

**For discussion  
On 27 October 2008**

**Legislative Council  
Panel on Environmental Affairs**

**329DS - Upgrading of Pillar Point sewage treatment works**

**PURPOSE**

This paper seeks Members' support for the Administration's proposal to upgrade **329DS** to Category A at an estimated cost of about \$1,415 million in money-of-the-day (MOD) prices, prior to submission to the Public Works Subcommittee (PWSC) for consideration with a view to seeking Finance Committee's funding approval.

**PROPOSAL AND JUSTIFICATION**

2. The existing Pillar Point sewage treatment works (PPSTW) serving the Tuen Mun district is a preliminary treatment plant<sup>1</sup> with a design capacity of 215 000 cubic metres (m<sup>3</sup>) per day. It only removes solids and grit from the sewage inflow prior to discharging the treated effluent into the north-western waters via a twin submarine outfall. PPSTW also provides septic waste<sup>2</sup> reception and treatment facilities to handle septic waste delivered to the treatment works by septic waste collection contractors.

3. We need to upgrade the treatment level of the existing PPSTW to reduce pollution loads to the north-western waters and to increase its capacity to handle additional flows due to population growth in Tuen Mun district. We also need to provide new septic waste reception and treatment facilities to cope with the increased demand and the upgraded level of sewage treatment.

4. The scope of **329DS** comprises –

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<sup>1</sup> Preliminary treatment includes screening and removal of grits. Solids larger than 6mm in diameter as well as grit which consists of sand, bone pieces, etc. are removed from the sewage.

<sup>2</sup> Septic waste is domestic liquid waste from septic tanks and aqua privies.

- (a) upgrading of the sewage treatment level from preliminary treatment to chemically enhanced primary treatment<sup>3</sup> with disinfection;
- (b) expansion of the treatment capacity from 215 000 m<sup>3</sup> to 241 000 m<sup>3</sup> per day;
- (c) provision of new septic waste reception and treatment facilities; and
- (d) ancillary works.

A conceptual layout plan<sup>4</sup> showing the existing and the proposed new facilities of PPSTW is at **Enclosure 1**.

5. We plan to commence design and construction in mid 2009 for commissioning in end 2012.

## **FINANCIAL IMPLICATIONS**

6. We estimate the capital cost<sup>5</sup> of the proposed works to be about \$1,415 million in MOD prices.

7. We estimate that the design and construction of the proposed works will create about 478 jobs<sup>5</sup> (385 for labourers and another 93 for professional/technical staff) providing a total employment of 17 230 man-months.

## **PUBLIC CONSULTATION**

8. We consulted the Environment, Hygiene and District Development Committee (EHDDC) of the Tuen Mun District Council on 16 September 2005 and reported the latest development of the project in the EHDDC meeting on 28 March

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<sup>3</sup> Primary treatment includes screening, removal of grit and a primary sedimentation process for removal of settleable suspended solids from the sewage. For chemically enhanced primary treatment, chemicals are added during the primary treatment process to enhance the removal of suspended solids.

<sup>4</sup> As the project will be implemented under a Design-Build-Operate contract, the conceptual layout of the proposed works is for illustrative purpose only and subject to the contractor's design.

<sup>5</sup> These are the latest estimates of the capital cost and new job opportunities. We will finalize the project costs and new job opportunities, and include the cost breakdown, prior to submitting the proposals to the PWSC for consideration.

2008. Members supported the proposed works in both meetings.

## **ENVIRONMENTAL IMPLICATIONS**

9. **329DS** is a designated project under the Environmental Impact Assessment (EIA) Ordinance. The EIA report for the project was approved under the EIA Ordinance in June 2008. The EIA report concluded that the project would reduce pollution loads and thus help improve the quality of the receiving waters. The water quality modelling results showed that the level and type of treatment adopted is effective in minimising the water quality impacts. The report further confirmed that with the implementation of the mitigation measures, the proposed work would not give rise to unacceptable environmental impacts during construction and operation.

10. For short term impacts during construction, we will control noise, dust and site run-off to levels within established standards and guidelines, through the implementation of mitigation measures such as the use of quiet construction plant to reduce noise generation, water-spraying to reduce dust emission and proper pre-treatment of site run-off. We will also carry out close site inspections to ensure that these recommended mitigation measures and good site practices are properly implemented.

11. We have considered in the planning stage ways to reduce the generation of construction wastes where possible. We will require the contractor to reuse inert construction waste including excavated soil and demolished concrete for backfilling on site or in other suitable construction sites as far as possible, in order to minimize the disposal of inert construction waste to public fill reception facilities<sup>6</sup>. We will encourage the contractor to maximize the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimize the generation of construction waste.

12. We will also require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation measures 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 any non-inert construction waste to public fill reception facilities and landfills respectively through a trip-ticket system.

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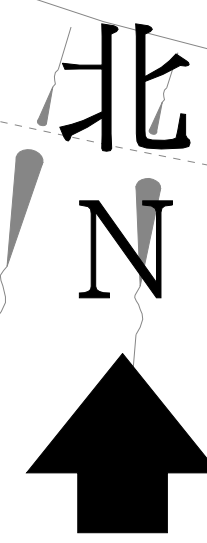
<sup>6</sup> Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

13. We estimate that the project will generate in total about 61 800 tonnes of construction waste. Of these, we will reuse about 15 100 tonnes (24%) of inert construction waste on site and deliver 46 700 tonnes (76%) of inert construction waste to public fill reception facilities for subsequent reuse. The total cost of accommodating construction waste at public fill reception facilities is estimated to be about \$1.3 million for this project (based on a unit cost of \$27/tonne for disposal at public fill reception facilities.)

### **ADVICE SOUGHT**

14. Members are invited to support the Administration's proposal to upgrade **329DS** to Category A at an estimated cost of about \$1,415 million in MOD prices for consideration by the Public Works Subcommittee in June 2009 with a view to seeking funding approval by the Finance Committee in July 2009.

Environmental Protection Department  
October 2008



龍門路  
LUNG MUN ROAD



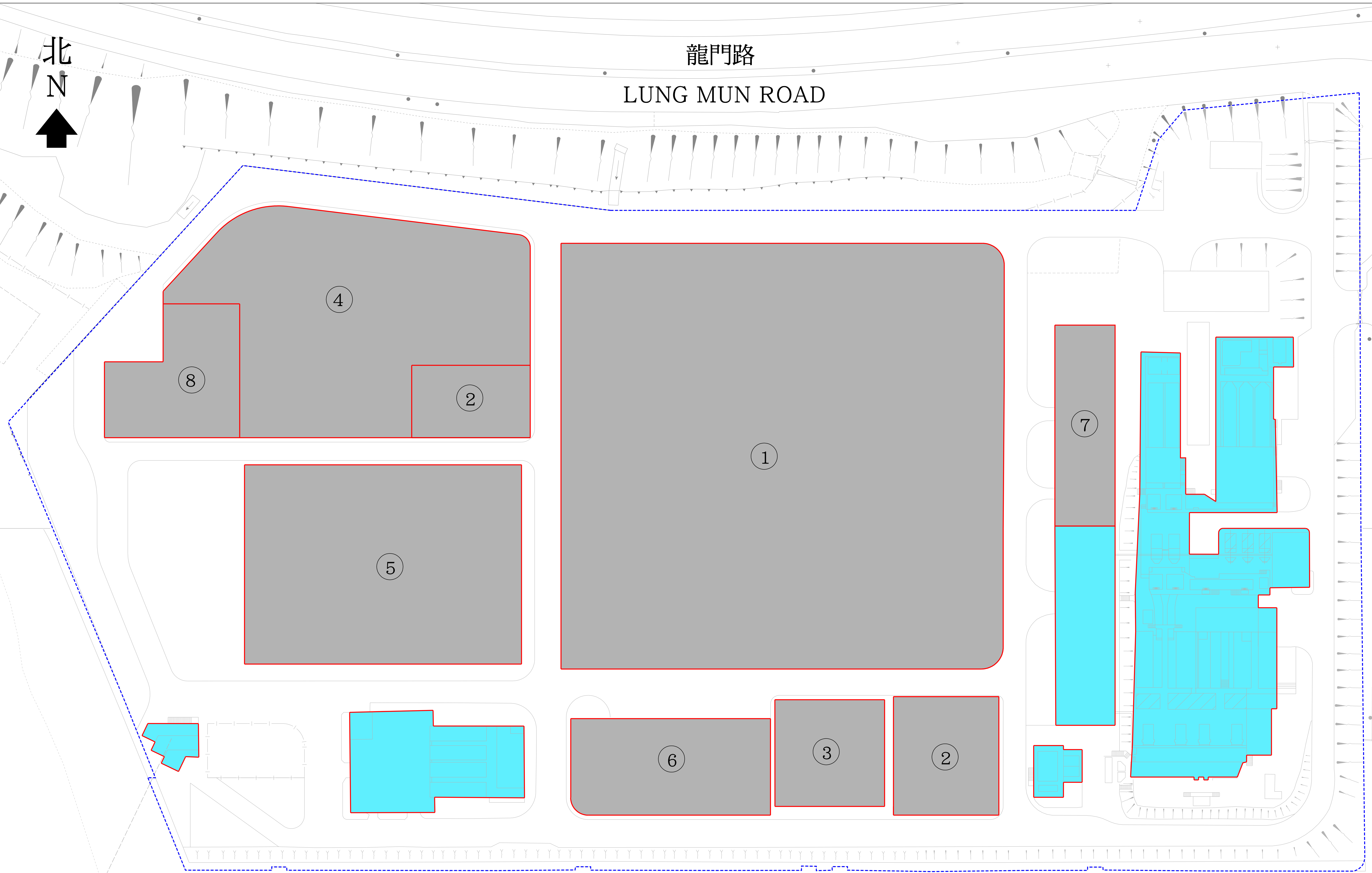
小冷水  
SIU LANG SHUI

內河碼頭  
RIVER TRADE  
TERMINAL

望后石污水處理廠  
PILLAR POINT  
SEWAGE TREATMENT  
WORKS

現有海底排放管  
EXISTING SUBMARINE OUTFALL

KEY PLAN 示意圖






現有海底排放管  
EXISTING SUBMARINE OUTFALL

內河碼頭  
TUEN MUN RIVER TRADE TERMINAL

### 概念設計圖 CONCEPTUAL LAYOUT PLAN

#### 圖例 LEGEND :

-  工地範圍  
BOUNDARY OF THE SITE
-  需改善的現有設施  
EXISTING FACILITIES TO BE UPGRADED
-  擬建的新設施  
PROPOSED NEW FACILITIES

- ① 絮凝池及沉澱池  
FLOCCULATION & SEDIMENTATION TANKS
- ② 氣味控制設施  
ODOUR CONTROL PLANTS
- ③ 泵房  
PUMPING STATION
- ④ 污泥貯存設施  
SLUDGE HANDLING FACILITIES
- ⑤ 紫外光消毒設施  
UV DISINFECTION FACILITIES
- ⑥ 化學品儲存室及工場  
CHEMICAL STORAGE BUILDING & WORKSHOP
- ⑦ 實驗室及行政樓  
LABORATORY & ADMINISTRATIVE BUILDING
- ⑧ 糞便廢物收集及處理設施  
SEPTIC WASTE RECEPTION AND TREATMENT FACILITIES

圖則名稱 drawing title  
**工務工程計劃第329DS號**  
**望后石污水處理廠改善工程**  
**PWP ITEM NO. 329DS**  
**UPGRADING OF PILLAR POINT SEWAGE TREATMENT WORKS**

繪畫 drawn	<i>ORIGINAL SIGNED</i>	C.W. CHAN	日期 date	05-09-2008
核對 checked	<i>ORIGINAL SIGNED</i>	S.K. LEUNG	日期 date	05-09-2008
批核 approved	<i>ORIGINAL SIGNED</i>	T.Y. YUEN	日期 date	05-09-2008
部門 office	淨化海港計劃部 HARBOUR AREA TREATMENT SCHEME DIVISION			

圖則編號 drawing no. **DSS/2008/002**  
 比例 scale N.T.S.

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DRAINAGE SERVICES DEPARTMENT  
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