

**For information**

**Legislative Council Panel on Development  
104CD – Drainage improvement in Northern Hong Kong Island  
– western lower catchment works**

**PURPOSE**

This paper briefs Members on the Administration's proposal to upgrade **104CD** "Drainage improvement in Northern Hong Kong Island – western lower catchment works" to Category A, at an estimated cost of about \$373.3 million in money-of-the-day (MOD) prices, for the drainage improvement works in the Wan Chai, Central and Western districts, and decking of the nullah adjacent to Queen's College.

**PROJECT SCOPE**

2. The scope of **104CD** which we propose to upgrade to Category A comprises -
- (a) the construction of about 4.2 kilometres (km) of stormwater drains of diameter ranging from 375 millimetres (mm) to 2 100mm;
  - (b) the construction of about 100 metres (m) of single cell box culvert with internal cell dimensions ranging from 2.1m wide by 2.1m high to 2.7m wide by 2.4m high; and
  - (c) the decking of about 250m long nullah adjacent to Queen's College and provision of ancillary works.

— We plan to commence construction in mid 2008 for completion in end 2012. A site plan and typical sections of the proposed works are at **Enclosure 1**.

**JUSTIFICATION**

3. The residential and commercial districts on Northern Hong Kong Island, including the Wan Chai, Central and Western districts are served by drainage systems built decades ago to meet the flow requirements at that time.

Rapid urbanization 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 and 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 required flood protection standard. Flooding often occurs during heavy rainstorms.

4. To alleviate the flooding problem, we propose to upgrade **104CD** for the construction of stormwater drains in the Wan Chai, Central and Western districts. Upon completion of the proposed works, the standard of flood protection in these districts will be raised generally to withstanding rainstorms with a return period<sup>1</sup> of one in 50 years.

5. Separately, we also propose to upgrade the decking of the nullah adjacent to Queen's College which has been a source of nuisance to nearby residents. It is often conceived by the public as an open sewer emitting bad odour and posing health risks. It is also regarded as an urban eyesore not compatible with the surrounding environment. Upon completion of the proposed works, the existing odour problem to the vicinity of the nullah will be contained. The quality of living environment will also be improved because the land obtained from decking of the nullah will be used for greening and footpath widening.

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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.

## FINANCIAL IMPLICATIONS

6. We estimate the project cost of the proposed works to be about \$373.3 million (in MOD prices), made up as follows –

	<b>\$ million</b>	
(a) Construction of -	303.2	
(i) stormwater drains	243.1	
(ii) box culverts	4.5	
(iii) nullah decking and ancillary works	55.6	
(b) Consultants' fees for -	32.5	
(i) contract administration	1.9	
(ii) resident site staff costs	30.6	
(c) Environmental mitigation measures	3.7	
(d) Contingencies	33.9	
Total	373.3	(in MOD prices)

## PUBLIC CONSULTATION

7. We consulted the Planning, Traffic and Environmental Protection Committee of the Wan Chai District Council on 24 July 2007 regarding the proposed nullah decking works. Members supported the works.

8. We also consulted the Planning, Traffic and Environmental Protection Committee of the Wan Chai District Council on 25 September 2007 and the Food, Environment, Hygiene and Works Committee of the Central and Western District Council on 13 and 28 September 2007 for the proposed drainage improvement works. Members supported the proposed works.

9. We gazetted the proposed nullah decking works under the Roads (Works, Use and Compensation) Ordinance on 12 October 2007. No objections to the works have been received. Authorization of the scheme under statutory procedure is being arranged.

## **ENVIRONMENTAL IMPLICATIONS**

10. The project is not a designated project under the Environmental Impact Assessment Ordinance. We have completed the Environmental Review for the proposed works. The project will not cause any long term adverse environmental impacts.

11. For short-term impacts during construction, we will control noise, dust and site run-off within 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 fugitive dust, and temporary drains to dispose site run-off.

12. 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 including 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<sup>2</sup>. 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.

13. 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.

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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 inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

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.

14. We estimate that the project will generate in total about 80 000 tonnes of construction waste. Of these, we will reuse about 48 500 tonnes (60.6%) of inert construction waste on site, deliver 22 000 tonnes (27.5%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of about 9 500 tonnes (11.9%) 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 \$1.8 million for this project (based on a unit cost of \$27/tonne for disposal at public fill reception facilities and \$125/tonne<sup>3</sup> at landfills.)

## **HERITAGE IMPLICATIONS**

15. This project will not affect any heritage site, i.e. all declared monuments, graded buildings and sites of archaeological interests. Three graded historic buildings including the Sikh Temple, Central Market and Pedder Building are located in the vicinity of the project boundary. We will implement monitoring measures to ensure that these historic buildings are not affected during construction of the project.

## **TRAFFIC IMPLICATONS**

16. We have completed a traffic impact assessment (TIA) for the proposed works. The TIA concluded that the proposed works would not cause unacceptable traffic impact. We will establish a Traffic Management Liaison Group (TMLG) under the contract and invite representatives from the Transport Department, Hong Kong Police Force, Highways Department, District Offices and various public transport operators to attend the TMLG meetings. We will discuss and scrutinize proposed temporary traffic management measures before implementation. The TMLG will take into account relevant factors such as site

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

restrictions, traffic conditions, pedestrian safety, access to buildings/shop fronts and provision of emergency vehicles access when considering the proposed temporary traffic arrangements.

17. 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**

18. We completed a drainage master plan study for Northern Hong Kong Island in 1999 which assessed the adequacy of the existing drainage systems in the area. The study recommended the construction of a drainage tunnel in the Mid-levels from Tai Hang to Pokfulam to intercept and convey the stormwater from the upper catchment directly to the sea, and upgrading of some of the existing drains in the lower catchment in the Eastern, Wan Chai, Central and Western districts.

19. In September 2000, we included **104CD** “Drainage improvement in Northern Hong Kong Island – lower catchment improvement” in Category B for improvement of the existing drainage systems in the Eastern, Wan Chai, Central and Western districts, and decking of the nullah adjacent to Queen’s College.

20. In July 2006, we part-upgraded **104CD** to Category A as **146CD** “Drainage improvement in Northern Hong Kong Island – eastern lower catchment works” at an approved project estimate of \$37.5 million for carrying out the drainage improvement works in the Eastern District. The construction works commenced in November 2006 for completion in October 2008.

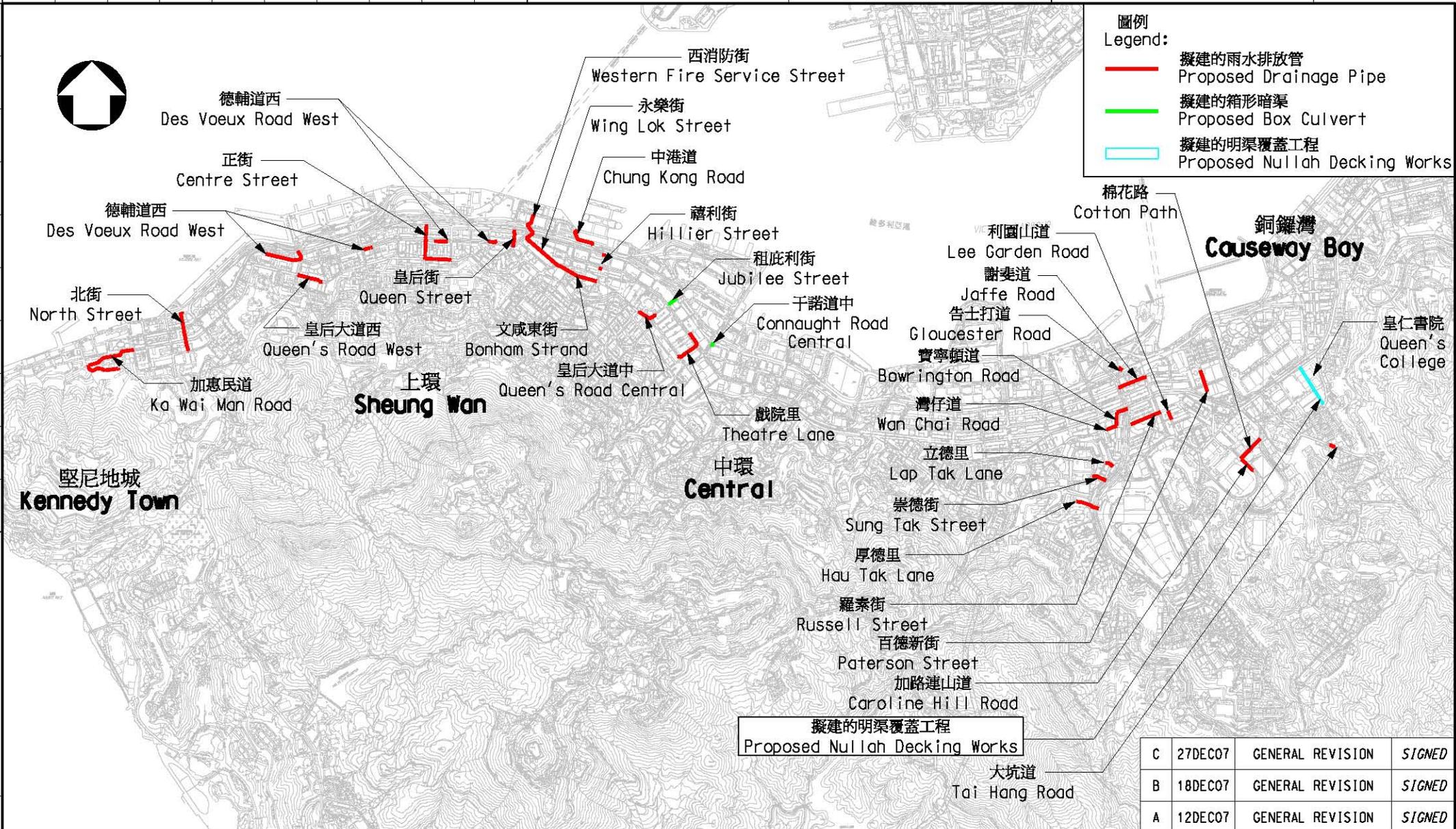
21. In January 2005, we engaged consultant to undertake site investigation, surveys, traffic impact assessment and detailed design for the proposed drainage improvement works in the Wan Chai, Central and Western districts, and the decking of the nullah adjacent to Queen’s College at a cost of \$6.9 million 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”. We have substantially completed the design of the proposed works.

22. The proposed works will not involve any removal of trees.
23. We estimate that the proposed works will create about 124 jobs (100 for labourers and another 24 for professional/technical staff) providing a total employment of 5 350 man-months.

#### **WAY FORWARD**

24. Members are invited to support the proposed upgrading of **104CD** to Category A for consideration by the Public Works Subcommittee in January 2008 and for funding approval by the Finance Committee in February 2008.

**Development Bureau  
January 2008**



C	27DEC07	GENERAL REVISION	SIGNED
B	18DEC07	GENERAL REVISION	SIGNED
A	12DEC07	GENERAL REVISION	SIGNED

圖則名稱 drawing title  
**PWP ITEM No.104CD**  
**DRAINAGE IMPROVEMENT IN NORTHERN HONG KONG ISLAND -**  
**WESTERN LOWER CATCHMENT WORKS**  
 工程項目編號 104CD  
 港島北部雨水排放系統改善計劃 - 西部下游集水區工程

繪畫 drawn	SIGNED	C.K.LAM	日期 date	25OCT07
核對 checked	SIGNED	Y.L.CHENG	日期 date	22NOV07
批核 approved	SIGNED	M.H.LEUNG	日期 date	22NOV07
部門 office	工程管理部 PROJECT MANAGEMENT DIVISION			

圖則編號 drawing no. **DPM/104CD/1806C** 比例 scale N.T.S.

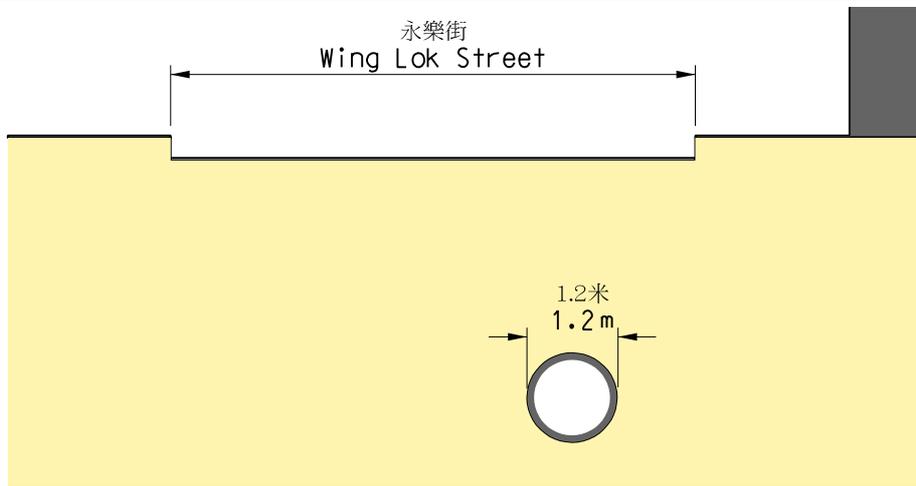
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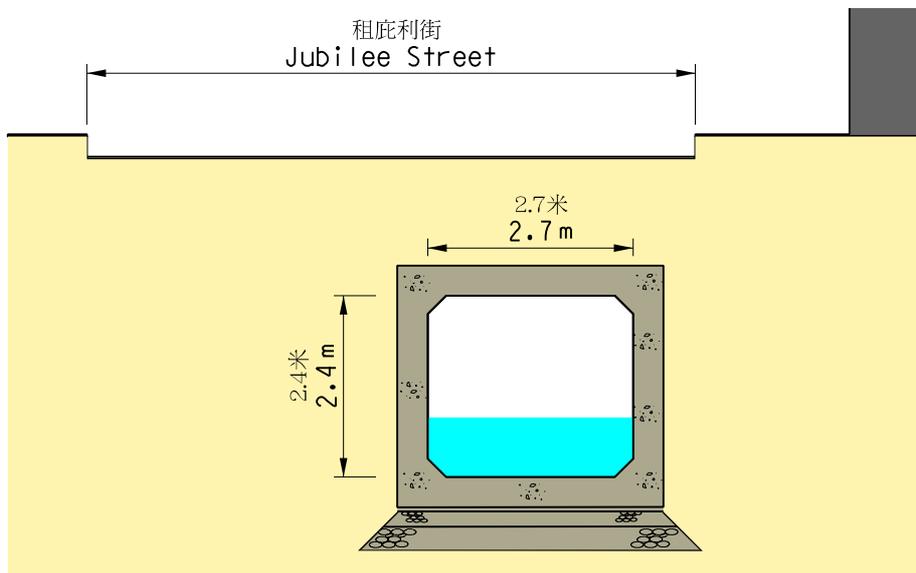
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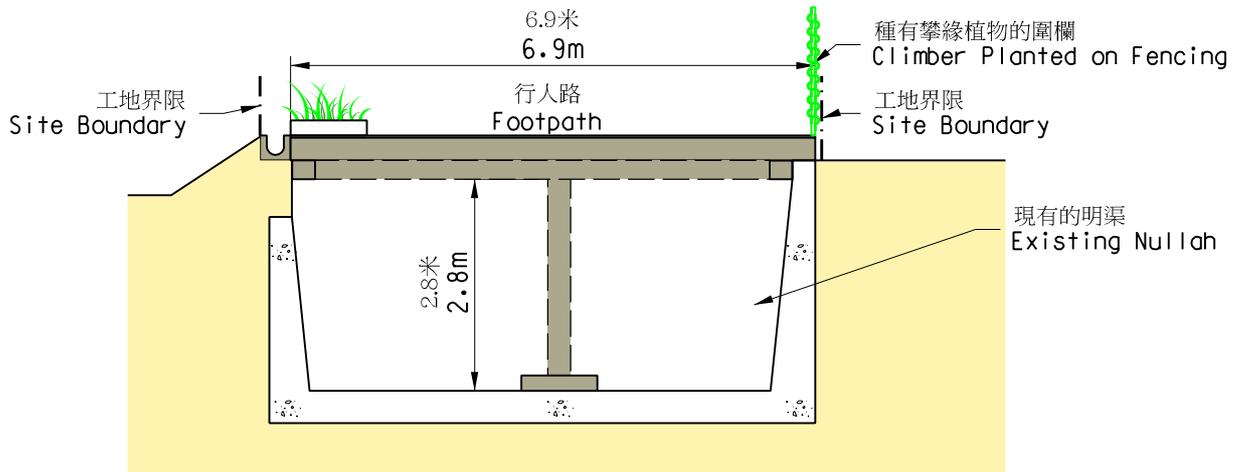
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位於永樂街的雨水排放管之典型切面  
Typical Section of Drainage Pipe at Wing Lok Street



位於租庇利街的箱型暗渠之典型切面  
Typical Section of Box Culvert at Jubilee Street



明渠覆蓋工程的典型橫切面  
Typical Section of Nullah Decking

C	05JAN08	GENERAL REVISION	SIGNED
B	18DEC07	GENERAL REVISION	SIGNED
A	12DEC07	GENERAL REVISION	SIGNED

圖則名稱 drawing title

PWP ITEM No.104CD  
DRAINAGE IMPROVEMENT IN  
NORTHERN HONG KONG ISLAND -  
WESTERN LOWER CATCHMENT WORKS  
工程項目編號104CD  
港島北部雨水排放系統改善計劃  
- 西部下游集水區工程

繪畫 drawn	SIGNED C.K.LAM	日期 date	05NOV07
核對 checked	SIGNED Y.L.CHENG	日期 date	21NOV07
批核 approved	SIGNED M.H.LEUNG	日期 date	21NOV07
部門 office	工程管理部 PROJECT MANAGEMENT DIVISION		

圖則編號 drawing no. DPM/104CD/1807C  
比例 scale N.T.S.

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