

For information

Legislative Council Panel on Planning, Lands and Works

118CD – Drainage improvement in Northern New Territories – package B

PURPOSE

This paper briefs Members on the Administration's proposal to upgrade part of **118CD** "Drainage improvement in Northern New Territories – package B" to Category A at an estimated cost of about \$59 million in money-of-the-day (MOD) prices for improving the existing drainage systems in Kwu Tung South and Fu Tei Au in Sheung Shui.

PROJECT SCOPE

2. The scope of the proposed drainage works to be part-upgraded comprises –
 - (a) construction of about 1.6 kilometres (km) of drainage channels and provision of ancillary works in Kwu Tung South; and
 - (b) construction of about 0.2 km of drainage channels and provision of ancillary works in Fu Tei Au.

A location plan showing the proposed works is at **Enclosure**.

3. We plan to start the proposed drainage improvement works in mid 2006 for completion in early 2009.

JUSTIFICATION

4. Owing to developments and extensive changes in land use in the Northern New Territories over the years, large tracts of natural ground have been paved over and become impermeable. Rainwater which would previously dissipate naturally through ground infiltration can no longer do so. This has led to significant increase in surface run-off and overloading of the existing drainage systems and streamcourses. As such, many areas of Northern New Territories are susceptible to flooding during heavy rainstorms.

5. To alleviate the flooding risks in Northern New Territories and to meet the community's increasing expectation for better flood protection, we have planned and implemented a comprehensive drainage improvement programme in phases starting from the downstream end. Since 1995, we have started training of major downstream rivers including Shenzhen River, River Indus and River Beas. With those works being gradually completed, we have reviewed the upstream and local drainage systems in Northern New Territories under **55CD** "Drainage Master Plan Study in the Northern New Territories" (the Study).

6. The Study has identified that many areas in Kwu Tung South including Kam Tsin, Hang Tau Tai Po, Tong Kung Leng, Tsiu Keng, Lin Tong Mei Tsoi Yuen and some low-lying areas in Fu Tei Au are susceptible to flooding during heavy rainstorms mainly due to the inadequate drainage capacity of existing streamcourses. We have substantially completed the detailed design for the proposed drainage channels in Kwu Tung South and Fu Tei Au and plan to start works so as to bring early improvement to these areas.

7. Upon completion of the proposed works, the drainage systems in Kwu Tung South and Fu Tei Au will be generally improved to withstand rainstorms with a return period¹ of one in 50 years.

FINANCIAL IMPLICATIONS

8. We estimate the cost of the proposed works to be about \$59 million (in MOD prices), made up as follows –

| | | \$ million |
|-----|--|-------------------|
| (a) | Construction of drainage channels and ancillary works in | 46 |
| | (i) Kwu Tung South | 39 |
| | (ii) Fu Tei Au | 7 |
| (b) | Environmental mitigation measures | 3 |
| (c) | Consultants' fees for contract administration and site supervision | 5 |

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

(d) Contingencies

5

| | | |
|-------|-----------|-----------------|
| Total | <u>59</u> | (in MOD prices) |
|-------|-----------|-----------------|

9. We estimate that the proposed works will give rise to an additional annual recurrent expenditure of about \$300,000.

PUBLIC CONSULTATION

10. We consulted the North District Council on 20 September 2004. Members supported the implementation of the proposed works.

11. We gazetted the proposed works under the Roads (Works, Use and Compensation) Ordinance on 20 May 2005. Out of four objections received under the gazettal, three objectors were concerned that their business and the development potential of the land would be affected due to land resumption, and one requested for a proper vehicular access leading to the remaining portion of land upon resumption. Three objectors withdrew their objections upon our revision of the scheme to reduce or exclude their land from resumption. For the remaining objector, we declined his request as there is no existing vehicular access for his lots and the scope of project does not involve construction of new roads. The objector maintained the objection. After considering the objection, the Chief Executive in Council authorised the proposed works on 7 February 2006.

ENVIRONMENTAL IMPLICATIONS

12. The project is not a designated project under the Environmental Impact Assessment Ordinance. We have completed an Environmental Study which concludes that there would not be any long term adverse environmental impacts arising from the proposed works. For short-term impacts caused by the works during construction, we will control noise, dust and site run-off within established standards and guidelines through implementation of mitigation measures, such as the use of temporary noise barriers, silenced construction equipment and water-spraying to reduce noise and dust generated by the works. We will also carry out regular site inspections to ensure that these recommended mitigation measures and good site practices will be properly implemented on site.

13. We have considered ways in the planning and design stages to reduce the generation of construction and demolition (C&D) materials where possible. For example, we have determined the alignments of the proposed drainage channels such that excavation and demolition of existing structures

would be minimized, and adopted standardised sections of reinforced concrete structures to minimise the use of formwork. We will encourage the contractor to use non-timber formwork and recyclable material for temporary works. We will also require the contractor to carry out on-site sorting to recover reusable/recyclable material from C&D materials to minimise disposal of C&D materials and waste. In addition, we will require the contractor to reuse inert C&D materials (e.g. the excavated material as filling material) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of C&D materials to public fill reception facilities². We will encourage the contractor to maximise the use of recycled and recyclable C&D materials to further minimise the generation of construction waste.

14. We will also require the contractor to submit a waste management plan for approval. The plan will include appropriate mitigation measures (e.g. allocation of an area for waste segregation) to avoid, reduce and recycle C&D materials. We will ensure that the day-to-day operations on site comply with the approved plan. We will control disposal of public fill and C&D waste to public filling reception facilities and landfills respectively through a trip-ticket system. We will require the contractors 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.

15. We estimate that the project will generate about 46 900 tonnes of C&D materials. Of these, we will reuse about 6 200 tonnes (13%) on site and deliver 30 800 tonnes (66%) to public fill reception facilities for subsequent reuse. In addition, we will dispose of 9 900 tonnes (21%) at landfills. The total cost for accommodating C&D materials at public fill reception facilities and landfill sites is estimated to be about \$2 million for this project (based on an unit cost of \$27/tonne for disposal at public fill reception facilities and \$125/tonne at landfills³).

TRAFFIC IMPLICATIONS

16. 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.

² 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.

³ 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/m³), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

BACKGROUND INFORMATION

17. Taking into account the phasing of land resumption and clearance for land required in different locations, the drainage improvement works under **118CD** will be implemented in three phases.

18. For phase 1, we included an item “Site investigation for rural drainage rehabilitation scheme in the North West New Territories” under the block allocation **Subhead 4100DX** “Drainage works, studies and investigations for items in Category D of Public Works Programme” in June 2005 at an approved project estimate of \$3.97 million in MOD prices for carrying out the drainage improvement works of a watercourse. The watercourse is located at the north of the junction between Fu Tei Au Road and Man Kam To Road in Sheung Shui. The construction works commenced in October 2005 for completion in January 2007.

19. Phase 2 refers to the proposed works to be upgraded to Category A and comprises the construction of drainage channels in Kwu Tung South and Fu Tei Au in Sheung Shui. We have substantially completed the design and plan to start the construction of the proposed works in mid 2006 for completion in early 2009.

20. Phase 3 comprises the construction of drainage channels in San Tin, Ma Tso Lung, Kwu Tung North and Sha Ling of Fu Tei Au. Planning and design works for phase 3 are underway.

21. When designing the drainage channels under the proposed works, we have tried our best to keep the felling of trees to a minimum, but it is still necessary to remove about 75 trees including 50 trees to be felled and 25 trees to be replanted within the site, all of which are not important trees⁴. We will incorporate planting of about 393 trees and 9 205 m² of grassed area as part of the project.

⁴ Important trees include trees on the Register of Old and Valuable Trees, and any other trees which meet one or more of the following criteria –

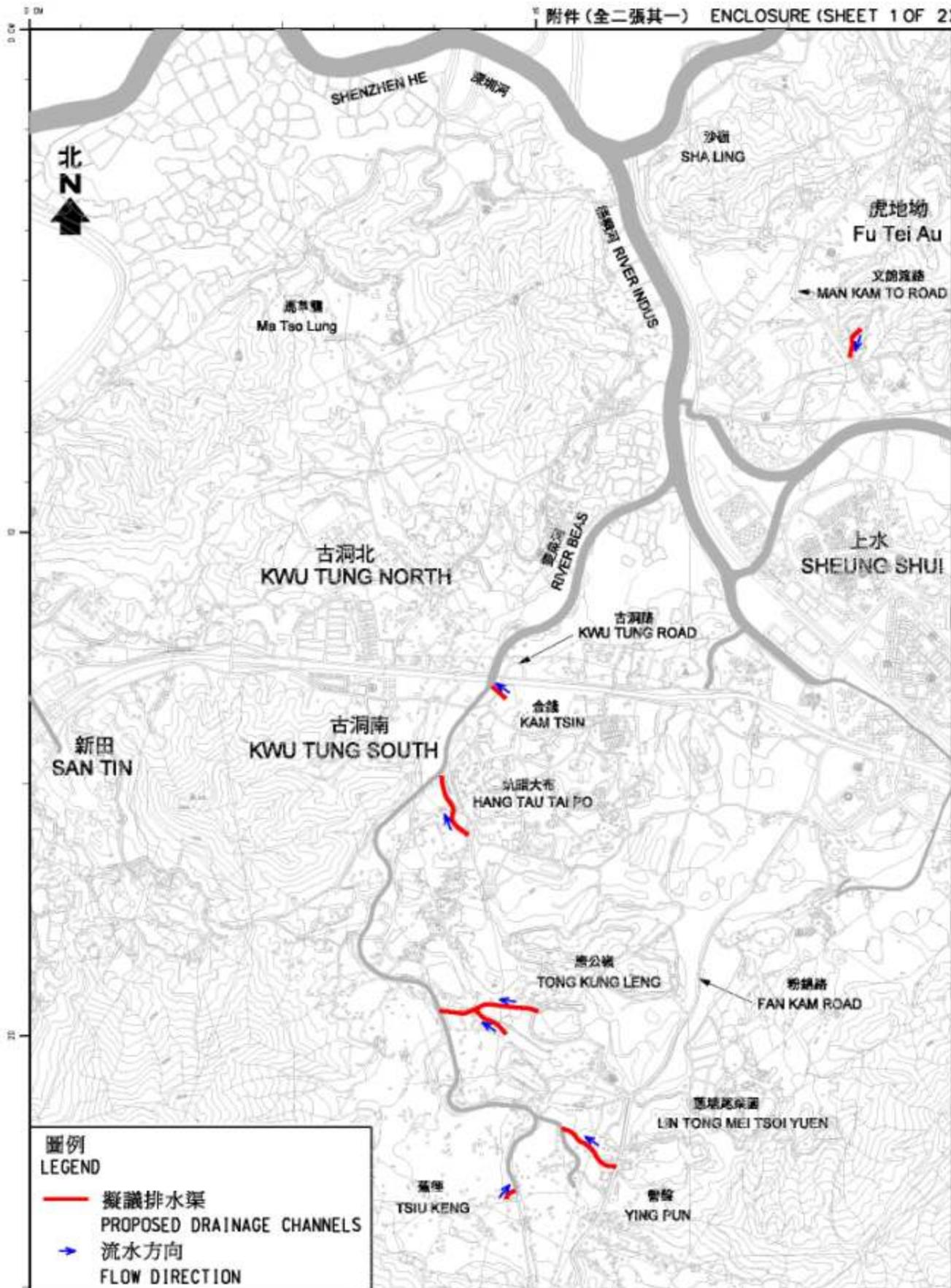
- (a) trees over 100 years old;
- (b) trees of cultural, historical or memorable significance;
- (c) trees of precious or rare species;
- (d) trees of outstanding form; or
- (e) trees with trunk diameter exceeding one metre (measured at one metre above ground level).

22. We estimate that the proposed works will create about 43 jobs (35 for labourers and another eight for professional/technical staff) providing a total employment of 900 man-months

WAY FORWARD

23. Members are invited to support our proposal for part-upgrading of **118CD** for consideration by the Public Works Subcommittee in May 2006 with a view to seeking funding approval of the Finance Committee in June 2006.

Environment, Transport and Works Bureau
March 2006



圖例
LEGEND

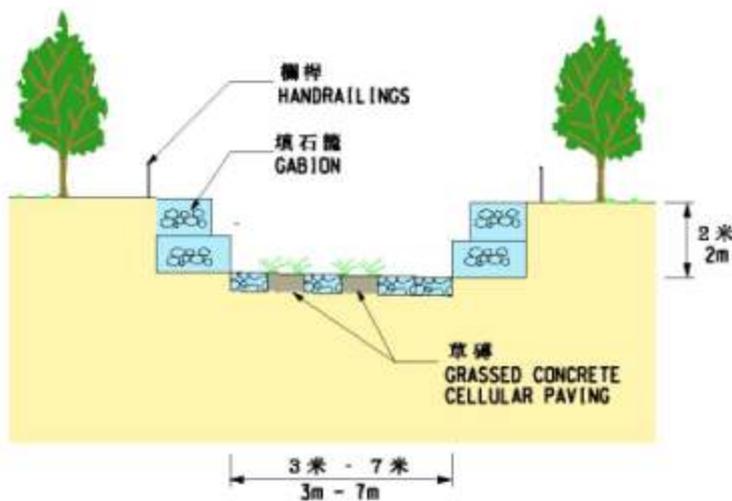
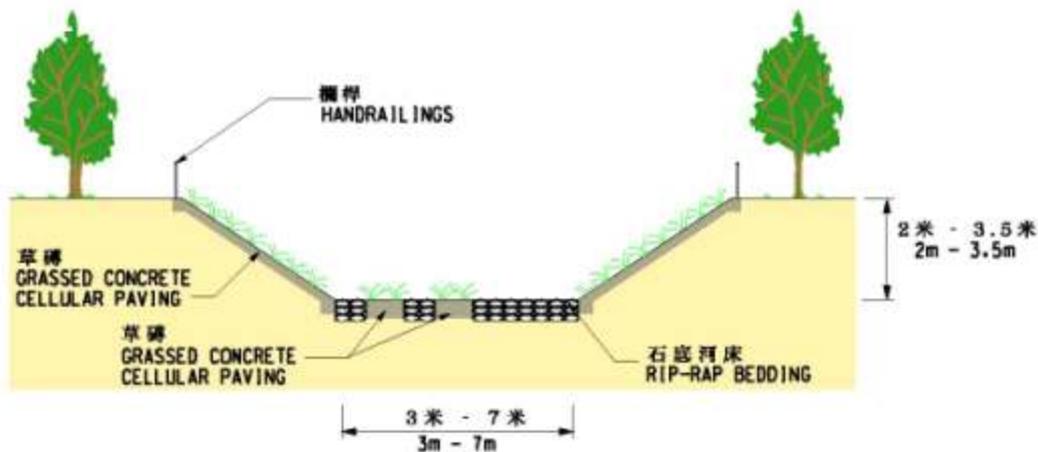
— 擬議排水渠
PROPOSED DRAINAGE CHANNELS

→ 流水方向
FLOW DIRECTION

圖則名稱 drawing title
工務工程計劃編號 118CD
新界北部雨水排放系統改善計劃 - B 部分
PWP ITEM No. 118CD
DRAINAGE IMPROVEMENT
IN NORTHERN NEW TERRITORIES
- PACKAGE B

| | | | |
|-------------|-------------------------------------|---------|------------|
| 繪畫 drawn | S.C. TAM | 日期 date | 01.03.2006 |
| 核對 checked | S.S. POON | 日期 date | 01.03.2006 |
| 批核 approved | B.K. KWOK | 日期 date | 01.03.2006 |
| 部門 office | 排水工程部 DRAINAGE PROJECTS DIVISION | | |

| | |
|---|----------|
| 圖則編號 drawing no. | 比例 scale |
| SK-T3-06-19 | N.T.S. |
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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 | |



圖則名稱 drawing title

工務工程計劃編號118CD
新界北部雨水排放系統改善計劃—B部分
PMP ITEM No. 118CD - DRAINAGE IMPROVEMENT IN
NORTHERN NEW TERRITORIES - PACKAGE B

河道典型切面圖
TYPICAL CROSS-SECTION OF
DRAINAGE CHANNELS

繪畫 drawn

S. C. TAM

日期 date
27.2.2006

核對 checked

S. S. POON

日期 date
27.2.2006

批核 approved

B. K. KWOK

日期 date
27.2.2006

部門 office

排水工程處

DRAINAGE PROJECTS DIVISION

圖則編號 drawing no.

SK-T3-06-018

比例 scale

N.T.S.

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