

INFORMATION NOTE

Landfills in Hong Kong

1. Introduction

1.1 There are 16 landfills in Hong Kong, with 13 closed and three operating to serve the public for final waste disposal. The purpose of this information note is to provide Members of the Panel on Environmental Affairs with background information on the closed and operating landfills in Hong Kong.

2. Closed landfills in Hong Kong

2.1 Hong Kong has 13 closed landfills which were phased out between 1975 and 1996. A summary of these closed landfills is given in Table 1.

Table 1 — Closed landfills in Hong Kong by commission date

Landfill	Location	Area (hectares)	Commission date	Total waste received (million tonnes)	Closure date
Gin Drinkers Bay Landfill	Kwai Tsing District	29	1960	3.5	1979
Ngau Tam Mei Landfill	Yuen Long District	2	1973	0.15	1975
Shuen Wan Landfill	Tai Po District	50	1973	15	1995
Ma Tso Lung Landfill	North District	2	1976	0.2	1979
Ngau Chi Wan Landfill	Wong Tai Sin District	8	1976	0.7	1977
Sai Tso Wan Landfill	Kwun Tong District	9	1978	1.6	1981
Siu Lang Shui Landfill	Tuen Mun District	12	1978	1.2	1983
Tseung Kwan O Stage I Landfill	Sai Kung District	68	1978	15.2	1995
Ma Yau Tong West Landfill	Kwun Tong District	6	1979	0.6	1981
Ma Yau Tong Central Landfill	Kwun Tong District	11	1981	1.0	1986
Pillar Point Valley Landfill	Tuen Mun District	38	1983	13	1996
Jordan Valley Landfill	Kwun Tong District	11	1986	1.5	1990
Tseung Kwan O Stage II/III Landfill	Sai Kung District	42	1988	12.6	1994

Source: Environmental Protection Department.

2.2 All landfills produce landfill gas and leachate as products of refuse decomposition.¹ However, all the closed landfills did not have proper landfill gas and leachate management systems installed at the time when they were in operation. As such, the Environmental Protection Department (EPD) has implemented a restoration programme since 1996 to reduce the potential safety hazards and health risks of the closed landfills on the surrounding areas.² The last restoration project was completed in mid-2006. The restored landfill sites are landscaped to provide green zones and can be further developed into various public recreational facilities, such as golf driving ranges and courses, multi-purpose grass pitches, recreational parks and ecological parks. Table 2 summarizes the current and/or planned usage of the restored landfills.

Table 2 — Current/planned usage of restored landfills

Landfill	Commission date	Restoration works period	Planned/current usage ⁽¹⁾
Gin Drinkers Bay Landfill	1960	1999-2000	The site has been designated for Kwai Chung Park development.
Ngau Tam Mei Landfill	1973	1999-2000	General landscaping provided. The whole site at Ngau Tam Mei is zoned "Green Belt". Given the small size of the site with limited access, the Government is of the view that it should remain as local green scenery.
Shuen Wan Landfill	1973	1996-1997	It is currently used as a golf driving range which is a profit-sharing self-financed project. EPD is discussing with a national sports association the feasibility of replacing the driving range by a golf course on a self-financing basis.
Ma Tso Lung Landfill	1976	1999-2000	The site was returned to the Tung Wah Group of Hospitals in August 2000 for recreational use.
Ngau Chi Wan Landfill	1976	1997-1998	The current plan is to develop the site as recreation ground with an archery field, gateball courts, a fitness corner, a children's play area, a 7-a-side soccer pitch, basketball courts, landscaped and sitting out areas, etc.

Note: (1) The above information is based on a paper entitled "Restoration of Northwest New Territories Landfill and Gin Drinkers Bay Landfill – Aftercare Work" issued by the Environment, Transport and Works Bureau in February 2006. In the paper, the Bureau sets out the status of the planned/current usage of the restored landfills as at November 2005.

¹ Landfill gas is malodorous and potentially asphyxiating, flammable and explosive, whereas leachate is highly polluting if not properly controlled. Leachate is the liquid produced when water permeates through the waste mass in the landfills.

² The restoration facilities include (a) landfill gas and leachate management systems, (b) a capping layer (with low permeability) and a surface water drainage system to reduce infiltration of water into the waste mass, and (c) other ancillary engineering works.

Table 2 — Current/planned usage of restored landfills (cont'd)

Landfill	Commission date	Restoration works period	Planned/current usage ⁽¹⁾
Sai Tso Wan Landfill	1978	1997-1998	The recreation facilities, opened to the public since April 2004, include a multi-purpose grass pitch for football and baseball, a children's playing area, a jogging trail and two baseball batting cages.
Siu Lang Shui Landfill	1978	1999-2000	It is part of the Green Belt of the area with the existing green landscaping. EPD is considering suitable afteruse in consultation with relevant departments and interested parties.
Tseung Kwan O Stage I Landfill	1978	1997-1999	The proposed uses of the site include a Football Academy, a golf driving range, and open space including a kite-flying area, a jogging trail and a cycle track.
Ma Yau Tong West Landfill	1979	1997-1998	The Leisure and Cultural Services Department (LCSD) has planned to develop the site as a rest park. EPD will discuss with LCSD on suitable afteruse of the site.
Ma Yau Tong Central Landfill	1981	1997-1998	LCSD has planned to develop the site as part of Lam Tin Park. EPD will discuss with LCSD on suitable afteruse of the site.
Pillar Point Valley Landfill	1983	2004-2006	Information not available. ⁽²⁾
Jordan Valley Landfill	1986	1997-1998	The current plan is to develop the site as recreation ground with a jogging track, an outdoor fitness station, a children's playground, landscaped features, a radio-controlled motor car circuit, a horticultural education centre, etc. LCSD is carrying out planning work with relevant departments. The Architectural Services Department is designing the layout plans. The construction of the above facilities is scheduled to commence in early 2008 with a view to commissioning them by end-2010.
Tseung Kwan O Stage II/III Landfill	1988	1997-1999	The Hong Kong Air Cadet Corps has been given permission since August 2004 to use the upper platform temporarily as a model aeroplane training field during Saturdays, Sundays and public holidays. Due to the geotechnical constraint of the site, there is no long-term committed use.

Notes: (1) The above information is based on a paper entitled "Restoration of Northwest New Territories Landfills and Gin Drinkers Bay Landfill – Aftercare Work" issued by the Environment, Transport and Works Bureau in February 2006. In the paper, the Bureau set out the status of the planned/current usage of the restored landfills as at November 2005.

(2) The Pillar Point Valley Landfill was the last closed landfill restored by EPD and the restoration work of which was just completed in mid-2006. The site is currently landscaped as a green zone.

Sources: Environment, Transport and Works Bureau and Environmental Protection Department.

3. Operating landfills in Hong Kong

3.1 All municipal solid waste is disposed of at three large landfills in the New Territories, namely the West New Territories Landfill, the South East New Territories Landfill and the North East New Territories Landfill. These three landfills occupy a total land area of 271 hectares, costing HK\$6 billion to build and over HK\$400 million a year to operate. In addition, they have installed leachate collection and treatment systems, landfill gas management systems, and surface and ground water management systems to control air and water pollution. A summary of these operating landfills is given in Table 3.

Table 3 — Operating landfills in Hong Kong by commission date

Landfill	Location	Area (hectares)	Commission date	Capacity (million cubic metres)	Approximate daily waste intake	Operation life
West New Territories Landfill	Nim Wan, Tuen Mun	110	1993	61	6 356 tonnes	25 years until 2018
South East New Territories Landfill	Tai Chik Sha, Tseung Kwan O	100	1994	43	8 202 tonnes	13 years until 2007
North East New Territories Landfill	Ta Kwu Ling, New Territories	61	1995	35	2 794 tonnes	15 years until 2010

Source: Environmental Protection Department.

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