For information

Legislative Council Panel on Development

144CD – Drainage improvement in Southern Hong Kong Island

PURPOSE

This paper briefs Members on the proposal to upgrade part of **144CD**, "Drainage improvement in Southern Hong Kong Island" to Category A, at an estimated cost of about $28.0 million in money-of-the-day (MOD) prices, for the drainage improvement works in Pok Fu Lam, Wah Fu, Tin Wan, Aberdeen, Wong Chuk Hang, Shouson Hill and Shek O.

PROJECT SCOPE

2. The scope of the works comprises -

(a) construction of about 1.3 kilometres of stormwater drains of diameter ranging from 300 millimetres (mm) to 1 200 mm at 16 locations;

(b) widening of about 50 metres (m) of a drainage channel near Pok Fu Lam Village from 600 mm to 1200 mm;

(c) widening of about 10 m of a drainage channel in Shek O from 1500 mm to 3000 mm;

(d) modification of weirs at a drainage channel in Shouson Hill; and

(e) provision of ancillary works including greening works.

We plan to commence construction in end 2008 for completion in early 2011. A site plan and typical sections of the proposed works are at **Enclosure 1**.

JUSTIFICATION

3. The southern part of Hong Kong Island has been served by drainage systems built decades ago. Rapid development and changes in land use over the past decades have increased the size of the paved areas. This has led to a significant increase in surface run-off causing overloading of the existing drainage systems. Although we have made local improvements to the systems to cater for developments from time to time, the overall drainage systems as a whole are still inadequate to meet the current flood protection standard. Flooding sometimes occurs during heavy rainstorms.

4. To alleviate the flooding problem, we propose to upgrade part of **144CD** for improving the existing drainage systems at different critical locations. Upon completion of the proposed works, the drainage systems in these areas will generally be capable of withstanding rainstorms with a return period[1] of one in 50 years.

FINANCIAL IMPLICATIONS

5. We estimate the project cost of the proposed works to be about $28.0 million (in MOD prices), made up as follows –

		$ million	
(a)	Construction of -		21.9
	(i) stormwater drains	20.5	
	(ii) drainage channel upgrading works	1.3	
	(iii) ancillary works	0.1	
(b)	Environmental mitigation measures		1.2
(c)	Contingencies		2.2

[1] "Return period" is the average number of years during which a certain severity of flooding will occur once, statistically. A longer return period means a rarer chance of occurrence of a more severe flooding.

	Sub-total	25.3	(in September 2007 prices)
(d)	Provision for price adjustment	2.7	
	Total	28.0	(in MOD prices)

PUBLIC CONSULTATION

6. We consulted the District Development and Environment Committee of the Southern District Council on 28 April 2008 regarding the proposed drainage improvement works. Members supported the works.

ENVIRONMENTAL IMPLICATIONS

7. The project is not a designated project under the Environmental Impact Assessment Ordinance. We have completed the Environmental Review for the proposed works in 2005, which concluded that the project will not cause any long term adverse environmental impacts.

8. For short-term impacts during construction, we will control noise, dust and site run-off within the established standards and guidelines through implementation of mitigation measures in the works contract, such as the use of temporary noise barriers and silenced construction plants to reduce noise generation, water-spraying to reduce emission of dust, and temporary drains to dispose of site run-off.

9. We have considered ways in the planning and design stages to reduce the generation of construction waste where possible. For example, we have designed the alignment of the proposed drainage works in such a manner that excavation and demolition of existing structures will be minimized. In addition, we will require the contractor to reuse inert construction waste (e.g. excavated soil for backfilling) 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[2]. 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.

10. 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.

11. We estimate that the project will generate in total about 12 000 tonnes of construction waste. Of these, we will reuse about 6 000 tonnes (50%) of inert construction waste on site and deliver 5 400 tonnes (45%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of 600 tonnes (5%) 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 about $0.2 million for this project (based on a unit cost of $27/tonne for disposal at public fill reception facilities and $125/tonne[3] at landfills.)

HERITAGE IMPLICATIONS

12. This 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.

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[2] 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.

[3] 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^3$), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

TRAFFIC IMPLICATONS

13. We have completed a traffic impact assessment for the proposed works, which concluded that the proposed works would not cause any significant traffic impact. We will establish a Traffic Management Liaison Group (TMLG) under the contract to discuss and scrutinise proposed temporary traffic management measures before implementation. We will invite representatives from the Transport Department, Hong Kong Police Force, Highways Department, District Office and various public transport operators to attend the TMLG meetings. The TMLG will take into account relevant factors such as site restrictions, traffic conditions, pedestrian safety, access to buildings/shop fronts and provision of emergency vehicular access when considering the proposed temporary traffic arrangements.

14. We will also display notice boards on site to explain the reason of temporary traffic arrangements and indicate the expected completion date of the works.

BACKGROUND INFORMATION

15. We completed a drainage master plan study in 2005 which assessed the adequacy of the existing drainage systems on the southern part of Hong Kong Island. The study recommended drainage improvement measures at various locations on the southern part of Hong Kong Island to bring the existing drainage systems up to the current standard.

16. In September 2006, we included **144CD** "Drainage improvement in Southern Hong Kong Island" in Category B for improvement of the existing drainage systems on the southern part of Hong Kong Island.

17. In October 2007, we engaged a consultant to undertake the traffic impact assessment for the proposed drainage improvement works mentioned in paragraph 2 above at a cost of $0.2 million in MOD prices. We have charged this amount to block allocation **Subhead 4100DX** "Drainage works, studies and investigations for items in Category D of the Public Works Programme".

18. We have substantially completed the design of the proposed works mentioned in paragraph 2 above. Design of the remaining works under **144CD**

is in progress.

19. Of the 24 trees within the project boundary, our latest estimate is that 15 trees will be preserved. The proposed drainage improvement works will involve the removal of nine common trees including three trees to be felled and six trees to be replanted within the project site. All trees to be removed are not important trees[4]. We will incorporate planting of about four trees as part of the project.

20. We estimate that the proposed works will create about 23 jobs (19 for labourers and another 4 for professional/technical staff) providing a total employment of 460 man-months.

WAY FORWARD

21. Members are invited to support the proposed part-upgrading of **144CD** to Category A for consideration by the Public Works Subcommittee in June 2008 and for funding approval by the Finance Committee in July 2008.

Development Bureau
May 2008

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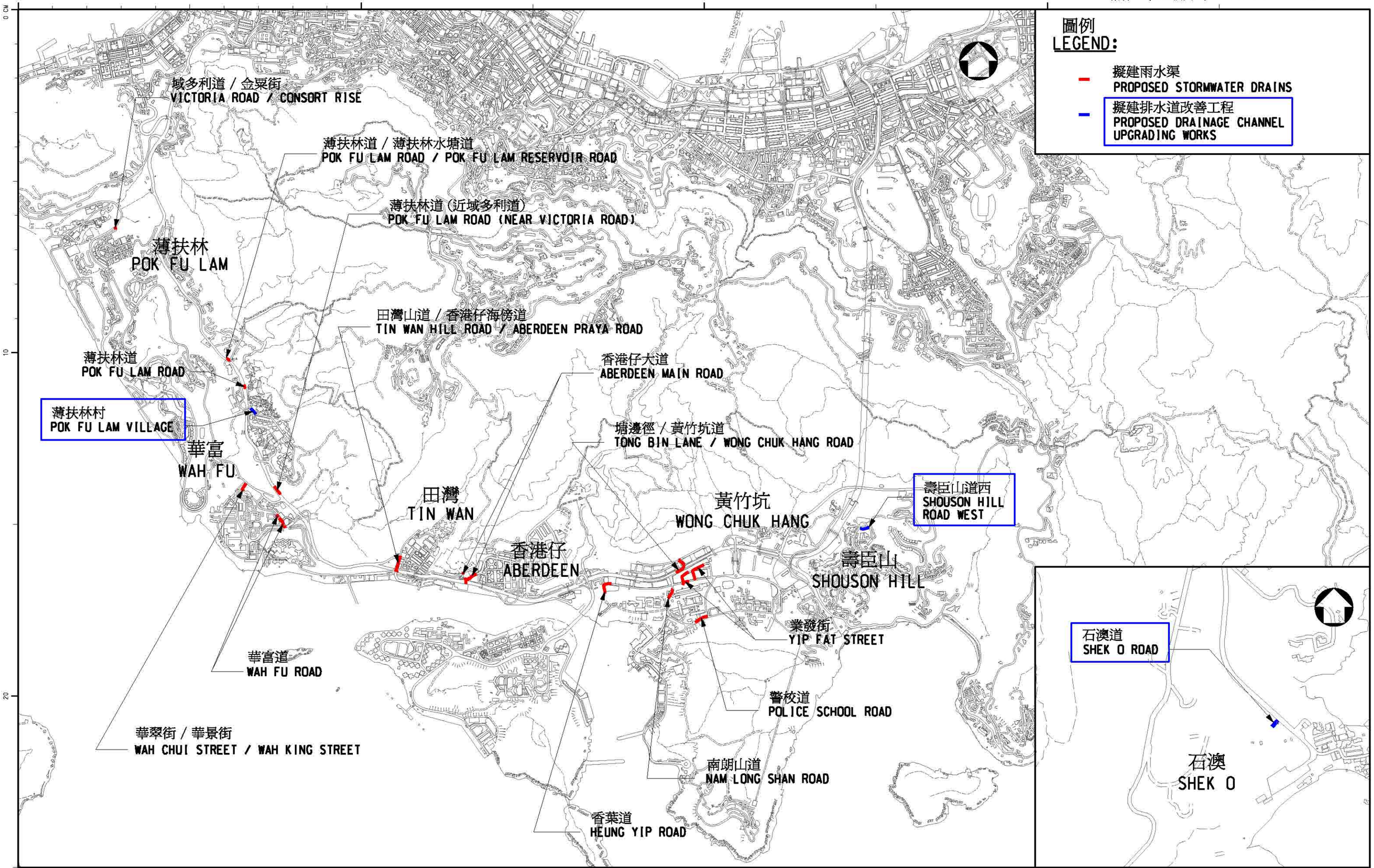
[4] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

(a) trees over 100 years old or above;
(b) trees of cultural, historical or memorable significance e.g. Fung Shui trees, trees as landmark of monastery or heritage monument, and trees in memory of important persons or event;
(c) trees of precious or rare species;
(d) trees of outstanding form (taking account of overall tree sizes, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
(e) trees with trunk diameter equal or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.



圖則名稱 drawing title

PWP ITEM NO. 144CD
DRAINAGE IMPROVEMENT IN SOUTHERN HONG KONG ISLAND
工程項目編號 144CD
港島南部雨水排放系統改善計劃

繪畫 drawn	SIGNED	Y.K. WONG	日期 date 10 APR 08
核對 checked	SIGNED	M.L. WONG	日期 date 11 APR 08
批核 approved	SIGNED	K.K. CHAN	日期 date 11 APR 08
部門 office	排水工程部 DRAINAGE PROJECTS DIVISION		

圖則編號 drawing no. DDH/144CD1/8057

比例 scale N.T.S.

香港特別行政區政府渠務署
DRAINAGE SERVICES DEPARTMENT
GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION

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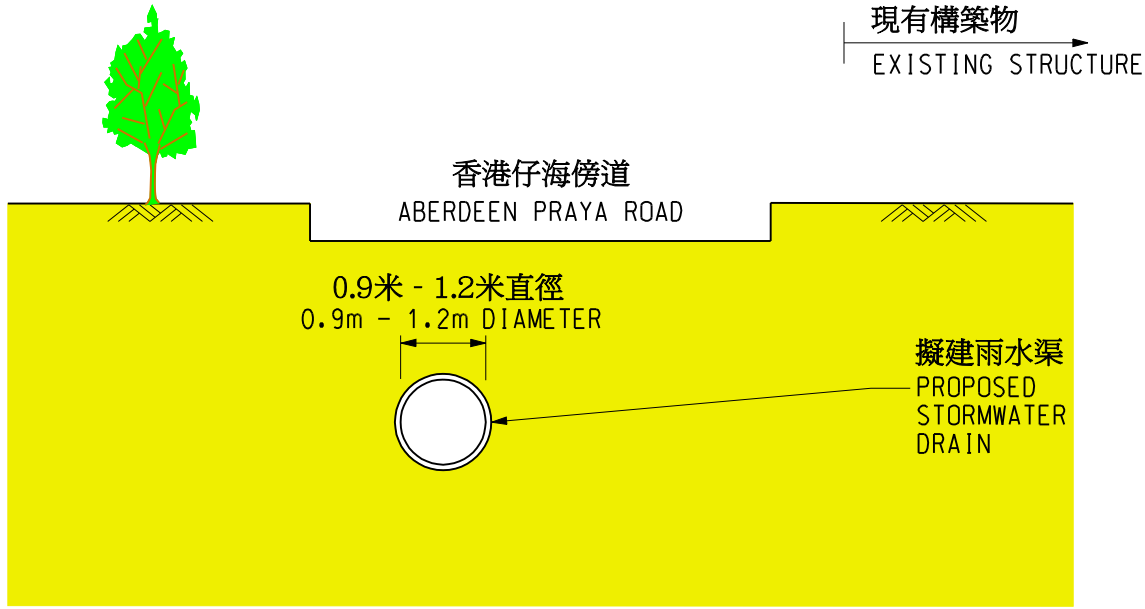
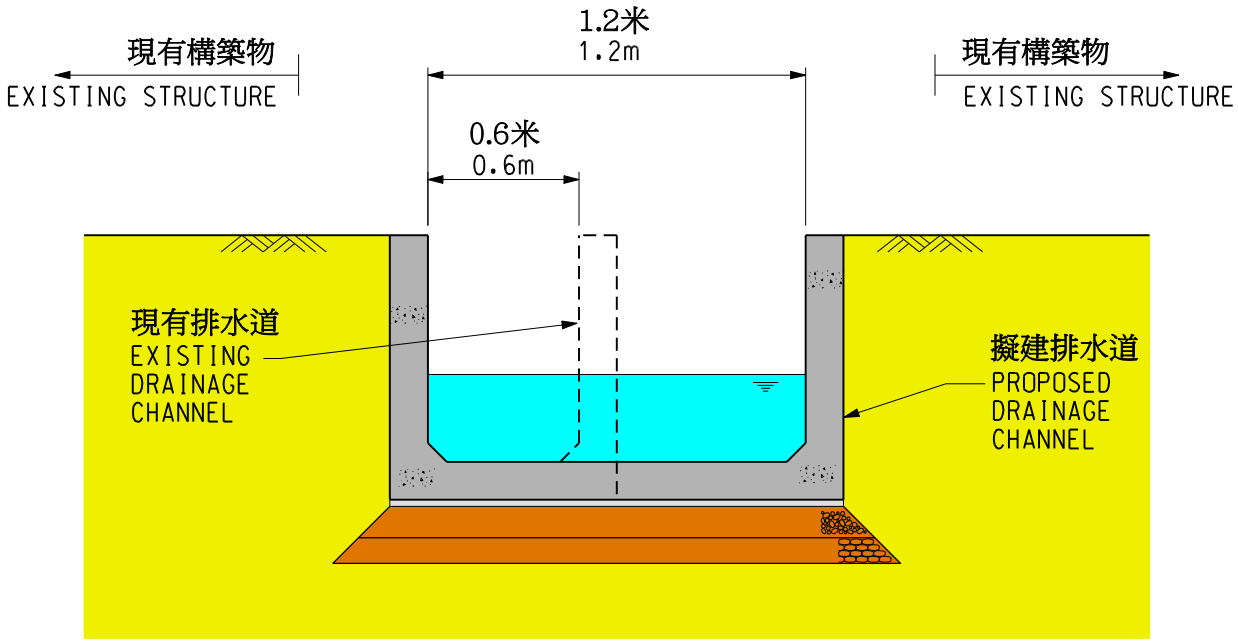


香港仔海傍道擬建雨水渠之典型切面
TYPICAL SECTION OF PROPOSED STORMWATER DRAIN AT ABERDEEN PRAYA ROAD



薄扶林村附近擬建排水道改善工程
PROPOSED DRAINAGE CHANNEL UPGRADING WORKS NEAR POK FU LAM VILLAGE

圖例
LEGEND:

擬種植樹木
PROPOSED TREE

圖則名稱 drawing title: PWP ITEM NO. 144CD DRAINAGE IMPROVEMENT IN SOUTHERN HONG KONG ISLAND 工程項目編號 144CD 港島南部雨水排放系統改善計劃	繪畫 drawn: SIGNED Y.K. WONG	日期 date: 10 APR 08	圖則編號 drawing no.: DDH/144CD1/8058
	核對 checked: SIGNED M.L. WONG	日期 date: 11 APR 08	比例 scale: N.T.S.
	批核 approved: SIGNED K.K. CHAN	日期 date: 11 APR 08	
	部門 office: 排水工程部 DRAINAGE PROJECTS DIVISION		

香港特別行政區政府渠務署
DRAINAGE SERVICES DEPARTMENT
GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION