hong Kong Island and Northeast Lantau, via the KYC Artificial Islands	Professional	98	38	2.0	16.1
		Technical	167	14	2.0	9.6

			Estimated man- months	Average MPS* salary point	Multiplier (Note 2)	Estimated fees (\$ million)
Consultants' fees for ^(Note 1)						
(iv)	preliminary design for the priority road links between Hong Kong Island and Northeast Lantau, via the KYC Artificial Islands	Professional	120	38	2.0	19.7
		Technical	204	14	2.0	11.7
(v)	supervision of site investigation works	Professional	20	38	2.0	3.3
		Technical	47	14	2.0	2.7
Sub-total						137.5 #
(c) Collection of information on waters within and in the vicinity of the possible artificial islands near Hei Ling Chau and Cheung Chau South						
(i)	collection of information (mainly include the preliminary ecological, environmental and geological conditions)	Professional	20	38	2.0	3.3
		Technical	33	14	2.0	1.9
(ii)	supervision of site investigation works	Professional	3	38	2.0	0.5
		Technical	8	14	2.0	0.5
Sub-total						6.2 #
Total						306.3

* MPS = Master Pay Scale

Notes

1. The actual man-months and actual costs will only be known after selection of the consultants.
2. A multiplier of 2.0 is applied to the average MPS salary point to estimate the full staff costs including the consultants' overheads and profit as the staff will be employed in the consultants' offices (as at now, MPS salary point 38 = \$81,975 per month and MPS salary point 14 = \$28,725 per month).

Remarks

The figures in this Enclosure are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 17 of the main paper.