

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 705 – CIVIL ENGINEERING

Civil Engineering – Multi-purpose

43CG – Greening master plans for the New Territories

Members are invited to recommend to Finance Committee –

- (a) the upgrading of part of **43CG**, entitled “Greening master plans for the New Territories Southeast and Northwest – priority greening works”, to Category A at an estimated cost of \$350 million in money-of-the-day prices; and
- (b) the retention of the remainder of **43CG** 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 Southeast and Northwest New Territories.

PROPOSAL

2. The Director of Civil Engineering and Development, with the support of the Secretary for Development, proposes to upgrade part of **43CG** to Category A at an estimated cost of \$350 million in money-of-the-day (MOD) prices to carry out the priority greening works in Southeast and Northwest New Territories.

/PROJECT

PROJECT SCOPE AND NATURE

3. The part of **43CG** which we propose to upgrade to Category A comprises –

- (a) planting and establishment of about 3 400 trees and 1 810 000 shrubs, which are classified as priority greening works in accordance with greening effect and public aspirations, including –
 - (i) about 1 000 trees and 330 000 shrubs in Sha Tin;
 - (ii) about 700 trees and 330 000 shrubs in Sai Kung;
 - (iii) about 700 trees and 500 000 shrubs in Tuen Mun; and
 - (iv) about 1 000 trees and 650 000 shrubs in Yuen Long;
- (b) ground preparation, soil improvement and installation of tree support systems;
- (c) construction of associated raised/kerb planters and other landscape works; and
- (d) ancillary works including irrigation facilities.

_____ A plan showing the extent of the proposed works and major planting locations is at Enclosure 1.

4. Subject to funding approval of the Finance Committee, we plan to commence the implementation of priority greening works in October 2014 for completion in October 2017, followed by a one-year establishment period.

5. We will retain the remainder of **43CG** in Category B, which covers the implementation of the remaining greening works in the GMPs for the New Territories. Funding for these works will be sought later when they are ready for upgrading to Category A.

/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 in 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 district-based GMPs to complement existing vegetation in local areas, thereby improving the quality of our environment.

7. A GMP seeks to define the overall greening framework of a district, and serves as a guide for all parties involved in planning, design and implementation of greening works. In addition to identifying planting locations, a GMP establishes the greening themes and proposes suitable planting species. We have developed and completed GMPs for all urban areas by 2011. The public has been supportive of the GMP projects and there is a strong demand to extend GMPs to the New Territories. We thus commenced the development of GMPs for the New Territories progressively from May 2011.

8. We have completed the development of GMPs for Southeast and Northwest New Territories in January 2014. In view of the high public expectation on early implementation of greening measures for the New Territories, we intend to implement the greening measures as recommended in the GMPs for Southeast and Northwest New Territories with relatively high greening effect and public aspirations as priority greening works for early enjoyment of the public.

FINANCIAL IMPLICATIONS

9. We estimate the cost of the proposed works to be \$350 million in MOD prices (please see paragraph 10 below), broken down as follows –

	\$ million
(a) Greening works	200.0
(i) planting and establishment of trees and shrubs	112.0
	/(ii)

		\$ million
	(ii) ground preparation, soil improvement and installation of tree support systems	34.6
	(iii) construction of associated raised/kerb planters and other landscape works	39.8
	(iv) ancillary works	13.6
(b)	Consultants' fees for	14.6
	(i) contract administration	12.4
	(ii) management of resident site staff	2.2
(c)	Remuneration of resident site staff	53.4
(d)	Contingencies	18.8
	Sub-total	286.8 (in September 2013 prices)
(e)	Provision for price adjustment	63.2
	Total	350.0 (in MOD prices)

Due to insufficient in-house resources, we propose to engage consultants to undertake the contract administration and site supervision of the proposed works. A detailed breakdown of the estimates for the consultants' fees and resident site staff costs by man-months is at Enclosure 2.

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

Year	\$ million (Sept 2013)	Price adjustment factor	\$ million (MOD)
2014 – 2015	10.3	1.05450	10.9
2015 – 2016	64.3	1.11777	71.9

/2016 – 2017

Year	\$ million (Sept 2013)	Price adjustment factor	\$ million (MOD)
2016 – 2017	72.2	1.18484	85.5
2017 – 2018	77.1	1.25593	96.8
2018 – 2019	46.2	1.33128	61.5
2019 – 2020	16.7	1.40117	23.4
	<hr/> 286.8 <hr/>		<hr/> 350.0 <hr/>

11. 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 2014 to 2020. We will tender the proposed greening works through standard re-measurement contracts because the quantities of works may vary depending on actual site constraints. The contracts will provide for price adjustments.

12. We estimate the annual recurrent expenditure arising from this project to be about \$15.1 million.

PUBLIC CONSULTATION

13. In developing GMPs for Southeast and Northwest New Territories, we followed the Enhanced Partnering Approach whereby the District Councils (DCs), Rural Committees (RCs) and the local communities were closely involved. In general, the relevant DCs and RCs formed a District Participation Group (DPG) to partner with the Civil Engineering and Development Department (CEDD) from inception to finalisation of GMPs. In addition, community forums were organised jointly by DPGs and CEDD to collect views of the public and major stakeholders such as the Hong Kong Housing Society, the Link Management Limited and professional bodies.

/14.

14. GMPs obtained the support of the respective DCs at the following meetings –

- (a) Sha Tin DC's Health and Environment Committee meeting on 7 March 2013;
- (b) Sai Kung DC's District Facilities Management Committee meeting on 12 March 2013;
- (c) Tuen Mun DC's District Facilities Management Committee meeting on 5 February 2013; and
- (d) Yuen Long DC's meeting on 26 February 2013.

15. After the consultation as mentioned above, the following themes have been adopted –

- (a) Sha Tin - Floral Riverbanks, Verdant Hills;
- (b) Sai Kung - Fragrant Blossom Paths;
- (c) Tuen Mun - Ruby Flowers, Emerald Mountain; and
- (d) Yuen Long - Golden Sunset.

———— The details of proposed greening themes are at Enclosure 3.

16. We consulted the Legislative Council Panel on Development on the proposed works at its meeting on 25 March 2014. Members raised no objection to the proposed works.

ENVIRONMENTAL IMPLICATIONS

17. This is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). It will not cause long-term adverse environmental impact. We have included in the project estimate the cost to implement suitable mitigation measures to control short-term environmental impacts.

/18.

18. During construction, we will control noise, dust and site run-off nuisances to meet the requirements of established standards and guidelines through the implementation of mitigation measures in works contracts. These include the use of silencers, mufflers, acoustic lining or shields for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities to prevent dust nuisance.

19. At the planning and design stages, we have considered minimisation of the volume of soil excavation to reduce 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 at public fill reception facilities¹. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, and the use of non-timber formwork to further minimise generation of construction waste.

20. At the construction stage, we will 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 at public fill reception facilities and landfills respectively through a trip-ticket system.

21. We estimate that the project will generate in total about 136 520 tonnes of construction waste. Of these, we will reuse about 10 000 tonnes (7.3%) of inert construction waste on site and deliver 124 000 tonnes (90.8%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of the remaining 2 520 tonnes (1.9%) 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 \$3,663,000 for this project (based on a unit charge rate of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation).

/HERITAGE

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

HERITAGE IMPLICATIONS

22. The project will not affect any heritage sites, 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 proposed works do not require any land acquisition.

BACKGROUND INFORMATION

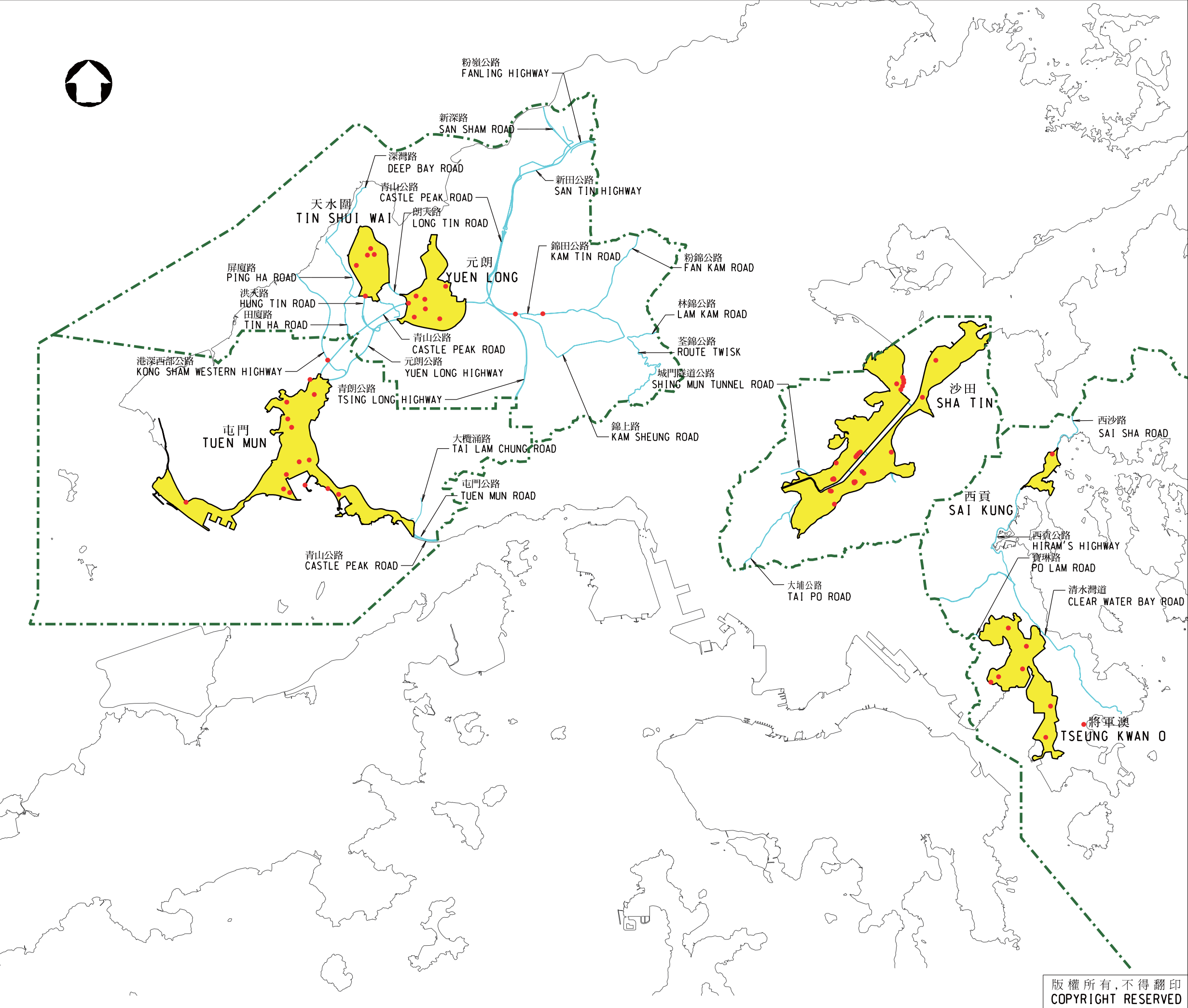
24. We upgraded **43CG** to Category B in January 2008.

25. In view of the large area of the New Territories, we engaged consultants in May 2011 for the development of GMPs for Southeast and Northwest New Territories and carrying out the site investigation works. We charged the costs for developing GMPs for Southeast and Northwest New Territories of about \$19.2 million and \$16.1 million respectively under block allocation **Subhead 5101CX** “Civil engineering works, studies and investigations for items in Category D of the Public Works Programme”. We completed the detailed design of the proposed works in January 2014.

26. No old and valuable tree has been identified on site. The proposed works will not involve any tree removal.

27. We estimate that the proposed works will create about 173 jobs (136 for labourers and another 37 for professional/technical staff) providing a total employment of 7 505 man-months.

Development Bureau
April 2014



註釋
NOTES :
圖例 LEGEND:-
優先綠化的主要覆蓋範圍
MAJOR COVERAGE EXTENT OF
PRIORITY GREENING WORKS

- 市中心及旅遊景點
CORE TOWN CENTRES AND
TOURIST ATTRACTION
LOCATIONS
- 主要交通幹線
MAJOR TRANSPORTATION
ROUTES

- 優先綠化的主要種植位置
MAJOR PLANTING LOCATIONS
FOR PRIORITY GREENING
WORKS
- 區議會分界
DISTRICT COUNCIL BOUNDARY

B	3-4-14	GENERAL REVISION	SIGNED	SIGNED
A	12-3-14	GENERAL REVISION	SIGNED	SIGNED
編號 no.	日期 date	內容摘要 description	核對 checked	核准 approved

修訂 REVISION				
	姓名 name	簽署 initial	日期 date	
設計 designed	K K HSIE	SIGNED	13-2-14	
繪圖 drawn	S S CHING	SIGNED	13-2-14	
描摹 traced				
核對 checked	H W CHAN	SIGNED	13-2-14	

核准 approved

SIGNED
(C L YUNG)
CE/LW
日期 date : 13-2-14

合約編號
contract no.

檔案編號
file no.

工程編號
project no. 5043CG

合約名稱 contract
新界東南及西北綠化總綱圖
GREENING MASTER PLANS
FOR THE NEW TERRITORIES
SOUTHEAST AND NORTHWEST

圖則名稱 drawing title
優先綠化工程範圍
EXTENT OF PRIORITY GREENING
WORKS

圖則編號 drawing no.	比例 scale
LW9159B	1 : 150 000

辦事處 office
土木工程處 土地工程部
LAND WORKS DIVISION
CIVIL ENGINEERING OFFICE

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

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43CG (Part) – Greening master plans for the New Territories

**Breakdown of the estimates for consultants' fees and resident site staff costs
(in September 2013 prices)**

		Estimate man- months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$ million)
(a) Consultants fees for contract administration (Note 2)	Professional	-	-	-	9.5
	Technical	-	-	-	2.9
				Sub-total	12.4
(b) Resident site staff costs (Note 3)	Professional	223	38	1.6	24.0
	Technical	847	14	1.6	31.6
				Sub-total	55.6
Comprising –					
(i) Consultants' fees for management of resident site staff					2.2
(ii) Remuneration of resident site staff					53.4
				Total	68.0

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of resident site staff supplied by the consultants (As at now, MPS salary point 38 = \$67,370 per month and MPS salary point 14 = \$23,285 per month).
2. The consultants' staff costs for contract administration are calculated in accordance with the existing consultancy agreements. The tendering and construction phases of the assignments will only be executed subject to Finance Committee's approval to upgrade part of **43CG** to Category A.
3. The actual man-months and actual costs will only be known after completion of the construction works.

建議綠化主題 Proposed Greening Theme

綠化主題「沙田聳翠」的構思源自《瀝源九約竹枝詞》裡的「迴環聳翠多奇景」，以表達沙田這片臨海的平原，是由多元化的景色，包括周邊的奇山峻嶺，及遊人眾多的城門河組成，點出香港一處獨特的地貌。

The "Floral Riverbanks, Verdant Hills" theme highlights the distinctive landscape of Sha Tin, comprising green mountains, waterfront flat land and the Shing Mun River.



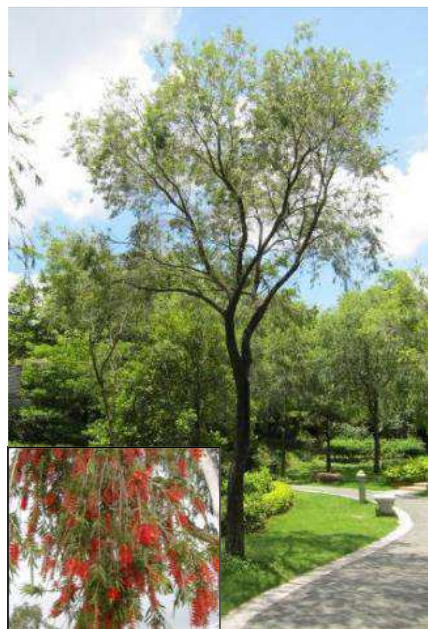
主題品種 Theme Species

品種

Callistemon viminalis
串錢柳 (E)

Liquidambar formosana 楓香 (N)

Terminalia mantaly
小葉欖仁 (E)



(N) : Native Species 本地品種
(E) : Exotic Species 外來品種

建議綠化主題 Proposed Greening Theme

西貢市及鄰近地區有「香港的後花園」之稱，將軍澳北為新發展的居住區，南面有工業設施。「萬彩千香」旨在為西貢區建立悠閒、環保和百花齊放新型城市的形象。建議以有花或芳香的植物為主題品種，例如 *Elaeocarpus balansae* 大葉杜英和各種 *Michelia* spp 含笑屬的樹種 (*Michelia x alba* 白蘭、*Michelia chapensis* 樂昌含笑及 *Michelia maudiae* 深山含笑等)，綠化西貢區，營造一個舒適的居住環境。

The greening theme “Fragrant Blossom Paths” reflects the relaxing atmosphere of Sai Kung Town and its surrounding environment, known as the “Leisure Garden of Hong Kong”; as well as the sustainable, dynamic urban character of Tseung Kwan O, comprising mainly newly developed residential areas to the north and industrial estates to the south. The use of fragrant, flowering species, such as *Elaeocarpus balansae* 大葉杜英 and *Michelia* spp 含笑屬 (*Michelia x alba* 白蘭, *Michelia chapensis* 樂昌含笑, *Michelia maudiae* 深山含笑) in the greening theme is designed to enhance greening and create quality living environment in Sai Kung District.



主題品種 Theme Species

Trees 喬木

(N) : Native Species 本地品種
(E) : Exotic Species 外來品種

Elaeocarpus balansae
大葉杜英 (E)



Michelia chapensis
樂昌含笑 (N)



Michelia x alba
白蘭 (E)



Michelia maudiae
深山含笑 (N)



Proposed Greening Theme 建議綠化主題

主題的靈感來自屯門公園美麗奪目的鳳凰木，及稱頌古今的南粵名山—青山。綠化設計盼以顏色鮮艷的賞花植物（「映照」）襯托屯門的崇山峻嶺（「青瑤」），來達致美化屯門之目的。

Inspired by the Flame of the Forest in Tuen Mun Park and the renowned Castle Peak, the theme “Ruby Flowers, Emerald Mountain” implies beautification of Tuen Mun with bright and colorful flowering plants.



Theme Species 主題品種

Trees 喬木

(N) : Native Species 本地品種

(E) : Exotic Species 外來品種

Liquidambar formosana
楓香 (N)



Delonix regia
鳳凰木 (E)



Terminalia catappa
欖仁樹 (E)



建議綠化主題 Proposed Greening Theme

元朗區由許多自然景觀、古物古蹟和傳統鄉村所組成，更擁有以觀賞日落聞名的下白泥，建議以「彩鳥映霞」為綠化主題，以反映元朗獨有特色。除了盡量栽種本土植物和鄉村常見的植物外，還重點種植擁有落霞色彩的開花喬木、灌木和草本植物。

Yuen Long District covers many natural scenic spots, historic icons, traditional villages and the famous sunset view at Ha Pak Nai. The theme “Golden Sunset” is proposed to reflect the unique local characters. The planting scheme for this area will adopt native species and species commonly found in villages where appropriate. Also, there is a desire for more colourful species in this district to reflect the local sunset scenery.



主題品種 Theme Species

(N) : Native Species 本地品種
(E) : Exotic Species 外來品種

喬木 Trees

Cinnamomum burmannii
陰香 (N)



Melaleuca cajuputi subsp. cumingiana 白千層 (E)



Tabebuia impetiginosa
風鈴木 (E)

