

**For information**

**Legislative Council Panel on Planning, Lands and Works  
112CD - Drainage Improvement in Northern New  
Territories – package A**

**PURPOSE**

This paper briefs Members on the Administration's proposal to upgrade part of **112CD** to Category A at an estimated cost of about \$261 million in money-of-the-day (MOD) prices for the construction of drainage improvement works at Ping Kong, Kau Lung Hang, Yuen Leng, Nam Wa Po and Tai Hang areas.

**PROJECT SCOPE AND NATURE**

2. The scope of the proposed drainage improvement works to be part-upgraded under **112CD** comprises -

- a) construction of about 3.6 kilometres long drainage channels with width ranging from 1.3 metres (m) to 30 m and about 500 m long box culverts with width ranging from 1.3 m to 20 m in Kau Lung Hang, Yuen Leng, Nam Wa Po and Tai Hang areas;
- b) construction of about 840 m long drainage channels with width ranging from about 3 m to 17 m and about 210 m long box culverts of 4 m wide in Ping Kong areas;
- c) construction and reprovisioning of vehicular/pedestrian accesses; and
- d) ancillary works including reprovisioning of a public toilet and diversion of watermains.

A site plan and typical cross sections showing the proposed works are at **Enclosure 1**.

3. We plan to start the proposed works in early 2007 for completion by late 2010.

## JUSTIFICATION

4. Owing to the low-lying topography and inadequate capacity of existing stream courses, Kau Lung Hang, Yuen Leng, Nam Wa Po, Tai Hang in Tai Po North and Ping Kong in Sheung Shui are susceptible to flooding during heavy rainstorms. Moreover, changes in land use in the areas over the years have resulted in paving of tracts of natural ground, thus causing them impermeable. Rainwater can no longer dissipate naturally through ground infiltration as in the past. This has led to an increase in surface run-off and aggravated the extent of flooding in the areas.

5. To tackle the flooding problem in Northern New Territories and meet the community's increasing expectation for better flood protection level, we have implemented a comprehensive drainage improvement programme in phases starting at the downstream end. We have commenced the construction of drainage channel for the downstream section of Ma Wat River from Jockey Club Road Interchange at Wo Hop Shek to Kau Lung Hang for completion in end 2008. Recently, we have substantially completed the design of the upstream section of Ma Wat River and the drainage system at Ping Kong, which are ready for construction. We also need to divert watermains and construct vehicular and pedestrian accesses affected by the proposed works. As regards the last package in San Tin North, we are still discussing with locals and parties likely to be affected by the proposed works.

6. Upon completion of the proposed works, the risk of flooding during heavy rainstorms in the low-lying areas concerned will be reduced. The main drainage system at Ping Kong, Kau Lung Hang, Yuen Leng, Nam Wa Po and Tai Hang areas will be improved to withstand flood events with a return period<sup>1</sup> of one in 50 years.

## FINANCIAL IMPLICATIONS

7. We estimate the project cost of the proposed works under **112CD** to be \$261 million in MOD prices, made up as follows -

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<sup>1</sup> "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.

	<b>\$ million</b>
(a) Construction of drainage channels and box culverts in Kau Lung Hang, Yuen Leng, Nam Wa Po and Tai Hang areas	147
(b) Construction of drainage channels and box culverts in Ping Kong area	35
(c) Construction and reprovisioning of vehicular/ pedestrian accesses	49
(d) Ancillary works	10
(e) Environmental mitigation measures	3
(f) Contingencies	17
Total	261 (in MOD prices)

8. We estimate that the annual recurrent expenditure arising from this project is about \$ 1.6 million.

## **PUBLIC CONSULTATION**

9. We consulted the Tai Po District Council on 16 May 2003 for the proposed drainage works at Kau Lung Hang, Yuen Leng, Nam Wa Po and Tai Hang Areas. They supported the implementation of the proposed works. We gazetted the proposed works under the Roads (Works, Use and Compensation) Ordinance on 10 December 2004 and received a total of 40 objections. Two objections were withdrawn unconditionally after our clarification of the proposed works, 26 were withdrawn with acceptable conditions and 12 have remained unresolved. The details of the objections are given at **Enclosure 2**. To minimise the adverse impacts of the works and to address the objections, we amended the Scheme and subsequently gazetted the Amendment Plans and the Amendment Scheme on 9 September 2005, to which no further objection was received. After considering the objections, the Chief Executive in Council authorized the works under the Roads (Works, Use and Compensation) Ordinance on 9 May 2006.

10. We also consulted the North District Council on 15 September 2003 for the proposed drainage improvement works at Ping Kong in Sheung Shui. They supported the implementation of the proposed works. We gazetted the proposed works on 25 February 2005, and received three objections. Two objections were lodged against works details and the other one against the extent of the land resumption of his land lot. All remained unresolved despite meetings with the objectors. The Chief Executive in Council, having considered the three unresolved objections, authorized the works with modifications under the Roads (Works, Use and Compensation) Ordinance on 7 February 2006.

## ENVIRONMENTAL IMPLICATIONS

11. The proposed works to be part-upgraded under **112CD** is not a designated project under the Environmental Impact Assessment Ordinance. We completed an Environmental Study (ES) for the proposed works in 2003. The ES has concluded that with full implementation of the recommended mitigation measures and environmental monitoring and audit programme, the works would not have significant residual environmental impacts. We would incorporate the ES recommendations into the works contract for implementation. During construction, we will control noise, dust and site run-off through implementation of mitigation measures such as the use of temporary noise barriers and silenced construction plant to reduce noise generation, water-spraying to reduce emission of dust, working in dry environment with appropriate water diversion with bunds and barriers to control water pollution during excavation. The base of drainage channel will all be lined with rocks and gravels to foster ecological habitats development.

12. We will also require the contractor to submit a waste management plan (WMP) for approval. The WMP will include appropriate mitigation measures to avoid, reduce, reuse and recycle construction and demolition (C&D) materials. We will ensure that the day-to-day operations on site comply with the approved WMP. We will control the disposal of public fill and C&D waste to public fill reception facilities<sup>2</sup> and landfills respectively through a trip-ticket system. We will require the contractor to separate public fill from C&D waste for disposal at appropriate facilities. We will record the disposal, reuse and recycling of C&D materials for monitoring purposes.

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<sup>2</sup> Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of public fill in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

13. We estimate that the project will generate about 397 600 tonnes of C&D materials. Of these, we will reuse about 102 000 tonnes (26 %) on site, deliver 222 600 tonnes (56 %) to public fill reception facilities for subsequent reuse. In addition, we will dispose of 73 000 tonnes (18 %) at landfills. The total cost for accommodating C&D materials at public fill reception facilities and landfill sites is estimated to be about \$15.1 million for this project (based on a unit cost of \$27/tonne for disposal at public fill reception facilities and \$125/tonne at landfills<sup>3</sup>.)

## TRAFFIC IMPLICATONS

14. We have carried out a traffic impact assessment (TIA) for the proposed works. The TIA has concluded that the proposed works would not cause unacceptable traffic impact.

## BACKGROUND

15. In September 2000, we included **112CD** “Drainage improvement in Northern New Territories – package A” in Category B of the Public Works Programme for the drainage improvement works in San Tin North, Fanling, Sheung Shui and Tai Po North.

16. In March 2005, we upgraded part of **112CD** to Category A as **137CD** “Drainage Improvement for Ma Wat River at Kau Lung Hang” for improving the capacity of the drainage system in the areas concerned. The construction commenced in June 2005 for completion in end 2008.

17. In February 2006, we upgraded part of **112CD** to Category A as **145CD** “Upgrading of stormwater drains in Sheung Shui and Fanling” for improving the capacity of the drainage system in the areas concerned. The construction commenced in March 2006 for completion in June 2009.

18. Of the 1 061 no. of trees within the project boundary, about 328 no. of trees will be preserved. The proposed drainage improvement works will involve the removal of about 733 no. of common trees including about 690 no. of trees to be felled and about 43 no. of trees to be transplanted within the project site.

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<sup>3</sup> The 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.

All trees to be removed are not important trees<sup>4</sup>. We will incorporate planting proposal as part of the project, including estimated quantities of 1 992 no. of trees and 46 500 m<sup>2</sup> of grassed area.

19. We estimate that the proposed works will create about 120 jobs (104 for labourers and another 16 for professional/technical staff) providing a total employment of about 4 700 man-months.

### **ADVICE SOUGHT**

20. Members are invited to support our proposal of part-upgrading of **112CD** for consideration by the Public Works Subcommittee in late 2006 prior to seeking funding approval from the Finance Committee.

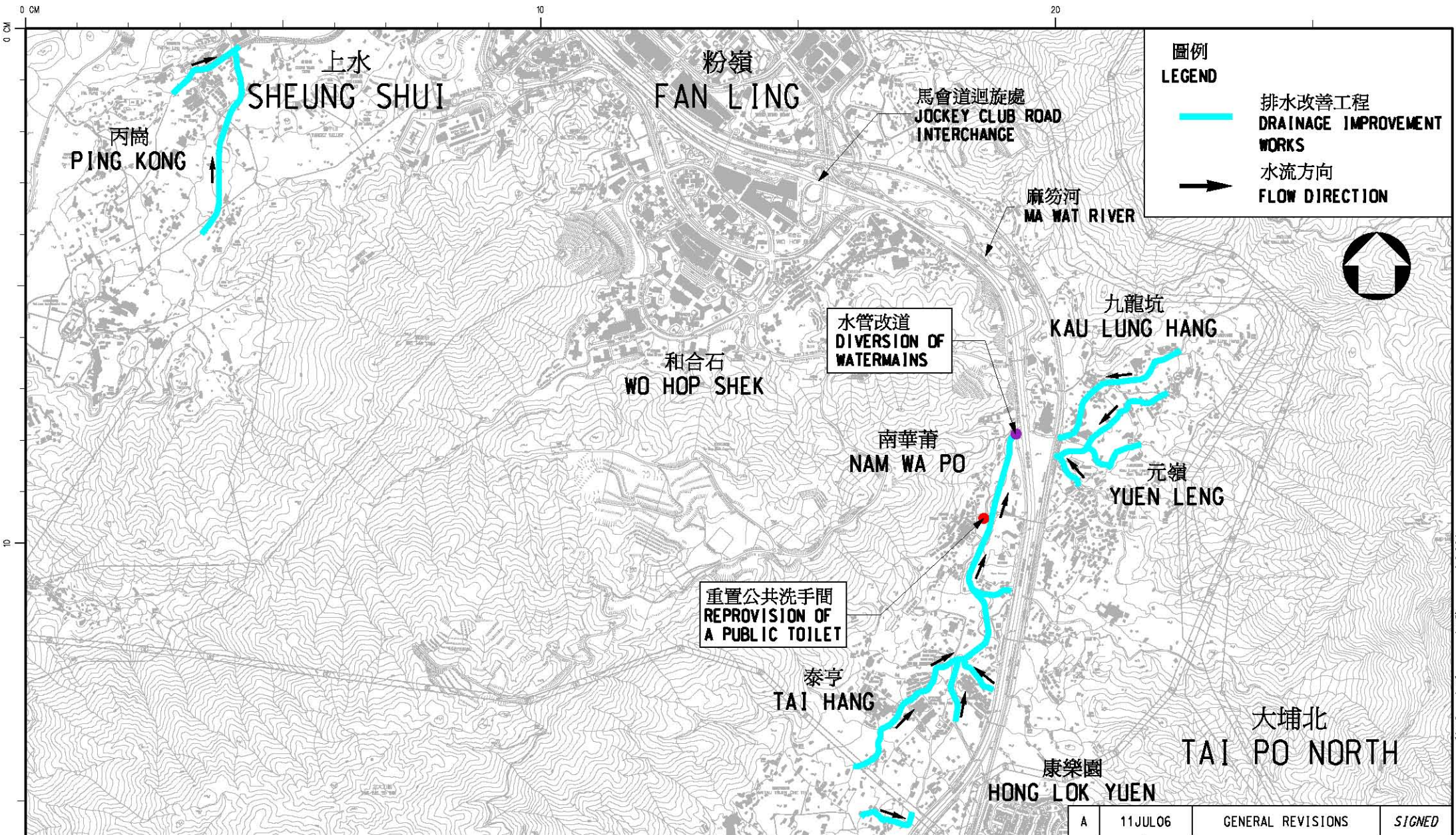
**Environmental, Transport and Works Bureau**  
**July 2006**

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<sup>4</sup> “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 events;
- (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 metre (measured at 1.3 metre above ground level), or with height/canopy spread equal or exceeding 25m.





**圖例**  
**LEGEND**

 排水改善工程  
**DRAINAGE IMPROVEMENT WORKS**

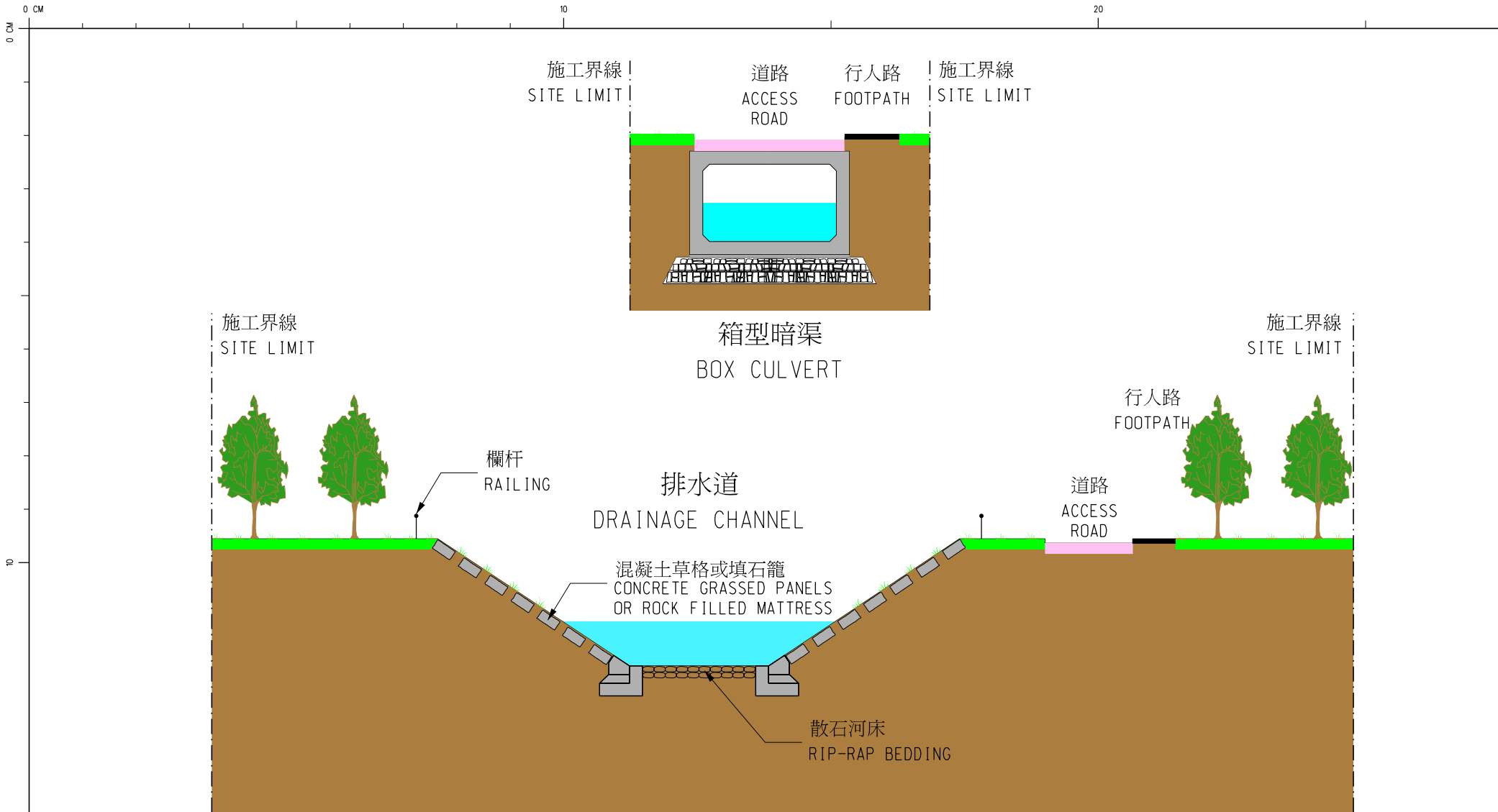
 水流方向  
**FLOW DIRECTION**



圖則名稱 drawing title <b>丙崗、九龍坑、元嶺、南華莆及泰亨地區排水改善工程 - 分布圖</b> <b>DRAINAGE IMPROVEMENT IN PING KONG, KAU LUNG HANG, YUEN LENG, NAM WA PO AND TAI HANG AREAS - LAYOUT PLAN</b>		繪畫 drawn <i>SIGNED</i> C.K.LAM 核對 checked <i>SIGNED</i> W.C.SIU 批核 approved <i>SIGNED</i> C.M.CHUNG 部門 office <b>工程管理部</b> <b>PROJECT MANAGEMENT DIVISION</b>		日期 date 26MAY06 日期 date 07JUN06 日期 date 07JUN06		圖則編號 drawing no. <b>DPM/112CD/0098A</b> 保留版權 COPYRIGHT RESERVED <b>香港特別行政區政府渠務署</b> DRAINAGE SERVICES DEPARTMENT GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION		比例 scale 1:20 000	
A		11JUL06		GENERAL REVISIONS		SIGNED			

附件一(頁一, 共二頁) ENCLOSURE 1 (SHEET 1 OF 2)





圖則名稱 drawing title		A		27JUN06	GENERAL REVISIONS	SIGNED	
丙崗、九龍坑、元嶺、南華莆及泰亨地區排水改善工程 - 河道及箱型暗渠典型切面圖 DRAINAGE IMPROVEMENT IN PING KONG, KAU LUNG HANG, YUEN LENG, NAM WA PO AND TAI HANG AREAS - TYPICAL CROSS-SECTIONS OF DRAINAGE CHANNEL AND BOX CULVERT		繪畫 drawn	SIGNED	C.K.LAM	日期 date	26MAY06	
		核對 checked	SIGNED	W.C.SIU	日期 date	07JUN06	
		批核 approved	SIGNED	C.M.CHUNG	日期 date	07JUN06	
		部門 office	工程管理部		PROJECT MANAGEMENT DIVISION		
		圖則編號 drawing no.		DPM/112CD/0099A		比例 scale	
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		香港特別行政區政府渠務署		DRAINAGE SERVICES DEPARTMENT GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION			

附件一 (頁二, 共二頁) ENCLOSURE 1 (SHEET 2 OF 2)



**Nature of objections received under the Roads  
(Works, Use and Compensation) Ordinance for the proposed drainage  
works at Kau Lung Hang, Yuen Leng, Nam Wa Po and Tai Hang Areas**

We gazetted under the Roads (Works, Use and Compensation) Ordinance on 10 December 2004 for the proposed drainage works at Kau Lung Hang, Yuen Leng, Nam Wa Po and Tai Hang Areas and received 40 objections. We held meetings with the objectors from February 2005 to April 2005 to clarify the need for the works and their concerns. The objectors generally requested the Government to reduce the scale of the proposed works and pay them monetary compensation for the demolition of their squatter structures.<sup>5</sup> Two objections were withdrawn unconditionally after our clarification of the proposed works, 26 were withdrawn with acceptable conditions and 12 have remained unresolved. They can be classified into four groups as follow-

Objections	No. of Objections		
	Withdrawn unconditionally	Withdrawn with acceptable conditions	Not withdrawn
<b>Group A (3 objections)</b> – the objectors live in squatter structures that fall within the site boundary and will thus have to be cleared. Only those objections in Group A will involve re-housing issues.	-	1	2
<b>Group B (19 objections)</b> – part of the land upon which the objectors are residing or on which their ancillary squatter structures are located is within the site boundary and will thus have to be cleared or resumed, although the objectors' squatter structures in which they live will continue to be habitable after the clearance/resumption.	-	11	8

<sup>5</sup> We will clear about 3.75 hectares of Government land and resume about 2.6 hectares of private agricultural land. The land acquisition and clearance will affect 9 households involving 34 persons and 9 temporary domestic structures, of which 5 households involving 19 persons and 5 domestic structures are residing in Government land and 4 households involving 15 persons and 4 temporary domestic structures are residing in private agricultural land. We will charge the land acquisition and clearance costs, estimated to be \$65 million, to Head 701 – Land Acquisition.

**Enclosure 2 (Sheet 2 of 2)**

<b>Objections</b>	<b>No. of Objections</b>		
	<b>Withdrawn unconditionally</b>	<b>Withdrawn with conditions accepted</b>	<b>Not withdrawn</b>
<b><u>Group C (11 objections)</u></b> – the objectors own vacant land that either partly or wholly falls within the site boundary and will thus have to be resumed.	-	10	1
<b><u>Group D (7 objections)</u></b> – the objectors live in squatter structures outside the site boundary.	2	4	1
<b>Total</b>	2	26	12

2. We advised the objectors concerned that, under the prevailing re-housing policy of the Government, affected squatter occupants will be re-settled in public housing, including interim housing, according to the prevailing eligibility criteria, including the Comprehensive Means Test (i.e. income and assets criteria).

3. In regard to monetary compensation, we advised them that, the Government used to issue Government Land Licences or Modification of Tenancy Permits (the “Licences”) for the erection of temporary agricultural/domestic structures on Government land or private land. The location, usage and area of those structures are specified in and governed by the Licences. The Licences might be cancelled by the Government upon serving sufficient prior notice to the licensees as specified in the Licences. No compensation will be paid to the affected squatter occupants in respect of clearance of the structures on Government land. In respect of private land, compensation will be paid to registered land owners for resumption of their land. Ex-gratia allowance may be paid to affected squatter occupants in respect of clearance of agricultural structures on private land, subject to their fulfilling the necessary requirements. Compensation in relation to crops/cultivation will be paid to eligible cultivators.