For discussion
on 15 December 2008

Legislative Council
Panel on Environmental Affairs

348DS – North District and Tolo Harbour sewerage, sewage treatment and disposal – regional sewerage works, part 1 – sewerage upgrade

PURPOSE

This paper seeks Members' support for the Administration's proposed funding application to Public Works Subcommittee and Finance Committee for upgrading **348DS** to Category A at an estimated cost of about $870 million in money-of-the-day (MOD) prices.

PROPOSAL AND JUSTIFICATION

2. In order to assess whether the existing sewerage systems in North District and Tolo Harbour catchments have the capacity to cater for the planned developments and forecast population change, the Environmental Protection Department completed a review, entitled "Review of North District and Tolo Harbour Sewerage Master Plans" (the Review) in 2002. The Review recommended, amongst others, upgrading of some existing trunk and branch sewers, a number of sewage pumping stations and sections of rising mains in Sha Tin, Tai Po and North District.

3. The Drainage Services Department employed consultants in January 2007 to carry out the investigation, design and construction supervision of the first part of the sewerage upgrading works recommended in the Review. The consultants have ascertained the updated situation by conducting an overall review on the sewerage in Sha Tin, Tai Po and North District and confirmed the imminent need of the proposed works to tie in with the population growth and future developments in the areas. Without improvement, local surcharging and overflow would occur. We therefore propose to proceed with the upgrading works to enhance the existing flow capacity.

PROJECT SCOPE AND NATURE

4. The scope of **348DS** comprises –

(a) construction of about 14 kilometres of sewers/rising mains in Sha Tin, Tai Po and North District; and

(b) upgrading of the existing Sha Tin Main sewage pumping station, Chinese University of Hong Kong sewage pumping station and Po Wan Road sewage pumping station in Sheung Shui.

The location plans showing the proposed works are at **Enclosure 1** to **Enclosure 4**.

5. We plan to commence construction of the proposed works by mid 2009 for completion by end 2013.

FINANCIAL IMPLICATIONS

6. We estimate the capital costs[1] of the proposed works to be about $870 million in MOD prices.

7. We estimate that the proposed works will create about 369 jobs[1] (301 for labourers and another 68 for professional/ technical staff), providing a total employment of 13 838 man-months.

PUBLIC CONSULTATION

8. We consulted the Development and Housing Committee of the Sha Tin District Council, the Environment, Housing and Works Committee of the Tai Po District Council as well as the District Minor Works and Environmental Improvement Committee of the North District Council on 28 August 2008, 10 September 2008 and 22 September 2008 respectively. They all supported the implementation of the proposed works.

ENVIRONMENTAL IMPLICATIONS

9. The proposed upgrading of the Chinese University of Hong Kong sewage pumping station is a designated project under the Environmental Impact Assessment (EIA) Ordinance. Having regard to the project profile, the Director of Environmental Protection is satisfied that the environmental impact of the proposed pumping station can meet the requirements of the Technical Memorandum on EIA Process for granting permission to apply directly for an environmental permit. We shall implement the mitigation measures set out in the environmental permit to be issued under the EIA Ordinance.

10. Apart from the proposed upgrading of the Chinese University of Hong Kong sewage pumping station, the other proposed sewerage works are not

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[1] These are the latest estimates of the capital cost and new job opportunities. We will finalize the project cost and new job opportunities, and include the cost breakdown, prior to submitting the proposals to the PWSC for consideration.

designated projects under the EIA Ordinance. We have completed a Preliminary Environmental Review for the other proposed sewerage works and concluded that the works would not cause any long term adverse environmental impact.

11. We have included in the project estimates the cost to implement all necessary measures to mitigate the environmental impacts.

12. For short term impacts during construction of the proposed works, we will control noise, dust and site runoff within the established standards and guidelines through implementation of mitigation measures in the works contracts, such as the use of silenced construction plants to reduce noise generation, water-spraying to reduce emission of fugitive dust, and proper treatment of site run-off before discharge. We will also carry out close site inspection to ensure that these recommended mitigation measures and good site practice are properly implemented on site.

13. We have considered in the planning and design stages ways to reduce the generation of construction waste where possible. For example, while making due consideration of hydraulic and traffic requirements, we have designed the alignment of the proposed sewerage in such a manner that excavation and demolition of existing structures will be minimised. 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[2]. 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.

14. 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 to public fill reception facilities and landfills respectively through a trip-ticket system.

15. We estimate that the project will generate in total about 94 500 tonnes of construction waste. Of these, we will reuse about 51 500 tonnes (55%) of inert construction waste on site and deliver 36 900 tonnes (39%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of 6 100 tonnes (6%) of non-inert construction waste at landfills. The total cost for accommodating the construction waste at public fill reception facilities and landfill sites is estimated

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[2] 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.

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[3] at landfills.)

ADVICE SOUGHT

16. Members are invited to support the Administration’s proposal to upgrade the project **348DS** to Category A at an estimated cost of about $870 million in MOD prices for consideration by the Public Works Subcommittee in February 2009 with a view to seeking funding approval by the Finance Committee in April 2009.

Environmental Protection Department
December 2008

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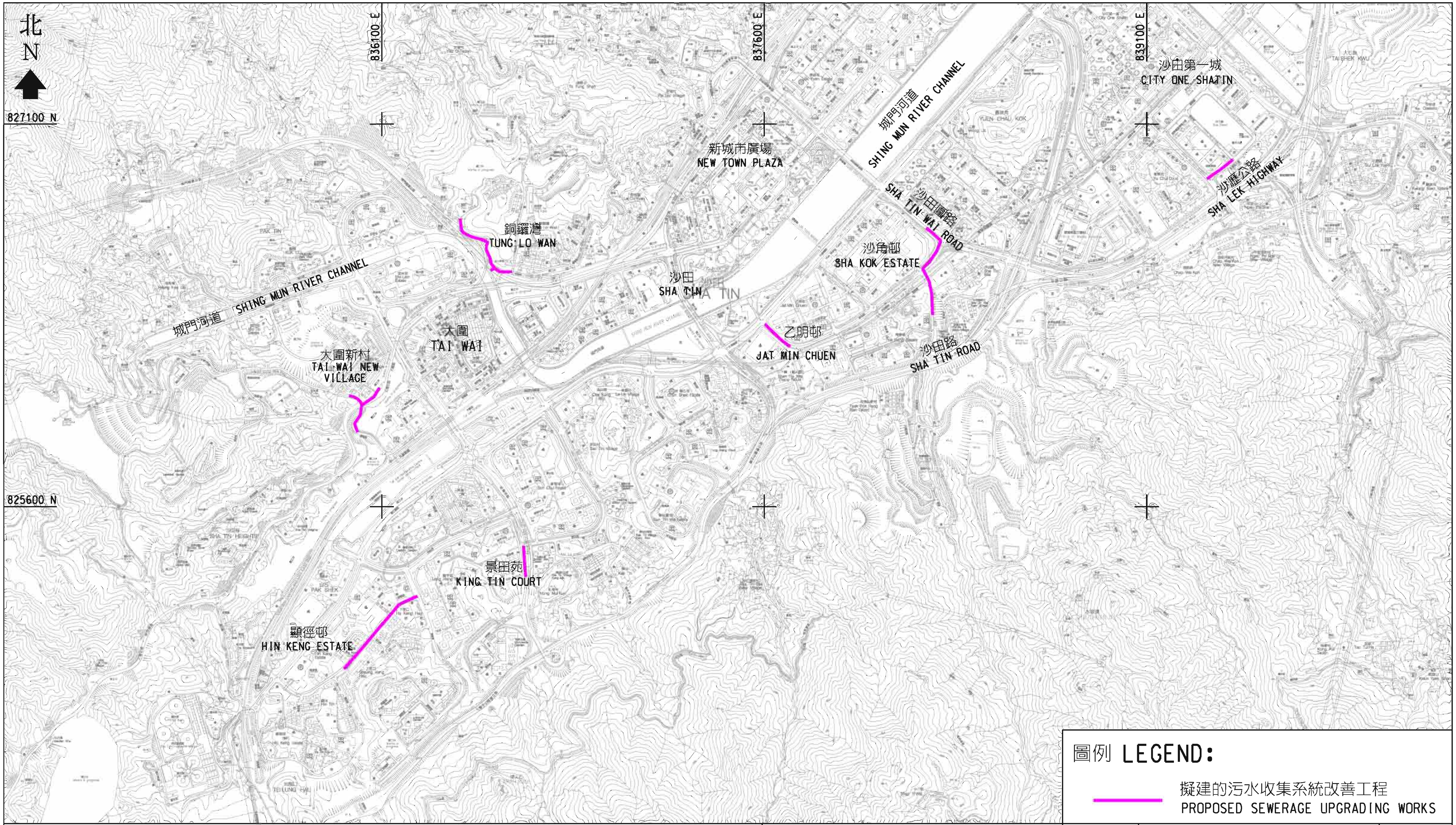
[3] This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at $90/m^3), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

附件1 ENCLOSURE 1



圖例 LEGEND:

擬建的污水收集系統改善工程
PROPOSED SEWERAGE UPGRADING WORKS

圖則名稱 drawing title

工務工程計劃編號348DS
北區及吐露港污水收集系統、污水處理及排放設施 - 區域性污水收集系統工程第1部分
- 提升污水收集系統工程
PWP ITEM NO. 348 DS
NORTH DISTRICT AND TOLO HARBOUR SEWERAGE, SEWAGE TREATMENT
AND DISPOSAL - REGIONAL SEWERAGE WORKS, PART 1 - SEWERAGE UPGRADE

繪畫 drawn	*ORIGINAL SIGNED*	C.W. CHAN	日期 date 02-10-2008
核對 checked	*ORIGINAL SIGNED*	H.W. LEUNG	日期 date 02-10-2008
批核 approved	*ORIGINAL SIGNED*	S.K. WONG	日期 date 02-10-2008

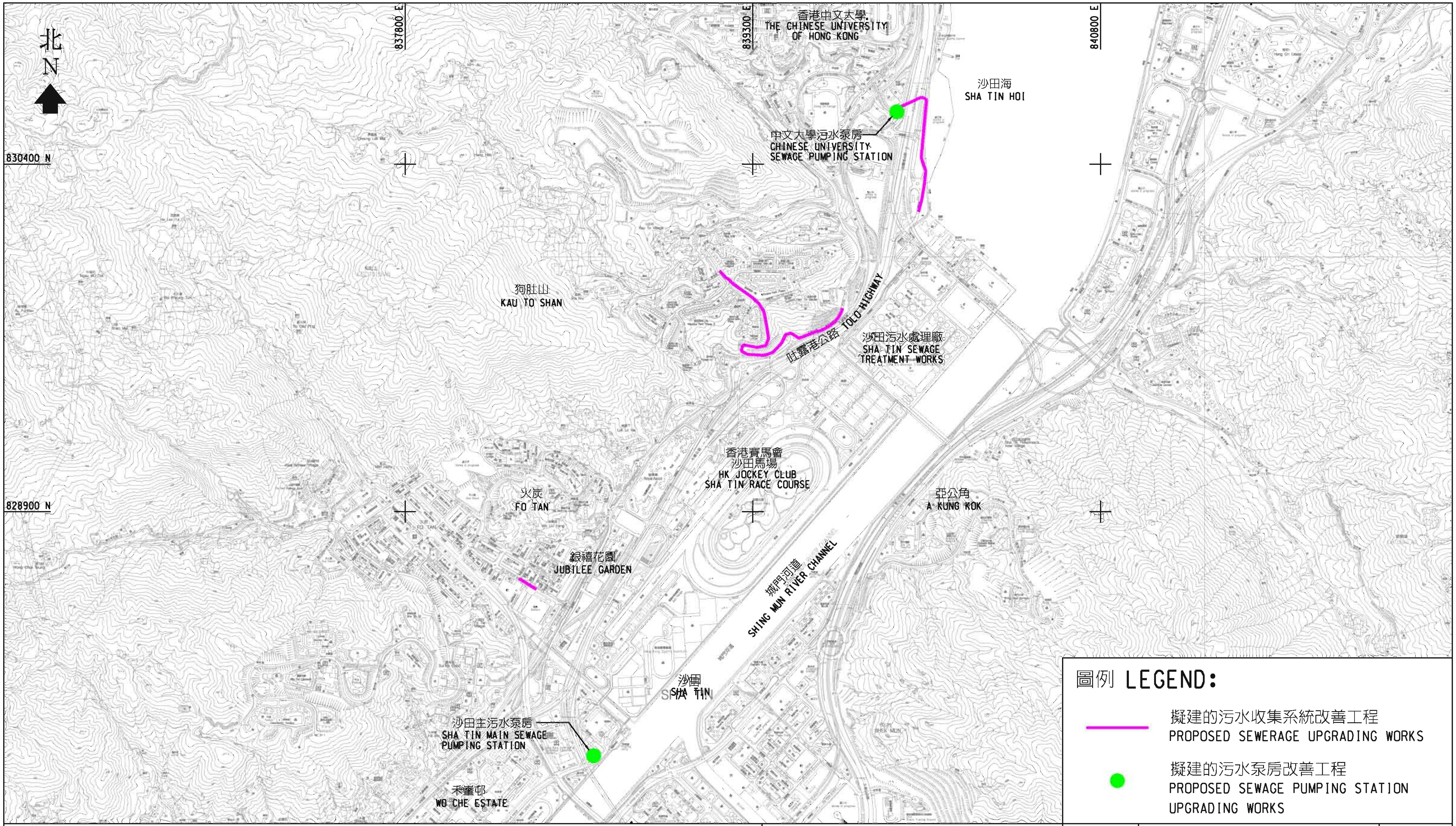
部門 office
顧問工程管理部
CONSULTANTS MANAGEMENT DIVISION

圖則編號 drawing no.
DCM/2008/034

比例 scale
N.T.S.

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2 ENCLOSURE 2



圖則名稱 drawing title

工務工程計劃編號348DS
北區及吐露港污水收集系統、污水處理及排放設施 - 區域性污水收集系統工程第1部分
- 提升污水收集系統工程
PWP ITEM NO. 348 DS
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AND DISPOSAL - REGIONAL SEWERAGE WORKS, PART 1 - SEWERAGE UPGRADE

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CONSULTANTS MANAGEMENT DIVISION

圖則編號 drawing no.
DCM/2008/035

比例 scale
N.T.S.

香港特別行政區政府渠務署
DRAINAGE SERVICES DEPARTMENT
GOVERNMENT OF THE
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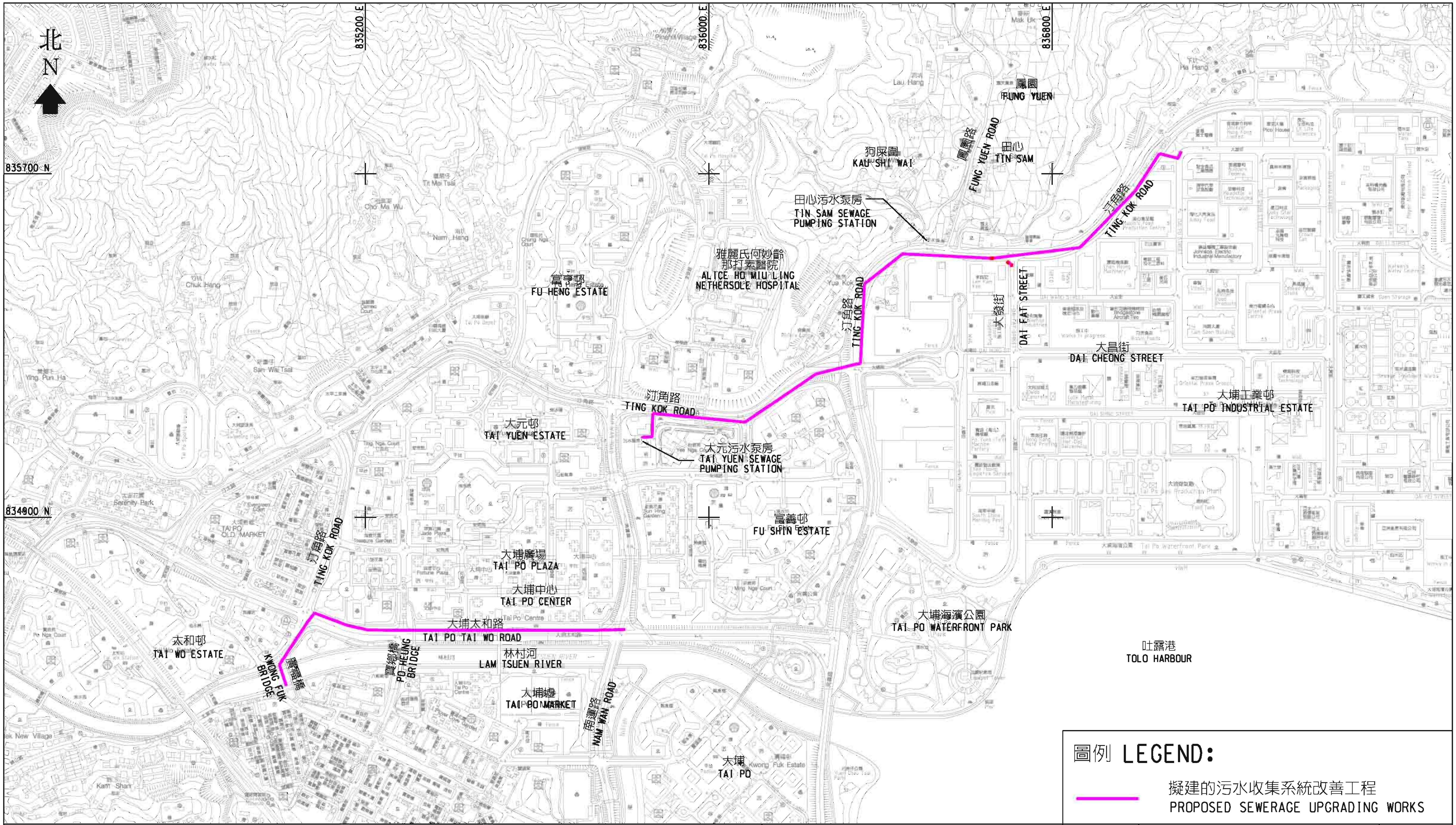
SPECIAL ADMINISTRATIVE REGION



圖例 **LEGEND:**

▬	擬建的污水收集系統改善工程 PROPOSED SEWERAGE UPGRADING WORKS

圖則名稱 drawing title

工務工程計劃編號348DS
北區及吐露港污水收集系統、污水處理及排放設施 - 區域性污水收集系統工程第1部分
- 提升污水收集系統工程
PWP ITEM NO. 348 DS
NORTH DISTRICT AND TOLO HARBOUR SEWERAGE, SEWAGE TREATMENT
AND DISPOSAL - REGIONAL SEWERAGE WORKS, PART 1 - SEWERAGE UPGRADE

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圖則編號 drawing no. DCM/2008/036

比例 scale N.T.S.

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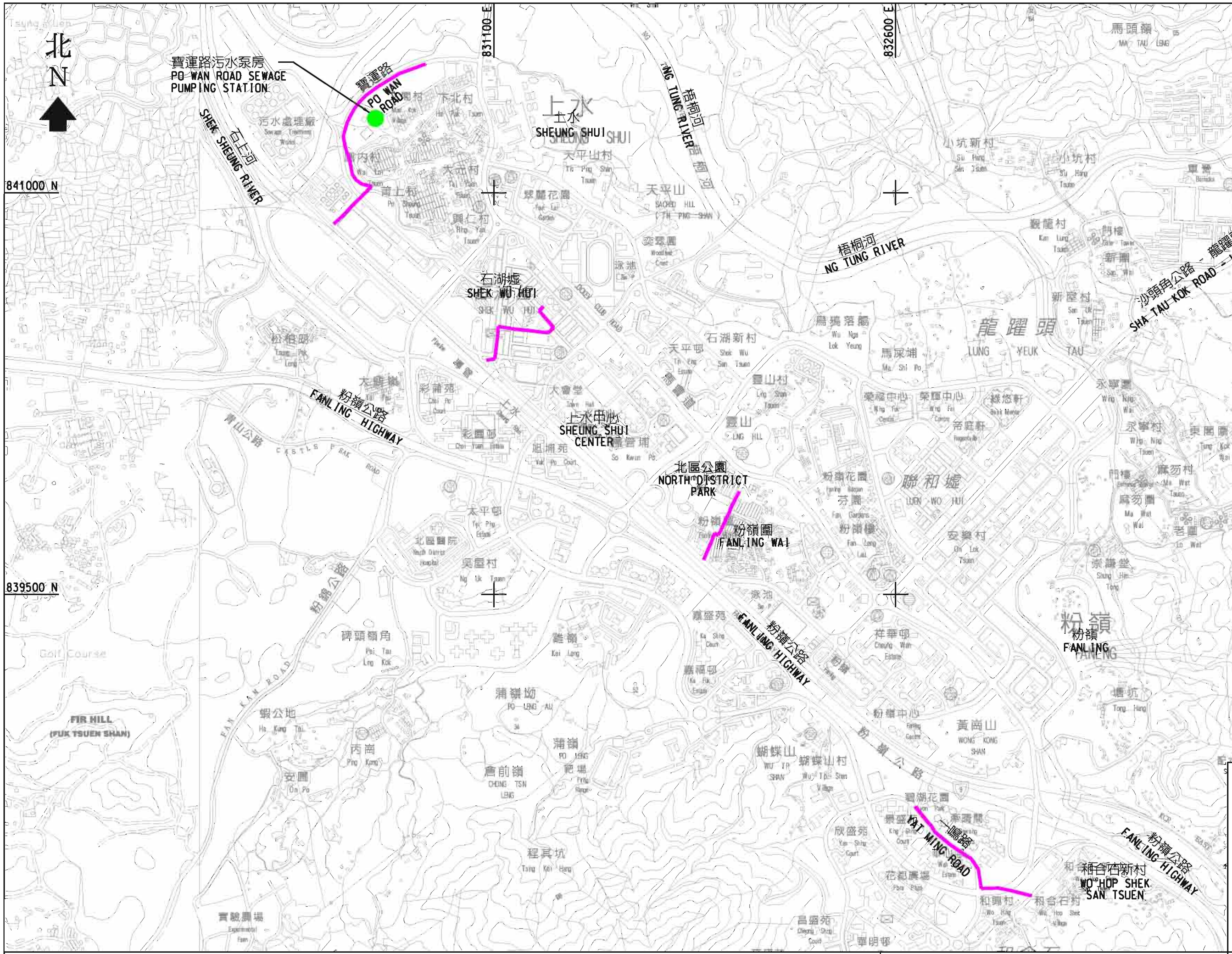
附件3 ENCLOSURE 3



圖例 LEGEND:

▬	擬建的污水收集系統改善工程 PROPOSED SEWERAGE UPGRADING WORKS
●	擬建的污水泵房改善工程 PROPOSED SEWAGE PUMPING STATION UPGRADING WORKS

圖則名稱 drawing title 工務工程計劃編號348DS 北區及吐露港污水收集系統、污水處理及排放設施 - 區域性污水收集系統工程第1部分 - 提升污水收集系統工程 PWP ITEM NO. 348 DS NORTH DISTRICT AND TOLO HARBOUR SEWERAGE, SEWAGE TREATMENT AND DISPOSAL - REGIONAL SEWERAGE WORKS, PART 1 - SEWERAGE UPGRADE	繪畫 drawn *ORIGINAL SIGNED* C.W. CHAN	日期 date 02-10-2008	圖則編號 drawing no. DCM/2008/037	比例 scale N.T.S.
	核對 checked *ORIGINAL SIGNED* H.W. LEUNG	日期 date 02-10-2008	保留版權 COPYRIGHT RESERVED	
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	部門 office 顧問工程管理部 CONSULTANTS MANAGEMENT DIVISION			

附件4 ENCLOSURE 4