

**For discussion
on 21 December 2004**

**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 \$233 million in money-of-the-day (MOD) prices for the construction of a drainage channel for Ma Wat River at Kau Lung Hang and drainage crossings under the East Rail embankments at Kau Lung Hang and north of Hong Lok Yuen. It also reports the progress made in resolving the objections received under the Roads (Works, Use and Compensation) Ordinance upon gazettal of the proposed works.

BACKGROUND

2. In October 1999, we completed a comprehensive review of the drainage systems in Northern New Territories under **55CD** "Drainage master plan study in Northern New Territories" (the Study). The Study has identified that some of the existing streamcourses and drainage systems are inadequate to meet the required flood protection standard and future development needs.

3. The Study recommends a three-package programme (namely Packages A, B and C) of drainage improvement works to tackle the flooding problems in the areas. Package A covers works in San Tin North, Fanling, Sheung Shui and Tai Po North with higher flooding risks whereas Packages B and C cover other parts of Northern New Territories, such as, San Tin South, Kwu Tung and Ma Tso Lung.

4. In September 2000, we upgraded Package A drainage improvement works to Category B as **112CD** "Drainage Improvement in Northern New Territories – package A". We included **118CD** "Drainage improvement in Northern New Territories – package B" and **119CD** "Drainage improvement in Northern New Territories – package C" in Category B in November 2001.

5. In June 2001, we upgraded part of **112CD** to Category A as **116CD** “Drainage Improvement in Northern New Territories – package A – consultants’ fees and investigations” for carrying out site investigation, impact assessments and preliminary design for **112CD**. The consultancy commenced in March 2002 and will be completed in mid 2006. We have deployed in-house resources to carry out the detailed design and site supervision of the works.

6. Taking into account the urgency and construction sequences of the proposed works of **112CD**, we propose to carry out the drainage improvement works in three phases. We now propose to upgrade the phase 1 works, which cover drainage improvement for Ma Wat River from Jockey Club Road Interchange at Wo Hop Shek to Kau Lung Hang and the two drainage crossings under the East Rail embankments at Kau Lung Hang and north of Hong Lok Yuen in Tai Po North.

7. The detailed design of phase 1 works will be substantially completed in January 2005 and construction will start in May 2005 for completion in October 2008.

8. Phase 2 works comprise the construction of drainage channels upstream of Ma Wat River and phase 3 works involve the upgrading of drains in Fanling, Sheung Shui and San Tin North. The planning and design of the phases 2 and 3 works is underway.

PROJECT SCOPE AND NATURE

9. The scope of the proposed phase 1 works to be part-upgraded under **112CD** comprises -

- (a) construction of about 1.8 kilometres (km) long trapezoidal drainage channel with width ranging from 3 metres (m) to 29 m for Ma Wat River;
- (b) construction of two new drainage pipe crossings under the East Rail embankments at Kau Lung Hang and north of Hong Lok Yuen respectively;
- (c) reprovisioning of an inflatable dam and ancillary control house for water supply;

- (d) diversion of 11 existing watermains of diameter ranging from 0.6 m to 2.3 m; and
- (e) reprovisioning of access roads and two vehicular and pedestrian crossings.

A site plan and a typical cross-section of the proposed works are at **Enclosure 1**.

JUSTIFICATION

10. The drainage of some areas in Northern New Territories is by means of natural streamcourses or drains built many years ago to meet the flow requirements and standards at that time. Owing to rapid developments and extensive changes in land use in Northern New Territories over the years, more and more natural ground has been paved over and become impermeable. Rainwater which would previously dissipate naturally through the ground can no longer do so. This has led to a significant increase in surface run-off and overloading of the existing drainage system and streamcourses. As such, many areas of Northern New Territories are susceptible to flooding during heavy rainstorms.

11. To tackle the flooding problem in Northern New Territories and meet the community's increased expectation for better flood protection level, we have planned and implemented a comprehensive drainage improvement programme in phases starting at the downstream end. Since 1995, we have started training the major downstream rivers including Shenzhen River and River Indus. With the progressive completion of the major river training works, we have reviewed the upstream and local drainage systems in Northern New Territories under the Study.

12. The Study has identified that many areas in Tai Po North including Kau Lung Hang, Nam Wa Po, Yuen Leng, Tai Hang and some low-lying areas north of Hong Lok Yuen are susceptible to flooding during heavy rainstorms. The main cause is the inadequate drainage capacity of Ma Wat River. The Study has also revealed that the two existing box culverts crossings under the East Rail embankments at Kau Lung Hang and Hong Lok Yuen are inadequate to cope with surface run-offs during heavy rainstorms, resulting in flooding in the adjacent low-lying areas. We therefore propose to carry out drainage improvement works mentioned in paragraph 9(a) and (b) above. We also need to re-provide an inflatable dam, watermains and the associated water supply facilities, access roads and vehicular and pedestrian crossings affected by the proposed works.

13. Upon completion of the proposed works, Ma Wat River and two drainage crossings under the East Rail embankments will be improved to withstand flood events with a return period¹ of one in 50 years, and the risk of flooding during heavy rainstorms in the low-lying areas of Kau Lung Hang and Nam Wa Po and the low-lying area near Hong Lok Yuen will be reduced.

FINANCIAL IMPLICATIONS

14. We estimate the project cost of the proposed works under **112CD** to be \$233 million in MOD prices, made up as follows -

	\$ million
(a) Construction of a drainage channel	96
(b) Construction of drainage pipe crossings by the trenchless method ²	36
(c) Reprovisioning of an inflatable dam and the ancillary control house for water supply	10
(d) Diversion of watermains	34
(e) Reprovisioning of access roads and crossings	33
(f) Environmental mitigation measures	3
(g) Contingencies	21
Total	<u>233</u> (in MOD prices)

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.

² The trenchless method refers to the use of boring techniques to construct underground pipes without opening up the railway embankments along the alignment of the pipes. The method would minimise the disturbance of the railway tracks above, thus reducing the risk of disrupting the operation and services of the railway line during the construction phase.

15. We estimate that the annual recurrent expenditure arising from this project is about \$ 1.1 million.

PUBLIC CONSULTATION

16. We consulted Tai Po District Council (TPDC) on 16 May 2003 on the proposed drainage works. They supported the implementation of the proposed works. We gazetted the proposed works under the Roads (Works, Use and Compensation) Ordinance on 5 December 2003. Out of a total of 65 objections received under the gazetting of the proposed works, four have been withdrawn unconditionally after clarification of the proposed works and 61 have remained unresolved despite meetings with the objectors. The nature and progress of the objections are given at **Enclosure 2**. On 23 July 2004, we reported progress of the proposed works to the Environment, Housing and Works Committee (the Committee) of TPDC. The Committee was also advised that under the prevailing Government policy, all the requests from the objectors for re-housing and compensation would be dealt with accordingly. A summary of the Government's policy on re-housing and compensation is at **Enclosure 3**. The Committee then requested the Administration to resolve their reasonable requests on re-housing and compensation before works start. The Chief Executive in Council authorized the works on 7 December 2004. The Director of Lands and the Director of Housing will initiate the process of re-housing and compensation arrangements.

ENVIRONMENTAL IMPLICATIONS

17. The proposed works now 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 plants to reduce noise generation, water-spraying to reduce emission of dust, working in dry environment with bunds and barriers to control water pollution during excavation. The base of Ma Wat drainage channel will all be lined with rocks and gravels with shallow pools formed at places to encourage ecological habitats.

18. We will require the contractor to submit a waste management plan (WMP) for approval. The WMP will include appropriate mitigation measures like the allocation of an area for waste segregation. We shall ensure that the day-to-day operations on site will comply with the WMP. We will encourage the contractors to use steel instead of timber in formwork and temporary works to reduce the generation of waste. We will require the contractor to implement necessary measures to minimise the generation of construction and demolition (C&D) materials and to reuse C&D materials as fill material as far as possible. We will control disposal of C&D materials and waste to public filling areas and landfills respectively through a trip-ticket system. We will record the disposal and reuse of C&D materials for monitoring purposes.

19. We estimate that the project will generate about 193 000 cubic metres (m³) of C&D materials. Of these, we will reuse about 154 000 m³ (80%) on site and dispose of 8 000 m³ (4%) at public filling area³ and 31 000 m³ (16%) at landfills. The notional cost⁴ of accommodating C&D waste at landfill sites is estimated to be about \$3.9 million for this project (based on a notional unit cost of \$125/m³).

JOB CREATION

20. We estimate that the proposed works will create about 120 jobs (105 for labourers and another 15 for professional/technical staff) providing a total employment of 3 800 man-months.

ADVICE SOUGHT

21. Members are invited to support our proposal of part-upgrading of **112CD** for consideration by the Public Works Subcommittee in January 2005 with a view to seeking funding approval of the Finance Committee in February 2005.

Environmental, Transport and Works Bureau
December 2004

³ A public filling area is a designated part of a development project that accepts public fill for reclamation purposes. Disposal of public fill in a public filling area requires a licence issued by the Director of Civil Engineering and Development.

⁴ 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/m³), nor the cost to provide new landfills (which are likely to be more expensive) when existing ones are filled. The notional cost estimate is for reference only and does not form part of this project estimate.

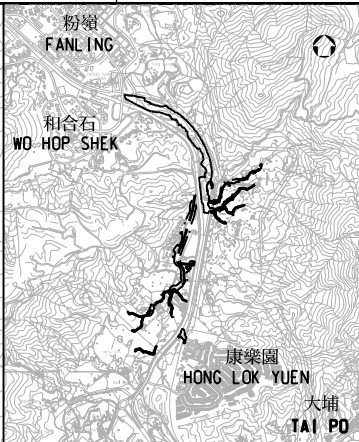
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LEGEND:

- 第一期工程 河道工程
 PHASE 1 WORKS: DRAINAGE CHANNEL WORKS
- 第二期工程 道路工程
 PHASE 2 WORKS: ACCESS ROAD WORKS

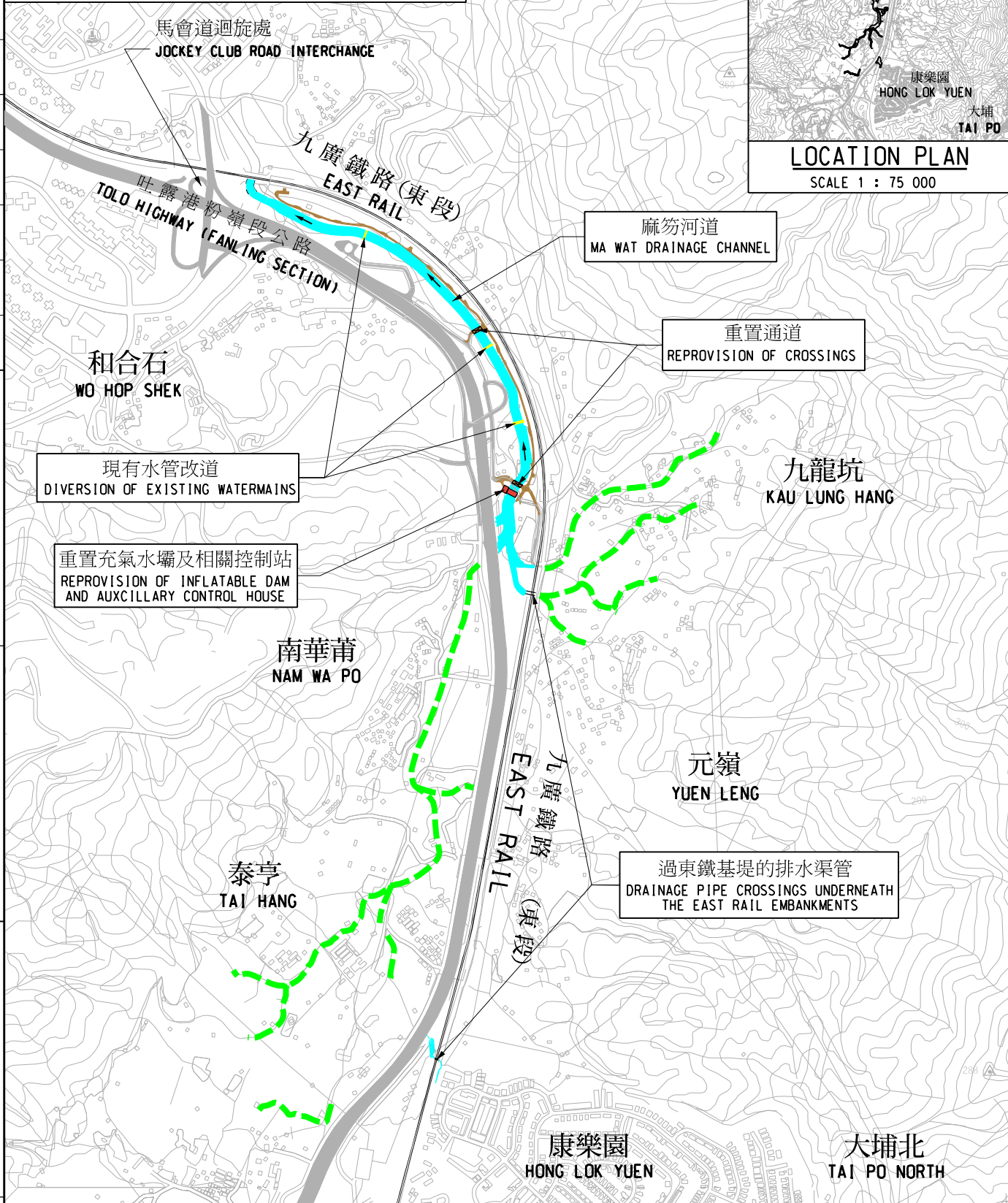


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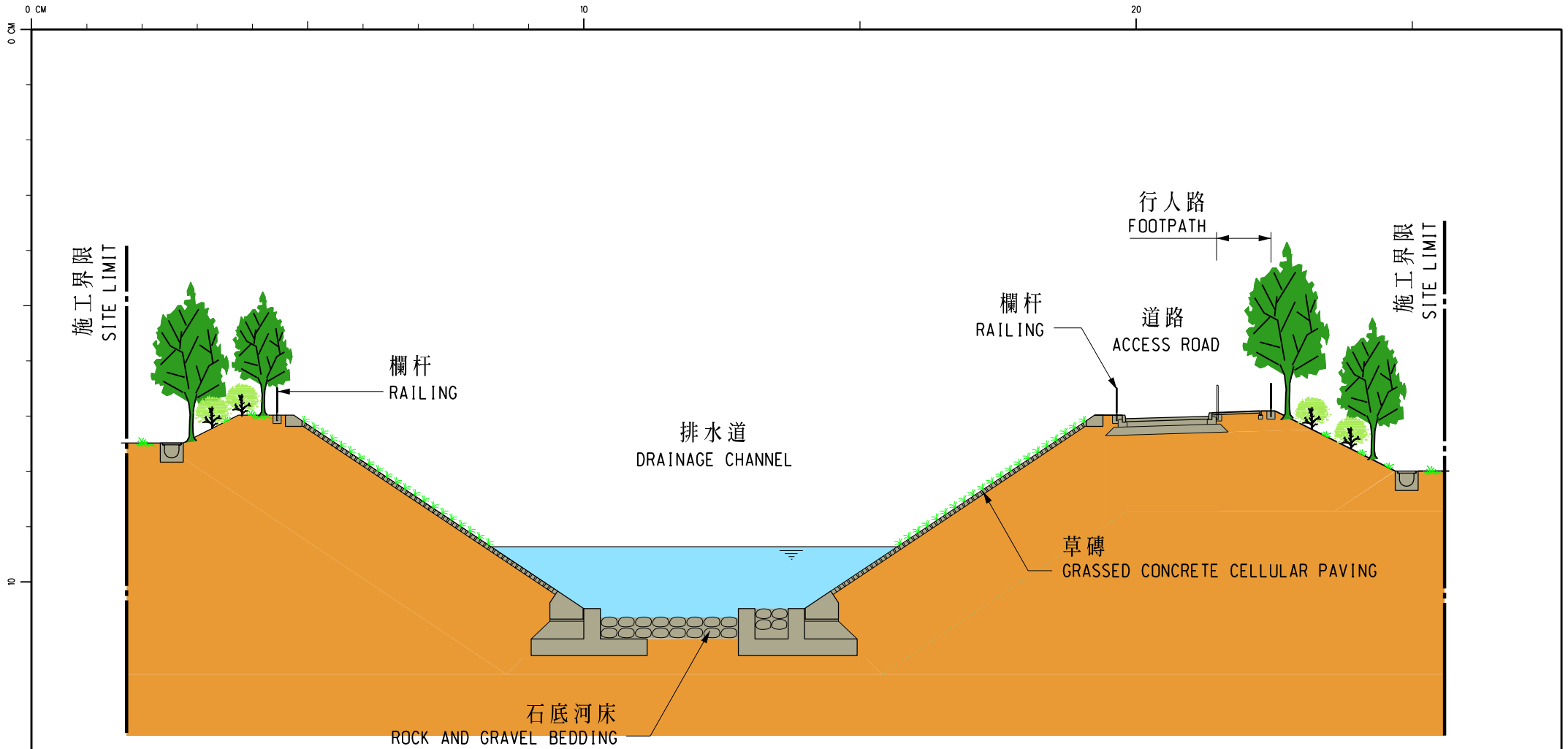
LOCATION PLAN

SCALE 1 : 75 000



drawing title 擬建九龍坑段的麻笏河及兩處過鐵路基堤渠道排水系統的改善工程 PROPOSED DRAINAGE IMPROVEMENT FOR MA WAT RIVER AT KAU LUNG HANG AND TWO DRAINAGE CROSSINGS UNDER RAILWAY EMBANKMENTS	drawn C.K. LI	date 11.11.04	site sketch no. SK-T1-04-041	scale 1 : 15 000
	checked S.C. MA	date	COPYRIGHT RESERVED	
	approved	date	DRAINAGE SERVICES DEPARTMENT GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION	
	office PROJECT MANAGEMENT DIVISION			

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PROVISIONAL
SUBJECT TO AMENDMENT

圖則名稱 drawing title

麻笏河梯形河道典型切面圖

TYPICAL CROSS-SECTION OF TRAPEZOIDAL DRAINAGE CHANNEL
AT MA WAT RIVER

繪畫 drawn	SIGNED	C.K. LI	日期 date	12.11.04
核對 checked	SIGNED	S.C. MA	日期 date	15.11.04
批核 approved	SIGNED	C.M. CHUNG	日期 date	14.12.04
部門 office	工程管理部 PROJECT MANAGEMENT DIVISION			

圖則編號 drawing no.	比例 scale
SK-T1-04-042	N.T.S.

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GOVERNMENT OF THE
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**Nature of objections received under the Roads
(Works, Use and Compensation) Ordinance and their progress**

In response to the gazetting of the road works under the Roads (Works, Use and Compensation) Ordinance on 5 December 2003, 65 objections were received. They can be classified into five groups -

- (a) Group A (31 objections) – the objectors live in the squatter structures that fall within the site boundary of the works (13 of which with objectors living on Government land and 18 on private agricultural land)
- (b) Group B (five objections) – the objectors operate business in rental structures that fall within the site boundary of the works (two of which with objectors operating on Government land and three on private agricultural land).
- (c) Group C (two objections) – the objectors own land lots that fall within the site boundary of the works.
- (d) Group D (25 objections) – the objectors live outside the site boundary of the works, mainly to support the requests of villagers from Groups A and B.
- (e) Group E (two objections) – the objectors are local residents' associations representing the squatters.

Only those objections in Group A will involve re-housing issues.

2. The objectors generally requested the Government to reduce the scale of the proposed works¹ and revise the alignment so as to avoid the clearance of their or their neighbours' squatter structures; exempt the affected residents from the Comprehensive Means Test (CMT) (i.e. income and assets criteria) when the Government assesses their eligibility for re-settlement in public housing; pay them monetary compensation for the demolition of their squatter structures.

¹ We will clear about 11.5 hectares of Government land and resume about 1.7 hectares of private agricultural land. The land acquisition and clearance will affect 81 households involving 156 persons and 51 temporary domestic structures, of which 54 households involving 98 persons and 22 domestic structures are residing in Government land and 27 households involving 58 persons and 29 temporary domestic structures are residing in private agricultural land. We will charge the land acquisition and clearance costs, estimated to be \$45 million, to Head 701 – Land Acquisition.

3. We held meetings with the objectors to clarify the need for the works and their concerns.

4. As regards the request to reduce the scale or revise the alignment of the proposed works, we have considered their requests in detail and further reviewed the design of the proposed works. Our review has concluded that since the proposed drainage improvement works serves a very large catchment area, the proposed layout has already minimized the land requirements while attaining a sufficient drainage capacity to meet the necessary flood protection standard. Realignment of the proposed drainage system was also found to be impractical having considered the constraints imposed by other public works and facilities nearby, including the East Rail, Tolo Highway (Fanling Section) and the Dongjiang Watermains. Since those affected squatter structures are located within the site boundary of the proposed drainage works, their clearance is inevitably required. Notwithstanding all the constraints on the layout and alignment of the proposed works, we have managed to make some modifications to the works and two objectors expressed that they were satisfied with the revisions. We have explained the need for the works and the results of our review during meetings with the objectors.

5. We also advised them 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 CMT.

6. In regard of 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.

7. Four objections have been withdrawn unconditionally after our clarification.

Policy on Re-housing and Compensation

The private land to be resumed falls within Zone C on the Zonal Plan for Calculation of Compensation Rates. In accordance with the prevailing policy, the affected owners of agricultural land in Zone C will be offered cash compensation at 50% of the basic rate. If the objectors do not accept the compensation offer, they may make statutory claims for compensation under the Roads (Works, Use and Compensation) Ordinance and Lands Resumption Ordinance, and if their claims cannot be settled by agreement, they may refer their claims to the Lands Tribunal for determination.

2. Under the current re-housing policy, the affected squatter occupants will be re-housed to public housing, including interim housing, according to the following eligibility criteria so as to safeguard the rational allocation of the scarce housing resources. The occupants must be genuine residents of a 1982 Housing Department (HD) Surveyed Domestic Structures and covered by the 1984/85 Squatter Occupancy Survey (SOS) of HD. They should have satisfied other eligibility criteria of Waiting List (WL) for public rental housing (PRH). If the occupants are not covered by the 1984/85 SOS but have proof of 2-year residence in a 1982 HD Surveyed Domestic Structure prior to the date of announcement of squatter area clearance and having satisfied other eligibility criteria of WL for PRH, they will be allotted a notional WL application number with a 2-year waiting time. Those holding a notional WL application may then be eligible for PRH under the Anticipatory Housing Scheme. All occupants must however satisfy a Comprehensive Means Test (CMT) covering both income and net assets value. At the same time, the occupants with rental eligibilities may opt to apply for purchase of flats in the Secondary Market Scheme in lieu of rehousing. Ex-gratia Allowance (EGA) will be payable for Permitted Occupiers of Licensed Domestic Structures and Surveyed Domestic Squatter Structures who meet the prevailing EGA eligibility criteria but are not provided with PRH. All occupants who are domestic property owners are ineligible for any form of rehousing and payment of EGA.

3. 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 were 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 affected squatter occupants in respect of clearance of 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 occupants in respect of clearance of agricultural structures on private land, subject to their fulfilling the necessary requirements. Compensation in relation to crops/cultivation and miscellaneous permanent improvements to farm will be paid to eligible cultivators.