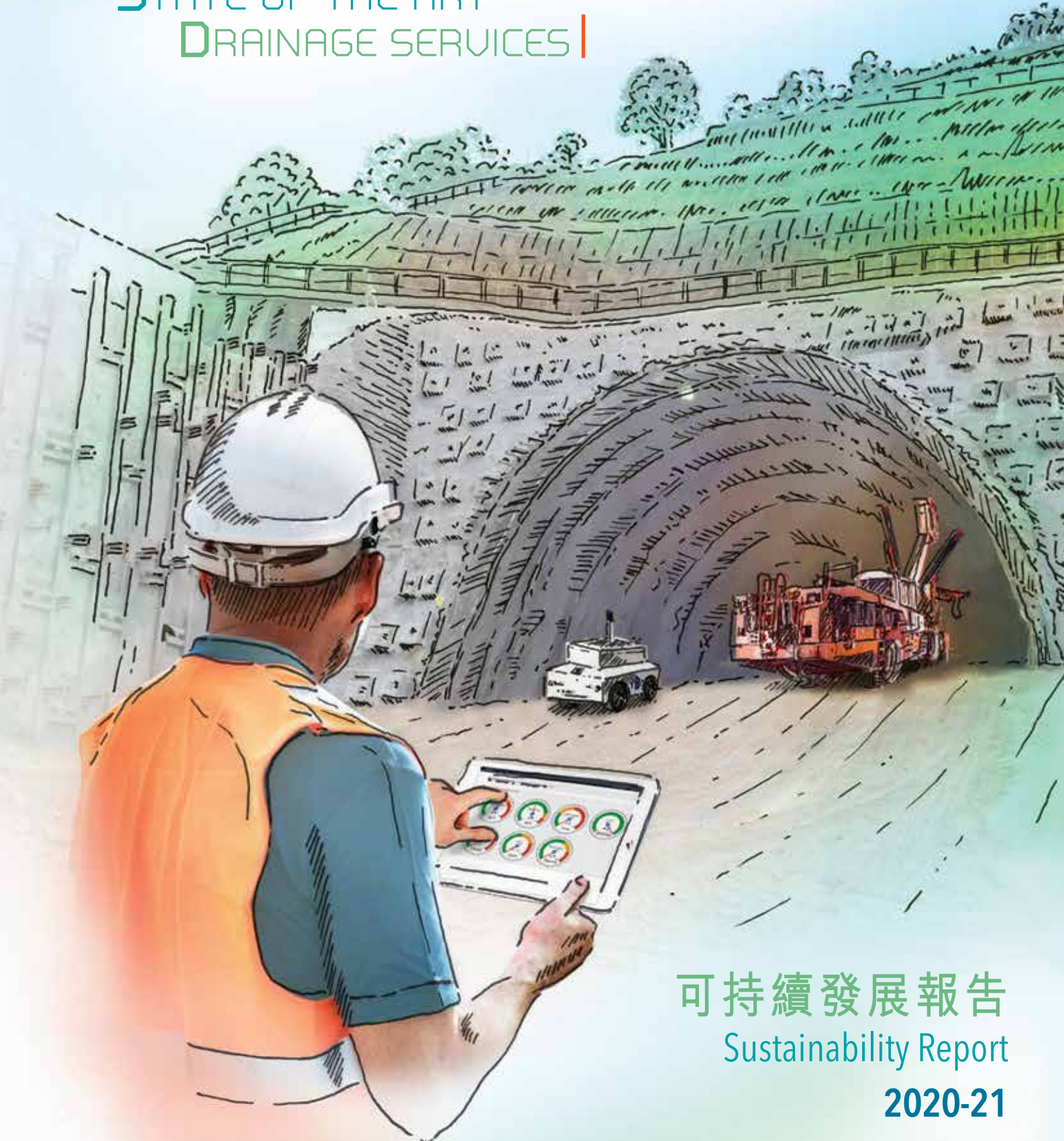


| 新 · 科技 · 展渠務  
DISCOVERY ·  
STATE OF THE ART ·  
DRAINAGE SERVICES |



可持續發展報告  
Sustainability Report  
2020-21



# 目錄

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# 署長序言

## Director's Statement



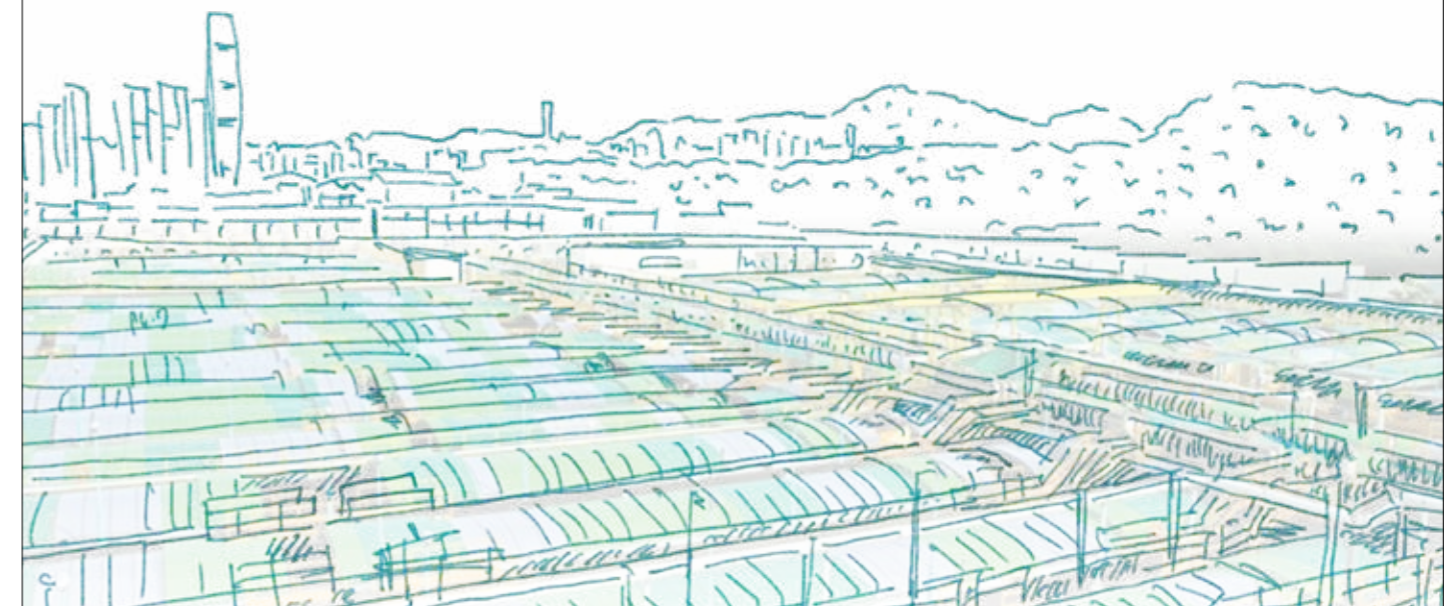
渠務署署長 彭雅妮女士  
Ms Alice PANG  
Director of Drainage Services

2020-21 年度無疑是充滿挑戰的一年。抗疫期間，政府先後推出一系列社交距離防疫措施，包括安排同事在家工作、停止所有面對面會議等，對整個政府的日常工作以至同事的生活難免有所影響。然而，多項政府服務對於整個城市的正常運作不可或缺；我們渠務署所負責的雨水排放和污水處理工作便是其中的好例子。

渠務署一直認為科研工作十分重要。面對新冠疫情，我們堅信過去在科研工作投放的資源和努力沒有白費，引入各種新技術以及運用科研成果，有效協助應對疫情之餘，亦大大提升了工作效率和可持續發展表現。

The year 2020-21 is definitely a year full of challenges. During the COVID-19 pandemic, the Government rolled out a series of social distancing measures, including arranging for colleagues to work from home, suspending all face-to-face meetings, which inevitably affected the everyday work of the Government and the lives of colleagues. However, many Government services are indispensable for our city's smooth operation; a good example is the sewage treatment and drainage services for which the Drainage Services Department (DSD) is responsible.

The DSD has always considered scientific research to be very important. While facing the COVID-19 pandemic, we firmly believe that the resources and efforts invested in scientific research in the past were not in vain. By introducing various new technologies and adopting scientific research outcomes, we not only effectively assisted in fighting the pandemic, but also greatly improved work efficiency and sustainability performance.



## 與時俱進

近年，渠務署積極在工程項目中廣泛應用數位技術。我們已在規劃設計中採用建築信息模擬(BIM)技術，以三維形式呈現建築結構並同時模擬安裝程序及使用情況，從而令設計和施工過程更加精準。現時，我們在新圍、沙頭角等地多個污水處理設施的改善工程中使用BIM技術，讓不同範疇的專業人員能在同一虛擬空間中探討工程問題，藉以提升工程質素與效率。此外，我們引入了配備先進聲納系統的探測船和新式遙控清淤機械人，在受淹浸的箱形暗渠分別進行檢查和清淤工作，免卻工作人員進入箱形暗渠，大大提升維修工作的安全性，亦同時消除相關工程只可於旱季進行的限制，有效增加工作效率。

## 積極研發

渠務署一向提倡進行研發工作，以提高在施工及日常運作方面的效率，以及提升環保表現。負責「搬遷沙田污水處理廠往岩洞」工程的團隊開發了名為「岩洞探哥」的機械人監察系統，可有效讓工程人員無須在爆破工程剛完成後進入岩洞檢查洞內情況。該系統配備包括鐳射掃描器在內的多種感測器，能將岩洞狀況的資料收集並以5G網絡傳送至岩洞外的工程人員，以便評估和監察岩洞內的安全風險。另外，為方便規劃防洪措施，渠務署開發了「防洪健康碼」，並在本港多個主要排水道安裝了新型傳感器，實時監察各排水道的水位及水文資訊作適時分析水浸風險用途。此外，本署正嘗試安裝並採用更多可再生能源設備以推動可持續發展工作。舉例來說，昂船洲污水處理廠的污水沉澱池蓋上方正在安裝薄膜太陽能光伏系統；該系統安裝完成後會成為香港規模最大的同類型裝置。

## 放眼未來

展望未來，渠務署會保持創新思維不斷求進，致力確保服務質素優良。我們在多個工程項目中靈活運用各種科技，例如嘗試使用人工智能建築訊息模擬系統來評估污

## Moving with the Times

The DSD has been widely applying digital technology to our works projects in recent years. We have applied Building Information Modelling (BIM) technology to project design to visualise 3D architectural structures and simulate installation and usage, thus making design and construction more accurate. We are currently applying BIM technology to modification works at sewage treatment facilities in places such as San Wai and Sha Tau Kok to enable professionals of various disciplines to address work issues in the same virtual space in order to enhance work quality and efficiency. Moreover, we have launched a new remote-controlled desilting robot and a robotic inspection boat equipped with a state-of-the-art sonar system to carry out desilting and inspection works respectively at the submerged box culverts. By obviating the need for workers to enter the box culverts, and eliminating the limitation that related works can be carried out only in the dry season, we have greatly enhanced inspection safety and maintenance efficiency.

## Keen Research and Development Efforts

The DSD has been encouraging research and development to improve the efficiency in works implementation and daily operations and enhance environmental performance. The team responsible for the "Relocation of Sha Tin Sewage Treatment Works to Caverns" project has developed the robotic monitoring system which can effectively obviate the need for workers to enter and inspect the cavern shortly after blasting works. Equipped with various sensors, including laser scanners, the system can gather and transmit information on the condition of the caverns to project operators outside the caverns via the 5G network for the purpose of carrying out tunnel safety assessment and monitoring. Moreover, to facilitate planning of flood prevention measures, the DSD has developed the Hydrometric Information System and installed sensors of the latest model at major drainage channels throughout Hong Kong to monitor the water levels of and hydrometric information about the channels in real time for timely flood risk analysis. Furthermore, the DSD is trying to install and employ more renewable energy equipment to promote sustainable development. For instance, a thin-film photovoltaic system is being fitted above the sedimentation tank covers at Stonecutters Island Sewage Treatment Works (STW). Upon completion, the system will be the biggest installation of its kind in Hong Kong.

## Eye on the Future

Committed to service quality, the DSD will maintain a visionary mindset and strive for continuous improvement in the future. We suit technologies to works projects flexibly. One example is our attempt to use the Artificial Intelligence-based Building Information Modelling (AIBIM) System to assess internal structures of sewage treatment facilities. A synergy of AI and BIM technologies, this

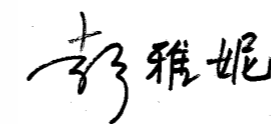
水處理設施的內部結構狀況。此系統結合了人工智能科技和建築訊息模擬科技的優勢，能揭示污水處理設施運作狀況的詳情，有助我們安排維修工作。另外，我們亦利用先進科技，把環保元素加入工程項目之中，以促進可持續發展工作。舉例來說，我們與學者攜手進行研究項目，在位處白鷺飛行路線的沙田污水處理廠設立人工智能鷺鳥林監察系統，以便追蹤和識別不同的鳥類；我們可透過該系統所集得的數據了解雀鳥的生活習性，以便檢視並改善施工安排，從而減低生態環境所受的影響。

## 同心抗疫

鑑於新冠病毒疫情肆虐，渠務署積極與社會各界並肩抗疫。我們聯同環保署及香港大學的跨學科團隊合作研究以污水分析法監測新冠病毒傳播情況。污水監測技術在抗疫期間發揮顯著功用，有助於找出新冠病患者。我們的同事除了提供技術支援外，亦身體力行義務參與社區抗疫活動。同事於2021年1月參與跨部門的緊急抗疫行動，在受限區域提供義工服務。此外，長者及基層家庭在抗疫期間承受巨大心理壓力，因此渠務署義工隊籌辦了「渠心關顧 一暖心意」活動，透過製作和贈送節日禮盒的方式關顧不同社羣在抗疫期間的心理康狀況並滿足他們的日常需要。

## 團結一心

我十分感謝同事在面對種種挑戰的情況下仍熱誠工作。我們會繼續與社會各界連繫，並肩前行，不但盡心盡力為市民提供優質渠務服務，而且會堅持創新求變，以積極進取的態度為香港的可持續發展事務作出貢獻。



彭雅妮  
渠務署署長  
2021年11月

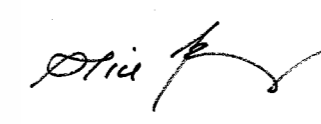
system can reveal the operating status of sewage treatment facilities in detail to facilitate our maintenance scheduling. Making use of advanced technologies, we incorporated green elements into all DSD projects to promote sustainable development. For instance, by conducting a joint research with academics, we have set up an Artificial Intelligence Egret Monitoring System at Sha Tin STW on the egret flightpath to track and identify different bird species in flight. With the data collected through the system, we can gain an understanding of the living habits of birds to review and better arrange our works so as to minimise ecological impacts.

## Together, We Fight the Virus

In view of the COVID-19 pandemic, the DSD actively joined hands with all sectors of society to fight the virus. We collaborated with the Environmental Protection Department and the cross-disciplinary team of the University of Hong Kong to conduct a joint research on monitoring COVID-19 virus transmission by sewage analysis. COVID-19 cases were identified through the sewage surveillance technology, which played a significant role in fighting the virus. Apart from providing technical support, our colleagues also volunteered to participate fighting the virus. In January 2021, our colleagues participated in inter-departmental anti-epidemic joint operations to provide volunteering services in the "restricted area". In addition, since the elderly and grassroots families were under tremendous pressure during the COVID-19 pandemic, the DSD volunteer team launched the "iCare – Box of Love" initiative to produce and present festive gift boxes to different social groups as a way of showing care and concern for their mental well-being and satisfying their daily needs during the pandemic.

## United We Stand

I am grateful for our colleagues' earnest efforts and dedication in the face of various challenges. We will continue to connect and work with the community, not only applying ourselves to providing high quality drainage services to the public, but also pursuing innovation with positive attitudes to forge ahead on Hong Kong's road to sustainable development.



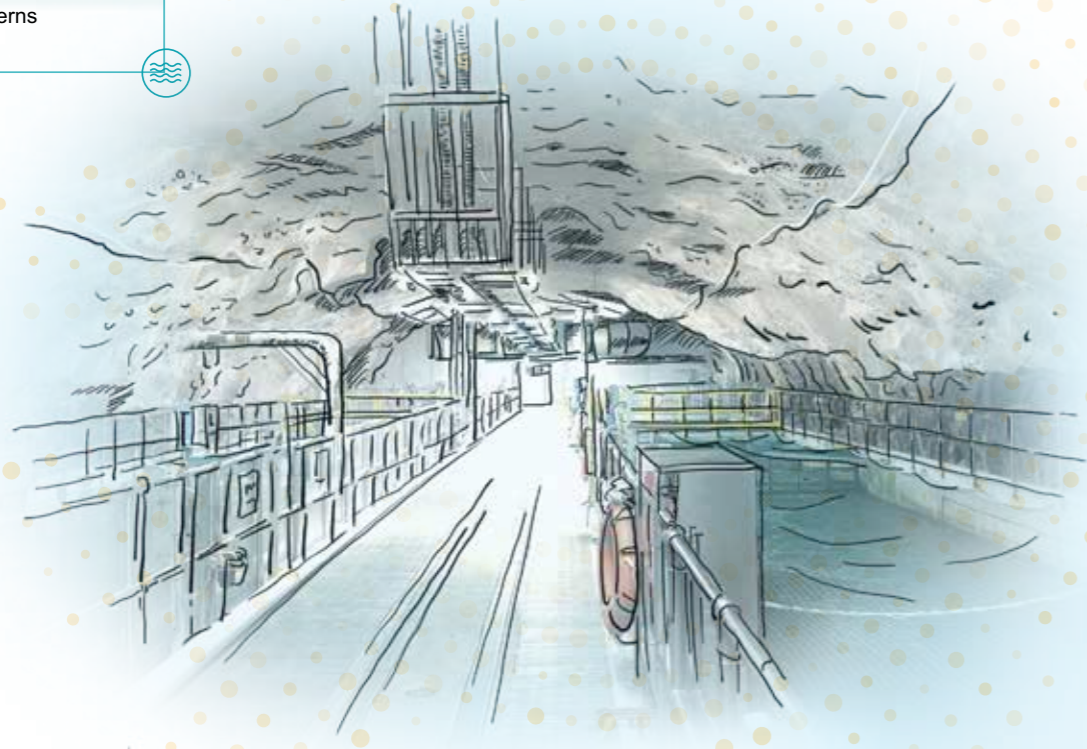
Alice PANG  
Director of Drainage Services  
November 2021



## 關於本報告

### About the Report

建於岩洞內的  
赤柱污水處理廠  
Stanley Sewage  
Treatment  
Works housed in  
caverns



香港特別行政區政府渠務署（「本署」）欣然發表題為「新•科技•展渠務」的可持續發展報告 2020-21（「本報告」），展示本署於過去一年在經濟、環境及社會三方面的工作進展及成果。本署期望透過本報告加強與持份者的溝通，並提升可持續發展工作的透明度，讓持份者更深入了解本署的工作和對可持續發展的願景及期望。

**The Drainage Services Department (DSD) of the Government of the Hong Kong Special Administrative Region (HKSAR) issues its Sustainability Report 2020-21 ("this Report"), titled "Discovery • State of the Art • Drainage Services", to demonstrate the DSD's work progress and accomplishments on the economic, environmental and social fronts throughout the year. We hope this Report strengthens our communication with stakeholders and enhances the transparency of our sustainability works, so that stakeholders can have deeper understanding on the works, sustainability visions and aspirations of the DSD.**

## 報告簡介

### Report Profile

本報告闡述渠務署<sup>1</sup>於2020年4月1日至2021年3月31日財政年度期間（「報告期」）<sup>2</sup>在經濟、環境及社會方面的表現，報告範圍及邊界根據實質性評估結果而定，具體範圍及邊界詳見下節。本署致力在本報告提供準確數據和資訊，惟部分數據和資料由相關機構提供，非我們直接控制。

本報告依照全球報告倡議組織（GRI）出版的《可持續發展報告標準》（GRI標準）的核心選項編製而成，並由獨立核證機構核實本報告的準確度、可靠性和公信力，以確保報告內容符合有關準則規定。獨立核實聲明已載列於第186-187頁。本報告亦已通過GRI標準的「實質性議題審核」，確認本報告按要求標示一般披露102-40至102-49的位置，以便參閱。為確保報告內容清晰分明，渠務署堅守報告原則，包括利益相關者包容性、可持續發展背景、實質性及完整性，同時確保報告的準確性、平衡性、清晰度、可比性、可靠性和時效性，以維持報告質素。

本報告以三款文字編製（英文、繁體中文及簡體中文），並以網頁版本、PDF版本及純文字版本形式發布。此外，本報告備有線上及印刷版本的報告摘要。

我們歡迎閣下就本報告的內容、報告方式及本署的可持續發展表現提供寶貴意見。您的意見不僅有助我們提升報告質素和加強資料披露的相關性，同時亦是本署持續進步的基石。請填妥本報告末端的回應表格，並以電郵、傳真或郵遞方式將之交回本署。

This Report illustrates the DSD's sustainability performance<sup>1</sup> in economic, environmental and social aspects from 1 April 2020 to 31 March 2021 ("reporting period")<sup>2</sup>. The reporting scope and boundaries, details of which are presented in the next section, are defined with reference to results of the materiality assessment. While we make our best endeavours to present accurate data and information in this Report, certain data and information are provided by relevant organisations and thus beyond our control.

This Report has been prepared in accordance with the GRI Standards: Core option issued by the Global Reporting Initiative (GRI). An independent verification agency has verified the accuracy, reliability and credibility of this Report, assuring that its contents comply with requirements of the corresponding standards. The independent verification statement can be found on page 188-189. This Report has completed the GRI Materiality Disclosures Service, which confirms that the GRI content index is clearly presented and cross references for general disclosures 102-40 to 102-49 are aligned with appropriate sections in the body of the Report. In order to better define the report content, the DSD closely observes the reporting principles, including Stakeholder Inclusiveness, Sustainability Context, Materiality, and Completeness. It also strives to maintain high reporting quality by ensuring Accuracy, Balance, Clarity, Comparability, Reliability and Timeliness.

This Report is composed in three languages (English, traditional Chinese and simplified Chinese) and provided online with web-based HTML, PDF and text-only versions. An executive summary is available online and in printed form.

We value your comments and suggestions on the report contents, reporting approach as well as our sustainability performance. Your opinions are important to help us further enhance report quality and relevance of our disclosures. They are also the bedrock for our continuous improvement. Kindly complete and return the feedback form appended to this Report to us by email, fax or mail.

<sup>1</sup>102-45

<sup>2</sup>102-50

## 報告範圍及邊界 Reporting Scope and Boundary

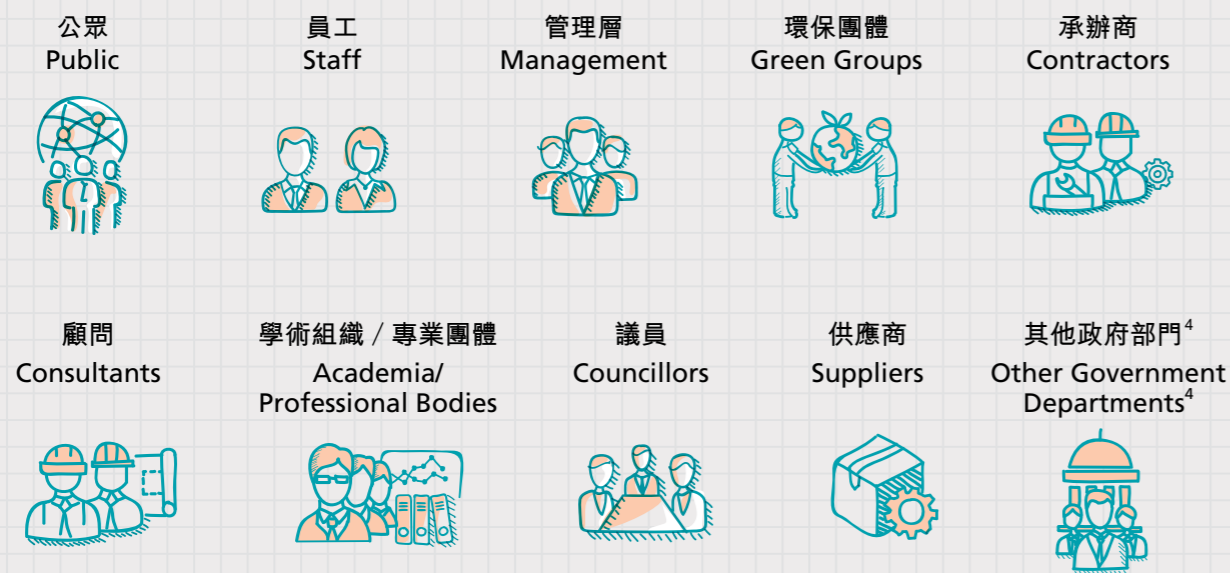
為確定報告範圍及邊界，本署每年均會進行全面的實質性評估。我們委託了獨立顧問協助本署根據 GRI 標準進行評估，以識別對本署及持份者影響較大的經濟、環境和社會議題，並將之融入報告內容當中，以提升渠務署可持續發展報告的針對性。本報告的實質性評估由以下三個主要元素組成<sup>3</sup>：

The DSD conducts a comprehensive materiality assessment every year to define the scope and boundaries of our sustainability report. An independent consultant is engaged to assist us in conducting the assessment based on GRI Standards to identify the material economic, environmental and social topics that pose greater impacts on the DSD and its stakeholders. We would incorporate these topics in our reports to enhance the focus of report contents. The materiality assessment for this Report comprises the following three major components<sup>3</sup>:

### 邀請持份者參與意見調查 Inviting Stakeholders to Take Part in Opinion Survey

我們相信聆聽並適當採納持份者的意見有助我們了解對本署而言重大的可持續發展議題。為收集他們的意見並識別其關注議題，我們邀請多個對本署日常運作有重大影響，或可能受本署日常運作高度影響的持份者參與焦點小組會議及問卷調查。所邀請的持份者組別包括：

We believe that listening to and adopting opinions appropriately from stakeholders enable us to understand the sustainability topics material to the DSD. To collect stakeholders' opinions and identify topics of their greatest concern, we invited stakeholder groups who have significant impacts on the DSD's operations or could be significantly affected by our operations to take part in focus group meetings and questionnaire surveys. These stakeholder groups include:



<sup>3</sup>102-43

<sup>4</sup>102-40, 102-42

## 焦點小組會議及問卷調查 Focus Group Meetings and Questionnaire Surveys

本署透過獨立顧問於 2021 年 5 月至 6 月舉行焦點小組會議及問卷調查，邀請了 482 位持份者（包括 379 位外部及 103 位內部持份者），就與本署工作性質相關的可持續發展議題進行意見調查。相關議題涵蓋社會責任及人權保障、員工福利及發展、環保及營運四大範疇。我們從中了解持份者對相關議題的關注度，以及收集其對本署可持續發展工作的意見及建議。此外，除了為預備本報告所舉行的持份者參與活動，本署於日常營運中亦恆常與持份者溝通和交流，有關詳情請參閱第七章 – 持份者參與。

An independent consultant was commissioned to organise focus group meetings and questionnaire surveys in May and June 2021 to invite a total of 482 stakeholders (including 379 external and 103 internal stakeholders) to provide feedback on sustainability topics relevant to the nature of the DSD's operations. Relevant topics cover four major aspects, including social responsibility and human rights protection, staff welfare and development, environmental protection, and operation. These exchanges shed light on stakeholders' level of concern towards relevant issues and provided comments and suggestions on the sustainability performance of the DSD. In addition to launching stakeholder engagement activities during the preparation of this Report, we maintain close communication with all stakeholders in the course of daily operation. For details, please refer to **Chapter 7 – Stakeholder Engagement**.

## 實質性分析 Materiality Analysis

我們根據焦點小組會議及問卷調查的結果分析各可持續發展議題對持份者及對本署可持續發展的重要性，從而繪製實質性矩陣，並將相關議題進行優先排序，以確立報告範圍和邊界。

We analysed the importance of various sustainability topics to stakeholders and the DSD's sustainable development based on the results of focus group meetings and questionnaire surveys, and formulated a materiality matrix. Identified material topics were prioritised to define the scope and boundaries of this Report.



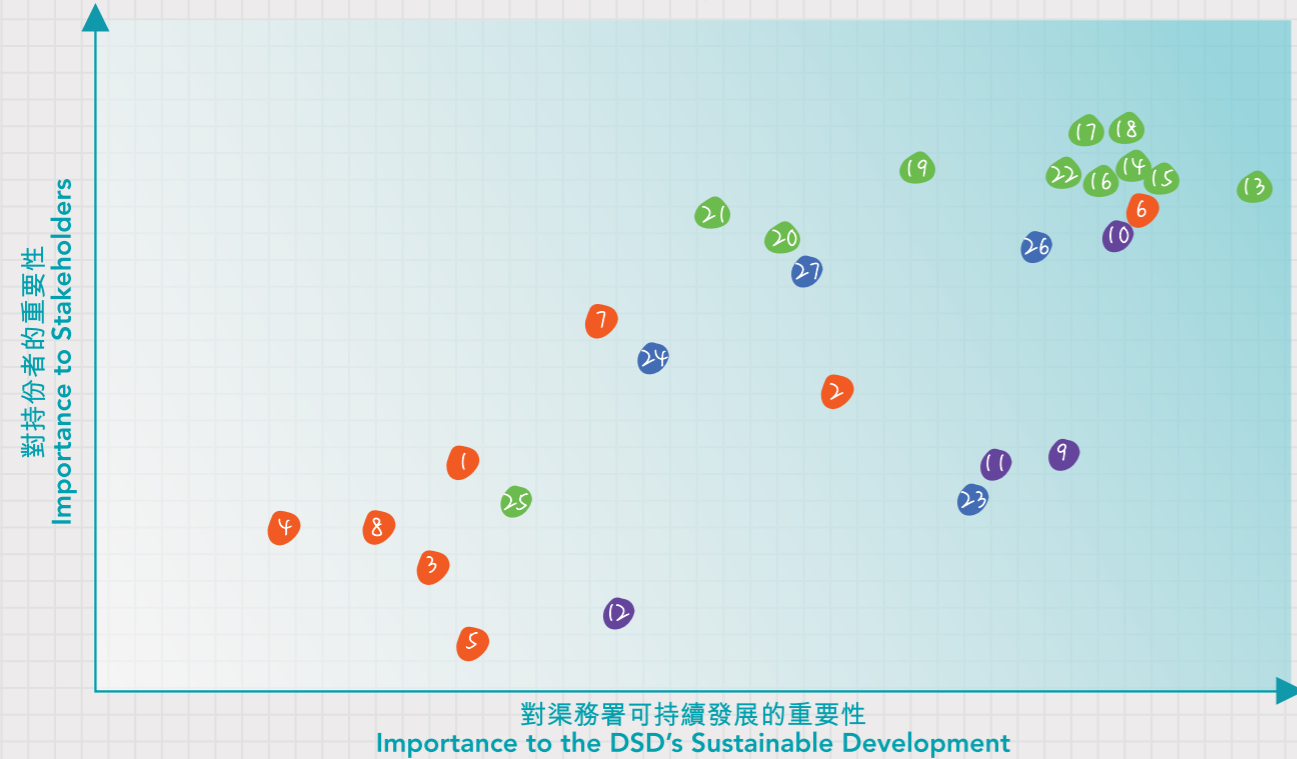
## 實質性矩陣

### Materiality Matrix

我們以矩陣圖的方式展示相關議題對持份者及對本署可持續發展的重要性，較重要的議題列於矩陣圖的右上方。

Importance of identified topics to stakeholders and DSD's sustainable development is presented in the form of a materiality matrix. The most material topics are presented in the top right corner of the matrix.

實質性矩陣  
Materiality Matrix



**社會責任及人權保障**  
Social Responsibility and Human Rights Protection

- 1 防止貪污  
Anti-corruption
- 2 遵守社會、經濟方面法規  
Social-economic Compliance
- 3 反歧視  
Non-discrimination
- 4 保障集體談判的權利  
Collective Bargaining Rights
- 5 尊重原居民權利  
Respecting Indigenous Rights
- 6 匯報可持續發展進程  
Reporting on Sustainable Development Agenda
- 7 投訴機制  
Grievance Mechanism
- 8 防止強迫勞動  
Prevention of Forced or Compulsory Labour

**員工福利及發展**  
Staff Welfare and Development

- 9 員工培訓及發展  
Employee Training and Education
- 10 職業安全及健康  
Occupational Safety and Health
- 11 內部溝通渠道  
Internal Communication Channel
- 12 員工政策及員工比例  
Employment Policy and Employee Ratio

**環保**  
Environmental Protection

- 13 遵守環境法規  
Environmental Compliance
- 14 生態保育  
(GRI 304: 生物多樣性)  
Ecological Conservation  
(GRI 304: Biodiversity)
- 15 能源管理  
Energy Management
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- 18 水資源及污水管理  
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- 21 評估供應商的環境表現  
Supplier Environmental Assessment
- 22 減緩及適應氣候變化  
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**營運**  
Operation

- 23 財務表現  
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- 24 採購政策  
Procurement Policy
- 25 間接經濟影響  
Indirect Economic Impacts
- 26 服務質素標準  
Service Quality Standards
- 27 保持公共資金和資產管理的透明度  
Transparency on Public Funds and Assets Management

基於實質性評估的結果，以及渠務署高級管理層和可持續發展報告工作小組的建議，我們確立共 23 個優先處理及報告的實質性議題。與去年度報告相比，持份者關注議題與去年相約，並無重大改變<sup>5</sup>。當中污水及廢物處理以及水資源管理兩項議題根據 GRI 準則調整為廢物處理以及水資源及污水管理。綜合所收集的意見，各持份者組別同樣高度關注本署的環保表現，當中以廢物處理、遵守環境法規、生態保育、氣味管理、水資源及污水管理和減緩及適應氣候變化為最備受關注的環保議題。本署除了於本報告披露相關資訊，同時在日常營運中與持份者保持緊密溝通，以積極回應其關切及意見<sup>6</sup>。

Informed by findings of the materiality assessment as well as recommendations from the senior management of the DSD and the Taskforce on Sustainability Reporting, 23 materiality issues were prioritised as material for the DSD to address and report on. As compared with the previous sustainability report, topics of concern to stakeholders are similar and there is no significant change<sup>5</sup>. In particular, two topics, namely, effluent and waste treatment, and water resources management, have been adjusted to waste treatment and water resources and effluent management with reference to GRI Standards. Concluding the views of all stakeholders, we note that all stakeholder groups are highly concerned about the environmental performance of the DSD. In particular, waste treatment, environmental compliance, ecological conservation, odour control, water resources and effluent management and climate change mitigation and adaptation are top environmental concerns. In addition to disclosing relevant information in this Report, the DSD maintains close communication with stakeholders in the course of daily operation to ensure prompt response to all concerns and comments<sup>6</sup>.



<sup>5</sup> 102-49  
<sup>6</sup> 102-44

本報告涵蓋的實質性議題及邊界如下： Material topics and boundaries of this Report are tabulated below:

實質性議題 <sup>7</sup> Material Topics <sup>7</sup>	議題邊界 <sup>8,9</sup> Topic Boundaries <sup>8,9</sup>	
	渠務署內部 Inside the DSD	渠務署外部 Outside the DSD
防止貪污 Anti-corruption	✓	✓
遵守社會、經濟方面法規 Social-economic Compliance	✓	✓
匯報可持續發展進程 Reporting on Sustainable Development Agenda	✓	✓
投訴機制 Grievance Mechanism	✓	✓
員工培訓及發展 Employee Training and Education	✓	✓
職業安全及健康 Occupational Safety and Health	✓	✓
內部溝通渠道 Internal Communication Channel	✓	✓
員工政策及員工比例 Employment Policy and Employee Ratio	✓	
遵守環境法規 Environmental Compliance	✓	✓
生態保育 (GRI 304:生物多樣性) Ecological Conservation (GRI 304: Biodiversity)	✓	✓
能源管理 Energy Management	✓	✓
廢物處理 Waste Treatment	✓	✓

<sup>7</sup> 102-44, 102-47

<sup>8</sup> 102-46

<sup>9</sup> 議題邊界指本報告實質性議題涵蓋的範圍，包括渠務署辦事處及轄下設施，以及渠務署主要工程顧問和承辦商的運作。  
Topic boundaries are scopes of material topics covered by this Report, including operations of DSD offices and facilities as well as major project consultants and contractors.

實質性議題 <sup>7</sup> Material Topics <sup>7</sup>	議題邊界 <sup>8,9</sup> Topic Boundaries <sup>8,9</sup>	
	渠務署內部 Inside the DSD	渠務署外部 Outside the DSD
氣味管理 Odour Control	✓	✓
水資源及污水管理 Water Resources and Effluent Management	✓	✓
氣體排放 Air Emissions	✓	✓
物料使用 Use of Materials	✓	✓
評估供應商的環境表現 Supplier Environmental Assessment	✓	✓
減緩及適應氣候變化 Climate Change Mitigation and Adaptation	✓	✓
財務表現 Economic Performance	✓	
採購政策 Procurement Policy	✓	✓
間接經濟影響 Indirect Economic Impacts	✓	
服務質量標準 Service Quality Standards	✓	✓
保持公共資金和資產管理的透明度 Transparency on Public Funds and Assets Management	✓	✓

<sup>7</sup> 102-44, 102-47

<sup>8</sup> 102-46

<sup>9</sup> 議題邊界指本報告實質性議題涵蓋的範圍，包括渠務署辦事處及轄下設施，以及渠務署主要工程顧問和承辦商的運作。  
Topic boundaries are scopes of material topics covered by this Report, including operations of DSD offices and facilities as well as major project consultants and contractors.





第一章 | Chapter 1

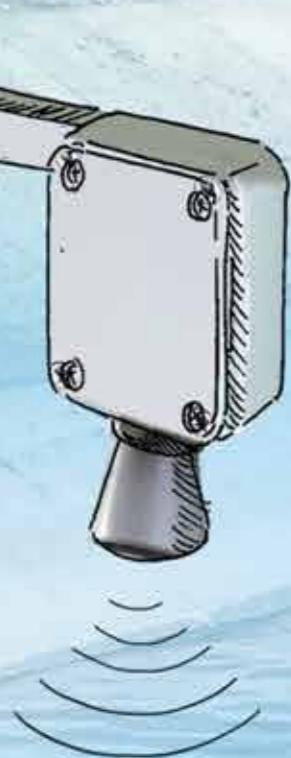
# 力求創新與時並進

## INNOVATING

## FOR A BETTER FUTURE

渠務署向來大力提倡研發及創新，推動科技發展，故此我們一直投放充足的資源，並設有研究及發展團隊，研究並應用在工程設計、日常運作及維修、污水處理及河道活化等方面的最先進技術。同時，渠務署於規劃工程時引入創新概念，如強調活化水體的「藍綠建設」概念，以緊貼國際的最新技術和趨勢，不斷完善我們的服務，回應持份者以至廣大社區的需要。

**The** DSD has always advocated research and innovation as well as promoting technological development. Hence, we deploy resources on an ongoing basis and set up research teams to develop and apply the latest technologies in areas such as project design, daily operations and maintenance, sewage treatment and river revitalisation. Meanwhile, innovative concepts are introduced for project planning, such as Blue-Green Infrastructure that underlines revitalisation of water bodies, so as to align with the latest international technological advances and trends to enhance our services and cater to the needs of our stakeholders and the wider community.





## 污水檢測抗新冠 Sewage Surveillance for fighting COVID-19

### 為檢測新型冠狀病毒而進行的污水監測工作 Detecting COVID-19 Virus by Sewage Surveillance

為有效應對新型冠狀病毒疫情，減低病毒在社區蔓延導致大型群組爆發的風險，渠務署與環境保護署（「環保署」）聯同香港大學（「港大」）的跨學科團隊，就污水中存在的新型冠狀病毒進行研究分析，監測病毒在社區和大廈的傳播狀況。

自 2020 年 6 月開始，本署與港大的張彤教授合作，研究以污水分析法監測新型冠狀病毒傳播。其後，港大獲得食物及衛生局醫療衛生研究基金的資助，於 2020 年 10 月起在 26 個固定地點，包括沙井、污水泵房和污水處理廠，進行污水監測工作。而本署以專業知識進行渠網分析和審視沙井取樣工作是否可行，在抽取污水樣本方面提供技術及行動支援。

由於本港在 2020 年 11 月出現第四波疫情，研究團隊靈活調整監測計劃，集中資源在出現感染群組的大廈和屋苑以至社區採樣分析，藉以提供醫學測試結果以外的補充資料，協助相關政府部門評估和應對當區疫情。其中，由於計劃於 2020 年 12 月底在彩雲（二）邨發現污水對病毒呈陽性，故政府在該區實施強制檢測措施，並找到十個沒有出現病徵的患者（「隱形患者」）。這是全球首個按污水監測結果採取強制性檢測行動以追蹤 2019 冠狀病毒病感染個案的成功例子。

設於彩雲（二）邨的臨時污水採樣點  
Temporary sewage sampling site at Choi Wan (II) Estate



To combat COVID-19 effectively and minimise the risk of virus spreading in clusters across the community, the DSD and the Environmental Protection Department (EPD) have been collaborating with the cross-disciplinary team of the University of Hong Kong (HKU) in researching and analysing the presence of SARS-CoV-2 virus in sewage to monitor the spread of virus in the community and buildings.

Since June 2020, the DSD has been cooperating with Professor Tong ZHANG of HKU in a study on the feasibility of monitoring the spread of the SARS-CoV-2 virus through sewage surveillance. Subsequently in October 2020, the HKU received a grant under the Food and Health Bureau's Health and Medical Research Fund (HMRF) to conduct sewage surveillance at 26 scheduled locations, including manholes, sewage pumping stations and sewage treatment plants. The DSD uses professional knowledge to analyse the sewerage system and explore the feasibility of collecting manhole sewage samples. We have also provided technical and operational support in this regard.

Owing to the fourth wave of the local COVID-19 epidemic in November 2020, the research team flexibly adjusted the surveillance strategy and focused on sampling and analysing sewage from buildings, housing estates and local communities where infected groups had been found, with a view to providing information supplementary to medical test results to help relevant government departments assess and respond to the local epidemic situation. In particular, since sewage collected at Choi Wan (II) Estate in late December 2020 tested positive, the Government issued compulsory testing notices and identified 10 asymptomatic patients (hidden cases) in the district. It was the world's first successful case of tracking down COVID-19 infection cases through compulsory testing based on sewage surveillance results.

政府根據渠務署在各地進行污水監測工作的結果，在 2020-21 年度向多座樓宇和多個街區發出強檢令，包括就「受限區域」發出的強制檢測令，總共找出 51 宗確診個案。

Having taken into account the results of the DSD's sewage surveillance in various districts, the Government issued compulsory testing orders, against a number of buildings and city blocks, including those issued in respect of "restricted areas" and identified a total of 51 confirmed cases in 2020-21.



抽取污水樣本作監測用途  
Sewage sampling for surveillance



渠務署已在全港 18 區設立由多個固定污水監測地點組成的網絡，藉以監察污水中的病毒含量，宏觀地分析本港新冠肺炎病毒的傳播情況。此舉有助先行識別出有潛在病例的社區，繼而盡早找出「隱形患者」並截斷病毒傳播鏈。

The DSD has set up a network of stationary sewage monitoring sites in 18 districts across Hong Kong to monitor the concentration of virus in sewage to analyse the spread of SARS-CoV-2 virus across the territory. This helps early identification of communities with potential cases and thus hidden cases so as to sever the chain of virus transmission.



行政長官林鄭月娥（右二）在環境局局長黃錦星（左一）及本署署長彭雅妮（右一）陪同下聽取污水採樣流程的簡介

The Chief Executive, Mrs Carrie LAM (second right), accompanied by the Secretary for the Environment, Mr WONG Kam-sing (first left), and the Director of Drainage Services, Ms Alice PANG (first right), receiving a briefing on the sewage sampling process

請用手機掃描二維碼觀看有關污水監測的專題短片：  
Please scan the QR Code to view the video about Sewage Surveillance:



中文版



English version

## 污水中的新冠病毒研究 Study on SARS-CoV-2 Virus in Sewage

新冠肺炎在 2020 年初開始大流行，有研究團隊在社區的污水樣本中發現新型冠狀病毒，甚至可以追溯至出現確診個案前。因此，本署與港大跨學科團隊合作進行本港污水病毒檢測的研究項目，以減低病毒在社區蔓延的風險。

本研究項目旨在對本港污水樣本進行新冠病毒檢測。張彤教授帶領其跨學科團隊，通過改良污水樣本預處理步驟及逆轉錄聚合酶鏈鎖反應 (RT-qPCR) 核酸測試，研發出檢測及監測新冠病毒的方法。

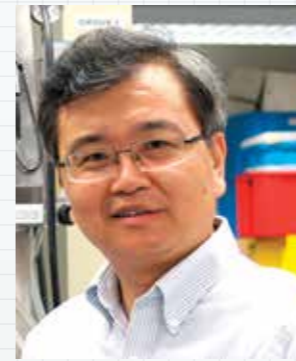
該項目檢驗的樣本包括三個主要污水處理廠的入廠污水、有確診者的特定建築物所排放的社區污水、醫院隔離病房的污水、污水處理廠的排放水和三條河流中採集的樣本。我們從醫院的污水、社區污水和污水處理廠的入水樣本中檢測到新冠病毒核糖核酸 (RNA)，成功證實香港大學團隊的污水監測工具可應用於本港污水樣本檢測。本研究項目為環保署、渠務署和港大團隊日後進行社區污水病毒檢測的合作計劃打下堅實基礎，有助盡快找出隱形患者，達成「早發現、早隔離、早治療」的目標，為防疫出一分力。

Since the onset of a full-blown COVID-19 pandemic in 2020, some research teams reported presence of the SARS-CoV-2 virus in community sewage. In some instances, the virus could even be dated back to periods before COVID-19 cases were confirmed. In view of that, the DSD collaborated with the HKU to conduct a study on sewage surveillance of the virus in Hong Kong to minimise the risk of virus spreading in the community.

This study aimed to detect the SARS-CoV-2 virus in local sewage. Professor Tong ZHANG led a cross-disciplinary team to develop a methodology for detecting and monitoring SARS-CoV-2 by optimising the sample pre-treatment step and virus detection by an RT-qPCR (Reverse Transcription quantitative Polymerase Chain Reaction) test.

The study examined the influent of three major sewage treatment works (STWs), the community sewage from selected buildings with confirmed COVID-19 cases, the sewage from isolation wards of hospitals, the effluent from STWs and storm drain water in three rivers. Ribonucleic acid (RNA) of SARS-CoV-2 virus had been detected in sewage from hospitals, sewage from selected buildings and influent to STWs, proving that the sewage test protocol developed by the HKU team can be adopted as a new method for testing local sewage. This study laid a solid foundation for the subsequent joint efforts of the EPD, DSD and HKU to conduct sewage COVID-19 virus surveillance in local communities to minimise the spread of COVID-19 by early tracing of hidden cases to achieve the goal of "early identification, early isolation and early treatment".

## 學術組織代表的話 Comments from Academia



**張彤**  
香港大學  
工程學院土木工程系  
講座教授

**Tong ZHANG**  
Chair Professor  
Department of Civil Engineering  
The University of Hong Kong

作為渠務署超過十年的合作夥伴，我們一直攜手進行各項創新研發項目，持續提升香港的渠務水平。憑藉長期合作所建立的良好關係、積極的溝通和對彼此的信任，我們香港大學（下稱「港大」）的跨學科團隊與渠務署得以迅速、及時地展開這次針對污水中新冠病毒的研究，應對病毒大流行。

渠務署於 2020 年中已率先聯同由我帶領的團隊，合作研究可否利用正在研發階段的污水分析法監測新型冠狀病毒在污水泵房和污水處理廠的狀況，確保員工的工作安全；其後，有賴渠務署提供抽取污水樣本的技術及行動支援，我們開發的污水檢測新冠病毒新方法得以在本港大規模實踐應用，並成功協助政府追蹤在社區潛在的感染者。

除了抗疫方面，渠務署跟我的團隊也有合作進行其他的創新研發項目，例如在污水處理廠進行「廚餘、污泥共厭氧消化」試驗計劃。這個研發項目會把廚餘和污水處理過程所產生的污泥混合，然後在污水處理廠進行共厭氧消化。過程中產生的生物氣體，經回收後會用以產生電力供污水處理廠使用，達至轉廢為能，從而減少碳排放和幫助實現碳中和。展望未來，我期望渠務署可以繼續研發各種創新技術，為香港社會帶來長遠貢獻。

As a partner of the DSD for more than ten years, we have been working hand in hand to carry out various innovative research and development (R&D) projects to continuously improve the drainage services in Hong Kong. With the good relationship, proactive communication and mutual trust developed from the long-term partnership, the cross-disciplinary team of the University of Hong Kong (HKU) started this research on the SARS-CoV-2 virus in sewage with the DSD efficiently and timely to robustly respond to the COVID-19 pandemic.

In as early as mid-2020, the DSD took the lead in co-operating with the team led by me to study the feasibility of monitoring the status of the SARS-CoV-2 virus in sewage pumping stations and sewage treatment plants through sewage surveillance, which was still in the R&D stage, to ensure the safety of their staff. Later, thanks to technical and operational supports provided by the DSD to collect sewage samples, the practice of the sewage surveillance method developed by us can be applied on a large scale in Hong Kong and successfully assisted the government to track infected individuals in the community.

Apart from combating the COVID-19 pandemic, the DSD and my team have also collaborated on other innovative R&D projects, such as the project of "Food Waste/Sewage Sludge Anaerobic Co-digestion Trial Scheme" in the sewage treatment plant. In this project, after mixing food waste with the sludge produced during the sewage treatment process, anaerobic co-digestion is carried out in the sewage treatment plant. The biogas generated in the co-digestion process is recycled and used to generate electricity for the sewage treatment plant, so as to achieve waste-to-energy, which in turns reduces carbon emissions and helps achieve carbon neutrality. Looking ahead, I hope that the DSD can continue to develop various innovative technologies to make long-term contributions to Hong Kong.



## 防洪措施新研發

### Innovative Flood Prevention Measures

#### 研發和擴展防洪健康碼 — 水文資訊系統

##### Research, Development and Expansion of the Hydrometric Information System

為盡早識別水浸風險，以便制定合適的防洪措施，渠務署應用不同的監測設備，並透過手機和電腦系統實時監察雨量、潮汐和水位數據。我們根據實時水文數據，設立了防洪健康碼，從而及時分析水浸情況，並在有需要時與相關部門協調，為採取救援行動和疏散居民做好準備。

本署除了收集各區雨量和潮汐數據外，還在超過 140 個地點安裝了傳感器以便 24 小時實時監測各排水道的水位等水文數據。同時，我們與機電工程署合作，應用物聯網技術及研發新型傳感器，解決以往在設置新監測設備時所遇到的數據傳輸及供電問題。新研發的傳感器所需安裝的時間和成本大大縮減了。我們憑著多項新技術，可計劃設立更多數據收集點，從而更廣泛地應用水文資訊系統。

To identify flood risks as early as possible for the purpose of developing appropriate flood prevention measures, the DSD has deployed various monitoring devices to monitor data of rainfall, tide and water levels in real time through mobile phones and computer systems. We set up the Hydrometric Information System that uses real-time hydrometric data to analyse the situation of flooding timely so we can coordinate with relevant departments to prepare for rescue and evacuation when necessary.

Apart from collecting rainfall and tide data, the DSD has also installed sensors at more than 140 locations to gather hydrometric data 24 hours a day in real time, such as monitoring the water levels of various drainage channels. At the same time, we collaborated with the Electrical and Mechanical Services Department (EMSD) on Internet of Things (IoT) technology and developed a new type of sensor to cope with the problems in data transmission and power supply encountered during deployment in the past. The time required for and the cost of installing the newly developed sensors has been greatly reduced. With the new technologies, we can plan to set up more data monitoring points to expand the Hydrometric Information System for wide use.



部分新型傳感器可由太陽能供電  
Some new sensors can be powered by solar energy



為配合「及時清渠」巡查工作，我們已進一步在容易因所處地勢而受阻塞的渠道設施安裝傳感器，偵測渠道內的相關數據，以便在水位異常時盡早派遣應變隊伍採取緩解措施。

To complement the “just-in-time clearance” inspections, we installed sensors which can provide real-time information in drainage facilities that are prone to blockage due to the topography, so that emergency teams can be arranged timely to take mitigation measures when abnormal water level is detected inside drains.



新型水位傳感器（左）的體積較傳統款式（右）小

The size of the new water level sensor (left) is smaller than that of the traditional one (right)



#### 及時清渠

##### Just-in-time Clearance

自 2020 年起，渠務署一直實施「及時清渠」安排。在暴雨來臨前夕，我們會派員巡查全港約 200 個容易遭垃圾和枯葉等阻塞的渠道，並在發現淤塞渠道時立即採取清理行動，避免因渠道淤塞而造成水浸。此外，在暴雨和颱風過後，本署亦會派員巡視和清理主要雨水排放系統的進水口和河道，為下場暴雨來臨做好準備。

Since 2020, the DSD has been implementing the “just-in-time clearance” arrangement under which its staff, when heavy rain is forecast, will be assigned timely to inspect some 200 drainage locations in Hong Kong that are prone to blockage by refuse and fallen leaves, and take immediate action to clear blocked drains, if any, to avoid flooding due to blockage. In addition, after heavy rain and typhoons, the DSD will arrange for its staff to inspect and clear the main stormwater drainage system inlets and rivers channels so as to prepare for the next heavy rain.



安裝傳感器以便「及時清渠」  
A sensor is installed for “just-in-time” clearance





## 工程建造新方案 New Project Design and Construction Solutions

政府近年大力提倡「建造業 2.0」，推動業界實踐「創新」、「專業化」及「年青化」的方針。於工程中採用創新技術及科技可提高生產力，同時改善工地安全及減少對環境的影響。為此，渠務署於旗下的工程項目實踐「建造業 2.0」，將各項創新技術和設備融入工程設計和建造階段，務求改善工程效率和質素，以及減低工程的環境和安全風險。

The Government has been promoting "Construction 2.0" in recent years to encourage the industry to put in practice the principles of "innovation", "professionalisation" and "revitalisation". Adopting innovative techniques and technologies in construction works can enhance productivity, and at the same time improve safety on construction sites and reduce environmental impacts. As such, the DSD has been adopting "Construction 2.0" in its construction works by incorporating various innovative techniques and equipment during design and construction, hoping to enhance work efficiency and quality, and reduce the environmental and safety risks of these projects.

### 智能化鑿岩台車 Smart Drilling Jumbo

在建造隧道期間，本署會利用鑿岩台車（俗稱「珍寶」）為隧道爆破面鑽挖炸藥孔，以便安裝炸藥，然後進行爆破工作。渠務署採用了創新的實時監測系統輔助珍寶進行鑽孔工序，能夠進一步提高鑽孔準確度及加強對工序的掌握，從而提高施工質素。

During tunnel excavation, a drilling jumbo (commonly known as Jumbo) was used by the DSD for blast hole drilling at tunnel face to facilitate explosive charging works. In order to further enhance the accuracy and control of the drilling operation, an innovative Measurement-While-Drilling (MWD) system was adopted to supplement Jumbo in the drilling operation, improving the quality of construction works.



智能鑿岩台車  
Smart Drilling Jumbo

上述的監測系統內置於智能化鑿岩台車內，有助實時識別每一個鑽孔的實際位置、方向及深度，讓在操控室內的操作員能即時參照原有的爆破設計，在有需要時及時作出修正。監測系統不但可提高鑽挖工程的精準度，而且能方便工程團隊掌握工作進度。

The abovementioned MWD system was built in the smart drilling jumbo, which monitored the actual position, direction and depth of each blast hole in real time, and enabled the operator in the control room to check against the original blasting design instantaneously and make timely corrections when necessary. The monitoring system can not only help improve the accuracy of drilling works but also make it easier for the project team to track the progress of work.

珍寶操作員於操控室內監察鑽挖工程  
Monitoring drilling operation by a Jumbo operator in the control room

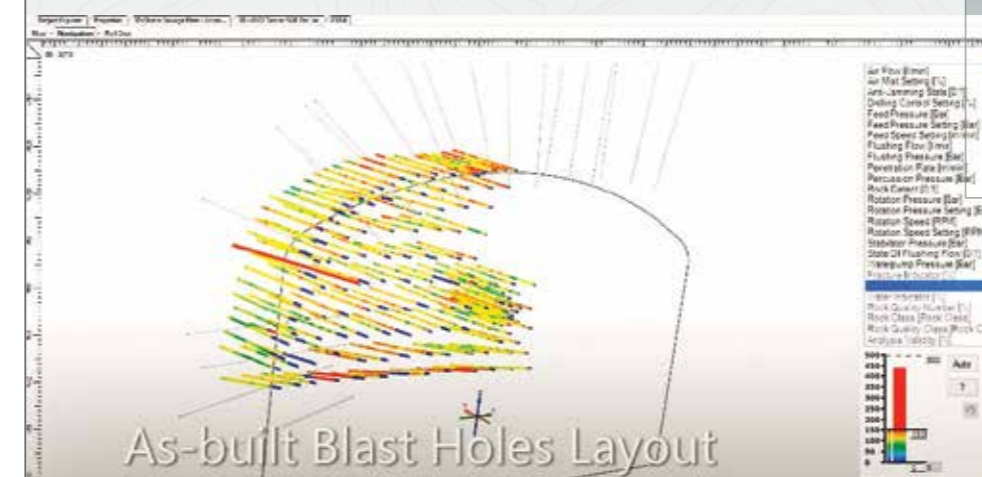


使用鑿岩台車鑽挖炸藥孔  
Using the drilling jumbo for blast hole drilling



在搬遷沙田污水處理廠往岩洞的工程中，工程人員利用兩部珍寶同時於爆破面鑽孔。整個工序約需 3 至 4 小時，當中包括在每個爆破面鑽挖出約 200 個炸藥孔。工程團隊利用先進的實時監測系統，在珍寶進行鑽孔工序期間，透過鑽臂上的感應器收集岩石數據，藉以探測鑽挖中岩石的強度和其他系數，從而協助工程師改善爆破工程的設計。

For the "Relocation of Sha Tin Sewage Treatment Works to Caverns" project, two Jumbos were used concurrently for blast hole drilling at tunnel face by the construction team. The entire process, including drilling of around 200 blast holes for each round of blast, would normally take about 3 to 4 hours to complete. The advanced MWD system was adopted by the construction team to collect rock data, including the rock strength and other engineering information, synchronously through sensors on the drilling booms during Jumbo's drilling operation, thereby assisting engineers in perfecting the design of the blasting works.



鑿岩台車的實時監測系統  
MWD system of the drilling jumbo



請掃描二維碼以便了解利用實時監測系統收集岩石數據的過程  
Please scan the QR code to learn about the process of rock data collection with the MWD system

## 機械人監察系統 Robotic Monitoring System

負責「搬遷沙田污水處理廠往岩洞」的工程團隊研發了一套名為「岩洞探哥」的機械人監察系統，代替工程人員率先進入隧道，初步評估和監察爆破後的隧道環境，以識別隧道內部的潛在安全風險並加以應對。



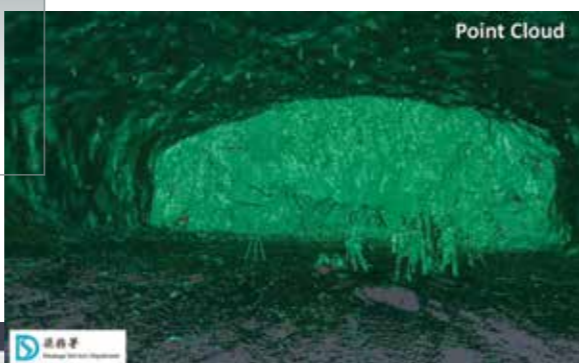
The project team responsible for the "Relocation of Sha Tin Sewage Treatment Works to Caverns" developed a robotic monitoring system for unmanned tunnel entry right after the blasting works, which would carry out preliminary assessment and monitoring of the tunnel conditions, so as to identify potential safety risks in the tunnel for necessary mitigation measures.

Engineers can monitor in real time through the system the level of various types of gas in the tunnel, including oxygen, explosive gas, carbon monoxide and hydrogen sulfide, and check the air quality in the tunnel to ensure it is safe for entry. The system was also equipped with laser scanner to analyse the face and crown conditions of excavated tunnel section. High-definition point cloud images and data collected are then transferred to the project team off-site through a dedicated 5G network, enabling geotechnical engineers to evaluate the geotechnical risk in the tunnel after blasting and implement necessary mitigation measures, thus minimising the safety risk of workers for tunnel entry.

機械人監察系統  
Robotic monitoring system

工程人員可透過系統實時監測隧道內各類氣體，包括氧氣、爆炸性氣體、一氧化碳和硫化氫的含量，並檢查空氣質素，以判斷隧道是否適合進入。系統亦配備激光掃描儀，掃描隧道內岩石爆破面的狀況，並將掃描得到的高清點雲影像和所收集的數據透過專用 5G 網絡傳送至隧道外的工程人員，讓土力工程師評估爆破後隧道的落石風險並作出相應措施，將工程人員進入隧道時的安全風險減到最低。

岩洞內岩石面的點雲影像  
A point cloud image of a rock face in a cavern



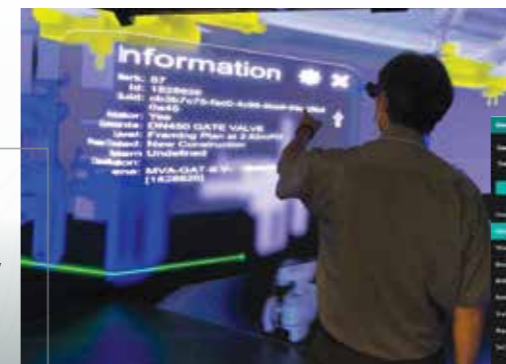
透過系統實時監測隧道內的各類氣體  
Monitoring in real time through the system various types of gas in the tunnel

## 應用建築信息模擬技術 Application of Building Information Modelling (BIM)

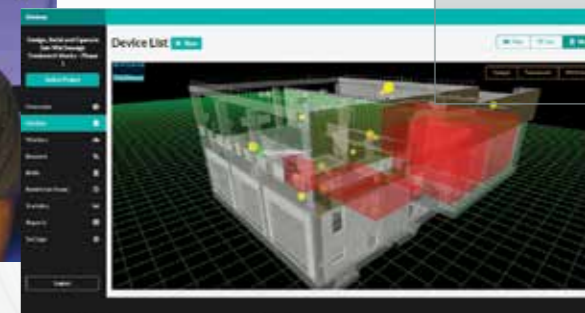
渠務署進行工程項目規劃、設計和施工時積極應用建築信息模擬技術 (BIM)。與傳統平面圖則相比，BIM 不但能進行立體繪圖，更能夠讓工程團隊在數碼環境中進行詳細設計及更精確地掌握工程項目細節，例如複雜的建築結構、施工方式和流程等。

The DSD has been actively using Building Information Modelling (BIM) during project planning, design and construction. Compared with traditional plans, not only can BIM draw in three dimensions, but also allow project teams to design in a digital environment and grasp details of a project more accurately, such as complex building structures, construction methods and processes.

利用 BIM 技術查看工地資訊  
Using BIM technology to view site information



以物聯網輔助監察工地安全狀況  
Combing IoT for site safety supervision



新圍污水處理廠改善工程是其中一個採用 BIM 技術的渠務署工程項目。項目的整個生命週期，包括設計、建造、營運以至維修保養階段都廣泛採用了 BIM 技術，讓工程團隊能於同一數碼平台上溝通協調及解決問題。團隊亦引入了設施及維修管理、物聯網監察、點雲掃描等系統以作配合，務求發揮 BIM 的潛力，同時加強工作安全、改善設施管理及提高生產力。該項目已於 2020 年 9 月順利進入營運階段，成為本署把 BIM 技術用於大型工程項目的成功例子，並為日後同類項目提供了寶貴的參考價值。

Upgrading of San Wai STW is one of the DSD's projects in which BIM technology was adopted. BIM technology has been utilised during the entire project life cycle, from design, construction to operation and maintenance, so that the project team could communicate with each other, coordinate and solve problems on the same digital platform. Other systems, such as asset and maintenance management, IoT monitoring and point cloud scanning, were also introduced integrating with BIM to fully realise its potential, as well as improving work safety, facilities management and productivity. The works entered the operation stage smoothly in September 2020, making it a successful example of the DSD's application of BIM technology to a large-scale project, and providing valuable reference materials for similar projects in the future.



新圍污水處理廠的 BIM 圖像  
A BIM image of San Wai Sewage Treatment Works

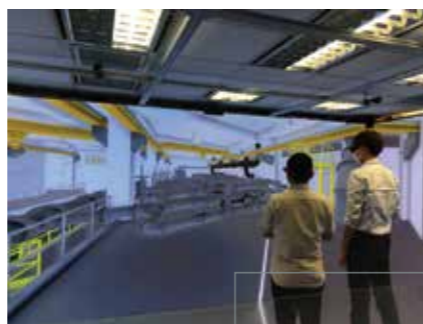
## 四維沉浸式電腦虛擬環境系統 4D Immersive CAVE System

渠務署在進行近期的工程項目時利用「四維沉浸式電腦虛擬環境」(CAVE)系統，透過高解像度投影屏幕塑造虛擬環境，以四維影像方式呈現工地環境於工程團隊眼前，讓他們在無須戴上輔助器材的情況下身處同一虛擬實境空間，全面了解工程的最新進度。

透過嶄新的影像技術，CAVE系統有助管理層了解工程資訊、盡早發現潛在危機，以及準確地規劃未來的工程。此外，CAVE系統亦有助我們了解不同的工地特點和查看不同位置如沉降點及環境監測點等的監測數據。

In the implementation of its recent projects, the DSD has been using the 4D Immersive Computer Aided Virtual Environment for Building Information Modelling (CAVE) System to create virtual reality contents through high-resolution projection screens, displaying the environment of the projects via 4D images to project teams. This system allows colleagues to understand the latest progress of projects comprehensively by putting all of them in the same virtual reality environment without wearing any support equipment.

Based on state-of-the-art image technology, CAVE System enables the management to understand project details, spot as soon as possible potential hazards and plan future works accurately. Moreover, CAVE System allows us to easily understand various site features and view the monitoring data of different locations, such as settlement and environmental monitoring points.



應用「四維沉浸式電腦虛擬環境」系統  
Application of the 4D Immersive CAVE System



## 綠色人工智能鷺鳥林監察系統 Green Artificial Intelligence (AI) Egretty Monitoring System

本署進行工程時積極考慮措施減少工程對生態造成的影響，並致力實施有效的保育方案及引入綠色人工智能技術，保護周邊生態環境。我們與香港科技大學合作，設立人工智能鷺鳥林監察系統，於位處白鷺飛行路線的沙田污水處理廠安裝360度人工智能攝像機。攝像機配備先進的「邊緣人工智能」技術，能解讀圖像傳感器上的入射光子內容，藉此追蹤及識別正在飛行的鳥類。我們透過監察鷺鳥種類、數量和習性，檢視並更好規劃「搬遷沙田污水處理廠往岩洞」工程的施工安排，藉以減低工程對環境的影響。

The DSD actively considers measures to minimise the impact on the ecology arising from project implementation and is dedicated to implementing effective conservation solutions and introducing Green AI technology to conserve the surrounding ecological environment. Collaborating with the Hong Kong University of Science and Technology, we set up an AI Egretty Monitoring System and installed 360-degree AI cameras at Sha Tin STW which is on the egret flightpath. Equipped with the advanced "Edge AI technology", the AI camera can read contents of the incoming photons on image sensors, thereby enabling instant identification on birds tracking and their flying movement. Through monitoring the species, numbers and habits of egrets, we can review and better plan the construction works of the "Relocation of Sha Tin Sewage Treatment Works to Caverns" project so as to minimise its impact on the environment.

人工智能攝像機能識別白鷺的種類  
AI cameras can identify egret species



安裝於沙田污水處理廠的360度人工智能攝像機  
A 360-degree AI camera installed at Sha Tin Sewage Treatment Works



## 維修保養新技術 Advanced Maintenance Technologies

渠務署管理的地下雨水渠及污水渠總長度超過4,700公里，我們需要投放大量資源及時間進行維修保養，確保渠道網絡運作暢順。為提高維修保養工作的效率，並同時保障前線員工的安全，本署積極尋求並實施合適的創新技術，如聲納探測船和人工智能技術等，完善維修保養工作的程序。

The DSD manages over 4,700 kilometres of underground drains and sewers. This extensive drainage network requires significant resources and time for maintenance to ensure smooth operation. To enhance the efficiency of maintenance work and assure the safety of frontline staff, the DSD has been exploring and introducing appropriate innovative technologies, such as Robotic Inspection Boat and Artificial Intelligence, in order to improve the process of maintenance work.

### 渠道「聲探」聲納探測船 Robotic Inspection Boat

在進行維修保養工作時，我們會運用小型機械車，深入渠道並利用配置的鏡頭記錄及檢查渠道狀況。然而，如渠道內的水位比較深，攝影鏡頭會被水淹蓋，無法清楚拍下渠道的情況。因此，我們開始採用聲納探測船，確保在水位高的情況下仍能清晰地檢查渠道，以便安排合適的清理或維修工作。

During maintenance work, we would deploy a small mechanical car which can enter the drains and use the camera installed to record and inspect the conditions of drains. However, condition of the drains cannot be captured if the camera is soaked in water. As a result, we started using Robotic Inspection Boat to ensure high visibility during drain inspection even at high water levels, so as to arrange suitable clearing or repair works.



透過聲納探測船觀察渠道的狀況  
Observing the conditions of drains through the Robotic Inspection Boat

工作人員在地面接收聲納探測船發放的資訊  
A worker on the ground receives information from Robotic Inspection Boat



探測船除設有鏡頭，亦安裝了先進的聲納系統，可以掃描渠道內水底的情況，包括渠道的沉積物。相關數據會傳送到地面，令渠道檢查工作更安全及更有效率。

Apart from a camera, the Robotic Inspection Boat is also equipped with an advanced sonar system which can scan the conditions underwater, including siltation level of the drains. Relevant data are transmitted to the ground, making the inspection of drains safer and more efficient.

聲納探測船  
Robotic Inspection Boat



## 遙控清淤機械人 Remote-controlled Desilting Robot

雨水經地下箱形暗渠排出大海時，水中的泥塵和沙石在暗渠內堆積成淤泥，因而影響渠道的排水功能。為確保渠道正常運作以及減少水浸風險，渠務署會定期檢查這些暗渠，並在有需要時安排清理渠道內的淤泥。

工作人員如使用傳統清淤方法，便須親自進入密閉的箱形暗渠裝設和操控清淤裝置，因而令自己承受一定的安全風險。另外，傳統方法亦需截斷暗渠內的水流，讓工作人員在沒有水流的情況下進入暗渠執行清淤工作，所以清淤工作大多局限在旱季進行。

為確保工人安全，同時提升工作效率，本署採用新式遙控清淤機械人，可免卻工作人員進入箱形暗渠。而且，機械人在暗渠淹浸的狀況下亦能運作，故不論在雨季或旱季均能進行清淤工作，大大提升工作效率，同時省卻了截流工序，減低成本。

When stormwater is discharged to the sea through underground box culverts, the washed-off sand, stones and dust carried in the water will accumulate gradually to form silt and affect the drainage capacity of culverts. To ensure that the culverts are functioning properly and reduce flood risks, the DSD will inspect box culverts on a regular basis and arrange desilting works when necessary.

If workers use the traditional desilting method, they need to physically enter confined box culverts to install and operate desilting devices, thus exposing themselves to certain safety risks. Besides, the traditional method requires interception of water flow in the culverts to allow workers to carry out desilting work in an environment without water flowing through, which means the work is limited mostly to dry season.

To guarantee the safety of workers and enhance work efficiency, the DSD is using a new remote-controlled desilting robot to spare workers from entering box culverts. Furthermore, since the robot can carry out desilting works in submerged culverts, desilting work can be conducted all year round without the need for interception of water flow, which in turn will expedite the progress of desilting works, lower the costs and significantly improve work efficiency.



遙控清淤機械人  
Remote-controlled desilting robot



工作人員遙距操控清淤機械人  
A worker remotely controls the desilting robot

## 人工智能建築訊息模型系統 Artificial Intelligence-based Building Information Modelling (AIBIM) System

本署與香港科技大學合作進行研究，透過結合人工智能技術和 BIM 技術的優勢，評估污水處理設施的結構狀況，讓兩者相輔相成，發揮最大效用。本署人員可利用大數據人工智能技術分析可移動的 360 度相機所拍得的圖像，並且將分析的結果整合到 BIM 模型中，藉以更全面地了解污水處理設施內的結構狀況，繼而制定合適的維修保養計劃。

Working with the Hong Kong University of Science and Technology, the DSD has been combining the advantages of AI and BIM technologies to facilitate assessment of the structural conditions of sewage treatment facilities to complement each other to achieve full potential. By using the Big Data-AI analytics to conduct an analysis of the images captured by a mobile 360-degree camera and integrating analysis results into BIM models, the DSD's staff can gain a thorough understanding of the structural conditions of the facilities before formulating a suitable maintenance and repair programme.



利用 360 度相機拍攝圖像  
Capturing images with a 360-degree camera



## 無開坑式渠管修復技術 Trenchless Pipe Rehabilitation Technologies

地下雨水渠管和污水渠管網絡覆蓋全港各區，不少位於舊區的渠管已使用超過 30 年，部分更出現老化及損耗的情況。有鑑於此，本署一直為風險偏高的地下渠管進行預防性的修復工程。我們以無須鑿開喉坑和路面的先進修渠技術，包括原位固化內襯修復技術、內套喉管法和螺旋纏繞修復技術，取代傳統的明坑回填方式，作為修復受損渠管的方式，減低工程對交通及市民的影響。

Hong Kong has an extensive underground drainage network that spans across the territory. Many stormwater drains and sewers in old districts have been in use for over 30 years, and some are showing signs of ageing and deterioration. In this connection, ongoing preventive rehabilitation works are carried out by the DSD to rehabilitate high-risk underground pipes. When replacing damaged pipes, we adopt advanced pipe rehabilitation technologies that require no excavation of pipe trenches or road surfaces - including cured-in-place-pipe (CIPP) lining, slip-lining technology and spiral wound rehabilitation technology - in replacement of the conventional cut-and-cover method, for the purpose of replacing damaged pipes, to reduce impact on traffic and the public.



## 原位固化內襯修復技術

Cured-in-place-pipe lining (CIPP)



透過壓縮空氣將聚酯纖維軟管套入原有渠管，再以熱水、蒸汽或於使用紫外光儀器的情況下以壓縮空氣令軟管膨脹並固化成新渠管。

A soft polyester liner is inserted in the existing pipe in compressed air. The liner is then expanded and hardened by steam, hot water or compressed air when cured by UV lamp equipment to form a new pipe.

## 內套喉管法

Slip-lining technology

內套喉管法透過把玻璃纖維膠管推入破舊或受損的渠管內，再以水泥漿填滿新、舊渠管間的縫隙，從而形成新渠管。此修復方法並不涉及截流工序，適用於修復高流量的現有渠管。

Slip-lining technology involves pushing a fibreglass plastic liner into an old or damaged pipe and filling the gap between the new and old pipelines with cement slurry to form a new pipe. This rehabilitation method is applicable to pipes with a high flow rate, since it does not involve flow interception.



## 螺旋纏繞修復技術

Spiral wound rehabilitation technology



螺旋纏繞修復技術是利用繞線機以螺旋方式把以鋼加固的聚乙烯帶狀物料纏繞成原有管道內的新渠管。

Spiral wound rehabilitation refers to the use of a winding machine to spirally wind steel-reinforced polyethylene strips which will then form a new pipe within the existing pipe.



## 河道活化新意念

Creative River Revitalisation Idea

本署近年致力展開河道活化工程，改善河道的排洪能力，同時積極研究創新意念並融入工程設計當中，提升河道的生態和觀賞價值，並將河道活化成可供市民參觀及休憩的公共空間。詳情可參閱本報告**第四章 – 主要職責**及**第五章 – 環境管理**。

本署在進行活化工程前會進行詳細研究和實驗，分析各種方案的可行性以改善河道生態環境。近年，本署與阿特金斯顧問有限公司和香港理工大學合作，研究不同植物品種去除污染物的能力，以及測試不同水生植物品種在翠屏河的生長情況。這項研究共分為兩個部分，包括在實驗室測試指定植物品種，以及在翠屏河進行試驗項目，栽種河中及漂浮植物品種。部門在進行過研究工作後汲取了寶貴經驗，有助於選取適合作活化河道用途的植物品種和栽種方法。

The DSD is committing itself to implementing river revitalisation projects in recent years, aiming at improving drainage capabilities of river channels. We are integrating innovative ideas into project design proactively. This would not only enhance ecological and aesthetic values of revitalised river channels, but also transform them into public space for public enjoyment and leisure activities. For more details, please refer to **Chapter 4 – Our Core Responsibilities** and **Chapter 5 – Environmental Management** of this Report.

Before commencing revitalisation projects, the DSD would conduct thorough research and experiments to analyse the feasibility of various plans for improving the ecological environment of nullahs. In recent years, the DSD has been working with Atkins China Limited and the Hong Kong Polytechnic University to carry out a study on the capability of different plant species in removing pollutants and the growth conditions of different aquatic plant species in Tsui Ping River. This study consists of two parts, namely conducting laboratory tests on selected plant species and conducting a planting trial in Tsui Ping River. Having conducted the study, the Department has gained valuable experience that can help select appropriate plant species and planting methods for river revitalisation.



在翠屏河進行植物栽種試驗項目  
Planting trial in Tsui Ping River



小蠔灣研究與開發苗圃  
Siu Ho Wan Research and Development Nursery



年內，本署持續推行和完善除污及防洪工作，並積極於各項工程引入各項創新科技，包括沙頭角污水處理廠擴建工程。同時，我們與學術界及業界保持緊密交流，致力研究藍綠建設、節能減排及採用可再生能源等技術的可行性，務求提升工作效率，讓本港的污水處理及防洪工作與國際接軌。



第二章 | Chapter 2

# 年度大事

## HIGHLIGHTS OF THE YEAR

**D**uring the year, the DSD continued to carry out and improve our sewage treatment and flood prevention initiatives, while introducing various innovative technologies in different works projects, including the Expansion of Sha Tau Kok Sewage Treatment Works. At the same time, we maintained close interactions with the academia and industry by dedicating ourselves to studying the feasibility of adopting blue-green infrastructure and employing energy conservation, emission reduction and renewable energy technologies, in order to enhance work efficiency and ensure that sewage treatment and flood prevention in Hong Kong meet international standards.



## 年度重點 Annual Highlights

### 渠務署吉祥物「下水水」面世 Introduction of DSD Mascot "Drainy"

為加強本署工作的公眾宣傳，渠務署在2021年推出部門吉祥物「下水水」。吉祥物的名字代表下水道的「污水」和「清水」。頭頂渠蓋的「下水水」來自地下渠道世界，並以下水道世界為家。「下水水」能在地面上和在下水道內自由穿梭，專長是解決與渠務有關的疑難雜症。為了與人類建立友誼，高大健碩的「下水水」穿上制服，化身成為可愛的吉祥物。

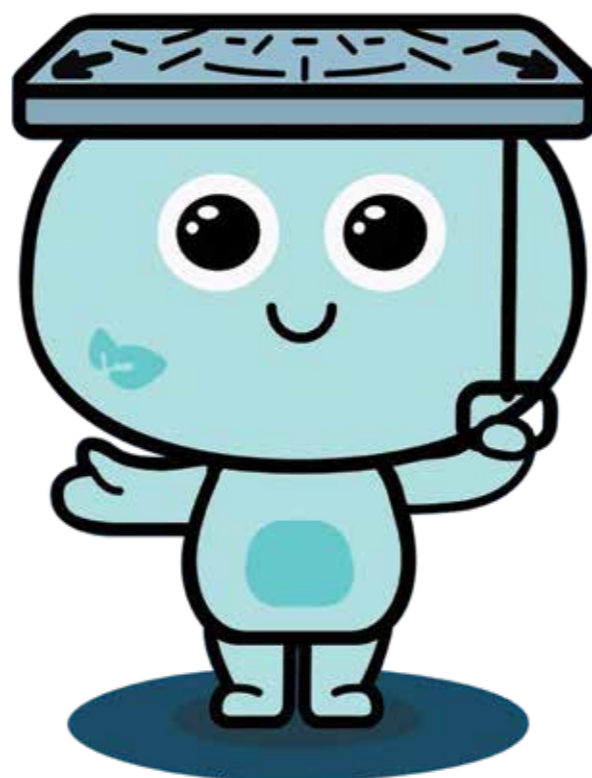
「下水水」會於各類活動中亮相，向市民推廣「除污淨流 未雨綢繆」的信息，呼籲市民守護渠道。隨著「下水水」正式登場，相關 Facebook 和 Instagram 專頁已經推出。我們會在這些社交媒體平台發表有關「下水水」的影片和貼文，向公眾講解渠務小知識和最新資訊等。

有關貼文及最新動態可以透過手機掃描以下二維碼或在社交媒體平台搜尋「下水水」瀏覽。



Facebook:  
<https://www.facebook.com/drainy.hk>

Instagram:  
[https://www.instagram.com/drainy\\_hk](https://www.instagram.com/drainy_hk)



To step up public promotion of our work, the DSD issued its mascot called "Drainy" in 2021. The Chinese name of the mascot represents the wastewater and stormwater in sewage and drainage systems. With a manhole cover on his head, Drainy comes from and lives in the underground pipe world. As a specialist in tackling issues related to drains, Drainy can travel freely above ground and in drains. In order to cultivate friendships with humans, Drainy, who is tall and strong, puts on a jumpsuit to transform into an adorable mascot.

Drainy will star at various events to promote the message "Clean up our water, prepare for the rainy day", and urge the public to take care of our drains and sewers. As Drainy has made the official debut, relevant Facebook and Instagram pages are now available. We would publish videos and posts featuring Drainy on these social media platforms with simple tips on drainage issues and the latest news from the DSD.

To access corresponding posts and latest information, simply scan the following QR codes or mobile phone link, or search "Drainy" on social media platforms.

### 渠務署推出「渠務設施網上遊」 DSD Launched DSD Facilities Online Tour

鑑於政府在冠狀病毒大流行期間採取社交距離措施，本署於2020年9月推出「渠務設施網上遊」專頁，讓市民安坐家中亦可以透過網頁內的360度全景相片和高清相集以至虛擬實境導覽，全面了解渠務署的主要工作，包括防洪和污水處理設施。

「渠務設施網上遊」圖文並茂，有助市民認識本署多個主要設施。主題專頁中的360度全景相片將設施的實景立體地呈現在市民眼前，讓市民從多角度了解設施的運作狀況，如臨實景。

Aligning with social distancing measures implemented by the Government during the COVID-19 pandemic, the DSD has launched a thematic webpage "DSD Facilities Online Tour" in September 2020. This thematic website features 360-degree panoramic photos, high-definition photo albums and even a virtual tour. The public can get a full picture of the DSD's core activities, including flood prevention and sewage treatment facilities safely and comfortably at home.

Combining text and pictures, DSD Facilities Online Tour enables the public to learn about the DSD's main facilities. The 360-degree panoramic photos on this thematic webpage present the actual view of the facilities in a three-dimensional way, giving the public a fully immersive experience to understand their operation from multiple angles as if they were present at the facilities.



跑馬地地下蓄洪池  
Happy Valley  
Underground  
Stormwater  
Storage Tank



小蠔灣污水處理廠  
Siu Ho Wan  
Sewage Treatment  
Works

目前，本署可供網上遊覽的設施包括香港首間進行三級污水處理的昂坪污水處理廠、赤柱污水處理廠、沙田污水處理廠、小蠔灣污水處理廠、昂船洲污水處理廠、跑馬地地下蓄洪池、大坑東蓄洪池、荔枝角雨水排放隧道、新田雨水泵房及元朗排水繞道。值得一提的是，我們率先為赤柱污水處理廠－全東南亞首間建於岩洞內的污水處理廠推出虛擬實境導覽。導覽設有真人聲音導航，讓觀賞者可以更清楚了解該廠的運作狀況和特色。本署將繼續為更多設施增設虛擬實境導覽，讓公眾更深入地了解本署的服務。

Currently, online tours are available of DSD facilities including Ngong Ping STW, Stanley STW, Sha Tin STW, Siu Ho Wan STW, Stonecutters Island STW, Happy Valley Underground Stormwater Storage Tank, Tai Hang Tung Stormwater Pumping Station and Yuen Long Bypass Floodway. It is worth mentioning that we have, as a first step, launched the virtual tour of Stanley STW which is the first sewage treatment works housed inside caverns in Southeast Asia. Guided by voice navigation, visitors can better understand the operation and features of the facility. More virtual tours of DSD facilities will be provided in the future so that the public can learn more about the services provided by the DSD.

請用手機掃描二維碼以參加渠務設施網上遊：

Please scan the QR Code to join the DSD Facilities Online Tour



中文版



English Version

元朗排水繞道人工濕地  
Yuen Long Bypass Floodway Engineered Wetland



昂坪污水處理廠  
Ngong Ping Sewage Treatment Works



赤柱污水處理廠  
虛擬實境導覽  
Virtual tour of Stanley Sewage Treatment Works



## 推出全新電視宣傳短片和電台聲帶 Release of A New Set of TV and Radio Announcements in the Public Interest (APIs)

本署在 2020 年 4 月推出全新電視宣傳短片和電台聲帶，藉以呼籲市民保持私人排水渠暢通，合力減低水浸風險。這些宣傳短片及電台聲帶於多個電視台和電台頻道播放。

A new set of TV and Radio APIs was rolled out by the DSD in April 2020 to canvass public cooperation to minimise flood risk by keeping private drains unblocked. The APIs are being broadcast on various TV and radio channels.

為使宣傳短片增添趣味，吸引觀眾視線，我們在拍攝期間利用微縮模型營造生動場景。短片不但旨在提醒公眾避免阻塞或改動排水渠道以及避免填土活動，而且旨在呼籲私人土地業權人定期保養和檢查私人排水設施，攜手將水浸風險降至最低。有關電視宣傳短片已上載至渠務署網頁。

To add extra fun and catch audience's attention, we made use of miniatures to create vivid scenes during shooting of the new APIs. The APIs are not only aimed at reminding the public to refrain from blocking or altering drainage channels and to refrain from carrying out inappropriate land-filling activities, but also aimed at calling on private landowners to conduct drainage maintenance and inspections regularly to minimise flood risk. The TV APIs have already been uploaded to the DSD website.



請用手機掃描二維碼觀看宣傳短片：  
Please scan the QR Code to view the APIs:



中文版



English Version

## 「搬遷沙田污水處理廠往岩洞」專題展覽 “Relocation of Sha Tin Sewage Treatment Works to Caverns” Thematic Exhibition

為了讓公眾更深入認識「搬遷沙田污水處理廠往岩洞」工程，渠務署在 2020 年 12 月 2 日至 12 月 30 日期間假展城館舉辦專題展覽，透過影片、展板、電腦遊戲和工程模型交代工程的最新進展和工程所應用的創新科技。此外，本署在 2020 年 12 月 12 日和 13 日舉辦網上研討會，不但向公眾交代工程的最新進展和創新技術應用，而且向公眾介紹現有全港最大二級污水處理廠—沙田污水處理廠和首個建於岩洞內的污水處理廠—赤柱污水處理廠的日常運作情況，讓公眾更深入了解把污水處理廠設於岩洞內的效益和香港的污水處理工作。

To enable the public to gain a better understanding of the “Relocation of Sha Tin Sewage Treatment Works to Caverns” project, the DSD held a thematic exhibition at City Gallery from 2 December to 30 December 2020, during which the information on the latest progress of and the innovative technology applicable to the project was provided through videos, display panels, computer games and physical models. In addition, the DSD organised online seminars on 12 and 13 December 2020 to give information on not only the latest progress of and the innovative technology applicable to the project but also the daily operation of Sha Tin STW, the largest existing secondary STW in Hong Kong, and Stanley STW, the first STW built in caverns in Hong Kong, so as to enable the public to gain a better understanding of the benefits of housing STWs in the caverns and sewage treatment in Hong Kong.

**「搬遷沙田污水處理廠往岩洞」網上研討會**  
“Relocation of Sha Tin Sewage Treatment Works to Caverns” Online Seminar

**工程背景**

- 2011年3月完成「善用香港地下空間」研究
- 結果：香港的地質條件尤其適宜發展岩洞，建議搬遷沙田污水處理廠往岩洞
- 2013年年底完成了可行性研究，確定搬遷計劃的可行性。期間並舉行了兩個階段的公眾參與活動

介紹「搬遷沙田污水處理廠往岩洞」和赤柱污水處理廠的網上講座

Online talk on introduction to “Relocation of Sha Tin Sewage Treatment Works to Caverns” and Stanley Sewage Treatment Works

「搬遷沙田污水處理廠往岩洞」專題展覽  
“Relocation of Sha Tin Sewage Treatment Works to Caverns” Thematic Exhibition



## 獎項及殊榮 Awards and Honours

本署 2018-19 年度的可持續發展報告榮獲本地及國際多項獎項及殊榮，其中包括：

The DSD Sustainability Report 2018-19 received a number of local and international awards and honours, including:

### 獎項 Awards

### 主辦機構 Organisers

美國傳媒專業聯盟  
League of American Communications Professionals LLC

香港管理專業協會  
The Hong Kong Management Association

Communications Concepts

香港會計師公會  
Hong Kong Institute of Certified Public Accountants

MerComm, Inc

#### 2019 Vision Awards

- 金獎  
Gold Award
- 2019最佳中文報告首50名  
Top 50 Chinese Reports of 2019

#### 香港管理專業協會2020年度最佳年報獎 2020 HKMA Best Annual Reports Awards

- 優秀環境、社會及管治資料披露獎  
Citation for Environmental, Social and Governance Disclosure

#### 2020 APEX Awards for Publication Excellence

- 卓越獎（特別刊物—政府）  
Awards of Excellence (One-of-a-Kind Publications - Government)

#### 2020最佳企業管治大獎 2020 Best Corporate Governance Awards

- 最佳企業管治大獎 2020—可持續發展及社會責任報告獎（公營/非牟利機構組別）  
Sustainability and Social Responsibility Reporting Awards (Public Sector/Not-for-profit (Large) Category)

#### 2020 Galaxy Awards

- 銀獎（年報—網上可持續發展報告）  
Silver Award (Annual Reports - Online: Sustainability Report)



2020年6月17日

17 June 2020

渠務署的「建造櫻桃街箱形雨水渠旱流截取設施」工程項目和「沙頭角污水處理廠第一期擴建工程及塘肚鄉村污水收集系統」工程項目，獲英國新工程合約用戶組織分別頒發新工程合約「年度水利工程項目」大獎和優良獎。後者同時獲組織頒發「年度創新合約項目」優良獎，以表揚其工程團隊竭力推行工程監督系統數碼化等多項試驗措施。



The DSD's works projects "Construction of Dry Weather Flow Interceptor at Cherry Street Box Culvert" and "Expansion of Sha Tau Kok Sewage Treatment Works Phase 1 and Village Sewerage in Tong To" were awarded the New Engineering Contract (NEC) Water Contract of the Year 2020 and the "Highly Commended #1" prize respectively by the United Kingdom's New Engineering Contract (UKNEC) Users' Group. The latter project also clinched the "Highly Commended #1" prize of NEC Contract Innovation Award 2020 on the strength of its innovative pilot initiatives, including the digitisation of the works supervision system.



2020年4月8日、2020年5月14日、2020年8月13日

8 April 2020, 14 May 2020, 13 August 2020



「石湖墟淨水設施」工程在2020年4月榮獲香港綠色建築議會頒發綠建環評新建建築「暫定鉑金級」認證。其後，上述工程和「元朗淨水設施」工程分別在同年5月及8月獲得綠建環評社區「鉑金級」認證。

The "Shek Wu Hui Effluent Polishing Plant" project received the "Provisional Platinum Rating" under BEAM Plus New Building organised by the Hong Kong Green Building Council Limited in April 2020. Subsequently in May and August of the same year respectively, the project mentioned above and the "Yuen Long Effluent Polishing Plant" project were awarded "Platinum Rating" under BEAM Plus Neighbourhood.

2020年10月11日

11 October 2020

渠務署「搬遷沙田污水處理廠往岩洞」工程獲建造業議會頒發2020建築信息模擬項目獎。

The DSD's "Relocation of Sha Tin Sewage Treatment Works to Caverns" project was awarded BIM Projects 2020 Award by the Construction Industry Council (CIC).



2020年11月13日

13 November 2020

渠務署兩支分別負責「搬遷沙田污水處理廠往岩洞」工程和「沙頭角污水處理廠第一期擴建工程及塘肚鄉村污水收集系統」工程的團隊，分別獲頒建造業議會可持續建築大獎2020項目業主（公營）金獎和優異獎。

The DSD's two project teams respectively responsible for the "Relocation of Sha Tin Sewage Treatment Works to Caverns" and "Expansion of Sha Tau Kok Sewage Treatment Works Phase 1 and Village Sewerage in Tong To", were awarded Gold Award and Merit Award of Project Owner (Public Sector) respectively at the CIC Sustainable Construction Award 2020.



2020年11月27日

27 November 2020

渠務署的「新圍污水處理廠改善工程」榮獲「Autodesk 香港建築信息模擬設計大獎2020」大獎，另「搬遷沙田污水處理廠往岩洞」工程以及「建造櫻桃街箱形雨水渠旱流截取設施」工程獲頒榮譽獎。

DSD's project "Upgrading of San Wai Sewage Treatment Works" was awarded Winner at Autodesk Hong Kong Building Information Modelling (BIM) Award 2020. "Relocation of Sha Tin Sewage Treatment Works to Caverns" project, as well as "Construction of Dry Weather Flow Interceptor at Cherry Street Box Culvert" project, received Honorable Mentions.



2020年12月4日

4 December 2020

渠務署工程師鄭俊偉先生（左）及時任總工程監督辛順才先生榮獲「2020年申訴專員嘉許獎」公職人員獎項。

Mr Michael CHENG Chun-wai (left), the DSD's Engineer and Mr SUN Shun-choi, the then Chief Technical Officer, received Awards for Officers of Public Organisations at the "Ombudsman's Awards 2020".



2021年2月23日

23 February 2021



渠務署在應對熱帶氣旋和極端天氣以防治水患方面貢獻卓越，榮獲聯合國亞洲太平洋經濟社會委員會 / 世界氣象組織颱風委員會頒發 2019 年度 Dr. Roman L. Kintanar 獎以示表揚。

The DSD was awarded Dr. Roman L. Kintanar Award 2019 by the Economic and Social Commission for Asia and the Pacific/World Meteorological Organisation (ESCAP/WMO) Typhoon Committee in recognition of its outstanding contribution towards flood prevention and mitigation in response to tropical cyclones and extreme weather.

2021年3月4日

4 March 2021

渠務署致力保護個人資料私隱，獲香港個人資料私隱專員公署頒發「私隱之友嘉許獎 2021」金獎狀。

The DSD was awarded Gold Certificate in "Privacy-Friendly Awards 2021" by the Office of the Privacy Commissioner for Personal Data, Hong Kong, in recognition of its efforts to protect personal data privacy.



## 其他獎項 Other Awards

本署的員工、研究項目和工程項目在年內獲頒的獎項亦包括：

Awards received by the DSD's staff, research projects and works projects during the year include:

主辦機構 Organisers	獎項 Awards
環境運動委員會 Environmental Campaign Committee	香港綠色機構 Hong Kong Green Organisation 2019香港環境卓越大獎 2019 Hong Kong Awards for Environmental Excellence • 優異獎（建造業） Certificate of Merit (Construction Industry) • 傑出綠色菁英 Outstanding Green Achiever 2019香港綠色創新大獎 2019 Hong Kong Green Innovations Awards • 優異獎 Certificate of Merit
香港工程師學會 The Hong Kong Institution of Engineers	香港工程師學會創意獎2020 The HKIE Innovation Award 2020 • 優異獎（組別 II） Certificate of Merit (Category II)
發展局及建造業議會 Development Bureau and Construction Industry Council	第26屆公德地盤嘉許計劃 26th Considerate Contractors Site Award Scheme • 金、銀及優異獎（工務工程 – 新建工程） Gold, Silver and Merit Award (Public Work – New Works) 創新改善吊運安全獎 Innovative Enhancement for Lifting Safety • 銀獎 Silver Award 吊運團隊獎 Lifting Team • 銅獎 Bronze Award 創意工程安全獎 Innovative Safety Initiative Award 2020 • 金獎（安全管理制度、培訓與宣傳組別） Gold Award (Safety Management System, Training and Promotion Category) • 銀獎（健康與福利組別） Silver Award (Health and Welfare Category) • 優異獎（安全運作設施組別） Merit Award (Safety Operational Device Category)
建造業議會 Construction Industry Council	建造業義工獎勵計劃2020 Construction Industry Volunteer Award Scheme 2020 • 非凡建造業義工項目（金獎） Excellence in Construction Industry Volunteering Project (Gold Award) • 卓越建造業義工（銀獎） Excellence in Construction Industry Volunteer (Silver Award) • 個人服務時數120+, 50+ Individual Volunteering Service Hours 120+, 50+
安全健康師學會 The Institute of Safety and Health Practitioners	安全健康師學會傑出安全健康大獎2020 ISHP Outstanding Safety & Health Awards 2020 • 傑出安全獎（白金獎） Outstanding Safety Award (Platinum Award) • 傑出健康獎（金獎） Outstanding Health Award (Gold Award)
香港建造商會 Hong Kong Construction Association	香港建造商會建造安全大獎2020 HKCA Safety Awards 2020 • 安全監工獎 Safe Supervisor Award • 安全主管獎 Safe Person-In-Charge Award
職業安全健康局 Occupational Safety and Health Council	第21屆建造業安全大獎 21st Construction Safety Award • 最佳施工方案（銀獎） Best Method Statement (Silver Award)

自 1989年成立至今，渠務署一直以公眾利益為先，並透過全面披露本署的管治原則和實務，以保持良好的公信力和聲譽。我們建立了完善而穩健的管治架構，藉此實踐本署的抱負、使命和信念。在高級管理層的帶領下，本署的多個事務委員會和工作小組積極推動可持續發展。此外，本署亦通過汲取過往的經驗、參考國際發展趨勢及聆聽持份者的意見，持續改善我們的可持續發展管治方針及政策。

Since our establishment in 1989, the DSD has always put public interest first in our operations while fully disclosing our corporate governance principles and practices to maintain high credibility and reputation. We have established a complete and solid corporate governance framework to realise our vision, mission and values. Under the leadership of the senior management, our various committees and working groups promote sustainable development proactively. We also continuously improve our sustainable development management approach and policies based on our experience, international trends and stakeholders' feedback.



第三章 | Chapter 3

# 管治方針

## GOVERNANCE

## APPROACH







## 抱負、使命和信念 Vision, Mission and Values

成立於 1989 年的渠務署為香港特別行政區政府發展局轄下部門之一。我們致力為香港提供專業而高質素的污水和雨水處理排放服務。為共同應對氣候變化及城市發展帶來的挑戰，我們決意推動香港的可持續發展，並於本署的「抱負、使命和信念」加入可持續發展理念。

The DSD, established in 1989, is one of the departments under the Development Bureau of the Government of the Hong Kong Special Administrative Region. We are committed to providing professional and high quality sewage and stormwater drainage service to the public. Making joint efforts with all sectors to combat challenges arising from climate change and urban development, the DSD is determined to drive sustainable development in Hong Kong and we have incorporated the sustainability concept in our "Vision, Mission and Values".

抱負



Vision

- 提供世界級的污水和雨水處理排放服務，以促進香港的可持續發展  
To provide world-class wastewater and stormwater drainage services enabling the sustainable development of Hong Kong

使命



Mission

- 以具經濟效益和合乎環保的方式改善服務  
Improving drainage services in a cost-effective and environmentally responsible manner
- 致力關懷員工，營造安全、和諧及身心健康的工作環境，培育員工的發展和創新思維  
Enhancing a caring, harmonious, safe and healthy work environment that fosters staff development and a mindset for change
- 強化與社區、業界和各地相關機構的關係  
Strengthening relationships with community, industry and worldwide counterparts

信念



Values

- 以客為本  
Customer Satisfaction
- 優質服務  
Quality
- 勇於承擔  
Commitment
- 群策群力  
Teamwork



## 管治架構 Governance Structure



渠務署署長  
彭雅妮女士  
Director of Drainage Services  
Ms Alice PANG

### 高級管理層

由渠務署署長、副署長及四位助理署長組成的高級管理層負責作出重大決策和監督部門日常運作，確保服務具有成本效益且對環境負責，並制定和檢討本署的可持續發展策略及目標。高級管理層成員包括：

### Senior Management

Formed by the Director of Drainage Services, a Deputy Director and four Assistant Directors, the Department's senior management team is responsible for making important policy decisions and overseeing the Department's daily operations, ensuring the services provided by the DSD are cost-effective and environmentally responsible, as well as formulating and reviewing our sustainability strategies and goals. The senior management team members include:



時任渠務署副署長  
彭偉成先生  
Then Deputy Director of  
Drainage Services  
Mr Wilson PANG Wai-shing



時任助理署長 / 操作維修  
何耀光先生  
Then Assistant Director/  
Operations and Maintenance  
Mr HO Yiu-kwong



助理署長 / 設計拓展  
黃緒勤先生  
Assistant Director/  
Projects and Development  
Mr Ken WONG Sui-kan



助理署長 / 污水處理服務  
梁泳源先生  
Assistant Director/  
Sewage Services  
Mr Walter LEUNG Wing-yuen



時任助理署長 / 機電工程  
白諫鳴先生  
Then Assistant Director/  
Electrical and Mechanical  
Mr Eddie PAK Kan-ming



主任秘書  
李志江先生  
Departmental Secretary  
Mr Chris LI Chi-kong

## 組織架構 Organisational Structure

本署設有四個分科，包括污水處理服務科、操作維修科、設計拓展科及機電工程科。分科下設 17 個不同功能的分部，當中岩洞工程部和策劃及復修部為新增的分部。此外，總部另設部門行政部、財務及物料供應部，以及技術支援組，分別負責行政、會計及技術支援工作。截至 2021 年 3 月，編制共有 2,050 個常額職位。

The DSD consists of four branches, including Sewage Services Branch, Operations and Maintenance Branch, Projects and Development Branch and Electrical and Mechanical Branch. Under these branches, there are 17 subordinate functional divisions, where the Cavern Projects Division and the Planning & Rehabilitation Division are new divisions. In addition, administration, accounting and technical support are handled by the Departmental Administration Division, Finance and Supplies Section and Technical Support Group at our headquarters respectively. As at March 2021, we have a permanent staff establishment of 2,050.

四位助理署長各領導一個分科，以提供所屬範疇的技術及專業支援服務。各分科的職責如下：

Each of the four Assistant Directors leads a branch to provide technical and professional support services in its specific field. The duties of each branch are as follows:



### 設計拓展科

Projects and Development Branch

負責執行基本工程項目，包括設計及建造雨水渠、防洪及排洪工程、污水收集系統及污水處理設施。

is responsible for implementing capital works projects, including the design and construction of drains, flood control and relief works, sewerage network and sewage treatment facilities.

### 操作維修科

Operations and Maintenance Branch

負責操作和維修全港的雨水排放及污水收集系統、防洪、規劃雨水排放及污水收集系統、執行《土地排水條例》，以及管理和保養人工排水道。

is responsible for operating and maintaining drainage and sewerage systems across the territory, as well as preventing floods, planning drainage and sewerage systems, enforcing the Land Drainage Ordinance and managing and maintaining engineered drainage channels.

### 機電工程科

Electrical and Mechanical Branch

負責污水處理及防洪設施的運作及保養，以及為部門的污水處理及防洪項目提供機電設計和安裝工程。

is responsible for the operation and maintenance of sewage treatment and flood prevention facilities, as well as providing electrical and mechanical design and installation works in sewage treatment and flood protection projects of the department.

### 污水處理服務科

Sewage Services Branch

負責推展鄉村公共污水收集系統、雨水排放改善工程、污水處理及收集系統和工程，如淨化海港計劃，以及徵收污水處理服務費。

is responsible for facilitating village public sewerage, stormwater system enhancement projects and sewage treatment and collection systems and projects, such as the Harbour Area Treatment Scheme, and collecting sewage services charges.





## 可持續發展管理 Sustainability Management

渠務署擁有完善及全面的可持續發展管理架構，當中涵蓋多個可持續發展範疇。我們積極探討相關議題，並在高級管理層的領導下監督相關工作及提出合適建議。為持續改善管理模式和提升可持續發展表現，本署除採用合適的國際標準和管理系統外，亦設立多個溝通渠道以加強與持份者交流，聽取並回應他們對本署可持續發展的意見。

The DSD has a holistic and comprehensive sustainability management structure, covering a wide range of sustainability aspects. We proactively examine relevant issues, supervise related initiatives and provide appropriate recommendations, under the leadership of our senior management. To continuously improve our management approach and enhance our sustainability performance, we adopt suitable international standards and management systems, and also strengthen communication with stakeholders and solicit their views on our sustainable development through multiple channels.

沙田污水處理廠  
Sha Tin Sewage  
Treatment Works



## 管理架構 Management Structure

我們設立了三個由副署長領導的專責委員會及兩個分別由助理署長和總工程師領導的工作小組，包括：

We have set up three committees chaired by the Deputy Director and two working groups led by an Assistant Director and a Chief Engineer respectively, including:

### 環保管理委員會 Green Management Committee



負責檢討環境管理政策、制定環保工作的方針和目標，以及監察環保計劃和措施的成效。

The Committee is responsible for reviewing the environmental management policy, formulating environmental work objectives and targets, and monitoring the effectiveness of environmental programmes and measures.

報告期內，委員會共召開兩次會議，以深入討論節能、減排、減廢及綠化等議題，並檢視環保工作的進度。

During the reporting period, the Committee held two meetings to have in-depth discussions on topics including energy conservation, emission reduction, waste reduction and greening. Environmental initiatives were also reviewed for their latest progress.

### 安全督導委員會 Safety Steering Group



負責監察和提升本署作業的職業安全與健康。為預防與工作相關的意外，委員會訂立安全標準及指引、制定改善程序及措施，並檢視其執行情況和成效。

The Group is responsible for overseeing and promoting occupational safety and health across all DSD undertakings. To prevent work-related accidents, the Group sets safety standards and guidelines, formulates improvement procedures and measures, and reviews their implementation and effectiveness.

本年度，委員會共召開三次會議，檢討本署轄下建築工地及員工的安全表現，以及制訂新的職業安全措施和推廣計劃。

In the year under review, the Group held three meetings to review the safety performance of the DSD's construction sites and employees, and to formulate new occupational safety initiatives and promotion programmes.

## 研究及發展督導委員會

Research and Development Steering Committee



專責進行研究以支持部門的發展計劃。委員會設有兩個小組，分別統籌土木工程和機電工程的研究工作。

委員會在本年度共召開六次會議。年內，本署共完成 15 個多元化的研究項目，議題涵蓋人工智能建築訊息模型系統、翠屏河植物栽種試驗、應用生態景觀設計於渠務署設施、岩洞污水處理系統對區域地下水流的影响、吸附式製冷系統、岩洞內的需求管控通風系統、光催化劑消毒、移動床生物膜反應器，以及為污水進行新冠病毒檢測。

The Committee is responsible for conducting research to support development plans of the DSD. The Committee consists of two teams, which coordinate research projects in civil engineering and electrical and mechanical engineering respectively.

The Committee held six meetings in the year. During the year, the DSD completed a total of 15 research projects on diversified topics, covering AIBIM System, planting trial for Tsui Ping River, application of eco-landscape design in DSD facilities, impact of the Cavern Sewage Treatment System on regional groundwater flow, adsorption cooling system, demand control ventilation system in cavern, photocatalytic disinfection, moving bed biofilm reactor, and detection of SARS-CoV-2 virus in sewage.

## 能源及排放管理小組

Energy and Emission Management Team



節能減排是本署的重點關注環保議題。由助理署長 / 機電工程領導，小組成員透過識別排放源頭、訂立基準評估表現、實施改善措施及分享專業知識等方法，改善本署在能源及排放方面的表現。

Energy conservation and emission reduction are key environmental issues that the DSD focuses on. Led by the Assistant Director/Electrical and Mechanical, members of the Team identify emission sources, benchmark performance, implement improvement measures and share professional knowledge to help improve the DSD's energy and emission performance.

## 可持續發展報告工作小組

Taskforce on Sustainability Reporting



工作小組在總工程師的領導下，就編製該年度可持續發展報告的事宜給予意見及制定決策，包括決定報告所採用的國際準則、訂定持份者參與活動計劃及確認實質性議題等。

The Taskforce, led by a Chief Engineer, gives comments and makes decisions related to the preparation of our annual sustainability report. These include selecting the international standards to be adopted for reporting, defining stakeholder engagement plans and identifying material topics.

## 綜合管理體系 Integrated Management System

渠務署自 2002 年起建立和執行符合國際標準的管理體系。至今，我們已實施一個由多套管理系統組成的綜合管理體系，當中涵蓋品質、環境、職業健康及安全。

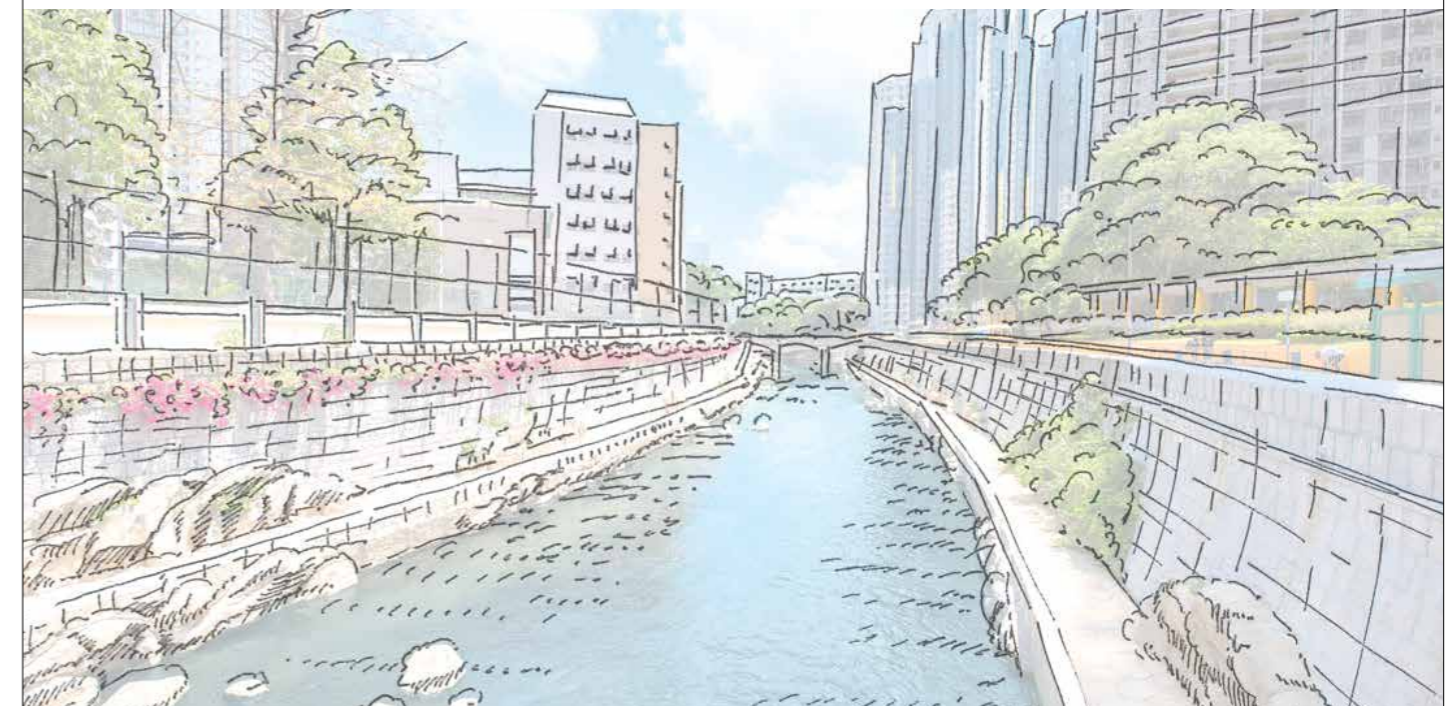
本署貫徹「策劃－執行－檢查－行動」的管理原則，持續改善我們的管理體系。在 2018 年，本署順利將 ISO 9001 品質管理體系及 ISO 14001 環境管理體系升級至新版本 ISO 9001:2015 及 ISO 14001:2015。本署並於 2020 年從舊有的 OHSAS 18001 職業健康及安全管理標準轉換至 ISO 45001:2018 的新標準，涵蓋渠務署總部及轄下所有設施，為員工的健康及安全帶來更全面的保障。

面對氣候變化及城市發展帶來的挑戰，本署致力提升資產管理以降低營運成本。在 2019 年 7 月，本署轄下的污水處理廠、污水泵房和雨水泵房已通過 ISO 55001 資產管理體系認證審核。渠務署是首批獲得該認證的政府部門之一。截至 2021 年 3 月，除八所在「設計、建造及營運」合約下營運或正進行提升工程的污水處理廠和污水泵房外，所有本署轄下的污水和雨水設施已納入 ISO 55001 資產管理系統內。

The DSD has been building and implementing management systems in line with international standards since 2002. To date, we have put in place an integrated management system made up of multiple systems that cover the aspects of quality, environment and occupational health and safety.

We adhere to the "Plan-Do-Check-Act" approach and continuously improve our management systems. In 2018, the DSD successfully upgraded the ISO 9001 Quality Management System and the ISO 14001 Environmental Management System to conform to the new standards of ISO 9001:2015 and ISO 14001:2015. In 2020, the DSD also migrated from the obsolete OHSAS 18001 Occupational Health and Safety Management standard to the new ISO 45001:2018 standard, which covers the headquarters and all facilities of the DSD, providing more comprehensive health and safety protection to our staff.

Facing challenges posed by climate change and urban development, we strive to optimise our asset management to reduce operational costs. In July 2019, all DSD-owned sewage treatment works (STWs), sewage pumping stations (SPSs) and stormwater pumping stations passed the certification audit for the ISO 55001 Asset Management System, making us one of the first government departments to obtain such accreditation. As at March 2021, all the DSD owned sewage treatment and stormwater facilities were included in the ISO 55001 Asset Management System, except for eight STWs and SPSs which are being operated under "Design, Build and Operate" contracts or undergoing upgrading projects.



第四章 | Chapter 4

# 主要職責

## CORE RESPONSIBILITIES



**源** 務署不遺餘力地為香港提供優質的污水和雨水處理排放服務，竭誠為市民創造可持續的居住環境，減低市民遭受水浸影響的風險。此外，我們竭力保障本港水體的質素，並支持本港的可持續發展工作。

**The** DSD spares no effort to provide top-tier wastewater and stormwater treatment and drainage services to the community, devoting itself to building a sustainable living environment and alleviating flooding risks to the public. Moreover, we endeavour to ensure the quality of the waterbodies in Hong Kong and support sustainable development in Hong Kong.





## 2020-21 年度防洪概要

### Overview of Flood Prevention in 2020-21

為應對颱風和暴雨等極端天氣情況所帶來的嚴峻挑戰，渠務署致力提升香港的雨水排放能力。香港於 2020 年錄得總降雨量約 2,395 毫米，與 1981 至 2010 年約 2,400 毫米的平均降雨量相若。然而，年內共出現了兩場黑色暴雨及七場紅色暴雨。2020 年暴雨頻生，為香港帶來水浸風險，令防洪工作更具挑戰。

Facing the challenges brought by extreme weather conditions, such as typhoons and rainstorms, the DSD is committed to enhancing the stormwater drainage capacity of Hong Kong. In 2020, annual total rainfall was approximately 2,395 millimetres, similar to an average of 2,400 millimetres recorded between 1981 and 2010. However, there were two Black Rainstorm events and seven Red Rainstorm events during the year. Frequent rainstorms in 2020 exposed Hong Kong to flooding risks, posing greater challenges to our flood prevention work.



參考過往應對超強颱風的經驗，渠務署提早於颱風襲港前行動，加強巡查和清理主要排水道及進水口，尤其是水浸黑點，以確保沒有障礙物阻塞渠道及造成水浸風險。本署和其他政府部門攜手合作，於一些易受海水倒灌影響的沿岸低窪地區（包括大澳及鯉魚門等）開展防洪工作，包括安裝組合式擋水板及止回閥、建造防洪牆等。政府亦已於沿岸低窪地區設立風暴潮預警系統，並由天文台適時發出預警。當發出風暴潮預警，本署會即時採取緊急水浸緩解工作，將水浸帶來的影響降至最低。

Based on previous experience in combating super typhoons, the DSD has scaled up actions well before the approach of typhoons, including precautionary inspections and clearance of major drainage channels and inlets to ensure no obstacles in the drains would pose flooding risk, particularly at flooding blackspots. Collaborating with other government departments, we take joint flood prevention efforts to identify low-lying coastal areas that are vulnerable to tidal backflow (including Tai O and Lei Yue Mun) and initiate flood prevention measures, such as installing demountable flood barriers and non-return flap valves and building flood walls. Storm surge alert, an early alert system for low-lying coastal areas, has been developed by the Government. This alert is issued timely by the Hong Kong Observatory and upon activation emergent flood relief measures are launched at relevant locations immediately to minimise the impact of flooding.

為進一步減低水浸風險，本署已設立全天候運作的「緊急事故及暴風雨應變組織」，以安排人手處理緊急事故和水浸，包括發布相關信息、與其他政府部門的緊急應變單位溝通和調配資源。我們亦已設立「緊急事故控制中心」，並且識別受水浸影響較大的黑點，在暴雨期間或 8 號烈風或暴風信號生效前安排應變小隊前往現場進行渠道檢查及疏通工作，減低暴雨和颱風所造成的影響。

本署致力提升本港防洪工作的水平，依照國際標準設計及建設全港的雨水排放系統，確保其防洪能力。我們會對雨水排放系統進行定期檢查及維護，亦會檢視及調整各區的雨水排放計劃，以應對各區的極端天氣事件，防患於未然。

To further reduce the impact of flooding, we have set up the "Emergency and Storm Damage Organisation (ESDO)" that operates on a 24/7 basis to arrange personnel to handle emergency cases and flooding incidents, including the release of relevant information, communicating with the emergency organisations of other government departments and deploying resources. We have also set up an "Emergency Control Centre" and identified blackspots easily affected by floods. We would send contingency teams to these blackspots to carry out inspections and clear drains during heavy rainstorm or before the Gale or Storm Signal No. 8 is in force, in the hope of reducing the impact of heavy rainstorms and typhoons.

The DSD is committed to enhancing the quality of flood protection work in Hong Kong. To this end, we design and build the city's drainage system in accordance with international standards to ensure adequate flood protection capabilities. The drainage system is inspected and maintained regularly, and the Drainage Master Plans (DMPs) of each district is reviewed and adjusted as a preventive measure to combat local extreme weather events.

於大澳裝設組合式擋水板  
Installing demountable flood barriers in Tai O



緊急事故控制中心  
Emergency Control Centre

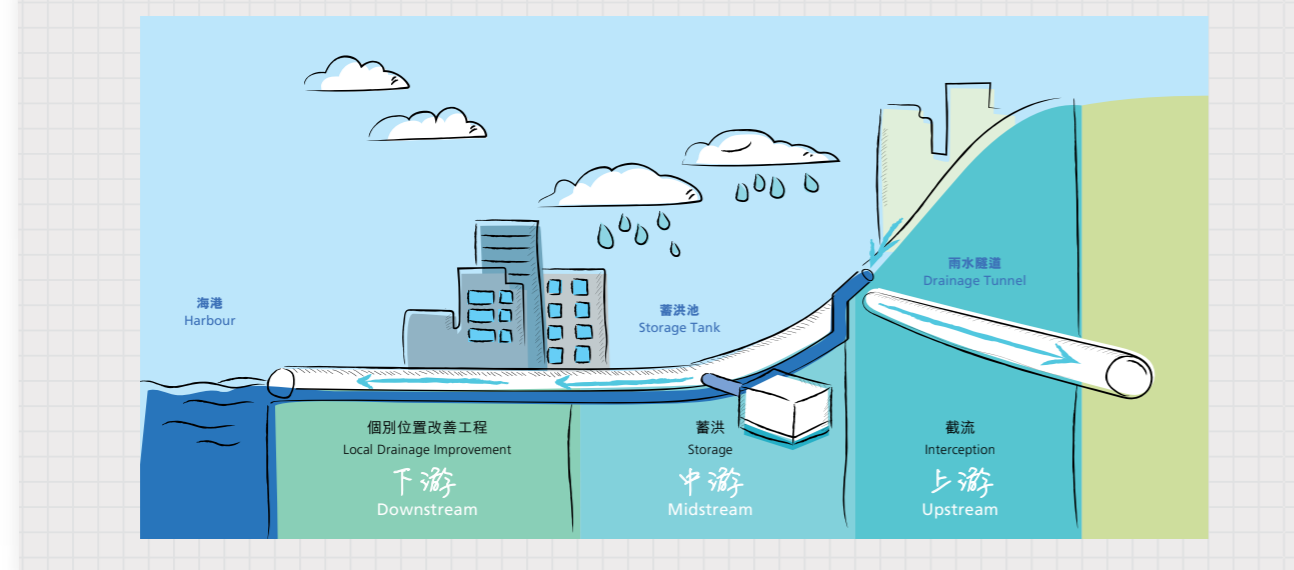
## 香港整體防洪策略 Overall Flood Prevention Strategy of Hong Kong

城市化發展、地面徑流增加、洪泛平原減少，以及極端天氣事件越趨頻繁等因素都會導致低窪或沿海地區的水浸風險上升。考慮到不同區域的地勢特點，渠務署制訂「防洪三招」，以解決不同地方的水浸問題，當中包括截流、蓄洪、疏浚，有效減低因暴雨引致的水浸風險。

Urbanisation, increasing surface runoff, reducing flood plains and frequent extreme weather events would heighten the risk of flooding in low-lying or coastal areas. Considering the topographical features of different districts, the DSD has developed a “three-pronged flood prevention strategy” to combat flooding threats at various locations. The strategy, including stormwater interception, flood storage, and drainage improvement, has effectively mitigated the risk of flooding arising from torrential rain.

### 防洪三招

Three-pronged Flood Prevention Strategy



### 截流

Interception

- 在半山建造雨水排放隧道，從而在上游截取雨水，改變雨水流向，將之直接排出大海或河道  
Drainage tunnels have been built in the mid-levels to intercept and divert upstream stormwater for direct discharge to the sea or rivers
- 避免在下游地區進行大規模排水改善工程，減低對交通及公眾的影響  
Large-scale drainage improvement works in downstream urban areas are avoided to reduce impacts on traffic and the public
- 四條分別位於啟德、港島西、荔枝角及荃灣的雨水排放隧道，總長約 21 公里  
Four drainage tunnels are located in Kai Tak, Western Hong Kong Island, Lai Chi Kok and Tsuen Wan respectively, with length about 21 kilometres in total

### 蓄洪

Flood Storage

- 暴雨或會對下游地區的排水系統造成壓力導致水浸風險，因此本署在中游地區建設蓄洪池，收集及暫存暴雨期間的雨水，減輕對排水系統的負擔  
Stormwater may impose pressure on downstream drainage systems and expose these areas to flooding risk. We have therefore constructed stormwater storage tanks in midstream to collect and temporarily store stormwater, hoping to alleviate the burden imposed on drainage systems
- 現正運作位於大坑東、上環、跑馬地及安秀道四個地方的蓄洪計劃，並計劃擴建大坑東蓄洪計劃和展開五個新蓄洪計劃，以緩減九龍區的排水壓力  
Stormwater storage schemes are now in operation at four sites: including Tai Hang Tung, Sheung Wan, Happy Valley and On Sau Road. We plan to extend the scheme in Tai Hang Tung as well as develop five new schemes to alleviate the stress on drainage in Kowloon

### 疏浚

Drainage Improvement

- 進行排水系統改善工程以拉直、擴闊和挖深河道，以及擴大或建造新的地下排水渠  
Drainage improvement works are carried out to straighten, widen and deepen rivers and to broaden or construct new underground drains
- 至今已改善逾 100 公里河道，另提升超過 90 公里排水渠  
Over 100 kilometres of river sections have been improved and over 90 kilometres of drains have been upgraded to date



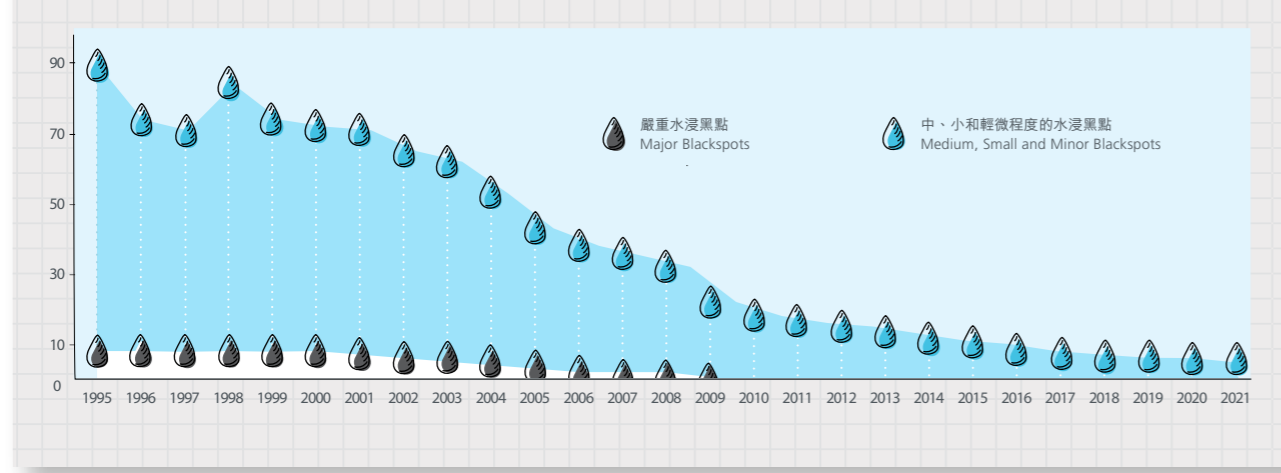
## 持續消除水浸黑點 Making Ongoing Efforts to Eliminate Flooding Blackspots

本署正逐步剔除港九新界的水浸黑點，減低水浸對各區域造成的重大影響。2021年3月，我們成功剔除了位於大埔汀角路的水浸黑點，並就其餘四個黑點進行了第一階段的改善工程。我們於2020年8月就南區薄扶林村進行排水改善工程，並正規劃及設計其餘三個黑點的進一步改善工程，預期未來逐步消除所有黑點，減低水浸對市民的影響。

We have been eliminating flooding blackspots all over Hong Kong to reduce the material impact that flooding imposed on each district. In March 2021, we have successfully removed the flooding blackspot at Ting Kok Road in Tai Po, and completed the first stage improvement works for the remaining four blackspots. Further improvement works for Pok Fu Lam Village commenced in August 2020, while the next stage of improvement works for the remaining three blackspots are under planning and design. We anticipate that all blackspots will be eliminated gradually in the near future to reduce the impact on the public.



水浸黑點總數  
Total Number of Flooding Blackspots



## 風暴潮點和越堤浪點 Storm Surge Spots and Overtopping Wave Spots

根據過往紀錄，颱風吹襲期間部分地區會受到較大影響，該等地區或會因風暴造成的海水上升而發生水浸或海水倒灌問題。此外，海水上升亦可能會導致海浪湧過海堤，造成水浸。我們已識別七個地點作為風暴潮點，並識別三個地點作為越堤浪點。我們為這些地點設立風暴潮預警系統，一旦出現預警，我們會安排人手前往該等地點實施應對措施，如放置水泵、設置組合式擋水板、放置沙包等，以免大量海水湧進地面，影響附近居民。

Previous records show that certain areas would be more severely affected during typhoons, including seawater inundation or infusion attributed to the rise of sea level from the storm. Floods may also occur when rising sea level causes sea waves to overtop seawalls. We have identified seven Storm Surge Spots as well as three Overtopping Wave Spots. An Early Alert System for Storm Surge has been established for these spots. Upon any alert, we would arrange personnel to implement contingency measures on site, such as deploying pumping equipment, installing demountable flood barriers and placing sandbags to avoid a large amount of seawater pouring in and affecting residents nearby.





## 排水設施的運作及維修保養 Operation and Maintenance of Drainage Facilities

本署負責管理全港的雨水排放系統，包括超過 2,400 公里的地下雨水渠、360 公里的人工河道、21 公里的雨水排放隧道，以及四個地下蓄洪池。我們致力檢查和維護每個系統和設施，確保渠道暢通。年內，我們檢查逾 2,350 公里的雨水渠及河道。另外，我們亦會定期檢測設施的功能和結構，以及在雨季前後清理淤塞物。

The DSD is responsible for managing the drainage system in Hong Kong, covering over 2,400 kilometres of underground stormwater drains, 360 kilometres of engineered channels, 21 kilometres of drainage tunnels, and four underground stormwater storage tanks. We are committed to inspecting and maintaining each system and facility thoroughly to ensure smooth drainage. During the year, we inspected over 2,350 kilometres of drains and river channels. Furthermore, we also conduct functional and structural checks on facilities regularly and clear blockages before and after the rainy season.

### 主動巡查和「及時清理」

#### Proactive Inspection and Just-in-time Clearance

- 為減低大雨期間的水浸風險，在雨季（每年 4 月至 10 月）平日日間實施「及時清理」安排

To reduce the risk of flooding during rainstorms, the 'just-in-time clearance' arrangement is in operation during daytime on weekdays in the rainy season (April to October every year)

- 識別全港約 200 個易受垃圾或枯葉等阻塞的渠道位置，在大雨來臨時調配人手巡查

We have identified about 200 drain locations territory-wide which are susceptible to blockage by litter or fallen leaves. Manpower is mobilised to carry out inspections when rainstorms are expected

- 即時安排清理淤塞的渠道入水口

Immediate action is taken to clear blocked drainage inlets

清理渠道  
Drainage clearance



### 鄉村防洪計劃

#### Village Flood Protection Schemes

香港部分村落因位處低窪地區，於暴雨時或會出現水浸。為減低水浸對村落的影響，渠務署實施鄉村防洪計劃，興建防洪基堤、建造雨水泵房及蓄洪池，以便在暴雨期間將雨水暫存及抽走。現正運作的鄉村防洪計劃共有 27 個，為 38 條低窪鄉村提供防洪保護。

Some villages in Hong Kong are located in low-lying areas, leading to potential floods during heavy rainstorms. To reduce the impact of floods on these villages, the DSD has been implementing Village Flood Protection Schemes. Embankments are constructed around low-lying villages where stormwater pumping stations and storage ponds are built to temporarily store and pump rainwater during heavy rain. 27 Village Flood Protection Schemes are currently in operation, providing flood protection for 38 low-lying villages.

橋頭圍鄉村防洪計劃  
Kiu Tau Wai Village  
Flood Protection  
Scheme



## 雨水排放整體計劃 2.0 研究 Drainage Master Plan 2.0 Studies

渠務署從 1994 至 2010 年間推行雨水排放整體計劃研究及排水系統研究，逐步檢視港九新界的排水系統，識別系統應對水浸的問題並提出短期及長期改善措施，確保系統符合防洪標準。我們從 2008 年起，陸續開始檢討各區的雨水排放整體計劃，分別為 12 個集水區進行雨水排放整體計劃 2.0 研究，以應對持續的土地發展、各地區土地用途改變及氣候變化帶來的挑戰。相關進度如下：

From 1994 to 2010, the DSD implemented Drainage Master Plan (DMP) studies to review the drainage systems across Hong Kong, identify issues resulted by floods and recommend corresponding improvement measures in the short- and long-term to ensure they meet flood protection standards. Since 2008, we have been reviewing the DMP studies of different districts in phases by carrying out DMP 2.0 Studies for 12 catchment areas, so as to cope with ongoing land developments, change of land uses in various areas and challenges brought by climate change. The progress is as below:



研究地區 Study Areas	研究進展 Status	研究地區 Study Areas	研究進展 Status
1 元朗及北區 Yuen Long and North District	已於2011年完成 Completed in 2011	8 淺水灣及大潭 Repulse Bay and Tai Tam	已於2020年完成 Completed in 2020
2 跑馬地 Happy Valley		9 大嶼山及離島 Lantau and Outlying Islands	進行中，預計於2021年完成 In progress, anticipated to be completed in 2021
3 西九龍 West Kowloon	已於2015年完成 Completed in 2015	10 屯門、荃灣及葵青 Tuen Mun, Tsuen Wan and Kwai Tsing	
4 東九龍 East Kowloon		11 香港島南 Southern Hong Kong Island	進行中，預計於2024年完成 In progress, anticipated to be completed in 2024
5 大埔 Tai Po	已於2017年完成 Completed in 2017	12 將軍澳 Tseung Kwan O	規劃中 Under planning
6 沙田及西貢 Sha Tin and Sai Kung			
7 香港島北 Northern Hong Kong Island	已於2019年完成 Completed in 2019		



## 規劃、設計和建造新排水設施

### Planning, Design and Construction of New Drainage Facilities

#### 活化翠屏河

##### Revitalization of Tsui Ping River

本署不但致力維持轄下排水設施正常運作，而且正積極透過改善工程將轄下設施活化成具生態保育價值的休憩空間，為公眾帶來嶄新體驗。舉例來說，我們正為擁有逾 50 年歷史、長約一公里的觀塘敬業街明渠進行改善工程，務求在提升其排洪能力之餘，亦將其活化成充滿活力的翠屏河。此項活化工程計劃旨在提升敬業街明渠的生態價值並推廣沿河近水活動，從而為公眾提供綠化休憩空間。

根據翠屏河與區內鄰近地方互相連繫以及河道與周邊休憩設施一體化的設計概念，本署不僅會建造河畔行人通道、跨河行人通道和跨河園景平台，連繫河道與區內其他地方，包括多個休憩及康樂設施，以便行人往來，而且會在河畔兩旁提供公共休憩空間，使翠屏河成為市民欣賞河景和進行休閒活動的新地標。

為了加強翠屏河的實用功能，我們正計劃在下游位置裝設可隨着潮汐漲退而升降的智能水閘。水閘會連接天文台的天氣預報系統，在天氣惡劣時自動降下以加強河道的排洪能力。此外，智能水閘亦能因應潮汐漲退的天然規律調節水位，營造富吸引力的瀑布效果，從而減少依賴泵水設備，以及盡量減低能源消耗量。

Not only does the DSD strives to maintain normal operation of its drainage facilities, but it is also actively conducting improvement works to turn its facilities into a leisure space with ecological conservation value that can provide a brand new experience for the public. For instance, we are conducting improvement works at King Yip Street Nullah, a nullah in Kwun Tong with a history of more than 50 years that is approximately one kilometre in length, with a view to enhancing its flood conveyance capability, as well as turning it into a vibrant Tsui Ping River. The revitalisation project aims to enhance the ecological value of King Yip Street Nullah and promote water friendly activities, thereby providing a green leisure space for the public.

Under the design concept of connecting Tsui Ping River with its surrounding areas in the district and integrating the river channel with its adjacent leisure facilities, the DSD will not only construct riverside pedestrian walkways, river crossing pathways and river crossing landscaped decks to link up various leisure and recreational facilities in the district for the convenience of pedestrians, but also provide public leisure space along the river, so as to turn Tsui Ping River into a new landmark where the public can enjoy the waterscape and carry out leisure activities.

To enhance the functionality of Tsui Ping River, we are planning to install a smart water gate that can move up and down according to the ebb and flow of the tide in downstream areas. The smart water gate will be linked to the Hong Kong Observatory's weather forecast system in such a way that the gate will be lowered automatically during adverse weather conditions to enhance the drainage capacity of the river channel. Also, the gate can regulate the water level according to the natural tidal cycle to create an eye-catching waterfall effect, thereby reducing reliance on pumping facilities and minimising energy consumption.



活化後翠屏河的構想圖  
Photomontage of the revitalised Tsui Ping River

- 加入水景設計及河景設施  
Provision of waterscape design and water features
- 挖深河道以改善現有明渠結構  
Dredging of the river channel for improvement to the structure of the existing nullah
- 在河上增建園境平台以提供休閒用地  
Construction of landscaped decks above the river for provision of amenity public space
- 建造河道兩旁及跨河的行人通道以便行人來往  
Construction of walkways along and across the river channel for the convenience of pedestrian
- 翻新鯉魚門道行人天橋  
Renovation of the Lei Yue Mun Road footbridge
- 裝設智能水閘以營造富吸引力的瀑布效果  
Installation of a smart water gate for creation of an eye-catching waterfall effect

#### 目前進度

##### Current Progress

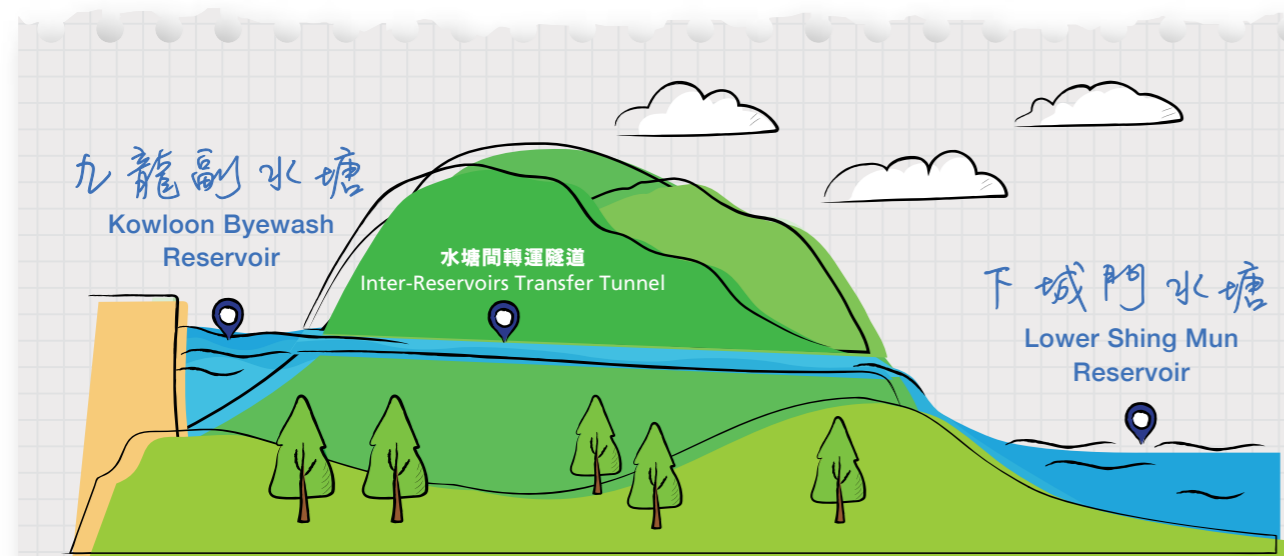
工程已在 2020 年 7 月展開，預計於 2024 年完成。

Works commenced in July 2020 and is scheduled for completion in 2024.

## 西九龍雨水排放系統改善計劃 – 水塘間轉運隧道計劃 West Kowloon Drainage Improvement – Inter-Reservoirs Transfer Scheme

本署推行西九龍雨水排放系統改善計劃，旨在減低西九龍的水浸風險和增加本地集水量。為此，我們正興建一條全長約 2.8 公里的輸水隧道，連接九龍副水塘與下城門水塘，把整個九龍水塘群接收的地面徑流轉運至下城門水塘，此舉可減少流入深水埗、長沙灣和荔枝角雨水排放系統的地面徑流。執行此計劃後，不僅達到提升防洪能力及保護水資源的雙重目標，更可每年額外提供約 340 萬立方米的食水。

The DSD is introducing the West Kowloon Drainage Improvement Plan that aims to reduce flooding risks in West Kowloon and increase local yield. To this end, we are constructing a water tunnel approximately 2.8 kilometres in length to connect Kowloon Byewash Reservoir and Lower Shing Mun Reservoir. The new tunnel will transfer collected surface runoff from the Kowloon group of reservoirs to Lower Shing Mun Reservoir. This move can reduce the load of surface runoff handled by the drainage systems in Sham Shui Po, Cheung Sha Wan and Lai Chi Kok. Fully in place, the Inter-Reservoirs Transfer Scheme will serve a dual purpose of improving flood protection capabilities and saving water resources, and also generate an additional annual freshwater yield of about 3.4 million cubic metres.



### 目前進度

#### Current Progress

工程於 2019 年 2 月展開並於 2020 年年中開始隧道建造工程。整項工程預計於 2022 年第四季完成。工程預算費用約 12.2 億元。

The project commenced in February 2019 and tunnel construction work begun in mid-2020. The project is scheduled for completion in the fourth quarter of 2022, with an estimated cost of about \$1.22 billion.

輸水隧道以隧道鑽挖機建造

The water tunnel is constructed by a tunnel boring machine



## 元朗防洪壩計劃及元朗市明渠改善工程（市區中心段） Yuen Long Barrage Scheme and Improvement of Yuen Long Town Nullah (Town Centre Section)

渠務署早前完成「元朗和北區雨水排放整體計劃檢討研究」，發現元朗區的排洪系統並未達到現今的防洪標準。加上近年越趨嚴峻的氣候變化問題，極端天氣事件更顯頻繁。由於元朗區地勢較為平坦，如出現風暴潮和暴雨，水浸的風險亦隨之增加。為此，渠務署參考了其他沿海國家的經驗，並因應本地的地理環境及天氣特性，研究嶄新的防洪策略——防洪屏障。

因應上述問題，渠務署全面檢視區內明渠，並計劃實施整體改善及活化工程。其中在「元朗市明渠改善工程——市區中心段」工程中，我們會在該段明渠興建旱季截流器，截取受污染的旱季流，改善明渠的氣味及環境問題。除此之外，我們亦推行「元朗防洪壩計劃」，於明渠下游興建防洪設施，改善元朗明渠整體的排洪能力。以上兩項工程完成後能提供足夠條件活化現有的傳統排洪渠道。

The DSD has completed the "Review of Drainage Master Plans in Yuen Long and North Districts – Feasibility Study (the DMP Review Study)". It was identified that the drainage system in Yuen Long District did not fully meet the current flood protection standards. With worsening climate change impacts and more frequent extreme weather events in recent years, Yuen Long's relatively flat topography puts it at higher risk of flooding during storm surges and rainstorms. To address this issue, the DSD sought reference from the experience of other coastal countries and came up with a brand new flood protection strategy – Barrage Scheme that is accordant to local geographical environment and weather characteristics.

In view of the above issue, the DSD has holistically reviewed the nullahs in the district, and has planned to carry out improvement and revitalisation works. Under the "Improvement of Yuen Long Town Nullah (Town Centre Section)" project, we will construct a Dry Weather Flow Interceptor (DWFI) System in the corresponding section of the nullah to intercept the polluted dry weather flow to alleviate odour and environmental nuisances. In addition, we will construct flood protection facilities at the downstream end of Yuen Long Nullah under the Yuen Long Barrage Scheme to enhance drainage capacity of the nullah. Upon completion of the two aforementioned works, there will be an opportunity to revitalise the existing concrete-lined Yuen Long Nullah.

### 目前進度

#### Current Progress

以上項目正在設計階段，並預計於 2022 年度向立法會申請撥款以便展開相關工程。我們預計工程於 2022 年年底展開並於 2029 年前分階段完成。

The above projects are now in the design stage, with an estimation to get started after applying for funding from the Legislative Council in 2022. The works are scheduled for commencement in end 2022 and completion in 2029 by stages.



活化後元朗明渠的構想圖  
Photomontage of the revitalised Yuen Long Nullah

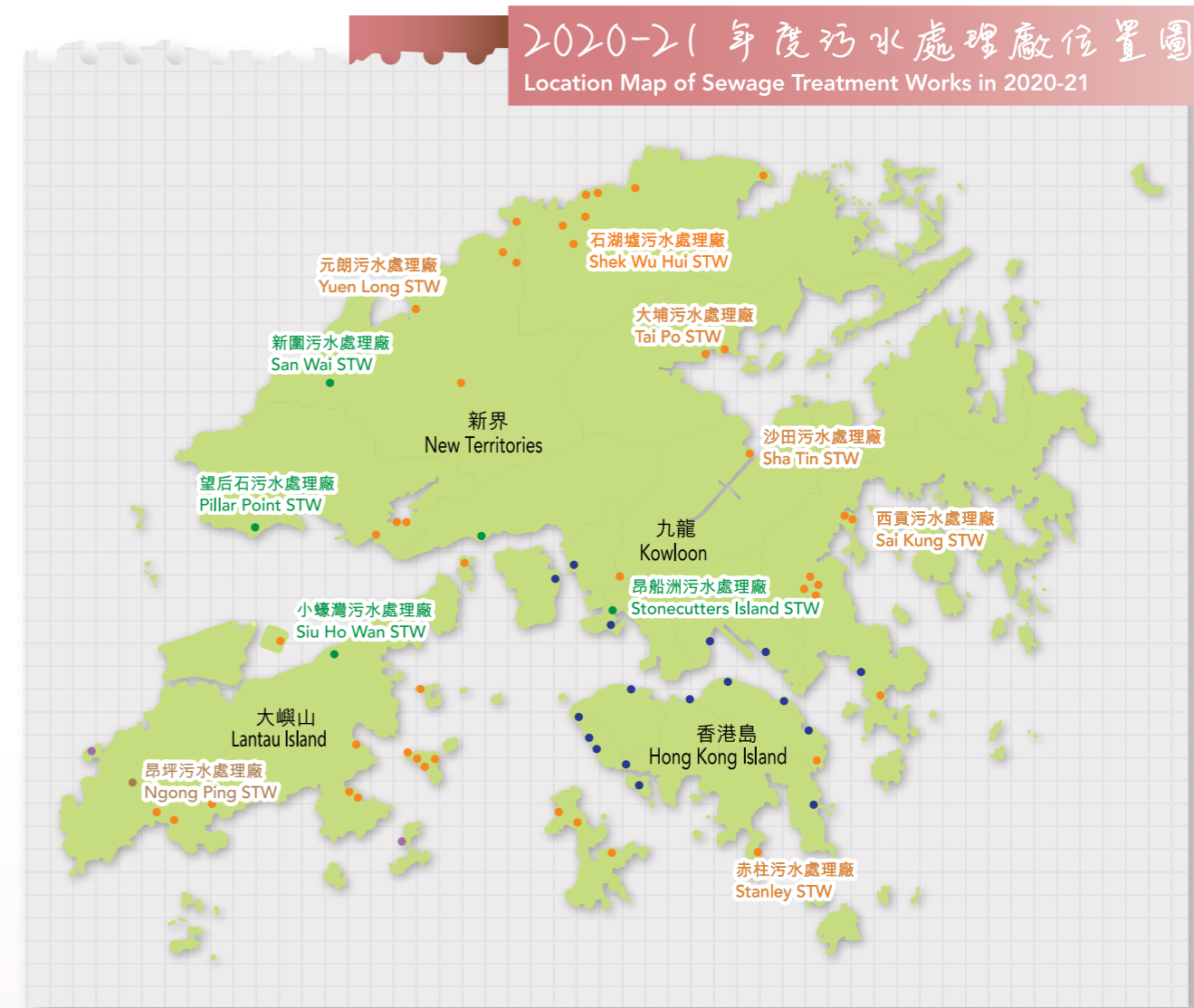
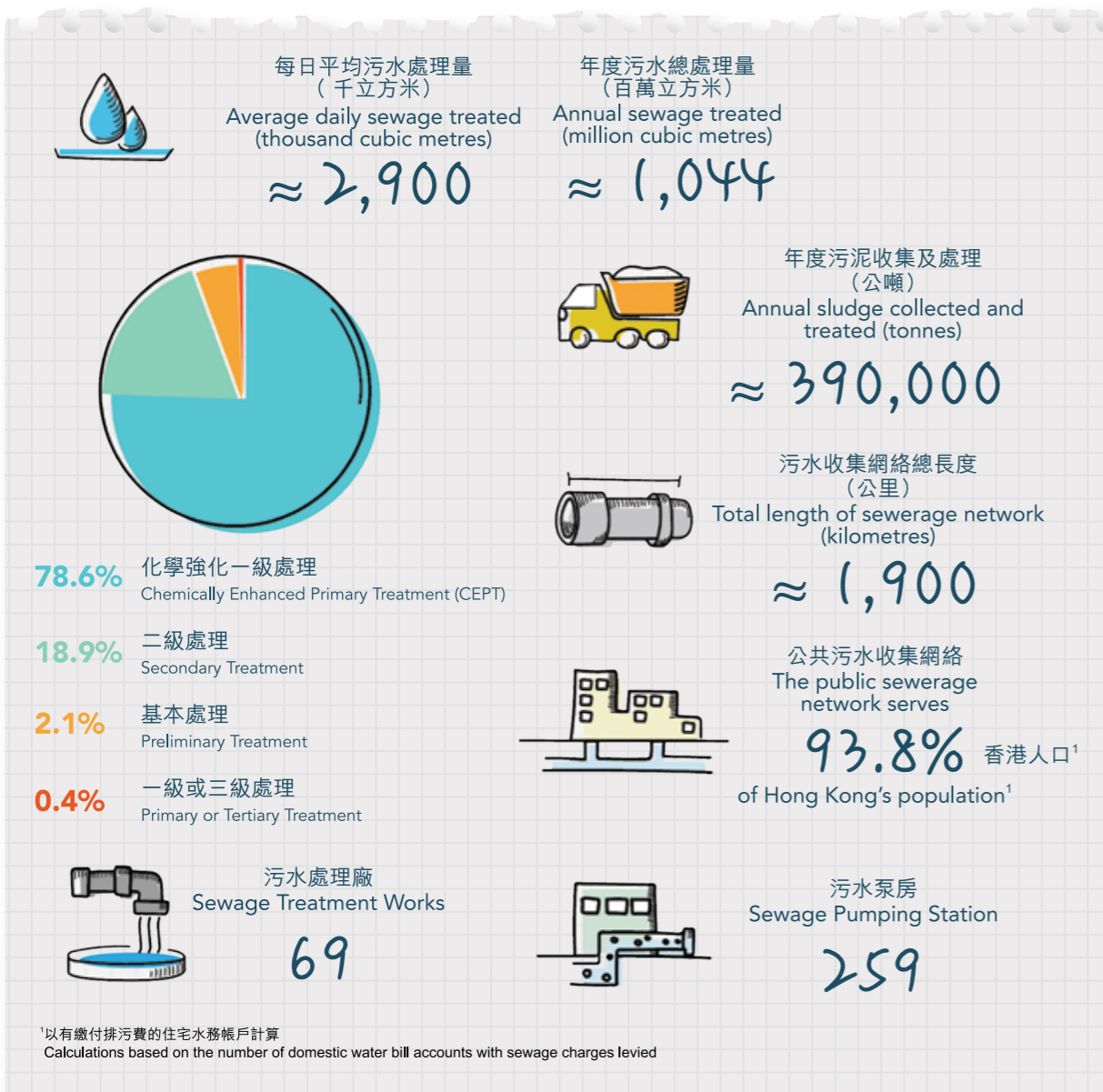


# 2020-21 年度污水處理概要

## Overview of Sewage Treatment and Sewerage System in 2020-21

為香港提供世界級的污水處理服務是渠務署抱負中的重要一環。因此，我們的專業團隊致力維持高效率的污水收集、處理和排放服務，以及定期進行維修保養工作，保證整個污水處理過程運作暢順。同時，我們善用先進科技和現代化設施以減少污染物排放，竭力確保本署轄下設施符合既定的環保目標。為保障本港水質及促進香港可持續發展，我們日後會繼續擴展污水收集系統的覆蓋範圍，並持續改善污水處理設施。

Providing Hong Kong with world-class sewage treatment services is an important component of our vision. Thus, our professional team is committed to maintaining efficient sewage collection, treatment and discharge services, as well as conducting regular repair and maintenance to ensure that the whole sewage treatment process is operating smoothly. Meanwhile, we have been leveraging advanced technologies and modern facilities to minimise pollutant discharge and make sure that our facilities meet the established environmental protection objectives. To protect the local water quality and promote the sustainable development of Hong Kong, we will continue to expand the coverage of Hong Kong's sewerage system and improve the sewage treatment facilities in the future.



**主要污水處理廠**  
Major Sewage Treatment Works

昂船洲污水處理廠 Stonecutters Island STW	大埔污水處理廠 Tai Po STW
小蠔灣污水處理廠 Siu Ho Wan STW	西貢污水處理廠 Sai Kung STW
沙田污水處理廠 Sha Tin STW	赤柱污水處理廠 Stanley STW
石湖墟污水處理廠 Shek Wu Hui STW	昂坪污水處理廠 Ngong Ping STW
元朗污水處理廠 Yuen Long STW	望后石污水處理廠 Pillar Point STW
新圍污水處理廠 San Wai STW	

- 圖例**  
Legend
- 基本污水處理廠  
Preliminary Treatment Works
  - 一級污水處理廠  
Primary STW
  - 化學強化一級污水處理廠  
Chemically Enhanced Primary STW
  - 二級污水處理廠  
Secondary STW
  - 三級污水處理廠  
Tertiary STW



## 規劃、設計和建造新污水處理設施

### Planning, Design and Construction of New Sewerage Facilities

#### 「搬遷沙田污水處理廠往岩洞」工程

#### “Relocation of Sha Tin Sewage Treatment Works to Caverns” project

為應付本港龐大土地需求作長遠發展用途，政府正積極開發岩洞以開拓土地。為支持政府發展計劃，渠務署正進行搬遷工程，把沙田污水處理廠遷移至城門河對岸女婆山內開挖的岩洞。未來的沙田污水處理廠將利用岩洞作為天然屏障，藉此加強氣味管理以減低氣味對周邊居民的影響。另外，沙田污水處理廠現址約 28 公頃的土地將騰出並重新規劃作其他有利民生的用途，以滿足公眾需求及改善區內的生活環境。

新沙田岩洞污水處理廠落成後，預計會成為本港規模最大的同類設施，每日可處理約 34 萬立方米污水。搬遷計劃涉及工地開拓和連接隧道建造工程、主體岩洞建造及上游污水收集系統工程、污水處理設施裝置工程，以及現有沙田污水處理廠停止運作和拆卸工程，將分階段進行。整項工程預計需時約 13 年完成。

To meet Hong Kong's high demand for land for long-term development, the Government is actively developing caverns to expand land resource. In support of the Government's development plan, the DSD is carrying out relocation works to move Sha Tin STW to the excavated caverns in Nui Po Shan across Shing Mun River. The caverns serve as natural barriers for the future STW, thereby enhancing odour management to minimise the odour impact on nearby residents. Also, about 28 hectares of land on the site of the existing Sha Tin STW will be released and planned for other beneficial and needed uses for improving the living environment in Sha Tin.

Upon completion, the new Sha Tin STW in caverns is anticipated to be the largest of its kind in Hong Kong, with an estimated daily treatment capacity of about 340,000 cubic metres. The relocation project involving site preparation and access tunnel construction, main caverns construction and upstream sewerage works, sewage treatment facilities installation, as well as decommission and demolition of the existing Sha Tin STW, will be implemented in stages. The entire project is expected to take about 13 years to complete.



#### 目前進度 Current Progress

工程設計工作已由 2017 年起分階段完成。第一階段的工程，包括工地開拓、建造連接隧道及護土構築物和相關的道路工程等，已由 2019 年 2 月起展開，預計可如期在 2022 年完工。而第二階段的工程，包括建造主體岩洞及上游污水收集系統，已在 2021 年 1 月獲立法會財務委員會批准撥款，並已於 2021 年 7 月開始工程。本署正為餘下工程進行詳細設計工作，繼續全力推展工程項目。

The project's design work has been completed in phases since 2017. Stage 1 works, which include site formation, construction of access tunnel and retaining structures as well as associated road works, commenced in February 2019 and are expected to be completed in 2022 as scheduled. For Stage 2 works which include construction of the main caverns complex and upstream sewerage works, funding was approved by the Finance Committee of the Legislative Council in January 2021 and construction works commenced in July 2021. The DSD is working on the detailed design of the remaining works and pushing forward with the project.

「搬遷沙田污水處理廠往岩洞」第一階段建造工程  
Stage 1 works of “Relocation of Sha Tin Sewage Treatment Works to Caverns”



## 淨化海港計劃 Harbour Area Treatment Scheme (HATS)

為收集和處理維港兩岸污水以改善維港水質，淨化海港計劃由 1994 年起分兩期進行。作為香港歷來最龐大、總費用達 258 億元的環保基建項目，整個建造工程歷時逾 20 載。第一期及第二期甲設施分別於 2001 年 12 月及 2015 年 12 月全面啟用。我們將進行研究，審視淨化海港計劃系統的表現效能及評估該系統不同組件的運作狀況，並提出建議來改善計劃系統和設施。

To improve the water quality of Victoria Harbour by collecting and treating sewage from both sides of the Harbour, the HATS had been carried out in two phases since 1994. As the largest ever environmental infrastructure project in Hong Kong, with a total cost of \$25.8 billion, the construction works spanned over two decades. The facilities of HATS Stage 1 and Stage 2A were fully commissioned in December 2001 and December 2015 respectively. We will carry out a study to review the performance of the HATS system, assess the operational condition of different system components and draw up recommendations to enhance the HATS system and facilities.



昂船洲污水處理廠  
Stonecutters Island  
Sewage Treatment Works

### 目前進度 Current Progress

有關淨化海港計劃系統管理的可行性研究於 2020 年 5 月展開，現時已大致完成。接下來會進行詳細研究並分三個階段推行。第一階段會為海港旁的六間基本污水處理廠的系統和設施優化進行詳細研究，預計於 2022 年中旬展開。

Feasibility study on HATS system management commenced in May 2020 and has almost completed. Detailed studies would be followed and would be conducted in three phases. The 1st phase would cover the detailed investigation of the system and facilities enhancement works for six preliminary treatment works at the harbour sides, with the target to commence in mid-2022.

## 石湖墟淨水設施 Shek Wu Hui Effluent Polishing Plant

因應地區發展和市民對持續改善環境的期望，我們計劃將已運作超過 30 年的石湖墟污水處理廠改建為石湖墟淨水設施。改建工程包括逐步提升污水處理級別至三級水平及分階段將該設施的污水處理量由每日 93,000 立方米增加至 190,000 立方米，以確保廠房的排放水符合更嚴格的環境要求，保護后海灣的生態環境。未來，我們亦會加入適當的園境設施及河畔步道以改善廠房的外觀，並加強其作為水資源保育教學地點的功能，使該淨水設施成為多用途的社區設施。

In response to district development and public expectations of continuous environmental betterment, we are planning to transform the existing Shek Wu Hui STW, which has been in operation for more than 30 years, into Shek Wu Hui Effluent Polishing Plant. The project involves gradually upgrading the facility to tertiary treatment level and expanding the sewage treatment capacity of the plant from 93,000 cubic metres per day to 190,000 cubic metres per day in phases to ensure that its discharge will conform with more stringent environmental requirements, thus protecting the ecological environment of Deep Bay. In the future, we will also add appropriate landscape facilities and a riverside promenade to improve the appearance of the plant, so as to enhance its role as an educational site for water conservation and make the plant a multipurpose community facility.

石湖墟污水處理廠改善工程  
Shek Wu Hui Sewage  
Treatment Works  
Improvement  
Works



### 目前進度 Current Progress

石湖墟淨水設施的前期工程在 2015 年年中展開，一組 20,000 立方米容量的傳統二級污水處理設施被改建為 40,000 立方米容量的薄膜生物反應器，並已於 2019 年 12 月起投入運作。設施正進行主體工程，工程分為三個階段進行，第一階段已於 2019 年第三季展開，最終階段則預計於 2034 年完成。前期工程、勘察及設計預算費用約五億元，而主體工程預算費用為約 132 億元。

The advance works of Shek Wu Hui Effluent Polishing Plant commenced in mid-2015. A group of conventional secondary sewage treatment facilities with a capacity of 20,000 cubic metres was converted into a membrane bioreactor with a capacity of 40,000 cubic metres. These facilities have been in operation since December 2019. The main works are being implemented currently in three phases. The first phase started in the third quarter of 2019 and the final phase is scheduled for completion in 2034. The estimated cost for the advance works, investigation and design is about \$500 million, while the estimated cost for the main works comes to about \$13.2 billion.

## 元朗淨水設施 Yuen Long Effluent Polishing Plant

現時，元朗污水處理廠的設計處理量為每日 70,000 立方米，為元朗市中心、元朗工業邨及錦田地區提供二級處理服務。我們將分階段增加該設施的污水處理量至 150,000 立方米，以配合人口增長及地區發展的需要，污水處理級別亦將提升至三級處理，進一步提升淨化水的排放標準，以加強保護后海灣水質，減低對生態環境的影響。廠房亦會採用再生能源，進一步提升環保表現。此外，我們會加入大量綠化元素以美化廠房外貌，並設共享設施供公眾使用，惠及當地社區。

Currently, Yuen Long STW serves Yuen Long Town, Yuen Long Industrial Estate and Kam Tin areas with treatment capacity of 70,000 cubic metres per day at secondary sewage treatment level. To cope with the population growth and development needs, we will upgrade the treatment capacity of Yuen Long STW in stages to 150,000 cubic metres per day. The sewage treatment level will also be upgraded to tertiary treatment level, improving the effluent quality to meet the more stringent discharge requirements, thus minimising adverse environmental impact on the ecological setting of Deep Bay. Also, the plant will use renewable energy to enhance environmental performance. Moreover, we adopt substantial greening features to beautify the plant's exterior, and public co-use facilities will be in place to benefit the local community.



元朗淨水設施構想圖  
Photomontage of the  
Yuen Long Effluent  
Polishing Plant

### 目前進度 Current Progress

元朗淨水設施工程會分兩個階段進行。第一階段建造工程已於 2020 年 11 月展開，工程預算費用約 69 億元，預計於 2027 年完工。而勘察及設計預算費用約 8,900 萬元。

The upgrading works will be implemented in two stages. The construction of Stage 1 Works commenced in November 2020 for completion in 2027. Estimated cost for Stage 1 Works is about \$6.9 billion while the budget for investigation and design is approximately \$89 million.

## 沙頭角污水處理廠第一期擴建工程 Expansion of Sha Tau Kok Sewage Treatment Works Phase 1

我們預計沙頭角各區域，包括沙頭角墟、鹽寮下、菜園角和沙頭角邨短期內的污水量將會增加。為此，渠務署計劃原址重建區內的沙頭角污水處理廠，令該廠的污水處理量由每日約 1,660 立方米，增加至約 5,000 立方米，以應付增加的污水量。工程包括建造一條長約 1.7 公里、直徑 450 毫米的海底排放管道，及興建新的污水管以取代現有污水泵房及加壓污水管。

作為渠務署首個「建造業 2.0」先導項目，我們採用多項創新技術，包括場外建造、智能基建及建築信息模擬技術，以提升工程效率、提高項目質素和加強安全管理，切合「創新、專業化、年青化」的方向。

We expect short-term increase in the sewage volume of various areas in Sha Tau Kok, including Sha Tau Kok Town, Yim Liu Ha, Tsoi Yuen Kok and Sha Tau Kok Chuen. As such, the DSD has planned to redevelop Sha Tau Kok STW in situ to increase its sewage treatment capacity from about 1,660 cubic metres per day to about 5,000 cubic metres per day to cope with surging sewage volume. The project includes the construction of a submarine outfall which is approximately 1.7 kilometres in length and 450 millimetres in diameter, and the replacement of the existing sewage pumping station and rising mains with new gravity sewers.

Being the first "Construction 2.0" pilot project of the DSD, this expansion deployed a number of advanced techniques, namely, off-site construction, smart infrastructure and BIM techniques. In line with the direction of "innovation, professionalisation and revitalisation", we will strive to enhance construction efficiency, project quality and safety management.

沙頭角污水處理廠第一期  
擴建工程完工構想圖  
Photomontage of the  
completed Expansion  
of Sha Tau Kok Sewage  
Treatment Works  
Phase 1



### 目前進度 Current Progress

工程已於 2018 年 11 月展開，預計於 2025 年完成。整項工程預算費用約 20.4 億元。為維持服務範圍在工程期間的污水處理工作，承建商需建造臨時污水處理設施。

Construction works commenced in November 2018 for completion in 2025. Estimated project cost is about \$2.04 billion. To maintain sewage treatment in the service area during construction, the contractor is required to build temporary sewage treatment facilities.

## 新圍污水處理廠改善工程第一期 Upgrading of San Wai Sewage Treatment Works Phase 1

元朗、天水圍及洪水橋等地的人口正不斷增長。為應對隨之增加的污水排放量，本署於新圍污水處理廠進行了改善工程，將其污水處理量由每日約 164,000 立方米增至約 200,000 立方米。其污水處理水平亦由基本處理提升至化學強化一級處理，並加設紫外光消毒，以改善本港西北水域的水質。

The local population of Yuen Long, Tin Shui Wai and Hung Shui Kiu has seen continuous growth in recent years, leading to an increase in sewage discharge. To cope with this situation, the DSD has implemented works to upgrade San Wai STW. Its treatment capacity has been increased from about 164,000 cubic metres per day to about 200,000 cubic metres per day, while its sewage treatment level has also been upgraded from preliminary treatment to chemically enhanced primary treatment with ultraviolet disinfection. This project is instrumental in improving the quality of Hong Kong's northwestern waters.



新圍污水處理廠鳥瞰圖  
Aerial view of San Wai Sewage Treatment Works

### 目前進度 Current Progress

根據「設計、建造及營運」的合約條款，工程於 2016 年 5 月展開，並已於 2020 年 9 月開始進行污水處理。承建商現正負責營運及維修新圍污水處理廠，為期 10 至 15 年。整項工程預算費用約 31.4 億元。

Under the terms of a "Design, Build and Operate" contract, the project was launched in May 2016 and started handling sewage in September 2020. The contractor is now undertaking the operation and maintenance of the new San Wai STW for 10 to 15 years. Estimated project cost is about \$3.14 billion.

## 長洲污水處理及排放改善工程 Upgrading of Cheung Chau Sewage Treatment and Disposal Facilities

我們未來會在長洲進行污水收集系統擴建計劃，將污水渠接駁至長洲更多地區。為此，渠務署現正進行長洲污水處理廠改善工程，增設污水處理設施，把廠房的污水處理能力由每日 4,000 立方米增至 9,800 立方米，並將污水處理水平由一級提升至二級。

Sewerage network expansion is planned for Cheung Chau in the future to link the existing network to additional areas on the island. In preparation for this upcoming project, the DSD is conducting improvement works at Cheung Chau STW by constructing additional treatment facilities to increase its sewage treatment capacity from 4,000 cubic metres per day to 9,800 cubic metres per day. The sewage treatment level will be upgraded from primary to secondary.



長洲污水處理廠改善工程  
完工構想圖  
Photomontage of the  
completed Improvement  
Works at Cheung Chau  
Sewage Treatment Works

### 目前進度 Current Progress

建造工程於 2020 年 11 月展開，預計於 2026 年完成。整項工程預算費用約 26.1 億元。

Construction works commenced in November 2020 for completion in 2026. Estimated project cost is about \$2.61 billion.



## 專業化驗分析服務

### Professional Laboratory Services

為確保污水處理服務符合相關法定要求，本署定期抽取污水樣本送往轄下化驗室檢驗。本署化驗室採用化驗室信息管理系統和商業智能軟件進行化驗工作，確保排放水的水質符合環保署訂明的排放標準。

舉例來說，沙田中央化驗室採用了全自動化的化驗室儀器，藉以快速而準確地全面檢測污水中的營養物質、微量金屬元素含量和生化需氧量水平。該化驗室在 1999 年獲頒發「香港實驗所認可計劃」(HOKLAS) 證書，確認測試環境樣本（即水和廢水的樣本）的資格，並在 2017 年成為香港首間獲得利用自動化生化需氧量分析儀測試認可資格的化驗室。為緊貼時代步伐，沙田中央化驗室已在 2020 年 9 月成功過渡品質系統，符合最新的 ISO/IEC 17025:2017 檢測和校準實驗室的香港認可處通用要求。

目前，沙田中央化驗室獲認可進行多達 32 項測試項目。年內，為應對 2019 冠狀病毒病大流行，渠務署相應調整轄下僱員的工作安排，以致該實驗室的測試數量減少約 15%。儘管如此，我們仍完成了超過 205,000 項分析工作。主要污水處理廠排放水的水質分析結果載於本署網頁和政府資料一線通網站，以供公眾參閱。

To ensure compliance of its sewage treatment service with relevant statutory requirements, the DSD collects and delivers sewage samples for its laboratory tests on a regular basis. The DSD's laboratories adopt the Laboratory Information Management System (LIMS) and business intelligence software to make sure the effluent quality is up to the discharge standards stipulated by the EPD.

For instance, Sha Tin Central Laboratory has adopted automatic analysers to conduct speedy, accurate and comprehensive tests on the nutrients, trace metal elements and biochemical oxygen demand (BOD) levels of sewage. This laboratory was accredited for testing environmental samples (i.e. samples of water and wastewater) under the Hong Kong Laboratory Accreditation Scheme (HOKLAS) in 1999 and became the first laboratory in Hong Kong to be granted HOKLAS accreditation for BOD tests using an automatic BOD analyser in 2017. Keeping up with the times, the Sha Tin Central Laboratory completed its quality system's transition to the latest ISO/IEC 17025:2017 – "General requirements for the competence of testing and calibration laboratories" through the Hong Kong Accreditation Service (HKAS) in September 2020.

Currently, Sha Tin Central Laboratory is accredited for conducting up to 32 types of tests. During the year, in response to the COVID-19 pandemic, the DSD adjusted the work arrangement for its staff accordingly, resulting in a 15% decrease in the total number of analyses conducted by the laboratory. Yet, we managed to complete more than 205,000 analyses. The results of analyses of the quality of effluent discharged from major STWs are available on the DSD's website and the data.gov.hk portal for public reference.



## 建造旱季截流器

### Construction of Dry Weather Flow Interceptors (DWFIs)

當受污染旱流進入雨水排放系統，不僅會影響周邊水域的水質，亦會導致氣味問題。為免異味對周邊環境及居民造成負面影響，我們正在新油麻地避風塘海濱設置地底旱季截流器，以堵截大角咀櫻桃街箱形雨水渠內受污染的旱流，並將之輸送至昂船洲污水處理廠進行處理然後才排放，減少異味問題。另外，我們亦於九龍西和荃灣海岸各建設四個旱季截流器，並改建位於九龍西的 39 個現有旱季截流器，以減低氣味問題及避免對水質引起重大影響。

Polluted dry weather flow discharged into the stormwater drainage system not only affects the water quality of water bodies nearby, but also causes odour. To avoid the nuisance of unpleasant odour to the surrounding environment and residents, we are building an underground DWFI on the shore of New Yau Ma Tei Typhoon Shelter, which is capable of intercepting polluted dry weather flow at Cherry Street box-culvert and transmit to Stonecutters Island STW for pre-treatment before discharge to reduce unpleasant odour. In addition, we are building four DWFIs in Kowloon West and four DWFIs along the Tsuen Wan coast respectively, and conducting modification projects at 39 existing DWFIs in Kowloon West, in a bid to reduce odour and prevent adverse impact on water quality.



櫻桃街箱形雨水渠旱季截流器構想圖

Photomontage of dry weather flow interceptor at Cherry Street box culvert

### 目前進度

#### Current Progress

渠務署現正進行的旱季截流器建造及改善工程分別位於大角咀、九龍西以及荃灣。其中，大角咀櫻桃街箱形雨水渠旱季截流器建造工程於 2017 年 12 月展開，並預計於 2022 年完工。整項工程預算費用約 6.6 億元。而九龍西部及荃灣污水系統改善工程第 1 期工程則於 2017 年 9 月動工，當中四個位於荃灣及兩個位於九龍西部的旱季截流器分別已於 2019 年 9 月及 2021 年 1 月完成建造，位於九龍西的旱季截流器改建工程也部份完成。餘下工程預計於 2022 年年中完成。整項工程預算費用約 2.8 億元。

The DSD is currently executing construction and improvement works of DWFIs at Tai Kok Tsui, Kowloon West and Tsuen Wan respectively. Construction works of the DWFI at Cherry Street box culvert in Tai Kok Tsui commenced in December 2017 for completion in 2022. Estimated project cost is about \$660 million. In addition, Phase 1 of upgrading works of West Kowloon and Tsuen Wan sewerage commenced in September 2017. Four DWFIs in Tsuen Wan and two DWFIs in West Kowloon were completed in September 2019 and January 2021 respectively while the modification works of DWFIs in West Kowloon were partially completed. The remaining works are scheduled for completion in mid-2022. Estimated project cost is about \$280 million.

## 觀塘污水泵房優化工程 Enhancement Works for Kwun Tong Sewage Pumping Station

本署致力改善污水泵房的設施及環境，當中包括進行觀塘污水泵房優化工程，以配合東九龍區內發展。工程項目包括新建一個容量為 16,000 立方米的地下污水調節設施並安裝通風及氣味控制設施。泵房天台將建成公眾園景平台，以改善泵房外觀和提供約 11,000 平方米的休憩用地。

The DSD makes every effort to improve the facilities and environment of its sewage pumping stations (SPSs). In particular, we are conducting enhancement works for Kwun Tong SPS to support the local development of East Kowloon district. Items include constructing a new underground sewage balancing facility with a capacity of 16,000 cubic metres and installing ventilation and de-odourisation facilities. The roof of the pumping station will also be renovated into a public landscaped deck to enhance visual appearance of the pumping station and provide an open space of about 11,000 square metres.

觀塘污水泵房上蓋園景平台構想圖

Photomontage of the landscaped deck above the Kwun Tong Sewage Pumping Station



### 目前進度 Current Progress

除沿用傳統現場建造方式，工程亦同時採用了供製造和裝配的設計方式，採用部分預製組件。此舉可以大大提升工程效率，縮短工期。工程於 2017 年 12 月動工，並預計於 2022 年年底完竣。整項工程預算費用約 10.5 億元。Apart from traditional cast in-situ methods, the project is also adopting the Design for Manufacture and Assembly (DfMA) method which can increase construction efficiency and shorten the construction period by using pre-assembled components. Construction commenced in December 2017 for completion in end-2022. Estimated project cost is about \$1.05 billion.

## 在東涌及小蠔灣之間增建一條加壓污水管及 修復現有加壓水管工程 Additional Sewage Rising Main and Rehabilitation of the Existing Sewage Rising Main between Tung Chung and Siu Ho Wan

位於東涌及小蠔灣之間的加壓污水管是有關地區目前唯一的污水輸送渠管。鑑於政府計劃擴展香港國際機場和東涌新市鎮，污水排放量預計會隨之增加，或會對渠管造成巨大壓力。有見及此，我們計劃分階段增建一條加壓污水管作出應對。同時，因應現有渠管已接近其 25 年的設計壽命，我們作出檢查和維修，務求應付推算至 2038 年的污水流量。

The sewage rising main between Tung Chung and Siu Ho Wan is the only pipe for conveying sewage in the area. In view of the government's development plan to expand Hong Kong International Airport and Tung Chung New Town, increase in sewage is expected and it may impose great burden on the sewage rising main. Thus, we are planning to construct a new sewage rising main in stages to cope with the situation. Meanwhile, as the existing sewage rising main is approaching the end of its design lifespan of 25 years, inspection and rehabilitation measures are carried out regularly to ensure that it is capable of handling the projected sewage flow until 2038.

### 目前進度 Current Progress

工程分為兩個階段，已於 2016 年 8 月開展，總預算費用約 13.6 億元工程。第一階段工程包括興建一條長約 6.5 公里、直徑 1,200 毫米的加壓污水管，以及進行相關的接合和附屬工程，預計於 2022 年完成。第二階段工程則包括修復現有加壓污水管，預計於 2025 年竣工。

Construction is implemented in two phases and work commenced in August 2016. Total estimated project cost is about \$1.36 billion. The first phase includes the construction of a sewage rising main about 6.5 kilometres in length and 1,200 millimetres in diameter, and implementing associated connection and ancillary works. This phase is expected to be completed by 2022. The second phase that involves rehabilitating the existing sewage rising main is scheduled for completion in 2025.



新建的加壓污水管  
The new sewage rising main

## 完善鄉村公共污水收集系統 Improvement of Village Sewerage

我們意識到香港鄉村地區現正面對水質污染的風險。香港現時有多條鄉村仍利用化糞池處理污水，並未有公共污水渠妥善處理村內排放的污水。若化糞池缺乏妥善維護，或會令當中的污水錯誤流入雨水系統，令周邊水體遭到污染，危害生態環境。為此，本署積極拓展公共污水收集系統網絡，於西貢、北區、觀塘、元朗、沙田、大埔、將軍澳、屯門及離島的鄉村鋪設公共污水收集系統，收集及處理該等地區的污水，大大減低污水因處理不當而造成污染問題。

We realise that rural areas of Hong Kong are facing the threat of water pollution. A number of villages in Hong Kong are still relying on septic tanks for sewage treatment today due to lack of public sewerage systems for proper handling of sewage from these rural communities. When not properly maintained, septic tanks may result in sewage being discharged into the stormwater drainage system, polluting surrounding water bodies and destructing the ecosystem. Thus, the DSD has endeavoured to expand its network of public sewerage system by building public sewerage in villages in Sai Kung, Northern District, Kwun Tong, Yuen Long, Sha Tin, Tai Po, Tseung Kwan O, Tuen Mun and the Outlying Islands to collect and treat sewage from these areas. These works have minimised the pollution problem brought by improper sewage disposal.



於鄉村敷設污水渠  
Sewer laying at a village

### 目前進度 Current Progress

截至 2021 年 3 月，有超過 250 條鄉村已增設公共污水渠。另外亦有約 55 條鄉村正進行相關工程，以及約 230 條鄉村的工程正在進行規劃和設計，當中包括離島區的污水渠建設工程。渠務署在 2021 年第四季開展兩項工程，分別為南丫島、大嶼山部分地區鋪設污水收集系統，藉以改善該等地區的衛生情況，以及進一步減少排放到附近河溪及水域的污染物。這兩項工程預計於 2026 年完成，總預算費用約 6 億元。

As at March 2021, newly built public sewers were in place in more than 250 villages; works were in progress in around 55 villages; and sewers were under planning and design for about 230 villages. The latter include sewerage construction works for the Outlying Islands District. In the fourth quarter of 2021, DSD will commence two projects to provide sewerage for parts of Lamma Island and Lantau Island to improve sanitary conditions and further reduce the amount of pollutants being discharged into nearby stream courses and marine waters. These two projects are scheduled for completion in 2026 at a total estimated cost of about \$0.6 billion.

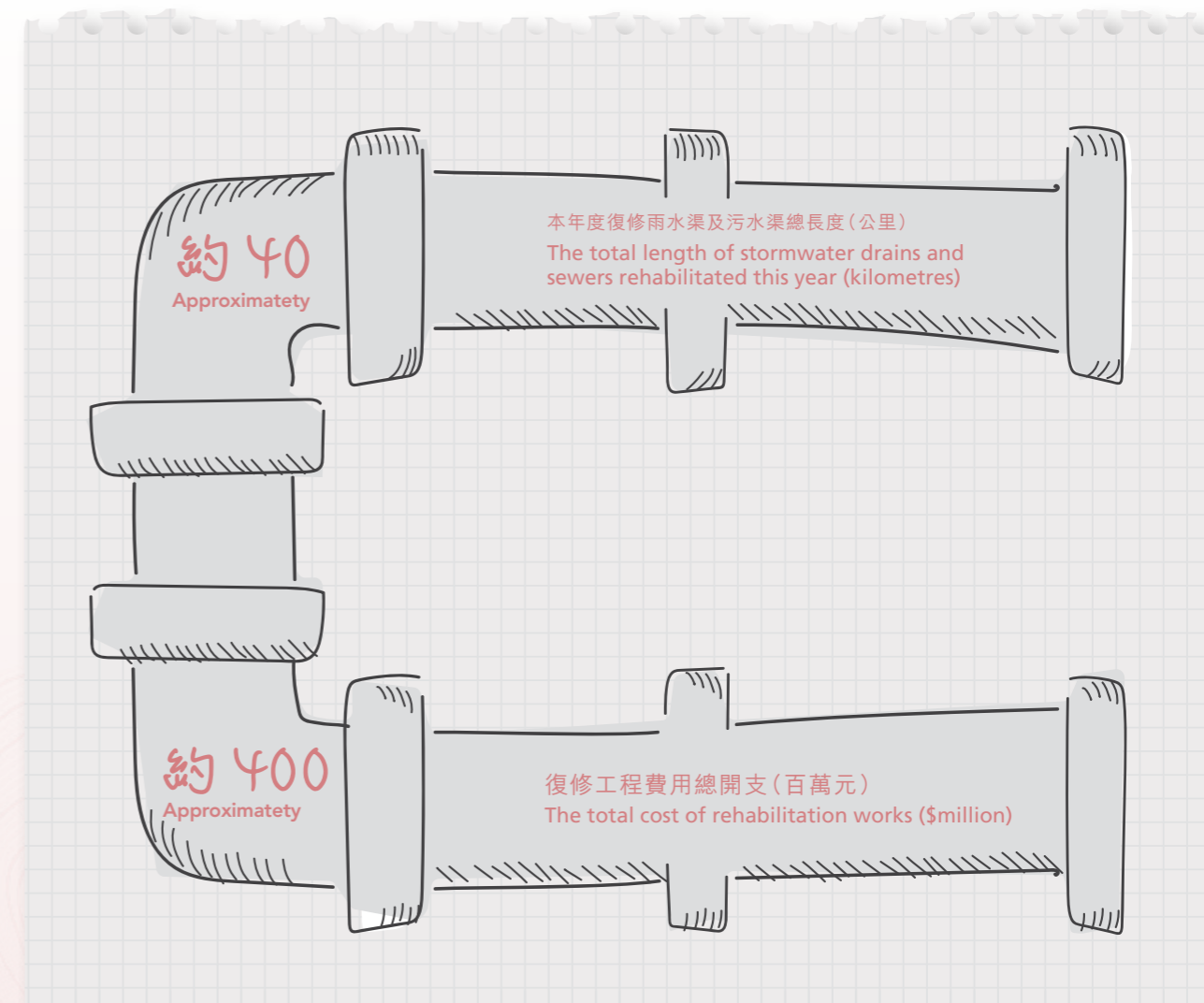
## 管理排水及污水收集網絡 Managing Drainage and Sewerage Networks

渠務署管理的渠道約有 4,700 公里。其中，地下渠管平均已使用了 30 年，有逾 2,200 公里的渠管更使用了 30 年或以上，不少已出現老化及損耗跡象。如渠管出現嚴重損耗，可能會導致結構問題，或會引致土壤流失甚至路陷。這不但妨礙渠管正常運作，亦會影響交通、環境及公眾安全。

為免渠管損耗而對環境及公眾安全造成風險，渠務署致力對渠管進行維修保養，推行全港性復修老化雨水渠及污水渠工程計劃。我們以風險為本，分階段勘查和修復高風險的渠管。同時，我們亦會研究和採用先進技術，以便有效地保養地下管道網絡，以及提高工程的成本效益。

The DSD manages approximately 4,700 kilometres of drainage system across Hong Kong. Some of the underground pipes have been in service for 30 years on average while over 2,200 kilometres of pipes having been in use for 30 years or longer. Many of them are showing signs of ageing and wear and tear. Seriously deteriorated pipes may result in structural failure, followed by soil erosion and even road subsidence, affecting normal operation of the pipelines and bringing adverse impacts on traffic, environment and public safety.

To prevent environmental and public safety risks caused by deteriorated pipes, the DSD is sparing no effort in the repair and maintenance of pipes. We have launched a territory-wide risk-based rehabilitation programme for aged stormwater drains and sewers, under which surveys and rehabilitation of high-risk underground pipes are being conducted in phases. We will also examine and employ various cutting-edge technologies to efficiently maintain our underground pipe networks and enhance the cost-effectiveness of our works.



## 九龍、沙田及西貢污水幹渠修復工程 Rehabilitation of Trunk Sewers in Kowloon, Sha Tin and Sai Kung

除了上述工程外，本署亦就四段分別位於牛池灣、土瓜灣、沙田及西貢，合共長約 1.7 公里的污水幹渠進行修復工程，以及在沙田及西貢增建約 0.6 公里的污水幹渠，並進行相關的污水改道和沙井修復工程。工程旨在加強污水系統的可靠性，減低污水渠塌陷及污水滲漏的風險，以保障公眾安全和環境衛生。

Apart from the above works, the DSD is also carrying out rehabilitation works to four sections of trunk sewers totalling 1.7 kilometres in length in Ngau Chi Wan, To Kwa Wan, Sha Tin and Sai Kung respectively, as well as constructing about 0.6 kilometres of additional trunk sewers and undertaking related sewage diversion and manhole rehabilitation works in Sha Tin and Sai Kung. These works aim to enhance the reliability of our sewerage system and reduce the risk of sewer collapse and sewage seepage for the sake of public safety and environmental hygiene.



渠道修復工程  
Rehabilitation works



污水沙井修復工程  
Sewer manhole  
rehabilitation works

### 目前進度 Current Progress

我們已完成以無坑挖掘技術和使用小型隧道鑽挖機增建污水幹渠。在不影響原污水系統的運作下，我們已修復了約 90% 的污水渠管。工程於 2018 年 1 月展開，預計於 2022 年第一季完成，預算費用約 6.8 億元。  
Trenchless construction of new trunk sewers was completed by using micro-tunnel boring machines. We have rehabilitated 90% of the sewers to date while maintaining the services of the sewerage system. Works commenced in January 2018 and are scheduled for completion in the first quarter of 2022 at an estimated project cost of approximately \$680 million.

## 屯門污水幹渠修復工程 Rehabilitation of Trunk Sewers in Tuen Mun

我們在勘查過程中發現一段位於屯門天后路及龍門路、約 4.2 公里的污水幹渠出現老化及破損情況。該段幹渠已運作逾 40 年。本署現正修復該段幹渠及位於天后路及屯義街附近的兩組過河污水渠，以及建造約 0.6 公里的污水幹渠，旨在減低污水滲漏及污水幹渠塌陷的風險，加強安全及環境衛生的保障，並增強污水收集系統的可靠性。

We have identified signs of ageing and deterioration in about 4.2 kilometres of existing trunk sewers along Tin Hau Road and Lung Mun Road, Tuen Mun during inspection. That sewer section has been in service for over 40 years. Currently, we are carrying out rehabilitation of the trunk sewers as well as two inverted siphons underneath Tuen Mun River near Tin Hau Road and Tuen Yee Street. We are also constructing about 0.6 kilometres of new trunk sewers. The project aims to reduce the risk of sewage seepage and collapse, enhance public safety and environmental hygiene and improve the operation reliability of the sewerage system.



應用遙控機械人於運作中的  
污水幹渠內鋪設喉管  
Deploying robotic machine  
for lining installation works  
in existing box culvert with  
live sewage flow



渠道修復工程  
Rehabilitation works



採用無坑挖掘技術  
和使用小型隧道鑽  
挖機鋪設污水幹渠  
Adopting trenchless  
construction technology  
and using micro tunnel  
boring machines to lay  
sewage pipes

### 目前進度 Current Progress

本署以無坑挖掘技術和使用小型隧道鑽挖機增建污水幹渠，並創新地利用遙控機械人於運作中的污水幹渠內安裝喉管。此舉可提升工作效率並同時減低工人於密閉空間作業的安全風險。工程於 2018 年 12 月展開，現已如期修復了約 32% 的污水渠管及 90% 的擬建污水渠管。整項工程預計於 2023 年第一季完成，預算費用約 8.06 億元。  
The DSD is using trenchless technology to rehabilitate trunk sewers and using micro tunnel boring machines to construct new trunk sewers. Robotic machines are also deployed to carry out lining installation in the existing box culverts with live sewage flow in an innovative way. This approach promotes efficiency and minimises safety risks faced by workers in confined space. The works commenced in December 2018. About 32% of the existing sewers have been rehabilitated and about 90% of the sewers have been constructed. The project is scheduled for completion in the first quarter of 2023 at an estimated cost of about \$806 million.



## 污水處理服務收費概要

### Overview of Sewage Services Charges

每年，政府持續投放資源以妥善處理本港的污水。根據污染者自付原則，本署繼續推行污水處理服務收費計劃。在該計劃下，污水處理服務費設有兩部分，分別為排污費和工商業污水附加費。凡接駁至公共污水渠的處所，其用戶均須繳付排污費。而工商業污水附加費方面，現時共有 27 類特定行業需要繳付附加費。

Every year, the Government allocates resources to ensure proper treatment of sewage in Hong Kong. The DSD has been implementing the Sewage Services Charging Scheme according to the "Polluter Pays" principle. Under the scheme, the sewage services charges consist of two components, namely, the Sewage Charge (SC) and the Trade Effluent Surcharge (TES). All users whose premises are connected to public sewers are required to pay SC. As for TES, currently 27 identified trades are required to pay this surcharge.

## 帳單及用水量統計數字

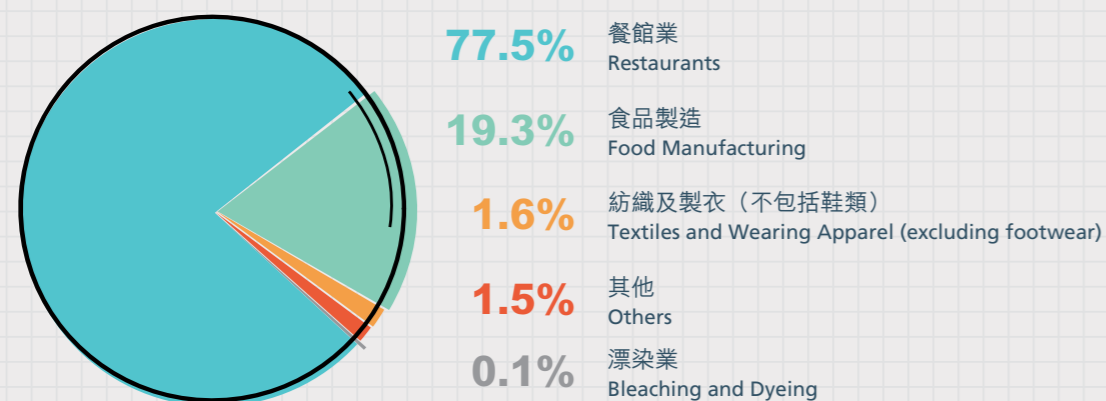
### Billing and Water Consumption Statistics

本年度，在全港約 312 萬個自來水用戶中，約 289 萬個用戶須繳付排污費。而在所有非住宅用戶中，約有 31,000 個用戶須繳付工商業污水附加費。下圖所示為工商業污水附加費繳納戶所屬行業的分布情況。

In the year under review, among approximately 3.12 million water utility users in Hong Kong, about 2.89 million are required to pay SC. Among all non-domestic users, about 31,000 are required to pay TES. The box below shows the distribution of trades to which the TES payers belong.

## 2020-21 年度工商業污水附加費繳納戶所屬行業

### Distribution of Trade Effluent Surcharge Accounts in 2020-21 by Trade



## 重新評估工商業污水附加費收費率及污水排放比率

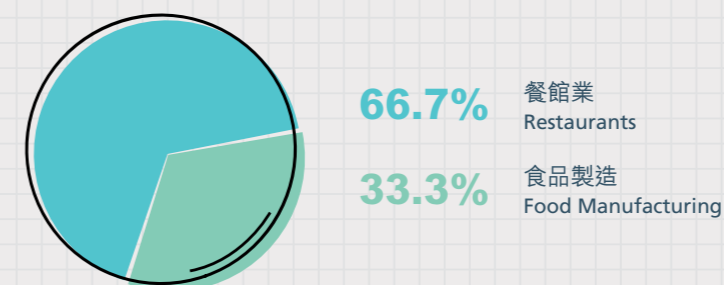
### Reassessment of the TES Rate and Discharge Factor

非住宅用戶若認為其排放的污水濃度或排放比率低於法例列明的數值，可申請重新評估工商業污水附加費的收費率或污水排放比率。重新評估後釐定的新附加費收費率有效期為三年。

If non-domestic consumers consider that their effluent strength or discharge factor is lower than the corresponding values specified by law, they may apply for a reassessment of the TES rate or discharge factor. The new TES rate determined after the reassessment is valid for three years.

## 2020-21 年度申請重新評估化學需氧量的所屬行業

### Accounts Applying for Chemical Oxygen Demand (COD) Reassessment in 2020-21 by Trade



## 客戶查詢

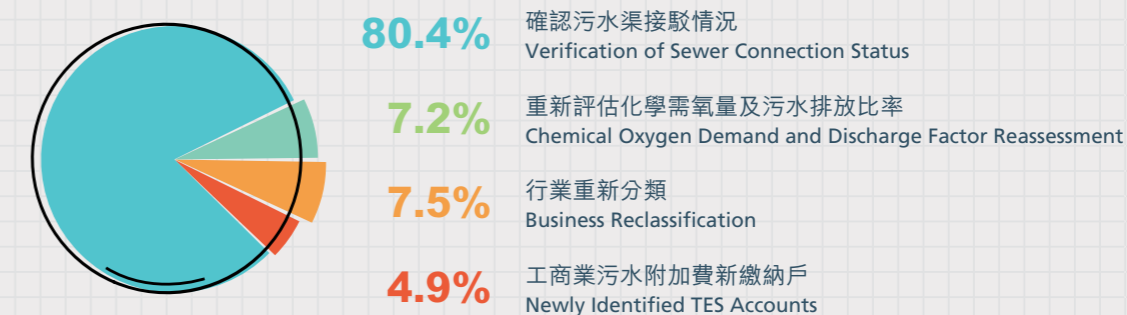
### Customer Enquiries

秉承「以客為本」的信念，渠務署致力為香港市民提供優質服務。為及時回應市民的查詢，我們除設有 24 小時熱線外，亦已就各個範疇訂立服務承諾。年內，我們共接獲 3,913 宗有關污水處理服務收費的電話及書面查詢，所有書面查詢均在一個月內收到正式回覆。

Adhering to the value of "customer orientation", the DSD is dedicated to providing quality services to the Hong Kong citizens. To timely address public enquiries, apart from setting up a 24-hour hotline, we have also made performance pledges on various areas of our services. During the year, we received a total of 3,913 telephone and written enquiries about our sewage services charges; all written enquiries were formally replied to within a month.

## 2020-21 年度收到的各類書面查詢

### Written Enquiries Received in 2020-21 by Category





第五章 | Chapter 5

## 環境管理

# ENVIRONMENTAL MANAGEMENT

氣候變化越趨嚴峻的問題與廣大市民息息相關。為盡力減緩氣候變化所帶來的風險，渠務署致力實踐「藍綠建設」的理念以提升渠務工程的可持續性。同時，我們積極尋求合適的環保技術和管理措施，減低本署營運的碳足跡，實現可持續發展。

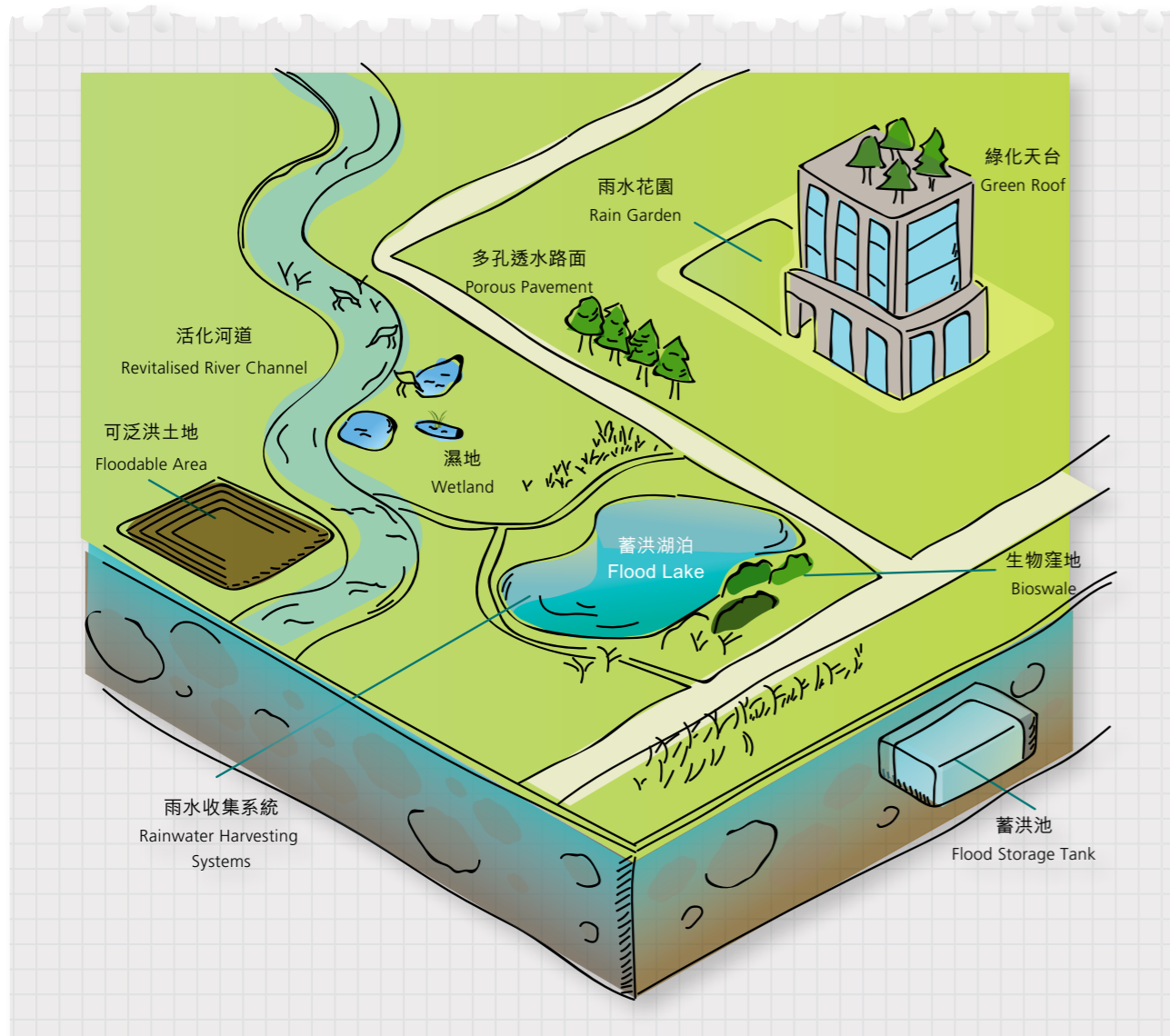
The increasingly challenging climate change issue is closely related to the general public. In order to minimise the risk brought by climate change, the DSD pledges to enhance the sustainability of our drainage projects through putting forward the concept of "Blue-Green Infrastructure". At the same time, we look for appropriate environmentally-friendly technologies and management measures to reduce the carbon footprint of the DSD's operations, thus realising sustainable development.



## 藍綠建設 Blue-Green Infrastructure

渠務署積極實施「藍綠建設」的概念。這項概念是指建設排水系統時融入主張順應自然、彈性適應的可持續發展理念，「藍」代表河道及水體，而「綠」指綠化景觀。本署建設及維護渠務設施時致力加入綠化元素，活化水體，推廣近水文化。為應對氣候變化及為市民提供更宜居的生活環境，我們於設施中加入滲透、蓄水、淨化元素，積極建設如海綿一樣能彈性適應天氣的城市。

The DSD is dedicated to implementing the concept of “Blue-Green Infrastructure”. The aim is to build drainage systems under the principle of sustainability that promotes accord with nature, adaptability and flexibility. Under this concept, “blue” represents rivers and water bodies and “green” refers to landscape greening. During construction and maintenance of drainage facilities, the DSD always puts effort into greening and revitalise water bodies to promote a water-friendly culture. To cope with climate change and provide a more liveable environment to the public, we actively include elements of infiltration, storage and purification in our facilities for constructing a city that elastically adapts to weather conditions like a sponge.

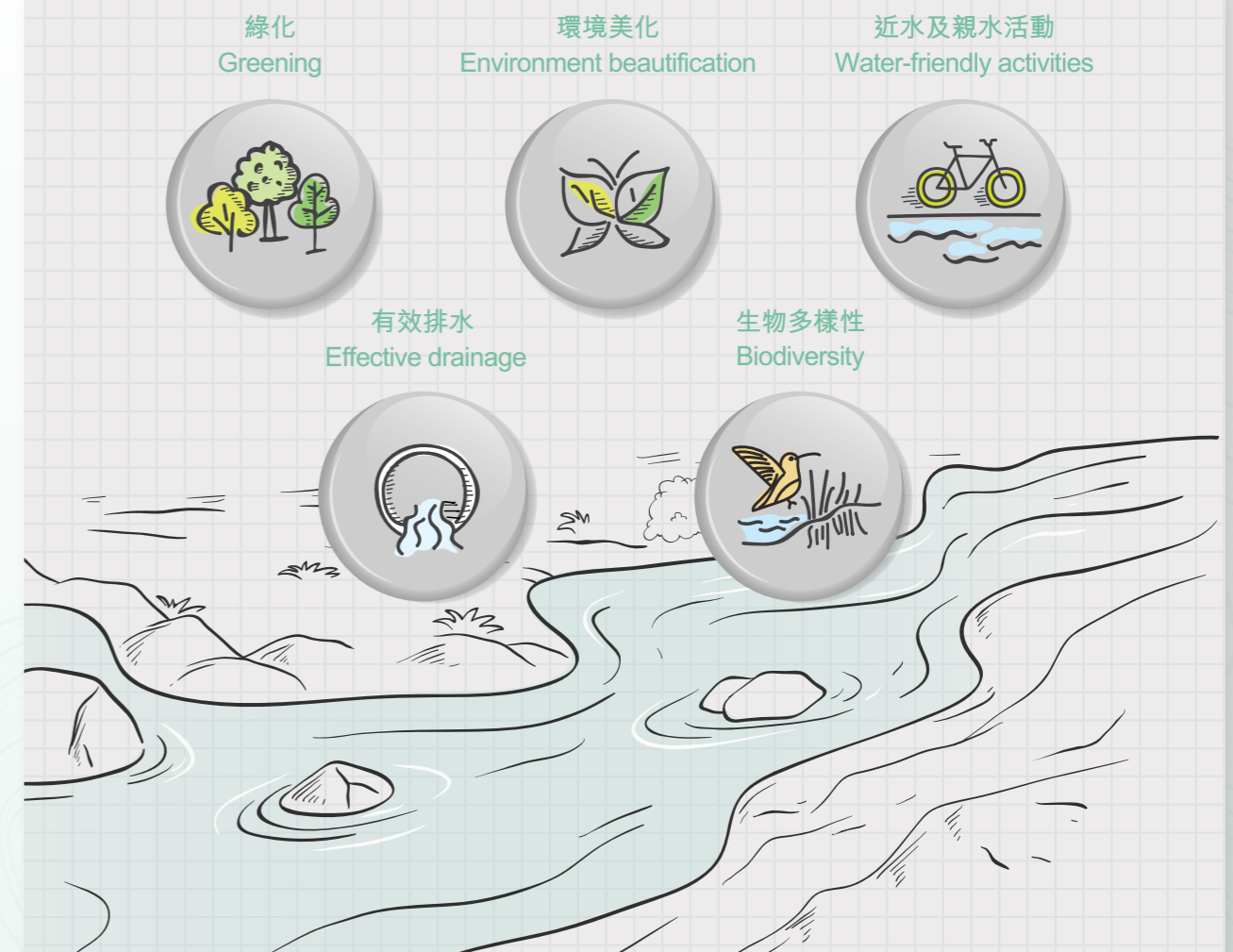


## 建設「河畔城市」 Building “Rivers in the City”

《2019年施政報告》提出在香港發展和推進「河畔城市」的概念，除改善河道環境外，亦融入社區共享元素，讓市民享用河道設施，並締造舒適宜居的社區環境。為配合政策，渠務署不遺餘力地推行多項活化河道項目，讓河道不僅具有防洪的實用性，亦具備美化環境、維持生物多樣性以及供公眾休憩等功能。同時，本署亦會在新發展區規劃考慮建設合適的活化水體設施配合該區發展，包括防洪人工湖、河畔公園等，讓公眾親身感受並了解河道的多元化價值，達到環境保護和公眾教育的目的。

The 2019 Policy Address proposed the development and practice of the “Rivers in the City” concept by improving river environments and introducing community integration to these waterways so the public could enjoy river facilities and local communities could benefit from more desirable living environments. In response to the policy, the DSD has been putting every effort in promoting multiple river revitalisation projects, allowing rivers to serve not only the function of flood prevention, but also purposes of beautifying the environment, maintaining biodiversity as well as providing leisure space for the public. Meanwhile, the DSD would also consider constructing suitable water body rejuvenation facilities — including artificial flood attenuation lakes and river parks — for planned new development areas to cater to individual development needs. These facilities enable the public to experience and understand the manifold values of rivers, and in turn support environmental protection and public education.

### 強化河道的主要元素 Key Elements of River Revitalisation



## 河道改善工程的成果 Achievements of River Improvement Works

### 蠔涌河改善工程 Ho Chung River Improvement Works

渠務署積極推行河道改善工程，當中包括西貢蠔涌河。在 2009 年，我們完成了該河道的改善工程，擴闊河道以減低區內的水浸風險。同時，引入不少生態保育元素，例如河岸牆洞、魚梯及折流堤。這些設施可為動物提供庇蔭，使生境和河溪生態更多元化。

The DSD has been making active efforts to implement river improvement works, including Ho Chung River in Sai Kung. In 2009, we completed improvement works at the river by widening the channel to reduce flood risks of the district, as well as incorporating various ecological conservation features in the project. For instance, holes in river walls, fish ladders and current deflectors were introduced, aiming to provide refuges to wild animals and enhance diversity of river habitats and ecology.



河岸牆洞  
Holes in river walls



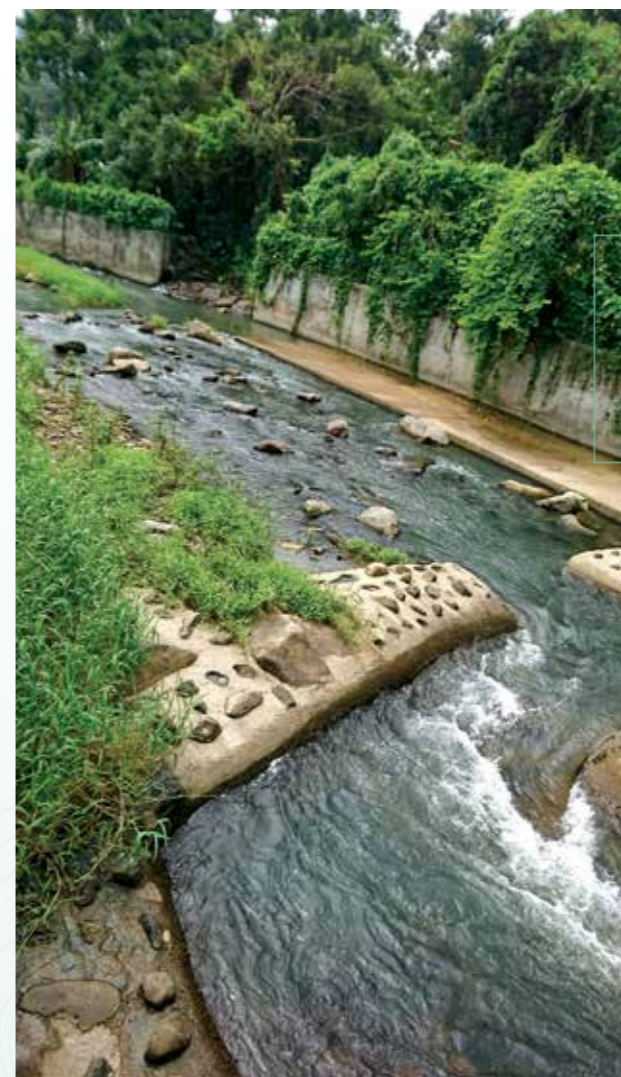
改善工程後的  
蠔涌河  
Ho Chung River after improvement works



### 林村河上游河道改善工程 Upper Lam Tsuen River Improvement Works

此外，渠務署於 2012 年亦完成了大埔林村河改善工程。林村河上游具有重大生態價值，為多種稀有生物提供棲身地。在該項工程中，我們拉直、挖深及擴闊約 2.6 公里的河段，以加強其排洪能力。同時，我們採取了各項保育措施以保留河道的生態價值。為營造自然生態環境，我們以有助植物生長的石籠代替混凝土河堤，並加種樹木。工程完成後，除了水質有所改善，河道各物種如魚類、鳥類及蜻蜓的數量亦恢復至工程前水平。至於林村河的原生物種、稀有的香港瘰螈數目更勝從前，令人鼓舞。

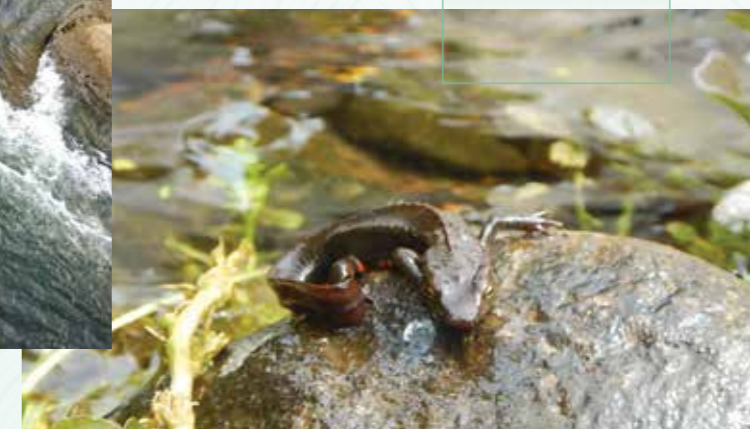
In addition, the DSD completed improvement works at Tai Po Lam Tsuen River in 2012. Upper reaches of Lam Tsuen River are ecologically significant and provide habitats for a number of rare species. In this project, 2.6 kilometres of the river were straightened, deepened and widened to enhance drainage capacity. Meanwhile, conservation measures were introduced to maintain the river's ecological value. To create natural habitats, gabions that encourage plant growth instead of reinforced concrete were used and more trees were planted. Upon completion of the works, water quality of the river improved and the number of fish, bird and dragonfly species was restored to pre-project levels. It was encouraging that the population of Hong Kong Warty Newt, a rare and native species seen in Lam Tsuen River, has grown as a result.



林村河上游的  
魚梯  
Fish ladders in Upper Lam Tsuen River



稀有的香港瘰螈  
The rare Hong Kong Warty Newt





## 啟德河改善工程

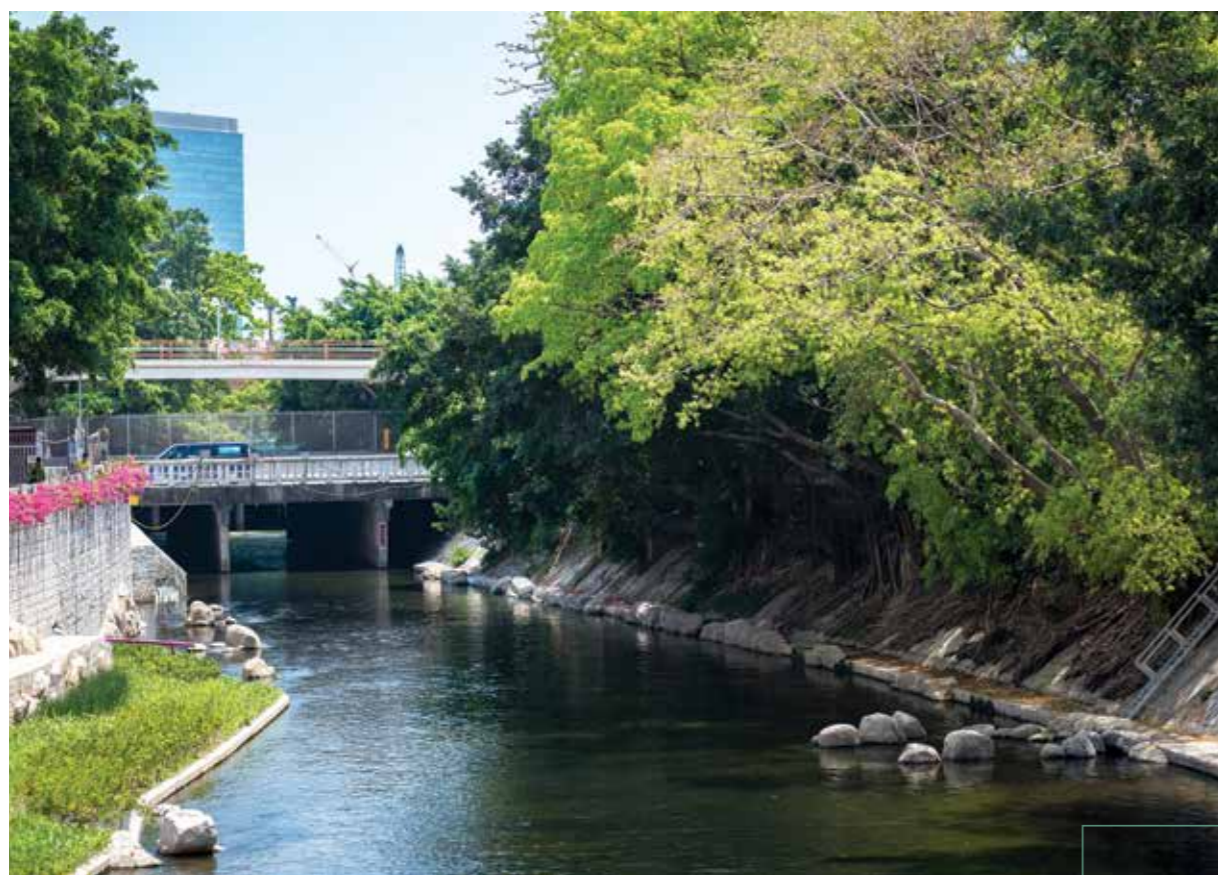
### Kai Tak River Improvement Works

渠務署於 2018 年完成了啟德河的改善工程。該河道為東九龍其中一條主要排洪渠道，我們主要針對河道上游及中游河段進行工程，務求提升啟德河的排洪能力以緩解彩虹道一帶的水浸風險。現時，啟德河能抵禦強達二百年一遇的暴雨。我們亦在河道加入各種園境美化及生態元素，將長約 1.1 公里的明渠活化成本港首條市區綠化河道走廊。

展望將來，我們正進行活化翠屏河工程，詳見第四章 – 主要職責。

The DSD completed improvement works at Kai Tak River in 2018. The river is one of East Kowloon's major drainage channels. Works were mainly concentrated at upstream and midstream river sections, aiming to improve the drainage capacity of Kai Tak River and hence mitigate flooding risks of Choi Hung Road and surrounded areas. Kai Tak River can now withstand heavy rainstorms with a return period of 200 years. We also incorporated different landscaping and ecological elements to transform the 1.1-kilometre section of the nullah into the first urban green river corridor in Hong Kong.

Looking ahead, we will continue to push forward revitalisation works of Tsui Ping River. Please refer to **Chapter 4 – Core Responsibilities** for details.



啟德河  
Kai Tak River



## 活化明渠的規劃

### Plans to Revitalise Nullahs

除了河道，渠務署亦致力識別具潛力的明渠並進行活化工程，如火炭明渠、大圍明渠及佐敦谷明渠等，期望透過改善水質及園境美化工程提升排水道的生態價值，促進近水文化。

本署已為火炭明渠（桂地新村至香港體育學院）、大圍明渠（香粉寮至文禮閣）、佐敦谷明渠（沈雲山抽水站至佐敦谷游泳池）及石上河制定活化方案，旨在保持明渠排洪能力之餘並善用河道空間，展現水體的多重功能。

Apart from rivers, the DSD also identifies nullahs with enhancement potential and conducts revitalisation works. Examples include Fo Tan Nullah, Tai Wai Nullah and Jordan Valley Nullah. It is our aim to upgrade ecological value of nullahs and promote water friendliness through improving water qualities and conducting landscaping works.

The DSD has formulated revitalisation schemes for Fo Tan Nullah (from Kwai Tei New Village to Hong Kong Sports Institute), Tai Wai Nullah (from Heung Fan Liu to Man Lai Court), Jordan Valley Nullah (from Shum Wan Shan Pumping Station to Jordan Valley Swimming Pool) and Shek Sheung River, aiming to optimise the use of river spaces and demonstrate the multifunctionality of waterbodies while maintaining the drainage capabilities of these nullahs.

## 活化火炭明渠

### Revitalisation of Fo Tan Nullah

針對火炭明渠的活化工程，渠務署自 2020 年 4 月起就桂地新村至香港體育學院之間的一段明渠進行勘查研究。擬議工程包括美化現有明渠、提供旱季截流系統以改善水質及提供公眾休憩處。

In preparation of revitalisation works for Fo Tan Nullah, the DSD began an investigation study for the nullah section between Kwai Tei New Village and Hong Kong Sports Institute in April 2020. The proposed works include beautification of the existing nullah, provision of dry weather flow intercepting devices to improve the water quality and provision of public amenity areas.



火炭明渠構想圖  
Photomontage  
of Fo Tan Nullah



## 活化大圍明渠 Revitalisation of Tai Wai Nullah

除了上述工程，本署亦正研究活化大圍明渠的可能性，期望就香粉寮至文禮閣的一段明渠進行活化工程，融入各項改善生態和具可持續性的排水措施，並勘查讓公眾於河道進行親水活動的可行性。勘查研究已於 2020 年 4 月開展。

Apart from the above, the DSD is currently investigating the possibility of revitalising Tai Wai Nullah. We are aiming for revitalisation works at a river section from Heung Fan Liu to Man Lai Court where different features for ecological enhancement and sustainable drainage measures will be deployed. The feasibility of opening the river to the public for water-friendly activities is also being looked into. The investigation study started in April 2020.

大圍明渠構想圖  
Photomontage of  
Tai Wai Nullah



## 活化佐敦谷明渠 Revitalisation of Jordan Valley Nullah

本署亦於 2020 年 3 月展開了活化佐敦谷明渠工程，為沈雲山抽水站至佐敦谷游泳池的一段長約 330 米的明渠進行活化，包括美化園境及在河道上建造觀景平台，為公眾提供休憩空間。為提升明渠的生態價值，上游部分會加設魚梯。工程預計將於 2022 年完成。

In March 2020, works commenced to revitalise Jordan Valley Nullah. The 330-metre nullah leading from Shum Wan Shan Pumping Station to Jordan Valley Swimming Pool is being improved by landscaping and a viewing platform for public recreation above the river will be built. To increase the ecological value of the nullah, a fish ladder will be added to the upper section. The project is scheduled for completion in 2022.

佐敦谷明渠魚梯的  
構想圖  
Photomontage  
of Fish Ladders  
at Jordan Valley  
Nullah



## 設施融入環境和社區 Integrating Facilities into the Environment and Community

渠務署期望透過優化轄下污水處理設施，將之打造成可供市民休憩的環保公共空間，以提升公眾對污水處理設施的印象，同時讓其融入周邊的環境和社區。

The DSD is dedicated to optimising its drainage facilities, thus transforming these facilities into environmentally-friendly public areas for leisure, in the hope of enhancing the public image of drainage facilities and integrating them into the environment and community.

## 綠化天台 Roof Greening

我們致力綠化污水處理設施，期望達到減低溫室氣體排放、提升生物多樣性以及美化環境的作用。我們會委託具認可的機構就綠化工程進行評估，確保其可行性和安全性。年內，我們分別於屯門兆康和啟德沐泰街的污水泵房進行了天台綠化工程。

We are committed to greening our sewage treatment facilities in the hope of reducing greenhouse gas emissions, enhancing biodiversity and beautifying the environment. We engage qualified contractors to assess the feasibility and safety of greening works. During the year, we conducted roof greening works at two of our pumping stations in Siu Hong, Tuen Mun, and Muk Tai Street, Kai Tak, respectively.



兆康污水泵房  
Siu Hong Sewage  
Pumping Station



沐泰街污水泵房  
Muk Tai Street  
Sewage Pumping  
Station

## 社區共融設計 Community Inclusive Designs

除了重視綠化，本署亦十分著重社區參與。我們會透過多種渠道，如工作坊等，聆聽並考慮市民意見，作為未來工程規劃的重要依據。當中，我們致力於轄下設施融入社區共融元素，期望善用設施空間並將其打造成可供市民參觀和休憩的公共空間。我們將會於觀塘污水泵房及石湖墟污水處理廠建設園景平台、河畔步道等設施。

While focusing on greening, the DSD also puts great store by community participation. We deploy multiple channels, such as workshops, to gauge and consider public opinions which are made reference to during future construction plans. In particular, we strive to incorporate community integration features into our facilities in the hope of making good use of space and upgrading our facilities into public areas suitable for public visits and leisure. Landscaped decks, riverside promenades and other leisure facilities will be provided at Kwun Tong SPS and Shek Wu Hui STW.

### 觀塘污水泵房構想圖

Photomontage of Kwun Tong Sewage Pumping Station



渠務署與非政府組織舉辦了多場公眾諮詢活動，考慮各持份者的意見並將合適的意見融入工程設計當中。其中，就觀塘污水泵房而言，我們現正進行優化工程，於泵房上方加建設有無障礙通道的園景平台及兒童遊樂設施，為大眾提供市區休憩空間。

The DSD organised various public consultation activities jointly with an NGO to gauge stakeholders' opinions and adopt suitable suggestions in our construction design. Specifically, Kwun Tong SPS is currently undergoing improvement works that involve building a landscaped deck with barrier-free access and children play facilities to provide urban recreational space for the public.

### 石湖墟淨水設施構想圖

Photomontage of Shek Wu Hui Effluent Polishing Plant

就石湖墟污水處理廠的改建工程，我們計劃將原有的污水處理廠升級至淨水設施，即是將污水處理級別提升至三級標準。另外，我們亦會加建觀鳥區、種植園、生態園、河畔步道等共享空間，讓市民欣賞梧桐河及石上河一帶的自然風光。

As for the reconstruction works of Shek Wu Hui STW, we are planning to upgrade the existing STW to an effluent polishing plant, which means upgrading its sewage treatment level to tertiary standard. We would also build various co-use spaces, such as bird-watching area, community farming area, ecological garden and riverside promenade, for the public to enjoy the natural scenery along Ng Tung River and Shek Sheung River.



## 美化設施 Beautification of Facilities

壁畫有助美化環境，並在文化、精神及社會上對社區帶來正面影響。渠務署近年與不同機構合作，以壁畫美化設施，期望將藝術帶進公眾的日常生活中。

Murals help beautify the environment and bring positive impact on the community culturally, mentally and socially. In recent years, the DSD has cooperated with different organisations to beautify facilities with murals, so as to bring art to daily lives of the general public.

### 美化香港機鐵中環污水泵房

Beautification of Hong Kong Station Central Sewage Pumping Station

為打破市民對污水處理設施的刻板印象，同時傳遞保育訊息，渠務署在 2021 年 1 月邀請 AXE Colours HK 藝術家團隊為香港機鐵中環污水泵房的外牆製作壁畫。壁畫展現了一些本署保育的河溪生物，包括大綠蛙和稀有的香港瘰螈。畫中的動物有的在葉子之間戲遊，有的在水中植物間穿梭，極富生活氣息，栩栩如生。

On January 2021, the DSD invited artists from AXE Colours HK to paint a mural for the external wall of Hong Kong Station Central SPS, so as to reshape public perception of sewage treatment facilities and promote conservation. The mural painting depicts native river creatures conserved by DSD, including the Green Cascade Frog and the rare Hong Kong Warty Newt. Animals playing between leaves and travelling amongst aquatic plants have been brought to life in the highly realistic portraits.



香港機鐵中環污水泵房外牆的藝術作品  
Artwork on the walls at Hong Kong Station Central Sewage Pumping Station

藝術家筆下的香港瘰螈  
The Hong Kong Warty Newt illustrated by artists



## 美化深水埗一期及二期污水隔篩廠 Beautification of Sham Shui Po No. 1 & 2 Sewage Screening Plant



深水埗一期及二期  
污水隔篩廠壁畫創作  
Mural Painting  
at Sham Shui Po  
No. 1 & 2 Sewage  
Screening Plant



在 2020 年 10 月，渠務署應邀支持旅遊事務署聯同香港設計中心和香港動漫畫聯會於深水埗舉辦的「數碼龐克號」創意時尚體驗。為展現深水埗獨特的數碼龐克文化，日籍街頭藝術家 Taka 為本署的深水埗一期及二期污水隔篩廠外牆創作以太陽龐克作題材的壁畫。藝術家透過作品帶出對氣候變化及城市發展的關注，並表達了對人類與高科技、人工智能機械發展及大自然融合的願景。

In October 2020, the DSD was invited to support the "Heart of Cyberpunk" Immersive Fashion Experience in Shum Shui Po, which was jointly organised by the Tourism Commission, the Hong Kong Design Centre and the Hong Kong Comics & Animation Federation. Taka, a Japanese artist, painted a Solarpunk-themed mural on the external wall of Sham Shui Po No. 1 & 2 Sewage Screening Plant to tie in with the unique cyberpunk culture in Sham Shui Po. Through these art pieces, the artist expresses concern on climate change and urban development, and presents a beautiful vision of harmoniously integrating mankind, advanced technology, artificial intelligence and nature.



## 水資源管理 Water Resources Management

渠務署致力於日常營運和各項工程考慮並實踐優化用水效益的措施，包括但不限於循環再用水資源。我們希望藉此向公眾推廣珍惜用水的理念，保障珍貴的水資源。

The DSD strives to consider and introduce water efficient measures in daily operations and various works, including but not limited to reusing water resources. We hope our initiatives can help protect valuable water resources by promoting public awareness for water conservation.

### 水資源採集與回用系統 Water Harvesting System

渠務署於工程及日常營運當中融入節省用水的設計或措施，致力保護珍貴的水資源。我們在工程項目加入多孔路面、雨水花園、雨水收集系統及蓄洪系統等設計以收集及回用水資源。設有水資源採集與回用系統的渠務署設施包括跑馬地地下蓄洪計劃、九龍城一號和二號污水泵房及荔枝角雨水排放隧道。

The DSD actively implements water saving designs and measures across our projects and daily operations to protect precious water resources. We have introduced designs such as porous pavements, rain gardens, rainwater harvesting systems, and stormwater storage systems in construction projects to collect and reuse water. Happy Valley Underground Stormwater Storage Scheme (HVUSSS), Kowloon City No. 1 and No. 2 SPSs and Lai Chi Kok Drainage Tunnel are examples of DSD facilities with a water harvesting system.

### 以回用水灌溉草地 Irrigating grassland with harvested water



以跑馬地地下蓄洪計劃為例，我們建設了水資源採集及回用系統，旨在收集雨水、地下水和運動場的灌溉水並回用。由於收集到的水資源沒有受到嚴重污染，所以只需簡單消毒處理已能滿足非飲用用途的回用水標準。回用水適合用作灌溉及沖廁用途以及供食物環境衛生署的水車用以清洗跑馬地及灣仔一帶街道。

Taking HVUSSS as an example, we have built a water harvesting and reusing system to collect rainwater, groundwater and sportsground irrigation water for reuse. Since the collected water is not heavily contaminated, only simple disinfection treatment is required to meet the standard for non-potable reused water. The harvested water is suitable for irrigation and toilet flushing. It is also supplied to water tankers of the Food and Environmental Hygiene Department for street cleaning in Happy Valley and Wan Chai.

## 污水再造與回用 Water Reclamation and Reuse

政府於 2008 年推行「全面水資源管理策略」，當中制訂了可持續運用水資源的策略，強調節約用水，同時開拓新水源，以保護珍貴的食水資源。為配合政策，渠務署致力推行污水再造及循環再用的概念。透過渠務署的轄下設施，污水經處理和淨化後成為再造水，可用於本署設施的日常營運。我們期望將再造水普及化，減少污水排放及減輕公眾對淡水的需求，以實踐環境的可持續發展。

渠務署現時共有六個污水處理設施設有再造水及再用水生產設施，每日可生產超過 1,600 立方米再造水及再用水作非飲用用途。此等污水處理設施分別位於香園圍、昂坪、望后石、新圍、沙田及大埔。

除了上述污水處理設施，本署亦正於石湖墟污水處理廠進行升級工程，將之改建為石湖墟淨水設施。污水經三級處理後會輸送至水務署作進一步處理，為粉嶺及上水等新界東北地區供應再造水作沖廁等非飲用用途。

The government promulgated the Total Water Management Strategy in 2008, under which an approach of sustainable water resources was introduced. The main thrust is on saving water as well as exploring new water sources to protect existing water resources. To echo with the policy, the DSD pledges to promote the concept of water reclamation and reuse. At our sewage treatment facilities, effluent is treated and purified to become reusable water for daily operations of DSD facilities. We hope to popularise water reuse as a means to reduce sewage discharge and scale down demand for freshwater to promote environmental sustainability.

Currently, the DSD has 6 STWs equipped with water reclamation and reuse facilities, which can produce more than 1,600 cubic metres of reclaimed and recycled water per day for toilet flushing and other non-potable uses. These STWs are located in Heung Yuen Wai, Ngong Ping, Pillar Point, San Wai, Sha Tin and Tai Po respectively.

Apart from the above STWs, the DSD is also conducting an improvement work at Shek Wu Hui STW to upgrade the facility into Shek Wu Hui Effluent Polishing Plant. Sewage will undergo tertiary treatment and then transferred to the Water Supplies Department for further treatment to serve as reclaimed water for non-potable uses in the North East New Territories, including Fanling and Sheung Shui.



大埔污水處理廠  
Tai Po Sewage  
Treatment Works



## 昂坪污水處理廠 Ngong Ping Sewage Treatment Works



以再造水飼養觀賞魚  
Rearing ornamental  
fish in reclaimed  
water



渠務署轄下的昂坪污水處理廠是其中一間可以生產再造水的設施，可以提供安全無味的再造水予該區的公廁和纜車站作沖廁用途，或於廠內作養魚及灌溉用途。該污水處理廠為香港首間三級污水處理廠，於 2006 年已投入運作。

Managed by the DSD, Ngong Ping STW is one of the facilities with reclaimed water production capacity. It can supply safe and odourless reclaimed water for toilet flushing at Ngong Ping public toilets and Ngong Ping Cable Car Terminal toilets, as well as for fish rearing and irrigation inside the plant. Commencing operation in 2006, this STW is the first tertiary sewage treatment plant in Hong Kong.

## 沙田污水處理廠 Sha Tin Sewage Treatment Works

渠務署轄下另一個再造水生產設施位於沙田污水處理廠。設施由 3 組過濾部件組成，包括碟形過濾器、超過濾薄膜和逆滲透薄膜，每日可以生產 650 立方米再造水，用以清洗廠房、灌溉、沖廁及稀釋化學品。

Another water reclamation facility managed by the DSD is located at Sha Tin STW. It consists of three filtration parts, namely, disc filters, ultra-filtration membranes and reverse osmosis membranes, which are capable of generating 650 cubic metres of reclaimed water per day for plant cleaning, irrigation, toilet flushing and chemical dilution.



沙田污水處理廠的再造水生產設施  
Water reclamation  
facility at Sha Tin  
Sewage Treatment  
Works





## 減緩與適應氣候變化 Climate Change Mitigation and Adaptation

氣候變化問題越趨嚴峻，渠務署致力肩負減緩氣候變化的責任，為環保出一分力。本署為政府跨部門氣候變化基建工作小組的其中一員，我們聯同政府其他部門就現時的基建設施進行評估，適時優化設施的設計標準以提升其抗逆能力。我們亦積極參考其他地區的氣候應對措施，務求令本港的抗逆能力達到國際水平。本署是「C40 城市氣候領導聯盟」旗下「連結三角洲城市」以及粵港環保及應對氣候變化合作小組的其中一員，我們與其他成員進行恆常交流和溝通，了解各地的防洪技術及其他應對氣候變化的措施。

### 採用可再生能源 Harnessing Renewable Energy

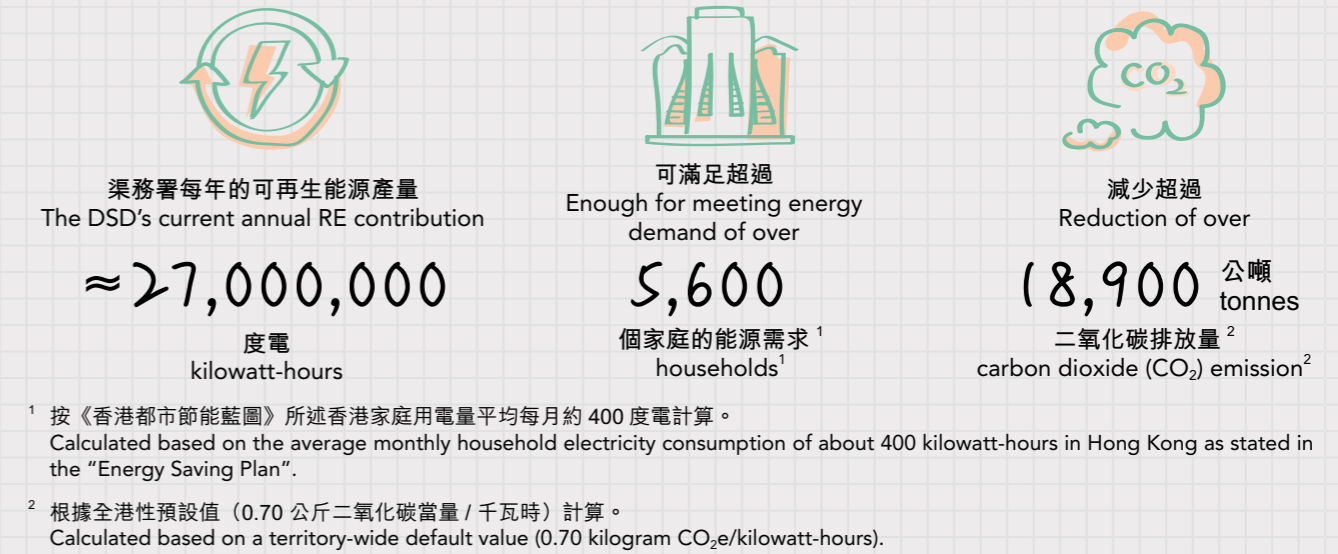
政府於 2019 年定下新的「綠色能源目標」，期望政府整體化石能源耗用量可在 2020-21 到 2024-25 年間減少 6%。為達到此目標，渠務署進一步利用太陽能、流水動力和生物氣產生可再生能源，以取代傳統化石能源。我們的目標是在 2024-25 年度或之前，透過推展一系列可再生能源項目和節能措施，把本署對化石能源的倚賴，相比 2018-19 年度最少減低 6.6%。

本署正逐步在轄下的設施設置可再生能源系統，產生電能和熱能以供設施使用。過去數年，本署轄下設施每年生產超過 2,700 萬度電，提供本署約 9% 的能源需求。我們於 2017-18 年度至 2020-21 年度申請了 5.39 億元撥款，用於推展 25 個各類可再生能源項目。部分項目已相繼落成，其餘項目將於未來數年陸續完成。所有項目完成後，每年可額外生產約等於 1,770 萬度電的可再生能源。

As climate change poses increasingly serious threats, the DSD is duty bound to alleviate climate change impacts for the sake of our environment. The DSD is a member of the Government's Inter-departmental Climate Change Working Group. We work in concert with other government departments to conduct assessment on existing infrastructure and improve the standards of infrastructure design for greater resilience. To ensure that Hong Kong's resilience to climate change is up to international standard, we examine various measures implemented in other regions to combat this pressing issue. The DSD is a member of Connecting Delta Cities under the C40 Cities Climate Leadership Group, as well as the Hong Kong-Guangdong Joint Working Group on Environmental Protection and Combating Climate Change. We maintain close communication with other members and exchange ideas to understand their flood prevention techniques and other measures to combat climate change.

Set in 2019, the Government's new "Green Energy Target", aimed to cut its overall use of fossil energy from 2020-21 to 2024-25 by 6%. To achieve this target, DSD has been making increasing use of renewable energy (RE) generated from solar power, hydropower and biogas in place of traditional fossil energy. Through implementing a series of RE projects and energy saving initiatives, we hope to reduce our use of fossil energy by no less than 6.6% by 2024-25, as compared to 2018-19.

The DSD has been progressively implementing RE systems at its facilities to generate electricity and heat energy for in-house consumption. In recent years, RE installations in DSD plants have generated energy equivalent to over 27 million kilowatt-hours of electricity a year, meeting about 9% of our annual energy demand. The DSD has obtained funding of \$539 million from 2017-18 to 2020-21 for implementing 25 RE projects of various kinds. Some of them have been completed while the remaining ones will be completed progressively in the next few years. Upon full completion of these projects, additional renewable energy equivalent to about 17.7 million kilowatt-hours of electricity can be generated per annum.



### 太陽能 Solar Energy

截至 2021 年 3 月底，本署已在 28 個轄下設施安裝太陽能光伏板，以擷取太陽能。這包括 14 所污水處理廠、13 所污水泵房和 1 所蓄洪設施。其中，位於小蠔灣的污水處理廠擁有政府最大規模的太陽能發電場，每年可生產達 110 萬度電。年內，本署所有光伏系統的總發電容量約為 145 萬度電。

本署正探討於更多設施加裝太陽能光伏系統，包括盡量利用在昂船洲污水處理廠的空間，如污水沉澱池蓋等位置分階段安裝柔韌薄膜太陽能光伏系統。當此項目完成後，將會成為香港規模最大的同類型裝置，總發電裝機容量逾 1 兆瓦。預計待所有太陽能項目於 2024-25 年完成後，本署的總發電裝機容量預計將超過 3 兆瓦。此外，本署正物色廠房內的合適地方，如行人路，安裝更多可踏式太陽能光伏板。

As at the end of March 2021, the DSD has installed photovoltaic (PV) panels at its 28 facilities, including 14 STWs, 13 SPSs and 1 stormwater storage facility, to harness solar power. In particular, the solar system at Siu Ho Wan STW is currently the largest government installation of its kind. It can generate up to 1.1 million kilowatt-hours of electricity annually. During the year, the DSD's PV systems generated about 1.45 million kilowatt-hours of electricity in total.

The DSD is currently exploring the possibility of installing PV systems in more facilities, including the maximising utilisation of space, such as sedimentation tank covers, in Stonecutters Island STW for phased installation of flexible thin-film PV panels. After completion of the project, Stonecutters Island STW is expected to become the largest of its kind in Hong Kong, with a total installed generation capacity of over 1 megawatt. Besides, it is envisaged that after completion of all PV projects in 2024-25, the total installed generation capacity of DSD's PV systems will exceed 3 megawatts. We are also identifying suitable locations at our premises, such as pavements, for installing more steppable PV panels.



小蠔灣污水處理廠的太陽能發電場  
Solar Farm at Siu Ho Wan Sewage Treatment Works



小蠔灣污水處理廠的可踏式太陽能光伏板  
Steppable PV panels in Siu Ho Wan Sewage Treatment Works



昂船洲污水處理廠內弧形沉澱池蓋上的柔韌薄膜太陽能光伏系統  
Flexible thin-film PV system on curved sedimentation tank covers in Stonecutters Island Sewage Treatment Works

## 水力發電

### Hydroelectric Power

建設水力發電系統亦是本署重點推行的可再生能源項目之一。為配合政府的淨化海港計劃第二期甲，我們在昂船洲污水處理廠安裝了水力渦輪發電系統，利用流動經處理污水的液壓能量推動渦輪機，發電供廠房內部使用。該系統設計發電功率為 23 千瓦，每年可生產高達 12 萬度電。鑑於此項目成效顯著，我們現正在昂船洲污水處理廠安裝第二組水力渦輪發電系統，工程預計於 2021 年底完成。我們亦計劃陸續在廠內安裝更多水力渦輪發電系統。

Hydroelectric power system installation is another major initiative on implementation of RE projects in the DSD. To align with HATS Stage 2A implemented by the Government, we installed a hydro-turbine system at Stonecutters Island STW, utilising hydraulic energy from the flow of treated sewage effluent to drive the turbine and generate electricity for in-house use. With a design generating capacity of 23 kilowatts, the system can generate up to 120,000 kilowatt-hours of electricity per annum. Encouraged by the remarkable results of this project, we are currently installing the second unit of hydro-turbine system at Stonecutters Island STW. The installation is anticipated to be completed by late 2021. We also have plans to install more hydro-turbine systems at the plant by phases.

昂船洲污水處理廠的水力發電系統  
Hydro-turbine system at Stonecutters Island Sewage Treatment Works



## 生物氣

### Biogas

污水處理廠在污水處理過程中，會產生污泥，而污泥在進行厭氧消化，以達致生物降解期間，會釋出生物氣。本署於轄下合適的污水處理廠，裝置了 7 台燃燒生物氣的電熱聯供發電機及 3 台渦輪發電機，將產生的生物氣，轉化成電能和熱能，以及製冷，供廠內使用。年內，本署轄下污水處理廠由生物氣所產生的可再生能源相等於約 2,580 萬度電。為了加強使用生物氣，以生產電能和熱能，本署現正為沙田污水處理廠增設一組約 1,400 千瓦的電熱聯供發電系統。當這系統於 2022 年落成後，渠務署電熱聯供發電系統的總發電裝機容量將達 6.8 兆瓦。為進一步產生可再生能源，我們正計劃在大埔污水處理廠及沙田污水處理廠設置另一類發電系統，利用電熱聯供發電機的餘熱發電。

Sewage treatment processes in STWs generate sludge, and biogas is produced when the sludge undergoes anaerobic digestion for sludge stabilisation. The DSD has installed a total of seven biogas-fuelled combined heat and power (CHP) generators and three gas turbines in its STWs for electricity and heat generation as well as refrigerative purpose. During the year, the total renewable energy generated by biogas amounted to about 25.8 million kilowatt-hours. To enhance utilisation of biogas, the DSD is installing an additional 1.4-megawatt CHP generator system at Sha Tin STW. When the system comes into operation in 2022, the total installed generation capacity of the CHP generating systems in the DSD will reach 6.8 megawatts. To further utilise renewable energy, we are planning to install another type of generating system in Tai Po STW and Sha Tin STW to capture the waste heat of CHP generators for electricity generation.

沙田污水處理廠的高壓電熱聯供發電機  
High voltage combined heat and power generator at Sha Tin Sewage Treatment Works



於 2021 年初落成位於大埔污水處理廠的電熱聯供發電系統  
Combined heat and power generating system commissioned at Tai Po Sewage Treatment Works in early 2021

本署一直與環保署協力推行「廚餘、污泥共厭氧消化」計劃。於 2019 年，本署與環保署合作在大埔污水處理廠推行的第一個「廚餘、污泥共厭氧消化」試驗計劃開始運作。此計劃除了可增加生物氣產量、減低沼渣量及減少污水處理廠的碳排放外，亦可提高香港的廚餘處理能力。渠務署在該試驗計劃負責接收由環保署輸送來的工商類廚餘，並與污泥混合進行共厭氧消化，以及利用從消化過程所得來的生物氣生產電能和熱能供廠房使用。此試驗計劃可處理每日達 50 公噸廚餘，預計每年可額外產生相等於約 95 萬度電的能源。第二個「廚餘、污泥共厭氧消化」試驗項目選址於沙田污水處理廠，以測試處理工商及家居廚餘的效果。這個項目與大埔污水處理廠的試驗計劃相似，廚餘處理量預計為每日 50 公噸。由渠務署主導的共厭氧消化相關工程預計於 2022 年底完成。

The DSD has been collaborating with the EPD to implement Food Waste/Sewage Sludge Anaerobic Co-digestion initiative. The first Food Waste/Sewage Sludge Anaerobic Co-digestion Trial Scheme, jointly administered by the DSD and EPD at the Tai Po STW, commenced operation in 2019. Apart from increasing the biogas yield and reducing the amount of digestate and carbon emissions from the STW, the trial scheme also enhances Hong Kong's food waste handling capacity. Under the trial scheme, the DSD is responsible for receiving the commercial and industrial food waste delivered by the EPD for anaerobic co-digestion with the sewage sludge as well as utilising the biogas produced during the co-digestion process to generate electricity and heat for use within the STW. The trial scheme can treat up to 50 tonnes of food waste every day. The estimated additional energy that could be generated is equivalent to about 0.95 million kilowatt-hours of electricity each year. The second trial project will take place at Sha Tin STW, in which treatment of food waste from commercial and industrial as well as domestic sources will be tested. Similar to the pilot trial at Tai Po STW, the Sha Tin STW trial project is planned for a treatment capacity of up to 50 tonnes of food waste per day. The DSD-led co-digestion related works are scheduled for completion by end 2022.

## 節約能源措施 Measures for Saving Energy

本署致力引入各種節能措施，並不斷提升轄下污水及防洪設施的運作狀況，以冀減低整體的碳足跡。其中包括：

With a view to reducing overall carbon footprint, the DSD actively introduces various energy saving measures and optimises the operation of its sewage and flood prevention facilities. These measures include:

改善污水處理廠及污水泵房的操作流程  
Optimising operation procedures of sewage treatment works and sewage pumping stations

把舊式廠房設備更換為能源效益較高的廠房設備，包括更換鼓風機、照明系統、水泵和隔篩等  
Replacing outdated plant equipment with more energy-efficient devices, such as replacing air blowers, lighting systems, pumps and screens

年內，上述新的運作程序和使用可再生能源措施節省約 100 萬度電（相當於約 700 公噸碳）<sup>3</sup>  
During the year, the above new measures on operation optimisation plus the use of renewable energy saved about 1 million kilowatt-hours of electricity (equivalent to removal of about 700 tonnes of carbon)<sup>3</sup>

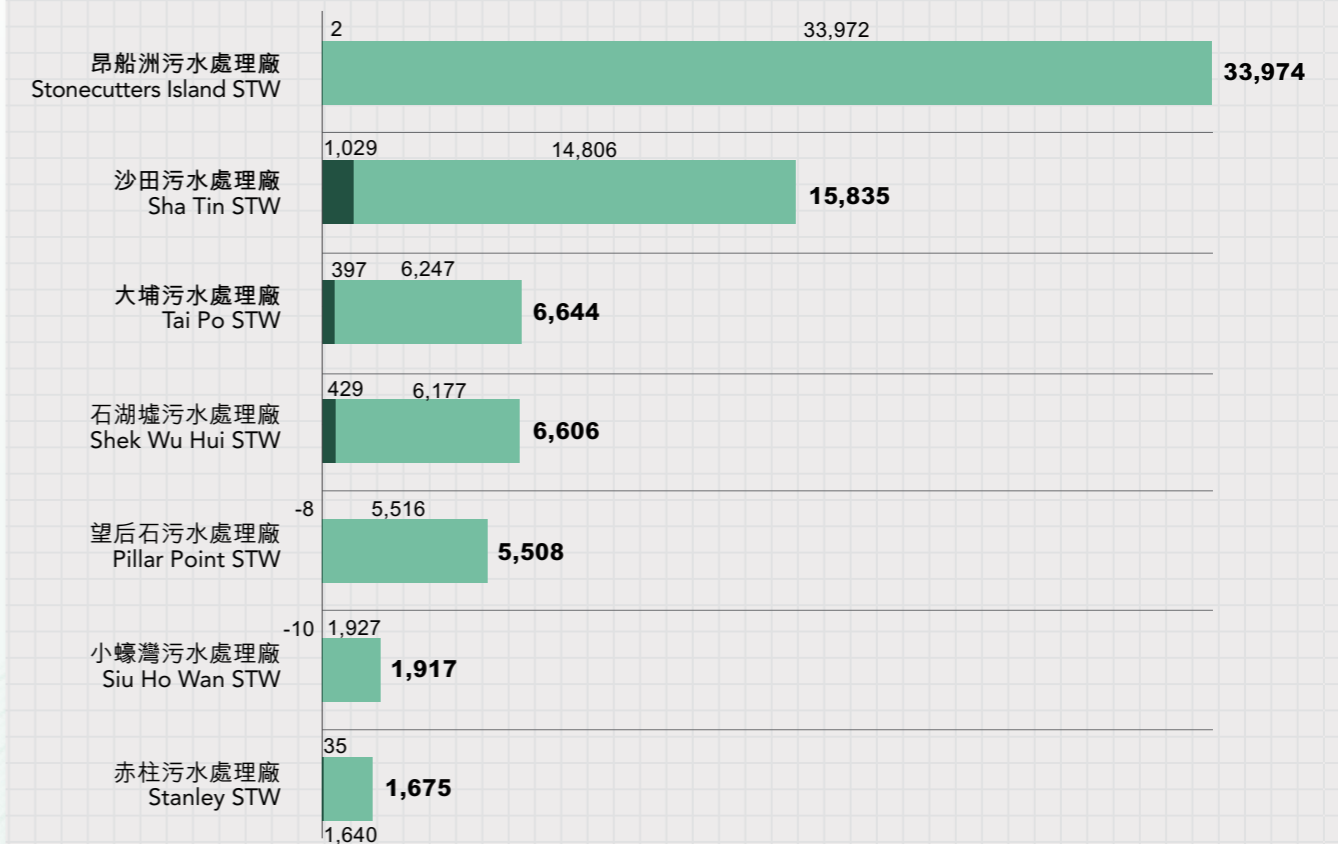
<sup>3</sup> 根據全港性預設值（0.70 公斤二氧化碳當量 / 千瓦時）計算。  
Calculated based on a territory-wide default value (0.70 kilogram CO<sub>2</sub>e/kilowatt-hours).

## 碳審計 Carbon Audit

為進一步減低碳足跡，我們必須先充分了解自身的碳排放情況，識別並實施針對性的措施以有效地節省能源，減少溫室氣體排放。我們正逐步為轄下設施進行碳審計，透過科學化的分析和評估，識別各設施的主要排放源，以便制定合適的節能減排措施。年內，渠務署就轄下七間污水處理廠進行了碳審計，包括位於昂船洲、沙田、大埔、石湖墟、望后石、小蠔灣及赤柱的污水處理廠。我們會繼續進行碳審計，以尋求並實施合適減碳措施，包括降低機器耗能、提升運作效率及利用可再生能源等。

To further reduce our carbon footprint, we ought to understand our own carbon emissions thoroughly in order to identify and implement targeted measures to save energy and hence reduce greenhouse gas emissions in an effective way. We are currently conducting carbon audit for our facilities through scientific analysis and assessment, so as to identify major emission sources and establish appropriate energy saving and emission reduction measures. During the year, the DSD conducted carbon audit in seven of its STWs at Stonecutters Island, Sha Tin, Tai Po, Shek Wu Hui, Pillar Point, Siu Ho Wan and Stanley. We will continue to conduct carbon audit to look for and implement appropriate carbon reduction measures, such as reducing the energy consumption of appliances, increasing operational efficiency and adopting renewable energy.

2020 年碳排放量（以公噸二氧化碳當量計算）  
Carbon Emissions in 2020 (in tonnes of CO<sub>2</sub> equivalent)



範圍 1 經直接使用燃料而產生的直接排放 + 除氮過程中釋放的一氧化氮 + 製冷劑排放 + 污泥消化池中的甲烷釋放 - 因植樹 / 太陽能移除的碳排放（以公噸二氧化碳當量計算）

Scope 1 Direct emissions from direct combustion of fuels + N<sub>2</sub>O emissions from nitrogen removal + Refrigerant emissions + Methane release from sludge digester - GHG removals by planting trees/applying solar power (in tonnes of CO<sub>2</sub> equivalent)

範圍 2 經使用電力及煤氣而產生的間接排放

Scope 2 Indirect emissions from the use of electricity + Towngas





## 綠色辦公室 Green Office

本署積極向員工提倡綠色營運的理念，竭力於辦公室實踐多項環保措施，實現「綠色辦公室」。

### 源頭減廢 Reducing Waste at Source

渠務署致力履行「綠色辦公室」的原則。為此，我們於辦公室實施多項環保措施，包括在辦公室設置多個回收點，收集及回收塑膠、金屬容器、打印機碳粉盒、充電電池、廢紙等物品，並定期巡查辦公室以提醒員工響應環保。為響應政府減少使用即棄塑膠餐具的倡議，我們提醒同事在舉辦會議和公務活動時使用可重用的餐具，並培養自備餐具的習慣。

因應科技發展，渠務署致力將「無紙化辦公室」的概念付諸實踐，包括發出節約用紙指引和綠色資訊，並鼓勵員工使用雙面印刷、重用單面紙及信封，同時積極推廣「無紙會議」，鼓勵員工以手提電腦及平板電腦等電子設備進行匯報和討論，減少耗紙。本年度，我們舉行了共 148 次無紙會議，並以電子方式傳閱了 1,181 份會議文件。另外，本署自 2017 年年中開始推廣電子傳真，目前共有 142 個電子傳真號碼。自 2018 年起，我們轄下所有行政部門已改以電子傳真方式收發文件。在各項節約用紙的措施下，渠務署的用紙量逐漸遞減，年內總用紙量為 9,555 令<sup>4</sup>，較 2009-10 年度少約 32%。

The DSD is doing its best to advocate the concept of green operations to its employees through a number of environmentally friendly measures in the offices, hoping to achieve a "green office".

The DSD pledges to put forward the principle of "green office". As such, we have introduced a number of environmentally friendly measures at our offices, including setting up a multitude of collection points to collect and recycle used items, including plastic and metal containers, toner cartridges, rechargeable batteries and waste paper. We conduct regular office inspections to promote environmental consciousness among employees. To support the government initiative to minimise the use of disposable plastic tableware, we remind colleagues to use reusable tableware for meetings and official events and develop a habit of bringing their own tableware.

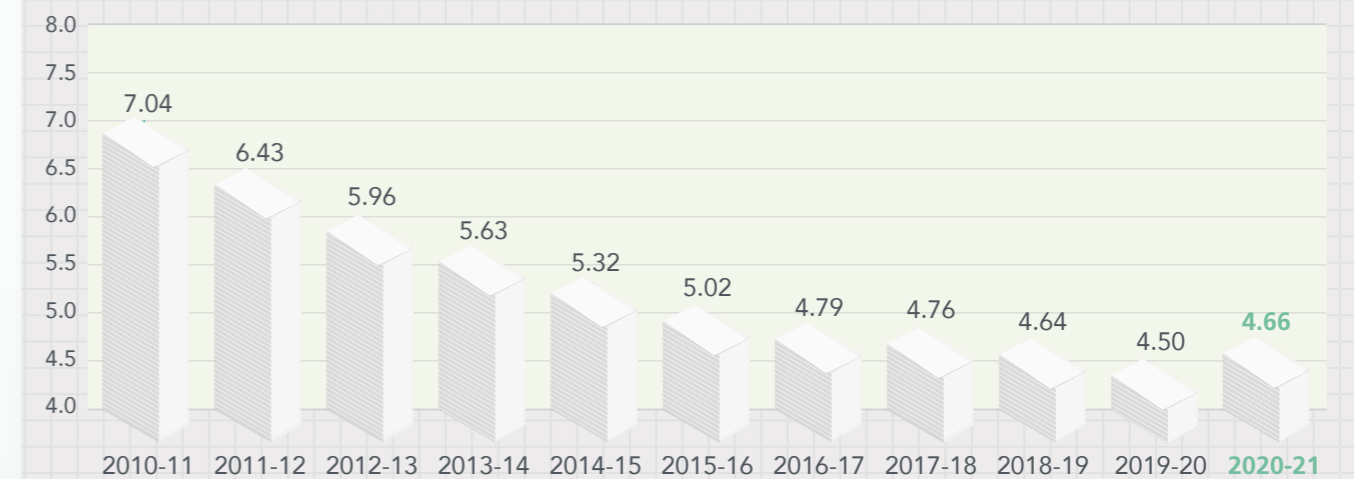
Supported by technology advancement, the DSD has been actively promoting the concept of "paperless office". We have issued guidelines on reducing paper consumption and green information, while encouraging colleagues to adopt double-sided printing and reuse one-sided paper and envelopes. We also promote "paperless meetings" by encouraging staff to use electronic devices, including laptop computers and tablets, for presentations and discussions to reduce paper. This year, we held a total of 148 paperless meetings and circulated 1,181 meeting documents electronically. Moreover, the DSD has been promoting e-fax since mid-2017 and now owns a total of 142 e-fax numbers. As from 2018, all administration divisions under the DSD have switched to e-fax for receipt and dispatch of documents. Benefited by all the above paper-saving measures, the DSD's paper consumption has seen gradual decrease, with a total paper consumption of 9,555 reams<sup>4</sup> during the reporting year, down about 32% compared to 2009-10.

<sup>4</sup> 撇除用於新合約 / 工程項目的招標 / 報價程序的用紙量。  
Excluding paper used in tender/quotation exercises for new contracts/projects.

### 用紙量 (令) Total paper consumption (ream)



### 每名員工用紙量 (令) Paper consumption per staff member (ream)



## 節約能源 Energy Saving

我們在辦公室引入節能措施，加強員工對節約能源的意識。例如，我們將空調設定在攝氏 25.5 度、減少非必要照明及使用計時器以於辦公時間後適時關閉辦公室設備等，務求減低整體用電量，配合政府於 2017 年《香港氣候行動藍圖 2030+》的建議，加強推廣綠色建築和減少政府大樓的耗電量。

We have also introduced energy saving measures in our offices to enhance staff awareness for energy saving, such as setting the temperature of air-conditioning at 25.5°C, reducing non-essential lighting and using timers to switch off office equipment after office hours. These initiatives are in line with the "Hong Kong's Climate Action Plan 2030+" proposed by the Government in 2017 to step up promotion of green buildings and reduce electricity consumption of government buildings.

## 支持「地球一小時」熄燈行動 Supporting "Earth Hour 2020"

除了於日常營運中實施節能減排措施，本署亦積極參與各項綠色活動，為環保作出貢獻。其中，我們連同其他政府部門響應世界自然基金會舉辦的「地球一小時」活動，於 2021 年 3 月 27 日晚上 8 時 30 分起關掉辦公室及設施非必要的燈及電器一小時。

Apart from implementing energy saving and emission reduction measures in daily operations, the DSD is also actively participating in various green activities to make contributions to environmental protection. For example, we have supported Earth Hour initiated by WWF (HK) together with other governmental organisations. Non-essential lighting and electrical appliances in the DSD offices and facilities were switched off for one hour from 8:30pm on 27 March 2021.

## 綠色採購 Green Procurement

為響應政府的綠色採購政策，我們於採購過程中會盡量考慮環保元素，包括採納環境保護署的環保採購產品清單。年內，我們所採購的產品有節能電器（如電腦、電風扇、影印機、打印機和冰箱），以及環保辦公室消耗品（如塗改帶、垃圾袋、鉛筆、充電電池、再造紙和衛生紙）。此外，我們在工程期間盡量使用電動車，以在本港推廣低碳生活。

To echo with the green procurement policy of the Government, we take environmental factors into account during the procurement process. For instance, we adopt the EPD's list of Green Procurement Items. During the year, we procured energy-saving electrical appliances (e.g. computers, electric fans, photocopiers, printers and refrigerators) and green office consumables (e.g. correction tapes, garbage bags, pencils, rechargeable batteries, recycled paper and toilet paper). Furthermore, we use electric vehicles as much as possible during construction works to promote low carbon living in Hong Kong.

## 培養可持續文化 Fostering a Sustainable Culture

為培養可持續發展和愛護環境的文化，一羣渠務署員工組成了「綠色先鋒」。透過向環保管理委員會作出環保倡議及舉辦各項綠色活動，如綠色耕種比賽、海岸清潔活動等，提升全體員工的環保意識，實踐綠色生活。

To foster a sustainable development and environment-friendly culture, a group of the DSD colleagues formed the Green Champions. Through proposing green initiatives to the Green Management Committee and organising a number of green activities, such as green farming competition and shoreline clean-up, they raise the environmental awareness of all employees and promote the green lifestyle.



綠色耕種比賽  
Green Farming  
Competition



渠務署向來大力提倡綠化，鼓勵員工善用轄下設施的空間耕種。我們會舉辦綠色耕種比賽，邀請員工及其家人參與，體驗綠色生活。



The DSD has always advocated greening by encouraging our staff to make full use of the space at our facilities for farming. We organise the Green Farming Competition and invite our staff and their families to experience the pleasures of green living.

渠務署、路政署及建築署參與「建造業海岸清潔日」

The DSD, Highways Department and the Architectural Services Department participated in the Construction Industry Shoreline Clean-up Day



渠務署向來視員工為本署的重要資產。我們為員工提供大量培訓及發展機會，讓他們得以不斷學習、發揮所長。同時，我們提供充分的職業健康與安全保障，照顧員工的身心健康。我們亦會舉辦多元化的員工活動，包括抽獎、興趣班、康樂活動等，讓員工在工餘時放鬆身心，平衡工作與生活。

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## 關愛員工 CARING



## FOR OUR STAFF



The DSD has always recognised that our staff is a valuable asset. We provide plenty of training and development opportunities, allowing colleagues to improve themselves by continuous learning and realise their fullest potential. At the same time, we provide adequate occupational health and safety protection to promote physical and mental wellbeing of our staff. We also organise a multitude of staff activities, including lucky draw, interest classes and recreational activities, so our colleagues can relax after work and maintain work-life balance.

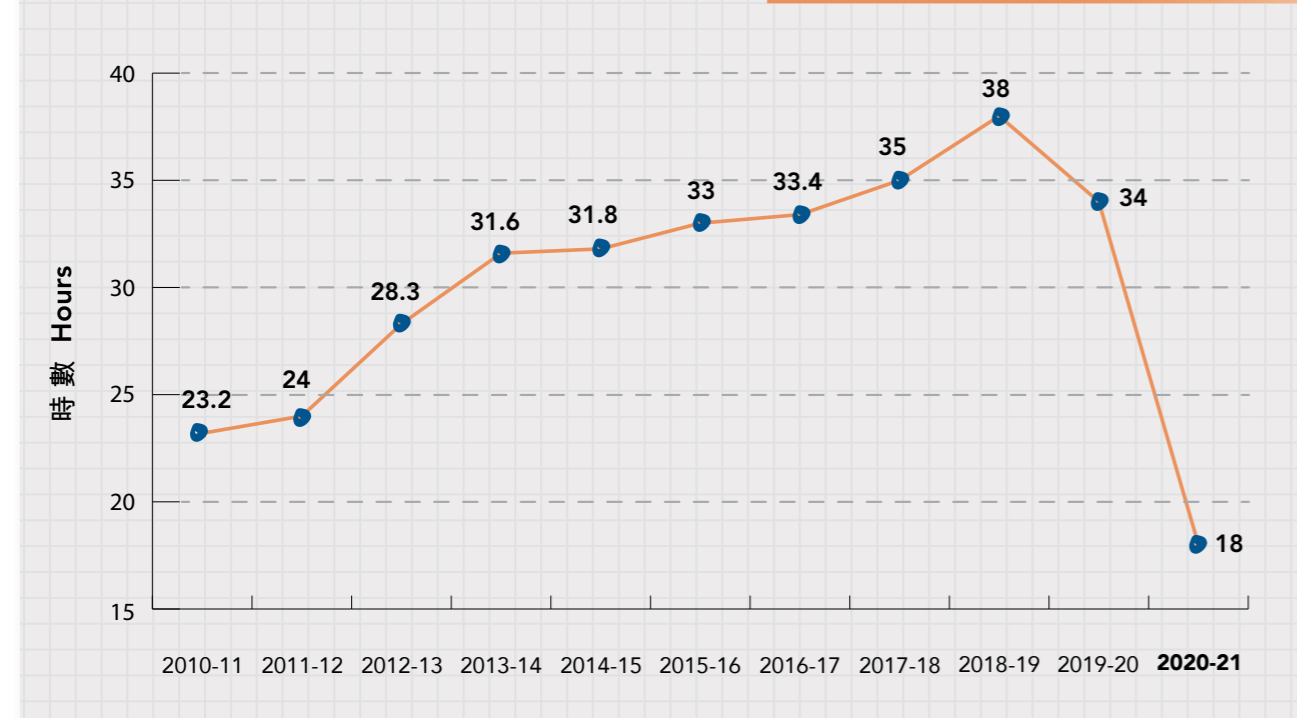


## 員工培訓與發展 Staff Training and Development

本署為員工提供多項定期及不定期的培訓活動，包括但不限於內部培訓課程、研討會、工作坊、交流會等，提升他們的專業知識及技術，並同時緊貼最新的行業趨勢，精益求精。受到疫情影響，本署將部分培訓活動移師網上舉行，以保障員工的安全。年內，我們舉辦了共 331 個培訓課程，而員工的平均培訓時數為 18 小時。

The DSD provides a wide range of regular and unscheduled training activities for its workforce, including but not limited to in-house training courses, seminars, workshops and exchange sessions, which aim to enhance professional knowledge and skills while keeping abreast with the latest industry trends to pursue excellence. In view of the spread of the COVID-19 pandemic, we have moved certain training activities online to protect the safety of our staff. During the year, we organised a total of 331 training courses. Average number of training hours per capita was 18 hours.

員工平均培訓時數  
Average number of training hours per capita



## 內部培訓 In-house Training

年內，本署為管理層和員工舉辦各項內部培訓，讓他們能全面了解本署的政策、日常營運及最新發展，期望員工能與本署共同發展。培訓課程內容涵蓋污水處理技術、河畔城市等。

During the year, the DSD organised different in-house training programmes for members of our management and staff, communicating our policies, daily operations and latest development in detail so they could join hands with the DSD to drive mutual development. These training programmes covered various topics, such as sewage treatment technologies and riverside city.



## 與海外專家交流 Exchange with Foreign Experts

為不斷提升本署的技術，讓本港的相關技術得以與國際水平接軌，我們鼓勵員工參與海外交流會，與外國的專家進行交流。2020年7月，本署同事在網上參與由國際水利與環境工程學會主持、荷蘭國際水利環境工程學院、代爾夫特理工大學、荷蘭三角洲研究中心及荷蘭國家水利局合辦的第10屆河流水力學會議。外國專家的實例分享增加了同事們對河道工程、流體力學等項目的知識。

In order to enhance the DSD's technological strengths and ensure Hong Kong meets international standards on the technology front, we encourage our staff to participate in international exchange sessions to communicate with overseas experts. In July 2020, our colleagues participated in the online 10th Conference on Fluvial Hydraulics under the auspices of the International Association for Hydro-Environment Engineering and Research (IAHR), co-organised by IHE Delft, Delft University of Technology, Deltares and Rijkswaterstaat in the Netherlands. Through case sharing from foreign experts, our colleagues gained deeper insight into subjects like river engineering and fluid mechanics.



## 安全與健康 Safety and Health

渠務署向來十分重視員工的健康與安全。我們制定完善的安全管理系統及安全政策，同時要求有關的持份者恪守適用的法例法規，如香港《職業安全及健康條例》，致力將員工、工程顧問和承建商的職業安全及健康（職安健）風險減到最低。我們會適時向員工提供涵蓋不同職安健範疇的培訓課程及活動，提升他們的健康安全意識。在新冠病毒疫情下，渠務署亦為前線員工提供適當的個人防護裝備，並採取各種防護措施，以確保員工的健康和安全。

### 職安健管理 OSH Management

渠務署制定了完善的安全管理制度以控制職安健風險。為了更有效管理相關風險，我們成立了多個委員會管理、識別及應對重大的職安健風險，包括安全督導委員會、機電工程科安全管理委員會、污水處理廠安全管理委員會及直屬員工隊安全管理委員會。為鼓勵工作人員參與、諮詢及溝通有關職安健的事宜，委員會由不同職級及職系的員工組成，可以了解各部門的需要和風險並加以處理。如工作人員發現任何安全相關風險，歡迎向我們提出。我們會及時了解並應對此等風險，加強安全管理。

以本署轄下的工程為例，我們明白工程期間有機會出現工傷風險。有見及此，我們遵從危害控制層級中「預防為主」的原則制定安全政策，從工程前、中、後三個階段實施預防及應對措施，盡力將工程的安全風險減到最低，保障員工的人身安全。在工程前，我們會委託認可的機構評估工程的潛在安全隱患，並依照政府

The DSD has always attached great importance to the health and safety of our employees. To this end, we have established a comprehensive safety management system and our Safety Policy, and at the same time require related stakeholders to comply with applicable laws and regulations, such as the Occupational Safety and Health Ordinance of Hong Kong. We strive to minimise occupational safety and health (OSH) risks of our employees, project consultants and contractors. To enhance health and safety awareness, we provide training courses and activities that cover different OSH aspects from time to time. Under the COVID-19 pandemic, the DSD also provided appropriate personal protective equipment to frontline staff and adopted various protective measures to ensure their health and safety.

The DSD has a sound safety management system in place to control OSH risks. With a view to manage related risks more effectively, we have set up a number of committees to manage, identify and cope with material OSH risks, including the Safety Steering Group, the Electrical and Mechanical Branch Safety Management Committee, the Sewage Treatment Works Safety Management Committee and the Direct Labour Force Safety Management Committee. To encourage worker participation, consultation, and communication on OSH issues, these committees are made up of members from different disciplines and grades, such that we can understand the needs and risks of different departments and address them accordingly. If any safety-related risks have come to their attention, workers are welcome to report to us for timely investigation and action to strengthen safety management.





Take the DSD projects as an example, we understand that the risk of work-related injuries is present in construction works and therefore a Safety Policy has been drawn up in line with the principle of "prevention first" of the hierarchy of controls. Preventive and response measures are implemented before, during and after the projects to minimise safety risks to guarantee the personal safety of our employees. Before a project begins, we engage a recognised organisation to assess the potential safety hazards, as well as arrange qualified personnel to follow up and monitor the risks according to government guidelines. We would implement relevant response measures during work to reduce these hazards as far as possible and avoid potential safety incidents. We also conduct frequent inspections to ensure

指引安排合資格人士跟進及監察風險。我們會在工程期間實施相關應對措施，盡量減低該等安全隱患，避免事故發生；亦會在工程期間進行恆常巡查，確保落實相關措施。另外，我們會為員工提供足夠的個人防護裝備。如工程期間不幸發生安全事故，相關人員可立即離開對他們生命或健康構成危險的工作環境，而不會受到任何處分。在按照既定程序進行上報及調查後，我們會採取改善措施預防日後再有同類事故發生。

the measures are in place, and provide adequate personal protective equipment to all employees. In the unfortunate event of safety incidents during construction works, the personnel involved may immediately remove themselves from work situations that they consider present an imminent and serious danger to their life or health, without any disciplinary actions. After reporting and investigating the incidents according to standard procedures, we will introduce improvement measures to prevent recurrence of similar incidents.

### 渠務署的工傷及嚴重工傷事故<sup>1</sup> 數據 2020-21

Data of the DSD work-related injuries and high-consequence work-related injuries<sup>1</sup> in 2020-21

 渠務署員工 The DSD staff	工傷事故（包括從高處墮下、與靜止的物件碰撞） Work-related injuries (including fall of person from height, striking against stationary object)	宗數 No. of cases	2
		比率 (每200,000工時) Rate (per 200,000 man-hours)	0.06
 由承辦商負責的 建築及維修工程 Construction and maintenance works undertaken by the DSD contractors	嚴重工傷事故 <sup>1</sup> High-consequence work-related injuries <sup>1</sup>	宗數 No. of cases	0
		比率 (每200,000工時) Rate (per 200,000 man-hours)	0
 由承辦商負責的 建築及維修工程 Construction and maintenance works undertaken by the DSD contractors	工傷事故（包括滑倒、絆倒或在同一高度跌倒、被移動或墮下物件碰撞） Work-related injuries (including slip, trip or fall on the same level, struck by moving or falling object)	宗數 No. of cases	8
		比率 (每200,000工時) Rate (per 200,000 man-hours)	0.18
 由承辦商負責的 建築及維修工程 Construction and maintenance works undertaken by the DSD contractors	嚴重工傷事故 <sup>1</sup> （包括被移動或墮下物件碰撞） High-consequence work-related injuries <sup>1</sup> (including struck by moving or falling object)	宗數 No. of cases	5
		比率 (每200,000工時) Rate (per 200,000 man-hours)	0.12

<sup>1</sup> 嚴重工傷事故指職業傷害而導致死亡、或導致工作者無法、難以於六個月內恢復至受傷前健康狀態的傷害。年內發生的嚴重工傷事故主要由物理性的潛在安全危害引致。

High-consequence work-related injury refers to a work-related injury that results in fatality or an injury where the worker cannot, does not, or is not expected to recover fully to pre-injury health status within six months. High-consequence work-related injuries recorded during the reporting year were mainly resulted from physical safety hazards.

## 職安健培訓 OSH Training

為加強員工的職安健意識，防止重大安全事故發生，我們不時為員工安排各種培訓課程，讓他們掌握職業安全知識，防患於未然。年內，我們為超過 1,700 名員工舉辦多達 28 類職安健培訓活動，包括：

To enhance the OSH awareness of employees to prevent serious safety incidents, we arrange various training courses for colleagues from time to time, equipping them with knowledge in occupational safety to prevent safety hazards. During the year, we organised 28 types of OSH training courses for over 1,700 colleagues, including:

項目 Item	課程名稱 Course Title	受訓人數 Number of Participants
1	貨車吊機操作課程 Truck mounted Crane Operator Certification Course	4
2	用電安全 Electrical Safety	129
3	叉式起重車新手操作員課程 Training Course for New Operators of Fork-lift Truck	12
4	叉式起重車資深操作員課程 Training Course for Experienced Operators of Fork-lift Truck	1
5	船上貨物處理基礎安全訓練課程 Shipboard Cargo Handling Basic Training Course	5
6	密閉空間核准工人安全訓練覆證課程 Safety Training Revalidation Course for Certified Workers of Confined Spaces Operation	141
7	密閉空間核准工人及合資格人士安全訓練覆證課程 Safety Training Revalidation Course for Certified Workers and Competent Persons of Confined Spaces Operation	92
8	密閉空間核准工人安全訓練課程 Safety Training Course for Certified Workers of Confined Spaces Operation	73
9	密閉空間核准工人及合資格人士安全訓練課程 Safety Training Course for Certified Workers & Competent Persons of Confined Spaces Operation	185
10	安全施工程序 Safe Working Cycle	23
11	安全使用流動式鋁質通架 Safe Use of Mobile Aluminum Towers	3
12	起重機械及起重裝置的安全使用 Safe Use of Lifting Appliances and Lifting Gear	3
13	安全使用磨輪 Safe Use of Abrasive Wheels	19
14	化學品安全處理 Safe Handling of Chemicals	38
15	肺塵埃沉着病及其預防方法 Pneumoconiosis and its Prevention	7
16	叉式起重車操作員訓練重新甄審資格課程 Revalidation Training Course for Operators of Fork-lift Truck	21

項目 Item	課程名稱 Course Title	受訓人數 Number of Participants
17	職業安全管理 Occupational Safety and Health Supervisor Course	9
18	氣體焊接安全訓練重新甄審資格課程 Gas Welding Safety Training Revalidation Course	17
19	氣體焊接安全訓練課程 Gas Welding Safety Training Course	19
20	龍門式起重機重新甄審資格證明課程連測試 Gantry Crane Certification Training and Test (Revalidation)	25
21	龍門式起重機資格證明課程連測試 Gantry Crane Certification Training and Test	12
22	如何避免在工作中被狗隻咬傷 Dog Bite Safety	9
23	密閉空間合資格人士之從事渠務署工程安全訓練課程 Confined Space Safety Training Course for Competent Persons Engaged in the DSD's Works	206
24	密閉空間核准工人之從事渠務署工程安全訓練課程 Confined Space Safety Training Course for Certified Workers Engaged in the DSD's Works	266
25	工場噪音評估合格證書課程 Certificate of Competence in Workplace Noise Assessment	3
26	顯示屏幕設備評估合格證書課程 Certificate of Competence in Display Screen Equipment Assessment	10
27	強制性基本安全訓練課程（建築工程）[建造業平安卡課程] Mandatory Basic Safety Training Course (Construction Work) [Green Card Training Course]	146
28	強制性基本安全訓練重新甄審資格課程（建築工程） [建造業平安卡重溫課程] Mandatory Basic Safety Training Revalidation Course (Construction Work) [Green Card Training Revalidation Course]	308

## 職安健活動 OSH Activities

除了上述培訓，本署亦會不時舉辦職安健相關活動，包括探訪、簡報、影片製作和與前線同事交流的分享會。會上，我們分享最新的職安健知識，同時了解前線員工對本署相關措施的意見，讓我們能持續改善職安健管理。另外，依照發展局的建築地盤安全手冊，本署所有工程的工地安全委員會亦會每月舉辦一次會議。

Apart from the above training, the DSD also organises OSH-related activities from time to time, ranging from visits, briefings, video productions to sharing sessions, as effective channels to communicate with frontline staff. We share the latest updates of OSH knowledge and gauge frontline staff's views on OSH measures we have implemented, so that we can improve OSH management on a continual basis. Also, following the Development Bureau's Construction Site Safety Manual, the site safety committees of all our construction projects organise monthly meetings.

到訪大埔污水處理廠  
與前線員工溝通  
Visiting Tai Po Sewage  
Treatment Works to  
communicate with  
frontline colleagues



年內，本署舉辦及參與的職安健活動包括：

During the year, OSH campaigns we initiated and participated in include:

- 35 項工程項目參與發展局及建造業議會主辦的第 27 屆公德地盤嘉許計劃  
35 works projects joined the 27th Considerate Contractors Site Award Scheme organised by the Development Bureau and the Construction Industry Council
- 43 項工程項目參與本署舉辦的 2020 年工地安全及整潔獎勵計劃  
43 works projects joined the DSD's Construction Sites Safety and Housekeeping Award Scheme 2020
- 為本署員工、顧問公司駐工地人員及承建商代表舉辦安全培訓  
A safety training was organised for our colleagues, resident site staff of consultants and representatives of contractors

第 27 屆公德地盤嘉許  
計劃頒獎典禮  
27th Considerate  
Contractors Site  
Award Scheme Award  
Presentation Ceremony



本署署長彭雅妮女士（左三）  
與在第 27 屆公德地盤嘉許計  
劃中榮獲「公德地盤獎」及「傑  
出環境管理獎」雙金獎的「搬  
遷沙田污水處理廠往岩洞—工地開拓及連接  
隧道建造工程」團隊合照留念

Group photo of Ms Alice PANG (third left),  
Director of Drainage Services, and the team  
of "Relocation of Sha Tin Sewage Treatment  
Works to Caverns – Site Preparation and  
Access Tunnel Construction", who won both  
the "CSSA" and "OEMPA" Gold Awards in  
the 27th Considerate Contractors Site Award  
Scheme

除了嚴謹的安全管理，本署亦十分著重員工的身心健康。渠務署是衛生署旗下《精神健康職場約章》的簽署機構之一，亦是 2020 至 2022 年度「精神健康友善機構」。我們每年均會為員工舉辦壓力管理工作坊，向員工分享緩解壓力的心得，提升他們的精神健康。

Apart from stringent safety management, the DSD is also putting great emphasis on employees' physical and mental wellbeing. We are one of the signatory organisations of the Department of Health's Mental Health Workplace Charter, as well as a "Mental Health Friendly Organisation" in 2020-2022. We arrange stress management workshops for our employees every year to share tips on relieving stress, so as to improve their mental health.



## 疫情下的職安健措施 OSH Measures under the COVID-19 Pandemic

在新冠病毒疫情下，我們不但須恪守為公眾提供專業高效的渠務服務的承諾，亦要同時確保員工的健康和安全，尤其是需要處理污水和與市民溝通的前線員工。除了管理層身體力行，響應政府呼籲，自行及鼓勵同事接種疫苗，本署於疫情期間亦持續為員工提供防疫指引，提醒同事注意個人衛生及佩戴合適的個人防護裝備。

Under the COVID-19 pandemic, we have to maintain our pledge of providing professional and efficient drainage services to the public, while ensuring the health and safety of our staff, especially frontline staff who are required to deal with sewage and communicate with the public. In addition to our management giving active response to the government's appeal and encouraging colleagues to get vaccinated, we have also been providing disease prevention guidelines to staff during the pandemic, reminding everyone to pay attention to personal hygiene and wear appropriate personal protective equipment.

為防止疾病傳播，保障公共衛生，我們為員工採購了充足的防疫物資，包括各種口罩及潔手液。同時，我們加強了前線員工的個人防護裝備，將他們接觸新冠病毒的風險降到最低，如為污水採樣人員提供口罩、面罩、手套等適當的裝備。

To prevent the transmission of COVID-19 and to safeguard public health, we purchased adequate protective equipment for our employees, including different kinds of masks and hand sanitisers. Moreover, we enhanced personal protective equipment for our frontline staff, such as providing sewage samplers with appropriate equipment such as masks, face shields and gloves to minimise their risk of contact with the SARS-CoV-2 virus.

在疫情爆發最嚴峻的時期，渠務署為了維持對公眾的服務承諾並同時響應政府希望市民盡量留在家中及保持社交距離的呼籲，我們實施特別上班安排，指示員工採用輪更制在家工作，以減低他們受到新冠病毒感染的風險。

In addition, during the peak of the COVID-19 outbreak, we upheld our service pledge to the general public and responded to the government's call to stay home and maintain social distancing by implementing special work arrangements and instructing our staff to work in rotating shifts, so as to reduce the risk of contracting COVID-19.



本署為前線員工提供  
充足的個人防護裝備  
The DSD provides  
adequate personal  
protective  
equipment to  
frontline staff



## 員工康樂活動 Staff Recreational Activities

渠務署亦持續舉辦多種康樂活動，讓員工在工作之餘放鬆身心。同時，員工可藉機會聚首一堂，加強團隊精神及對本署的歸屬感。

The DSD continues to organise a wide range of recreational activities for our staff to unwind and enjoy leisure. They can also take the opportunity to get together to strengthen team spirit and sense of belonging towards the DSD.

### 部門聖誕幸運大抽獎 Departmental Christmas Lucky Draw

由於疫情肆虐，我們在年內減少實體活動，包括聖誕聯歡會，以保障員工安全。不過，為了保持節日氣氛，以及感謝同事對部門工作所付出的努力和貢獻，我們特別以視像形式舉行幸運大抽獎活動。多達 200 份的豐富獎品主要由本署首長級人員私人贊助，為同事們帶來歡樂又難忘的時刻。

In view of the spread of COVID-19, we reduced the frequency of physical activities, including our Christmas Party, to guarantee the safety of our staff. However, to keep the festive spirit alive and show gratitude to our employees for their effort and contribution to delivering on the DSD's mission, we arranged a special live streaming lucky draw for Christmas. Around 200 attractive prizes mainly donated by our directorates were offered. It was truly a joyful and memorable event for all.

署長彭雅妮女士為員工活動致辭  
Ms Alice PANG,  
Director of Drainage  
Services, gave a  
welcoming speech at  
the staff event



時任副署長彭偉成先生  
抽出得獎幸運兒  
Mr Wilson PANG Wai-  
shing, the then Deputy  
Director of Drainage  
Services, was invited to  
draw the lucky winners

## 活動及興趣班 Activities and Interest Classes

除此之外，我們亦舉辦了多個活動和興趣班，包括網上食品製作班、立體紙雕燈工作坊和聖誕樹工作坊等，讓員工在疫情期間仍能享受當中的樂趣。

In addition, we arranged various activities and classes during the year. These include online cooking classes, a 3D Light and Shadow Paper Carving Lamp Workshop and a Christmas Tree Workshop that brought pleasure to employees during the COVID-19 pandemic.



網上甜品班  
Online  
Dessert Class



聖誕樹工作坊  
Christmas Tree  
Workshop



網上立體紙雕燈  
工作坊  
Online 3D Light  
and Shadow  
Paper Carving  
Lamp Workshop

## 體育活動 Sports Events

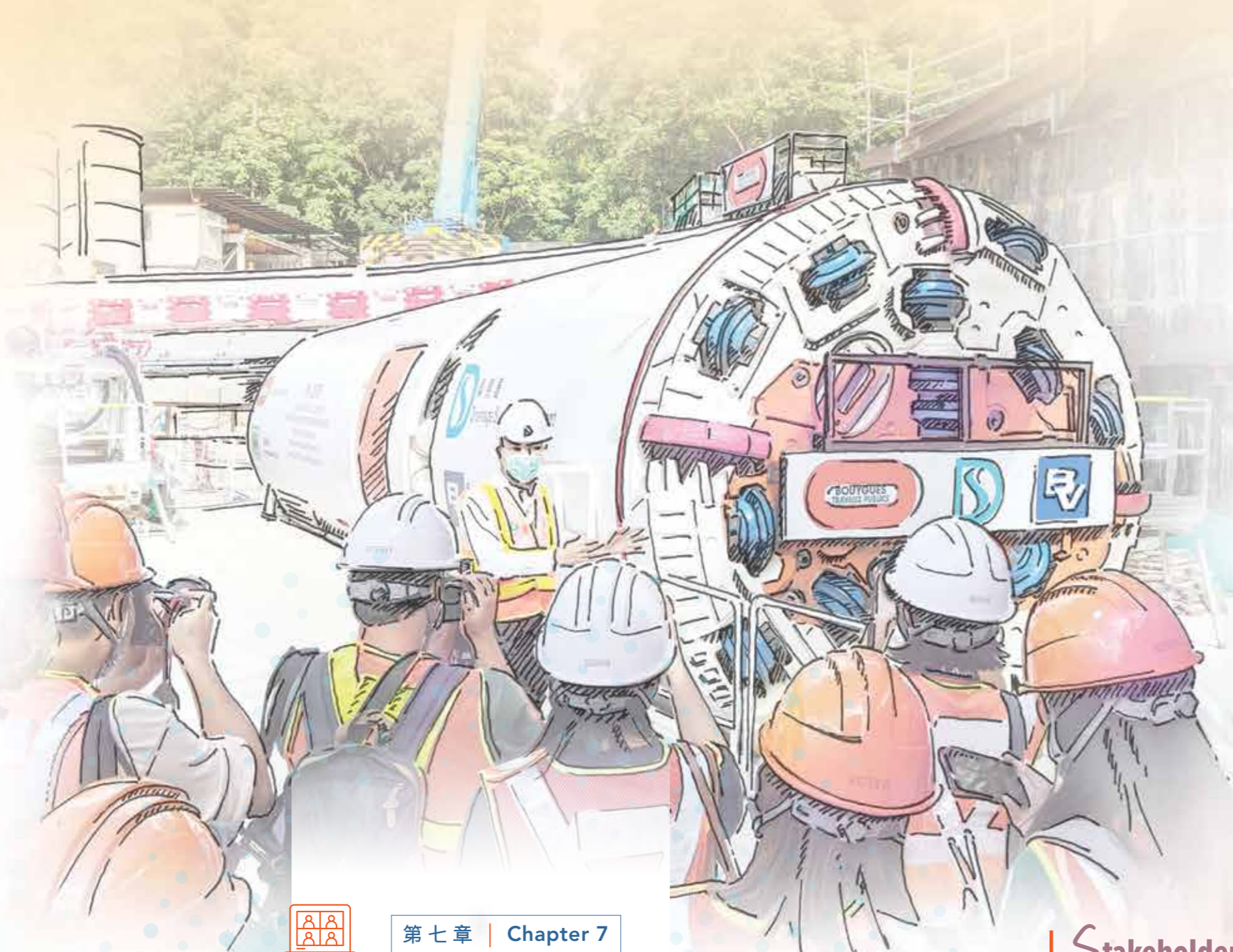
在文娛活動以外，本署亦會舉辦並參與各項體育活動，鼓勵同事維持運動習慣，保持健康的體魄。年內，職員康樂會舉辦了羽毛球及網球練習活動，並支持網上參與的運動競賽。本署高級技術主任黃艷萍女士更於 2021 年 2 月 11 日至 3 月 12 日舉辦的建造業線上開心跑 2021 獲得建造業女子長青組 10 公里個人賽第 2 名。

Apart from cultural activities, the DSD also arranges and participates in various sports events to encourage our colleagues to exercise regularly to stay healthy. During the year, the DSD Staff Club organised practice groups for badminton and tennis and gave full support to online sport competitions. Our Senior Technical Officer, Ms Lyann WONG Yim-ping, was the 1st runner-up in the Construction Industry Women 10k Master Race under Construction Industry Virtual Happy Run 2021, which was held from 11 February 2021 to 12 March 2021.

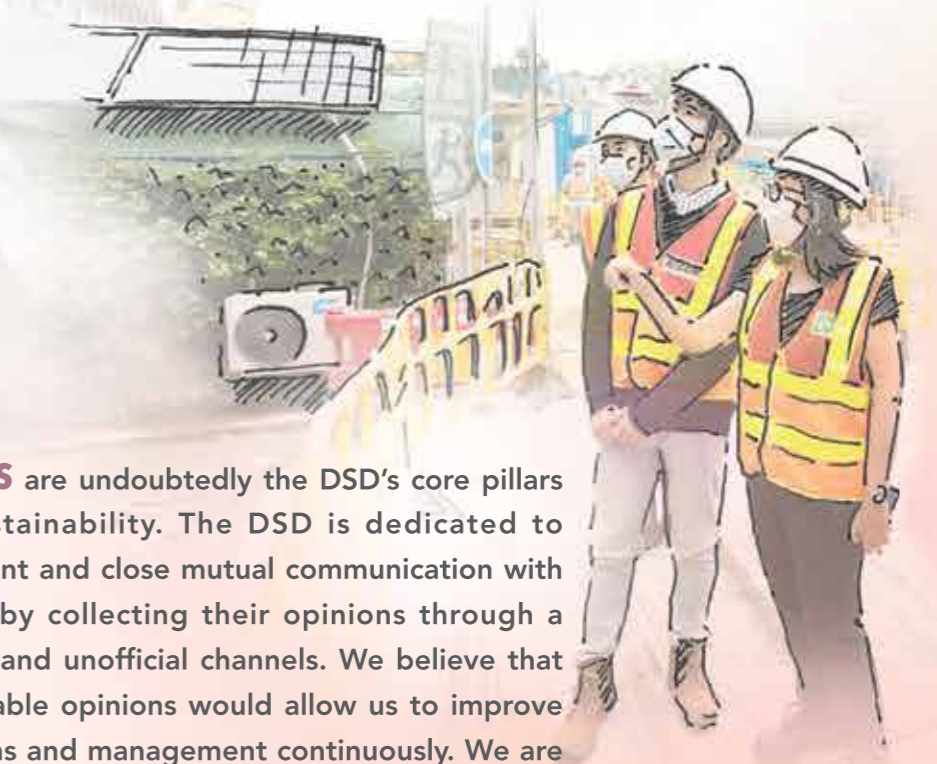


本署高級技術主任黃艷萍女士（右）於建造業線上開心跑 2021 獲獎  
Ms Lyann WONG Yim-ping  
(right), Senior Technical  
Officer of DSD, won a prize in  
Construction Industry Virtual  
Happy Run 2021





持份者無疑是推動渠務署實踐可持續發展的重要支柱。本署致力與持份者維持恆常和緊密的雙向溝通，透過各種正式及非正式的渠道收集各方意見。我們相信持份者的寶貴意見有助我們不斷改善日常營運和管理。我們亦積極透過此等溝通渠道，讓持份者了解本署轄下項目的進度，同時講解項目當中的綠色元素，從而提升公眾對生態保育的意識，推廣近水文化和社區共融。本署亦會不定期舉辦及參與各種義工服務及慈善活動，與員工攜手貢獻社會。



第七章 | Chapter 7

# 持份者參與

## STAKEHOLDER ENGAGEMENT

**Stakeholders** are undoubtedly the DSD's core pillars in promoting sustainability. The DSD is dedicated to maintaining frequent and close mutual communication with our stakeholders by collecting their opinions through a number of official and unofficial channels. We believe that stakeholders' valuable opinions would allow us to improve our daily operations and management continuously. We are also taking advantage of these communication channels to keep stakeholders updated on the progress of our projects and the green elements we have incorporated therein, so as to enhance public awareness for ecological conservation and promote a water-friendly culture and social inclusion. In addition, joining hands with our employees to do good for society, we organise and participate in various voluntary services and charity activities from time to time.

年內，我們與持份者的所有溝通渠道均舉辦了至少一次活動<sup>1</sup>，各溝通渠道詳列如下<sup>2</sup>：

During the reporting year, we organised at least one event through each of the communication channels with our stakeholders<sup>1</sup>, the channels are listed below<sup>2</sup>:

 <p><b>員工</b> Staff</p> <ul style="list-style-type: none"> <li>● 公務員建議書計劃 Staff Suggestions Scheme</li> <li>● 部門各協商委員會和討論小組 Consultative committees and discussion groups across the DSD</li> <li>● 渠務署簡訊 — 渠務之聲 DSD Newsletter – Channel</li> </ul>	 <p><b>供應商</b> Suppliers</p> <ul style="list-style-type: none"> <li>● 公開研討會 Public seminars</li> <li>● 投標活動 Tender activities</li> </ul>	 <p><b>顧問及承辦商</b> Consultants and Contractors</p> <ul style="list-style-type: none"> <li>● 工地考察 Site visits</li> <li>● 經驗分享會 Experience sharing sessions</li> <li>● 工地安全及整潔獎勵計劃 Construction Sites Safety and Housekeeping Award Scheme</li> </ul>	 <p><b>學術組織 / 專業團體</b> Academia/ Professional Bodies</p> <ul style="list-style-type: none"> <li>● 研討會 Seminars</li> <li>● 到訪渠務署總部或轄下設施 Visits to DSD Headquarters or our facilities</li> </ul>
 <p><b>環保團體</b> Green Groups</p> <ul style="list-style-type: none"> <li>● 環保團體會議 Meetings with environmental groups</li> <li>● 河道考察 Site visits to river channels</li> </ul>	 <p><b>公眾</b> Public</p> <ul style="list-style-type: none"> <li>● 客戶滿意度調查 Customer satisfaction surveys</li> <li>● 問卷調查 Questionnaire surveys</li> <li>● 參觀渠務署設施 Visits to the DSD facilities</li> <li>● 工程簡介會 Project briefing sessions</li> </ul>	 <p><b>議員</b> Councillors</p> <ul style="list-style-type: none"> <li>● 立法會會議 Legislative Council meetings</li> <li>● 區議會會議 District Council meetings</li> </ul>	 <p><b>其他政府部門</b> Other Government Departments</p> <ul style="list-style-type: none"> <li>● 跨部門會議 Inter-departmental meetings</li> <li>● 跨部門義工活動 Inter-departmental volunteer activities</li> </ul>

<sup>1</sup> 活動次數視乎實際情況而定。  
The number of activities subject to the actual circumstances.

<sup>2</sup> 102-40, 102-43



## 公眾參與 Public Engagement

為提升公眾參與度，並促進渠務設施與周邊社區之間的融合，渠務署會舉辦不同活動，包括展覽和教育計劃等。透過各項公眾參與活動，市民可掌握本署的最新消息，加深公眾對本署服務的認識。

To facilitate public engagement and promote the integration between drainage facilities and surrounding communities, the DSD has organised a multitude of activities, including exhibitions and educational programmes. Through various public participation activities, members of the public can keep abreast of the DSD's latest news and better understand our services.

### 工程項目公眾參與 Public Engagement for DSD Projects

#### 搬遷沙田污水處理廠往岩洞 Relocation of Shatin Sewage Treatment Works to Caverns

以沙田污水廠搬遷工程為例，我們透過項目網頁、社交媒體專頁、工程單張及季度簡訊，讓公眾及時掌握工程進度。項目團隊更特別於梅子林路旁建造社區聯絡中心，介紹工程的環保建築、可持續發展理念和創新科技應用。團隊又舉辦社區聯絡中心命名比賽，加強中心與社區的聯繫。為服務社區及促進交流，我們亦計劃免費開放中心的會議室予團體預約以舉辦不同活動。

Taking the relocation works of Shatin STW to Caverns as an example, we keep the public updated on the construction progress through the project website, a social media page, leaflets and quarterly newsletters. The Project Team also set up a Community Liaison Centre (CLC) adjacent to Mui Tsz Lam Road to introduce the concept of green construction, sustainable development and innovative technology application to the public. A naming competition for the CLC was organised to strengthen connection between the CLC and the community. To better serve the community and encourage interactions, we plan to make the CLC meeting room available for free booking from organisations to host various activities.



掃描二維碼預約社區聯絡中心  
Scan the QR code for CLC bookings  
<https://ststwincavernslc.web.app/venue>

設於梅子林路旁的社區聯絡中心  
Community Liaison Centre adjacent to Mui Tsz Lam Road





公眾人士命名的社區聯絡中心「梅林洞天」  
The Community Liaison Centre rock stele based on a winning design of the naming competition



項目團隊亦與沙田鄉事委員會及沙田區議會保持緊密聯繫，收集周邊居民的意見並及時作出回應，希望盡量減低工程對他們的影響。

The Project Team has been closely communicating with the Sha Tin Rural Committee and the Sha Tin District Council to collect and respond to opinions from residents in the neighbourhood in a timely manner, with a view to minimising impacts to residents during construction.

團隊也舉辦了簡介會，向鄰近學校、屋苑及機構代表講解爆破工程的安排，釋除公眾對爆破工程的疑慮。

Briefing sessions were also arranged for the representatives of nearby schools, residential estates and organisations, through which the Project Team explained arrangements of blasting works to the public to ease their concerns.

與鄰近學校講解爆破工程安排的簡介會  
Briefing session with nearby schools about blasting works arrangement



年內，項目團隊也舉辦和協辦了不同類型的社區活動，包括：

During the reporting year, the Project Team also held and co-organised various community activities:

### 社區聯絡小組第三次會議 Community Liaison Group Third Meeting

於 2020 年 10 月 17 日，工程團隊在社區聯絡中心舉辦了社區聯絡小組的第三次會議，與會人士包括沙田區議會代表、沙田區居民及其他相關持份者。會議旨在收集他們的寶貴意見，就工程進度及施工安排進行溝通，同時介紹剛完成的社區聯絡中心予公眾人士參觀。

On 17 October 2020, the Project Team held the third Community Liaison Group Meeting at the CLC, which was attended by representatives from the Sha Tin District Council, local residents of Sha Tin District and other relevant stakeholders. The aim of meeting was to collect their valuable opinions, update project progress and construction works arrangements, as well as introduce the newly completed CLC to the public.



工程團隊與持分者講述工程進度  
The Project Team briefed stakeholders on project progress



### 香港工程師學會虛擬參觀 The Hong Kong Institution of Engineers (HKIE) Virtual Visit

基於新冠病毒疫情肆虐，為保持社交距離，我們於 2020 年 10 月 31 日與香港工程師學會岩土工程組合作，利用網上視像會議舉行了學會的首次虛擬工地參觀。是次活動帶領近 500 名參加者遊覽本項目的工地，與他們進行交流。

Acknowledging the importance of social distancing during the COVID-19 pandemic, we cooperated with the HKIE Geotechnical Division to co-organise the institution's first virtual site visit on 31 October 2020 by an online video conferencing. Nearly 500 participants joined the guided tour to our project site and had fruitful experience and exchanges with us.



## 為見習工程師提供安全訓練 Safety Training for Engineering Graduates

於 2021 年 2 月 4 日，發展局安排了一眾見習工程師到本項目工地進行工地安全視察訓練。透過實地考察，見習工程師可了解施工時會遇到的實際問題及如何有效減低發生工業意外的機會，提升他們的實戰經驗。

On 4 February 2021, the Development Bureau arranged a group of engineering graduates to visit our project site where they received site safety inspection training. During the session, engineering graduates learned about actual site problems often encountered during construction and how to effectively reduce safety risks at construction sites. It enriched their practical experience.



為見習工程師安排工地安全視察訓練  
Site Safety Inspection Training for Engineering Graduates



## 啟德河改善工程 Kai Tak River Improvement Works

啟德河改善工程竣工後，我們於黃大仙區的一段河道設立了導賞徑。該導賞徑全長約一公里，起點設於沙田坳道，沿啟德河畔延伸至位於太子道東的終點。走畢導賞徑全程約需 15 分鐘，沿途可讓市民了解啟德河的歷史及改善工程的資訊。渠務署沿河畔十個不同位置設有資訊牌，冀市民在欣賞啟德河活化及綠化成果的同時，亦可認識啟德河的歷史演變、改善工程概要及生態資訊。

Upon completion of Kai Tak River improvement works, we have set up a trail along the river in Wong Tai Sin district. The 1-km trail starts at Shatin Pass Road and ends at Prince Edward Road East along the riverbank of Kai Tak River. It takes around 15 minutes to complete the trail and visitors can understand the history and drainage improvement works of Kai Tak River along the way. The DSD has set up information panels in 10 different locations of the trail to provide information on the history, improvement works and ecological aspects of Kai Tak River, enabling the public to learn more about the river while enjoying its scenery after the greening and revitalisation works.



啟德河導賞徑資訊牌  
Information panel along Kai Tak River Trail



掃描二維碼瀏覽導賞徑網頁  
Scan the QR code to browse the trail website  
<https://www.dsd.gov.hk/others/KTR>

## 社區活動及展覽 Community Activities and Exhibitions

### 科學為民巡禮 Science in the Public Service

政府致力推動「科學為民」服務巡禮，聯合政府多個部門及其他機構向公眾展示有關的科學工作。因應本年度的主題－「生活中的科學」，我們於 2020 年 8 月 22 日透過網上直播，為此活動作專題演講，介紹渠務署在利用可再生能源方面的最新發展，包括所採用的技術和成效，及相關的挑戰。

The government has been promoting “Science in the Public Service”, mobilising multiple governmental departments and other organisations to showcase their scientific efforts to the general public. Resonating with this year’s theme of “Science in Everyday Life”, we delivered a keynote lecture on 22 August 2020 through online broadcast to present the latest development of the DSD in harnessing renewable energy, including the technologies adopted and their effectiveness, as well as the challenges involved.

本署機電工程師何國基先生於專題演講中介紹渠務署在利用可再生能源方面最新發展  
Our Electrical and Mechanical Engineer, Mr HO Kwok-kei, introduced the latest development of the DSD in harnessing renewable energy in a keynote lecture



### 國際環保博覽 2020 Eco Expo Asia 2020

本署於 2020 年 11 月 19 日參與了由香港貿易發展局舉辦的亞洲環保會議。於會議上，本署的機電工程師何國基先生在「政府環保項目的最新發展」環節介紹了廚餘與污泥共厭氧消化試驗計劃的推展及進度。是次會議於國際環保博覽 2020 舉行，旨在讓參與者了解更多各種政府環保項目。

The DSD participated in the Eco Asia Conference organised by the Hong Kong Trade Development Council on 19 November 2020. In the Conference, our Electrical and Mechanical Engineer, Mr HO Kwok-kei, introduced the implementation and progress of the food waste and sewage sludge co-digestion pilot trial in the section of “Latest Development of Government Projects”. The conference was part of Eco Expo Asia 2020 and aimed to provide opportunities for participants to understand more about various environmentally friendly government projects.

何國基先生於會議上介紹廚餘與污泥共厭氧消化試驗計劃  
Mr HO Kwok-kei introduced the food waste and sewage sludge co-digestion pilot trial scheme in the Conference



## 2020 Build4Asia 會議 Build4Asia Conference 2020

2020年11月20日，本署參加 Build4Asia 會議。是次會議以「綠色及智慧城市的創新工程」為主題，邀請了多名來自香港特區政府、本地工程和建築公司及協會的演講嘉賓。與會者透過討論交流自身在科創方面的經驗，探討了創新工程如何增加社會凝聚力和經濟活力，實現可持續願景。

The DSD was represented at the Build4Asia Conference on 20 November 2020. Themed "Engineering Innovations in Smart and Green Cities", the Conference invited various guest speakers from the HKSAR government, local engineering and building companies and associations to share their insights. The participants exchanged their experience in technology through discussions, exploring innovative ways to achieve social cohesion, economic vibrancy and environmental sustainability.

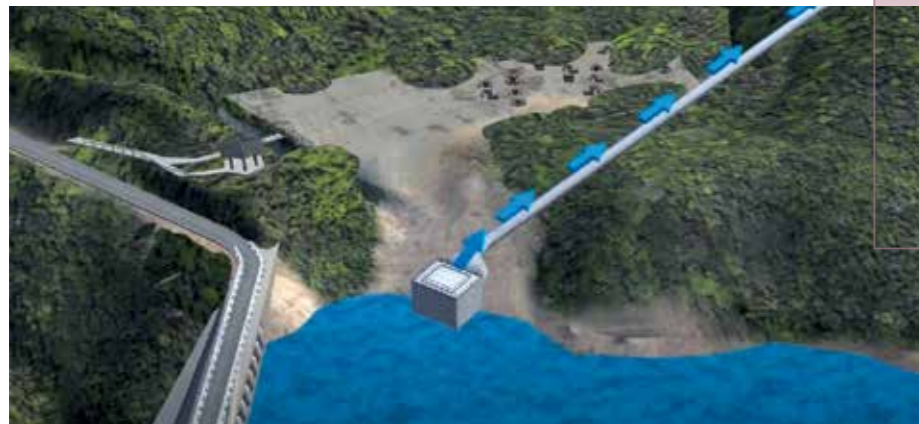
本署高級工程師馬世昌先生於會議就「以創新方法從污水處理發掘更多可再生能源」分享經驗  
DSD Senior Engineer, Mr Eddie MA, shared his experience in "Innovative Way to Harvest More Renewable Energy in Sewage Treatment" during the Conference



## 創新科技嘉年華 2020 InnoCarnival 2020

本署於2020年12月23日至12月31日參加了由創新科技署主辦的創新科技嘉年華2020。嘉年華於網上舉行，內容包括網上展覽、工作坊及講座。為配合活動主題「攜手共創·超越所想」，本署以工程項目「水塘間轉運隧道計劃」為主軸。透過網上展覽及動畫，我們介紹了工程進度及創新意念，同時讓市民了解此項目於防洪及惜水兩方面的雙重目標。

The DSD participated in the InnoCarnival 2020 organised by Innovation and Technology Commission from 23 to 31 December 2020. The online carnival included a series of online exhibitions, workshops and talks. In line with the event theme of "Collaborate • Innovate • Beyond Imagination", the DSD adopted the construction project "Inter-Reservoirs Transfer Scheme" as the highlight. Through an online exhibition and animation, we introduced the progress and innovative ideas of the project, as well as its dual purposes of flood prevention and water preservation.



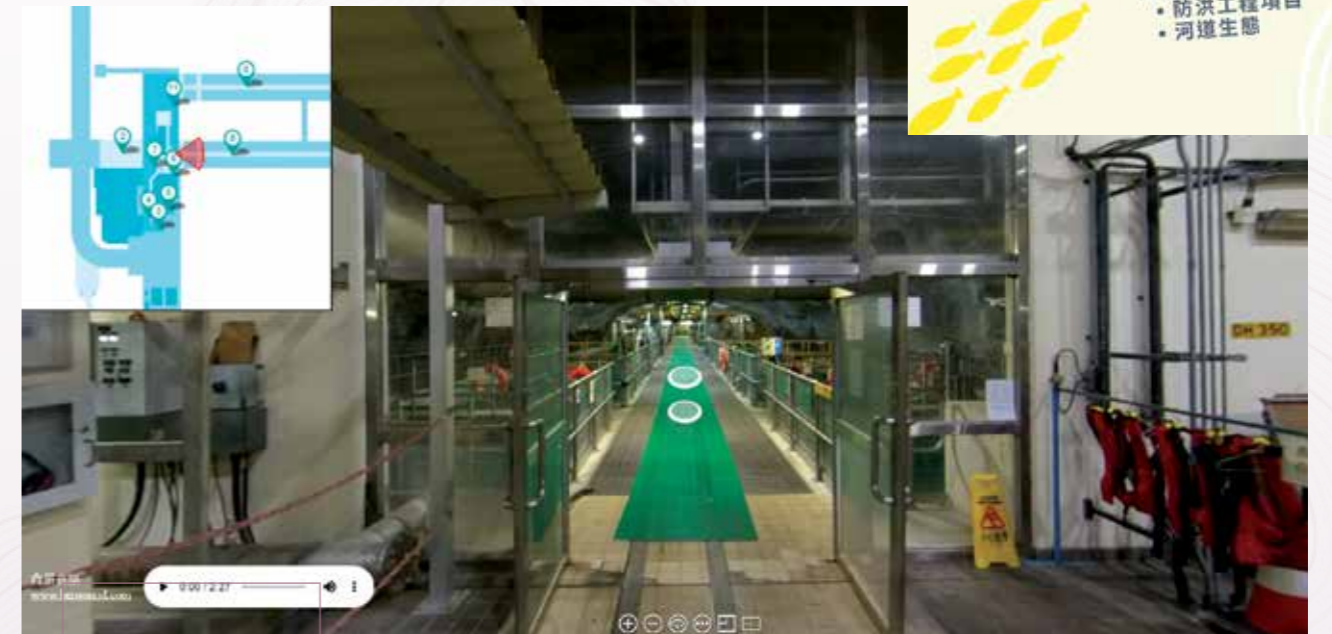
水塘間轉運隧道計劃  
工程動畫片段  
Animation Scene of  
the Inter-Reservoirs  
Transfer Scheme

## 具教育意義的參觀活動 Educational Visits

我們透過舉辦導賞活動，讓市民參觀本署轄下的設施，加深他們對本署服務及日常運作的了解。鑑於政府在疫症大流行期間實施社交距離措施，我們既透過渠務署網頁提供渠務設施網上遊，亦與本地環保團體「綠色力量」合辦可讓公眾以虛擬形式或親身參與的「人生幾『河』—元朗排水繞道導賞團」，讓市民可隨時隨地深入了解設施運作。年內，我們曾接待團體參觀赤柱污水處理廠及荔枝角雨水排放隧道等本署設施。

It is our practice to organise guided tours for the public to visit our facilities so they can better understand the DSD's services and daily operations. In view of the Government's implementation of social distancing measures during the COVID-19 pandemic, we not only offered online tours of the DSD's facilities via our website, but also co-organised Encounter with Rivers – Yuen Long Bypass Floodway Public Guided Tour with local green group Green Power. Members of the public could join the tour virtually or in person to explore the operations of our facilities anytime and anywhere. During the year, group tours to DSD facilities, such as Stanley STW and Lai Chi Kok Drainage Tunnel, were arranged.

人生幾「河」—  
元朗排水繞道導賞團  
Encounter with  
Rivers – Yuen Long  
Bypass Floodway  
Public Guided Tour



赤柱污水處理廠 360 度  
虛擬實境導覽  
Stanley Sewage  
Treatment Works  
360-degree Virtual Tour



## 工作伙伴參與 Working Partners Engagement

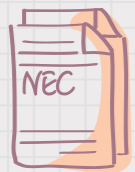
在渠務署的供應鏈中，我們主要透過聘請顧問及承辦商，以合約形式提供顧問服務、進行工程及提供建築材料。渠務署積極與工作伙伴建立緊密互信的合作關係，達至雙贏。我們正逐步推行「新工程合約」的合作模式，提升工作伙伴的參與度，有助提升項目效率。與此同時，本署亦致力實施嚴謹的職業安全與健康措施，保障工作伙伴的安全。

Along the supply chain of the DSD, we mainly engage consultants and contractors that provide consultancy services, carry out construction works and provide construction materials on a work contract basis. The DSD is actively building close and trusted partnership with working partners for mutual benefits. We are gradually promoting partnership using the New Engineering Contract (NEC) model to encourage active participation of working partners and enhance project efficiency. At the same time, the DSD is also dedicated to implementing stringent OSH measures to guarantee the safety of our working partners.

### 採用「新工程合約」 Launch of New Engineering Contracts

相比傳統合約模式，「新工程合約」較著重工作伙伴的承擔。此模式強調本署與工作伙伴的合作性，期望攜手加強工程管理，提升工程效率，減低因工程延誤而造成的負面影響。截止目前為止，本署已完成 33 份「新工程合約」，涵蓋土木工程、機電工程、維修保養和工程顧問服務等範疇。其中，跑馬地地下蓄洪計劃的工程也採用了新模式，最終提早了 14 個月完工，可以節省約 1.1 億元工程費用。

As compared with traditional engineering contracts, the NEC model puts emphasis on the responsibility born by our working partners. The model stresses collaboration between the DSD and our working partners to jointly enhance construction management and hence improve project effectiveness to minimise the negative impact of project delays. Currently, the DSD has completed 33 NECs, covering civil engineering projects, electrical and mechanical engineering projects, maintenance works and consultancy services, etc. In particular, the Happy Valley Underground Stormwater Storage Scheme which adopted the new NEC model was completed 14 months ahead of schedule, saving approximately \$110 million of project cost ultimately.



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本署由 2009 年至今共批出的  
新工程合約數目  
NECs the DSD has awarded since 2009

30

年內共批出的新工程合約  
NECs awarded in the year under review

## 推動「新工程合約」所獲得的認可 Awards in Recognition of Promoting New Engineering Contracts

年內，本署獲英國新工程合約用戶組織頒發三項「新工程合約」獎項。其中，「建造櫻桃街箱形雨水渠旱流截取設施」及「沙頭角污水處理廠第一期擴建工程及塘肚鄉村污水收集系統」分別獲頒「年度水利工程項目」大獎及優良獎，而「沙頭角污水處理廠第一期擴建工程及塘肚鄉村污水收集系統」工程亦憑藉其工程監督系統數碼化等創新措施，獲頒「年度創新合約項目」優良獎。這次是本署繼 2019 年榮獲「工程委託機構大獎」後再次獲獎。

During the year, the DSD received three NEC Awards from the United Kingdom's NEC User's Group. In particular, the "Construction of Dry Weather Flow Interceptor at Cherry Street Box Culvert" and "Expansion of Sha Tau Kok Sewage Treatment Works Phase 1 and Village Sewerage in Tong To" won the NEC Water Contract of the Year 2020 and "Highly Commended #1" prize of the same group respectively, while the "Expansion of Sha Tau Kok Sewage Treatment Works Phase 1 and Village Sewerage in Tong To" project won the "Highly Commended #1" of NEC Contract Innovation Award 2020 on the strength of its pilot initiatives, including the digital works supervision system. This is the second time that the DSD was accredited after receiving the award of Client of the Year in 2019.



渠務署推動「新工程合約」的工作得到肯定  
DSD was recognised for its efforts towards promoting NEC

## 伙伴工作坊 Partnering Workshop

為實踐「新工程合約」模式的團隊精神，渠務署不時與承建商的管理層和前線員工進行伙伴工作坊，互相交流分享在工程上所面對的問題和意見，並訂定共同目標，以減低工程阻礙、加強溝通及資訊交流、加快工程進度和提升品質控制，以及提升地盤管理效率，攜手克服工程上的挑戰。我們期望雙方能通過工作坊了解到各展所長、創新求變和平衡各方意見的重要性。

To realise the team spirit of the NEC model, the DSD conducts partnering workshops with managerial personnel and frontline staff of our main contractors from time to time. On these occasions, we share problems faced and views on works projects, and at the same time set common goals to reduce project disruption, facilitate exchange of information and better communication, fast-track project progress and improve quality control, enhance site management efficiency, as well as overcome engineering challenges collaboratively. We hope these workshops would help both the DSD and our contractors to understand the importance of leveraging each other's strengths, pursuing innovation and balancing the views of all parties.



佐敦谷明渠活化工程及市區及新界小型渠務改善工程「伙伴工作坊」參加者合照  
Group photo of Partnering Workshop participants under Revitalisation Works of Jordan Valley Nullah and Minor Drainage and Sewerage Works in Urban Area and the New Territories

參加者在工作坊為工程訂定共同目標  
Participants setting common objectives at the Workshop



## 推廣職業安全與健康 Promoting OSH

本署亦強調工作伙伴的健康與安全。我們透過推行多項工地安全改善措施及舉辦不同活動，包括經驗分享會和工地安全及整潔獎勵計劃，保障員工以及工作伙伴的職業安全與健康。

The DSD also puts great store by the health and safety of working partners. Through introducing a number of site safety improvement measures and activities, including experience sharing sessions and the Construction Sites Safety and Housekeeping Award Scheme, we guarantee the OSH of our staff and working partners.

### 經驗分享會及實地考察 Experience Sharing Sessions and Site Visits

我們於 2020 年 10 月為超過 20 名來自本署不同分部的同事舉行有關污水處理工作的職安健講座，並邀請職業安全健康局的安全專員作講解，以提升同事們的安全意識。

In October 2020, we organised an OSH seminar related to sewage treatment for more than 20 colleagues from different divisions of the DSD. Lecture was delivered by a safety specialist from the Occupational Safety & Health Council to enhance safety awareness.



本署同事參與職安健講座  
Our colleagues attending an OSH seminar

### 工地安全及整潔獎勵計劃 2020 Construction Sites Safety and Housekeeping Award Scheme 2020

除了員工和工作伙伴的安全，我們亦相當重視環境的安全。本署自 2004 年起每年舉辦「工地整潔獎勵計劃」，旨在與本署工地督導人員、承建商和工程顧問建立良好的工地管理文化並加強彼此的團隊合作精神。該計劃於 2018 年改名為「工地安全及整潔獎勵計劃」，我們認可並頒發獎項予工地安全及整潔表現突出的團隊。共有 43 支隊伍參與 2020 年度的計劃，當中 13 支獲頒「最佳工地安全及整潔獎」或「優異獎」。

Apart from the safety of staff and working partners, we also value environmental safety. The DSD has been hosting the annual "Construction Sites Housekeeping Award Scheme" since 2004 with the aim of instilling a culture of good construction site management and team spirit among the DSD's in-house site supervisory staff, contractors and consultants. In 2018, the Scheme was renamed "Construction Sites Safety and Housekeeping Award Scheme", recognising teams with outstanding site management performance. Among the 43 contract teams participating in the 2020 Scheme, 13 received either "The Best Construction Sites Safety and Housekeeping Award" or the "Meritorious Award".



## 與區議員聯繫 Liaison with District Councillors

渠務署非常重視社區共融，故此我們積極與項目的所在社區保持緊密聯繫，透過定期出席區議會會議，聆聽區內居民的需要並作出及時而合適的回應。年內，渠務署署長出席了離島、西貢、屯門及灣仔區議會的會議。除了聆聽該區的需要，我們亦在會議上向區議員介紹本署在區內正進行的項目，加深他們對本署項目的了解。

The DSD recognises the importance of social inclusion, and as a result maintains close contact with districts where we implement our projects by attending District Council (DC) meetings regularly to listen to the needs of local residents and give timely and appropriate responses. During the year, the Director of Drainage Services attended meetings of the Islands DC, Sai Kung DC, Tuen Mun DC and Wan Chai DC. Apart from listening to local needs, we also presented current projects in these districts so the District Councillors could have more comprehensive knowledge of the same.



2020 年 11 月 3 日，時任渠務署署長盧國華先生（左二）出席西貢區議會會議

On 3 November 2020, Mr Kelvin LO Kwok-wah (second left), the then Director of Drainage Services, attended the Sai Kung DC meeting



渠務署署長彭雅妮女士（左）在灣仔區議會議員參觀跑馬地地下蓄洪池期間與他們交流

Ms Alice PANG (left), Director of Drainage Services, communicated with Wan Chai DC members during their visit to Happy Valley Underground Stormwater Storage Tank





## 環保團體參與 Green Groups Engagement

為推動環境可持續發展，本署積極保持與本地環保團體的友好關係，以就保育及環保事宜進行交流。年內，我們安排共兩次會議，與長春社、創建香港、綠色力量、香港觀鳥會、嘉道理農場暨植物園和世界自然基金會香港分會等本地環保團體溝通。會議內容包括提高河道生態價值、保育現存河流生境、活化水體、促進生物多樣性、推廣親水文化，以及解決渠務工程的環保議題。

To promote environmental sustainability, the DSD makes active efforts to maintain amicable relationships with local green organisations and exchange views on conservation and environmental protection issues. During the year, we arranged two meetings to communicate with local green groups, including Conservancy Association, Designing Hong Kong, Green Power, Hong Kong Bird Watching Society, Kadoorie Farm and Botanic Garden and World Wide Fund for Nature Hong Kong. At these meetings, we discussed topics such as enhancing ecological value of rivers, preserving habitats in existing rivers, revitalising water bodies, promoting biodiversity, fostering a water-friendly culture and addressing environmental issues related to drainage projects.



2020年5月8日，渠務署代表與環保團體會面，交流對打鼓嶺雨水排放系統改善工程的意見

On 8 May 2020, DSD representatives arranged a meeting with green group members to exchange views on proposed drainage improvement works in Ta Kwu Ling

渠務署代表與環保團體在元朗明渠擬建防洪設施的地點進行實地考察

DSD representatives visited the site of proposed drainage facilities at Yuen Long Nullah with green group members



## 媒體參與 Media Engagement

本署一直與媒體保持緊密聯繫。透過多種渠道，如節目、專訪及簡報會等，讓公眾更了解本署於創新科技、淨流防洪和藍綠排水建設等方面的工作，鞏固部門的專業形象並提升工作透明度。

The DSD has always maintained close communication with the media. Through multiple channels, such as programmes, interviews and briefings, we enable the public to understand our efforts towards introducing innovative technologies, water purification and flood prevention, as well as blue-green drainage infrastructure, so as to consolidate our professional image and enhance the transparency of our works.

### 管理層與傳媒溝通 Exchanges between DSD Management and the Media



2020年11月23日  
23 November 2021

本署署長彭雅妮女士於2020年11月23日應香港工程師協會邀請，接受香港經濟日報訪問，分享她在工務部門的工作點滴，以及渠務署未來工程項目的發展方向。相關專訪於2020年11月30日刊登。

On 23 November 2020, invited by the HKIE, the Director of Drainage Services, Ms Alice PANG, gave an interview to the Hong Kong Economic Times to share her memories in various works departments and the development direction of the DSD's future works projects. The exclusive interview was published on 30 November 2020.

署長彭雅妮女士介紹渠務署的發展方向  
Ms Alice PANG, Director of Drainage Services, introduced the DSD's development direction

2021年3月25日  
25 March 2021

本署邀請各大傳媒出席年度簡報會，向他們講解轄下設施的新防洪措施，並帶領記者到搬遷沙田污水處理廠往岩洞的工地參觀。

The DSD invited the media to attend our annual briefing, introducing our new measures on flood prevention in our facilities and led reporters on a tour of the site of Relocation of Sha Tin Sewage Treatment Works to Caverns.

署長彭雅妮女士簡介渠務署的防洪新措施  
Ms Alice PANG, Director of Drainage Services, introduced the DSD's new measures on flood prevention



署長彭雅妮女士向傳媒簡介搬遷沙田污水處理廠往岩洞工程進度  
Ms Alice PANG, Director of Drainage Services, briefed the media on the progress of the Relocation of Sha Tin Sewage Treatment Works to Caverns



## 渠務署工程及工作宣傳 Publicity on DSD Projects and Initiatives

### 地下蓄洪計劃 Underground Stormwater Storage Scheme



時任工程師袁佩珊女士（右）和工程師張飛傑先生（左）簡介規劃中的地下蓄洪計劃  
The then Engineer Ms Priscilla YUEN Pui-shan (right) and Engineer Mr Fei-kit CHEUNG (left) talked about the underground stormwater storage schemes under planning

**2020年5月28日  
28 May 2020**

工程師張飛傑先生向蘋果日報、明報、大公報和香港01記者闡述渠務署應對極端天氣的方法，以及介紹規劃中的6個地下蓄洪計劃。時任工程師袁佩珊女士於石硤尾公園向記者講解石硤尾蓄洪計劃的工程背景和初步設計構想。相關報道已於同年6月2日刊登。

Engineer Mr Fei-kit CHEUNG explained how the DSD responded to challenges brought by extreme weather and introduced the six proposed underground stormwater storage schemes (USSS) to reporters from Apple Daily, Ming Pao, Ta Kung Pao and HK01. The then Engineer, Ms Priscilla YUEN Pui-shan, introduced the project background and early design concept of Shek Kip Mei USSS at Shek Kip Mei Park. The news article was published on 2 June 2020.

### 水塘間轉運隧道計劃 Inter-Reservoirs Transfer Scheme

**2020年6月23日  
23 June 2020**

於2020年6月23日，本署的工程師葉浩朋先生向蘋果日報、香港01、明報、東方日報、星島日報及大公報的記者，介紹水塘間轉運隧道計劃，包括其防洪功能和效益，並解釋使用隧道鑽挖機建造輸水隧道的好處。報道於同月26日發布。

On 23 June 2020, our Engineer, Mr Raymond IP Ho-pang met reporters of Apple Daily, HK01, Ming Pao, Oriental Daily, Sing Tao Daily and Ta Kung Pao and presented the Inter-Reservoirs Transfer Scheme, including its flood prevention function and effectiveness, and explained the benefits of using a tunnel boring machine to build the water tunnel. The article was published on 26 June 2020.



工程師葉浩朋先生向記者介紹隧道鑽挖機的組裝過程  
Engineer, Mr Raymond IP Ho-pang presented the assemble process of the tunnel boring machine

## 應對極端天氣 Combating Extreme Weather

**2020年6月11日  
11 June 2020**

總工程師劉勝昌先生接受了明報專訪，分享了一系列渠務署採取的長期及短期防洪措施，包括增建蓄洪池、河道活化和實施「及時清渠」等以實際行動應對越趨嚴峻的氣候變化問題。訪問已於同月14日刊登。

Chief Engineer Mr Edwin LAU Shing-cheong gave an exclusive interview to Ming Pao to share a series of short- and long-term flood prevention measures implemented by the DSD, including the construction of additional underground stormwater storage tanks, revitalising river and carrying out "just-in-time clearance", etc., to showcase our actions in combating escalating climate change impacts. The interview was published on 14 June 2020.



總工程師劉勝昌先生解釋應對極端天氣的方法  
Chief Engineer, Mr Edwin LAU Shing-cheong, explained measures to respond to extreme weather

**2020年7月7日  
7 July 2020**

本署高級工程師梁華明先生接受了美國有線新聞網的專訪，介紹本署的防洪策略。同日，工程師劉耀文先生帶領記者參觀跑馬地地下蓄洪池及港島西雨水排放隧道，實地講解設施的設計及運作。相關報道於同月26日發布。

Our Senior Engineer Mr Richard LEUNG Wah-ming gave an interview to CNN to introduce the DSD's flood prevention strategies. On the same day, Engineer Mr Alex LAU Yiu-man took the reporter to Happy Valley Underground Stormwater Storage Tank and Hong Kong West Drainage Tunnel to give an on-site brief about their design and operation. The report was published on 26 July 2020.



工程師劉耀文先生（左）向記者介紹跑馬地地下蓄洪池  
Engineer Mr Alex LAU Yiu-man (left) introduced Happy Valley Underground Stormwater Storage Tank to the reporter

## 「設計思維」工程規劃

"Design Thinking" in Project Design



工程團隊於石湖墟污水處理廠接受訪問和拍攝  
Project team was interviewed and filmed at Shek Wu Hui Sewage Treatment Works

2020年11月19日  
19 November 2020

時任高級工程師劉永華先生和工程師張詠欣女士接受香港經濟日報網頁平台訪問，分享本署於石湖墟淨水設施工程規劃中，如何應用「設計思維」的思考模式，將持份者的意見融入設計當中，體現「以人為本」的設計理念。

The then Senior Engineer, Mr LAU Wing-wah, and Engineer, Ms Konica CHEUNG Wing-yan, gave an interview to the Hong Kong Economic Times online platform. They shared how the DSD applied "Design Thinking" in the planning of Shek Wu Hui Effluent Polishing Plant project and integrated feedback of different stakeholders into the design to realise the "people-oriented" design concept.

## 參與電子媒體資訊節目

Participating in Electronic Information Programme

### 新式遙控清淤機械人

New Remote-Controlled Desilting Robot

2020年6月30日  
30 June 2020

本署工程師葉林先生於2020年6月30日接受無綫電視節目《創科導航》訪問，介紹新式遙控清淤機械人的功能，以及如何提升工作效率和工作安全。節目已於同年9月30日播出。

Engineer Mr Colin IP Lam of the DSD gave an interview to TVB's programme "Innovation GPS" on 30 June 2020. He presented various features of the new remote-controlled desilting robot and how it could enhance efficiency and work safety. The programme was broadcast on 30 September 2020.



工程師葉林先生（右）講解新式遙控清淤機械人如何操作  
Engineer Mr Colin IP Lam (right) explained how the new remote-controlled desilting robot operates

## 應對氣候變化

Responding to Climate Change



2020年8月12日  
12 August 2020

高級工程師黃德誠先生於2020年8月12日出席香港電台節目《環保身開始》。節目中，黃先生講解了本署在市區和鄉村地方以不同方法，應對氣候變化和規劃防洪設施。黃先生表示，渠務署除考慮設施的防洪能力外，亦重視自然環境和生態保育，並會應用新技術減省能源耗用。節目已於同年10月24日播放。

高級工程師黃德誠先生簡介跑馬地地下蓄洪池運作  
Senior Engineer Mr Tommy WONG Tak-shing introduced the operation of Happy Valley Underground Stormwater Storage Tank

Senior Engineer Mr Tommy WONG Tak-shing attended a Radio and Television Hong Kong (RTHK) programme, Environment and Health, on 12 August 2020. In the programme, Mr WONG explained how the DSD used different ways to respond to climate change and design flood prevention facilities in urban and rural areas. He communicated that apart from taking flood prevention capacity into consideration, the DSD also valued natural environment and conservancy, as well as the application of new technologies to reduce electricity consumption. The programme was broadcast on 24 October 2020.

高級工程師黃德誠先生於壘圍雨水蓄洪池講解鄉村防洪計劃的設計及運作

Senior Engineer Mr Tommy WONG Tak-shing presented the design and operation of the Village Flood Protection Schemes at the Pok Wai stormwater storage pond



2020年9月4日  
4 September 2020

此外，本署工程師鄧梓輝先生亦在2020年9月4日出席了香港電台電視節目《日常八點半》，透露渠務署正研究在市政局百週年紀念花園建造一個地下蓄洪池，同時為附近一帶增建雨水渠，最終可以大大減低該區的水浸風險。訪問已於同年10月21日播出。

Also during the year, the DSD Engineer Mr Jackel TANG Tze-fai appeared on RTHK's TV programme, 830 Mag, on 4 September 2020. He revealed that the DSD's plan to construct an underground stormwater storage tank under the Urban Council Centenary Garden and new drains in the vicinity which would ultimately alleviate flood risk of the district significantly. The interview was broadcast on 21 October 2020.



工程師鄧梓輝先生（右）介紹渠務署尖沙咀防洪計劃  
Mr Jackel TANG Tze-fai (right), Engineer, introduced the DSD's flood prevention plan in Tsim Sha Tsui

## 提升工業安全

### Promotion of Industrial Safety

**2020年8月20日**  
20 August 2020

時任高級工程師黃紹祥先生與合約安全顧問柯炳坤先生接受工業傷亡權益會邀請，為其香港電台社區參與廣播節目《職業死亡的十三個懸念》進行錄音訪問，分享本署如何提升進入密閉空間工作的安全措施。

The then Senior Engineer, Mr WONG Shiu-cheung and Contract Safety Advisor, Mr Francis OR Ping-kun, shared measures the DSD implemented to enhance industrial safety for working in confined space in an Association for the Rights of Industrial Accident Victims' pre-recorded radio programme under Community Involvement Broadcasting Service of the RTHK.



時任高級工程師黃紹祥先生（左）和合約安全顧問柯炳坤先生（右）接受訪問  
The then Senior Engineer, Mr WONG Shiu-cheung (left), and Contract Safety Advisor, Mr Francis OR Ping-kun (right) were interviewed

## 推廣維港沿岸設施

### Publicising Facilities by the Victoria Harbour

**2021年2月28日**  
28 February 2021

機電工程師梁婉婷女士參與海濱事務委員會與活現香港共同製作的虛擬導賞節目「周遊·海濱」，介紹本署兩個位於維多利亞港近岸的上環雨水泵房和中環基本處理廠。梁女士亦解釋了污水處理過程和淨化海港計劃。

Electrical and Mechanical Engineer, Ms Stephanie LEUNG Yuen-ting, participated in an online live tour, Journeys in Our Harbour, co-produced by the Harbourfront Commission and Walk in Hong Kong. In the tour, Ms LEUNG introduced two facilities of the DSD by the Victoria Harbour, namely Sheung Wan Stormwater Pumping Station and Central Preliminary Treatment Works. Ms LEUNG explained the sewage treatment process as well as the HATS.



機電工程師梁婉婷女士介紹位於維多利亞港近岸的渠務署設施  
Electrical and Mechanical Engineer, Ms Stephanie LEUNG Yuen-ting, introduced the DSD's facilities by the Victoria Harbour

## 分享義務工作

### Sharing Voluntary Work

**2020年5月20日**  
20 May 2020

渠務署義工隊代表徐泳雯女士接受香港電台第五台長者資訊節目「香江暖流」的電話直播訪問，分享渠務署「愛·與耆義同行」義工項目的內容和服務感受。

Representing the DSD Volunteer Team, Ms Ginny TSUI Wing-man shared details of the DSD's "i-connect" elderly voluntary service project and her service experience during a live telephone interview in "Elderly", an informative elderly programme of RTHK Radio 5.



渠務署義工隊代表徐泳雯女士（左）接受香港電台第五台訪問  
Ms Ginny TSUI Wing-man (left), representative of the DSD Volunteer Team, was telephone interviewed by RTHK Radio 5

**2020年11月15日**  
15 November 2020

此外，徐泳雯女士亦代表義工隊接受了香港 01、經濟日報和文匯報的訪問，分享義工隊榮獲「建造業義工獎勵計劃」非凡建造業義工項目（金獎）的喜悅。訪問中，徐女士分享籌辦及參與「愛·與耆義同行」－認知障礙症義工項目的過程，並展示義工隊創作的健腦遊戲。相關訪問已於同月 16 日刊登。

Ms Ginny TSUI Wing-man was also interviewed by HK01, the Hong Kong Economic Times and Wen Wei Po as representative of the DSD Volunteer Team to share the joy and honour of receiving the Excellence in Construction Industry Volunteering Project (Gold) award under the Construction Industry Volunteer Award Scheme. During the interview, Ms TSUI shared the whole process of organising and participating the "i-connect" – Dementia project and showed a number of brain-training games made by DSD Volunteer Team. The interview was published on 16 November 2020.



渠務署義工隊成員徐泳雯女士向記者展示多款由義工隊創作的健腦遊戲  
Ms Ginny TSUI Wing-man, member of the DSD Volunteer Team, showed some brain-training games made by the Team



## 專業團體參與 Professional Bodies Engagement

作為強調科研創新的機構，渠務署一向積極與各專業團體，包括學者、專業人士、業界代表、其他持份者和政府部門等進行交流，分享對業界最新發展的心得。同時，我們交流最新技術，期望共同推進可持續發展。年內，本署舉辦並參與了多場研討會。

Being an organisation that puts emphasis on research, development and innovation, the DSD has always actively interacted with various professional bodies, including academics, professionals, industry representatives, other stakeholders and government departments, to share our views on the latest development of the industry. We are also pleased to exchange the latest technologies with these partners to promote sustainability together. During the year, the DSD organised and participated in a number of seminars.



與外國代表團會面  
Meeting with a foreign delegation

## 西班牙商務署代表團到訪渠務署 Delegation from the Spanish Trade Commission Visited the DSD

本署於2020年5月6日接待了西班牙駐香港總領事館的西班牙商務署代表團到訪本署總部。時任渠務署署長盧國華先生向代表團簡介本署的架構及主要工作。此外，高級工程師彭靜儀女士及沈儀芝女士分別介紹渠務署正進行招標的工程及招標安排。

On 6 May 2020, the DSD welcomed a delegation from the Spanish Trade Commission of the Consulate General of Spain in Hong Kong to our Headquarters. During the meeting, Mr Kelvin LO Kwok-wah, the then Director of Drainage Services, gave a brief introduction to the delegation on the DSD's structure and core responsibilities. In addition, our Senior Engineers Ms Katherine PANG Ching-yee and Ms Alice SHING Ne-chi presented DSD projects being tendered and their tender arrangements respectively.

時任渠務署署長盧國華先生（左二）向西班牙商務署代表團簡介渠務署的工作  
Mr Kelvin LO Kwok-wah (second left), the then Director of Drainage Services, explained the DSD's core responsibilities to the Spanish Trade Commission delegation members





## 義工服務及慈善活動

### Voluntary Service and Charity Activities

本署同事於工餘時熱心參與義工活動，即使面對新冠疫情仍無阻我們貢獻社會的決心。年內，本署的義工隊參與了 14 項義工服務活動，總服務時數超過 520 小時。

Our colleagues take part in voluntary service with great enthusiasm in their spare time. Unperturbed by the COVID-19 pandemic, DSD staff remains committed to giving back to society. During the year, the DSD Volunteer Team joined 14 volunteer service programmes, clocking over 520 service hours.

### 「建造業義工獎勵計劃 2020」

#### Construction Industry Volunteer Award Scheme 2020

渠務署義工隊自 2017 年起舉辦一系列以「愛·與耆義同行」命名的義工活動，旨在幫助有認知障礙症長者。今年的重點項目「『愛·與耆義同行』－ 認知障礙症」在建造業議會舉辦的「建造業義工獎勵計劃 2020」中脫穎而出，榮獲「評審嘉許－非凡建造業義工項目」金獎。此外，本署社區關係主任許月婷女士獲業界嘉許，贏得「評審嘉許－卓越建造業義工」銀獎。

The DSD Volunteer Team has been launching a series of voluntary programmes entitled “i-connect” since 2017 to lend a helping hand to the elderly with dementia. This year’s highlight “i-connect – Dementia” was awarded the “Judges’ Appreciation – Excellence in Construction Industry Volunteering Project” Gold Award under the Construction Industry Volunteer Award Scheme 2020 organised by the Construction Industry Council. In addition, Ms Holly HUI Yuet-ting, Community Relations Officer of the DSD, was held in high regard by the industry and crowned with the honour of “Judges’ Appreciation – Excellence in Construction Industry Volunteering” Silver Award.

在項目內容方面，我們除了安排義工接受培訓以便了解認知障礙症患者所面對的困難，如肢體協調能力退化、溝通能力變差等，亦鼓勵義工設計各種有助長者改善肢體協調能力的工具，如「波子盤」及「西環舊照拼圖」。

The project not only provided volunteers with training that could help them understand the difficulties faced by dementia patients, including degeneration of physical coordination and communication skills, but also encouraged volunteers to design various tools that could help the elderly to improve their physical coordination, such as Marble Ball Tray and Sai Wan Old Photo Puzzles.



義工就「『愛·與耆義同行』－ 認知障礙症」項目為長者設計的「波子盤」及「西環舊照拼圖」  
Marble Ball Tray and Sai Wan Old Photo Puzzles designed by volunteers for “i-connect – Dementia”



建造業議會主席陳家駒先生（左五）、署長彭雅妮女士（左四）、前署長盧國華先生（右五）與渠務署義工隊成員合照

Group photo of the Chairman of Construction Industry Council, Mr. CHAN Ka-kui (fifth left), the current Director of Drainage Services, Ms. Alice PANG (fourth left), the former Director of Drainage Services, Mr. Kelvin LO Kwok-wah (fifth right) and members of the DSD Volunteer Team

## 魯班服務月 2020 - 建造業海岸清潔日

### "Lo Pan Service Month" 2020 – Construction Industry Shoreline Clean-up Day

為響應每年的魯班服務月，時任渠務署署長盧國華先生於年內率領本署同事，參與建造業海岸清潔日，藉此保護珍貴的海岸環境，以及承傳魯班先師的精神。

To echo with the annual Lo Pan Service Month, Mr Kelvin LO Kwok-wah, the then Director of Drainage Services, led DSD colleagues on Construction Industry Shoreline Clean-up Day during the year to protect our precious shoreline and carry forward the spirit of Master Lo Pan.



時任署長盧國華先生（右三）率領本署同事在東涌灣參與建造業海岸清潔日  
Mr Kelvin LO Kwok-wah (third right), the then Director of Drainage Services, led DSD colleagues on Construction Industry Shoreline Clean-up Day at Tung Chung Bay



時任渠務署署長盧國華先生（左二）與同事合力清理海岸  
Mr Kelvin LO Kwok-wah (second left), the then Director of Drainage Services, joined forces with DSD colleagues to clean up the shoreline

### 「渠心關顧」嘉許計劃 “iCare” Appreciation

本署義工隊推出「渠心關顧」嘉許計劃，旨在鼓勵本署同事及其家庭成員攜手提供義工服務，體現「助人為快樂之本」的精神。這項計劃雖然在推出首年因 2019 冠狀病毒病大流行而受影響，但本署仍有 10 位同事累積超過目標義務工作時數並獲頒「嘉許狀」，充分彰顯本署「以心為心 盡力盡心」的精神。

The DSD Volunteer Team launched an “iCare” appreciation scheme to encourage colleagues to engage their family members in voluntary service to embody the spirit of “better to give than to take”. Although the scheme was affected by the COVID-19 pandemic in its inaugural year, 10 DSD colleagues were awarded appreciation certificates for exceeding the target number of volunteering hours, highlighting the DSD’s spirit of “Doing It from the Heart”.

時任渠務署署長盧國華先生頒發「渠心關顧」嘉許狀予同事  
Mr Kelvin LO Kwok-wah, the then Director of Drainage Services, presented “iCare” appreciation certificates to colleagues



## 「渠心抗疫」口罩製作 “i Fight the Virus” Mask Making Events

本署致力與市民攜手對抗新冠病毒。2019 冠狀病毒病爆發初期，市面上出現口罩搶購潮，不少老人家均通宵達旦排隊搶購口罩，有見及此，義工隊繼在 2020 年 5 月 3 日與明愛莫張瑞勤社區中心合辦口罩縫製和包裝活動後，於同年同月 9 日再次與該中心及路政署義工隊合辦口罩縫製和派發活動，期間邀請長者義工擔任導師，負責教授其他義工如何利用布料縫製出精緻的布口罩。其後，義工將縫製好的口罩派發予西環區內有需要的人士，藉以協助他們紓緩因口罩不足而受到的困擾。

The DSD is dedicated to combating the COVID-19 pandemic with the public. In light of panic buying of masks during the onset of COVID-19 when the elderly queued up overnight to purchase face masks, the DSD Volunteer Team co-organised a mask sewing and packing exercise with Caritas Mok Cheung Sui Kun Community Centre on 3 May 2020, followed by a joint mask sewing and distribution event with the Centre and the Volunteer Team of the Highways Department on 9 May 2020. Elderly volunteers were invited to act as instructors to teach other volunteers how to sew exquisite cloth masks using fabric. Subsequently, the finished masks were distributed to the needy in the Western District to alleviate their anxiety about the shortage of masks.



義工學習縫製口罩  
Volunteers learned how to sew masks



「渠心抗疫」口罩包裝活動  
Mask packaging event under “i Fight the Virus”

## 「渠心關顧 – 暖暖心意」 iCare – Box of LOVE

2019 冠狀病毒病大流行期間，長者院舍及獨居長者的探訪活動因社交接觸受限而大減，而部分基層亦因生計受影響而承受巨大壓力。本署「為善最樂」的精神，本署義工隊十分關注各個社羣在疫症大流行期間的心理健康及日常需要，於是舉辦名為「渠心關顧 – 暖暖心意」的活動項目，透過與多家機構合作，招募不同年齡層的義工為長者及基層兒童準備獨一無二的禮盒，藉以向他們傳達關懷與節日祝福之意。禮盒內容由各義工因應所贈者親自構思，當中包括防疫用品、文具、圖書、保暖衣物、日用品、健康食品、節日裝飾、手作品、手寫心意卡等。此項目大受歡迎，除得到渠務署署長的積極支持外，還有部分同事邀請子女一同參與活動，在疫症大流行期間與為長者及基層家庭並肩同行。

During the COVID-19 pandemic, the number of visits to elderly homes and elderly persons living alone were significantly reduced due to restriction of social contact. Some grassroots families also came under tremendous stress as their livelihoods were affected. Embracing the principle of “better to give than to take”, the DSD Volunteer Team was deeply concerned about the mental health and daily needs of local communities during that difficult time. A project entitled “iCare – Box of Love” was launched, under which cooperation was sought from various organisations and volunteers of different age groups were recruited to prepare small gift boxes for the elderly and grassroots children to express concern for them and send holiday greetings. The gift box contained items individually selected by the volunteers, including anti-pandemic supplies, stationery, books, warm clothes, daily necessities, healthy food, holiday decorations, handicrafts and handwritten goodwill cards. The response to the project was overwhelming. Notably, the Director of Drainage Services gave strong support and some colleagues invited their children to join the activity to provide the elderly and grassroots families with companionship during the pandemic.



渠務署義工為長者及  
基層兒童準備新年禮盒  
DSD Volunteers  
prepared Chinese New  
Year gift boxes for the  
elderly and grassroots  
children

## 附錄一 完成目標

### Appendix I Meeting the Targets

本附錄總結了本署於年內在環保、社會和常規服務方面的目標及整體表現。展望2021-22年度，我們會繼續訂立目標，以監察及確保本署的工作及服務質素，實踐對各持份者及香港的可持續發展承諾。

This appendix summarised the objectives of the DSD's environmental, social and routine services and their overall performance during the reporting year. Looking ahead to the year 2021-22, we will continue to set targets to monitor and ensure the quality of our work and services, so as to deliver on the commitment to sustainability to our stakeholders and Hong Kong.

#### 環保事務 Environmental Issues

2020-21 年度環保事務目標 Environmental Targets 2020-21	成果 Achievements
<b>發展智能科技、完善運作、引入創新技術以提升成效和效率、減少環境影響及符合公眾期望</b> Developing smart technologies, optimising operations, introducing innovative measures to enhance effectiveness and efficiency, minimising environmental impacts and meeting public expectations	
自2019-20年起，三年內進行三項嶄新的可持續發展技術的試驗計劃 Conduct trial of three new sustainable technologies within a three-year period starting from 2019-20	我們試驗以無人機及三維激光掃描，對有蓋的渠道設施進行勘測，並在昂船洲污水處理廠試驗採用薄膜光伏技術以提供再生能源供應，並於沙田污水處理廠展開以「殺菌技術」作污水處理的試驗計劃。 The DSD conducted a trial of unmanned aircraft systems and 3D laser scanning for condition survey of covered facilities, and conducted trial of thin-film photovoltaic technologies at Stonecutters Island STW as a source of renewable energy. We have also commenced a trial on SANI (Sulphate Reduction, Autotrophic Denitrification and Nitrification Integrated) Process for treatment of sewage at Sha Tin STW.
展開三項研發完善運作及創新技術的項目 Conduct three R&D items for optimisation and innovation technologies	達標。我們已展開三項研發項目，包括在沙田污水處理廠改進初級沉澱池的試驗、低電能污泥除臭技術（LEEO技術），以及試驗以無人機對新界的一些主要河道進行空中勘測。 Target met. Three R&D projects have been commissioned, including study and pilot trial of upgrading primary sedimentation tanks in Sha Tin STW, study on low energy electrical odour control of sludge, and trial on unmanned aerial system drone-based survey for major rivers/channels in the New Territories.
每年至少六次與社區組織 / 環保團體 / 學者會面，研討可持續發展事務 Meet with community groups/green groups/ academics at least six times each year to consider sustainability matters	達標。我們舉辦了超過十次會面及實地考察。 Target met. We conducted more than ten meetings and site inspections.

2020-21 年度環保事務目標 Environmental Targets 2020-21	成果 Achievements
<b>藉提高能源效益、使用可再生能源、減少二氧化碳及污染物排放、發展水資源管理及再造水重用，作為可持續發展技術和氣候變化的減緩、適應及應變措施</b> Integrating sustainability measures and climate change mitigation, adaptation and resilience considerations through improving energy efficiency, utilising renewable energy, reducing carbon and pollution emissions, and achieving water management, water reclamation and reuse	
自2019-20年起的三年內，將電動車佔所有車輛的行程里數比率提高至13% Increase the mileage percentage of electric vehicles among all vehicles to 13% in three years starting from 2019-20	進度良好。2019-20年度及2020-21年度電動車的行程里數分別為整體車輛的16.2%及22.4%。 Progress was promising. In 2019-20 and 2020-21, total mileage of work transport contributed by electric vehicles was 16.2% and 22.4% respectively.
進行七次監察碳審計 Conduct seven surveillance carbon audits	達標。我們已為七間主要污水處理廠進行了監察碳審計。 Target met. We conducted surveillance carbon audits at seven major STWs.
透過新落成的項目（再生能源及完善運作）估算於2020-21年度節省95萬度電 Projected energy saving of 0.95 million kilowatt-hours from newly commissioned projects in 2020-21 (for renewable energy and process optimisation)	達標。我們評估新落成的項目（再生能源及完善運作）於2020-21年度共節省了99.6萬度電。 Target met. The evaluated energy saving from newly commissioned projects (for renewable energy and optimisation) in 2020-21 was 0.996 million kilowatt-hours in aggregate.
再造水和回用雨水的用量達到平均每日1,700立方米 Use an average of 1,700 cubic metres of reclaimed water and harvested water per day	達標。年內平均每日使用約1,726立方米再造水和回用雨水。 Target met. During the year, we used an average of 1,726 cubic metres of reclaimed water and harvested water per day.
標準化用紙量達至零增長，保持在2019-20年度的水平 Achieve zero growth of normalised paper usage from 2019-20 level	達標。用紙量是9,555令（較全年目標用紙量少180令）。 Target met. 9,555 reams of paper were used (i.e. 180 reams less than the annual consumption target).
<b>引入藍綠建設、增加綠化、保護生態系統及促進社區的健康、宜居性及生物多樣性</b> Developing blue-green infrastructure, maximising greening, conserving ecosystems and enhancing community health, liveability and biodiversity	
透過園境和綠化工程美化三個現有設施的外觀 Enhance the external appearance of three existing facilities by carrying out landscaping and greening works	達標。我們已完成了四個現有設施的美化工程。 Target met. We completed enhancement works of four existing facilities.
種植12,000棵樹或灌木 Plant 12,000 trees and shrubs	達標。我們種植了28,829棵樹或灌木。 Target met. We planted 28,829 trees and shrubs.

2020-21 年度環保事務目標 Environmental Targets 2020-21	成果 Achievements
在工程項目和日常運作中全面遵守有關環保的法例和規定 Meeting all statutory and regulatory requirements on environmental performance in our projects and operations	
完全符合法定環境影響評估程序 Fully comply with the statutory EIA process	達標。 Target met.
完全符合環保法例要求 Fully comply with environmental legislations	達標。 Target met.
2021-22 年度環保事務目標 Environmental Targets 2021-22	
發展智能科技、完善運作、引入創新技術以提升成效和效率、減少環境影響及符合公眾期望 Developing smart technologies, optimising operations, introducing innovative measures to enhance effectiveness and efficiency, minimise environmental impacts and meet public expectations	
自 2019-20 年起，三年內進行三項嶄新的可持續發展技術的試驗計劃 Conduct trials of three new sustainable technologies within a three-year period starting from 2019-20	
展開三項研發完善運作及創新技術的項目 Conduct three R&D items for optimisation and innovation technologies	
每年至少六次與社區組織 / 環保團體 / 學者會面，研討可持續發展事務 Meet with community groups/green groups/academics at least six times each year to consider sustainability matters	
藉提高能源效益、使用可再生能源、減少二氧化碳及污染物排放、發展水資源管理及再造水重用，作為可持續發展技術和氣候變化的減緩、適應及應變措施 Integrating sustainability measures and climate change mitigation, adaptation and resilience considerations through improving energy efficiency, utilising renewable energy, reducing carbon and pollution emissions, and achieving water management, water reclamation and reuse	
自 2019-20 年起的三年內，將電動車佔所有車輛的行程里數比率提高至 13% Increase the mileage percentage of electric vehicles among all vehicles to 13% in three years starting from 2019-20	
為七個主要的污水處理廠進行監察碳審計 Conduct surveillance carbon audits at seven major STWs	
透過新落成的項目(再生能源及完善運作)估算於 2021-22 年度節省 150 萬度電 Projected energy saving of 1.5 million kilowatt-hours from newly commissioned projects in 2021-22 (for renewable energy and process optimisation)	
再造水和回用雨水的使用量達到平均每日 1,700 立方米 Use an average of 1,700 cubic metres of reclaimed water and harvested water per day	
用紙量達至零增長，保持在 2020-21 年度的水平 Achieve zero growth of paper usage from 2020-21 level	

### 2021-22 年度環保事務目標 Environmental Targets 2021-22

引入藍綠建設、增加綠化、保護生態系統及促進社區的健康、宜居性及生物多樣性  
Developing blue-green infrastructure, maximising greening, conserving ecosystems and enhancing community health, liveability and biodiversity

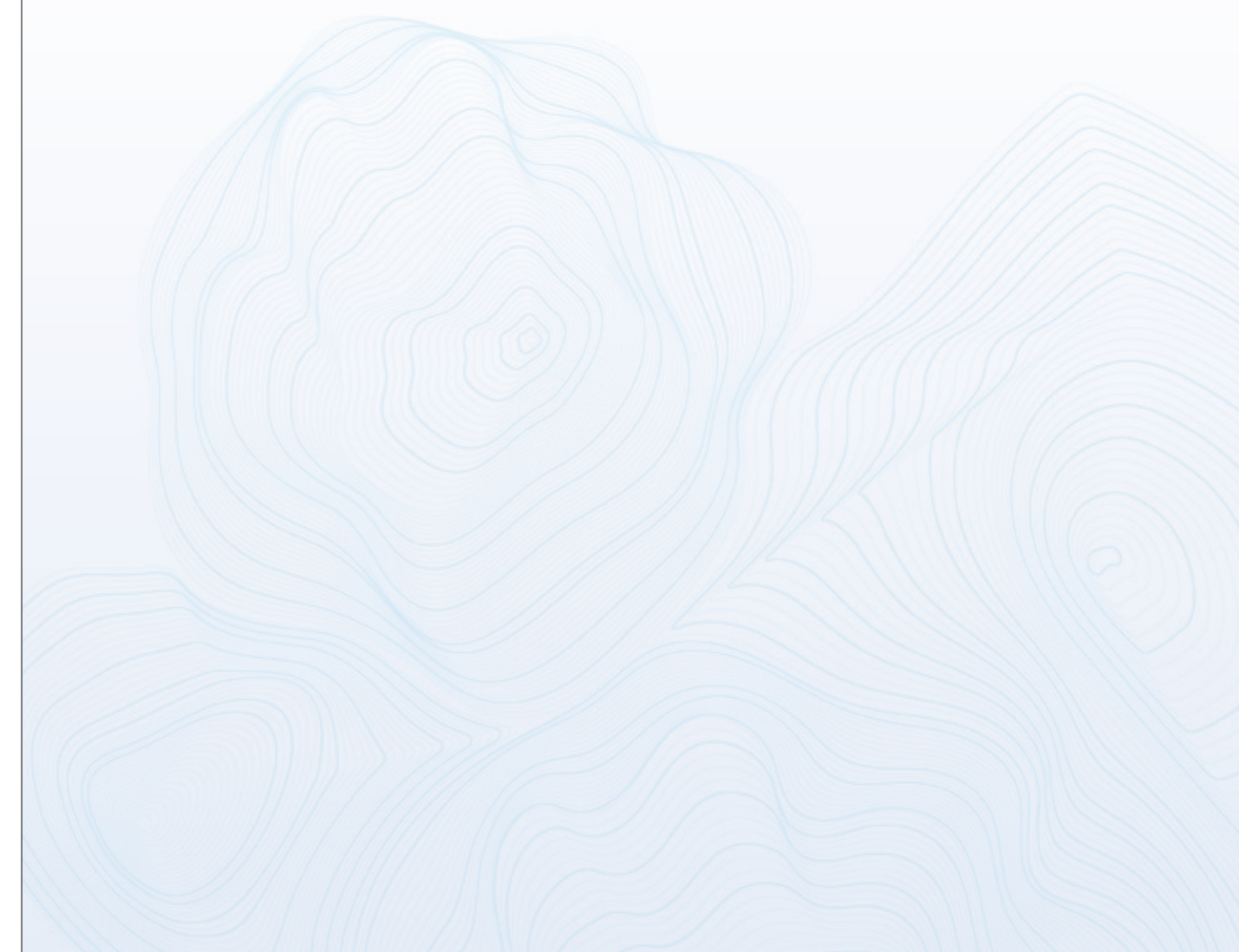
透過園境和綠化工程美化三個現有設施的外觀  
Enhance the external appearance of three existing facilities by carrying out landscaping and greening works

種植 12,000 棵樹或灌木  
Plant 12,000 trees or shrubs

在工程項目和日常運作中全面遵守有關環保的法例和規定  
Meeting all statutory and regulatory requirements on environmental performance in our projects and operations

完全符合法定環境影響評估程序  
Fully comply with the statutory EIA process

完全符合環保法例要求  
Fully comply with environmental legislations







2020-21 年度社會事務目標 Social Targets 2020-21	成果 Achievement	2021-22 年度社會事務目標 Social Targets 2021-22
<b>降低渠務署員工的工傷意外率</b> Minimising the accident rate of the DSD staff		
渠務署員工的工傷意外率每年每 1,000 名員工應少於 5 宗 For the DSD staff, maintain not more than 5 occupational injuries per 1,000 staff per year	達標。報告期內每年每 1,000 名員工有 1.1 宗工傷意外。 Target met. 1.1 occupational injuries per 1,000 staff per year was reported in the reporting period.	與 2020-21 年度工作目標一致 Same as the 2020-21 target
<b>降低渠務署承建商的工傷意外率</b> Minimising the accident rate for the DSD's contractors		
渠務署承建商的工傷意外率應低於每 100,000 工時 0.6 宗須呈報意外 For the DSD's contractors, maintain less than 0.6 reportable accident per 100,000 man-hours worked	達標。報告期內渠務署承建商每 100,000 工時有 0.15 宗須呈報意外。 Target Met. The DSD's contractors had 0.15 reportable accident per 100,000 man-hours in the reporting period.	與 2020-21 年度工作目標一致 Same as the 2020-21 target
<b>舉行內部簡報會，確保專業、技術及工地督導人員、顧問和承建商時刻具有職安健意識</b> Maintaining OSH awareness of professional, technical and site supervisory staff, consultants and contractors with in-house briefing		
最少舉辦兩次署內職安健工作坊 Organise at least two in-house OSH workshops	達標。共舉辦了兩次署內職安健工作坊。 Target met. Two in-house workshops on OSH were organised.	與 2020-21 年度工作目標一致 Same as the 2020-21 target
<b>提高承建商的職安健意識</b> Promoting the awareness on OSH amongst contractors		
保持最少 80% 合資格的渠務署新建工程合約及 30% 合資格的渠務署維修定期工程合約參加發展局的「公德地盤嘉許計劃」 Maintain at least 80% of the DSD eligible new works contracts and 30% of the DSD eligible maintenance term contracts participating in the Development Bureau's Considerate Contractors Site Award Scheme (CCSAS)	達標。全部 27 項合資格的渠務署新建工程合約均參加了發展局的「公德地盤嘉許計劃」(100%)；而在 16 項合資格的渠務署維修定期工程合約中，則有 12 項 (75%) 參加了該計劃。 Target met. All 27 eligible new works contracts of the DSD participated in CCSAS (100%); out of the 16 eligible maintenance term contracts of the DSD, 12 (75%) of them participated in CCSAS.	與 2020-21 年度工作目標一致 Same as the 2020-21 target



服務 Service	承諾 Pledge	2020-21 年度工作目標 Performance Target 2020-21	成果 Achievement	2021-22 年度工作目標 Performance Target 2021-22
清理堵塞污水渠 / 排水渠 Clearance of blocked sewers/ drains	即日回應在下午一時前接獲的投訴 Respond within the same day for complaints received before 1 pm	99%	99.79%	與 2020-21 年度工作目標一致 Same as the 2020-21 targets
	翌日正午前回應在下午一時後接獲的投訴 Respond before noon of the next day for complaints received after 1 pm	99%	99.74%	
	市民對清理工作的滿意程度 <sup>1</sup> Customers satisfied with the clearing work <sup>1</sup>	95%	99.64%	
為接駁公共排水 / 排污系統的工程提供技術審核 Technical audit for connection to the public drainage/ sewerage systems	於接獲 HBP1 表格後九個工作天內回應 Reply to the applicant within nine working days upon receipt of HBP1 application	99%	100%	
回應關於排污費帳目的書面查詢 Response to written enquiries on sewage charges accounts	兩個工作天內作出初步回應 Initial respond within two working days	100%	100%	
	一個月內作出詳細回覆 Full reply within a month	98%	100%	
回應其他投訴和查詢 Response to complaints and enquiries	10 天內作出回應 Within 10 calendar days	98%	98.78%	
提供渠務系統紀錄圖則 Provision of drainage record plans	即日安排查閱 Allow inspection within the same day	95%	100%	
	確認付款後的四個工作天內提供影印本 Provide photocopy within four working days upon confirmation of payment	95%	100%	

1. 透過隨機選擇受訪者，每星期進行一次市民對清理淤塞的污水渠 / 排水渠滿意度調查。  
The customer satisfaction survey on the clearance of blocked sewers/drains is conducted once a week by selecting the respondents randomly.

服務 Service	承諾 Pledge	2020-21 年度 工作目標 Performance Target 2020-21	成果 Achievement	2021-22 年度 工作目標 Performance Target 2021-22
在涉及挖掘路面的渠務工程工地張貼告示，說明工程目的及預計竣工日期 On-site display of the purpose and anticipated completion date of drainage works involving road excavation	在工地張貼告示，簡介正進行的渠務工程及預計竣工日期，讓公眾了解需要施工的原因及工程將於何時完成 A simple description of drainage works with anticipated completion date will be displayed on site to enable the public to understand why the works are necessary and when they will be completed	98%	100%	與2020-21年度工作目標一致 Same as 2020-21 targets

## 附錄二 主要統計數據

### Appendix II Key Statistics and Data

#### 環境工作表現 Environmental Performance

##### 能源使用量 Energy Consumption

		單位 Unit	2016-17	2017-18	2018-19	2019-20	2020-21
<b>渠務署 (302-1) By the DSD (302-1)</b>							
汽油 Gasoline	徵用車隊 Pool cars	千兆焦耳 <sup>1</sup> (公升) GJ <sup>1</sup> (Litre)	627 (18,995)	599 (18,155)	379 (11,474)	533 (16,132)	<b>685 (20,737)</b>
	部門車隊 AM cars	千兆焦耳 <sup>1</sup> (公升) GJ <sup>1</sup> (Litre)	3,173 (96,097)	3,421 (103,615)	2,874 (87,045)	2,837 (85,928)	<b>2,605 (78,895)</b>
購買電力 <sup>2</sup> Electricity purchased <sup>2</sup>		千兆焦耳 <sup>1</sup> (百萬千瓦時) GJ <sup>1</sup> (Million kWh)	1,024,092 (284.47)	1,082,376 (300.66)	1,054,656 (292.96)	1,081,184 (300.33)	<b>1,113,362 (309.27)</b>
總能源使用量 <sup>2</sup> Total energy consumption <sup>2</sup>		千兆焦耳 <sup>1</sup> GJ <sup>1</sup>	1,027,892	1,086,396	1,057,909	1,084,554	<b>1,116,652</b>
處理每單位體積污水的平均購買用電量 (302-3) Purchased electricity consumption per unit volume of sewage treated (302-3)		千瓦時/立方米 kWh/m <sup>3</sup>	0.28	0.30	0.28	0.29	<b>0.29</b>
可再生能源所產生的等量總電力 <sup>3</sup> Total equivalent electricity generated from renewable energy sources <sup>3</sup>		百萬千瓦時 Million kWh	21.70	28.15	28.50	27.96	<b>27.28</b>
生物氣 <sup>4</sup> Biogas <sup>4</sup>		百萬立方米 Million m <sup>3</sup>	7	9	8	9	<b>9</b>
<b>渠務署的承建商 (302-2) By the DSD's Contractors (302-2)</b>							
汽油 Gasoline		千兆焦耳 <sup>1</sup> (公升) GJ <sup>1</sup> (Litre)	4,473 (135,461)	4,525 (137,045)	4,035 (122,186)	5,191 (157,208)	<b>10,907 (330,313)</b>
柴油 Diesel		千兆焦耳 <sup>1</sup> (公升) GJ <sup>1</sup> (Litre)	12,540 (343,571)	16,566 (454,411)	39,106 (1,071,408)	67,626 (1,855,021)	<b>93,028 (2,551,807)</b>
電力 Electricity		千兆焦耳 <sup>1</sup> (百萬千瓦時) GJ <sup>1</sup> (Million kWh)	56,616 (15.73)	16,480 (4.58)	22,693 (6.30)	14,808 (4.11)	<b>20,903 (5.81)</b>

1. 換算成千兆焦耳的轉換系數為汽油(0.033千兆焦耳/公升)、柴油(0.036千兆焦耳/公升)、電力(0.0036千兆焦耳/千瓦時)。因估算方式使用不同的轉換系數，致能源使用量的有效數據有細微不同。

Conversion factors for standardising units to GJ are gasoline (0.033 GJ/L), diesel (0.036 GJ/L), electricity (0.0036 GJ/kWh). Since different conversion factors are adopted in estimation methods, the significant figure of energy consumption are slightly different.

2. 總耗電量包括九龍政府合署和西區裁判法院的辦公室，以及本署轄下防洪和污水處理設施(包括污水處理廠、污水泵房及雨水泵房)。並不適用於稅務大樓的辦公室耗電量。總能源使用量的計算方式為汽油使用量和購買電力量相加。

The total electricity consumption includes the offices at Kowloon Government Offices, Western Magistracy, and the DSD's flood prevention and sewage treatment facilities (including sewage treatment works, sewage pumping stations and stormwater pumping stations). Electricity consumption at office at Revenue Tower is not applicable. The total energy consumption is calculated by the addition of gasoline consumption and amount of electricity purchased.

3. 渠務署使用的可再生能源包括水力能、太陽能 and 生物氣產能。

The renewable energy sources harnessed by the DSD include hydropower, solar power and biogas.

4. 由污水處理廠產生。

Generated from sewage treatment works.

## 溫室氣體排放量<sup>5</sup>

### Greenhouse Gas (GHG) Emissions<sup>5</sup>

		單位 Unit	2016-17	2017-18	2018-19	2019-20	2020-21
<b>渠務署 By the DSD</b>							
燃燒汽油 (範圍1) (305-1)	徵用車隊 Pool Cars	二氧化碳， 以公噸計算 Tonnes CO <sub>2</sub> e	44.83	42.85	27.08	38.07	<b>48.94</b>
Gasoline Combustion (Scope 1) (305-1)	部門車隊 AM Cars	二氧化碳， 以公噸計算 Tonnes CO <sub>2</sub> e	226.79	244.53	205.43	202.79	<b>186.19</b>
購買電力 (範圍2) <sup>6</sup> (305-2)		二氧化碳， 以公噸計算 Tonnes CO <sub>2</sub> e	199,129	210,462	205,072	210,230	<b>215,740</b>
Electricity purchased (Scope 2) <sup>6</sup> (305-2)							
<b>渠務署的承建商 (305-3) By the DSD's Contractors (305-3)</b>							
購買電力 (範圍3)		二氧化碳， 以公噸計算 Tonnes CO <sub>2</sub> e	11,009	19,019	4,412	2,879	<b>4,064</b>
Electricity purchased (Scope 3)							
燃燒燃料 (範圍3) <sup>7</sup>		二氧化碳， 以公噸計算 Tonnes CO <sub>2</sub> e	1,218	1,511	3,089	4,749	<b>6,802</b>
Fuel consumption (Scope 3) <sup>7</sup>							

## 耗水量<sup>8</sup> (301-1, 303-3, 303-5)

### Water Consumption<sup>8</sup> (301-1, 303-3, 303-5)

		單位 Unit	2016-17	2017-18	2018-19	2019-20	2020-21
用於防洪及污水處理設施的 淡水耗用量	立方米 m <sup>3</sup>	2,433,500	2,191,991	2,436,440	2,525,919	<b>2,682,821</b>	
Freshwater consumption at flood prevention and sewage treatment facilities							
污水處理設施的再造水每日 生產量	立方米 m <sup>3</sup>	1,332	1,340	1,861	1,576	<b>1,607</b>	
Daily reclaimed water produced at sewage treatment facilities							
再造水佔用水量百分比	%	0.05	0.05	0.08	0.06	<b>0.06</b>	
Percentage of reclaimed water used							

5. 溫室氣體排放量的計算是參考香港環境保護署及機電工程署在2010年2月編制的《香港建築物(商業、住宅或公共用途)的溫室氣體排放及減除的審計和報告指引》。溫室氣體包括二氧化碳、甲烷及氧化亞氮。

GHG emission were calculated based on the Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for buildings (Commercial, Residential or Institutional Purpose) in Hong Kong issued by the Environmental Protection Department and Electrical and Mechanical Services Department, HKSAR in February 2010. Types of GHG include CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O.

6. 間接(範圍2)溫室氣體排放是根據全港性的預設值0.7克/千瓦時計算。  
Scope 2 GHG emissions were calculated based on a territory-wide default value of 0.7 kg/kWh.

7. 由固定燃燒柴油及流動燃燒汽油產生，即車輛用油。渠務署承建商的車輛用油所產生的溫室氣體排放量是基於所有車輛均為消耗汽油的私家車的假設而計算。渠務署會持續改善數據統計方式以提高數據準確性。

Generated from stationary combustion of diesel and mobile combustion of petrol i.e. vehicle consumption. GHG emissions from vehicle consumption by the DSD's contractors was calculated based on the assumption that all vehicles were passenger cars that consume gasoline. The DSD will continue optimising the data collection method to enhance data accuracy.

8. 渠務署所耗用的淡水和再造水均為可再生物料。其中，淡水為來自城市供水系統的自來水。  
Freshwater and reclaimed water consumed by the DSD are renewable materials. The freshwater is municipal water from the city's water supply system.

## 污水處理

### Sewage Treatment

		單位 Unit	2016-17	2017-18	2018-19	2019-20	2020-21
污水處理量 (102-7)	百萬立方米 Million m <sup>3</sup>	1,015	1,007	1,028	1,033	<b>1,044</b>	
Volume of sewage treated (102-7)							
從污水中移除的生化需氧量	公噸 Tonnes	151,406	146,159	132,797	132,089	<b>131,888</b>	
Biochemical oxygen demand removed from sewage							
從污水中移除的懸浮固體量		277,232	223,165	194,751	207,672	<b>216,345</b>	
Suspended solids removed from sewage							
從污水中移除的氮量		6,683	7,106	7,388	7,084	<b>7,250</b>	
Nitrogen removed from sewage							
從污水中移除的脫水污泥量		410,526	386,137	392,140	381,045	<b>389,878</b>	
Dewatered sludge removed from sewage							
從污水中移除的隔濾物量	14,823	14,970	14,292	12,842	<b>12,671</b>		
Screenings removed from sewage							
從污水中移除的砂礫量	6,513	4,996	5,721	4,981	<b>4,998</b>		
Grits removed from sewage							

## 廢物管理<sup>9</sup> (306-3)

### Waste Management<sup>9</sup> (306-3)

	單位 Unit	2016-17	2017-18	2018-19	2019-20	2020-21
<b>建築及拆卸廢料 Construction and Demolition (C&amp;D) Materials</b>						
運往堆填區的建築及拆卸廢物 <sup>10</sup> C&D waste disposed to landfills <sup>10</sup>	千公斤 '000 kg	5,801	2,273	2,335	6,188	<b>14,380</b>
運往公眾堆填區的建築及拆卸廢物 <sup>11</sup> C&D waste disposed to public fill areas <sup>11</sup>	千公斤 '000 kg	170,162	155,469	151,918	68,491	<b>230,594</b>
<b>可循環再造廢料收集量 Recyclable Waste Collected</b>						
廢紙 <sup>12</sup> Waste paper <sup>12</sup>	公斤 kg	20,587	15,954	20,087	15,083	<b>16,415</b>
鋁罐 <sup>13</sup> Aluminium cans <sup>13</sup>	公斤 kg	29.51	32.23	92.21	86.76	<b>80.20</b>
膠樽 <sup>13</sup> Plastic bottles <sup>13</sup>	公斤 kg	18.76	22.72	52.66	45.53	<b>33.10</b>

9. 渠務署中央收集不同分部和承建商的廢物數據。

The DSD centrally collects waste data from different divisions and contractors.

10. 廢物包括金屬、塑膠、紙張或紙皮包裝物料，以及其他廢料，包括一般廢物。

Waste includes metals, plastics, paper/cardboard packaging waste and other wastes, such as general refuse.

11. 廢物包括磚塊、混凝土、建築廢料、瓦礫，以及挖掘料。

Waste include bricks, concrete, building debris, rubble and excavated soil.

12. 數字並不包括於工地所收集的廢紙量。

The amount of waste paper collected did not include those collected from project sites.

13. 由於未能獲得相關數據，數字並不包括於西區裁判法院辦公室收集的鋁罐及膠樽數量。

The amount of aluminium cans and plastic bottles collected did not include those collected from the Western Magistracy as the data were not available.

## 物料使用<sup>14</sup> (301-1)

### Material Consumption<sup>14</sup> (301-1)

	單位 Unit	2016-17	2017-18	2018-19	2019-20	2020-21
<b>渠務署 By the DSD</b>						
紙張總用量 Total paper consumption	令	9,285	9,231	9,223	9,091	<b>9,555</b>
A4 紙張 A4 paper	Reams	8,992	8,854	8,817	8,726	<b>9,230</b>
A3 紙張 A3 paper		293	377	406	365	<b>305</b>
購買含再造成分的 A4/A3 紙張 Purchased A4/A3 paper with recycle content	令 (佔購入紙張的百分率) Reams (% of total paper purchased)	9,285 (100%)	9,231 (100%)	9,223 (100%)	9,091 (100%)	<b>9,555 (100%)</b>
每名員工紙張用量 (以職員編制計算) Paper consumed per staff (By establishment)	令 Reams	4.8	4.8	4.6	4.5	<b>4.7</b>
<b>渠務署的承建商 By the DSD's Contractors</b>						
鋼筋 Rebar	公噸 Tonnes	10,643	13,325	11,811	14,998	<b>8,257</b>
鋼 Steel	公噸 Tonnes	3,402	5,042	4,159	9,843	<b>7,416</b>
磚塊 Bricks	立方米 m <sup>3</sup>	5,817	1,993	126	140	<b>209</b>
水泥 Cement	公噸 Tonnes	2,248	3,500	763	2,181	<b>3,816</b>
沙漿 Cement mortar	立方米 m <sup>3</sup>	640	1,946	873	812	<b>982</b>
混凝土 Concrete	立方米 m <sup>3</sup>	73,175	74,651	52,150	57,418	<b>71,794</b>
沙 Sand	公噸 Tonnes	24,117	23,111	2,602	6,857	<b>25,245</b>
石料 Stones	公噸 Tonnes	31,898	26,775	8,762	6,326	<b>13,308</b>
辦公室用紙 Office paper	公噸 Tonnes	40	74	20	66	<b>34</b>

## 綠化 Greening

	單位 Unit	2016-17	2017-18	2018-19	2019-20	2020-21
總種植樹木數量 Total no. of trees planted	棵 Tree	10,000	1,300	64	239	<b>62</b>
增設的綠化天台面積 Area of green roof added	平方米 m <sup>2</sup>	4,200	4,150	2,028	7,359	<b>644</b>

14. 除紙張為可再生物料外，其他均為非可再生物料。

Except for paper, which is a renewable material, others are non-renewable materials.


**社會工作表現**  
**Social Performance**
**員工**  
**Staff**

	單位 Unit	2016-17	2017-18	2018-19	2019-20	2020-21 <sup>15</sup>
<b>職員編制 (102-7)</b> Staff establishment (102-7)	數目 No.	1,937	1,940	1,986	2,020	<b>2,050</b>
首長級人員 Directorate	數目 No.	18	18	18	18	<b>18</b>
專業人員 Professional	數目 No.	310	307	327	346	<b>368</b>
技術人員及工地督導人員 Technical & Site Supervisory	數目 No.	884	888	908	920	<b>962</b>
一般職系人員 General & Common Grades	數目 No.	531	533	538	540	<b>543</b>
第一標準薪級人員 Model Scale I	數目 No.	194	194	195	196	<b>159</b>
<b>培訓 Training</b>						
培訓課程 <sup>16</sup> Training courses <sup>16</sup>	數目 No.	674	638	681	600	<b>331</b>
受訓員工 Trainees	人數 No.	9,042	8,033	10,011	6,873	<b>4,062</b>
員工培訓時數 Training hours received	小時 Hours	57,737	60,524	66,110	58,781	<b>31,374</b>
員工平均培訓時數 (以員工實際人數計算) Average training hours per staff (Based on the staff strength)	小時 Hours	33	35	38	34	<b>18</b>
培訓總開支 (只包括本地培訓) <sup>16</sup> Total expenditure on training (Includes local training only) <sup>16</sup>	元 \$	3,046,283	2,929,551	2,701,879	3,772,082	<b>2,017,411</b>

15. 數據截至2021年3月31日。  
Data as of 31 March 2021.

16. 包括內部和外界座談會、工作坊、培訓課程、參觀，以及由公務員培訓處舉辦的培訓班和員工發起的外部課程。  
It includes internal and external seminars, workshops, training courses, visits and training courses held by Civil Service Training and Development Institute and staff-initiated external courses.

**2020-21 年度職員編制<sup>17</sup> (102-8)**  
**Staff Breakdown in 2020-21<sup>17</sup> (102-8)**

	單位 Unit	以實際人數計算 By Strength		單位 Unit	以實際人數計算 By Strength
員工人數 No. of Staff	人數 No.	1,787	<b>按僱用合約及性別分類 By Employment Contract, by Gender</b>		
<b>按職位分類 By Post</b>			永久合約 (男性) Permanent (Male)	% (人數 No.)	81.09 (1,449)
首長級人員 Directorate		1.06 (19)	永久合約 (女性) Permanent (Female)		18.91 (338)
專業人員 Professional		19.75 (353)	<b>按年齡分類 By Age</b>		
技術人員及工地督導人員 Technical & Site Supervisory	% (人數 No.)	51.32 (917)	20-29 歲 Age 20-29		13.93 (249)
一般職系人員 General & Common Grades		22.77 (407)	30-39 歲 Age 30-39		26.97 (482)
第一標準薪級人員 Model Scale I		5.10 (91)	40-49 歲 Age 40-49	% (人數 No.)	27.31 (488)
<b>按僱用類型分類 By Employment Type</b>			50-59 歲 Age 50-59		28.43 (508)
全職 Full-time	% (人數 No.)	100 (1,787)	60 歲或以上 Age 60 or above		3.36 (60)
兼職 Part-time		0 (0)	<b>按國籍分類 By Nationality</b>		
			中國 Local	% (人數 No.)	100 (1,787)
			外國 Non-local		0 (0)

**2020-21 年度高級管理人員編制 (405-1)**  
**Senior Management Breakdown in 2020-21 (405-1)**

	單位 Unit	以實際人數計算 By Strength		單位 Unit	以實際人數計算 By Strength
員工人數 No. of Staff	人數 No.	6	<b>按國籍分類 By Nationality</b>		
<b>按年齡分類 By Age</b>			中國 Local	% (人數 No.)	100 (6)
20-29 歲 Age 20-29		0 (0)	外國 Non-local		0 (0)
30-39 歲 Age 30-39		0 (0)	<b>按性別分類 By Gender</b>		
40-49 歲 Age 40-49	% (人數 No.)	0 (0)	男性 Male	% (人數 No.)	83.33 (5)
50-59 歲 Age 50-59		83.33 (5)	女性 Female		16.67 (1)
60 歲或以上 Age 60 or above		16.67 (1)			

17. 我們的主要營運由渠務署員工負責執行。  
The majority of our operations are performed by the DSD's employees.

## 2020-21 年度員工培訓時數<sup>18</sup> (404-1)

### Training Hours Breakdown in 2020-21<sup>18</sup> (404-1)

職位 Type of Staff	員工人數 (以實際人數計算) No. of Staff (By Strength)	接受培訓時數 (小時) Training Hours Received (Hours)	每名員工培訓時數 (小時) Training Hours per Staff (Hours)
首長級人員 Directorate Staff	19	175	9.21
專業人員 Professional Grade Staff	353	9,023	25.56
技術人員、工地督導人員、一般職系人員及第一標準薪級人員 Technical, Site Supervisory, General & Common Grades and Model Scale I Staff	1,411	22,176	15.71

## 2020-21 年度新入職員工和員工流失量 (401-1)

### New Employees and Staff Turnover in 2020-21 (401-1)

	單位 Unit	新入職員工 <sup>19</sup> New Employee <sup>19</sup>		員工流失量 <sup>20</sup> Staff Turnover <sup>20</sup>	
		男性 Male	女性 Female	男性 Male	女性 Female
按年齡分類 By Age					
20-29 歲 Age 20-29	人數 No.	57	13	3	1
30-39 歲 Age 30-39		33	11	7	1
40-49 歲 Age 40-49		8	3	3	1
50-59 歲 Age 50-59		1	0	4	4
60 歲或以上 Age 60 or above		1	0	61	6

## 社區工作及慈善捐款 (203-1)

### Community Work and Charitable Contributions (203-1)

	單位 Unit	2016-17	2017-18	2018-19	2019-20	2020-21
員工參與義工活動的總時數 Total number of voluntary work hours carried out by our staff	小時 Hours	1,115	1,795	1,200	1,332	411
已完成的義工數目 Number of voluntary projects completed	數目 No.	20	41	40	39	21
員工募捐 Employee fundraising	千元 \$'000	53	49	40	65	25

18. 培訓方面沒有特定的性別要求，因此我們不按性別細分相關數據。  
As there is no distinct requirement regarding receiving training in terms of gender, therefore we do not report the data broken down by gender.

19. 以上數字包括於2020年4月1日至2021年3月31日期間入職的員工。  
The above figures involve staff with their 1st appointment date falling within the period from 1 April 2020 to 31 March 2021.

20. 員工流失率數字不包括在部門間轉職的人員。  
The staff turnover figures exclude staff on inter-departmental transfer.

## 職業安全及健康 (403-9)

### Occupational Safety and Health (403-9)

	單位 Unit	2016-17	2017-18	2018-19	2019-20	2020-21
死亡數目 Number of Fatalities						
總死亡數目 Number of fatalities	人數 No.	0	1	0	0	0
渠務署員工 The DSD staff		0	0	0	0	0
由承辦商負責的建築及維修工程 Construction and maintenance works undertaken by the DSD's contractors		0	1 (男性) (Male)	0	0	0
每20萬工時發生的致命意外率 <sup>21</sup> Fatal accident rate per 200,000 man-hours <sup>21</sup>						
渠務署員工 The DSD staff	-	0	0	0	0	0
由承建商負責的建築及維修工程 Construction and maintenance works undertaken by the DSD's contractors	-	0	0.02	0	0	0
非致命意外數目 Number of non-fatal accidents						
渠務署員工 The DSD staff	人數 No.	7	5	8	5	2
由承建商負責的建築及維修工程 Construction and maintenance works undertaken by the DSD's contractors		8	15	6	10	13
每20萬工時發生的非致命意外率 <sup>21</sup> Non-fatal accident rate per 200,000 man-hours <sup>21</sup>						
渠務署員工 The DSD staff	-	0.20	0.16	0.24	0.16	0.06
由承建商負責的建築及維修工程 Construction and maintenance works undertaken by the DSD's contractors	-	0.22	0.44	0.18	0.28	0.30

	單位 Unit	2020-21
總工作時數 Total hours worked		
渠務署員工 The DSD staff	小時 Hours	6,415,365
由承建商負責的建築及維修工程 Construction and maintenance works undertaken by the DSD's contractors		8,768,358

21. 香港建築業的意外率依據勞工處公布的統計數字，使用每10萬工時發生1.67宗意外換算，相當於每1,000名工人每年發生60宗意外，轉換係數為55.71人/20萬工時。  
The accident rate of the Hong Kong Construction Industry is based on the published statistics of the Labour Department and using a conversion of 1.67 accidents per 100,000 man-hours equivalent to 60 accidents per 1,000 workers per year, which gives a conversion factor of 55.71 workers/200,000 man-hours.

## 經濟工作表現 Economic Performance

本署的開支主要分為營運開支和公共工程項目開支兩類。我們的日常營運經費來自政府的一般收入帳目；公共工程項目的開支，則由立法會財務委員會按個別項目批核。為確保公帑用得其所，我們採用創新技術及管理模式，致力提高營運效率。

The two major types of expenses in the DSD are operational expenses and public works project expenses. Our day-to-day departmental operation is financed by the General Revenue Account of the Government, while funding for public works projects are approved on a project-by-project basis by the Finance Committee of the Legislative Council. To ensure public funds are used effectively, we strive to enhance operation efficiency by adopting new technologies and management practices.

### 營運開支 (201-1) Operating Expenditure (201-1)

		單位 Unit	2016-17	2017-18	2018-19	2019-20	2020-21
經常開支 Recurrent Expenditure	個人薪酬 Personal Emoluments	百萬元 \$M	917.19	916.87	958.68	1,009.37	<b>1,040.59</b>
	部門開支 <sup>22</sup> Departmental Expenses <sup>22</sup>	百萬元 \$M	1,646.92	1,692.80	1,774.93	1,869.07	<b>1,999.50</b>
非經營帳目開支 Capital Account Expenditure		百萬元 \$M	30.04	37.26	94.99	81.12	<b>90.79</b>
<b>總額 Total</b>		<b>百萬元 \$M</b>	<b>2,594.15</b>	<b>2,646.93</b>	<b>2,828.60</b>	<b>2,959.56</b>	<b>3,130.88</b>

### 基本工程的項目開支 (203-1) Capital Works Project Expenditure (203-1)

		單位 Unit	2016-17	2017-18	2018-19	2019-20	2020-21 <sup>23</sup>
正在規劃、設計和施工階段的雨水 排放工程項目數目 No. of drainage projects under planning, design and construction	數目 No.		18	24	24	{2} [24]	{9} [19]
正在規劃、設計和施工的雨水排放 工程項目總值 Value of drainage projects under planning, design and construction	百萬元 \$M		14,445	26,876	31,935	{1,345} [34,758]	{4,577} [33,897]
正在規劃、設計和施工階段的污水 處理工程項目數目 No. of sewerage projects under planning, design and construction	數目 No.		69	66	63	{21} [44]	{35} [40]
正在規劃、設計和施工的污水處理 工程項目總值 Value of sewerage projects under planning, design and construction	百萬元 \$M		70,093	73,175	89,220	{27,031} [77,608]	{57,532} [59,880]

22. 包括強制性公積金和公務員公積金的供款。

It included expenses on Mandatory Provident Fund and Civil Service Provident Fund contributions.

23. {}內數字為施工中的甲級工程，金額以付款當日價格計算；[]內數字為正在規劃或設計的乙級工程，金額以2021年3月價格計算。

Figures in {} are Category A projects under construction and the amount shown in money-of-the-day price; figures in [] are Category B projects under planning or design and amount shown in March 2021 price level.

## 污水處理服務經營帳目 (102-7) Sewage Services Operating Accounts (102-7)

	單位 Unit	2016-17	2017-18	2018-19	2019-20	2020-21 <sup>24</sup>
排污費收入 Sewage Charge Revenue	百萬元 \$M	1,161.1	1,296.2	1,323.1	1,189.3	<b>1,061.6</b>
工商業污水附加費收入 Trade Effluent Surcharge Revenue	百萬元 \$M	231.8	243.5	241.0	160.6	<b>0</b>
其他收入 Other Revenue	百萬元 \$M	45.5	45.9	50.6	54.4	<b>55.1</b>
<b>總收入 Overall Revenue</b>	<b>百萬元 \$M</b>	<b>1,438.4</b>	<b>1,585.6</b>	<b>1,614.7</b>	<b>1,404.3</b>	<b>1,046.0</b>
開支 (不包括折舊) Expenditure (Excluding Depreciation)	百萬元 \$M	(2,340.6)	(2,334.2)	(2,515.4)	(2,634.2)	<b>(2,724.5)</b>
折舊 Depreciation	百萬元 \$M	(1,518.2)	(1,546.1)	(1,547.0)	(1,595.9)	<b>(1,620.4)</b>
<b>總開支 Overall Expenditure</b>	<b>百萬元 \$M</b>	<b>(3,858.8)</b>	<b>(3,880.3)</b>	<b>(4,062.4)</b>	<b>(4,230.1)</b>	<b>(4,344.9)</b>
<b>(虧損) (Deficit)</b>	<b>百萬元 \$M</b>	<b>(2,420.4)</b>	<b>(2,294.7)</b>	<b>(2,447.7)</b>	<b>(2,825.8)</b>	<b>(3,298.9)</b>

### 污水處理服務成本回收率<sup>25</sup> Sewage Services Operating Cost Recovery Rate<sup>25</sup>

	單位 Unit	2016-17	2017-18	2018-19	2019-20	2020-21 <sup>24</sup>
排污費及工商業污水附加費收入 Revenue of Sewage Charge and Trade Effluent Surcharge	百萬元 \$M	1,392.9	1,539.7	1,564.1	1,349.9	<b>1,061.6</b>
排污費及工商業污水附加費開支 (不包括折舊) <sup>26</sup> Expenditure (excluding depreciation) of Sewage Charge and Trade Effluent Surcharge <sup>26</sup>	百萬元 \$M	2,295.7	2,288.9	2,465.5	2,580.4	<b>2,670.0</b>
收回經營成本比率 Operating Cost Recovery Rate	%	60.7	67.3	63.4	52.3	<b>37.1<sup>27</sup></b>

### 污水處理服務的使用量和付款統計數字 Sewage Service Charge Consumption and Payment Statistics

	2016-17	2017-18	2018-19	2019-20	2020-21
自來水用戶數目 (以千計) Number of water accounts (in thousand)	2,955	2,989	3,043	3,078	<b>3,116</b>
需繳付排污費的用戶數目 (以千計) Number of water accounts liable to pay Sewage Charge (in thousand)	2,735	2,765	2,818	2,853	<b>2,889</b>
工商業污水附加費繳納戶數目 (以千計) Number of accounts - Trade Effluent Surcharge (in thousand)	27	28	29	30	<b>31</b>

24. 2020-21年度數字只屬暫時性，有待污水處理服務帳目委員會確認。

The 2020-21 figures are provisional and subject to endorsement by the Sewage Services Accounts Committee.

25. 本表的收入及開支總額均不包括「其他雜項服務」。

"Miscellaneous services" are excluded from the revenues and expenditure in this table.

26. 現時，本署並未透過排污費及工商業污水附加費收回折舊的開支。

Depreciation is not recovered through the Sewage Charge and the Trade Effluent Surcharge at present.

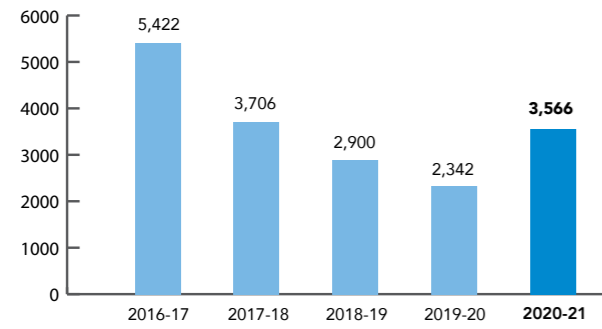
27. 數字已反映2019-20和2020-21年度的排污費及工商業污水附加費的寬減措施。2019-20和2020-21年度未計寬減措施的收回經營成本比率分別為58.9%及58.4%。

The figures have reflected concessions on the Sewage Charge and Trade Effluent Surcharge in 2019-20 and 2020-21. The Operating Cost Recovery Rates without calculation of the concessions in 2019-20 and 2020-21 are 58.9% and 58.4% respectively.

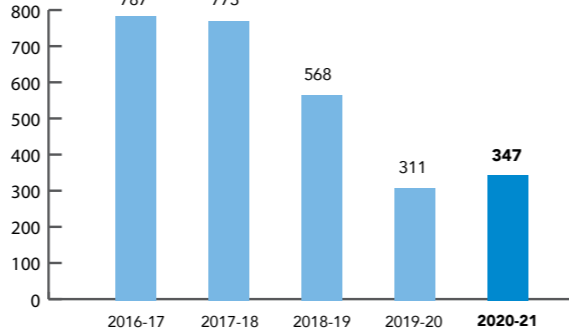
**常規服務**  
Routine Services

**過去五年接到有關污水處理服務收費的查詢數目**  
Number of Enquiries Received about Sewage Services Charge for the Past Five Years

電話查詢  
Telephone enquiries

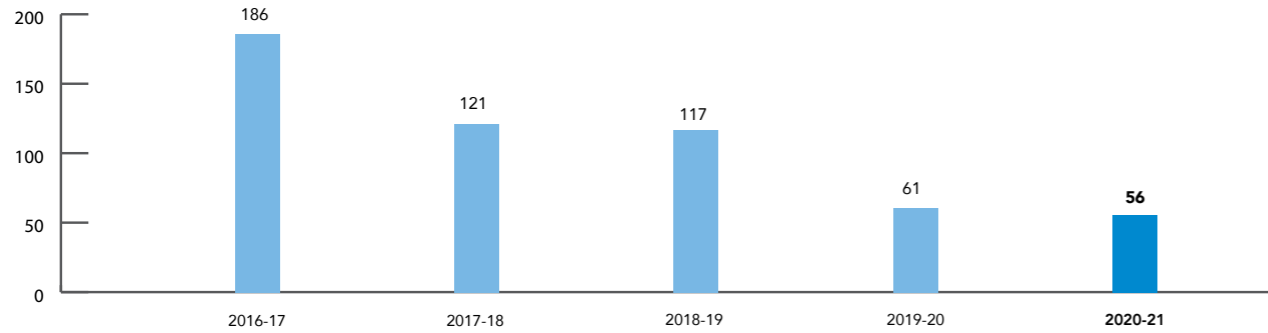


書面查詢  
Written enquiries



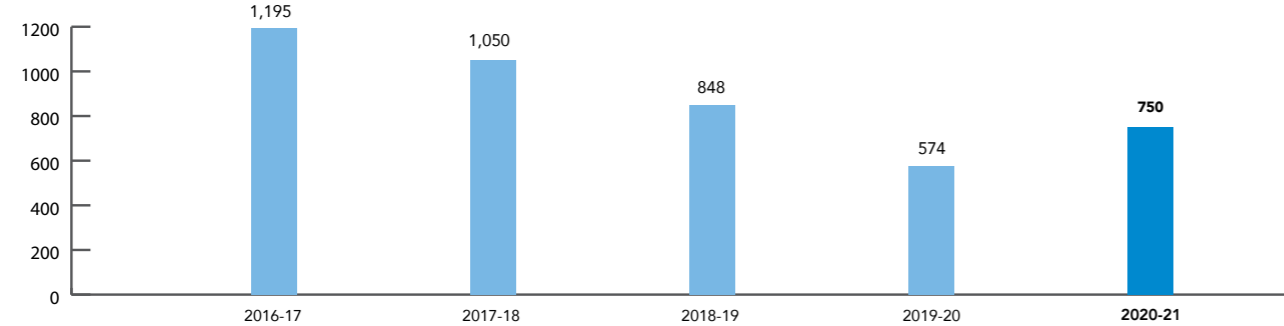
**過去五年所處理有關行業重新分類的申請**  
Business Reclassification Applications Handled for the Past Five Years

個案數目  
No. of Cases Handled

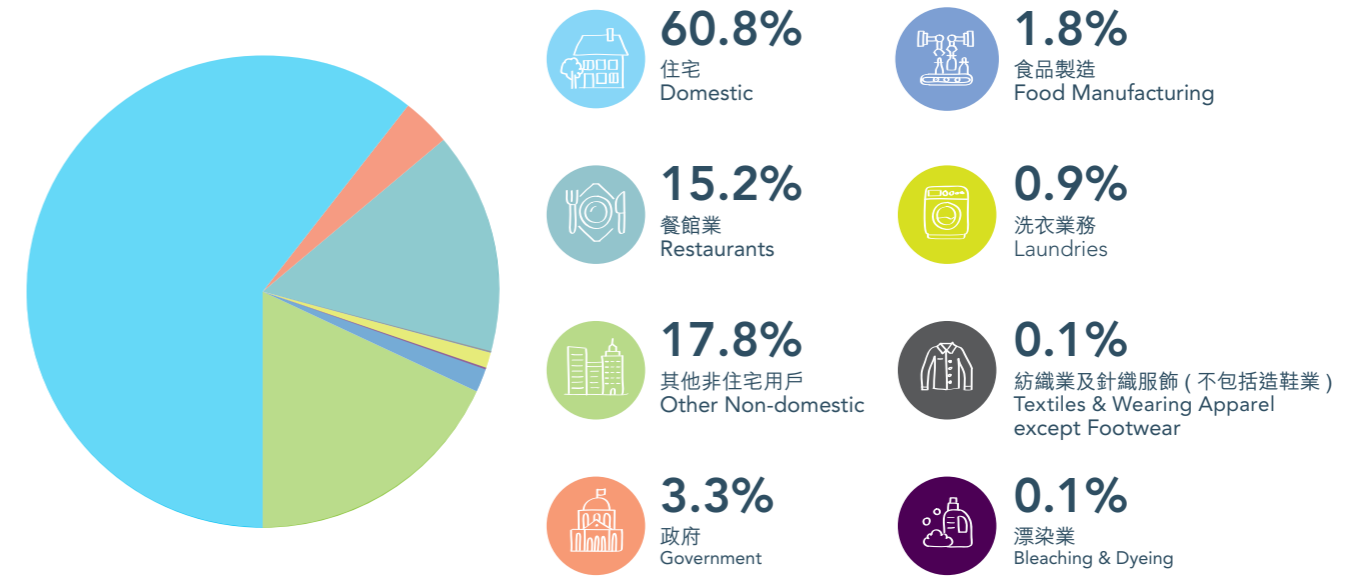


**過去五年所發現工商業污水附加費的新繳納戶數目**  
Number of New TES Accounts Identified for the Past Five Years

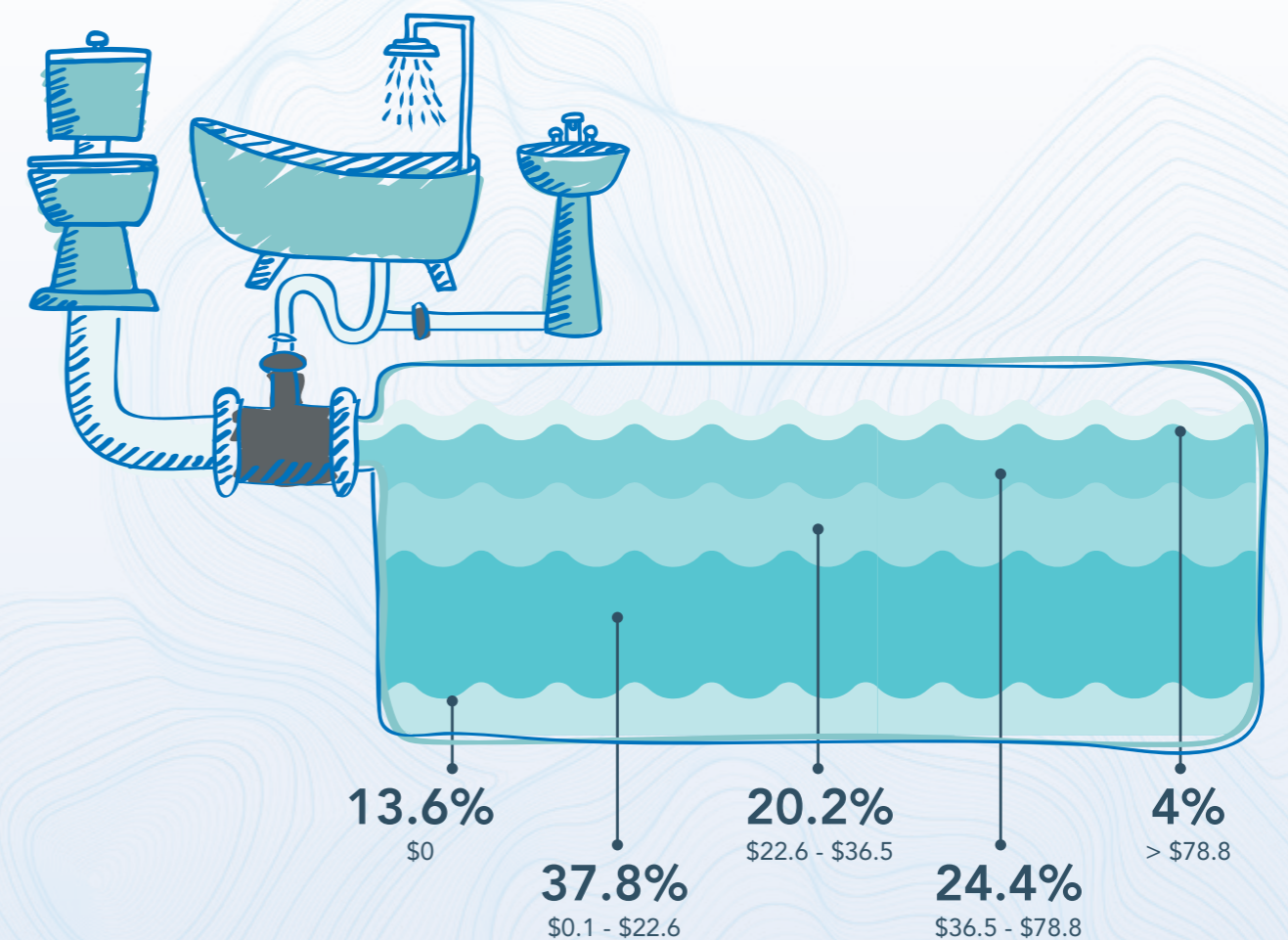
工商業污水附加費的新繳納戶數目  
No. of New TES Accounts Identified



**2020-21 年度污水排放用戶用水量 (619 百萬立方米) – 用戶情況**  
Water consumption of Sewered Accounts (619 million m<sup>3</sup>) – Customers Pattern in 2020-21

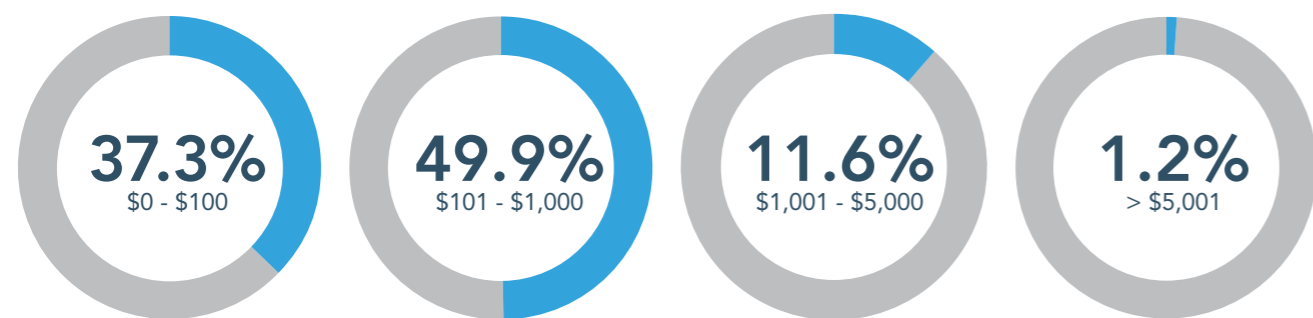


**住宅用戶 – 2020-21 年度排污費收費情況 (元 / 月)**  
Domestic Accounts – Sewage Charge Payment Pattern in 2020-21 (\$/month)

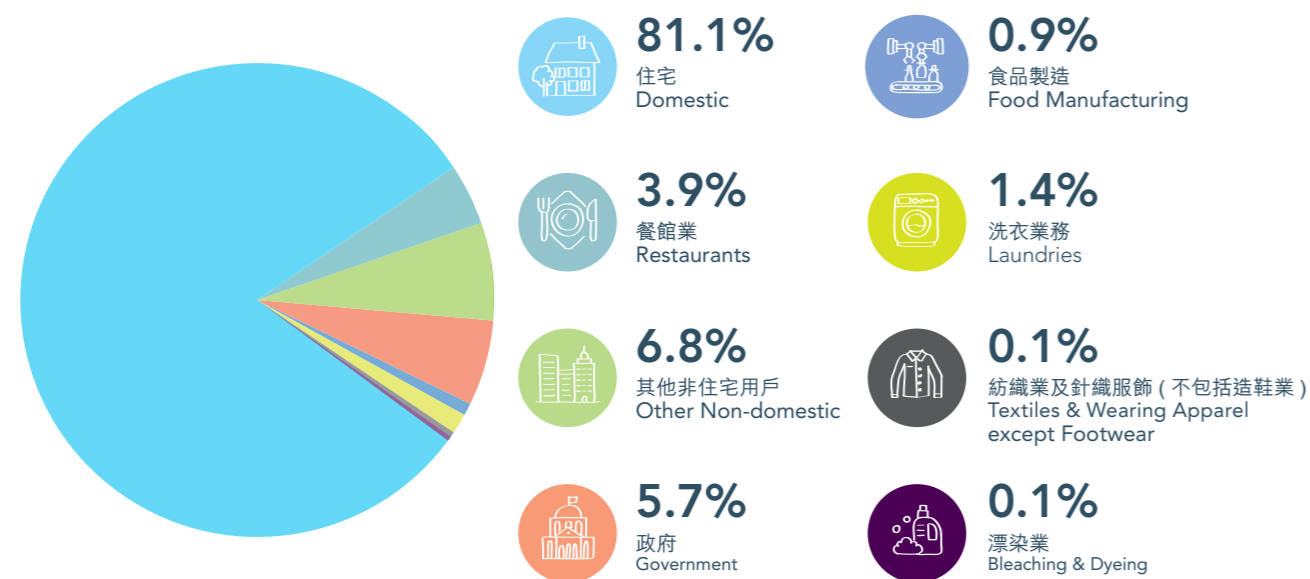




工商業污水附加費用戶 – 2020-21 年度工商業污水附加費收費情況 (元 / 月)  
Trade Effluent Surcharge Accounts – TES Payment Pattern in 2020-21 (\$/month)



排污費 (10.6 億元) – 2020-21 年度用戶種類收費情況<sup>28</sup>  
Sewage Charge (\$1.06 billion) – Revenue Pattern by Type in 2020-21<sup>28</sup>



28. 數字只屬暫時性，有待污水處理服務帳目委員會確認。  
The figures are provisional and subject to endorsement by the Sewage Services Accounts Committee.

其他主要數據  
Other Key Statistics

	單位 Unit	2016-17	2017-18	2018-19	2019-20	2020-21
<b>防洪 Flood Prevention</b>						
水浸黑點總數 Total no. of flooding blackspots	數目 No.	7	6	6	5	4
地下雨水渠總長度 Total length of stormwater drains	公里 km	2,386	2,388	2,410	2,410	2,410
人工河道總長度 Total length of engineered channels		363	363	363	363	366
雨水排放隧道總長度 Total length of drainage tunnels		21	21	21	21	21
雨水泵房總數 Total no. of stormwater pumping stations	數目 No.	36	36	36	36	36
<b>污水處理 Sewage Treatment</b>						
公共污水收集網絡覆蓋 (佔人口百分比) <sup>29</sup> Coverage of Public Sewerage (Population percentage) <sup>29</sup>	%	93.5	93.5	93.6	93.7	93.8
污水收集網絡總長度 Total length of sewerage network	公里 km	1,755	1,770	1,832	1,841	1,864
污水隧道總長度 Total length of sewage tunnels		63	63	63	63	63
污水處理設施總數 Total no. of sewage treatment facilities	數目 No.	304	314	319	324	328
總污水處理量 Total volume of sewage treated	百萬立方米 Million m <sup>3</sup>	1,015	1,007	1,028	1,033	1,044
基本處理 By Preliminary Treatment		45	58	75	50	22
一級處理 By Primary Treatment		5	5	6	5	4
化學強化一級處理 By Chemically Enhanced Primary Treatment		779	757	751	784	821
二級處理 By Secondary Treatment		186	187	196	196	197
三級處理 By Tertiary Treatment		0.17	0.17	0.16	0.17	0.14
每天產生的總污泥量 <sup>30</sup> Total sewage sludge generated daily <sup>30</sup>	公噸 Tonnes	1,121	1,043	1,075	1,041	1,068
處理污水時使用電力而引起的溫室氣體排放係數 Emission factor of GHG emissions due to electricity used for processing sewage	-	0.20	0.21	0.20	0.20	0.21

29. 以有繳付排污費的住宅水務帳戶計算。

Based on the number of domestic water bill accounts with sewage charges levied.

30. 大部分的污泥於污水處理廠內以磅秤量度重量，而小型廠房的污泥重量由環保署接收後量度。

Most of the sludge is weighed on a scale in the sewage treatment plants, while the weight of the sludge generated in small treatment plants is measured after being received by the Environmental Protection Department.

# 附錄三 全球報告倡議組織內容索引 Appendix III GRI Content Index



全球報告倡議組織已審議「實質性議題審核」，並認為全球報告倡議組織內容索引闡述清晰，102-40 至 102-49 披露議題的參照索引與報告內文的相應章節相符。此審核是以報告英文版本評核。

For the Materiality Disclosures Service, GRI Services reviewed that the GRI content index is clearly presented and the references for Disclosures 102-40 to 102-49 align with appropriate sections in the body of the report. The service was performed on the English version of the report.

可持續發展報告標準 GRI Standards	一般披露 General Disclosures	參照/直接解釋/省略資料的原因 Reference/Direct Answer/Reasons for Omissions	頁數 Page No.	外部認證 External Assurance	
GRI 101: 基礎 2016 GRI 101: Foundation 2016					
GRI 102: 一般披露 2016 GRI 102: General Disclosures 2016	組織概況 Organisational Profile				
	102-1	機構名稱 Name of the organisation	關於本報告 About the Report	P.6	✓
	102-2	業務活動、品牌、產品及服務 Activities, brands, products, and services	主要職責 Core Responsibilities	P.54	✓
	102-3	機構總部的地址 Location of headquarters	香港灣仔稅務大樓 43 樓 Hong Kong, 43/F Revenue Tower, Wanchai	—	✓
	102-4	營運地點 Location of operations	只限香港 Hong Kong only	—	✓
	102-5	擁有權及法律形式 Ownership and legal form	屬於香港特區政府的一部分 Part of the HKSAR Government	—	✓
	102-6	所服務的市場 Markets served	只限香港 Hong Kong only	—	✓
	102-7	機構的規模 Scale of the organisation	附錄二：主要統計數據 Appendix II: Key Statistics and Data	P.163, 164, 166, 171	✓
	102-8	有關僱員及其他員工的資料 Information on employees and other workers	附錄二：主要統計數據 Appendix II: Key Statistics and Data	P.166	✓
	102-9	供應鏈 Supply chain	持份者參與 Stakeholder Engagement	P.136 -138	✓
	102-10	機構與其供應鏈方面的重大改變 Significant changes to the organisation and its supply chain	沒有顯著改變 No significant changes	—	✓
	102-11	謹慎方針或原則 Precautionary Principle or approach	管治方針 Governance Approach  渠務署於日常營運中採取預防措施以盡量減少對環境及社會產生的負面影響。 The DSD adopts precautionary approaches in our daily operations to minimise negative environmental and social impacts.	P.50 - 53	✓
102-12	由外部所制定的倡議 External initiatives	年度大事 Highlights of the Year  持份者參與 Stakeholder Engagement	P.32 - 43  P.148 - 149	✓	

可持續發展報告標準 GRI Standards	一般披露 General Disclosures	參照/直接解釋/省略資料的原因 Reference/Direct Answer/Reasons for Omissions	頁數 Page No.	外部認證 External Assurance
組織概況 Organisational Profile				
GRI 102: 一般披露 2016 GRI 102: General Disclosures 2016	102-13 機構參與的協會的會員資格 Membership of associations	渠務署屬於以下協會的成員：國際公用事業專業網絡：國際水利與環境工程學會香港分會；香港綠色建築議會；香港水務及環境管理學會；及新工程合約用戶組織及建造業創新及科技應用中心 i-Club。DSD holds membership in the following associations: Leading Utilities of the World (LUOW); The International Association for Hydro-Environment Engineering and Research (IAHR) - Hong Kong Chapter; The Hong Kong Green Building Council; The Chartered Institution of Water and Environmental Management (CIWEM); and The NEC Users' Group and CITAC i-Club Corporate Member.	—	✓
策略 Strategy				
	102-14 最高決策者的聲明 Statement from Senior decision-maker	署長序言 Director's Statement	P.2 - 5	✓
操守與誠信 Ethics and Integrity				
	102-16 價值、原則、標準和行為規範 Values, principles, standards, and norms of behaviour	管治方針 Governance Approach	P.46	✓
管治 Governance				
	102-18 管治結構 Governance structure	管治方針 Governance Approach	P.47 - 52	✓
	102-20 管理層在經濟、環境和社會議題方面的責任 Executive-level responsibility for economic, environmental, and social topics	管治方針 Governance Approach	P.47	✓
	102-21 就經濟、環境和社會議題與利益相關方進行的磋商 Consulting stakeholders on economic, environmental, and social topics	關於本報告 About the Report 持份者參與 Stakeholder Engagement	P.8 P.128	✓
	102-23 最高管治機構主席 Chair of the highest governance body	管治方針 Governance Approach	P.47	✓
	102-32 機構可持續發展報告的最高委員會 Highest governance body's role in sustainability reporting	管治方針 Governance Approach	P.52	✓
持份者參與 Stakeholder Engagement				
	102-40 持份者群體清單 List of stakeholder groups	關於本報告 About the Report 持份者參與 Stakeholder Engagement	P.8 P.128	✓
	102-41 集體談判協議 Collective bargaining agreements	沒有 Nil	—	✓
	102-42 界定及挑選持份者 Identifying and selecting stakeholders	關於本報告 About the Report	P.8	✓
	102-43 引入持份者參與的方針 Approach to stakeholder engagement	關於本報告 About the Report 持份者參與 Stakeholder Engagement	P.8 P.128	✓
	102-44 提出的主要議題及關注事項 Key topics and concerns raised	關於本報告 About the Report	P.11 - 13	✓

可持續發展報告標準 GRI Standards	一般披露 General Disclosures	參照/直接解釋/省略資料的原因 Reference/Direct Answer/Reasons for Omissions	頁數 Page No.	外部認證 External Assurance	
GRI 102: 一般披露 2016 GRI 102: General Disclosures 2016	匯報實務 Reporting Practice				
	102-45	財務報表所包含的單位 Entities included in the consolidated financial statements	關於本報告 About the Report	P.7	✓
	102-46	界定報告內容及議題界限 Defining report content and topic Boundaries	關於本報告 About the Report	P.12 - 13	✓
	102-47	重要議題清單 List of material topics	關於本報告 About the Report	P.12 - 13	✓
	102-48	重整信息 Restatements of information	* 上年度報告的主要統計數據中，以下資料作出更正： 1. 2017-18 年度的部門車隊汽油使用量從 3,422 千兆焦耳更正為 3,421 千兆焦耳；及 2. 2018-19 年度的地下水渠總長度從 2,427 公里更正為 2,410 公里，2019-20 年度的地下水渠總長度從 2,429 公里更正為 2,410 公里。 * In the Key Statistics and Data of the report last year, the following information is restated: 1. Gasoline consumption amount by AM cars in 2017-18 was revised from 3,422 GJ to 3,421 GJ; and 2. Total length of stormwater drains in year 2018-19 was revised from 2,427 km to 2,410 km, the total length of stormwater drains in year 2019-20 was revised from 2,429 km to 2,410 km.	—	✓
	102-49	匯報上的改變 Changes in reporting	關於本報告 About the Report	P.11	✓
	102-50	匯報期 Reporting period	關於本報告 About the Report	P.7	✓
	102-51	上一份報告的日期 Date of most recent report	2020 年 12 月 December 2020	—	✓
	102-52	匯報周期 Reporting cycle	自 2012-13 年度起每年發表可持續發展報告。 Our Sustainability Report has been published annually since 2012-13.	—	✓
	102-53	查詢報告的聯絡點 Contact point for questions regarding the report	回應表格 Feedback Form	P.190 - 191, 封底 Back cover	✓
	102-54	按照 GRI 標準提出的匯報申述 Claims of reporting in accordance with the GRI Standards	關於本報告 About the Report	P.7	✓
	102-55	全球報告倡議組織 (GRI) 內容索引 GRI content index	附錄三：全球報告倡議組織內容索引 Appendix III: GRI Content Index	P.176 - 185	✓
	102-56	外部認證 External assurance	關於本報告 About the Report 核實聲明 Verification Statement	P.7 P. 186 - 189	✓

可持續發展報告標準 GRI Standards	特定議題標準 Topic-specific Standards	參照/直接解釋/省略資料的原因 Reference/Direct Answer/Reasons for Omissions	頁數 Page No.	外部認證 External Assurance	
<b>經濟 ECONOMIC</b>					
經濟績效 Economic Performance					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report 管治方針 Governance Approach 附錄二：主要統計數據 Appendix II: Key Statistics and Data	P.8 - 13 P.46, 51 P.170 - 171	✓
GRI 201: 經濟績效 2016 GRI 201: Economic Performance 2016	201-1 201-2	機構所產生及分配的直接經濟價值 Direct economic value generated and distributed 氣候變化所造成的財務影響及其他風險與機會 Financial implications and other risks and opportunities due to climate change	附錄二：主要統計數據 Appendix II: Key Statistics and Data 署長序言 Director's Statement 管治方針 Governance Approach 環境管理 Environmental Management	P.170 P.2-5 P.46, 51 P.104 - 109	✓ ✓
間接經濟影響及保持公共資金和資產管理的透明度 Indirect Economic Impacts and Transparency on Public Funds and Assets Management					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report 管治方針 Governance Approach 主要職責 Core Responsibilities 持份者參與 Stakeholder Engagement	P.8 - 13 P.46, 51 P.54 - 55 P.126 - 153	✓
GRI 203: 間接經濟影響 2016 GRI 203: Indirect Economic Impacts 2016	203-1 203-2	基礎設施投資和支持性服務 Infrastructure investments and services supported 重大間接經濟影響 Significant indirect economic impacts	主要職責 Core Responsibilities 附錄二：主要統計數據 Appendix II: Key Statistics and Data 主要職責 Core Responsibilities 持份者參與 Stakeholder Engagement	P.64 - 67, P.70 - 85 P.168, 170 P.64 - 67, P.70 - 85 P.126 - 153	✓ ✓
採購實務 Procurement Practices					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report 管治方針 Governance Approach 持份者參與 Stakeholder Engagement 我們跟隨政府的採購政策，依從公開及公平的程序甄選承辦商和供應商，並定期檢討他們的表現。 We follow the procurement policy of the government, follow an open and fair process to select contractors and suppliers, and review their performance regularly.	P.8 - 13 P.46, 51 P.136 - 138	✓
GRI 204: 採購實務 2016 GRI 204: Procurement Practices 2016	204-1	本地供應商採購的支出比例 Proportion of spending on local suppliers	於 2020-21 年度，經本署物料供應組採購的服務和產品 100% 來自本地（即指香港）供應商/承辦商或分銷商。 Procurement of services and goods made by the DSD's Supplies Unit in 2020-21 are 100% local (i.e. Hong Kong) suppliers, contractors or local agents.	—	✓

可持續發展報告標準 GRI Standards	特定議題標準 Topic-specific Standards	參照/直接解釋/省略資料的原因 Reference/Direct Answer/Reasons for Omissions	頁數 Page No.	外部認證 External Assurance	
<b>反貪污 Anti-corruption</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report  管治方針 Governance Approach  我們要求員工恪守最高的道德標準。如發現任何涉嫌貪腐的個案，會立即向廉政公署舉報，以作進一步調查。 We request our staff to adhere to the highest ethical standard. If any suspected corruption cases are reported, they will be submitted to the Independent Commission Against Corruption for further investigation.	P.8 - 13  P.46, 51	✓
GRI 205: 反貪污 2016 GRI 205: Anti-corruption 2016	205-3	經確認的貪污事件和採取的行動 Confirmed incidents of corruption and actions taken	自 2013-14 年度起並沒有確認的貪污事件。 No Confirmed incidents of corruption since 2013-14.	—	✓
<b>環境 ENVIRONMENTAL</b>					
<b>氣味管理 Odour Control</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report  管治方針 Governance Approach  主要職責 Core Responsibilities  為控制污水處理過程中有可能產生的氣味滋擾，渠務署在轄下的污水處理設施採用了防臭處理措施，並定期監察氣味控制措施的成效。防臭處理措施的資訊已上載於渠務署網頁。 To control the odour nuisance that may be generated during the sewage treatment process, the DSD has adopted odour abatement measures in our sewage treatment facilities and regularly monitor the effectiveness of the odour control measures. Information about odour abatement is uploaded to the DSD website.	P.8 - 13  P.46, 51  P.79	✓
<b>減緩及適應氣候變化 Climate Change and Mitigation and Adaptation</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report  管治方針 Governance Approach  環境管理 Environmental Management	P.8 - 13  P.46, 51  P.104 - 109	✓
<b>物料使用 Use of Materials</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report  管治方針 Governance Approach  環境管理 Environmental Management	P.8 - 13  P.46, 51  P.110	✓
GRI 301: 物料 2016 GRI 301: Materials 2016	301-1	所採用原材料的重量或體積 Materials used by weight or volume	附錄二：主要統計數據 Appendix II: Key Statistics and Data	P.162, 165	✓

可持續發展報告標準 GRI Standards	特定議題標準 Topic-specific Standards	參照/直接解釋/省略資料的原因 Reference/Direct Answer/Reasons for Omissions	頁數 Page No.	外部認證 External Assurance	
<b>能源 Energy</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report  管治方針 Governance Approach  環境管理 Environmental Management	P.8 - 13  P.46, 51  P.104 - 109, 112	✓
GRI 302: 能源 2016 GRI 302: Energy 2016	302-1	組織內部的能源消耗量 Energy consumption within the organisation	附錄二：主要統計數據 Appendix II: Key Statistics and Data	P.161	✓
	302-2	組織外部的能源消耗量 Energy consumption outside of the organisation	附錄二：主要統計數據 Appendix II: Key Statistics and Data	P.161	✓
	302-3	能源強度 Energy intensity	附錄二：主要統計數據 Appendix II: Key Statistics and Data	P.161	✓
	302-4	減少能源的消耗 Reduction of energy consumption	環境管理 Environmental Management  附錄一：完成目標 Appendix I: Meeting the Targets	P.108  P.154 - 157	✓
<b>水與放流水 Water and Effluents</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report  管治方針 Governance Approach  環境管理 Environmental Management  附錄二：主要統計數據 Appendix II: Key Statistics and Data	P.8 - 13  P.46, 51  P.90 - 103  P.162 - 163	✓
GRI 303: 水與放流水 2018 GRI 303: Water and Effluents 2018	303-1	共享水資源之相互影響 Interactions with water as a shared resource	主要職責 Core Responsibilities  環境管理 Environmental Management  附錄一：完成目標 Appendix I: Meeting the Targets  附錄二：主要統計數據 Appendix II: Key Statistics and Data	P.54 - 55  P.90 - 103  P.154 - 157  P.162 - 163	✓
	303-2	與排水相關衝擊的管理 Management of water discharge-related impacts	主要職責 Core Responsibilities	P.68 - 69, 78	✓
	303-3	取水量 Water withdrawal	附錄二：主要統計數據 Appendix II: Key Statistics and Data	P.162	✓
	303-5	耗水量 Water consumption	附錄二：主要統計數據 Appendix II: Key Statistics and Data	P.162	✓
<b>生態保育 (GRI 304: 生物多樣性) Ecological Conservation (GRI 304: Biodiversity)</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report  管治方針 Governance Approach  力求創新 與時並進 Innovating for a Better Future  環境管理 Environmental Management	P.8 - 13  P.46, 51  P.31  P.90 - 98	✓
GRI 304: 生物多樣性 2016 GRI 304: Biodiversity 2016	304-3	受保護或經修復的棲息地 Habitats protected or restored	力求創新 與時並進 Innovating for a Better Future  環境管理 Environmental Management	P.31  P.92 - 94	✓

可持續發展報告標準 GRI Standards	特定議題標準 Topic-specific Standards	參照/直接解釋/省略資料的原因 Reference/Direct Answer/Reasons for Omissions	頁數 Page No.	外部認證 External Assurance	
<b>排放物 Emissions</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report 管治方針 Governance Approach 環境管理 Environmental Management	P.8 - 13 P.46, 51 P.104 - 109, 112	✓
GRI 305: 排放物 2016 GRI 305: Emissions 2016	305-1 305-2 305-3 305-5	直接溫室氣體排放 (範疇 1) Direct (Scope 1) GHG emissions 能源間接溫室氣體排放 (範疇 2) Energy indirect (Scope 2) GHG emissions 其他間接溫室氣體排放 (範疇 3) Other indirect (Scope 3) GHG emissions 減少溫室氣體的排放量 Reduction of GHG emissions	附錄二：主要統計數據 Appendix II: Key Statistics and Data 附錄二：主要統計數據 Appendix II: Key Statistics and Data 附錄二：主要統計數據 Appendix II: Key Statistics and Data 環境管理 Environmental Management	P.162 P.162 P.162 P.105	✓ ✓ ✓ ✓
<b>廢棄物 Waste</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report 管治方針 Governance Approach 環境管理 Environmental Management	P.8 - 13 P.46, 51 P.110	✓
GRI 306: 廢棄物 2020 GRI 306: Waste 2020	306-1 306-2 306-3	廢物產生及與廢物有關的重大影響 Waste generation and significant waste-related impacts 管理與廢物有關的重大影響 Management of significant waste-related impacts 廢物產生 Waste generated	環境管理 Environmental Management 環境管理 Environmental Management 附錄二：主要統計數據 Appendix II: Key Statistics and Data 附錄二：主要統計數據 Appendix II: Key Statistics and Data	P.106 - 107 P.106 - 107 P.163 - 165 P.163 - 165	✓ ✓ ✓
<b>環境法規遵循 Environmental Compliance</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report 管治方針 Governance Approach 附錄一：完成目標 Appendix I: Meeting the Targets	P.8 - 13 P.46, 51 P.156	✓
GRI 307: 環境法規遵循 2016 GRI 307: Environmental Compliance 2016	307-1	違反環境法律和法規 Non-compliance with environmental laws and regulations	渠務署於 2020-21 年度，並沒有該類別的違規情況。 No non-compliance with environmental laws and regulations in 2020-21.	—	✓

可持續發展報告標準 GRI Standards	特定議題標準 Topic-specific Standards	參照/直接解釋/省略資料的原因 Reference/Direct Answer/Reasons for Omissions	頁數 Page No.	外部認證 External Assurance	
<b>評估供應商環境表現 Supplier Environmental Assessment</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report 管治方針 Governance Approach 環境管理 Environmental Management	P.8 - 13 P.46, 51 P.112	✓
GRI 308: 評估供應商/承辦商 的環境表現 2016 GRI 308: Supplier Environmental Assessment 2016	308-1	按照環境準則篩選的新供應商 New suppliers that were screened using environmental criteria	渠務署歡迎供應商遵從環保規格或準則，並未有採用環境準則篩選新供應商。 The DSD welcomes suppliers to follow the green specifications or criteria. No new suppliers have been screened using environmental criteria so far.	—	✓
<b>社會 SOCIAL</b>					
<b>匯報可持續發展進程 Reporting on Sustainable Development Agenda</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report 管治方針 Governance Approach	P.8 - 13 P.46, 51	✓
<b>投訴機制 Grievance Mechanism</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report 管治方針 Governance Approach 關愛員工 Caring for Our Staff 附錄一：完成目標 Appendix I: Meeting the Targets	P.8 - 13 P.46, 51 P.124 P.159	✓
<b>內部溝通渠道 Internal Communication Channel</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report 管治方針 Governance Approach 關愛員工 Caring for Our Staff	P.8 - 13 P.46, 51 P.124 - 125	✓
<b>員工政策及員工比例 Employment Policy and Employee Ratio</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report 管治方針 Governance Approach 關愛員工 Caring for Our Staff 我們跟隨政府的員工政策及指引，如《公務員事務規例》等文件，確保有效管理員工，為市民提供優質服務。 We follow the employment policy and guideline of the government, such as the Civil Service Regulations, to ensure effective management of the staff and deliver quality service to the citizens.	P.8-13 P.46, 51 P.114 - 123	✓
GRI 401: 僱傭 GRI 401: Employment 2016	401-1	新進員工和員工流動率 New employee hires and employee turnover	附錄二：主要統計數據 Appendix II: Key Statistics and Data	P.168	✓
GRI 405: 多元化與平等機會 2016 GRI 405: Diversity and Equal Opportunity 2016	405-1	管治機構與員工的多元化 Diversity of governance bodies and employees	附錄二：主要統計數據 Appendix II: Key Statistics and Data	P.167	✓

可持續發展報告標準 GRI Standards	特定議題標準 Topic-specific Standards	參照/直接解釋/省略資料的原因 Reference/Direct Answer/Reasons for Omissions	頁數 Page No.	外部認證 External Assurance	
<b>職業健康及安全 Occupational Health and Safety</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report 管治方針 Governance Approach 關愛員工 Caring for Our Staff 持份者參與 Stakeholder Engagement	P.8 - 13 P.46, 51 P.118 - 123 P.136 - 138	✓
GRI 403: 職業健康及安全 2018 GRI 403: Occupational Health and Safety 2018	403-1	職業安全與健康管理系統 Occupational health and safety management system	管治方針 Governance Approach 關愛員工 Caring for Our Staff	P.46, 51 P.118 - 119	✓
	403-2	識別危險、評估風險及調查事故 Hazard identification, risk assessment, and incident investigation	關愛員工 Caring for Our Staff	P.118 - 119	✓
	403-3	職業健康服務 Occupational health services	關愛員工 Caring for Our Staff	P.118 - 123	✓
	403-4	鼓勵員工參與職安健事務、諮詢及溝通 Worker participation, consultation, and communication on occupational health and safety	關愛員工 Caring for Our Staff	P.122 - 123	✓
	403-5	員工的職安健培訓 Worker training on occupational health and safety	關愛員工 Caring for Our Staff	P.120 - 121	✓
	403-6	促進員工健康 Promotion of worker health	關愛員工 Caring for Our Staff	P.122 - 123	✓
	403-7	預防及減輕與業務關係直接相關的職 安健影響 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	關愛員工 Caring for Our Staff	P.118 - 119	✓
	403-9	工傷 Work-related injuries	關愛員工 Caring for Our Staff 附錄二：主要統計數據 Appendix II: Key Statistics and Data	P.119 P.169	✓
<b>員工培訓與教育 Staff Training and Education</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report 管治方針 Governance Approach 關愛員工 Caring for Our Staff	P.8 - 13 P.46, 51 P.114 - 117	✓
GRI 404: 培訓與教育 2016 GRI 404: Training and Education 2016	404-1	每名員工每年接受培訓的平均小時數 Average hours of training per year per employee	關愛員工 Caring for Our Staff 附錄二：主要統計數據 Appendix II: Key Statistics and Data	P.116 P.168	✓

可持續發展報告標準 GRI Standards	特定議題標準 Topic-specific Standards	參照/直接解釋/省略資料的原因 Reference/Direct Answer/Reasons for Omissions	頁數 Page No.	外部認證 External Assurance	
<b>服務質量標準 Service Quality Standards</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report 管治方針 Governance Approach 主要職責 Core Responsibilities 附錄一：完成目標 Appendix I: Meeting the Targets	P.8 - 13 P.46, 51 P.56 - 87 P.154, 159 - 160	✓
GRI 416: 客戶健康與安全 2016 GRI 416: Customer Health and Safety 2016	416-2	涉及產品和服務的健康與安全的違規 事件 Incidents of non-compliance concerning the health and safety impacts of products and services	渠務署於 2020-21 年度並沒有該類別的違規情況。 No non-compliance with laws and regulations in 2020-21.	—	✓
<b>社會經濟法規遵循 Socioeconomic Compliance</b>					
GRI 103: 管理方針 2016 GRI 103: Management Approach 2016	103-1 103-2 103-3	管理方針 Management approach	關於本報告 About the Report 管治方針 Governance Approach 附錄一：完成目標 Appendix I: Meeting the Targets 我們跟從政府於社會經濟方面的政策及指引，並確 保符合法規。 We follow the policies and guidelines of the government in the social and economic area and ensure that we are complying with the regulations.	P.8 - 13 P.46, 51 P.158 - 160	✓
GRI 419: 社會經濟法規遵循 2016 GRI 419: Socioeconomic Compliance 2016	419-1	違反社會及經濟領域方面的法律和規 定 Non-compliance with laws and regulations in the social and economic area	渠務署於 2020-21 年度並沒有該類別的違規情況。 No non-compliance with laws and regulations in the social and economic area in 2020-21.	—	✓



## 獨立保證意見聲明書



聲明書號碼：SRA-HK-761085

### 渠務署 可持續發展報告 2020-21

英國標準協會與香港特別行政區政府渠務署（以下稱為“渠務署”）為相互獨立的公司及組織，英國標準協會除了針對渠務署可持續發展報告 2020-21（以下簡稱“報告”）進行評估和核對外，與渠務署並無任何財務上的關係。

本獨立保證意見聲明書的目的，僅作為對下列有關渠務署可持續發展報告所界定範圍內的相關事項進行保證之結論，而不作為其他之用途。英國標準協會就提供本獨立保證意見聲明書，對關於其他目的之使用，或閱讀本獨立保證意見聲明書的任何人士，英國標準協會並不負有或承擔任何有關法律或其他之責任。本獨立保證意見聲明書供渠務署之持份者及管理人員使用。

本獨立保證意見聲明書是基於渠務署提供予英國標準協會之相關資料審查所作成之結論，因此審查範圍乃基於並只限於這些提供的資料之內，英國標準協會認為這些資料都是完整且準確的。

對於這份獨立保證意見聲明書所載內容或相關事項之任何疑問，只能向渠務署提出。

#### 核對範圍

渠務署與英國標準協會協議的核對範圍包括：

1. 保證涵蓋整份報告，並專注於渠務署在香港，於 2020 年 4 月 1 日 至 2021 年 3 月 31 日期間的系統及活動，包括污水處理及防洪工作。報告依據符合全球報告倡議組織標準(GRI Standards)的核心選項編制而成。
2. 第一類型中度保證等級評估渠務署遵循四項當責性原則：包容性、實質性、回應性及影響性的本質與程度，以及對指定可持續發展的資料/數據作出核對。

本聲明書以英文編制，中文翻譯本只供參考。

#### 意見聲明

我們可以總結，報告為渠務署的可持續發展計劃與績效提供一個公允的觀點。我們相信報告內之經濟、社會及環境績效指標是被正確無誤地展現。報告所披露的績效指標展現了渠務署為可持續發展所作出的努力，備受持份者的廣泛認同。

這次核對工作是由一組具有可持續發展報告核對能力之團隊執行。透過策劃和進行核對時所獲得的資料及說明，我們認為渠務署就符合全球報告倡議組織標準(GRI Standards)的核心選項的聲明，是屬公允的描述。

#### 核對方法

為了收集能讓我們得出結論的證據，我們執行了以下工作：

- 對來自外部團體關於渠務署政策的議題，進行高階管理層的審查，以確認報告中聲明書的合適性
- 與渠務署管理人員討論有關持份者參與的方式，然而，我們並無直接接觸外部持份者
- 訪問涉及可持續發展管理、報告編制及資料提供的有關員工
- 審查組織的主要發展內容
- 審查報告中所作宣告的支持性證據
- 審查報告的製作及管理流程是否按照包容性、實質性、回應性及影響性的原則進行

#### 結論

我們對於包容性、實質性、回應性及影響性原則，及依據全球報告倡議組織標準(GRI Standards)的審查如下：

#### 包容性

此報告反映渠務署透過以下多種渠道作持份者參與，包括：公務員建議書計劃、部門各協商委員會和討論小組、渠務署簡訊 — 渠務之聲、公開研討會、投標活動、工地考察、經驗分享會、工地安全及整潔獎勵計劃、立法會會議、區議會會議、研討會、到訪渠務署總部或轄下設施、客戶滿意度調查、問卷調查、工程簡介會、環保團體會議、河道考察、跨部門會議、跨部門義工活動、展覽、教育計劃、項目網頁、社交媒體專頁、工程單張、簡訊、社區聯絡中心、簡介會、虛擬參觀、啟德河導賞徑、網上直播、會議、網上嘉年華。

渠務署透過日常營運並以多種渠道與持份者保持溝通。此報告包括持份者關注的經濟、社會及環境範疇，並以公允的方式披露。我們專業的意見認為，渠務署遵循包容性原則。我們對報告的改善意見已被渠務署於發出本意見聲明書前採納。

#### 實質性

渠務署發布可持續發展資訊，讓持份者對渠務署的管理及表現可作出有事實根據的判斷。我們專業的意見認為，報告遵循實質性原則，並透過合適的方法識別出渠務署的實質範疇，以矩陣方式展現出實質範疇。我們對報告的改善意見已被渠務署於發出本意見聲明書前採納。

#### 回應性

渠務署實行措施以回應持份者的期望與意見，包括對內部及外部持份者的各種問卷及反映機制。以我們專業的意見，渠務署遵循回應性原則。我們對報告的改善意見已被渠務署於發出本意見聲明書前採納。

#### 影響性

渠務署設立流程以定性及定量方式去了解、計量及評價其影響，讓渠務署評估其影響及於報告內披露。以我們專業的意見，渠務署遵循影響性原則。我們對報告的改善意見已被渠務署於發出本意見聲明書前採納。

#### 全球報告倡議組織標準

渠務署向我們提供已符合全球報告倡議組織標準(GRI Standards)的自我聲明。

從審查的結果，我們確定報告內之三個類別（環境、社會及經濟）的社會責任及可持續發展披露，是符合全球報告倡議組織標準的核心選項披露。以我們專業的意見認為，本報告包括渠務署的社會責任及可持續發展事務。我們對報告的改善意見已被渠務署於發出本意見聲明書前採納。

#### 保證等級

我們提供的第一類型中度保證等級審查，是以本聲明書內之範圍及方法作定義。

#### 責任

渠務署的高層管理有責任確保這份可持續發展報告內的資料準確。我們的責任為基於所描述的範圍與方法，提供專業意見並提供持份者一個獨立的保證意見聲明書。

#### 能力與獨立性

本核對團隊是由具專業背景，且接受過包括GRI(全球報告倡議組織) G3、GRI G3.1、GRI G4、GRI標準、AA1000、香港聯交所“環境、社會及管治報告指引”、聯合國全球契約十項原則、ISO 20121、ISO 14064、ISO 14001、OHSAS 18001、ISO 45001、ISO 9001及ISO 10002等之一系列可持續發展、環境及社會標準的訓練，具有主導擔保及核對員資格之成員組成。英國標準協會於1901年成立，是全球標準及驗證機構的領導者。本保證是依據英國標準協會公平交易準則執行。

英國標準協會代表：

余英泰先生  
香港首席營運總監

本報告驗證員：

詹子龍先生  
主任驗證員

香港

2021 年 12 月 21 日



## INDEPENDENT ASSURANCE OPINION STATEMENT



Statement No.: SRA-HK-761085

### Drainage Services Department Sustainability Report 2020-21

The British Standards Institution is independent of the Drainage Services Department of the Government of Hong Kong Special Administrative Region (hereafter referred to as "DSD" in this statement), and has no financial interest in the operation of DSD other than for the assessment and assurance of DSD Sustainability Report 2020-21 (the "Report").

This independent assurance opinion statement has been prepared for DSD solely for the purpose of assuring its statements relating to the Report, more particularly described in the Scope below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or towards any person by whom the independent assurance opinion statement may be read. This statement is intended to be used by stakeholders & management of DSD.

This independent assurance opinion statement is prepared on the basis of review by the British Standards Institution of information presented to it by DSD. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete and accurate.

Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to DSD only.

#### Scope

The scope of engagement agreed upon with DSD includes the following:

1. The assurance covers the whole Report and, focuses on systems and activities of DSD in Hong Kong, which include sewage treatment and flood prevention during the period from 1st April 2020 to 31st March 2021. The Report is prepared in accordance with the Core Option of GRI Sustainability Reporting Standards ("GRI Standards").
2. Type 1 Moderate Level of Assurance evaluates the nature and extent of DSD's adherence to four reporting principles: Inclusivity, Materiality, Responsiveness and Impact. The specified sustainability performance information/data disclosed in the Report has been evaluated.

This statement was prepared in English and translated to Chinese for reference only.

#### Opinion Statement

We conclude that the Report provides a fair view of DSD's sustainability programmes and performance in the reporting year. We believe that the economic, social and environmental performance indicators are fairly represented in the Report, in which DSD's efforts to pursue sustainable development are widely recognised by its stakeholders.

Our work was carried out by a team of sustainability report assurers. We planned and performed this part of our work to obtain the necessary information and explanations. We considered DSD has provided sufficient evidence that DSD's self-declaration of compliance with the Core Option of GRI Standards were fairly stated.

#### Methodology

Our work was designed to gather evidence on which to base our conclusion. We undertook the following activities:

- A top level review of issues raised by external parties that could be relevant to DSD's policies to provide a check on the appropriateness of statements made in the Report;
- Discussion with senior executives on DSD's approach to stakeholder engagement. We had no direct contact with external stakeholders
- Interview with staff involved in sustainability management, report preparation and provision of report information;
- Review of key organisational developments;
- Review of supporting evidence for claims made in the Report; and
- An assessment of the company's reporting and management processes concerning reporting against the principles of Inclusivity, Materiality, Responsiveness and Impact.

#### Conclusions

A detailed review against the Principles of Inclusivity, Materiality and Responsiveness and Impact, and in accordance with the GRI Standards is set out below:

#### Inclusivity

The Report has reflected the fact that DSD is seeking the engagement of its stakeholders through numerous channels such as Staff Suggestions Scheme; Consultative committees and discussion groups across the DSD; DSD Newsletter – Channel; Public seminars; Tender activities; Site visits; Experience sharing sessions; Construction Sites Safety and Housekeeping Award Scheme; Legislative Council meetings; District Council meetings; Seminars; Visits to DSD headquarters/facilities; Customer satisfaction surveys; Questionnaire surveys; Project briefing sessions; Meetings with environmental groups; Site visits to river channels; Inter-departmental meetings; Inter-departmental volunteer activities; Exhibitions; Educational programmes; Project website; Social media page; Leaflets; Newsletters; Community Liaison Centre; Briefing sessions; Virtual visit; Kai Tak River Trail; Online broadcast; Conference; Online carnival; and more.

DSD's operation involves various methods of engaging its stakeholders on a daily basis. The Report covers economic, social and environmental aspects of concern to its stakeholders with a fair level of disclosure. In our professional opinion, DSD adheres to the principle of Inclusivity. Our view of areas for enhancement of the Report was adopted by DSD before the issue of this opinion statement.

#### Materiality

DSD publishes sustainability information that enables its stakeholders to make informed judgments about the company's management and performance. In our professional opinion, the Report adheres to the principle of Materiality and identifies DSD's material aspects by using appropriate methods of materiality analysis and demonstrating material issues in a matrix form. Areas for enhancement of the Report were adopted by DSD before the issue of this opinion statement.

#### Responsiveness

DSD has implemented practices that respond to the expectations and perceptions of its stakeholders. These include various surveys and feedback mechanisms for both internal and external stakeholders. In our professional opinion, DSD adheres to the principle of Responsiveness. Areas for enhancement of the Report were adopted by DSD before the issue of this opinion statement.

#### Impact

DSD has established processes to understand, measure and evaluate its impacts in qualitative and quantitative way. These processes enable DSD to assess its impact and disclose them in the Report. In our professional opinion, DSD adheres to the principle of Impact. Areas for enhancement of the Report were adopted by DSD before the issue of this opinion statement.

#### GRI Standards Reporting

DSD provided us with their self-declaration of compliance with GRI Standards "In Accordance" – Core option.

Based on our verification review, we are able to confirm that social responsibility and sustainable development disclosures in all three categories (Environmental, Social and Economic) are reported in accordance with the GRI Standards: Core option. In our professional opinion the report covers DSD's social responsibility and sustainability issues. Areas for enhancement of the Report were adopted by DSD before the issue of this opinion statement.

#### Assurance Level

The Type 1 Moderate Level of Assurance provided in our review is defined by the scope and methodology described in this statement.

#### Responsibility

It is the responsibility of DSD's senior management to ensure that the information being presented in the Report is accurate. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

#### Competency and Independence

The assurance team was composed of Lead Auditors, who are experienced in the industrial sector, and trained in a range of sustainability, environmental and social standards including GRI G3, GRI G3.1, GRI G4, GRI Standards, AA1000, HKEX ESG Guide, UNGC's Ten Principles, ISO 20121, ISO 14064, ISO 14001, OHSAS 18001, ISO 45001, ISO 9001, and ISO 10002, etc. British Standards Institution is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

For and on behalf of BSI:

Mr Stephen YU  
Chief Operating Officer – Hong Kong  
China Operational Resilience Director

Hong Kong  
21<sup>st</sup> Dec, 2021

Verifier of the Report

Mr Aaron CHIM  
Lead Assuror



## 渠務署可持續發展報告 2020-21 回應表格

感謝你閱讀本報告。你的意見及建議對我們改進可持續發展的表現及匯報十分重要。希望你能抽空完成以下問卷，表達意見，謝謝。

1. 你對以下有關本報告的陳述有多認同：
- |                                     | 十分認同                  | 認同                    | 不認同                   | 十分不認同                 | 無意見                   |
|-------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 這份報告就我們的工作和服務，以及可持續發展策略和表現作出了清晰的闡述。 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 這份報告的內容平衡及充份。                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 這份報告的資料很有用。                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 這份報告的結構清晰。                          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 這份報告的圖像與文字的比例合適。                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 這份報告的設計美觀。                          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 這份報告易於閱讀及瀏覽。                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 這份報告有助您增加對渠務署的認識。                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
2. 請評價我們的可持續發展報告 2020-21 及可持續發展表現：
- |                   | 優異                    | 良好                    | 尚可                    | 欠佳                    | 差劣                    |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 你會如何評價我們的可持續發展報告？ | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 你會如何評價我們的可持續發展表現？ | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
3. 你對我們的報告在以下哪一方面提供的資料最感興趣？
- 經濟    社會    環境    管治    其他，請註明 \_\_\_\_\_
4. 你認為我們的報告在以下哪一方面提供的資料最有用？
- 經濟    社會    環境    管治    其他，請註明 \_\_\_\_\_
5. 你希望我們的報告在以下哪一方面提供更多資料？（可選擇多於一項）
- 經濟    社會    環境    管治    其他，請註明 \_\_\_\_\_
6. 你認為我們於來年的報告應增加哪些內容？
- \_\_\_\_\_
7. 你從何獲取渠務署可持續發展報告的資訊？
- 渠務署網頁    渠務署舉辦的活動    家人或朋友    傳媒    學校    其他，請註明 \_\_\_\_\_
8. 其他建議或意見：
- \_\_\_\_\_
9. 你屬於下列哪個組別？
- 政府部門    顧問 / 承建商 / 供應商 / 建造業    非政府機構社區組織    學術界
- 環保團體    媒體    渠務署員工    學生
- 公眾人士    其他，請註明 \_\_\_\_\_

如你希望於將來收取我們的報告 / 資訊，請將你的聯絡資料包括姓名、聯絡電郵及電話透過電郵 (enquiry@dsd.gov.hk) 提供予本署跟進。如就渠務署可持續發展報告有任何查詢，請聯絡本署公共關係組 (電話：2594 7140 / 電郵：enquiry@dsd.gov.hk)。

請從以下途徑交回已填妥的表格給渠務署：  
 電郵：enquiry@dsd.gov.hk      傳真：3103 0033  
 郵寄地址：香港灣仔告士打道 5 號稅務大樓 43 樓

多謝你的寶貴意見！

## Feedback on DSD Sustainability Report 2020-21

Thank you for reading our report. Your comments and suggestions are important for helping us improve our sustainability performance and reporting. Please take a few minutes to give us your views by completing the following feedback form. Thank you.

1. Please indicate whether you agree or disagree with the following statements:
- |   | Strongly agree        | Agree                 | Disagree              | Strongly disagree     | No comment            |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| The report provides a clear understanding of our works and services as well as sustainability strategy and performance. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The content of the report is balanced and adequate.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The information of the report is useful.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The structure of the report is clear.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The proportion of graphics and text is appropriate.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The design of the report is decent.   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The report is easy to read and navigate.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| The report enables you to understand more about DSD.  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
2. Please rate our Sustainability Report 2020-21 and sustainability performance:
- |  | Excellent             | Good                  | Fair                  | Poor                  | Bad                   |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| How would you rate our Sustainability Report?      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| How would you rate our sustainability performance? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
3. Which aspect of the report did you find most interesting?
- Economic    Social    Environmental    Governance    Other(s), please specify \_\_\_\_\_
4. Which aspect of the report did you find most useful?
- Economic    Social    Environmental    Governance    Other(s), please specify \_\_\_\_\_
5. Which aspect(s) of the report would you like to have more information?
- Economic    Social    Environmental    Governance    Other(s), please specify \_\_\_\_\_
6. Are there any other topics that you would like to see in our future reports?
- \_\_\_\_\_
7. Where do you learn about the DSD Sustainability Report?
- DSD website    DSD activities    Family & friends    Media    Schools    Other(s), please specify \_\_\_\_\_
8. Other suggestions or opinions:
- \_\_\_\_\_
9. Which of the following best describes you?
- |   |  |
|---|--|
| <input type="radio"/> Government Department         | <input type="radio"/> Consultant/Contractor/Supplier/Construction Industry |
| <input type="radio"/> Non-governmental Organisation | <input type="radio"/> Academic Sector <input type="radio"/> Green Group    |
| <input type="radio"/> Media                         | <input type="radio"/> Staff of DSD <input type="radio"/> Students          |
| <input type="radio"/> General Public                | <input type="radio"/> Other(s), please specify _____                       |

Should you like to receive our reports/information in the future, please provide your contact details including name, email and telephone number to the Department for follow up through email (enquiry@dsd.gov.hk). For enquiries about DSD Sustainability Report, please contact our Public Relations Unit (Tel: 2594 7140/Email: enquiry@dsd.gov.hk)

Please return the completed questionnaire to DSD by the following methods:  
 Email: enquiry@dsd.gov.hk      Fax: 3103 0033  
 Mailing address: 43/F, Revenue Tower, 5 Gloucester Road, Wan Chai, Hong Kong

Thank you very much for your valuable opinion.



**本報告的電子版及回應表格可參閱以下網址：**

**The electronic version of the report and feedback form can be found at the following link:**

[https://www.dsd.gov.hk/TC/Publicity\\_and\\_Publications/Publicity/DSD\\_Sustainability\\_Reports/index.html](https://www.dsd.gov.hk/TC/Publicity_and_Publications/Publicity/DSD_Sustainability_Reports/index.html) (繁體中文版)

[https://www.dsd.gov.hk/SC/Publicity\\_and\\_Publications/Publicity/DSD\\_Sustainability\\_Reports/index.html](https://www.dsd.gov.hk/SC/Publicity_and_Publications/Publicity/DSD_Sustainability_Reports/index.html) (簡體中文版)

[https://www.dsd.gov.hk/EN/Publicity\\_and\\_Publications/Publicity/DSD\\_Sustainability\\_Reports/index.html](https://www.dsd.gov.hk/EN/Publicity_and_Publications/Publicity/DSD_Sustainability_Reports/index.html) (English Version)

**服務查詢 Service Enquiries**

渠務熱線 (24 小時) Drainage Hotline (24 Hours):

☎ 2300 1110

污水處理服務收費諮詢 Sewage Services Charges Enquiries:

☎ 2834 9432

一般查詢 General Enquiries:

☎ 2877 0660

電郵地址 Email Address:

✉ [enquiry@dsd.gov.hk](mailto:enquiry@dsd.gov.hk)



渠務署  
Drainage Services Department



同心展關懷  
caring **organisation** 2017-20  
Awarded by The Hong Kong Council of Social Service  
香港社會服務聯會頒發

