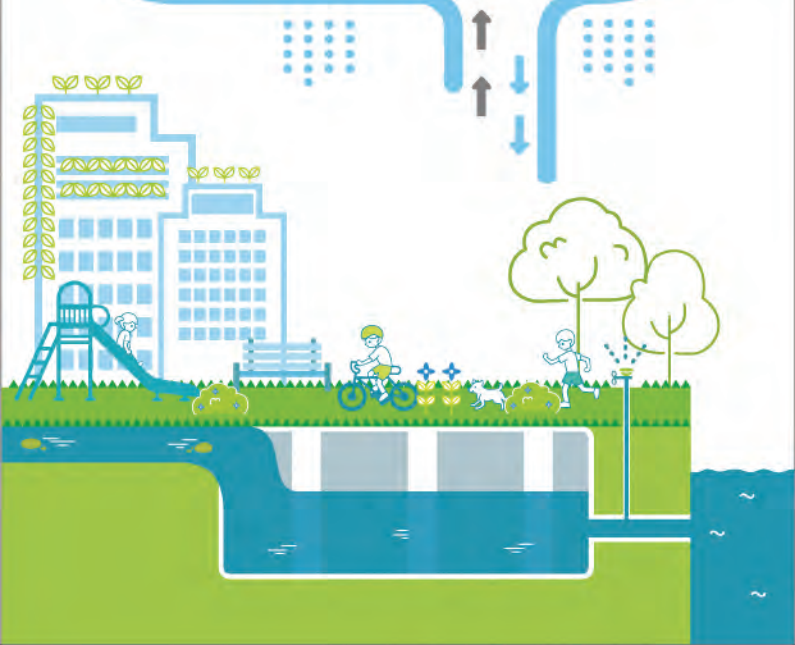
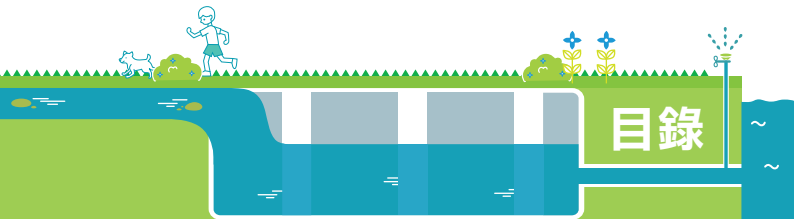




Drainage Services Department in Brief 2016 -17





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1. Our Vision, Mission and Values

Vision

To provide world-class wastewater and stormwater drainage services enabling the sustainable development of Hong Kong.

Mission

- Improving drainage services in a cost-effective and environmentally responsible manner
- Enhancing a caring, harmonious, safe and healthy work environment that fosters staff development and a mindset for change
- Strengthening relationships with community, industry and worldwide counterparts

Values

- Customer Satisfaction
- Quality
- Commitment
- Teamwork





2. Organization

2.1 Organization Chart

DSD HEADQUARTERS

**Director of Drainage
Services**

**Deputy Director of
Drainage Services**

**Assistant
Director /
Projects and
Development**

**Assistant
Director /
Operations and
Maintenance**

**Assistant
Director /
Electrical and
Mechanical**

**Assistant
Director /
Sewage
Services**



Projects and Development Branch

Sewerage
Projects
Division

Drainage
Projects
Division

Consultants
Management
Division

Project
Management
Division

Operations and Maintenance Branch

Hong Kong
and Islands
Division

Mainland
South
Division

Mainland
North
Division

Land
Drainage
Division

Electrical and Mechanical Branch

Sewage
Treatment
Division 1

Sewage
Treatment
Division 2

Electrical and
Mechanical
Projects
Division

Sewage Services Branch

Harbour Area
Treatment
Scheme Division

Customer Services
and Asset
Management
Section

Operation
Section

Sewage
Revenue
Section





2.2 Staff Establishment

Directorate	18
Professional	309
Engineer	241
Electrical & Mechanical Engineer	45
Electronics Engineer	2
Shift Charge Engineer	2
Quantity Surveyor	1
Land Surveyor	2
Landscape Architect	2
Environmental Protection Officer	2
Chemist	12
Technical & Site Supervisory	884
General & Common Grades	531
Model Scale I	194
Total	1,936*

* There is one staff seconded to other department





3. Financial Data

3.1 Operating Expenditure

(in \$M)

<u>Recurrent Expenditure</u>	<u>2014-15</u>	<u>2015-16</u>	<u>2016-17</u>
Personal Emoluments	839.8	882.3	917.2
Personnel Related Expenses	21.5	26.8	32.9
Departmental Expenses	1,264.9	1,461.0	1,614.0
Total	2,126.2	2,370.1	2,564.1

3.2 Sewage Services Cost Recovery Rate ⁽¹⁾

	2014-15	2015-16	2016-17 ⁽³⁾
Revenue of Sewage Charge and Trade Effluent Surcharge (\$M)	1,181.7	1,268.5	1,376.6
Expenditure of Sewage Charge and Trade Effluent Surcharge (\$M) ⁽²⁾	1,714.6	2,101.4	2,359.8
Operating Cost Recovery Rate (%)	68.9	60.4	58.3

Notes:

1. "Miscellaneous Services" are excluded from the revenues and expenditures in the above table
2. Depreciation is not recovered through the Sewage Charge and Trade Effluent Surcharge at present
3. The 2016-17 figures are projected figures





3.3 Sewage Charge

Number of Accounts

(in thousand, as at Dec of each year)

	<u>2014</u>	<u>2015</u>	<u>2016</u>
Sewage Charge Account	2,658	2,684	2,724
Trade Effluent Surcharge (TES) Account	24	25	27

27 Categories of TES trade

- Yarn sizing
- Bleaching and dyeing of knitted fabric
- Knit outerwear
- Spinning cotton
- Medicines
- Basic industrial chemicals
- Pulp, paper and paperboard
- Breweries and manufacture of malt liquor
- Cocoa, chocolate and sugar confectionery
- Bakery products
- Vegetable oil, peanut oil, peppermint oil and aniseed oil
- Canning and preserving fruit and vegetables
- Slaughtering, preparing and preserving meat
- Restaurants
- Washing new garments, excluding laundries
- Bleaching and dyeing of woven fabric
- Wearing apparel other than knit outerwear
- Soap and cleaning preparations, perfumes, cosmetics
- Paints, varnishes and lacquers
- Tanneries and leather finishing
- Soft drinks and carbonated waters industries
- Distilling, rectifying and blending spirits
- Vermicelli, noodles, and similar farinaceous products
- Grain mill products
- Canning, preserving and processing of fish and crustaceans
- Dairy products
- Soy and other sauces





Sewage Charge

Effective Period	Sewage Charge (\$/m ³ of water supplied)
1.4.1995 – 31.3.2008	1.20
1.4.2008 – 31.3.2009	1.31
1.4.2009 – 31.3.2010	1.43
1.4.2010 – 31.3.2011	1.57
1.4.2011 – 31.3.2012	1.71
1.4.2012 – 31.3.2013	1.87
1.4.2013 – 31.3.2014	2.05
1.4.2014 – 31.3.2015	2.24
1.4.2015 – 31.3.2016	2.44
1.4.2016 – 31.3.2017	2.67
From 1.4.2017 onwards	2.92

3.4 Capital Works Projects

Projects in hand	Sewage Treatment		Flood Prevention		Total	
	No.	Cost (\$B)	No.	Cost (\$B)	No.	Cost (\$B)
Cat. A ⁽¹⁾	19	9.49	4	4.51	23	14.00
Cat. B ⁽²⁾	50	60.60	11	8.13	61	68.73
Total	69	70.09	15	12.64	84	82.73

Notes:

1. All Cat. A projects with works/consultancies in progress are given in Money-of-the-Day price
2. All Cat. B projects are given in Sept 2016 price level





4. Work Overview

4.1 Sewage Treatment

Services for sewage treatment include operation and maintenance of sewage treatment facilities, upgrading existing sewerage infrastructure and building new facilities.

Sewerage Master Plan Studies

The regional sewerage infrastructures are mainly proposed under the 16 Sewerage Master Plans (SMPs) and the subsequent 8 SMP Reviews.



Kowloon City No.1 Sewage Pumping Station





Harbour Area Treatment Scheme

Harbour Area Treatment Scheme (HATS) is one of the most important infrastructure programme undertaken by the Government to improve the water quality of Victoria Harbour, and thus enhancing the sustainable development of Hong Kong.



Stonecutters Island Sewage Treatment Works



Harbour Area Treatment Scheme Stage 1

Project Scope:

- Construction of Stonecutters Island Sewage Treatment Works (SCISTW) at a footprint of about 10 hectares and a design treatment capacity of 1.7 million m³ per day
- Construction of about 23 km long deep tunnel to convey the sewage from Kowloon and the north-eastern part of Hong Kong Island to SCISTW for chemically enhanced primary treatment (CEPT)
- Upgrading of 7 Preliminary Treatment Works (PTW) in Tsing Yi, Kwai Chung, To Kwa Wan, Kwun Tong, Tseung Kwan O, Shau Kei Wan and Chai Wan

Commissioning Date: December 2001

Project Cost: About \$8.2 B

Information of Sewage Conveyance Tunnel

Tunnel Drive	Length (km)	Diameter (m)	Level (mPD)
Chai Wan to Shau Kei Wan	2.3	1.20	-126 to -121
Shau Kei Wan to Kwun Tong	2.6	1.35	-121 to -76
Tseung Kwan O to Kwun Tong	5.3	1.35 (twin pipes)	-87 to -76
Kwun Tong to To Kwa Wan	3.4	2.82	-143 to -136
To Kwan Wan to Stonecutters Island	5.6	3.54	-136 to -125
Kwai Chung to Tsing Yi	0.8	2.21	-134 to -132
Tsing Yi to Stonecutters Island	3.6	2.36	-132 to -125





Harbour Area Treatment Scheme Stage 2A

Project Scope:

- Enhancing the design treatment capacity of SCISTW to 2.45 million m³ per day and the addition of disinfection facilities
- Construction of about 21 km long deep tunnel to convey the sewage from the northern and south-western parts of Hong Kong Island to SCISTW for CEPT
- Upgrading of 8 existing PTWs in North Point, Wan Chai East, Central, Sandy Bay, Cyber Port, Wah Fu, Aberdeen and Ap Lei Chau

Commissioning Date: December 2015

Project Cost: About \$17.5 B

Information of Sewage Conveyance Tunnel

Tunnel Drive	Length (km)	Size	Level (mPD)
North Point to Stonecutters Island	12	<ul style="list-style-type: none">• 7.5-km-long Twin oval tunnels of cross-sectional area 1.7 to 5.6 m² each• 4.5-km-long Single circular tunnel of cross-sectional area 7.1 m²	-163 to -139
Aberdeen to Sai Ying Pun	7.5	Twin oval tunnels of cross-sectional area 1.5 to 2.1 m ² each	-123 to -73
Ap Lei Chau to Aberdeen	1.3	Twin circular tunnels of cross-sectional area 0.28 m ² each	-99 to 2





Harbour Area Treatment Scheme Stage 2B

HATS Stage 2B involves construction of biological sewage treatment facilities on Stonecutters Island for all HATS flow. It is kept under review taking into account the water quality situation and the latest technological development in biological treatment.

.....

Construction of Additional Sewage Rising Main and Rehabilitation of the Existing Sewage Rising Main between Tung Chung and Siu Ho Wan

Project Scope:

- Construction of an additional sewage rising main of about 6.5 km with diameter of 1,200 mm from the Tung Chung Sewage Pumping Station to the Siu Ho Wan Sewage Treatment Works
- Construction of the associated connection works for the additional sewage rising main
- Rehabilitation of the existing sewage rising main
- Ancillary works including ground investigation and monitoring works

Commencement Date: August 2016

Anticipated Completion Date: 2025

Project Cost: About \$1.36 B





Upgrading of San Wai Sewage Treatment works

Project Scope:

- The plant is to be expanded and upgraded to chemically enhanced primary treatment with disinfection to improve the effluent quality
- Uplifting the treatment capacity to 200,000m³ per day
- Design and construction of other ancillary facilities such as administration building, maintenance workshop, laboratories, odour treatment facilities and sludge treatment facilities
- Provision of architectural and landscaping works
- Provision of an alternative permanent access route in the west of existing San Wai Sewage Treatment Plant

Project Progress:

The Design, Build and Operate Contract commenced in May 2016, targeting for completion of construction in 2020. The Contractor is responsible for design and construction of the San Wai Sewage Treatment Works, and operation of the facilities for 15 years after commissioning

Project Cost: About \$3.14 B



Illustration of the completed San Wai Sewage Treatment Works



Shek Wu Hui Sewage Treatment Works Improvement Project

Project Scope:

- Uplifting the treatment capacity to 190,000 m³ per day
- Upgrading the treatment level from existing secondary to tertiary
- Improving environmental performance of the existing plant, including odour control and landscaping works

Project Progress:

The expansion works will be implemented in phases. The Advance Works of the first phase (Phase 1A) commenced in mid 2015 and are anticipated to be completed in 2019. Detailed design of the remaining phases is in progress.

Advance Works, Investigation and Design cost:

About \$500 million

Information of Existing Shek Wu Hui Sewage Treatment Works

Footprint: About 9.4 hectares

Design Treatment Capacity: 93,000 m³/day



Illustration of the completed Shek Wu Hui Sewage Treatment Works





Relocation of Sewage Treatment Works to Caverns

Relocation of Sha Tin Sewage Treatment Works to Caverns

Project Scope:

Relocating Sha Tin Sewage Treatment Works (STSTW) to caverns which are to be constructed in Nui Po Shan across Shing Mun River so as to release the existing site for beneficial uses.

Project Progress:

The three-stage Public Engagement (PE) exercises have been held from November 2012 to May 2016. Environmental impact assessment has also been completed and approved. Ground investigation works and design are in progress and scheduled for completion in phases from 2017. Construction will commence progressively afterwards.

Investigation and Design cost: About \$640 M

Information of Existing STSTW

Footprint: About 28 hectares

Design Treatment Capacity: 340,000 m³/day



Sha Tin Sewage Treatment Works and Nui Po Shan



Relocation of Sai Kung Sewage Treatment Works to Caverns (Feasibility Study)

Study Scope:

Including preliminary technical and impact assessments, preparation of outline design, formulation of implementation strategies and programmes as well as carrying out public engagement and consultation activities.

Study Progress:

The first stage of PE exercise was conducted from March to August 2015. The entire study is anticipated to be completed in early 2018.

Study Estimate: About \$40 M

Information of Existing Sai Kung Sewage Treatment Works

Footprint: About 2.2 hectares

Design Treatment Capacity: 8,000 m³/day

Relocation of Sham Tseng Sewage Treatment Works to Caverns (Feasibility Study)

Study Scope:

Includes preliminary technical and impact assessments, preparation of outline design for the engineering works, formulation of implementation strategies and programmes and carrying out public engagement and consultation activities.

Project Progress:

The first stage of PE exercise was completed in February 2016 and the second stage was conducted in March and April 2017. The entire study is anticipated to be completed in mid 2018

Study Estimate: About \$40 M

Information of Existing Sham Tseng Sewage Treatment Works

Footprint: About 1.1 hectares

Design Treatment Capacity: 17,000 m³/day





4.2 Flood Prevention

Stormwater drainage services include implementation of flood prevention works, operation and maintenance of stormwater drains and associated facilities.

Drainage Master Plan Studies (DMP) and DMP Review Study

DSD has completed 8 Stormwater Drainage Master Plan (DMP) Studies and 3 Drainage Studies. Since 2008, DSD has commenced a series of DMP Review Studies, which are summarized as follows:

Review Study Area		Status
1	Yuen Long	Completed in 2011
2	North District	
3	Happy Valley	
4	West Kowloon	Completed in 2015
5	East Kowloon	
6	Tai Po	In progress, anticipated to complete in end 2017
7	Sha Tin and Sai Kung	
8	North Hong Kong Island	In progress, anticipated to complete in 2018
9	Lantau and Outlying Islands	In progress, anticipated to complete in 2019
10	Tuen Mun, Tsuen Wan and Kwai Tsing	Under planning
11	Tseung Kwan O	
12	South Hong Kong Island	
13	Repulse Bay and Tai Tam	





4.2.2 Elimination of Flooding Blackspots

Since 1995, DSD has eliminated 124 flooding blackspots. There remain 7 flooding blackspots in Hong Kong. The drainage improvement works for 3 of them have been completed and their effectiveness is being monitored. Subject to satisfactory performance, these 3 flooding blackspots will be eliminated in due course. For the remaining 4 flooding blackspots, the first-stage improvement works have been completed while the next stage improvement works are under planning and design.

Flooding Blackspots removed in early 2017

- Wong Chuk Hang Road J/O Nam Long Shan Road, Southern

Information of the 7 Remaining Flooding Blackspots

Location	Situation
<ul style="list-style-type: none">• Ting Kok Road – Shuen Wan Chim Uk to Wong Yue Tan, Tai Po• Tung Tsz Road, Tai Po• Morrison Hill Road J/O Lap Tak Lane, Wan Chai	Improvement works has been completed and the effectiveness is under monitoring
<ul style="list-style-type: none">• Lam Tsuen Valley Basin, Tai Po• Shek Wu Wai, San Tin, Yuen Long• Chatham Road South between Granville Road and Austin Avenue, Yau Tsim Mong• Pok Fu Lam Village, Southern	First-stage improvement works have been completed. Works for next stage are under planning and design





Flood Prevention Works

Our flood prevention works are summarized as follows:

	Completed	Under planning / design / construction
River Training	About 102 km	About 18 km
Drainage Improvement	About 93 km	About 16 km
Total Project Cost	About \$25.1 B	About \$12.7 B



Completed Tai Po River



Drainage Tunnels

	Kai Tak Transfer Scheme	Hong Kong West Drainage Tunnel	Lai Chi Kok Drainage Tunnel	Tsuen Wan Drainage Tunnel
Project Cost	About \$380 M	About \$3.38 B	About \$1.67 B	About \$1.49 B
Commissioning Date	Dec 2004	Aug 2012	Oct 2012	Mar 2013
Length	1.5 km	10.5 km	3.7 km	5.1 km
Diameter	4.4 m	6.25 m to 7.25 m	4.9 m	6.5 m
Other Features	—	<ul style="list-style-type: none">• 34 intake structures• Outfall at Cyberport	<ul style="list-style-type: none">• 6 intake structures• 1 stilling basin• Outfall at Stonecutters Island	<ul style="list-style-type: none">• 3 intake structures• Outfall at Yau Kom Tau



Hong Kong West Drainage Tunnel





Stormwater Storage Schemes

	Tai Hang Tung Stormwater Storage Scheme	Sheung Wan Stormwater Storage Scheme	Happy Valley Underground Stormwater Storage Scheme
Project Cost	About \$290 M	About \$200 M	About \$1.07 B
Commissioning Date	2004	2009	Mar 2017
Capacity	100,000 m ³	9,380 m ³	60,000 m ³
Design Pumping Capacity	1.9 m ³ /s	6.0 m ³ /s	1.5 m ³ /s
Plan Area	17,680 m ²	1,580 m ²	24,000 m ²
Average Internal Depth	7.5 m	5.9 m	3 m
Other Features	240 m long overflow weir in total	—	15 nos. of 3 m long movable overflow weir



Happy Valley Underground Stormwater Storage Tank



Improvement Works of Kai Tak River

	Upstream Section	Midstream Section
Project Scope	<ul style="list-style-type: none">• Reconstruction and rehabilitation of a section of Kai Tak River of about 600 m long from Po Kong Village Road to Tung Kwong Road• Construction of a box culvert of about 400 m long alongside the Kai Tak River from Wong Tai Sin Police Station to Tung Tai Lane• Landscaping works	<ul style="list-style-type: none">• Reconstruction and rehabilitation of a section of Kai Tak River of about 500 m long from Tung Kwong Road to Prince Edward Road East• Landscaping works
Commencement Date	October 2011	December 2013
Anticipated Completion Date	Part of the works have been commissioned, the essential drainage improvement works are anticipated to be completed by end 2017	End 2017
Project Cost	About \$1.60 B	About \$1.24 B

Notes: The construction and upgrading of the downstream section of Kai Tak River of 1.3 km long, being undertaken by CEDD, commenced in 2013 and is anticipated to be completed in 2018 at a project cost of about \$2.5 B



Illustration of the completed Kai Tak River





Village Flood Protection Schemes

27 nos. of Village Flood Protection Schemes in operation

District	Village	District	Village
Yuen Long	Kau Hui (Nam Pin Wai)	Kam Tin	Sha Po Tsuen
	Ma Tin Tsuen	Ngau Tam Mei	Po Wai
	Shui Pin Wai		Chuk Yuen Tsuen and Ha San Wai
	Wang Chau Village	San Tin	Chau Tau
	Shui Pin Tsuen		Mai Po Lo Wai and Mai Po San Tsuen
	Tai Kiu		San Tin
Tin Shui Wai	Lo Uk Tsuen	Sheung Shui	Sheung Shui Tsuen
	Sik Kong Tsuen		Tai Tau Leng and Tsung Pak Long
	Sik Kong Wai	Sha Tin	Tsang Tai Uk
	Kiu Tau Wai		Fo Tan
	Ha Mei San Tsuen	Tai Po	Shui Wai
	Sheung Cheung Wai	Tuen Mun	Tsing Chung Koon
	Fung Shui Lane	Lantau Island	Tai O Wing On Street
			Tai O Tai Ping Street

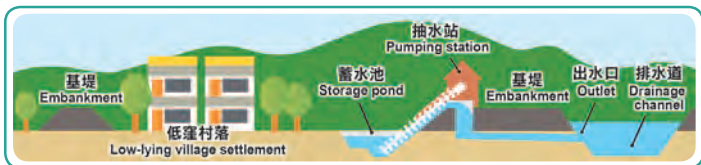


Illustration of Village Flood Protection Scheme



Shenzhen River Regulation Project

	Stage I to Stage III	Stage IV
Project Scope	Straightening the Lok Ma Chau bend and the Liu Pok bend, widening and deepening the remaining sections from Liu Pok bend to the estuary and the section upstream of the Liu Pok bend to the confluence with Ping Yuen River (about 13.5km in total)	Improving the section of Shenzhen River between Ping Yuen River and Pak Fu Shan (about 4.5 km) and constructing a flood retention lake of 80,000 m ³
Commencement Date	1997 to 2006	End 2017 (Anticipated)
Project Cost	About \$1.8 B	About \$1.0 B



The completed Stage I, II and III Shenzhen River Regulation Project





Revitalization of Tsui Ping River

Project Scope:

- Revitalising the existing 1 km long nullah alongside King Yip Street, King Yip Lane and Tsui Ping Road into Tsui Ping River with environmental, ecological and landscape upgrading
- Beautifying the adjoining walkways, enhancing connectivity and walkability by means of provision of walkways and landscaped decks beside the river to match with the project theme

Project Progress:

Investigation works commenced in July 2015, targeting for completion in end 2017. The first stage PE exercise was completed in March 2017.



Illustration of the completed Tsui Ping River



Revitalising Water Bodies

The way forward

- Revitalising Water Bodies to Achieve Sustainable Development
 - Promoting water-friendly culture and activities
 - Creating green habitats
 - Providing more urban open space
 - Mitigating heat island effect
 - Coping with climate change
 - Making reference to the concept of “Sponge City” – following the nature with flexibility



Illustration of the concept of "Sponge City"





5. Key Statistics and Data

Rainfall Record in Hong Kong

According to the Climatological Information Services in the website of Hong Kong Observatory:

Highest Hourly Rainfall	145.5mm	7 Jun 2008
Highest Daily Total Rainfall	534.1mm	19 Jul 1926
Highest Annual Total Rainfall	3343.0mm	Year 1997
Mean Annual Total Rainfall	2398.5mm	1981-2010

Drainage System under DSD

Sewerage System

- Sewers 1,753 km
- Sewage tunnels ⁽¹⁾ 63 km

Stormwater Drainage System

- Stormwater drains 2,386 km
- Engineered channels 363 km
- Drainage tunnels ⁽²⁾ 21 km

(The above figures are as at December 2016)

4,565 km

Notes:

- Including sewage conveyance tunnels of HATS Stage 1 and 2A, North West New Territories Sewage Tunnel, Tolo Harbour Effluent Sewage Tunnel and Tseng Kwan O Sewage Tunnel
- Including Hong Kong West Drainage Tunnel, Lai Chi Kok Drainage Tunnel, Tsuen Wan Drainage Tunnel and Kai Tak Transfer Drainage Tunnel





Facilities

Sewage Treatment Works	67
Preliminary Treatment Works	18
Primary Treatment Works	2
Chemically Enhanced Primary Treatment (CEPT) Works	4
Secondary Treatment Works	42
Tertiary Treatment Works	1
	<hr/>
Sewage Pumping Stations	237
Stormwater Pumping Stations	36
	<hr/>
Total no of facilities	340

Volume of Sewage Treated

(in million m³)

	<u>2014-15</u>	<u>2015-16</u>	<u>2016-17</u>
By Preliminary Treatment	228	138	45
By Primary Treatment	5	5	5
By CEPT	606	690	779
By Secondary Treatment	172	174	186
Total	<hr/> 1,011 <hr/>	<hr/> 1,007 <hr/>	<hr/> 1,015 <hr/>

Notes:

1. Sewerage network in Hong Kong is currently serving about 93.5% of the population (based on the number of domestic water bill accounts with sewage charges levied)
2. The volume of sewage treated by tertiary treatment in 2016/17 is about 0.17 million m³
3. Daily quantity of sewage sludge generated in 2016/17 is about 1,121 tonnes





Design Treatment Capacity of Major Sewage Treatment Works

Major Sewage Treatment Works	Design Treatment Capacity (m ³ /day)
Preliminary Treatment Works	
North West Kowloon Preliminary Treatment Works	450,800
Kwun Tong Preliminary Treatment Works	333,000
Primary Treatment Works	
Cheung Chau Sewage Treatment Works	4,000
Tai O Imhoff Tank	1,200
Chemically Enhanced Primary Treatment	
Stonecutters Island Sewage Treatment Works	2,450,000
Pillar Point Sewage Treatment Works	241,000
Siu Ho Wan Sewage Treatment Works	180,000
Sham Tseng Sewage Treatment Works	16,800
Secondary Treatment Works	
Sha Tin Sewage Treatment Works	340,000
Tai Po Sewage Treatment Works	110,000
Shek Wu Hui Sewage Treatment Works	93,000
Yuen Long Sewage Treatment Plant	70,000
Stanley Sewage Treatment Works	11,600
Sai Kung Treatment Works	8,000
Tertiary Treatment Work	
Ngong Ping Sewage Treatment Works	1,100





Design Pumping Capacity of Major Pumping Stations

Major Sewage / Stormwater Pumping Stations	Design Pumping Capacity (m ³ /s)
Sewage Pumping Stations	
Stonecutters Island Main Pumping Station	63.3
Cheung Sha Wan Sewage Pumping Station	14.7
Stormwater Pumping Stations	
San Tin Stormwater Pumping Station	8.0
Chuk Yuen Stormwater Pumping Station	8.0

Application of Renewable Energy

Renewable Energy Systems	Generating Capacity (kW) ⁽¹⁾		
	2014-15	2015-16	2016-17
Combined Heat and Power Generators and Micro-turbines	3,650	3,650	3,900
Solar Systems	179	369	1,323 ⁽²⁾
Dual Fuel Engines	4,400	4,400	4,400
Biogas Boilers	3,793	3,793	3,793
Total	12,022	12,212	13,416

Note:

1. The generating capacities of the biogas boilers refer to their thermal generating capacities, the generating capacities of other systems refer to their electricity generating capacities.
2. The solar farm at the Siu Ho Wan Sewage Treatment Works came into operation in December 2016, and hence increased the generation capacity in 2016-17 drastically.





Solar farm at Siu Ho Wan Sewage Treatment Works

Project Scope:

Provision of a photovoltaic system comprising over 4,200 photovoltaic panels with an installed generation capacity of 1,100 kilowatts at the Siu Ho Wan Sewage Treatment Works

Environmental Benefits:

- Estimated annual electricity generation of the system is 1,100,000 kilowatt-hours, which is equivalent to about one-fourth of existing electricity consumption of the plant
- Estimated annual reduction of carbon dioxide emission is about 770 tonnes

Commissioning date: December 2016

Project cost: About \$27 M



Solar farm at Siu Ho Wan Sewage Treatment Works



6. Public Education

Students or relevant organizations are welcome to visit our sewage treatment and flood prevention facilities through prior application. Please visit the following website for more information:

http://www.dsd.gov.hk/EN/Education/Visit_to_DSD_Facilities/index.html

7. Contact Us

Drainage Hotline:

2300 1110

Sewage Charges Customer Services Enquiries:

2834 9432

General Enquiries:

2877 0660

Website:

<http://www.dsd.gov.hk>

E-mail:

enquiry@dsd.gov.hk





渠務署

Drainage Services Department

**Drainage Services Department
in Brief
2016 -17**

