

For information

Legislative Council Panel on Environmental Affairs

**PWP Item 5168DR-- Refurbishment and Modification of
Island East Transfer Station**

Supplementary Information

INTRODUCTION

At the Environmental Affairs Panel meeting held on 26 February 2007, Members supported the PWP Item **5168DR** "Refurbishment and Modification of Island East Transfer Station (IETS)" and requested the Administration to provide supplementary information on --

- Successful overseas experience in operation of waste recycling facilities and their scale of operation
- A comprehensive plan on waste recycling to ensure success of the pilot waste recycling facility
- The availability of space for extension of the pilot waste recycling facility

THE ADMINISTRATION'S RESPONSE

Successful Overseas Examples

2. The proposed pilot waste recycling facility to be developed in the IETS will be of about 30 tonnes per day capacity and it will employ biological and mechanical treatment technologies. The use of biological and mechanical treatment technologies for recyclable materials recovery, stabilization and volume reduction of municipal solid waste (MSW) was developed in Europe in the 1970's and is now well established in many countries. It is estimated that currently there are over 100 facilities using such technologies for MSW treatment all over the world. The process typically involves stabilisation of waste by biological treatment such as in-vessel composting, and separation of recyclable materials by mechanical process such as magnetic separator and eddy current separator. The typical capacities of these facilities range from relatively small scale of < 100 tonnes

per day to a larger scale of > 500 tonnes per day. Some examples of small scale facilities that are operating in other countries are summarized below:

| Facility | Operation commencement | Capacity (tonnes per day) |
|------------------------|-------------------------------|----------------------------------|
| Durham, UK | 2002 | 20 |
| Toronto, Canada | 2002 | 40 |
| Big Sandy, USA | 1972 | 45 |
| Allerheiligen, Austria | 1979 | 50 |
| Rugen, Germany | 1999 | 55 |
| Saitama, Japan | 2001 | 60 |
| Erhenschwang, Germany | 1997 | 60 |
| Olot, Spain | 2004 | 75 |

Plan on Waste Recycling

3. To ensure success of the pilot waste recycling facility, a comprehensive plan has been drawn up to cover the chain of operations including waste collection, the recycling processes, and also the marketing of the recycled materials. These are elaborated in the paragraphs below.

4. The pilot waste recycling facility will receive part of the mixed MSW that is delivered to the IETS. No new waste collection arrangement will be required. This will contribute considerably to the cost-effectiveness of the recycling operation, as past experience indicated that waste collection arrangement could constitute quite a portion of the total recycling cost.

5. The pilot waste recycling facility will employ automatic mechanical equipment for sorting of recyclables from the waste, thereby minimizing manual sorting requirements and achieving a higher operation efficiency. Moreover, the non-recyclable residue from the pilot facility will be handled and transferred to the disposal site by the existing IETS waste transfer operation. This optimal use of existing waste transfer facility will also contribute to cost-effective operation.

6. It is estimated that the pilot waste recycling facility would recover about 180 tonnes of metals and about 360 tonnes of plastics each year. It is anticipated that there will be high market demand for such recovered material by the recycling industry, as evidenced by the statistics that some 0.93 million tonnes of metals and 0.64 million tonnes of plastics were being taken up by the recycling operators in Hong Kong in year 2006. The imminent opening of the EcoPark at Tuen Mun will likely increase the

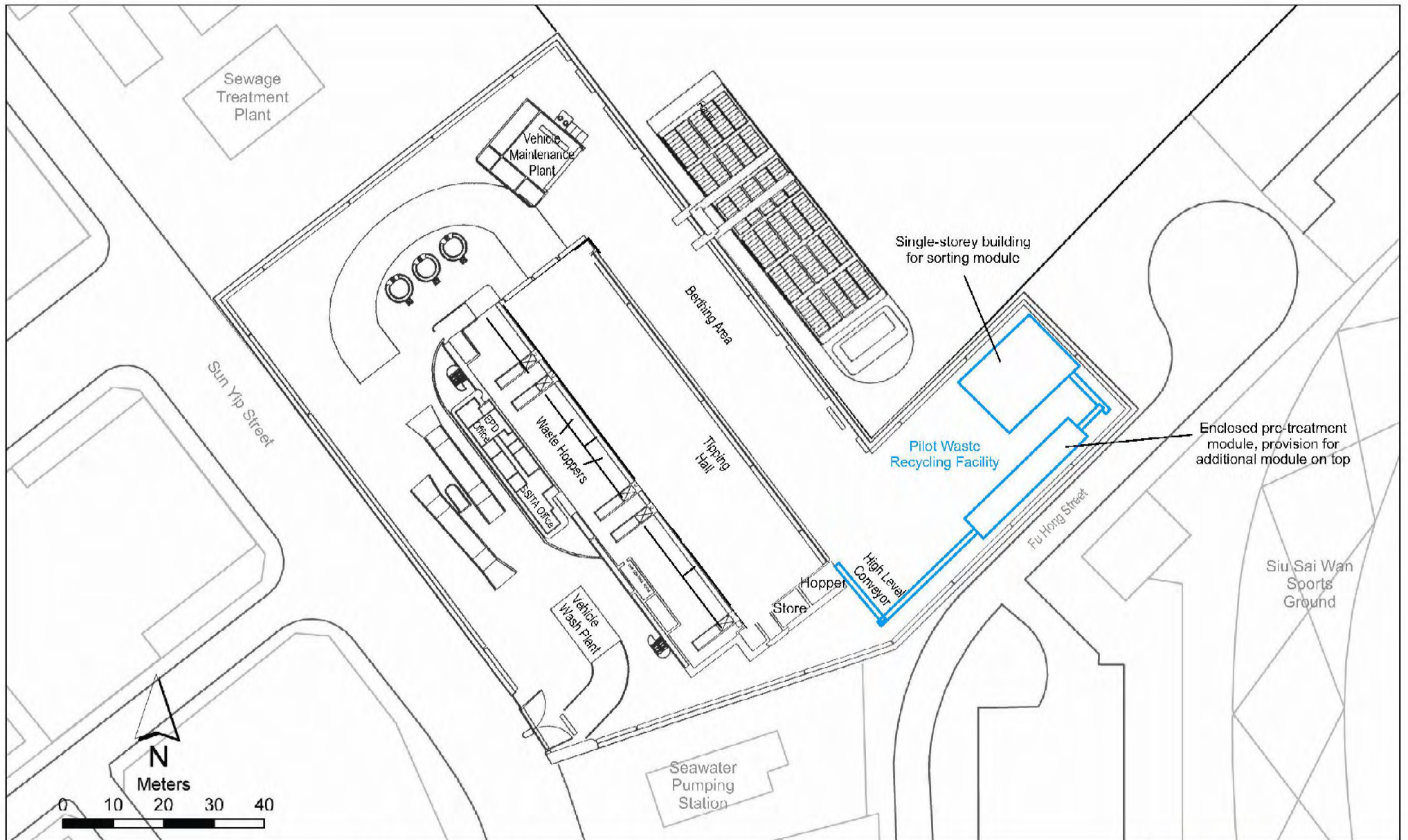
demand for certain types of recovered materials by the recycling industries.

Availability of Space for Extension

7. The proposed pilot waste recycling facility in the IETS would comprise a fully enclosed pre-treatment module and the sorting modules inside a single-storey building. The layout of the pilot facility, which has already allowed space for possible extension up to a maximum of 30 tonnes per day capacity is shown in the figure attached. For extension of the pilot facility, an additional pre-treatment module could be installed above the first module and any necessary additional sorting modules could be installed inside the single-storey building. Provisions for such possible extension of the pilot facility will be specified in the contract so that there would be adequate design allowance and flexibility for extension without any major modification of the IETS.

8. The performance of the pilot facility will be closely monitored. If it is considered necessary and appropriate to increase the recycling capacity, the contractor will be required to extend the pilot facility via installation of additional pre-treatment and sorting modules as described above.

Environmental Protection Department
March 2007



Island East Transfer Station - Layout of Pilot Waste Recycling Facility