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**ACE-EIA Paper 2/2009**  
*For advice*

**Environmental Impact Assessment Ordinance (Cap. 499)**  
**Environmental Impact Assessment Report**  
**Sludge Treatment Facilities**

**PURPOSE**

This paper outlines the key findings and recommendations of the Environmental Impact Assessment (EIA) report for the proposed Sludge Treatment Facilities (STF) (hereafter known as “the Project”) submitted under section 6(2) of the Environmental Impact Assessment Ordinance (EIAO) (Application No. EIA-155/2008). The Environmental Infrastructure Division of the Environmental Protection Department (the applicant) and their consultants will present the EIA report. Comments from the public and the Advisory Council on the Environment will be taken into account by the Director of Environmental Protection in deciding on the approval of the EIA report under the EIAO.

**ADVICE SOUGHT**

2. Members’ views are sought on the findings and recommendations of the EIA report.

**NEED FOR THE PROJECT**

3. The Project is to provide an alternative disposal means to replace the current practice of disposing sludge from sewage treatment works at landfills. The project would help save up the precious space of the existing landfills which are anticipated to reach their maximum capacities in early to mid 2010.

## **DESCRIPTION OF THE PROJECT**

4. The STF is to be located in the Eastern Ash Lagoon at Tsang Tsui near Nim Wan, Tuen Mun (figure attached). Incineration technology will be adopted for the disposal of dewatered sewage sludge together with the residues from grease trap waste treatment facilities. The STF will be designed to treat about 2,000 tonnes of sludge per day at a 30% solids content from the Stonecutters Island Sewage Treatment Works and 10 other regional sewage treatment works.

5. As the STF will be located in the existing East Lagoon at Tsang Tsui, the Project also includes the decommissioning of a part of the lagoon being used for disposal of pulverized fuel ash.

6. The Project constitutes a Designated Project by virtue of the following items in Schedule 2 of the EIAO:

- (i) Item G.3, Part I – An incinerator with an installed capacity of more than 50 tonnes per day; and
- (ii) Item 8, Part II – The decommissioning of a waste disposal facility for pulverized fuel ash, furnace bottom ash or gypsum.

## **CONSIDERATION OF ALTERNATIVE OPTIONS**

7. The project proponent has identified a number of potential sites for the STF, including Lamma Island Quarry Site, Shek Kwu Chau, Ha Pak Nai, Tuen Mun Port, Stonecutters Island, West Lamma Island, Siu Ho Wan, Tit Cham Chau and Nim Wan. The proposed site in Nim Wan is considered the most suitable for the STF because of its remoteness from residential areas and its location within an industrial setting with the Black Point Power Station and the West New Territories (WENT) Landfill in the vicinity.

8. The EIA study has also evaluated the latest sludge treatment technologies, including incineration and heat drying. The study indicates that incineration is the most preferable option, mainly in view of the large reduction in volume of end products to be disposed to landfill sites.

## **SPECIFIC ENVIRONMENTAL ASPECTS TO HIGHLIGHT**

### Air Quality

9. Given the nature of the proposed STF, air quality impact during operation is a key issue to be considered. The EIA study has recommended that the latest best

practicable means for incinerators with stringent target emission limits should be adopted. Besides, with the STF chimney height 65 m above ground level, cumulative air quality impacts of concerned parameters such as nitrogen dioxide, sulphur dioxide, Respirable Suspended Particulates, etc. have been modelled and assessed. The results reflect that the STF would not cause any unacceptable adverse impacts to the existing and planned air sensitive receivers in Tuen Mun.

10. With respect to the odour issue, potential odour emissions associated with the operation of the STF will be collected and destroyed by the incineration process or ventilated to deodorizer before being discharged to the atmosphere. Furthermore, air pollution control and stack monitoring system will be installed for the STF to ensure that the emissions will meet the stringent target emission limits as designed.

### Ecological Impact

11. Since the proposed site for the STF is an existing pulverized fuel ash lagoon, the EIA study confirms that the habitats to be affected by the STF are only of low to moderate ecological values. The construction of the STF would affect the use of East Lagoon as breeding ground of a small number of Little Grebe. This impact is anticipated to be low as the East Lagoon is not the main breeding ground for the bird and alternative habitats are available in the adjacent Middle Lagoon. To confirm no breeding activities of the Little Grebe would be affected by the construction activities, the site would be inspected twice before construction commencement. In case breeding activities are identified, mitigation such as hoardings around the breeding ground(s) will be implemented and the breeding activities will be closely monitored to minimize any disturbance caused.

### Visual and Landscape Quality

12. The EIA study has assessed the potential impacts caused by the proposed STF and has recommended a series of measures to minimize the impacts, including aesthetic design of the proposed STF to match with the adjacent landscape and greening and tree planting along the site boundary to provide screening. The EIA report further concludes that the impacts are acceptable with mitigation measures in place.

13. In relation to the landscape impacts, the EIA study predicts that about 470 trees would be affected by the Project. Those affected trees with medium or high survival rate after transplantation would be transplanted. Heavy standard trees would be planted to compensate for the loss of trees as a result of the construction works. The felled trees and trees which failed the transplantation will be compensated and the ratio of compensation will not be less than 1:1.

## Other Environmental Impacts

14. The EIA report also covers assessments of the potential impacts arising from waste generation, water quality impacts, noise, health risk and landfill gas hazard. With appropriate mitigation measures in place to minimize those impacts, the expected impacts are considered acceptable in terms of meeting the relevant requirements of the EIA Study Brief and Technical Memorandum on Environmental Impact Assessment Process.

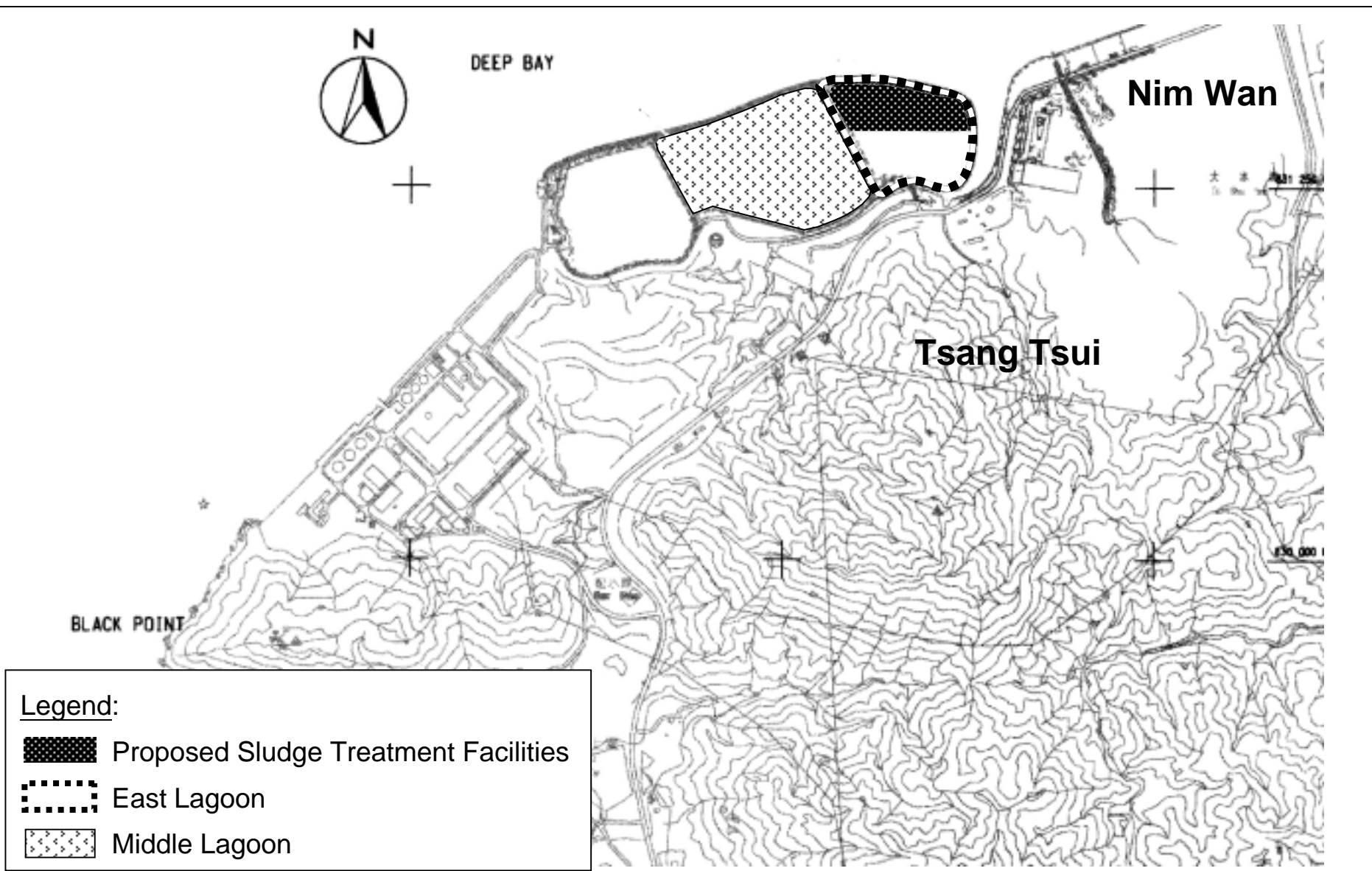
## **ENVIRONMENTAL MONITORING AND AUDIT**

15. The EIA report includes an Environmental Monitoring and Audit (EM&A) Manual which recommends an EM&A programme during the construction and operation phases of the Project.

## **PUBLIC CONSULTATION**

16. The EIA report, EM&A Manual and Executive Summary were made available for public inspection under the EIAO from 17 December 2008 to 15 January 2009. At the meeting, Members will be briefed on public comments received.

**December 2008**  
**Environmental Assessment Division**  
**Environmental Protection Department**



**Project Title : Sludge Treatment Facilities**

**Figure General Layout Plan** (Reproduced from Figure 1 of the Executive Summary of the EIA Report)

