

For discussion
on 9 June 2010

PWSC(2010-11)14

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 704 – DRAINAGE

Civil Engineering – Drainage Improvement

140CD – Reconstruction and rehabilitation of Kai Tak Nullah from Po Kong Village Road to Tung Kwong Road

Members are invited to recommend to Finance Committee –

- (a) the upgrading of part of **140CD**, entitled “Reconstruction and rehabilitation of Kai Tak Nullah from Po Kong Village Road to Tung Kwong Road – stage 1”, to Category A at an estimated cost of \$159.4 million in money-of-the-day prices; and
- (b) the retention of the remainder of **140CD** in Category B.

PROBLEM

We need to carry out some advance works by improving the traffic capacity of a section of Choi Hung Road to prepare for the construction of the improvement works to Kai Tak Nullah near Wong Tai Sin Police Station. Separately, the drainage capacity of the existing decked nullah across Prince Edward Road East (PERE) is not adequate to meet the current flood protection standard.

/PROPOSAL

PROPOSAL

2. The Director of Drainage Services, with the support of the Secretary for Development, proposes to upgrade part of **140CD** to Category A at an estimated cost of \$159.4 million in money-of-the-day (MOD) prices for carrying out local road widening works at Choi Hung Road adjacent to the section of Kai Tak Nullah near Wong Tai Sin Police Station, and constructing an additional box culvert alongside the existing decked nullah across PERE.

PROJECT SCOPE AND NATURE

3. The part of **140CD** which we propose to upgrade to Category A comprises the construction of –

- (a) about 200 metres (m) long local road widening works at Choi Hung Road adjacent to the section of Kai Tak Nullah near Wong Tai Sin Police Station, which is the advance works to facilitate the reconstruction, improvement and decking of a section of about 400 m long Kai Tak Nullah from Po Kong Village Road to Tai Shing Street / Tung Tai Lane in Wong Tai Sin;
- (b) about 100 m long additional twin-cell box culvert, with internal cell dimensions of 6 m in width by 4 m in height, adjoining the Kai Tak Nullah across PERE; and
- (c) ancillary works including drains and sewers diversion.

4. The proposed part-upgrading is the stage one works for the reconstruction and rehabilitation of Kai Tak Nullah from Po Kong Village Road to Tung Kwong Road. We will retain the remainder of **140CD** in Category B for implementation under stage two, which comprises –

- (a) reconstruction, improvement and decking of a section of about 400 m long Kai Tak Nullah from Po Kong Village Road to Tai Shing Street / Tung Tai Lane in Wong Tai Sin; and
- (b) reconstruction, improvement and rehabilitation of a section of about 200 m long Kai Tak Nullah from Tai Shing Street / Tung Tai Lane to Tung Kwong Road.

/We

We will consult the Legislative Council (LegCo) Panel on Development and submit a funding application separately at a later date when we are ready to take forward the implementation of the stage two works.

5. Subject to the approval of the Finance Committee (FC), we plan to commence construction in late 2010 for completion in late 2012. A location plan of Kai Tak Nullah is at Enclosure 1. Layout plans showing the proposed works in paragraphs 3(a) and 3(b) above are at Enclosures 2 and 3 respectively.

JUSTIFICATION

6. As mentioned in paragraph 4 above, **140CD** will be implemented in two stages. The proposed improvement works to the section of Kai Tak Nullah between Po Kong Village Road and Tung Kwong Road under stage two of **140CD** would require adequate works areas. While such works areas could be made available through temporary traffic management measures, such temporary measures might worsen the traffic situation at the busy junctions between Choi Hung Road and Po Kong Village Road. A more viable alternative would be to carry out under stage one of the project local road widening works in advance to increase the capacity of the road, so that traffic impact can be minimised during the nullah improvement works in the second stage. Besides, the proposed road widening works will also bring about permanent improvements to the existing traffic condition.

7. The drainage capacity of Kai Tak Nullah in Wong Tai Sin is not adequate to meet the current flood protection standard. In particular, the existing decked nullah across PERE is a bottle-neck posing flooding hazard to Wong Tai Sin area. Therefore, we propose to construct an additional box culvert alongside the existing decked nullah to increase the overall drainage capacity of the nullah thereby alleviating the flooding risk.

FINANCIAL IMPLICATIONS

8. We estimate the cost of the proposed works to be \$159.4 million in MOD prices (please see paragraph 9 below), broken down as follows –

	\$ million
(a) Construction of	118.7
(i) road improvement works at Choi Hung Road	6.7
	/(ii)

	\$ million
(ii) twin-cell box culvert across PERE	112.0
(b) Environmental mitigation measures	1.9
(c) Consultants' fees for	0.8
(i) contract administration	0.5
(ii) management of resident site staff	0.3
(d) Remuneration of resident site staff	11.3
(e) Contingencies	12.2
	Sub-total <u>144.9</u> (in September 2009 prices)
(f) Provision for price adjustment	<u>14.5</u>
	Total <u>159.4</u> (in MOD prices)

A detailed breakdown of the estimates for the consultants' fees and resident site staff costs by man-months is at Enclosure 4.

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

Year	\$ million (Sep 2009)	Price adjustment factor	\$ million (MOD)
2010 – 2011	14.6	1.02700	15.0
2011 – 2012	45.4	1.06551	48.4
2012 – 2013	55.9	1.10813	61.9
2013 – 2014	14.5	1.15246	16.7
2014 – 2015	14.5	1.19856	17.4
	<u>144.9</u>		<u>159.4</u>
			/10.

10. We have derived the MOD estimate on the basis of the Government's latest forecast of the trend rate of change in the prices of the public sector building and construction output for the period from 2010 to 2015. We have tendered the proposed works under a re-measurement contract because of the uncertainties arising from the underground utilities and ground condition and hence the volume of works to be involved. The contract will provide for price adjustments.

11. We estimate the additional annual recurrent expenditure arising from the proposed works to be \$50,000 of which \$31,000 comes from diversion of sewers. Based on the current level of expenditure on operation and day-to-day maintenance of sewerage facilities, the increase in the recurrent cost of providing sewage services is immaterial. Nevertheless, the recurrent expenditure will be taken into consideration when determining the sewage charges and trade effluent surcharge rates in future.

PUBLIC CONSULTATION

12. We consulted the Traffic and Transport Committees of Kowloon City District Council and Wong Tai Sin District Council on 7 January 2010 and 26 January 2010 respectively on the proposed works. Members supported the proposed works.

13. We circulated to the LegCo Panel on Development an information paper on the proposed works on 12 May 2010. Members raised no objection to the proposal.

ENVIRONMENTAL IMPLICATIONS

14. This is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We completed the Preliminary Environmental Review (PER) in April 2010 for the proposed works which concluded that the project will not cause any long-term adverse environmental impacts.

15. For short-term environmental impacts during construction, we will control noise, dust and site run-off to within established standards and guidelines through implementation of environmental mitigation measures recommended in the PER, such as the use of temporary noise barriers and silenced construction equipment to reduce noise generation, water-spraying to reduce emission of dust, and working in dry environment with barriers to control water pollution during

/excavation

excavation, etc. 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. We have included in paragraph 8(b) above a sum of \$1.9 million (in September 2009 prices) in the project estimate for implementing the environmental mitigation measures.

16. We have considered optimising the alignment of the proposed culvert in the planning and design stages to reduce the generation of construction waste where possible. In addition, we will require the contractor to reuse inert construction waste (e.g. excavated material) 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, as well as the use of non-timber formwork to further minimise the generation of construction waste.

17. 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 at public fill reception facilities and landfills respectively through a trip-ticket system.

18. We estimate that the project will generate in total about 26 100 tonnes of construction waste. Of these, we will reuse about 1 300 tonnes (5%) of inert construction waste on site and deliver 23 500 tonnes (90%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 1 300 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 \$0.8 million for this project (based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne² at landfills).

/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.

² 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 per m³), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

HERITAGE IMPLICATIONS

19. The proposed works will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interests and Government historic sites identified by the Antiquities and Monuments Office.

TRAFFIC IMPLICATIONS

20. To minimise disturbance to the traffic flow during construction of the proposed additional box culvert across PERE, we will maintain the existing number of traffic lanes along this major road.

21. As regards the existing flyover connecting Choi Hung Road to PERE, we propose to close one of the two traffic lanes temporarily. We have carried out a traffic impact assessment and conducted trial runs for the proposal on 21, 22 and 23 March 2010. The results indicated that the proposed closure of one traffic lane would not cause significant traffic impact.

LAND ACQUISITION

22. The proposed works do not require any land acquisition and clearance.

BACKGROUND INFORMATION

23. In October 2005, we upgraded **140CD** to Category B. In July 2006, we engaged consultants to carry out preliminary design, surveys, site investigations, testing, impact assessments and detailed design for the works under **140CD** at an estimated cost of \$13.8 million in MOD prices. We charged the cost to block allocation **Subhead 4100DX** "Drainage works, studies and investigations for items in Category D of the Public Works Programme".

/24.

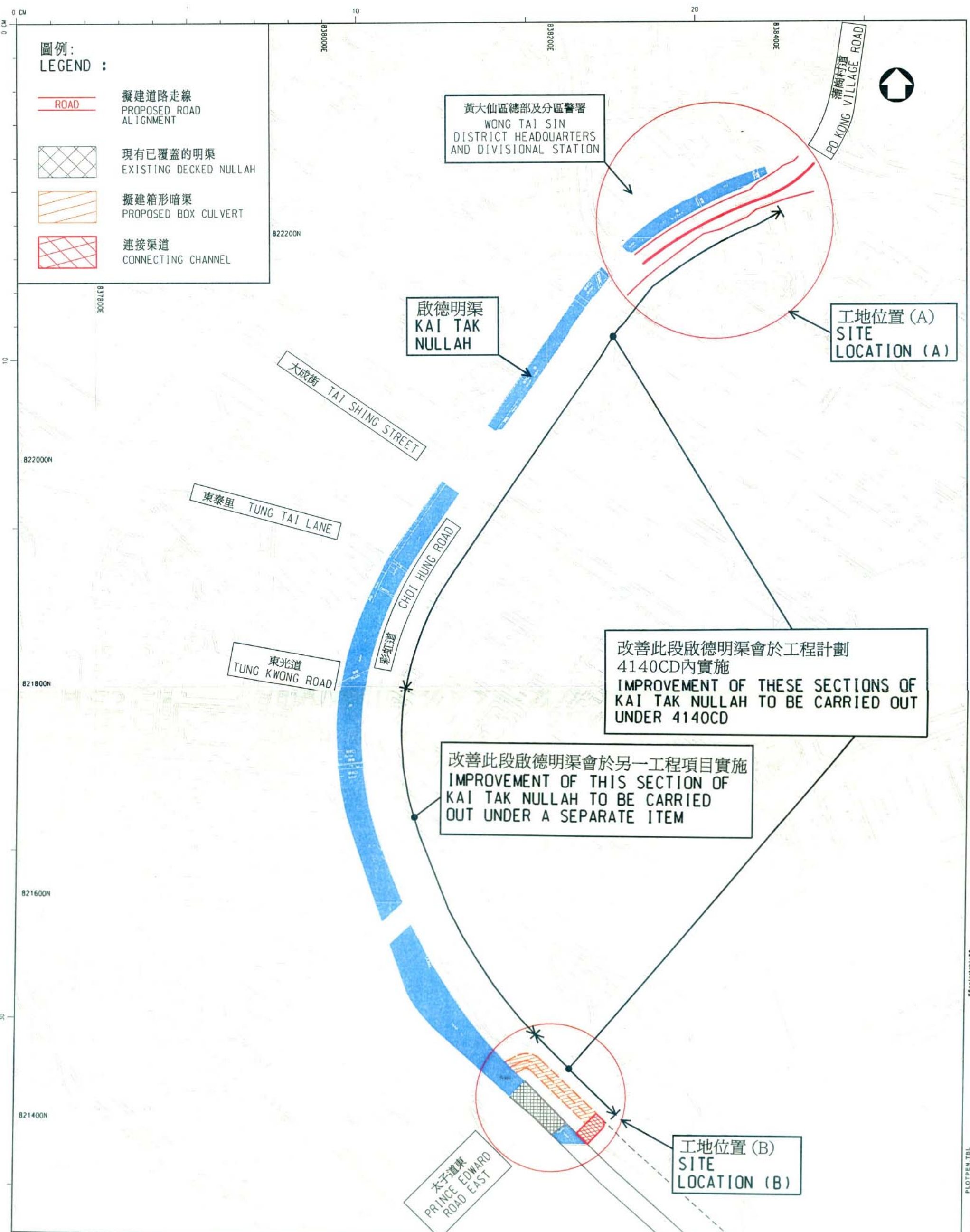
24. Of the 47 trees within the boundary of the proposed works, 39 trees will be preserved. The proposed works will involve the removal of eight trees including four trees to be transplanted and four trees to be felled. All trees to be removed are not important trees³. We will incorporate a planting proposal as part of the project, including planting of 16 trees.

25. We estimate that the proposed works will create about 106 jobs (86 for labourers and 20 for professional/technical staff) providing a total employment of 2 100 man-months.

Development Bureau
June 2010

³ “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 of 100 years old or above;
- (b) trees of cultural, historical or memorable significance e.g. Fung Shun 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.



圖例：
LEGEND :

- 擬建道路走線
PROPOSED ROAD ALIGNMENT
- 現有已覆蓋的明渠
EXISTING DECKED NULLAH
- 擬建箱形暗渠
PROPOSED BOX CULVERT
- 連接渠道
CONNECTING CHANNEL

黃大仙區總部及分區警署
WONG TAI SIN
DISTRICT HEADQUARTERS
AND DIVISIONAL STATION

工地位置 (A)
SITE
LOCATION (A)

啟德明渠
KAI TAK
NULLAH

改善此段啟德明渠會於工程計劃
4140CD內實施
IMPROVEMENT OF THESE SECTIONS OF
KAI TAK NULLAH TO BE CARRIED OUT
UNDER 4140CD

改善此段啟德明渠會於另一工程項目實施
IMPROVEMENT OF THIS SECTION OF
KAI TAK NULLAH TO BE CARRIED
OUT UNDER A SEPARATE ITEM

工地位置 (B)
SITE
LOCATION (B)

圖則名稱 drawing title
工程計劃編號和名稱：
4140CD - 重建和修復一段由蒲崗村道至東光道的啟德明渠
PROJECT NO. AND TITLE:
4140CD - RECONSTRUCTION AND REHABILITATION OF KAI TAK NULLAH FROM
PO KONG VILLAGE ROAD TO TUNG KWONG ROAD

繪畫 drawn	C.L. CHEUNG	日期 date	圖則編號 drawing no.	比例 scale
核對 checked	C.Y. SZE	日期 date	DDK/162CD1/8006	NTS
批核 approved	W.W. LAU	日期 date	保留版權 COPYRIGHT RESERVED	
部門 office	排水工程處 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	

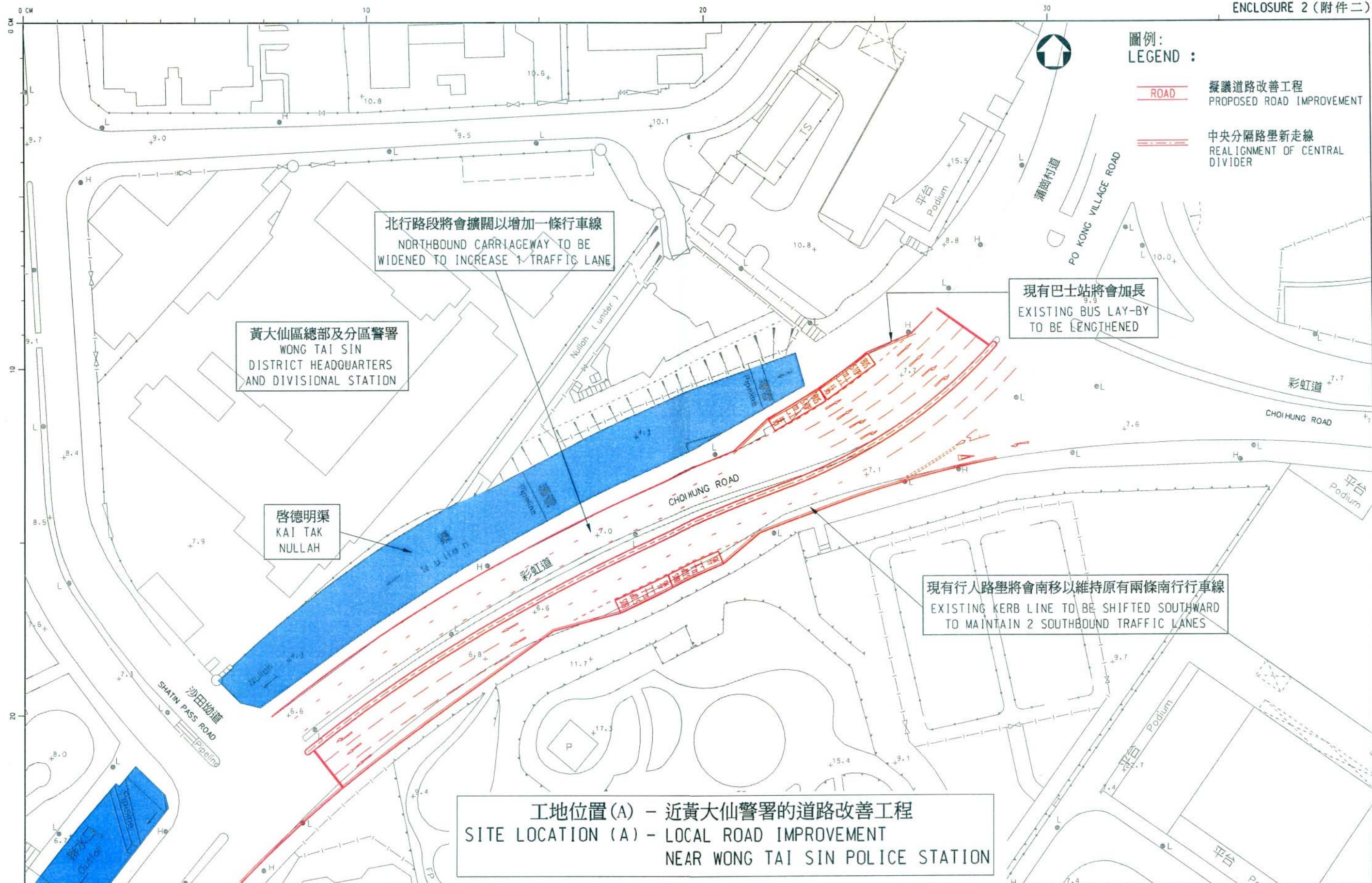


C:\TEMP\dssd_pw\dms10368\162cd_8006_site-0.dgn

\$\$brand_attr\$\$

PLOT/PTN.TBL

ENCLOSURE 1 (附件一)



圖例：
LEGEND :

ROAD 擬議道路改善工程
PROPOSED ROAD IMPROVEMENT

中央分隔路壘新走線
REALIGNMENT OF CENTRAL DIVIDER

北行路段將會擴闊以增加一條行車線
NORTHBOUND CARRIAGEWAY TO BE WIDENED TO INCREASE 1 TRAFFIC LANE

現有巴士站將會加長
EXISTING BUS LAY-BY TO BE LENGTHENED

黃大仙區總部及分區警署
WONG TAI SIN DISTRICT HEADQUARTERS AND DIVISIONAL STATION

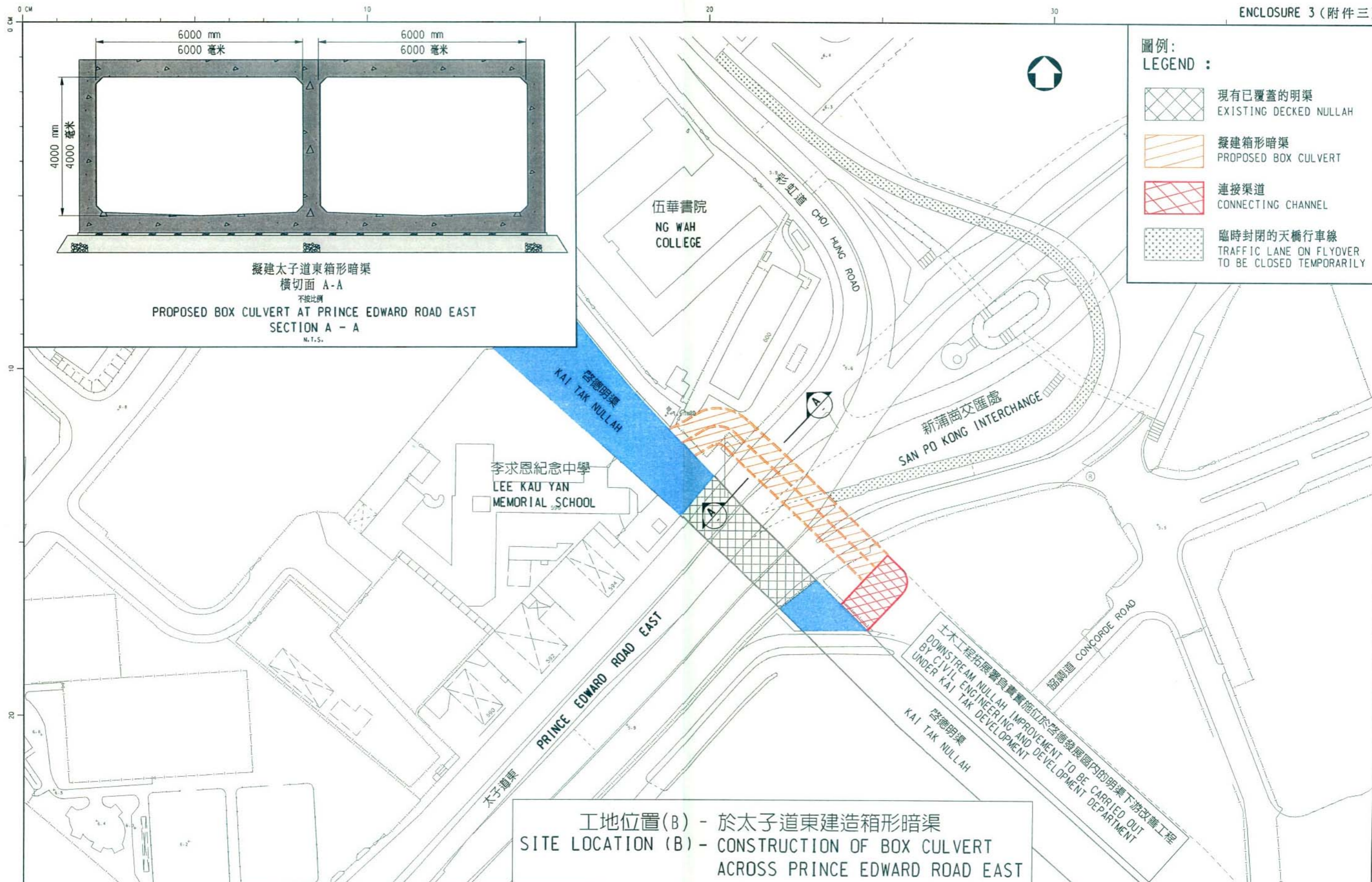
啟德明渠
KAI TAK NULLAH

現有行人路壘將會南移以維持原有兩條南行行車線
EXISTING KERB LINE TO BE SHIFTED SOUTHWARD TO MAINTAIN 2 SOUTHBOUND TRAFFIC LANES

工地位置(A) - 近黃大仙警署的道路改善工程
SITE LOCATION (A) - LOCAL ROAD IMPROVEMENT NEAR WONG TAI SIN POLICE STATION

圖則名稱 drawing title
工程計劃編號和名稱：
4140CD - 重建和修復一段由蒲崗村道至東光道的啟德明渠
PROJECT NO. AND TITLE:
4140CD - RECONSTRUCTION AND REHABILITATION OF KAI TAK NULLAH FROM PO KONG VILLAGE ROAD TO TUNG KWONG ROAD

繪畫 drawn	T.M. LEE	日期 date	23 APR 2010	圖則編號 drawing no.	DDK/162CD1/8004	比例 scale	NTS
核對 checked	C.Y. SZE	日期 date	23 APR 2010	保留版權	COPYRIGHT RESERVED		
批核 approved	W.W. LAU	日期 date	23 APR 2010	香港特別行政區政府渠務署 DRAINAGE SERVICES DEPARTMENT GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION			
部門 office	排水工程處 DRAINAGE PROJECTS DIVISION						



圖則名稱 drawing title

工程計劃編號和名稱：
4140CD - 重建和修復一段由蒲崗村道至東光道的啟德明渠
PROJECT NO. AND TITLE:
4140CD - RECONSTRUCTION AND REHABILITATION OF KAI TAK NULLAH FROM PO KONG VILLAGE ROAD TO TUNG KWONG ROAD

繪畫 drawn	T.M. LEE	日期 date	23 APR 2010	圖則編號 drawing no.	DDK/162CD1/8003	比例 scale	NTS
核對 checked	C.Y. SZE	日期 date	23 APR 2010	保留版權 COPYRIGHT RESERVED			
批核 approved	W.W. LAU	日期 date	23 APR 2010	香港特別行政區政府渠務署 DRAINAGE SERVICES DEPARTMENT GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION			
部門 office	排水工程處 DRAINAGE PROJECTS DIVISION						

140CD – Reconstruction and rehabilitation of Kai Tak Nullah from Po Kong Village Road to Tung Kwong Road

**Breakdown of estimates for consultants' fees and resident site staff costs
(in September 2009 prices)**

		Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$million)
(a) Consultants' fees for contract administration (Note 2)	Professional	-	-	-	0.3
	Technical	-	-	-	0.2
				Sub-total	0.5
(b) Resident site staff costs (Note 3)	Professional	71	38	1.6	6.5
	Technical	162	14	1.6	5.1
				Sub-total	11.6
Comprising –					
(i) Consultants' fees for management of resident site staff					0.3
(ii) Remuneration of resident site staff					11.3
				Total	12.1

* MPS = Master Pay Scale (As at now, MPS point 38 = \$57,280 per month and MPS point 14 = \$19,835 per month.)

Notes

1. A multiplier of 1.6 is applied to the average MPS point to estimate the cost of resident site staff supplied by the consultants.
2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement. The construction phase of the assignment will only be executed subject to the Finance Committee's approval to upgrade part of **140CD** to Category A.
3. The actual man-months and actual costs for site supervision will only be known after completion of the construction works.