

## **ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE**

### **HEAD 705 – CIVIL ENGINEERING**

#### **Civil Engineering – Multi-purpose**

#### **35CG – Greening master plan for Kowloon West**

#### **36CG – Greening master plan for Hong Kong Island**

Members are invited to recommend to Finance Committee –

- (a) the upgrading of parts of **35CG** and **36CG**, entitled “Greening master plans for Kowloon West and Hong Kong Island – works for Mong Kok, Yau Ma Tei, Sheung Wan, Wan Chai and Causeway Bay”, to Category A at an estimated cost of \$126.0 million in money-of-the-day prices; and
- (b) the retention of the remainders of **35CG** and **36CG** in Category B.

### **PROBLEM**

We need to improve the living environment in Hong Kong by implementing greening works recommended in the greening master plans (GMPs) for Mong Kok, Yau Ma Tei, Sheung Wan, Wan Chai and Causeway Bay.

**/PROPOSAL .....**

## PROPOSAL

2. The Director of Civil Engineering and Development, with the support of the Secretary for Development, proposes to upgrade parts of **35CG** and **36CG** to Category A at a total of estimated cost of \$126.0 million in money-of-the-day (MOD) prices to carry out greening works in Mong Kok, Yau Ma Tei, Sheung Wan, Wan Chai and Causeway Bay.

## PROJECT SCOPE AND NATURE

3. The scope of works under **35CG** and **36CG** comprises development of GMPs, detailed design and implementation of greening works for urban areas in Kowloon West and on Hong Kong Island respectively.

4. The parts of **35CG** and **36CG** which we propose to upgrade to Category A comprise –

- (a) planting and establishment of about 2 000 trees and 400 000 shrubs in Mong Kok and Yau Ma Tei within the area shown blue in the plan at Enclosure 1;
- (b) planting and establishment of about 2 200 trees and 500 000 shrubs in Sheung Wan, Wan Chai and Causeway Bay within the area shown blue in the plan at Enclosure 2;
- (c) ground preparation, soil improvement and tree mounting fixtures;
- (d) construction of associated planters; and
- (e) ancillary works including irrigation facilities.

Photomontages of some of the proposed greening works are at Enclosure 3.

5. We plan to commence the proposed greening works in September 2008 for completion in December 2009, followed by a one-year establishment period.

/JUSTIFICATION .....

## JUSTIFICATION

6. The Administration has been actively promoting greening in order to improve our living environment. There is in particular a close relationship between greening and improvement of air quality. Green plants can help act as a sponge by sequestering carbon dioxide in the atmosphere while releasing oxygen. They can improve air quality by intercepting particulate matters and absorbing gaseous contaminants such as sulphur dioxide and nitrogen oxides in the atmosphere as well as help lower urban temperature. We therefore propose to develop and implement GMPs for urban areas such that by concerted effort on both the greening and anti-air pollution fronts, we can improve the general environment.

7. A GMP seeks to define comprehensively the greening framework of an area by studying into its characteristics and particular needs as well as providing a guide to the planning, design and implementation of works.

8. In recognition of the fact that greening opportunities arise under different time frames, GMPs will embody a full spectrum of short, medium and long-term measures. Short-term measures are those conforming to the district layout and posing no direct conflict with land use or traffic arrangements and can be implemented within one to two years. Greening measures which have to be implemented in association with other projects or which require private sector participation are classified as medium-term measures. As for long-term measures, they depict the ultimate greening vision and include proposals such as tree corridors along major roads which can only be achieved in conjunction with urban renewal, etc.

9. Following the completion of greening works for Tsim Sha Tsui and Central and building on the positive response from the public, we now propose to carry out the proposed short-term greening works as recommended in the GMPs developed for Mong Kok, Yau Ma Tei, Sheung Wan, Wan Chai and Causeway Bay to bring about noticeable improvements in these areas.

**/FINANCIAL .....**

**FINANCIAL IMPLICATIONS**

10. We estimate the capital cost of the proposed works to be \$126.0 million in MOD prices (see paragraph 11 below), made up as follows –

		\$ million		
		<b>35CG</b>	<b>36CG</b>	<b>Total</b>
(a)	Greening works	41.4	51.0	92.4
	(i) planting and establishment of trees and shrubs	26.0	30.7	56.7
	(ii) ground preparation, soil improvement and tree mounting fixtures	5.6	7.8	13.4
	(iii) provision of associated planters	3.9	5.1	9.0
	(iv) ancillary works	5.9	7.4	13.3
(b)	Consultants' fees	5.7	6.8	12.5
	(i) construction stage	0.9	1.0	1.9
	(ii) resident site staff costs	4.8	5.8	10.6
(c)	Contingencies	5.0	6.1	11.1
	Sub-total	52.1	63.9	116.0
				(in September 2007 prices)
(d)	Provision for price adjustment	4.5	5.5	10.0
	Total	56.6	69.4	126.0
				(in MOD prices)

Due to insufficient in-house resources, we propose to engage consultants to supervise the works. A breakdown by man-months of the estimate for consultants' fees is at Enclosure 4.

/11. ....

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

Year	\$ million (Sept 2007)		Price adjustment factor	\$ million (MOD)	
	35CG	36CG		35CG	36CG
2008 – 2009	2.4	3.8	1.02575	2.5	3.9
2009 – 2010	24.6	31.0	1.06293	26.1	33.0
2010 – 2011	20.0	22.9	1.10545	22.1	25.3
2011 – 2012	4.4	5.4	1.14967	5.1	6.2
2012 – 2013	0.7	0.8	1.19566	0.8	1.0
	<hr/> 52.1	<hr/> 63.9		<hr/> 56.6	<hr/> 69.4

12. We have derived the MOD estimates based on the Government's latest forecast of trend rate of change in the prices for public sector building and construction output from 2008 to 2013. The proposed greening works mentioned in paragraph 10(a) above will be tendered through a standard remeasurement contract because the quantities may vary depending on actual site constraints. There will be no provision for price adjustment as the contract period will not exceed 21 months.

13. We estimate that the annual recurrent expenditure arising from the proposed greening works under **35CG** and **36CG** to be about \$3.7 million and \$4.7 million respectively.

## PUBLIC CONSULTATION

14. In developing GMPs for Mong Kok, Yau Ma Tei, Sheung Wan, Wan Chai and Causeway Bay, we followed the enhanced partnering approach and worked closely with the District Councils.

/15. ....

15. The GMPs obtained the support of the respective District Councils at the following meetings –

- (a) Central and Western District Council's Food, Environment, Hygiene and Works Committee meeting on 13 September 2007;
- (b) Wan Chai District Council meeting on 18 September 2007; and
- (c) Yau Tsim Mong District Council meeting on 27 September 2007.

16. The District Councils also supported the following themes for the GMPs –

- (a) Sheung Wan, Wan Chai and Causeway Bay
  - (i) The theme of “Rainbow” with bands of vibrant colours is proposed for these areas which are along the northern coast of Hong Kong Island. Such areas have generally evolved into the present state by a series of strip-like development, each with unique characteristics.
- (b) Mong Kok and Yau Ma Tei
  - (i) The theme of “Coastal Scenery” is proposed to create a waterfront recreation zone for residents to dovetail with the West Kowloon waterfront character;
  - (ii) The theme of “Green Kaleidoscope” is proposed for the core area to reinforce the characteristics of existing attractions including Tin Hau Temple, Jade Market and Flower Market and to demonstrate the rich cultural and historical context; and
  - (iii) The theme of “Parkland” is proposed to depict a series of high quality linked open spaces including King's Park and MTR Hung Hom Station.

17. The greening themes of Sheung Wan, Wan Chai and Causeway Bay are shown at Enclosure 5 and that of Mong Kok and Yau Ma Tei at Enclosure 6.

18. We consulted the Legislative Council Panel on Development on the proposed works on 25 March 2008. While members raised no objection to the proposal, they have comments on the consultants' fees involved for the construction of the works. We have critically reviewed the resident site staff deployment and reduced the cost to \$10.6 million as shown in paragraph 10(b)(ii) above. Detailed breakdown of the consultants' fees together with other requested information has been submitted to the Panel on Development on 15 April 2008.

## ENVIRONMENTAL IMPLICATIONS

19. The proposal is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). The project has no long-term environmental impact, whilst short-term construction impacts could be mitigated through measures to control noise, dust, and site run-off nuisances.

20. We have considered minimisation of the volume of soil excavation in the planning and design stages to reduce the generation of construction waste where possible. In addition, we will require the contractor to reuse inert construction waste (e.g. 'excavated soil') on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste to public fill reception facilities<sup>1</sup>. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimise the generation of construction waste.

21. We will also require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert construction waste and non-inert construction waste to public fill reception facilities and landfills respectively through a trip-ticket system.

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<sup>1</sup> Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulations. Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

22. We estimate that the project will generate in total about 24 000 tonnes of construction waste. Of these, we will reuse about 2 400 tonnes (10%) of inert construction waste on site and deliver 19 200 tonnes (80%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of 2 400 tonnes (10%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be \$818,400 for this project (based on a unit cost of \$27/tonne for disposal at public fill reception facilities and \$125/tonne at landfills<sup>2</sup>).

## HERITAGE IMPLICATIONS

23. The project 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

24. The proposed works do not require any land acquisition.

## BACKGROUND INFORMATION

25. We upgraded **35CG** and **36CG** in Category B in September 2005.

26. In April 2006, we upgraded parts of **35CG** and **36CG** to Category A as **37CG** “Greening master plans for Kowloon West and Hong Kong Island – works for Tsim Sha Tsui and Central” at an estimated cost of \$38.4 million in MOD prices. The greening works were completed in March 2007.

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<sup>2</sup> This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at \$90/m<sup>3</sup>), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.



27. In December 2006, we upgraded parts of **35CG** and **36CG** to Category A as **38CG** “Greening master plans for Mong Kok/Yau Ma Tei and Sheung Wan/Wan Chai/Causeway Bay – consultancy studies and site investigation” at an estimated cost of \$18.1 million in MOD prices. The consultancy studies commenced in January 2007 and the GMPs were completed in December 2007. Subsequently, the detailed design of the greening works recommended in the GMPs was completed in February 2008.

28. In June 2007, we further upgraded parts of **35CG**, **36CG** and **40CG**<sup>3</sup> to Category A as **41CG** “Greening master plans for remaining urban areas in Kowloon and on Hong Kong Island – consultancy study and site investigation” at an estimated cost of \$51.5 million in MOD prices. The consultancy study commenced in September 2007 and the development of GMPs is in progress for completion in early 2009.

29. The proposed works will not involve any tree removal.

30. We estimate that the proposed works will create about 171 jobs (141 for labourers and 30 for professional/technical staff) providing a total employment of 2 310 man-months.

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Development Bureau  
April 2008

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<sup>3</sup> The scope of 40CG ‘Greening master plan for Kowloon East – studies and works’ comprises development of GMPs, detailed design and implementation of greening works for urban areas in Kowloon East.



圖例 LEGEND:-

 旺角/油麻地  
綠化總綱圖的  
工程範圍  
AREA COVERED BY  
GREENING MASTER PLANS  
FOR MONG KOK/YAU MA TEI

818 000N

835 000E

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名稱 title

工務計劃項目第35CG號  
九龍西綠化總綱圖 - 研究及工程

PMP ITEM No. 35CG  
GREENING MASTER PLAN FOR  
KOWLOON WEST - STUDIES AND WORKS

姓名 name 簽署 initial 日期 date

繪圖 drawn	S. S. CHING		18.2.08
校對 checked	C. P. WONG		18.2.08
核准 approved	M. F. CHIU		19.2.08

辦事處  
office

土地工程部  
LAND WORKS DIVISION

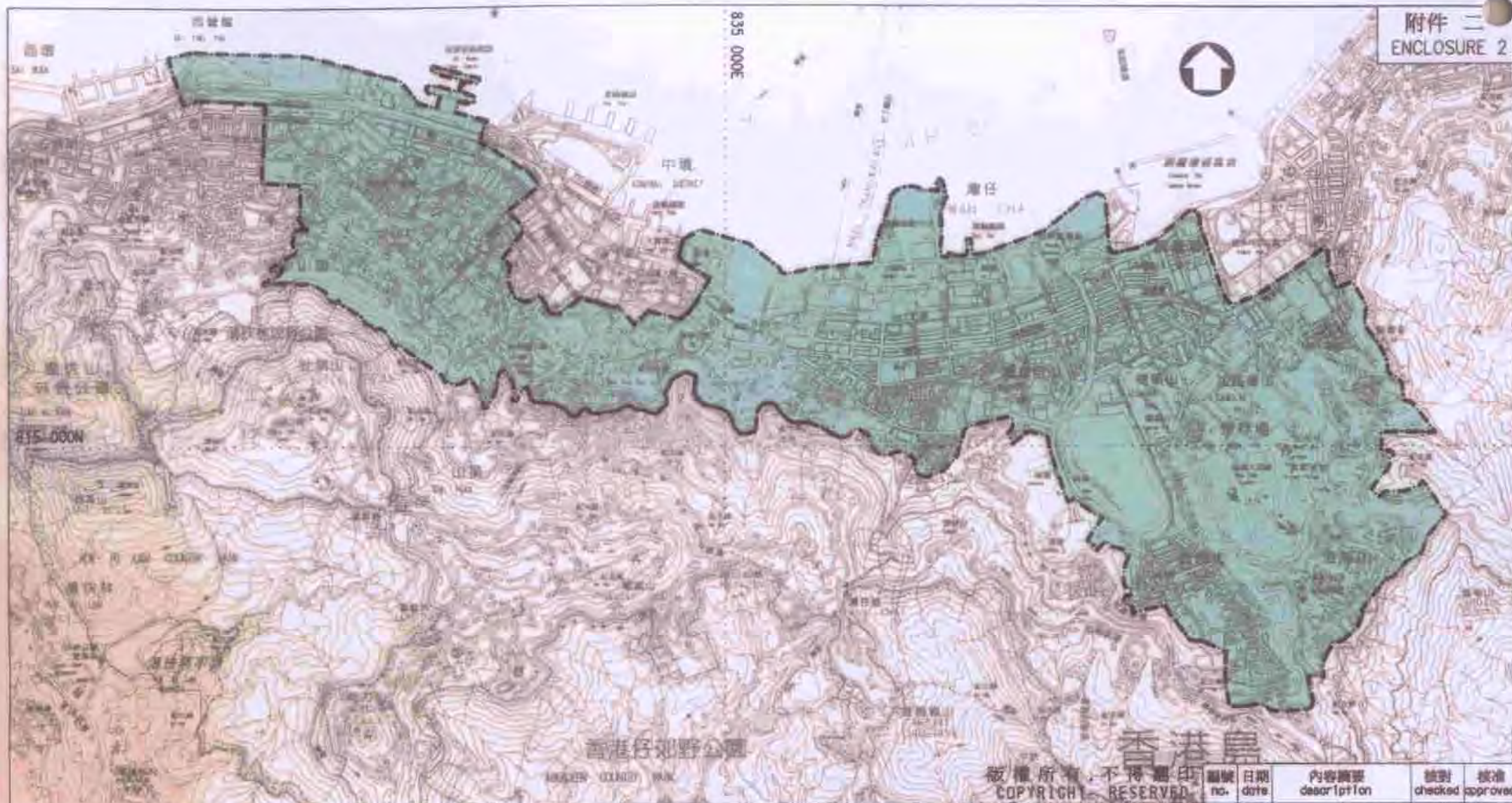
圖號 no.	日期 date	內容摘要 description	核對 checked	核准 approved
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圖號 drawing no.	比例 scale
LW 8379	1:25000




土木工程拓展署  
CIVIL ENGINEERING AND  
DEVELOPMENT DEPARTMENT





圖例 LEGEND:-

 上環/灣仔/銅鑼灣  
綠化總綱圖的工程範圍  
AREA COVERED BY GREENING MASTER PLANS  
FOR SHEUNG WAN/WAN CHAI/CAUSEWAY BAY

名稱 title  
工務計劃項目第36CG號  
香港島綠化總綱圖 - 研究及工程  
PNP ITEM No. 36CG  
GREENING MASTER PLAN FOR  
HONG KONG ISLAND -  
STUDIES AND WORKS

繪圖 drawn S. S. CHING  
校對 checked C. P. WONG  
核准 approved M. F. CHIU  
辦事處 offices  
土地工程處  
LAND WORKS DIVISION

編號 no.	日期 date	內容摘要 description	校對 checked	核准 approved
圖則編號 drawing no.			比例 scale	
LW 8380			1:25000	
 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT				





Before Planting 種植前



Upon Completion of  
Establishment Period  
剛完成培植期



Upon Maturity  
成熟後

Example 1 – West Kowloon Highway at Olympic City 1,  
Tai Kok Tsui, Kowloon

例1- 九龍大角咀奧海城1期西九龍公路



Before Planting 種植前



Upon Completion of Establishment Period  
剛完成培植期



Upon Maturity 成熟後



Example 2 - Tin Hau Temple,  
Yau Ma Tei, Kowloon  
例2- 九龍油麻地天后廟





Before Planting 種植前

Upon Completion of  
Establishment Period

剛完成培植期



Upon Maturity

成熟後

Example 3 - Kin Wan Street,  
Hung Hom, Kowloon  
例3- 九龍紅磡建灣街





Before Planting 種植前

Upon Completion of  
Establishment Period  
剛完成培植期



Upon Maturity  
成熟後

Example 4 - Tak Cheong Street,  
Yau Ma Tei, Kowloon  
例4- 九龍油麻地德昌街





Before Planting 種植前

Upon Completion of  
Establishment Period  
剛完成培植期



Upon Maturity  
成熟後

Example 5 - Tai Kok Tsui Road Flyover,  
Mong Kok, Kowloon  
例5- 九龍旺角大角咀道天橋



Before Planting 種植前



Upon Completion of  
Establishment Period

剛完成培植期



Upon Maturity 成熟後

Example 6 - Yuen Yuen Street,  
Happy Valley, Hong Kong Island

例6- 香港跑馬地源遠街



Before Planting 種植前



Upon Completion of  
Establishment Period

剛完成培植期

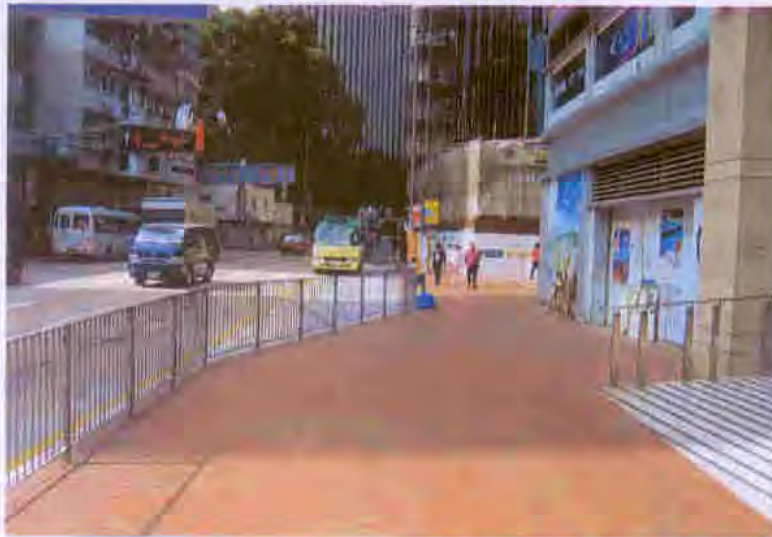


Upon Maturity 成熟後

Example 7 - Connaught Road West,  
Sheung Wan, Hong Kong Island

例7- 香港上環干諾道西





Before Planting 種植前

Upon Completion of  
Establishment Period  
剛完成培植期



Upon Maturity  
成熟後

Example 8 - Queen's Road East,  
Wan Chai, Hong Kong Island  
例8- 香港灣仔皇后大道東



Before Planting 種植前



Upon Completion of Establishment Period

剛完成培植期



Upon Maturity 成熟後



Example 9 – Junction of Fenwick Street and  
Johnston Road, Wan Chai, Hong Kong Island  
例9- 香港灣仔分域街及莊士敦道交界





Before Planting 種植前

Upon Completion of  
Establishment Period  
剛完成培植期



Upon Maturity 成熟後

Example 10 - Queen's Road West,  
Sheung Wan, Hong Kong Island  
例10- 香港上環皇后大道西





Before Planting 種植前

Upon Completion of  
Establishment Period  
剛完成培植期



Upon Maturity 成熟後

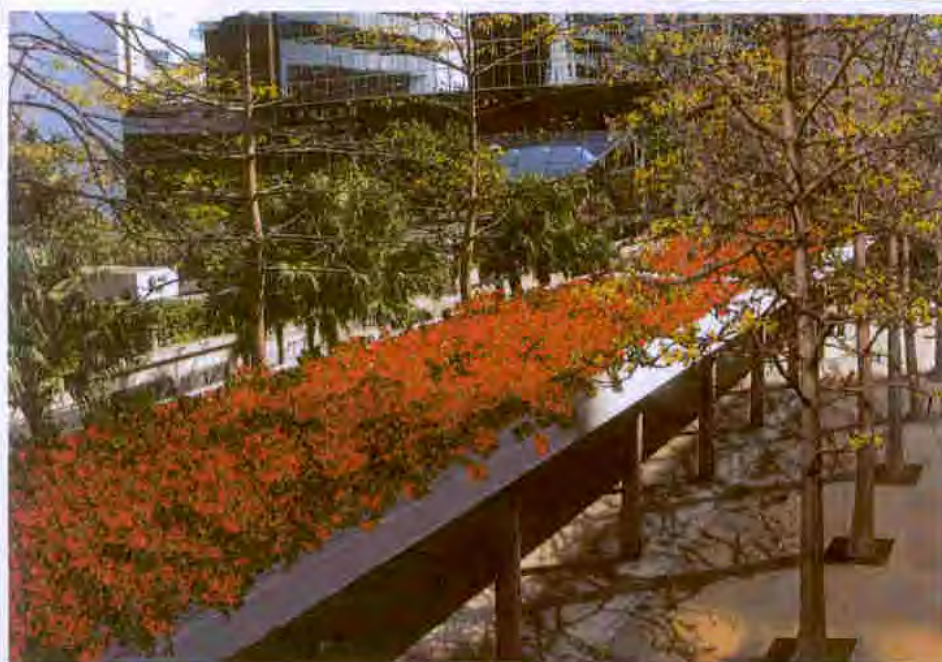
Example 11 – Connaught Road West Flyover,  
Sheung Wan, Hong Kong Island  
例11- 香港上環干諾道西天橋





Before Planting 種植前

Upon Completion of  
Establishment Period  
剛完成培植期



Upon Maturity 成熟後

Example 12 - Covered Walkway near  
Immigration Tower, Wanchai, Hong Kong Island  
例12- 香港灣仔人民入境事務大樓旁有蓋行人道

**35CG – Greening master plan for Kowloon West**

**36CG – Greening master plan for Hong Kong Island**

**Breakdown of estimates for consultants' fees (at September 2007 prices)**

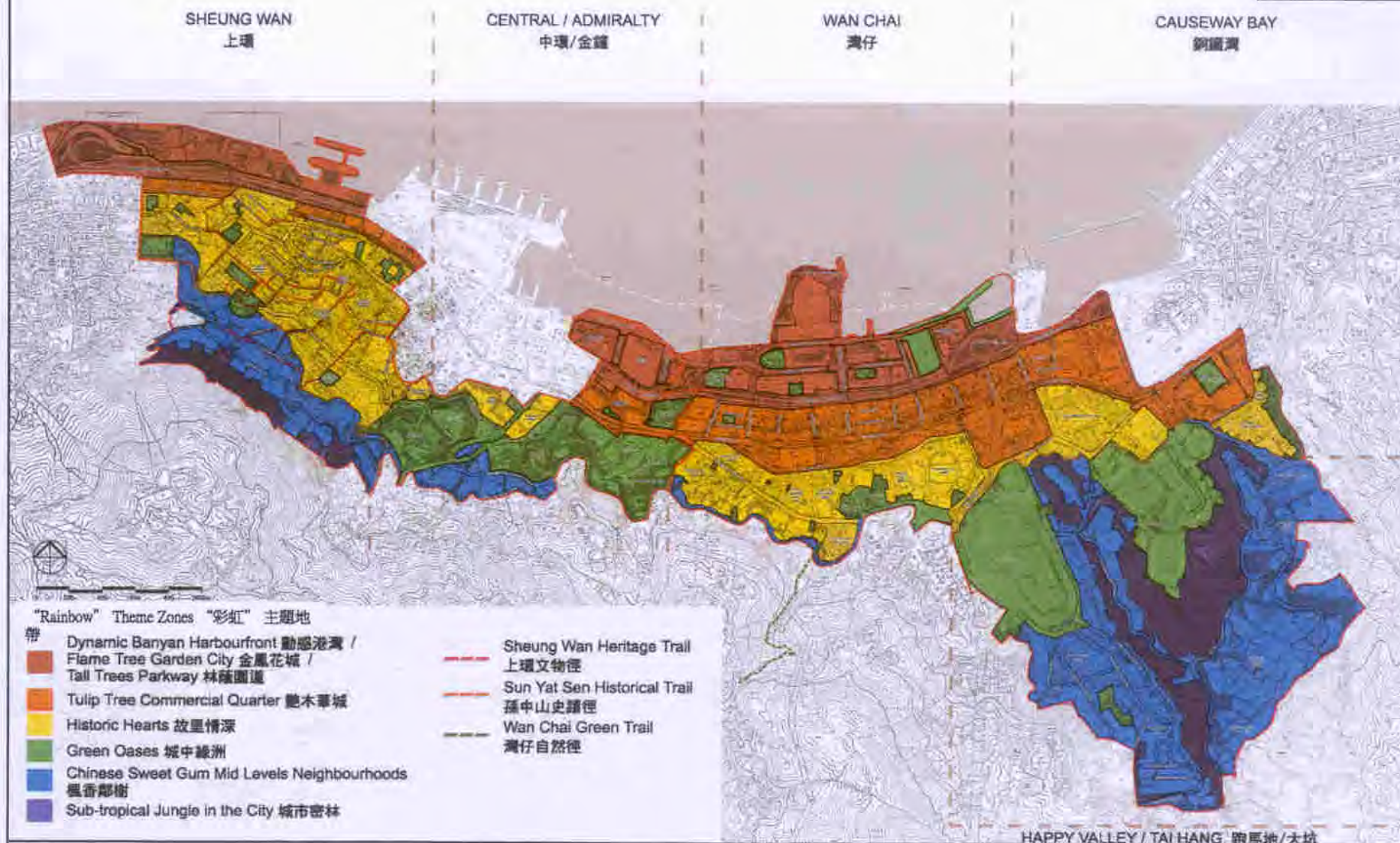
<b>Consultants' staff costs</b>		<b>Estimated man-months</b>	<b>Average MPS* salary point</b>	<b>Multiplier (Note 1)</b>	<b>Estimated fee (\$million)</b>
(a) Consultants' fees for construction stage (Note 2)	Professional	11	38	2.0	1.3
	Technical	16	14	2.0	0.6
(b) Resident site staff (Note 3)	Professional	60	38	1.6	5.5
	Technical	170	14	1.6	5.1
<b>Total</b>					<b>12.5</b>

\* MPS = Master Pay Scale

**Notes**

1. Multiplying factors of 2.0 and 1.6 are applied to the average MPS point for the staff employed in the consultants' office and the resident site staff supplied by the consultants respectively. (As at 1 January 2008, MPS pt. 38 = \$56,945 per month and MPS pt. 14 = \$18,840 per month)
2. The consultants' staff costs for the contract administration and preparation of as-built drawings are calculated in accordance with the existing consultancy agreement. The construction phase of the assignment will only be executed upon Finance Committee's approval to upgrade the proposed works to Category A.
3. We will only know the actual man months and actual costs after completion of the construction works.





Greening Theme of Sheung Wan , Wanchai and Causeway Bay 上環、灣仔及銅鑼灣的綠化主題



**“海濱風光”** – 配合西九龍的海濱特色，為居民創造一個海濱休閒帶，並且與舊區相連接。

The **“Coastal Scenario”** ties in with the West Kowloon waterfront character, creates a waterfront recreation zone for the residents and establishes connections with the old districts.



**“綠廊腹地”** – 主要指從昂士柏山延伸出來的多樣綠化空間。

The **“Farmland”** mainly refers to various green spaces extending from King's Park.



**“綠色萬花筒”** – 利用不同的綠化設計和品種安排，在改善環境之外，更加強現有景點的特色。

**“Green Kaleidoscope”** is proposed for the core area using variety of planting designs and species to enhance the environment and reinforce the characters of existing landmarks.

