

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 705 – CIVIL ENGINEERING

Civil Engineering – Land development

768CL – Strategic studies for 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 \$226.9 million in money-of-the-day prices for carrying out the strategic studies for artificial islands in the central waters and associated site investigation works.

PROBLEM

We need to conduct strategic studies to explore the feasibility of constructing artificial islands in the central waters between Hong Kong Island and Lantau (the Study), including development of an East Lantau Metropolis (ELM).

PROPOSAL

2. The Director of Civil Engineering and Development, with the support of the Secretary for Development, proposes to upgrade **768CL** to Category A at an estimated cost of \$226.9 million in money-of-the-day (MOD) prices to carry out the Study and the associated site investigation works.

/PROJECT

PROJECT SCOPE AND NATURE

3. The scope of **768CL** comprises –
- (a) engineering feasibility and infrastructure study including broad reclamation extent and transport links;
 - (b) preliminary planning proposals including possible land uses;
 - (c) port operations and marine traffic and safety study;
 - (d) strategic environmental assessment;
 - (e) fisheries impact assessment;
 - (f) consultation exercises with relevant stakeholders; and
 - (g) associated site investigation works including supervision.

— A plan showing the study area of the strategic studies for constructing artificial islands in the central waters is at Enclosure 1.

4. Subject to funding approval of the Finance Committee, we plan to commence the Study and the associated site investigation works in August 2014 for completion in August 2017.

JUSTIFICATION

5. We started the technical studies and two-stage public engagement (PE) exercise for the “Enhancing Land Supply Strategy (ELSS): Reclamation outside Victoria Harbour and Rock Cavern Development” in July 2011. During the Stage 1 PE conducted from November 2011 to March 2012, there has been broad support for a six-pronged approach¹ for increasing land supply, including reclamation outside Victoria Harbour.

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¹ The six-pronged approach includes re-zoning, resumption, redevelopment, reclamation outside Victoria Harbour, rock cavern development and re-use of ex-quarry sites.

6. Taking into consideration the public views on site selection criteria, we identified five potential near-shore reclamation sites and the potential of constructing artificial islands. On the locations of artificial islands, we have reviewed the eastern, the central and the western waters of Hong Kong. We considered the central waters to have good potential for artificial island development since they are neither bounded by shorelines of high ecological value as in the eastern waters nor constrained by many major infrastructure projects under planning/construction as in the western waters. There is potential for sizable reclaimed land, which can provide opportunities for significant supply of new land and comprehensive land use planning and design.

7. During the Stage 2 PE conducted from March to June 2013, the public was consulted on the possible land uses for the proposed reclamation sites and artificial islands as well as the areas of concern to be addressed in future technical studies. For artificial islands, residential development (in particular public rental housing), tourism-related facilities, recreational or leisure facilities, utilities, new towns and land reserve are the major supported land uses. Marine ecology, ecological conservation, transport infrastructure, cost-effectiveness and the need to expedite land supply are the major concerns. A summary of the views on artificial islands in the central waters collected during the Stage 2 PE is at Enclosure 2.

8. As set out in the 2014 Policy Address, the Government will explore ways to develop the waters east of Lantau Island and neighbouring areas, with a view to developing the ELM for accommodating new population and a new core business district in addition to Central and Kowloon East for promoting economic development and providing abundant job opportunities.

9. Apart from the artificial islands in the ELM, there is great potential for developing artificial islands in other areas of the central waters in the longer term for accommodating other beneficial uses, with a view to releasing the scarce land resources in existing urban areas and providing new land to meet our socio-economic needs.

10. We propose to carry out the Study to formulate proposals at strategic level for potential artificial islands and associated reclamation in the central waters. The Study will ascertain the preliminary engineering feasibility and evaluate environmental implications of the artificial islands, with due regard to concerns expressed by the public during the Stage 2 PE. Separate planning and engineering studies will then be carried out on the artificial islands and associated reclamation proposed in the Study as necessary.

/FINANCIAL

FINANCIAL IMPLICATIONS

11. We estimate the cost of the Study and the associated site investigation works to be \$226.9 million in MOD prices (please see paragraph 12 below), broken down as follows –

		\$ million	
(a)	Consultants' fees for	147.3	
	(i) engineering feasibility and infrastructure study	40.6	
	(ii) preliminary planning proposals	21.0	
	(iii) port operations and marine traffic and safety study	31.5	
	(iv) strategic environmental assessment	29.8	
	(v) fisheries impact assessment	14.9	
	(vi) consultation exercises with relevant stakeholders	6.6	
	(vii) supervision of associated site investigation works	2.9	
(b)	Site investigation works	29.0	
(c)	Contingencies	17.5	
	Sub-total	193.8	(in September 2013 prices)
(d)	Provision for price adjustment	33.1	
	Total	226.9	(in MOD prices)

In view of the complex and multi-disciplinary nature of the Study requirements, we propose to engage consultants to undertake the Study and supervise the associated site investigation works. A breakdown of the estimates for the consultants' fees by man-months is at Enclosure 3.

12. Subject to funding approval, we will phase the expenditure as follows –

Year	\$ million (Sept 2013)	Price adjustment factor	\$ million (MOD)
2014 – 2015	19.3	1.05450	20.4
2015 – 2016	60.1	1.11777	67.2
2016 – 2017	72.1	1.18484	85.4
2017 – 2018	31.8	1.25593	39.9
2018 – 2019	10.5	1.33128	14.0
	<hr/> 193.8 <hr/>		<hr/> 226.9 <hr/>

13. We have derived the MOD estimate 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 2014 to 2019. We will engage consultants to undertake the Study on a lump sum basis with provision for price adjustment. 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. The contract for site investigation works will provide for price adjustment.

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

PUBLIC CONSULTATION

15. We have completed a two-stage PE exercise on "ELSS: Reclamation outside Victoria Harbour and Rock Cavern Development" as mentioned in paragraphs 5 and 7 above.

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16. As part of the Stage 2 PE, we briefed the Islands District Council (IsDC) on the proposal of constructing artificial islands on 22 April 2013. Members requested more details and expressed concerns on the proposal. We further consulted IsDC on the Study on 24 February 2014. Members requested that the Study should take into account the possible transport links to the existing road network on Lantau and other technical issues such as impact on water flow, port operation, marine safety and cost-effectiveness of the proposal etc. Members had no further comment on the Study after we re-affirmed that these issues will be addressed in the Study.

17. We consulted the Legislative Council Panel on Development on 7 April 2014. Members generally supported submitting the funding proposal to the Public Works Subcommittee for consideration.

ENVIRONMENTAL IMPLICATIONS

18. The Study and the associated site investigation works are not designated projects under the Environmental Impact Assessment (EIA) Ordinance (Chapter 499) and will not cause any adverse environmental impact. A strategic environmental assessment will be conducted under the Study to evaluate the environmental implications and avoid potential environmental problems.

19. The proposed site investigation works will only generate very little construction waste. We will require the consultants to fully consider measures to be implemented in future construction stage to minimise the generation of construction waste and to reuse/recycle construction waste as much as possible. We will implement suitable mitigation measures to control any short-term environmental impacts arising from the site investigation works.

20. The proposed reclamation, major infrastructures and future follow-up engineering feasibility studies are designated projects under the EIA Ordinance. EIA will be carried out under the respective future studies to confirm their environmental acceptability and mitigation measures, and environmental permits are required prior to the commencement of construction and operation of these projects.

/HERITAGE

HERITAGE IMPLICATIONS

21. Cultural heritage impact assessment for the proposed development and infrastructures will be carried out as part of the strategic environmental assessment in the Study.

LAND ACQUISITION

22. The Study and the associated site investigation works will not require any land acquisition.

BACKGROUND INFORMATION

23. On 24 May 2011, we briefed Members on the Administration's plan to launch a two-stage PE on enhancing land supply strategy and conduct technical studies to explore the options of reclamation on an appropriate scale outside Victoria Harbour and rock cavern development. Members supported the commencement of the technical studies and the PE exercise.

24. We launched the Stage 1 PE on 10 November 2011 and briefed Members on 22 November 2011 on the progress of the technical studies and Stage 1 PE, key issues including the proposed six-pronged approach of increasing land supply, and the initial site selection criteria for reclamation outside Victoria Harbour and rock cavern development.

25. The Panel on Development held a special meeting on 10 March 2012 to hear public views on the Administration's strategy on enhancing land supply.

26. On 22 January 2013, we briefed Members on the policy initiatives of the Development Bureau in the 2013 PA. Among others, we outlined the results of the Stage 1 PE.

27. We launched the Stage 2 PE on 21 March 2013 and briefed Members on 23 April 2013 on the possibility of further exploring the development of artificial islands in the central waters.

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28. The Panel on Development held a special meeting on 1 June 2013 to hear public views on the proposed reclamation sites including artificial islands in the central waters.

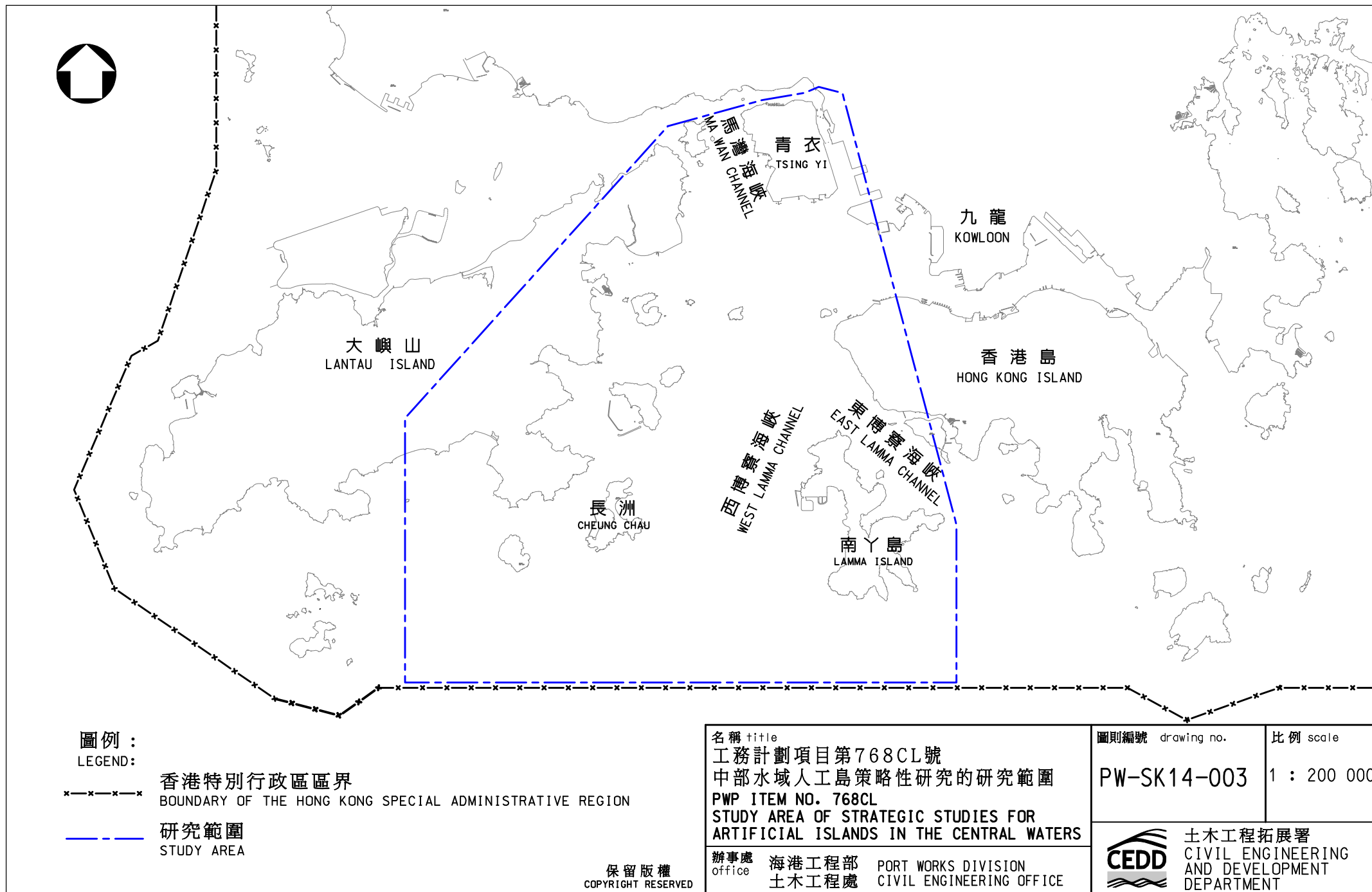
29. We upgraded **768CL** to Category B in September 2013.

30. On 28 January 2014, we briefed Members on the results of Stage 2 PE and the new initiatives of developing an ELM.

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

32. We estimate that the proposed Study and the associated site investigation works will create about 53 jobs (16 for labourers and another 37 for professional/technical staff) providing a total employment of 1 310 man-months.

Development Bureau
April 2014



**A summary of views collected in Stage 2 Public Engagement on
artificial islands in the central waters**

Land Use

Land reserve and residential development (in particular public rental housing) are the most supported land uses for possible artificial islands in the central waters between Lantau and Hong Kong Island.

2. Other major supported land uses covered uses for commercial, industrial, Government, institution or community, open space and utilities. These included tourism-related facilities, recreational or leisure facilities, holiday village, tourist spot, industrial land/estate/facilities, and Not-in-my-backyard (NIMBY) facilities relocated from urban areas.

3. New town, which is in the form of comprehensive development, received more support as potential land use for artificial islands than for other potential near-shore reclamation sites.

4. However, there were also similar number of comments which did not support the use of artificial islands to house NIMBY facilities.

Aspects of Specific Concern

5. A considerable number of respondents indicated that reclamation works would increase job opportunities and help alleviate housing problem. Some considered that constructing artificial islands in the central waters would be beneficial to local community and economic growth.

6. Impact on marine ecology, ecological conservation, transportation, cost-effectiveness and the need to expedite land supply were major concerns about the artificial islands in the central waters.

7. Other concerns included deterioration of seawater quality, air and noise pollution near the development site, impact on fisheries, local community, water flow, shipping routes or safety, construction cost and engineering feasibility.

Enclosure 3 to PWSC(2014-15)11

768CL – Strategic studies for artificial islands in the central waters

Breakdown of the estimates for consultants' fees (in September 2013 prices)

Consultants' staff costs (Note 1)			Estimated man- months	Average MPS* salary point	Multiplier (Note 2)	Estimated fees (\$ million)
(i)	Engineering feasibility and infrastructure study	Professional	242	38	2.0	32.6
		Technical	172	14	2.0	8.0
(ii)	Preliminary planning proposals	Professional	117	38	2.0	15.8
		Technical	111	14	2.0	5.2
(iii)	Port operations and marine traffic and safety study	Professional	171	38	2.0	23.0
		Technical	183	14	2.0	8.5
(iv)	Strategic environmental assessment	Professional	164	38	2.0	22.1
		Technical	165	14	2.0	7.7
(v)	Fisheries impact assessment	Professional	76	38	2.0	10.2
		Technical	101	14	2.0	4.7
(vi)	Consultation exercises with relevant stakeholders	Professional	31	38	2.0	4.2
		Technical	52	14	2.0	2.4
(vii)	Supervision of associated site investigation works	Professional	9	38	2.0	1.2
		Technical	37	14	2.0	1.7
Total						147.3

* MPS = Master Pay Scale

Notes

1. The actual man-months and fees will only be known when we have selected the consultants through the usual competitive fee bidding system.
2. A multiplier of 2.0 is applied to the average MPS 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 point 38 = \$67,370 per month and MPS point 14 = \$23,285 per month.)