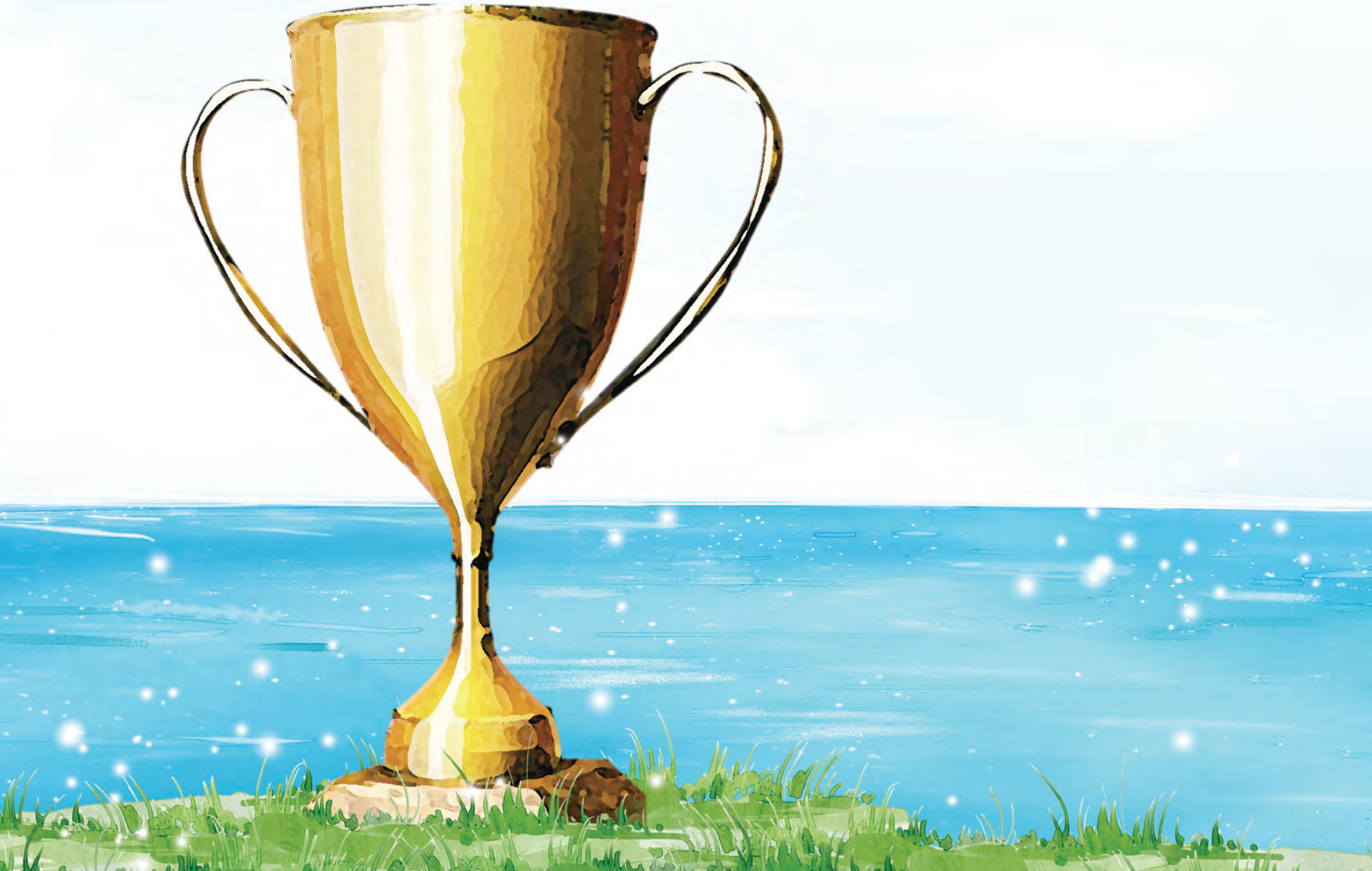
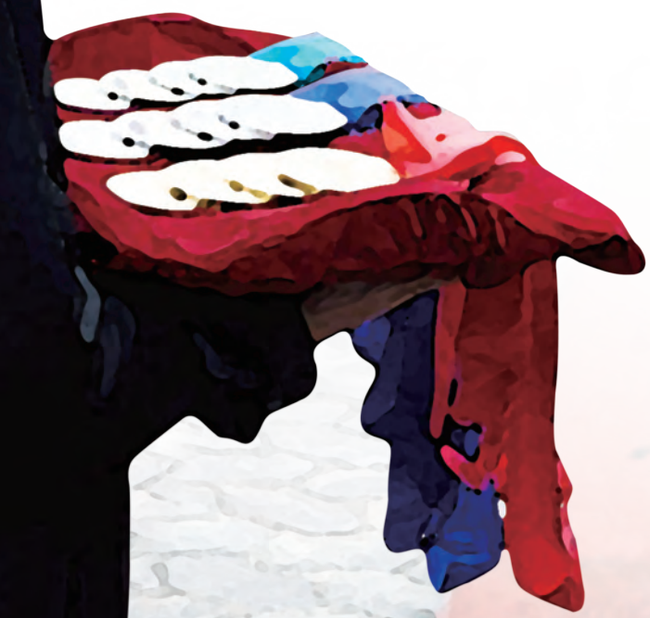
Chapter Six Recognition of Remarkable Performance



Chapter Six Recognition of Remarkable Performance

Drainage works aim to improve environmental quality and protect the public from flooding. To achieve this, DSD endeavours to adopt new concepts and approaches to improve the design in our works projects, bearing in mind the needs of all parties concerned. Several DSD projects win local and international awards in recent years for their innovative design and application of advanced technology. These award-winning projects include Happy Valley Underground Stormwater Storage Scheme which integrated new technology and environmental consideration, Lai Chi Kok Drainage Tunnel which achieved a number of technological breakthroughs, Relocation of Sha Tin Sewage Treatment Works to Caverns which saw wide public engagement, Harbour Area Treatment Scheme (HATS) which was designed to improve the water quality in Hong Kong, as well as Environmentally Friendly Sludge Treatment Scheme and Research Studies on Vertical Greening which both helped foster sustainable development.



Outstanding Drainage Projects

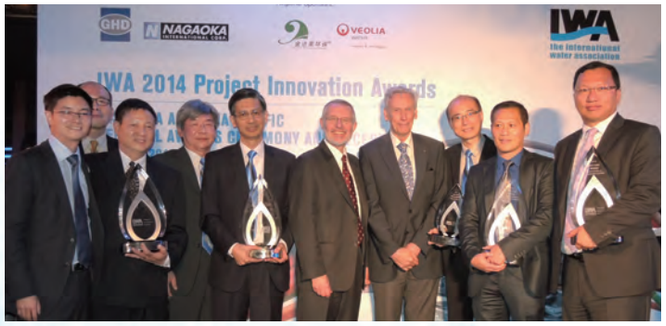
Since our establishment, DSD has been serving Hong Kong people with dedication for 25 years and striving for betterment of our services in flood prevention, sewage treatment, environmental protection and greening. The year 2013 saw fruitful achievements of DSD, with our works and research projects winning awards in several local and international competitions. Entering into 2014, DSD also won prestigious awards in the internationally renowned 2014 International Water Association (IWA) Global Project Innovation Awards Competition, including Winner in the Marketing and Communications Category and Honour Award in the Design Category.

Sewage Treatment

To tie in with the Government's development strategy of better utilising land resources, DSD initiated the Relocation of Sha Tin Sewage Treatment Works to Caverns project. After a year of public engagement activities, we finally gained the support of the general public to this relocation project. The public engagement strategy adopted in the project brought DSD success in and was bestowed the Winner in the Marketing and Communications Category of both the 2014 IWA Global Project Innovation Awards and the 2014 IWA East Asia Regional Project Innovation Awards. In addition, DSD has implemented Sewerage Master Plans for different areas in the territory and the Harbour Area Treatment Scheme (HATS). The HATS was voted by Hong Kong people as the first runner-up in the poll of The Hong Kong People Engineering Wonders in the 21st Century organised by the Hong Kong Institution of Engineers, which was a remarkable achievement.

Relocation of Sha Tin Sewage Treatment Works to Caverns

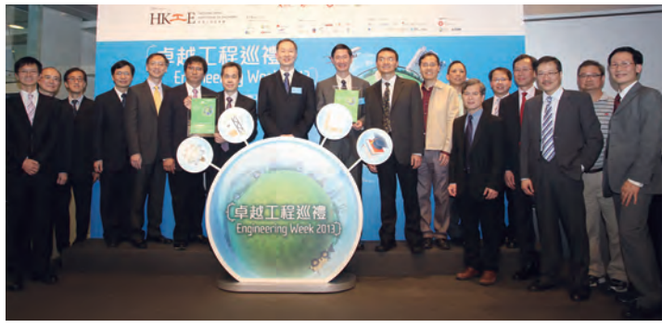
Relocation of Sha Tin Sewage Treatment Works to Caverns is Hong Kong's first project to relocate sewage treatment facilities to caverns. The objective is to release the existing site for other beneficial uses. To facilitate the residents living in the vicinity of the proposed relocation site to have a better understanding of the project, we invited them to visit the existing Stanley Sewage Treatment Works which was also located inside caverns, where the visitors could have first-hand experience of the effectiveness of the deodourisation facilities therein. In addition, DSD arranged a thematic website, newsletters, posters and mascots, and organised roving exhibitions, focus group and community group meetings as well as public forum to enhance public understanding of the relocation project and exchange views with the participants. The project gained international recognition and was named as the Winner in the Marketing and Communications Category of both the 2014 IWA Global Project Innovation Awards and the 2014 IWA East Asia Regional Project Innovation Awards. The Judge Panel of the latter considered that the "Experiential, Multi-platform and Iconic" approach adopted by this project had gone beyond traditional communication framework of engineering projects and acted as a good reference for planning of other similar "Not In My Back Yard" facilities in urbanised cities in the next decades.



The then Director and other representatives of DSD received the award as the Winner in the Marketing and Communications Category of the 2014 IWA East Asia Regional Project Innovation Awards

The then Director and project team taking photo after being awarded as the Winner in the Marketing and Communications Category of the 2014 IWA East Asia Regional Project Innovation Awards

Harbour Area Treatment Scheme



The then Director and representatives of DSD received the award of the first runner-up in the poll of The Hong Kong People Engineering Wonders in the 21st Century

The HATS, which began in 1994, is the largest sewerage infrastructure project in Hong Kong, aimed at improving the water quality of Victoria Harbour. Under this scheme, sewerage infrastructures are constructed in stages to tackle the problem of water pollution brought along by urbanisation. Since the commissioning of Stage 1, over 600 tonnes of sewage sludge and associated pollutants have been prevented from entering Victoria Harbour every day, substantially improving the water quality of the eastern and central parts of the Harbour. With these achievements, the project was voted as the first runner-up in the poll of The Hong Kong People Engineering Wonders in the 21st Century. While Stage 2A is currently in progress, advance disinfection facilities of Stage 2A have now been put into operation which further improved the water quality and enabled the reopening of beaches in the Tsuen Wan region. Other construction works under Stage 2A are now in full swing and, upon future commissioning, could further enhance the water quality of Victoria Harbour.

Dynamically Adaptive Scum Collection System

In the past, sewage treatment works adopted traditional technologies to collect scum in sedimentation tanks. As the water levels inside the tanks are different in day and night time, sewage might be over-collected when the water level is high and this will in turn affect the volume of scum collection. DSD developed the dynamically adaptive scum collection system in recent years. Being applied at the Stonecutters Island Sewage Treatment Works, this system employs innovative information and communication technology by installing sensors to capture the real-time sewage level of the sedimentation tank, together with a dynamically adaptive data algorithm to optimise scum collection.

Hong Kong ICT Awards 2014: Best Innovation (Innovative Technology) Award Certificate of Merit

Representatives of DSD received the Certificate of Merit

The Hong Kong ICT Awards 2014 was organized by the Office of the Government Chief Information Officer, and supported by the Hong Kong Productivity Council and the Hong Kong Trade Development Council, and co-organised by 10 trade associations and professional bodies in Hong Kong. The Awards aim to recognise, promote and commend exemplary innovations in ICT field, and to build a locally as well as internationally acclaimed brand of ICT awards. The Awards also encourage local practitioners to sustain momentum in developing innovative and creative ICT technologies[1].

Stormwater Drainage

Hong Kong's complex landscape, uneven rainfall and unexpected heavy rainstorms all pose challenges to our work on flood prevention. With due consideration of the characteristics of Hong Kong, DSD formulates comprehensive flood prevention strategies, through dredging, stormwater storage and interception. Major storage and interception works have been carried out in the urban area. They included drainage tunnels in Hong Kong West, Lai Chi Kok and Tsuen Wan, as well as building of underground stormwater storage tanks at Tai Hang Tung, Sheung Wan and Happy Valley. Working together, these large-scale projects offer long-term and effective flood protection to Hong Kong's urban area.

Lai Chi Kok Drainage Tunnel

The Lai Chi Kok Drainage Tunnel project adopted a number of innovative design and advanced technologies to successfully achieve "zero impact" to adjacent facilities and attain a commendable safety record of "zero decompression sickness". These effective and innovative approaches earned DSD the Honour Award in the Design Category of the 2014 International Water Association (IWA) Global Project Innovation Awards, Winner in the Design Category of the 2014 IWA East Asia Regional Project Innovation Awards, and Merit Award of the Construction Category in the Innovation Award for the Engineering Industry 2012/13, presented by the Hong Kong Institution of Engineers. The IWA judging panel commended the project for its contribution to the promotion of sustainable development. For instance, a pet garden was built on top of the stilling basin of the drainage tunnel, utilising the scarce urban land resources. Rainwater collected in the tunnel is partly reused after purification, achieving efficient use of water resources.

2014 IWA East Asia Regional Project Innovation Awards

The Project Innovation Awards were established by the IWA to recognise excellence and innovation in water engineering projects around the world. Awards are presented in six categories: Applied Research, Design, Operations/Management, Planning, Small Projects, Marketing and Communications[2].

The then Director and representatives of DSD received the 2014 IWA East Asia Regional Project Innovation Awards

Innovation Award for the Engineering Industry

The Hong Kong Institution of Engineers (HKIE) set up in Engineering Week 2013 the Innovation Award for the Engineering Industry to pay tributes to engineering innovators who dedicate their professionalism to improving the public's quality of life by introducing original and transformative developments in engineering. Awards were presented in the categories of Construction, Industrial and Technology[3].

Representatives of DSD receiving the Merit Award in the Construction Category

Hong Kong West Drainage Tunnel

The Hong Kong West Drainage Tunnel project adopted several technical breakthroughs in the engineering sector of Hong Kong and overcame numerous problems during construction. The project won awards locally and internationally, including being named the Tunnelling Project of the Year 2011 at the International Tunnelling Awards. The project also obtained the third-highest vote by the public in the poll of Hong Kong People Engineering Wonders in the 21st Century.

International Tunnelling Awards

The International Tunnelling Awards are jointly organised by two British publications, namely *New Civil Engineer and Ground Engineering*. The objective of the awards is to recognise outstanding tunnelling projects worldwide. In 2011, the Awards received 74 entries and among them, Hong Kong West Drainage Tunnel was the only Hong Kong works project which was shortlisted and awarded by the judging panel. The project was commended by the judging panel as "a model tunnelling project, delivered under difficult circumstances"[4].

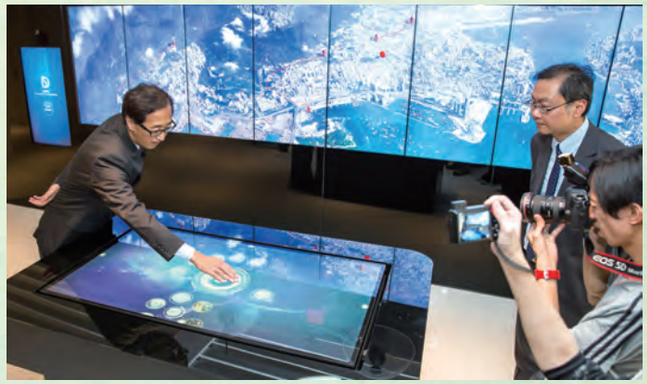
Representatives of DSD project team, consultants and contractor received the 2011 International Tunnelling Awards together

The Hong Kong People Engineering Wonders in the 21st Century

The Engineering Week 2013 was a major event organised by the HKIE. It included, inter-alia, a voting campaign named Hong Kong People Engineering Wonders in the 21st Century for the Hong Kong people to select their 10 favourite projects from 20 projects shortlisted by the HKIE. The purpose of the voting campaign was to enrich the public's understanding of Hong Kong's engineering projects on the one hand, and recognise the contributions of local engineers to sustainable development in Hong Kong[5] on the other.

Experience Sharing in Drainage Tunnel Projects

Ir Tai Wai-man, Chief Engineer of the Project Management Division, opined that the drainage tunnel projects in Hong Kong West, Lai Chi Kok and Tsuen Wan each has its own characteristics. For the Hong Kong West Drainage Tunnel, it is the longest drainage tunnel in Hong Kong, linking up several residential areas. During its construction, raise boring machines were extensively used and tunnel boring machine (TBM) excavation and adit blasting were concurrently employed. In addition, the project team successfully overcame the problem of highly water-permeable fault zones composed of loose soil. Attributable to proper organisation of the workflow by the team, the works were swiftly completed within a short period of time, something that attracted much recognition from the engineering sector.



Ir Tai Wai-man, Chief Engineer of the Project Management Division (left) introducing urban flood prevention strategies to media

For the Tsuen Wan Drainage Tunnel, it has the highest discharge capacity. As it intercepts the flow of some natural watercourses, hence the tunnel was designed to ensure adequate flow in these watercourses in order not to affect the natural habitats therein.

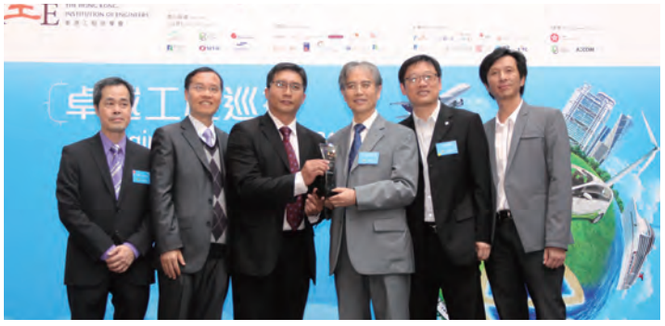
Lai Chi Kok Drainage Tunnel was constructed underneath the foundations of many buildings and five railways including the Guangzhou-Shenzhen-Hong Kong Express Rail Link which was less than two metres above. In addition, as the tunnel routed across fresh granite and mixed ground and soil, innovatively we used TBMs which could excavate tunnels through both soil and rock strata. The project team also brought in hyperbaric pressure technologies during the construction. Ir Tai pointed out that DSD paid great importance on construction safety, and engaged overseas experts to come to Hong Kong to provide safety training and supervision, attaining the highest safety standard of zero decompression sickness at the end. This success has introduced a new way forward for the Hong Kong's tunnelling industry.

Happy Valley Underground Stormwater Storage Scheme

Happy Valley Underground Stormwater Storage Scheme (HVUSSS) is Hong Kong's first application of Movable Crest Weir system with Supervisory Control and Data Acquisition. Owing to its innovative design, the project won in the Planning Category at the 2012 IWA East Asia Regional Project Innovation Awards. Also, it won a Merit Award in the Construction Category of the Innovation Award for the Engineering Industry presented by the HKIE.

The IWA judging panel commended the HVUSSS project for its uniqueness in planning, with adoption of various innovative environmental design. Besides serving the purpose of flood prevention, the project also pioneered in rainwater and underground water harvesting, targeting at reuse of water resources to meet the society's expectation of sustainable development. The HKIE commended the innovative design of the movable crest weir system which, together with the shallow tank design, enables substantial reduction of energy consumption by the water pumps. Such a design serves the dual objectives of flood prevention and environmental protection.

The then Deputy Director, Ir Tsui Wai, received the 2012 IWA East Asia Regional Project Innovation Awards



Representatives of DSD received Merit Award in the Construction Category of the Innovation Award for the Engineering Industry

Financial Secretary—My Blog, posted on 6 April 2014 (Summary)

Hong Kong's Financial Secretary, Mr Tsang Chun-wah, John recalled that more than 10 years ago, heavy rainstorms always resulted in widespread flooding in Mong Kok, Sham Shui Po, Sheung Wan, North District and other districts. The flooding severely affected our livelihood and caused economic loss. Attributable to the commitment and years' of efforts of DSD in upgrading our flood prevention infrastructure, the situation has improved significantly nowadays. Since its establishment in 1989, DSD has invested a total of $24 billion on 80 major flood prevention projects, reducing the number of flooding blackspots from over 130 to 11. Apart from the traditional methods of river improvement and diversion of stormwater, DSD adopted innovative methods in recent years, such as construction of drainage tunnels and stormwater storage tanks which effectively reduced the flood risk. Mr Tsang viewed the drainage tunnels as shields safeguarding downstream areas, while stormwater storage tanks allowed additional time for the diversion of stormwater. Both methods alleviated flood damage and protect human lives and economic activities in relevant areas. Mr Tsang emphasized the fact that Hong Kong's infrastructure is ranked No.1 among over 140 economies. Drainage infrastructure facilitated resumption of the normal public life after heavy rainstorms[6].

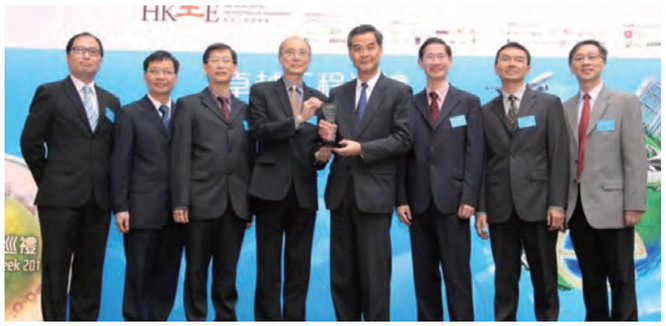
Research and Development, and Environmental Protection

Developing new technologies is the key to continual improvement of DSD's services. DSD established a Steering Committee on Research and Development in 2001. The committee is responsible for coordinating the mapping out and implementation of research strategies[7]. The Projects and Development Branch of DSD is responsible for exploring new technologies, and carrying out tests to assess their effectiveness. To strengthen the research and development, DSD also takes initiatives to cooperate with local research experts on different research projects with the objective of introducing new technologies to flood prevention, sewage treatment and green facilities in Hong Kong.

Environmentally Friendly Sludge Treatment Scheme

In recent years, DSD developed an innovative sludge treatment technology called the Environmentally Friendly Sludge Treatment Scheme Developed on Co-settling. The environmental efficiency of this innovative technology is very high. It can reduce the volume of solid sludge and produce additional biogas for electricity generation at the same time. The technology has won several local and international awards. They included an Honour Award in the Small Projects Category of the 2014 IWA East Asia Regional Project Innovation Awards, the Champion of the Technology Category in The Innovation Award for the Engineering Industry 2012/13 and the Certificate of Merit of the Green Innovations Awards, in the 2012 Hong Kong Awards for Environmental Excellence.

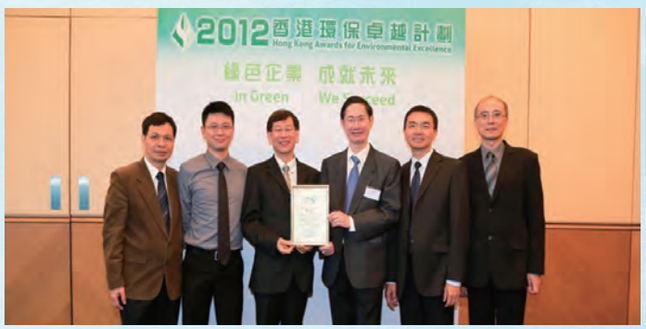
The then Director and representatives of DSD received the Honour Award in the Small Projects Category of IWA East Asia Regional Project Innovation Awards



Representatives of DSD received the Champion of the Technology Category in The Innovation Award for the Engineering Industry 2012/13

The 2012 Hong Kong Awards for Environmental Excellence- Green Innovations Awards

The Environmental Campaign Committee, together with the Environmental Protection Department and nine other organisations, jointly launched the Hong Kong Awards for Environmental Excellence. The Awards aim to encourage local organisations to promote green management and implement innovative environmental concepts in a sustainable manner. Four schemes are offered: Sectoral Awards, Green Innovations Awards, Environmental Labels and Carbon Reduction Certificates. Among them, the Green Innovations Awards Scheme serves to recognise achievements of green innovations with proven environmental benefits[8].



Representatives of DSD received the Green Innovations Awards

Studies on Sustainable Drainage and River Works

In recent years, DSD collaborated with experts to study sustainable drainage and river works. Our research study on revitalisation of urban streams[9] received a Merit Award in the Hong Kong Institute of Planners (HKIP) Awards 2013. The adjudicating panel complimented the research team on their effort in fostering the engagement of local communities and non-governmental organisations in the study[10]. By researching into international guidelines on river revitalisation and paying visits to successful urban stream revitalisation projects in Seoul, Taipei, Singapore and Shenzhen, the study devised a set of guidelines for future revitalisation of urban rivers in Hong Kong.

The Hong Kong Institute of Planners (HKIP) Awards 2013

The Hong Kong Institute of Planners (HKIP) Awards 2013 aim to recognise outstanding town planning projects, encourage the pursuit of excellence amongst planners in Hong Kong and promote the application of the principles and practices of town planning.

Greening Studies

In recent years, DSD took the initiative to cooperate with several local universities on various greening studies. In 2012, DSD's research study on green roofs and vertical greening at the Sha Tin Sewage Treatment Works won several awards:

- The Studies, Green Roofs at Sha Tin Sewage Treatment Works and Vertical Greening at Tai Hang Tung Stormwater Pumping Station won the Silver Award and the Merit Award, respectively, in the Government Projects Category of the Skyrise Greenery Awards 2012;
- Vertical Greening Study at Sha Tin Sewage Treatment Works received the Merit Award in the Planning/Research Projects Category of the Skyrise Greenery Awards 2012 and the Merit Award in the Landscape Planning Project/Research Study Category of The Hong Kong Institute of Landscape Architects Design Awards; and
- Transplanting a Gigantic Tree at Kai Tak Development received the Merit Award in the Environmental Design/Greening Category of the Hong Kong Institute of Landscape Architects Design Awards.

Skyrise Greenery Awards 2012

Organised by the Greening, Landscape and Tree Management Section of the Development Bureau, the Skyrise Greenery Awards 2012 aimed to promote the development of quality skyrise greening, and to give recognition to exemplary projects that showcased the integration of skyrise greenery into the building environment of Hong Kong[11].

Green Roofs at Sha Tin Sewage Treatment Works

The Hong Kong Institute of Landscape Architects Design Awards

The Hong Kong Institute of Landscape Architects Design Awards 2012 aimed to promote the development of quality greening projects and to give recognition to exemplary projects in landscape design, planning and greening research[12].

Vertical Greening Study at Sha Tin Sewage Treatment Works received a Merit Award in the Landscape Planning Project/ Research Study Category

Besides promoting greening studies, DSD also encourages colleagues to share with the industry the achievements of our greening works. Two of the papers, namely 3+1 Approach for Greening Works at Sha Tin Sewage Treatment Works and Bank of Green Roofs in DSD, were respectively awarded the 1st Prize in the Civil Engineering Paper of the Year Award 2011 and the Merit Award in the 2012 Environmental Paper Award.

Representatives of DSD received the 1st Prize in the Civil Engineering Paper of the Year Award 2011

Representatives of DSD received a Merit Award in the 2012 Environmental Paper Award

Quality Services

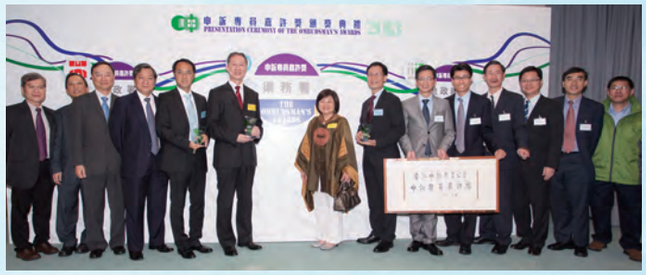
Over the years, the DSD team has dedicated to solving problems arising from sewage and stormwater. Our customer-oriented approach alongside the belief in teamwork is the key to providing quality services. In the past, DSD has received numerous team awards.

Recognition of DSD's Team Spirit

DSD was awarded the Grand Award of The Ombudsman's Award 2013 for Public Organisations, and the Silver Prize for Team Award (General Public Service) in the Civil Service Outstanding Service Award Scheme 2013. The Office of the Ombudsman praised DSD for taking a proactive manner in handling complaints referred by them, and for taking prompt improvement measures, particularly in conducting mediation to resolve complaints and taking initiative to liaise with concerned departments on cross-departmental cases. The Ombudsman also commended DSD's exemplary service culture, making DSD a deserving winner of the Grand Award.

Ombudsman's Awards Scheme

The Ombudsman's Awards Scheme was launched by the Office of The Ombudsman. The Scheme includes the Awards for Public Organisations and the Awards for Officers of Public Organisations, both of which aim to recognise the positive attitude of government departments and public organisations as well as their staff in handling public complaints. The Scheme encourages the departments and public organisations to improve public administration through handling complaints, and to cultivate a positive complaint culture[13].



The then Director, Ir Chan Chi-chiu and representatives of DSD received the Ombudsman's Awards

Civil Service Outstanding Service Award Scheme

The Civil Service Outstanding Service Award Scheme, presented by the Civil Service Bureau, aims to recognise the outstanding services provided by the winning departments and teams. It promotes a customer-oriented service culture in the civil service and encourages the pursuit of excellence in the delivery of public services by the departments[14].

The then Director, Ir Chan Chi-chiu and representatives of DSD received the Civil Service Outstanding Service Award 2013

Interview with Ir Sam Kai-pong, Derek, from Sewage Treatment Division 2

Ir Sam Kai-pong, Derek (back row, centre) and frontline staff on the green roof of Ma Wan Sewage Treatment Works

Ir Sam Kai-pong, Derek is an Electrical and Mechanical Engineer of DSD responsible for managing the maintenance of the sewage treatment and flood prevention facilities in Lantau Island and Islands district since 2006. His most memorable project was the taking over of the management of the Ma Wan Sewage Treatment Works ahead of schedule in order to expedite the improvement to the odour problem of the plant. Prior to the taking over, he had been working on the regular publication of Ma Wan Sewage Treatment Works Odour Control Periodical, and had been home visiting Ma Wan residents to gain a thorough understanding of the situation. After confirmation of the source of odour, Ir Sam and his team quickly worked out an improvement plan. Eventually, members of the Legislative Council and of the Owner Committees, along with Ma Wan residents, were satisfied with the outcome of the improvement project. Throughout the process, Ir Sam was impressed by the positive and conscientious working attitude of staff from all the divisions in handling the related complaints. In 2013, DSD received the Grand Award of the Ombudsman's Awards for Public Organisations, an honour which greatly encouraged Ir Sam.

Interview with Mr Chan Hok-fung, Vice Chairman of Central and Western District Council

Mr Chan Hok-fung, Vice Chairman of Central and Western District Council, grew up in Sai Wan and used to live in a three-storey pre-war tenement that used the "empting nightsoil" method. A burst of odour would be generated when "empting nightsoil," he recalled. At that time, many tenement house occupants poured sullage into the nearby drainage, attracting rats and cockroaches and resulting in poor hygiene conditions. Later, when he moved into a public housing estate, he noted the presence of a flush toilet in the bathroom and soon discovered its merits. He realised that having the sewage directly conveyed to a sewage treatment works through sewers was convenient and conducive to environmental hygiene. These facilities greatly improved residents' living condition. Since his appointment as a member of the District Council, Mr Chan has frequently liaised with DSD to follow up issues related to flooding which affect local shops and odour nuisance from the sewerage near Belcher's Street. He praised DSD staff as the unsung heroes who spare no effort to serve the public.

Conclusion

DSD strives to provide quality wastewater and stormwater drainage services, introduce innovative designs and implement major works projects, as well as upgrade the skill level in order to bring a better living environment to citizens of Hong Kong. Keeping in pace with the international trend, DSD has in recent years collaborated with experts to introduce innovative environmental elements to our projects with regard to the unique environment of Hong Kong. We are glad to see that these continuous efforts have won us many awards in the local and international engineering field.

List of DSD Awards (from 2009 to mid-2014)

Year	Awards
2014	Relocation of Sha Tin Sewage Treatment Works to Caverns was named the Winner in the Marketing and Communications Category of the 2014 IWA Global Project Innovation Awards, and Winner in the Marketing and Communications Category of the 2014 IWA East Asia Regional Project Innovation Awards. Lai Chi Kok Drainage Tunnel won the Honour Award in the Design Category of the 2014 IWA Global Project Innovation Awards, and winner in the Design Category of the 2014 IWA East Asia Regional Project Innovation Awards. Environmental Sludge Treatment Scheme Developed on Co-settling received the Honour Award in the Small Projects Category of the 2014 IWA East Asia Regional Project Innovation Awards. Dynamically Adaptive Scum Collection System was awarded a Certificate of Merit for Best Innovation (Innovative Technology) Award in the Hong Kong Information and Communication Technology Awards 2014.
2013	DSD received the Grand Award of The Ombudsman's Awards 2013 for Public Organisations. Lai Chi Kok Drainage Tunnel won the Merit Award in the Construction Category in The Innovation Award for the Engineering Industry 2012/13. Happy Valley Underground Stormwater Storage Scheme received a Merit Award in the Construction Category in The Innovation Award for the Engineering Industry 2012/13. Environmental Sludge Treatment Process Developed on Co-settling Technology was named Champion in the Technology Category in The Innovation Award for the Engineering Industry 2012/13. Harbour Area Treatment Scheme received the second -highest vote totals in the poll of The Hong Kong People Engineering Wonders in the 21st Century, organised by the Hong Kong Institution of Engineers (HKIE). Hong Kong West Drainage Tunnel received the third-highest vote totals in the poll of The Hong Kong People Engineering Wonders in the 21st Century, organised by the Hong Kong Institution of Engineers (HKIE). A DSD study of revitalising urban streams entitled, A Comparative Study of Revitalization of Urban Streams in the Major Cities in Asia, received a Merit Award in the Hong Kong Institute of Planners (HKIP) Awards 2013. Lai Chi Kok Drainage Tunnel won a Silver Prize in the Team Award (General Public Service) of the Civil Service Outstanding Service Award Scheme 2013. A DSD research study entitled, Image from Sewage, was given a Meritorious Award in the Civil Service Outstanding Service Award Scheme 2013. Safety Measures for Working Personnel in Confined Spaces received the Best Public Service Application (Small Scale Project) Gold Award in the Hong Kong Information and Communication Technology Awards 2013.
2012	Happy Valley Underground Stormwater Storage Scheme was named the Winner in the Planning Category of the 2012 IWA East Asia Regional Project Innovation Awards. Co-settlement and Energy Conservation Approach for Sludge Treatment received a Certificate of Merit in the 2012 Hong Kong Awards for Environmental Excellence — Green Innovations Awards. Green Roofs at Sha Tin Sewage Treatment Works and Vertical Greening at Tai Hang Tung Stormwater Pumping Station were awarded Silver and Merit Awards respectively in the Government Projects Category of the Skyrise Greenery Awards 2012. Vertical Greening Study at Sha Tin Sewage Treatment Works received a Merit Award in the Planning/Research Projects Category of the Skyrise Greenery Awards 2012, and a Merit Award in the Landscape Planning Project/ Research Study Category in the Hong Kong Institute of Landscape Architects Design Awards 2012. Transplanting a Gigantic Tree at Kai Tak Development received a Merit Award in the Environmental Design/ Greening Category in Hong Kong Institute of Landscape Architects Design Awards 2012. The DSD paper Bank of Green Roofs in Drainage Services Department received a Merit Award in the 2012 Environmental Paper Award organised by the Environmental Division of The Hong Kong Institution of Engineers (HKIE).

Year	Awards
2011	• The Hong Kong West Drainage Tunnel project was named **the Winner of Tunnelling Project of the Year (US$100m to US$1bn) in the International Tunnelling Awards 2011**, organised by New Civil Engineer and Ground Engineering. • The Hong Kong West Drainage Tunnel project team won **Silver Prize in the General Public Service Award under the Civil Service Outstanding Service Award Scheme 2011**. • DSD (Headquarters) was awarded a **Certificate of Merit in the 2011 Hong Kong Awards for Environmental Excellence**. • A DSD paper entitled, 3+1 Approach for Greening Works at Sha Tin Sewage Treatment Works, was awarded the **1st Prize in the Civil Engineering Paper of the Year Award 2011**, organised by the Civil Division of The Hong Kong Institution of Engineers.
2010	• Shek Wu Hui Sewage Treatment Works was awarded a **Certificate of Merit in the 2010 Hong Kong Awards for Environmental Excellence**.
2009	• Intercepting Drains at Queen's Road Central won **the Champion in the General Public Service Award under the Civil Service Outstanding Service Award Scheme 2009**. • DSD Sewage Treatment Division 2 was awarded a **Certificate of Merit in the 2009 Hong Kong Awards for Environmental Excellence**.

---

1 Office of the Government Chief Information Officer. Hong Kong ICT Awards. Website: http://www.hkictawards.hk/?langid=480 Accessed date: 8 April 2014

2 International Water Associations. *IWA Project Innovation Awards*. Website: http://www.iwa-pia.org/pia_winners_2012.html Accessed date: 4 July 2014.

3 The Hong Kong Institution of Engineers. *The Innovation Award for the Engineering Industry*. Website: http://www.hkie.org.hk/eng/html/news/pressviewer.asp?sn=550 Accessed date: 8 April 2014.

4 New Civil Engineer and Ground Engineering. *The International Tunnelling Awards*. Website: http://v3.staging.www.tunnellingawards.com/Accessed date: 8 April 2014.

5 The Hong Kong Institution of Engineers. *Hong Kong People Engineering Wonders in the 21st Century*. Website: http://www.hkie.org.hk/eng/html/news/pressviewer.asp?sn=604 Accessed date: 8 April 2014.

6 Financial Secretary's Blog. Behind the Bricks (磚頭背後), 6 April 2014. Website: http://www.fso.gov.hk/chi/blog/blog060414.htm Accessed date: 6 May 2014

7 In 2013, DSD has finished 7 studies, including (1) Conducting flow monitoring and hydrology analysis in Yuen Long Bypass Floodway, (2) Evaluating the rehabilitation of stormwater tunnels and sewers using trenchless technology, (3) Detecting gaps around underground tunnels, (4) Studying odour control carried out in the polluted Tai Kang Po KT-5 se ction, (5) Studying the chemical dosing control of disinfection facilities in the Harbour Area Treatment Scheme, (6) Conducting a comparative study of revitalisation of urban streams in the major cities in Asia, (7) Studying the application of vertical greening in different DSD facilities.

8 Environmental Campaign Committee. *Hong Kong Award for Environmental Excellence — Green Innovations Awards*. Website: http://www.hkaee.org.hk/tc_chi/category/green_innov_awards/aims/30.html Accessed date: 8 April 2014

9 Drainage Services Department. *A Comparative Study of Revitalisation of Urban Streams in the Major Cities in Asia — Executive Summary*. Website: http://www.dsd.gov.hk/EN/Files/DOC/RD1083.pdf Accessed date: 8 April 2014.

10 Hong Kong Institute of Planners. *Hong Kong Institute of Planers Awards*. Website: http://www.hkip.org.hk/HK/Content.asp?Bid=&Sid=&Id=734 Accessed: 10 April 2014

11 Development Bureau. *Skyrise Greenery Awards* . Website: http://www.hkaee.org.hk/tc_chi/category/green_innov_awards/aims/30.html Accessed date: 10 April 2014

12 The Hong Kong Institute of Landscape Architects. *The Hong Kong Institute of Landscape Architects Design Awards*. Website: http://www.hkila.com/v2/file/news-pdf71.pdf Accessed date: 11 April 2014

13 Office of the Ombudsman. *The Ombudsman's is Awards*. Website: http://www.ombudsman.hk/tc/publications_2009_08.shtml Accessed date: 11 April 2014

14 Civil Service Bureau. *Civil Service Outstanding Service Award Scheme*. Website: http://www.servicexcellence.gov.hk/tc/awards_scheme/index.html?tab=2 Accessed date: 11 April 2014