



# BUILD GREEN · BUILD SMART

## SUSTAINABILITY REPORT 2018



## **ArchSD Sustainability Report 2018 - Table of Contents**

Message from the Director	1
About This Report	2
About Us	4
- Role and Organisation Structure	4
- Funding and Mode of Operation	7
- Departmental Expenditure	7
- Key Facts	9
Recognitions and Awards	10
Management Approach	20
- Strategy and Management	20
- Departmental Annual Plans	28
- Main Focus Areas	30
- Engagement Approach	32
Resources Utilisation and Conservation	44
- Sustainable Building Design	44
- Greening and Landscaping	53
- In-house Green Management	58
Clients and Business Partners	66
- Project Management	66
- Engaging the Industry and Community	76
- Contributing to Community Development	79
Human Resources	82
Objectives and Targets	86
Data Summary	93
- Environmental Performance	93
- Social Performance	97
Report Verification	103
GRI Content Index	105
Glossary	114
Feedback	119

# MESSAGE FROM THE DIRECTOR



*Dear friends*

This is my first Sustainability Report after receiving the baton last December. Many thanks to my predecessors and all colleagues - the Architectural Services Department (ArchSD) is operating well, yet we still step beyond our comfort zone to explore opportunities for continuous improvement to achieve "Build Green • Build Smart" for enriching our living environment.

Together with the concerted efforts of our industry partners, we strive to design, construct and maintain quality buildings with sustainable and innovative features, which in turn contributes to the sustainable development of the city. Altogether we garnered more than 35 awards for outstanding sustainable- and quality-building designs in 2017. We are excited to share these innovative designs on green elements and smart technologies in this Report. We are also pleased to see these collaborative success and encouraging results in 2017, having reached the set annual targets in areas such as design betterment, public safety, buildability and cost control.

We will identify areas of further co-operation as advocated in the "Hong Kong Construction 2.0". This includes Modular Integrated Construction (MiC) and other new technologies, facilitated by the implementation of Building Information Modelling (BIM), Buildability Evaluation System (BES) and Corporate Intelligence (CO-i). Through our knowledge sharing culture, we will continue to conduit all stakeholders and co-venture to uplift operational efficiency and professional capabilities.

My heartfelt thanks to the valued contribution by all of our colleagues, industry partners and stakeholders!

Let us join hands to shape our vibrant city to become greener and smarter. Tell us what you think we could do better. Do share your feedback or comments and use this platform to build stronger ties amongst us.

*Amia*

# ABOUT THIS REPORT



## Reporting Objectives

Architectural Services Department (ArchSD) of the Government of the Hong Kong Special Administrative Region has produced 20 annual environmental reports and sustainability reports in total. The Sustainability Report 2018, Build Green·Build Smart, is our 15<sup>th</sup> annual sustainability report, which presents our initiatives and performance on economic, environmental and social aspects in 2017.

This report provides an opportunity not only to demonstrate our achievement last year, but also to ensure you of our commitment to serving better in the future with continuous efforts and improvement in sustainability.

## Reporting Scope

The Sustainability Report 2018 ("the Report") highlights ArchSD's key sustainability initiatives and achievement from 1 January 2017 to 31 December 2017. The Report covers the sustainability performance and initiatives of our six functional branches and two Central Management Divisions. Data in the Report are presented as absolute figures as of 31 December 2017 (unless otherwise stated) to the best of our knowledge. Financial data are reported for the financial year ended 31 March 2018. All monetary values are in Hong Kong Dollars.

## Reporting Principles

---

This Report has been prepared in accordance with the GRI Standards: Core option as well as the Environmental Protection Department's A Guide to Environmental Reporting for Controlling Officers and the Director of Information Services' memo dated 20 October 2016 – "Guidelines on preparation of annual departmental reports".

The GRI Content Index correlates GRI disclosures with associated sections in the Report. An independent third-party assurance was conducted to verify the materiality, credibility and reliability of the Report and ensure its attainments to the Core option of GRI Sustainability Reporting Standards. We also went through the GRI "Materiality Disclosures Service" to ensure General Disclosures 102-40 to 102-49 were correctly located and can be easily found by readers.

## Note to Reader

---

The Report is published online in web-based interactive html version and PDF version. The Report is available in English, Traditional Chinese and Simplified Chinese. The interface has been prepared in accordance with the Level AA of the W3C Web Content Accessibility Guidelines 2.0. In addition, the Report can also be viewed by tablet computers. Key features of the Report are highlighted as follows:

-  On-screen font size setting provides more comfortable reading options for various users;
-  Picture enlargement function presents larger and clear photo images, graphics and charts to readers;
-  Search function facilitates readers to locate any specific interested sections or information efficiently;
-  "My Report" function enables readers to temporarily store any selected section(s) for consolidation and printing;
-  "Data Summary" section furnishes readers with a quick review of our performance on various key indicators; and
-  "Glossary" section provides definitions of the technical terms using in or relevant to the Report.

# ABOUT US

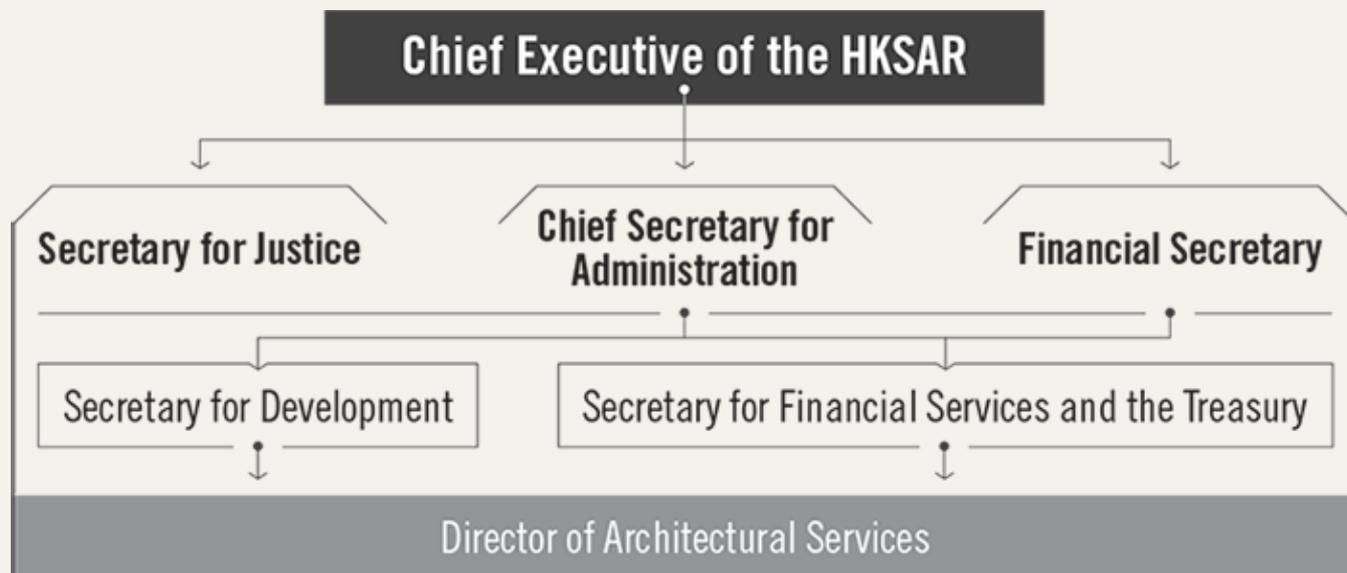


## Roles and Organisational Structure

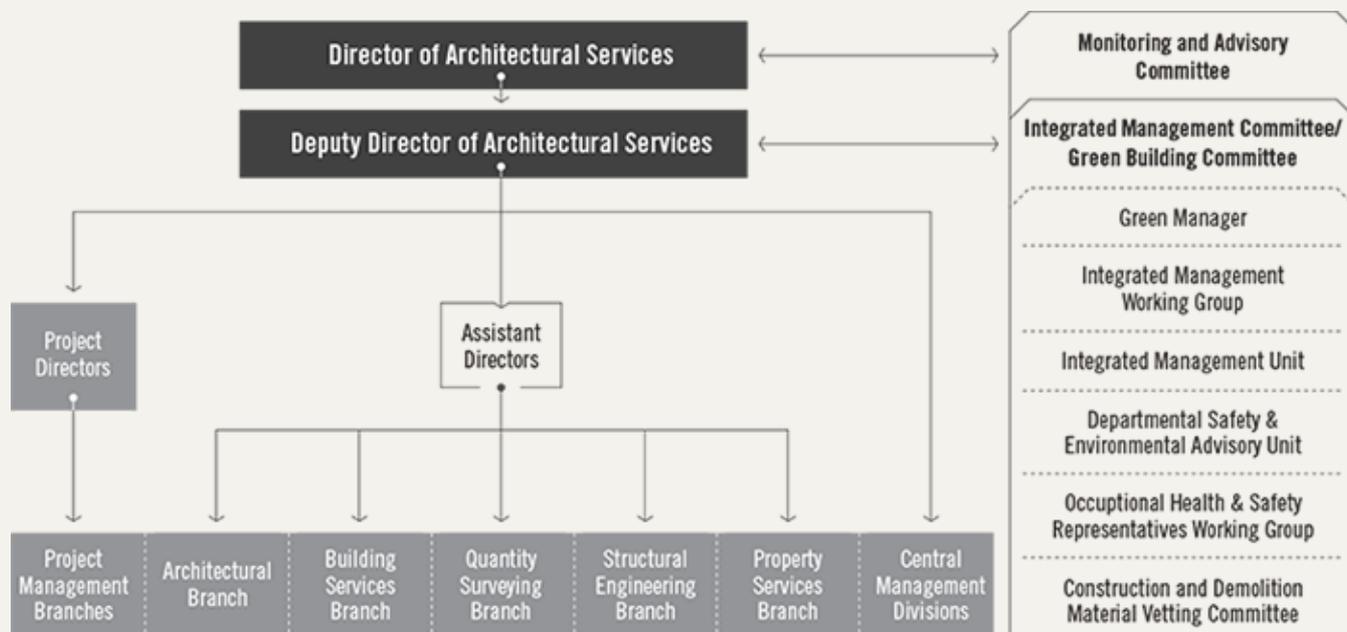
Architectural Services Department (ArchSD) performs three core functions in relation to Government-owned and Government-funded facilities in the following programme areas:

- **Monitoring and advisory services** - to provide effective professional and technical advice to the Government and quasi-government organisations and to oversee subvented, joint-venture and entrusted projects;
- **Facilities upkeep** - to provide efficient and cost-effective professional and project management services for the maintenance and refurbishment of buildings and facilities; and
- **Facilities development** - to provide efficient, cost-effective and timely architectural and associated professional and project management services for the design and construction of buildings and related facilities.

## ArchSD Role in the Government of HKSAR



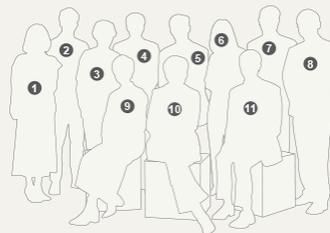
## Organisational Structure



## MANAGEMENT TEAM



- (1) :  
Ms. Alice YEUNG, Assistant Director  
(Architectural)
- (2) :  
Mr. Frank WONG, Justice of the Peace,  
Project Director/1
- (3) :  
Ms. Sheron LI, Justice of the Peace,  
Assistant Director (Quantity Surveying)
- (4) :  
Mr. K.L.TSE, Assistant Director  
(Structural Engineering)
- (5) :  
Mr. Edward TSE, Project Director/3
- (6) :  
Ms. Doreen KWAN, Departmental  
Secretary
- (7) :  
Mr. K.C. MAK, Justice of the Peace,  
Assistant Director (Building Services)
- (8) :  
Mr. David CHAK, Project Director/2
- (9) :  
Ms Winnie HO, Justice of the Peace,  
Deputy Director of Architectural Services
- (10) :  
Mrs. Sylvia LAM, Justice of the Peace,  
Director of Architectural Services



(11) :  
Mr. C.K. HUI, Assistant Director (Property Services)

## Funding and Mode of Operation

Our Departmental operation is funded by the Capital Works Reserve Fund which is approved, monitored and reviewed by the Legislative Council (LegCo).

During 2017, we have created a total of 4,947 jobs by awarding works contracts and consultancies. We commenced 35 new works and term contracts during the year.

## Departmental Expenditure

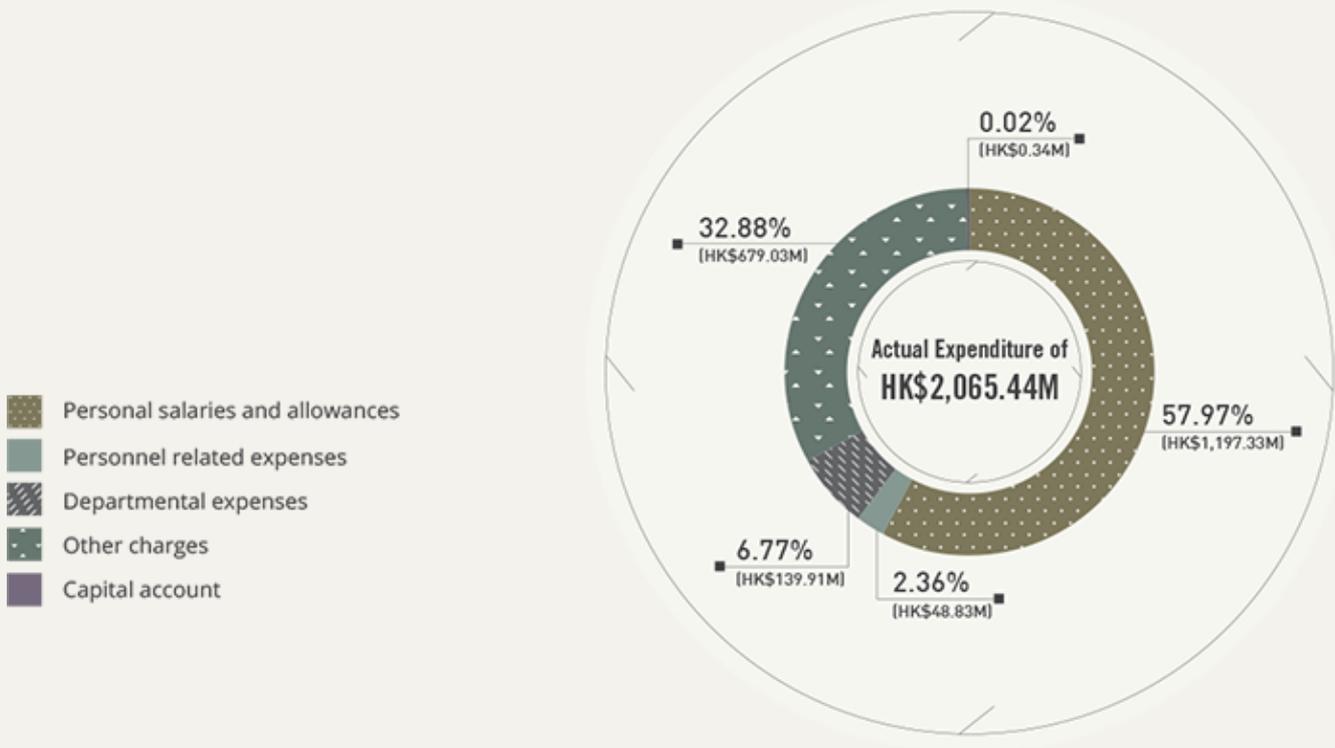
In the financial year 2017-18, we recorded an overall increase of around 1.61%<sup>[1]</sup> as comparing with the previous financial year in 2016-17. Expenditure breakdown of our department and by different programme areas<sup>[2]</sup> for the financial year 2017-18 are provided below. Details of our financial information and key performance of 2017-18 can be found in the ArchSD Controlling Officer's Report of the 2018-19 Estimates of the Government of the HKSAR, which is available online at [www.budget.gov.hk](http://www.budget.gov.hk).

102-45

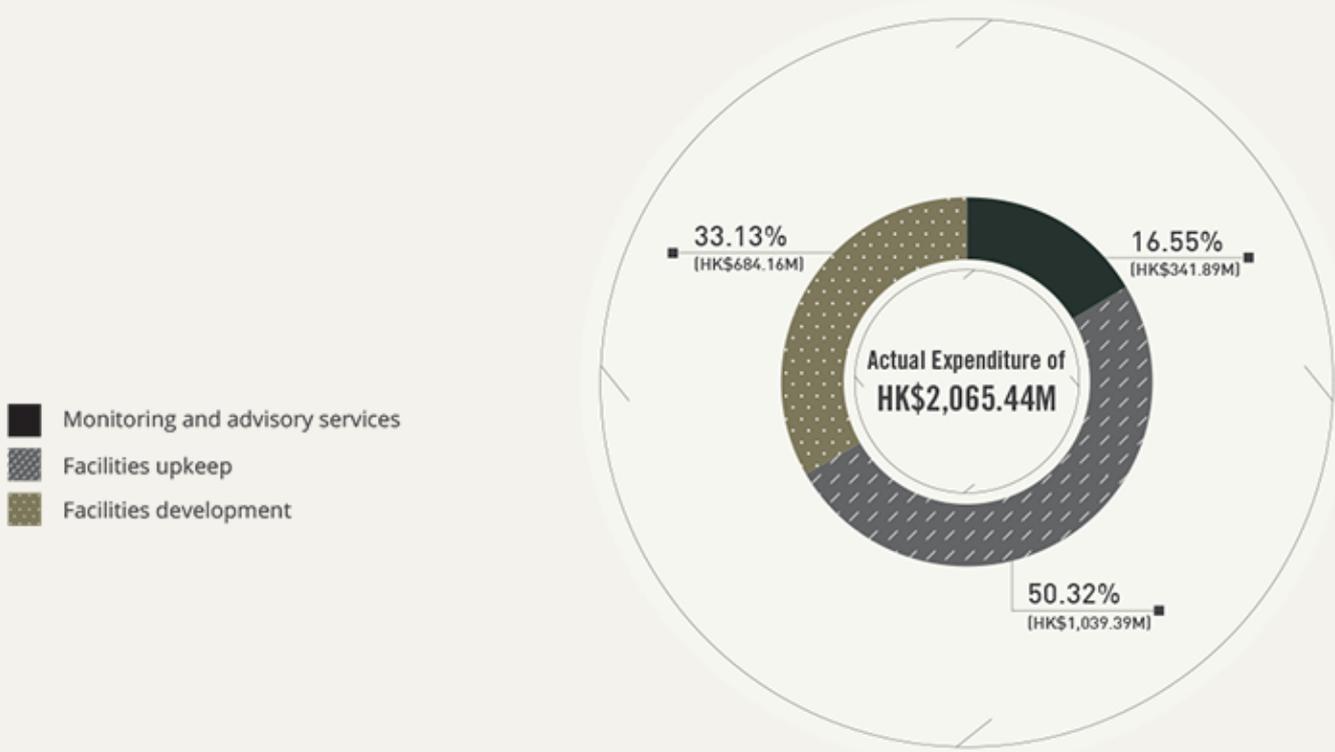
[1] The actual Departmental Expenditure 2017-18 was HK\$2,065.44 million, there was around 1.61% increase as comparing with the actual Departmental Expenditure 2016-17 of HK\$2,032.68 million.

[2] There are three programme areas of ArchSD's services: Monitoring and advisory services, Facilities upkeep and Facilities development.

## Departmental Expenditure Breakdown by Subhead



### Departmental Expenditure Breakdown by Programmes



## Key Facts

---

Founded on: 11 April 1986

Staff Establishment: 1860 as by 31 Mar 2018

Headquarters: Queensway Government Offices, 66 Queensway, Hong Kong

Other Offices:

- APB Centre, Hunghom, Kowloon
- Cityplaza 3, 14 Taikoo Wan Road, Quarry Bay, Hong Kong

Total Office Area: 34,339.47m<sup>2</sup>

Scale of Services (2017 Calendar Year):

- Number of Subvented / Entrusted Projects Reviewed: 822
- Number of Facilities Development Projects Completed: 29
- Building Floor Area of Properties Maintained: 32,014,000m<sup>2</sup>
- Government Spending on Building Projects: HK\$ 11,696.5 million
- Value of New Works under Development: HK\$ 188 billion

# RECOGNITION AND AWARDS



ArchSD strives for excellence in delivering our architectural services. Our staff always stay on the cutting edge of the latest requirements and trends with regards to the development and upkeep of buildings and facilities. In 2017, we were honoured to receive a number of awards and recognition from the following professional bodies, institutions and award organisers.

## HONG KONG INSTITUTE OF ARCHITECTS (HKIA) ANNUAL AWARDS 2016/17

The HKIA Annual Awards recognise outstanding architectures designed by local architects. During the year, we were pleased to have the following projects receiving the Awards including:

- **"Tsing Yi Southwest Sports Centre"**  
*HKIA Merit Award of Hong Kong – Community Building*  
*HKIA Annual Awards "Our Favourite Architecture" - Highest no. of vote*
- **"S.K.H. Holy Cross Primary School"**  
*Finalist*  
*HKIA Annual Awards "Our Favourite Architecture" - Third highest no. of vote*

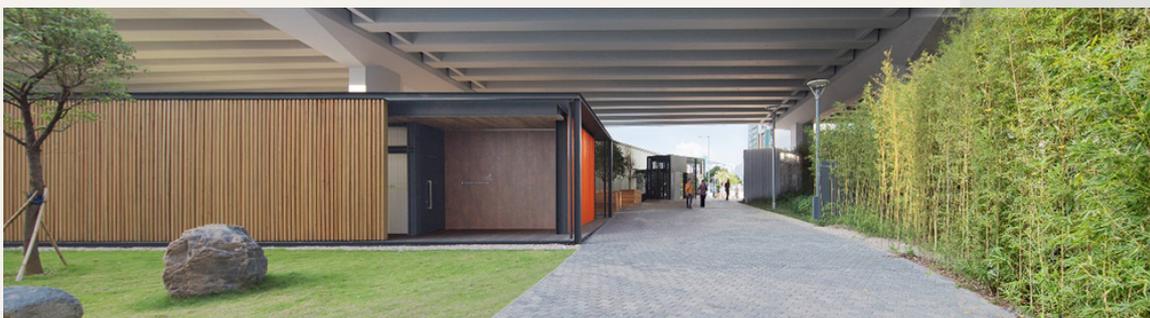


■ Tsing Yi Southwest Sports Centre

## HKIA CROSS-STRAIT ARCHITECTURAL DESIGN AWARDS 2017 (CADA 2017)

CADA 2017 is organised by the Hong Kong Institute of Architects to promote the excellence of architectural design in Mainland China, Taiwan, Macau and Hong Kong, and hence to give recognition to those outstanding designs in Cross-Strait regions over the past 10 years. During the year, we were conferred the following awards:

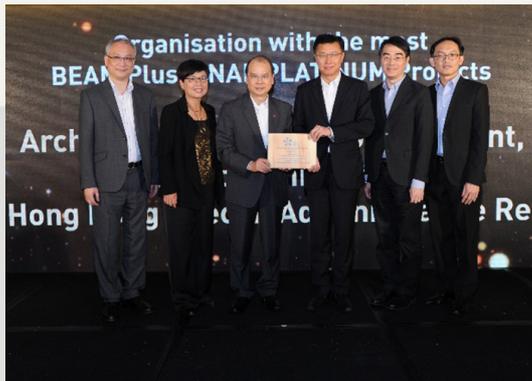
- **"Hong Kong East Community Green Station"**  
*Gold Award*
- **"P.L.K. Stanley Ho Sau Nan Primary School"**  
*Nominated Award*
- **"Trade and Industry Tower"**  
*Nominated Award*



■ Hong Kong East Community Green Station

## THE MOST BEAM PLUS FINAL PLATINUM PROJECTS AWARD

Recognised and certified by the Hong Kong Green Building Council, BEAM Plus offers a comprehensive set of performance criteria for a wide range of sustainability issues relating to the planning, design, construction, commissioning, management, operation and maintenance of a building. Our project "**Renovation of APB Centre 1/F**" was awarded the *Highest Score for BEAM Plus Interiors*. We were also commended with *Organisations with the most BEAM Plus Final Platinum Projects* at the World Sustainable Built Environment Conference 2017.



ArchSD was awarded the Organisations with the most BEAM Plus Final Platinum Projects Award

## STRUCTURAL EXCELLENCE AWARD 2017

The Structural Excellence Award is organised by the Hong Kong Institution of Engineers (Joint Structural Division). It aims to promote excellence in structural engineering demonstrated through the design and construction of buildings and structures. In 2017, our projects received three recognition from the Award.

- **"Trade and Industry Tower"**  
*Commendation Merit Award*
- **"Hong Kong East Community Green Station"**  
*Finalist*
- **"Court of Final Appeal"**  
*Finalist*



Trade and Industry Tower

## BUILDING SURVEYOR AWARDS 2017

Introduced by the Building Surveying Division of the Hong Kong Institute of Surveyors (BSD HKIS), the Building Surveyor Awards aim to provide recognition to preeminent projects with substantial contribution by Building Surveyors of the public and private sectors. Our achievements are as follows:

- **"Renovation of APB Centre 1/F"**  
*Winner Award – A&A and Conversion; Idea & Approach Award; Sustainability Award*
- **"Planned Maintenance of Star Ferry Carpark"**  
*Winner Award – Maintenance and Rehabilitation*
- **"Black Box Theatre, Tai Po Civic Centre"**  
*Merit Award – A&A and Conversion*
- **"Alteration Works of Tuen Mun Children Juvenile Home"**  
*Merit Award – A&A and Conversion*
- **"Refurbishment of Causeway Bay Community Centre's Exterior Finishes"**  
*Merit Award – Maintenance and Rehabilitation*
- **"Tin Shui Wai Sports Centre"**  
*Finalist – Maintenance and Rehabilitation*



Renovation of APB Centre 1/F

## HONG KONG INSTITUTE OF PLANNERS AWARDS 2017

Organised annually by the Hong Kong Institute of Planners, the awards are bestowed to building or planning projects in recognition of their outstanding achievements in town planning. Our project **"Energizing Kowloon East – Energizing Hoi Bun Road"** has been awarded with Merit Award in recognition of the good application of the principles and practice of town planning.

## GOOD DESIGN AWARD 2017

The Good Design Award has been founded since 1957. It is hosted by the Japan Institute for Design Promotion, a public interest incorporated foundation. It recognises good designs which bring advancements to society. We received the following accolades this year.

- **"Hong Kong East Community Green Station"**  
*Good Design Award*
- **"P.L.K. Stanley Ho Sau Nan Primary School"**  
*Good Design Award*



P.L.K. Stanley Ho Sau Nan Primary School

## INTERNATIONAL ARCHITECTURE AWARD 2017

---

The International Architecture Awards is organised by the Chicago Museum of Architecture and Design, with an aim to bring important commercial, corporate, institutional, and residential work to the attention of the global community. This year's awards honored built and unbuilt projects created in 2013-2017. We were honoured to receive the *International Architecture Awards 2017* for the following projects:

- **"Hong Kong East Community Green Station"**
- **"P.L.K. Stanley Ho Sau Nan Primary School"**

## AUTODESK HONG KONG BIM AWARDS 2017

---

Hong Kong BIM Awards 2017 recognises outstanding project teams that deployed Building Information Modelling (BIM) in building projects. In 2017, we were honoured to have our **"Kai Tak Refuse Collection Point"** project receiving the *Honorable Mention of Hong Kong BIM Awards 2017*.

## WORLD ASSOCIATION OF CHINESE ARCHITECTS (WACA) AWARD 2017

---

WACA has established the Award since 2007, which aims to commend Chinese architects for their outstanding architectural design achievements around the world. We were honoured to have our project "**Queen Elizabeth Hospital Ambulatory Care Centre Extension**" awarded with *Architectural Creation Award*.



Queen Elizabeth Hospital Ambulatory Care Centre Extension

## HONG KONG FLOWER SHOW 2017

---

Organised by the Leisure and Cultural Services Department, the Hong Kong Flower Show 2017 was held in March at Victoria Park. This year the theme flower was "Rose" and the theme was "Blossoms of Love". Our landscape design won the Gold Award for Design Excellence for its flower display.



ArchSD flower display in the Hong Kong Flower Show

## ARCHITIZER A+ AWARDS

The Architizer A+Awards is organised by Architizer.com, the largest online community of architects, with an aim to nurture the appreciation of meaningful architecture in the world and champion its potential for a positive impact on everyday life. Two of our projects "**Hong Kong East Community Green Station**" and "**Shatin Community Green Station**" were recognised as *2017 Finalists*.



Community Green Station at Shatin

## THE ROYAL INSTITUTION OF CHARTERED SURVEYORS (RICS) AWARDS 2017 HONG KONG

---

The RICS Awards, Hong Kong is an annual award designed to recognise the highest levels of professionalism in the industry. It showcases outstanding achievements and development in Hong Kong's land, property and construction industries and across the built environment. We were honoured to be conferred the following awards:

- **"Trade and Industry Tower"**  
*Winner of Sustainability Achievement of the Year*
- **"Arts & Cultural Facilities at Hoi Bun Road"**  
*Certificate of Excellence*
- **"Junior Police Call Permanent Activity Centre and Integrated Youth Training Camp"**  
*Certificate of Excellence*

## ARCASIA AWARDS FOR ARCHITECTURE (AAA) 2017

---

AAA aims at acknowledging exemplary architectural work in Asia, which encourages the sustenance of the Asia spirit, the development and improvement of the Asian built environment and enhancement of the awareness of the role of architects in the socio-economic and cultural life of Asian countries. During the year, our **"Shatin Community Green Station"** has been awarded with *Gold (Winner – the top prize) in Category C "Industrial Building"*.

## INTERNATIONAL UNION OF ARCHITECTS (UIA) - FRIENDLY AND INCLUSIVE SPACES AWARDS

---

The awards were founded by the UIA to promote inspiring examples of friendly and inclusive buildings and spaces that have created socially sustainable environments through high quality architectural design. We were delighted to have our project "**Kwun Tong Promenade**" awarded with *Honourable Mention (Public Space)*.



Kwun Tong Promenade

## UIA 2017 SEOUL WORLD ARCHITECTS CONGRESS

---

The UIA world congresses are a premier forum for professionals to exchange the best and latest practices, visions and first-hand experience. In particular, the UIA 2017 Seoul promoted various innovative architectural techniques and technologies among member sections and global citizens. We were honoured to have our project "**PMQ**" awarded with *Winner of Outstanding Papers & Design Works Awards* in the UIA 2017.

## CIVIL SERVICE OUTSTANDING SERVICE AWARD SCHEME - PARTNERSHIP AWARD

---

The Civil Service Bureau has been organising the Civil Service Outstanding Service Award Scheme on a biennial basis. The objectives of the Scheme are to recognise the efforts of departments and teams which provide excellent service, to promote a customer-focused culture in the civil service, and to inspire departments and teams for continuous improvement in the delivery of public services. During the year, the "**Fire and Ambulance Services Academy**" received the *Silver Prize of Inter-departmental Partnership Award*.

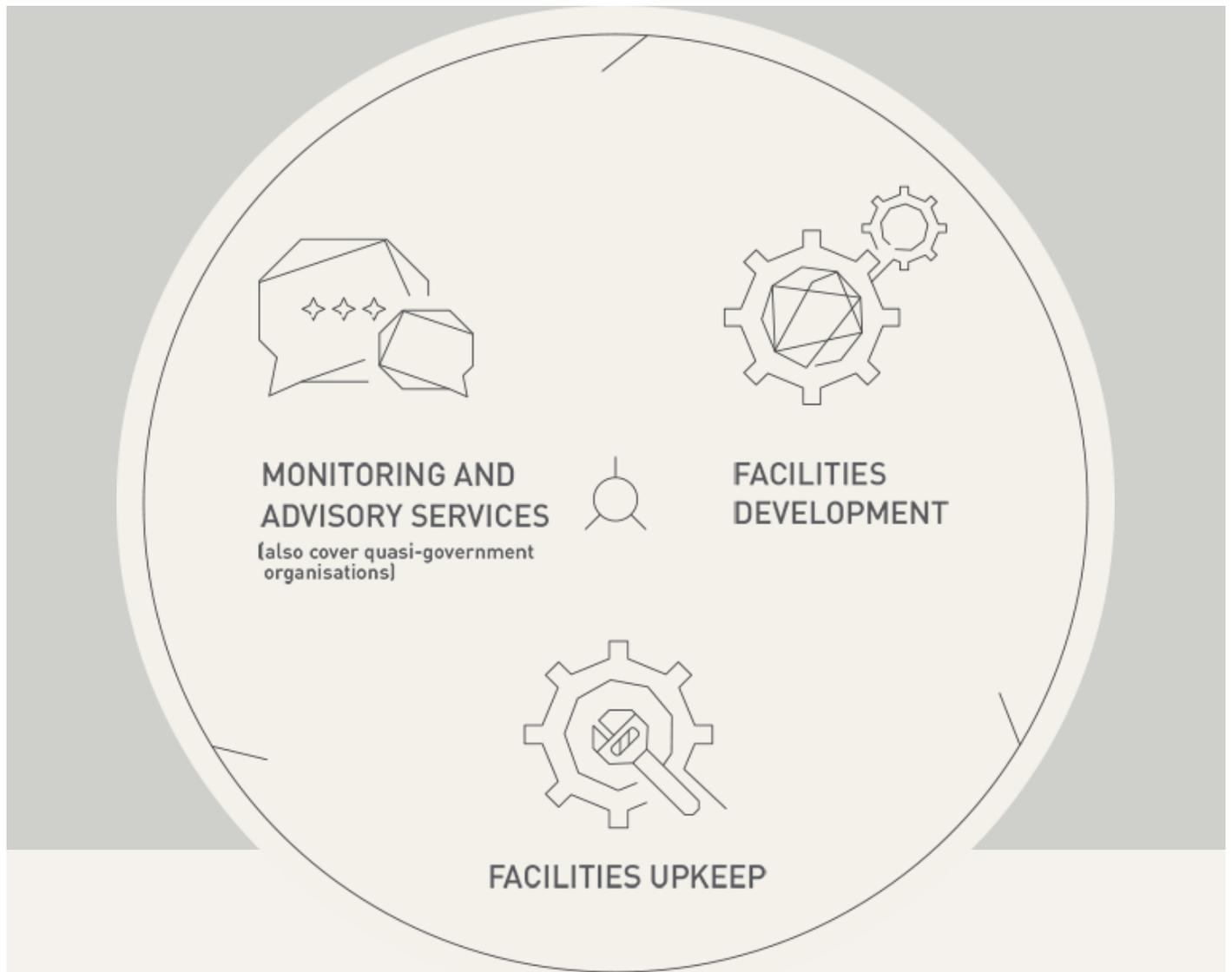
# MANAGEMENT APPROACH

- Strategy and Management
- Departmental Annual Plan
- Main Focus Areas
- Engagement Approach

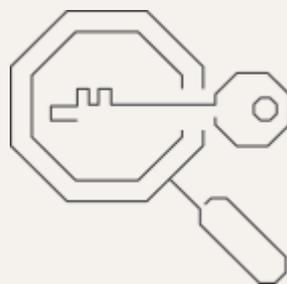


## STRATEGY AND MANAGEMENT

Responsible for supporting Government-owned and Government-funded facilities, the core function of ArchSD consists of the following programme areas:

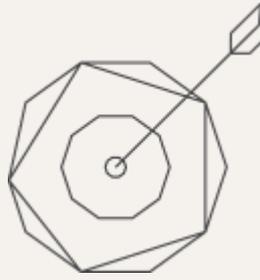


## Our Vision, Mission and Values



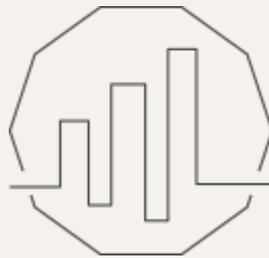
VISION

- Serve and care for our community by enriching the living environment through quality professional services



## MISSION

- Ensure the quality, cost effectiveness and sustainable development of community facilities
- Ensure the quality and cost effectiveness in the upkeeping of community facilities
- Provide quality professional advisory services on community facilities and related matters
- Promote best practices in the building industry



## CORE VALUES

- |                   |                          |
|-------------------|--------------------------|
| ■ Professionalism | ■ Continuous Improvement |
| ■ Commitment      | ■ Team Spirit            |
| ■ Accountability  | ■ Partnering Spirit      |
| ■ Integrity       | ■ Caring Attitude        |
| ■ Versatility     |                          |

## QUALITY, ENVIRONMENTAL, HEALTH AND SAFETY POLICY

ArchSD formulates a Departmental Quality, Environmental, Health and Safety Policy, setting out our strong commitment to driving long-term sustainable development in our operations.

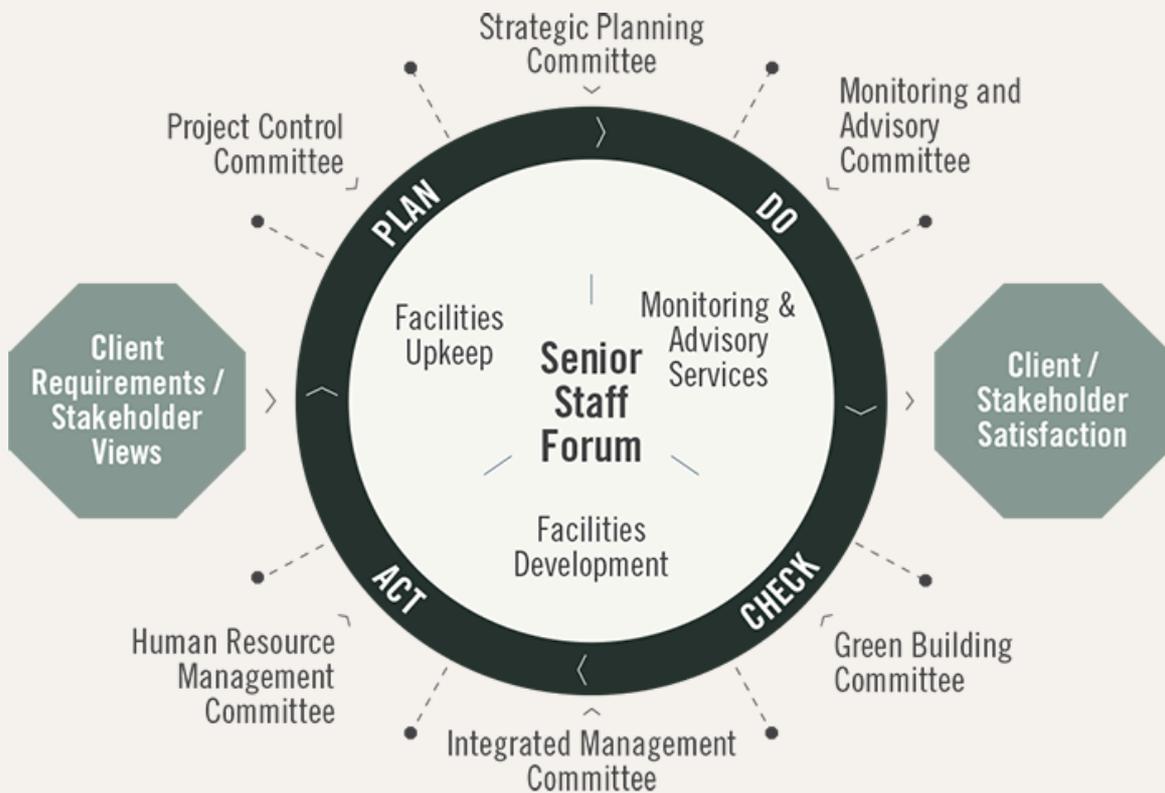
When delivering our comprehensive range of multi-disciplinary professional and technical services for public buildings and facilities, ArchSD strives to:

- Fulfil the agreed requirements of our clients to the highest professional standards;
- Deliver our services in an environmentally responsible manner by implementing conservation of energy, preventing pollution and reducing the consumption of natural resources to protect the environment;
- Manage our health and safety risks to ensure a safe and healthy environment for our staff, our contractors and other people who may be affected by our work;
- Fulfil all compliance obligations including applicable legislations and other requirements, and wherever practicable, to achieve standards beyond those that are legally required;
- Provide adequate resources and training to all staff and provide appropriate training to persons working for or on behalf of ArchSD, to continually improve our quality, environmental, health and safety management system to enhance performance and effectiveness; and
- Promote ArchSD's principles of quality, environmental sustainability, health and safety to our partners in work, the construction industry and the general public.

## Governance

As a government department, ArchSD adheres to the highest level of governance, practices and policies set out by the Civil Service Bureau.

Our Senior Staff Forum (SSF), chaired by the Director, has put in place a management framework to oversee internal operational and sustainability agenda. The SSF develops and regularly reviews Departmental policies, strategies and goals. In addition, we have also established a number of steering committees to monitor different areas of operation of ArchSD.





## Integrated Management

In addition to anchoring our Vision, Mission and Core Values, and Quality, Environmental, Health and Safety Policy, we ensure our services are on par with international standards and industry best practices where applicable for continuous improvement in operational efficiency. ArchSD's Integrated Management System (IMS) is certified to ISO 9001 Quality Management System, ISO 14001 Environmental Management System and OHSAS 18001 Occupational Health and Safety Management System. Our IMS at APB Centre has also been certified to ISO 50001 Energy Management System since 2014. With the aim to drive for continuous improvement, the performance of our IMS is monitored and reviewed by the SSF at least once per year.

## Risk Management

---

We seek opportunities to mitigate or avoid risks and minimise negative impacts as far as practicable by formulating and implementing mitigation plans. Our risk management processes are in place to identify, evaluate, mitigate and monitor the potential key risks pertaining to our operations through risk assessments and reporting at both the Departmental and project levels.

At Departmental level, we identify and manage potential risks on quality, environment, health and safety in relation to our services and operations under our IMS.

In order to control risks in all our projects, we apply our risk management approach which strictly follows the guidelines published by the Development Bureau (DEVB) such as Technical Circular (Works) No. 6/2005 on "Implementation of Systematic Risk Management in Public Works Projects". From commencement to completion of projects, we take into account the entire lifecycle to better manage potential risks in projects. Project teams would carry out integrated management workshops focusing on risk assessment and effective precautionary control measures.

## Ethics and Professionalism

---

ArchSD has long-held high standards of ethical standards and professional integrity. We require all staff to adhere to the regulations stated in the Prevention of Bribery Ordinance. Any cases of suspected bribery or corruption shall immediately be brought to the attention of the SSF and the Independent Commission Against Corruption for further investigation. During the reporting period, there were no such cases reported.

Furthermore, protecting the employment rights and building the capability of our staff remains central to our ability to deliver better as a government agency. To this end, we fully comply with the Employment Ordinance, and offer our employees a range of benefits and training opportunities. Alongside with our IMS, ArchSD strictly adheres to the guidelines concerning safety published by the DEVB to ensure that provisions such as site safety training, Pay for Safety Scheme, and ArchSD Site Safety Model Workers Award Scheme, are properly addressed in our works contracts. Labour Relations Officers would be appointed for large-scale construction projects for resolving disputes between contractors and workers in early stage.

## Involvement in External Associations and Committees

---

Our senior staff members also extend their roles beyond official duties by actively participating in various professional bodies and external committees. They act as professional advisors by providing statutory and technical recommendations to support local initiatives regarding the development and execution of public policies on building design and architectural issues. Our senior staff members are involved in different sustainability-related committees including but not limited to:

- **Committee on Environment** to advise on matters related to environment and technology, R&D subjects, construction standards;
- **Green Labelling Committee** and the **Industry Standards and Practices Committee** under the HKGBC to drive green building development;
- **Steering Committee on the Promotion of Green Building and Renewable** to formulate strategies to further promote green buildings and make recommendations on relevant measures;
- **Committee for Building Information Modelling** to formulate strategies to drive the use of BIM technology in major government capital works projects from 2018 onwards and monitor the implementation of BIM technology in public works projects; and
- **Construction Industry Council Committee on Building Information Modelling** to formulate strategies for market transformation, promote the use and facilitate the application of BIM, digital construction, and its related technologies in construction industry.

# MANAGEMENT APPROACH

- Strategy and Management
- Departmental Annual Plan
- Main Focus Areas
- Engagement Approach



## DEPARTMENTAL ANNUAL PLAN (DAP)

ArchSD remains resolute in improving Departmental performance. A DAP that encompasses our objectives and targets is prepared annually. In addition, regular review meetings would be conducted to assess the progress made towards meeting the objectives among different functional units.

We have made substantial progress during the reporting year in different focus areas for improvement outlined in our DAP 2017/18. Below are the highlights of our major achievements corresponding to these focus areas:

Focus Area in Annual Plan 2017/18	Achievement Highlights
1. Enhancing design optimisation, buildability and cost control	<ul style="list-style-type: none"> <li>■ Continued to steer implementation of "No Frills" principle in design and contractual requirements, "3S" (Standardisation, Simplification and Single Integrated Element) and other relevant measures to enhance buildability and strengthen cost control</li> </ul>

Focus Area in Annual Plan 2017/18	Achievement Highlights
<p>2. Enhancing public safety</p>	<ul style="list-style-type: none"> <li>■ Prepared first drafts of the revised the Quality Site Supervision Plan and guidelines for supervision of precast concrete works in Mainland</li> <li>■ Surveyed around 2,560 government buildings (as at 31 March 2018) and continued to simplify the procedures of detailed structural survey and determined the target buildings to be surveyed</li> <li>■ Assisted management departments in implementing the Water Safety Plan and Quality Water Supply Scheme for Buildings to ensure good quality of potable water based on Water Supplies Department's requirement and the unique nature of various types of buildings</li> </ul>
<p>3. Enhancing knowledge management (KM) development</p>	<ul style="list-style-type: none"> <li>■ Completed enhancement works including the review of the structure and taxonomy of the KM hub</li> <li>■ Conducted KM awareness training and induction training for new staff</li> <li>■ Promulgated the ArchSD Design Guides with external stakeholders including consultants, contractors and local universities</li> <li>■ Conducted 45 ArchSD Academy sessions including the hosting of the Symposium on Inclusive Design in July 2017 with about 3,000 attendants, in which 23 training sessions involved external stakeholders</li> </ul>
<p>4. Enhancing staff training and development programme</p>	<ul style="list-style-type: none"> <li>■ Organised a study tour to Foshan as one of the staff's career development activities with 33 professional, site supervisory and technical grade staff participated.</li> </ul>

# MANAGEMENT APPROACH

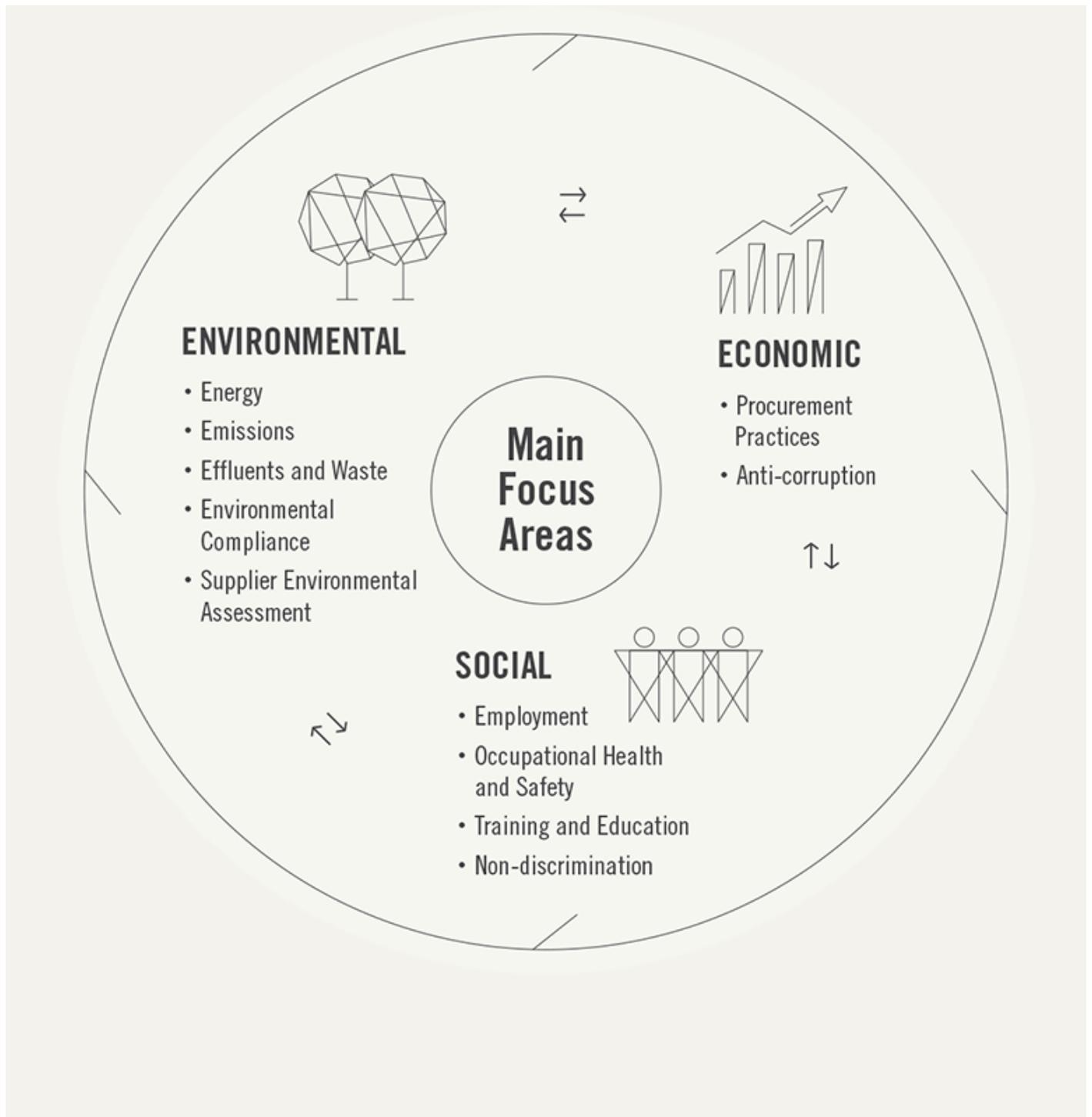
- Strategy and Management
- Departmental Annual Plan
- Main Focus Areas
- Engagement Approach



## MAIN FOCUS AREAS

Joining hands with our stakeholders from different sectors is central to our journey towards sustainability. We have identified our key stakeholder groups based on their interests in and influence on ArchSD's operation and sustainable development as well as the impacts or potential impacts on them as a result of our operation, services and relationships. By listening to their particular interests and expectations about our sustainability initiatives and performance and considering ArchSD's day-to-day operations and impacts, we determined the boundaries and the following Material Topics of the Report.

102-42  
102-44  
102-46  
102-47



# MANAGEMENT APPROACH

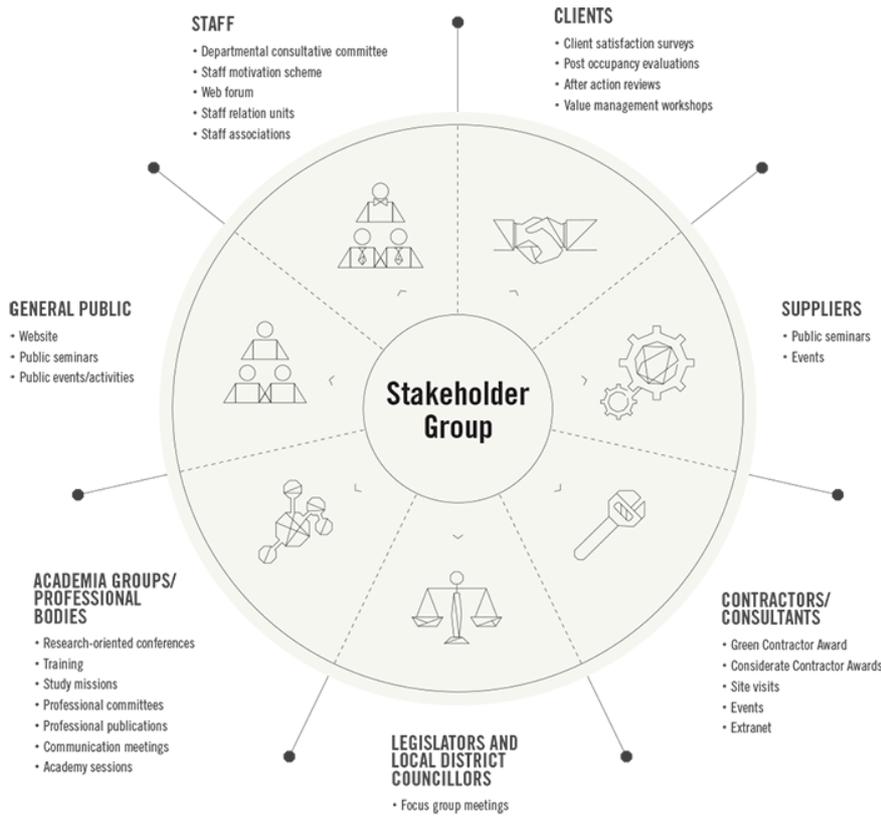
- Strategy and Management
- Departmental Annual Plan
- Main Focus Areas
- [Engagement Approach](#)



## ENGAGEMENT APPROACH

ArchSD has established ongoing stakeholder engagement mechanisms to ensure that we build trust and rapport with our broad range of stakeholders. Our diverse engagement approaches such as Departmental consultative committee, questionnaire surveys, site visits and public seminars, serve as a conduit to express their ideas and comment concerning the quality and sustainability of our operation and services. The methods of engagement are summarised as follows.

102-40  
102-43



We also have an independent engagement exercise in place which is specifically designed to solicit the views and perceptions for our annual sustainability reporting process along with our regular stakeholder engagement channels. Over the years, we have interviewed representatives from professional and technical staff, contractors, users, suppliers, allied professional body, etc.

## Stakeholder Interview

As part of the engagement approach, five independent interviews were undertaken with delegates of our key stakeholder groups - staff, contractor, professional institution and Client - to better understand their concerns and obtain feedback for the continuous improvement of the in relation to ArchSD's sustainability initiatives and performance.

102-44

## COMMENT FROM STAFF



**Mr. Raymond LAU**  
Senior Project Manager

Being a Senior Project Manager in the Project Management Branch, my major duties include managing the time, cost and quality of new capital work projects from project feasibility stage to post contract stage, providing advisory services to client bureau/departments, conducting project feasibility studies, preparing Panel and PWSC papers, and assisting client bureau/departments to seek support/approval on implementation of projects from District Council, LegCo and other authorities.

We strive to maintain high green standards for our projects. According to the Technical Circular “Green Government Buildings ” jointly issued by Development Bureau and Environment Bureau, new government buildings should aim to obtain the Gold or higher rating of the BEAM Plus as promulgated by the Hong Kong Green Building Council as far as practicable. This criterion has already been included as one of the Key Performance Indicators in our project design vetting. To go beyond, we have successfully achieved Platinum rating for some of our recent projects. We have also integrated the concept of buildability and constructability in our projects as far as possible to enhance the construction productivity and resources efficiency.

In our daily operation, ArchSD is committed to minimising our environmental impacts through the adoption of the electronic document management system (EDMS) to reduce the need of hard copy printing. Adequate waste recycling facilities such as waste paper collection bags were also available at convenient locations in office. Besides environmental performance, we try our best to incorporate community feedbacks into our projects. In the near future, we will support our client department to conduct community engagement sessions to collect public opinion on children playground facilities in public parks to better cater for their needs.

To cope with the increasing project numbers and staff numbers, more effort can be made to streamline the administration process by means of information technology and to maximise the planning efficiency of the office layout in order to accommodate the increase of new-employed project staff.



#### OUR RESPONSE

Project quality and sustainability are some of the key considerations for our project planning. We are delighted to know that these considerations have been well adopted by our dedicated staff throughout the project management process. We will continue to promote buildability and constructability through adopting advanced technologies and systems including the Building Information Modelling (BIM) and Building Evaluation System (BES) in different projects to further improve our project productivity. We will also keep track of the office occupancy and administrative process in order to match with the project growth.

## COMMENT FROM STAFF



**Ms. LO Oi Ling**  
Chief Technical Officer (Structural)

As the Chief Technical Officer in the Structural Engineering Branch, I am responsible for overseeing the drafting services and technical support provided by technical officers in structural related projects, as well as assisting in the formulation of policies on staff planning, promotion, recruitment, training and welfare for technical officers.

To foster the continuous development of our staff, ArchSD establishes a Knowledge Management Hub to harvest useful project information and publications and to provide references for our staff. We also offer a wide range of internal and external training opportunities, covering occupational health and safety training, technical training, and visits/tours. For example, ArchSD has organised annual technical exchange to visit the Mainland China to learn about their environmental and sustainability initiatives and latest industrial practices. Moreover, we have a six-month mentorship programme for new comers to create a support network and facilitate knowledge transfer. This programme has fostered meaningful and diverse relationships across the department and facilitated effective communication.

ArchSD also continuously strives to maintain good communication in the workplace by providing a variety of communication channels to engage our colleagues across all the branches at different levels. We welcome our colleagues to exchange feedback via the Branch

Consultative Committee and the Departmental Consultative Committee, and participate recreational and sports activities.

To meet the increasing demand for the adoption of the BIM technology, ArchSD should further review and enhance the work programme, and place more human resources to gain better control of the project timeline. It is also important to enhance staff competence in the adoption of new technologies for long-term development.



#### OUR RESPONSE

We acknowledge that effective communication in workforce is the key in achieving sustainable development. We will continue to reach out to our staff to enhance positive staff morale and cultivate a harmonious work atmosphere. In support of a wider adoption of the BIM technology, we understand that it would take more time and resources to go through the transition stage. We will closely monitor the work programme and further streamline the procedures to best meet the updated operational needs. Without doubt, we regard training for our staff as an important step to keep abreast of the latest technologies and requirements to achieve business sustainability.

## COMMENT FROM CONTRACTOR



**Mr. WONG Chun Tak**

Project Manager of Hanison Construction Company Limited

We are pleased to collaborate with ArchSD in the development of some of the government construction projects in Hong Kong, including the Sports Centre, Community Hall and Football Pitches in Tai Po and a secondary school in Kai Tak Development.

We appreciate ArchSD's support and technical advice on integrating sustainability in construction, for example, construction site safety and mitigation of environmental impacts into the construction process. As a responsible contractor, we ensure site safety and compliance by following strictly with the statutory requirements and the detailed safety standards set out by ArchSD. Besides holding regular meetings to review our performance, ArchSD also encourages best practice beyond requirements. Taking into account the perspectives of the key stakeholders, we helped facilitate stakeholder workshops organised by ArchSD to solicit the expectations and concerns of different parties before the commencement of the projects. In the course of the projects, we have also carried out different voluntary activities especially for two neighbouring schools, including Tai Po Old Market Public School and Sung Tak Wong Kin Sheung Memorial School.

ArchSD and us work together to continually reduce our impact on the environment and neighbouring community. Various green measures have been adopted in our construction sites including utilising raw material efficiently, conserving energy and water, promoting waste recycling, and harnessing renewable energy source. We are honored that our efforts were recognised by ArchSD by winning the Green Contractor Award 2017 – Gold Award. We look forward to more

opportunities to work alongside with ArchSD to adopt more green measures in different construction projects.



#### OUR RESPONSE

We value the relationship with our contractors and are keen to work hand in hand with them to ensure well-managed, safe and environmentally friendly construction sites. ArchSD will continue to provide full support and collaborate with our contractors to deliver our projects and services with the highest standards in order to enhance the experience for our stakeholders as well as to pursue sustainability excellence.

## COMMENT FROM PROFESSION INSTITUTION



**Dr. Neo CHAN**

Chairman of Hong Kong Institute of Building Information Modelling (HKIBIM)

Our connection with ArchSD started around 5 years ago when we collaborated with ArchSD on practical Building Information Modelling (BIM) application for some of the government facilities in Hong Kong. Our role is to promote the uptake of BIM technology in the industry and to provide professional support on the means of better management of building information which can reap a multitude of benefits for building design and construction projects.

The renovation of 1/F Main Block APB Centre is a collaborative project we had with ArchSD. From renovation design to facility management, we offer BIM technology to consolidate and document large amount of data for identifying a flexible layout that can optimise the circulation areas and other public areas in the office. We successfully came up with innovative designs such as identifying space for vertical green wall at the APB Centre. We also provided our professional advice for another collaborative project on the Revitalisation of the Old Dairy Farm Senior Staff Quarters. The main obstacle encountered was the mismatch between the actual layout of staff quarters and the original floor plans, and hence our team has successfully utilised laser scanners in the BIM process to scan the whole building from interior to exterior to retrieve the accurate layouts and measurements.

ArchSD meets with us regularly to make sure the project can be delivered on time and takes the lead to foster communication between different parties. We are happy that ArchSD strives to explore innovative approaches to help improve building quality. We have

witnessed a major difference before and after the application of BIM technology that construction waste, design errors and project delivery delay time have been significantly reduced. Apart from these, the implementation of BIM had enriched the whole project process by successfully enhancing communication, coordination, management among ArchSD and contractors, as well as speeding up the productivity and reduce manpower. We welcome ArchSD to organise more experience sharing sessions on BIM application and to continually promote the application of IT technology in construction and building design.



#### OUR RESPONSE

We understand the need to maintain a close relationship with professional institutions in order to achieve successful and sustainable outcomes in building construction. We will continue to offer resources, support regular briefings hosted by professional institutions and attend sharing sessions together with industry partners to ensure our employees keep abreast of the latest trends of the industry. On a side note, we will continue to put a strong emphasis on the application of BIM technology in our projects and strive to drive wider adoption of new IT technologies.

## COMMENT FROM CLIENT



**Mrs. WONG HO Wing Sze, Susanne, JP**

District Officer (Central and Western), Home Affairs Department

We are happy to work with the Architectural Services Department (ArchSD) on the Signature Project Scheme - “Central and Western District Promenade (Western Wholesale Food Market Section)” - to offer new harbourfront public open space for the Central and Western district. The project involves revitalisation works of four piers formerly used by the Western Wholesale Food Market and the transformation of its waterfront section into different recreation zones forming a 400-metre long promenade.

The ArchSD offered many innovative ideas and provided great support throughout this project, which can be demonstrated through the integration of sustainability concept into the design and construction phases while taking into account different social needs as well as the preservation of cultural and historical elements. For instances at Pier No.1 - Children Playground, the wooden boxes designed by ArchSD were equipped with blackboards while some were designed with panels for playing board games and display were installed to support family play-based activities to be held at the area. At Pier No.2 – Timber Deck, our aim is to build a flexible space to host an array of activities. We appreciated that ArchSD helped created stepped wooden benches at the shelter of the promenade facing Pier 2 which could serve as both an audience stand and a mini-stage for performances. As for Pier No.3 – Grass Area, a hanger machine which was once used by operators at the Western Wholesale Food Market was conserved on-site for public display so that visitors could understand more about the historical background of this unique area. To further enhance the accessibility of the promenade, we also received a lot of support from

ArchSD on the design of a friendly, walkable trail so that elderly and disabled people can also enjoy the harbourfront space.

We are very proud to see the opening of this new landmark which was built according to locals' aspiration and provide the infrastructure to support various kinds of activities of the non-government stakeholders and we wish more community members, such as schools, district and non-government organisations, could utilise the Central and Western District Promenade (Western Wholesale Food Market Section) to organise activities that can enhance social cohesion in Hong Kong.



#### OUR RESPONSE

We are pleased to know that our efforts are highly appreciated by the Central and Western District Office and the local community. This project has signified the concerted effort among different parties throughout the project by communicating closely with our clients to understand their needs. Apart from that, we also value the comments from Central and Western District Council, community members and users of the promenade to help improve our designs and works. We will continue to incorporate sustainability elements in every of our projects to achieve a viable outcome for the community.

# RESOURCES UTILISATION AND CONSERVATION

- Sustainable Building Design
- Greening and Landscaping
- In-house Green Management

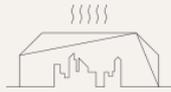


## SUSTAINABLE BUILDING DESIGN

In Hong Kong, buildings account for over 90% and 60% of the citywide electricity consumption and carbon emissions respectively. Over the years, we are fully committed to adopting innovative sustainable and smart building design to enhance the efficient use of energy, material and land resources.

## Passive Design Approach

Passive design approach uses building architecture to minimise energy consumption and improve thermal comfort. Suitable measures in planning, disposition, orientation, building form and material selection are adopted to optimise interaction with the local microclimate. Our considerations aspects include:



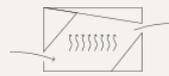
Mitigating heat island effect or elevated temperature



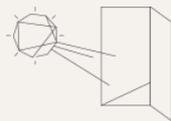
Natural ventilation



Air ventilation around buildings



Passive cooling



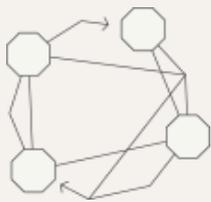
Daylighting



Reducing heat gain through building envelope

## Active Design Approach

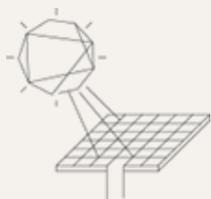
Active design approach uses electrical and mechanical systems to create and maintain comfortable conditions. These installations will facilitate energy efficiency, conservation of water, and improve indoor environmental quality. Our considerations aspects include:



Heating, water efficient devices, ventilation and air conditioning (HVAC) systems



Lighting systems



Renewable energy technologies

## Selection of Construction Methods and Materials

---

The selection of sustainable construction methods and materials is another important aspect of sustainable buildings. Common practices include prefabrication, pollution control during construction and the application of reduce, reuse and recycle (3R) principles to manage construction and demolition waste. In terms of sustainable materials, recycled materials and timber from well-managed sources are widely adopted in ArchSD's new building projects.

## Social Considerations

---

The accessibility and quality of public spaces is highly valued in Hong Kong as a cosmopolitan city. We strive to incorporate social considerations in many of our buildings by enabling group activities and communication of community members, in order to create a harmonious atmosphere within the city.

## CASE STUDY

### Hong Kong Children's Hospital



- Automatic demand control of chilled water circulation system
- Automatic demand control of fresh air supply with carbon dioxide sensors
- Heat wheel for heat energy reclaim of exhaust air
- Heat pump for hot water / space heating / dehumidification
- Solar hot water and photovoltaic panels on roof top
- Rainwater and condensate water recycling systems
- Over 40% of greenery coverage on ground floor, terraces and vertical greening on fences to reduce the heat island effect and improve air quality
- Maximisation of building perimeter and provision of atrium to maximise daylight penetration
- Vertical shading on the building façade to reduce glare and heat to achieve substantial energy savings and thermal comfort.

△  
MORE DETAILS



## Hong Kong Children's Hospital

Hong Kong Children's Hospital (HKCH) is going to be the first public children hospital in Hong Kong, specialising in tertiary services and quality care for complex and rare pediatric cases. The project was completed in September 2017 in Kai Tak Development Area. HKCH consists of two 11-storey towers and a single-storey basement with three bridge linkages connecting both towers in the middle. The building provides a total floor space of around 168,000 square metres with a capacity of total 468 beds for in-patient, day-patient services, as well as research and training facilities.

## CASE STUDY

### Hong Kong East Community Green Station, Sham Shui Po Community Green Station and Tuen Mun Community Green Station



- Adoption of large overhanging roof and vertical greening to reduce solar heat gain thus reduce energy consumption significantly
- Implementation of various greening features such as green wall and courtyard garden
- Application of low-E glazing on windows to use natural daylight yet minimise heat gain to increase energy efficiency
- The flyover above HKECGS contributes to the passive cooling of the building.

▽  
MORE DETAILS



## Hong Kong East Community Green Station, Sham Shui Po Community Green Station and Tuen Mun Community Green Station

Putting green living into practice as well as style, Community Green Stations are built to enhance environmental education and provide recyclables collection service in the local community, with a view to promote green living and encourage more public participation in waste reduction and waste recovery. They were built on underutilised areas and with sustainable materials such as used modular containers and recycled bamboo rods salvaged from construction scaffolding.

During the year, the Hong Kong East Community Green Station (HKECGS) was conferred an International Architecture Awards 2017 as well as a Gold Award from the HKIA Cross Strait Architectural Design Awards 2017. HKECGS creates a connection between the surrounding communities and provides an enjoyable environment to the public.

## CASE STUDY

### Redevelopment of Tai Lam Centre for Women



- Variable refrigerant volume (VRV) air-conditioning system
- T5 energy efficiency fluorescent tubes with electronic ballast and lighting control by occupancy sensors
- Light-emitting diode (LED) type exit signs
- Heat pump for domestic hot water
- Automatic on/off switching of lighting and ventilation fan inside the lift
- Renewable energy systems such as a solar hot water system and a photovoltaic system
- Greening features on rooftops
- Rainwater recycling system for landscape irrigation.

△  
MORE DETAILS



## Redevelopment of Tai Lam Centre for Women

Tai Lam Centre for Women (TLCW) is the only maximum security institute that holds adult female prisoners. There was a need to redevelop TLCW to alleviate its problem of overcrowding and enhance its facilities. In view of this, the redevelopment of TLCW had been commenced in 2012 and the project was completed in November 2016.

The TLCW had undergone two phases of redevelopment. The first phase involved the construction of a new complex block to house a hospital unit with 60 beds for general patients in the institution, a rehabilitation unit, a Category A prisoner unit including 44 cells, and other supporting facilities. The second phase involved the demolition of the existing hospital block and a dormitory block to make way for construction of a new block providing 240 penal places for remands, as well as constructing a new multi-purpose block.

# RESOURCES UTILISATION AND CONSERVATION

- Sustainable Building Design
- Greening and Landscaping
- In-house Green Management



## GREENING AND LANDSCAPING

ArchSD seeks to enhance the greenery coverage in our building projects and promote the incorporation of landscape elements to government buildings and facilities for government departments and quasi-government organisations on subvented projects. ArchSD endeavors to not only use our technical know-how to continuously identify potential locations for roof greening and vertical greening, but also facilitate these building projects to integrate into the surrounding landscape and built environment harmoniously.

In 2017, we completed a number of projects with landscape elements for different government bureaux/departments and related organisations, including Education Bureau, Electrical and Mechanical Services Department, Customs and Excise Department, Leisure and Cultural Services Department, etc. These include:

- 5 projects with green roofs on new buildings;
- 1 project with retrofitted green roofs on existing buildings;
- 3 projects with vertical greening on new buildings; and
- 1 project with retrofitted vertical greening on existing building.

## CASE STUDY

### A school for social development (SSD) for girls at Choi Hing Road, Kwun Tong, Kowloon



The school features extensive greening at various levels, and the landscape design plays an important part of the students' daily life. In addition to aesthetic benefits, the considerable greenery area on each floor of the building allows students to have a more intimate contact with nature which is ideal for their psychological well-being. The landscape design of the school has enhanced the greenery by extensive planting of more than 30 trees, about 3,000 shrubs and over 39,000 groundcovers. The diverse landscaped open spaces including sitting out areas, roof gardens and open green decks are easily accessible and can foster an interactive learning environment for students and boarders.

△  
MORE DETAILS



## A school for social development (SSD) for girls at Choi Hing Road, Kwun Tong, Kowloon

To cope with the rising demand for school and residential home places for social development of girls, the 18-classroom Schools for Social Development (SSD) for girls-cum-residential home was built at Choi Hing Road, Kwun Tong. With a tight site of about 7, 000 square metres, the development comprises 2 major sections including the school and the residential home section which can accommodate 202 boarders. The school premises provides various facilities including 18 classrooms, some small group teaching rooms and special rooms, a library, a student activity centre, an assembly hall and other ancillary facilities.

## CASE STUDY

### Signature Project Scheme (Central and Western District) - Harbourfront Enhancement and Revitalisation at the Western Wholesale Food Market



Stretching 400 metre long and occupying an area of around 5,200 square metres from precinct, the enhanced promenade and pier park provide a quality public open green space for the surrounding community to enjoy. The revitalisation work includes an extensive planting of about 50 trees, 2 000 shrubs, 12,000 groundcovers, 300 square metres of turf area, as well as other green features such as solar powered light fittings. Apart from landscaping areas, the district open space provides the community with recreational facilities including bench and seating area and elderly fitness area, children's playground, boardwalk zone and open area for safe fishing. Being a new landmark in the district, the generous lawn area also serves as a multi-purpose venue for community involvement activities to take place.

△  
MORE DETAILS



## Signature Project Scheme (Central and Western District) - Harbourfront Enhancement and Revitalisation at the Western Wholesale Food Market

The aim of the project is to meet the aspiration for the realisation of a green, vibrant and continuous promenade for the Central and Western District. The enhancement and revitalisation work of the 4 idle piers and a waterfront section of the Western Wholesale Food Market, backed by the overwhelming public support and financial support under the Signature Project Scheme, was successfully completed in November 2017.

# RESOURCES UTILISATION AND CONSERVATION

- Sustainable Building Design
- Greening and Landscaping
- In-house Green Management



## IN-HOUSE GREEN MANAGEMENT

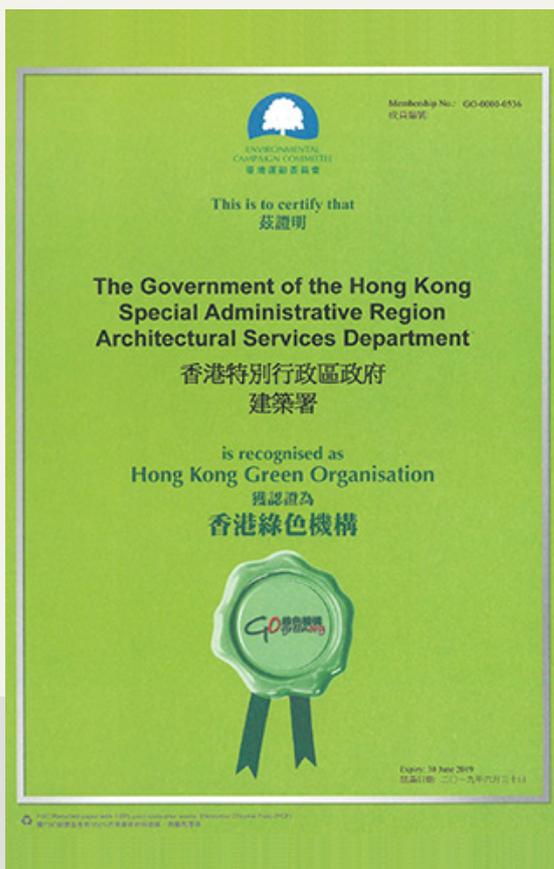
ArchSD recognises that climate change is a significant risk and challenge locally and internationally. Therefore, to complement the concerted efforts of the Government in transitioning to a low-carbon economy, we adopt green operational practices through proactive environmental management and staff engagement. While incorporating environmental considerations into our projects, we also implement in-house initiatives to manage energy, waste, water, indoor air quality and other environmental aspects.

### Energy Use and Carbon Emissions

ArchSD leverages and maintains an integrated management system, combining environmental protection, quality and occupational, health and safety into one single management system. Our recent upgrade of ISO 14001 Environmental Management System in 2017 and implementation of ISO 50001 Energy Management System for our APB Centre since 2014 reinforce our commitment to further improve our sustainability performance. In addition, at APB center, we have installed over 100 nos. photovoltaic panels on the roof top which can generate electricity as well as offsets part of the electricity bill.

## Hong Kong Green Organisation

During the reporting year, ArchSD maintained the "Class of Excellence" of Energywise Certificate in the Hong Kong Green Organisation Certification (HKGOC) scheme in recognition of the achievement in energy conservation. Meanwhile, we were awarded with the Hong Kong Green Organisation (HKGO) Certificate which is jointly organised by the 11 organisations including the Environmental Protection Department (EPD) and the Environmental Campaign Committee (ECC) to commend the outstanding environmental performance of our department.



Hong Kong Green Organisation (HKGO) Certificate

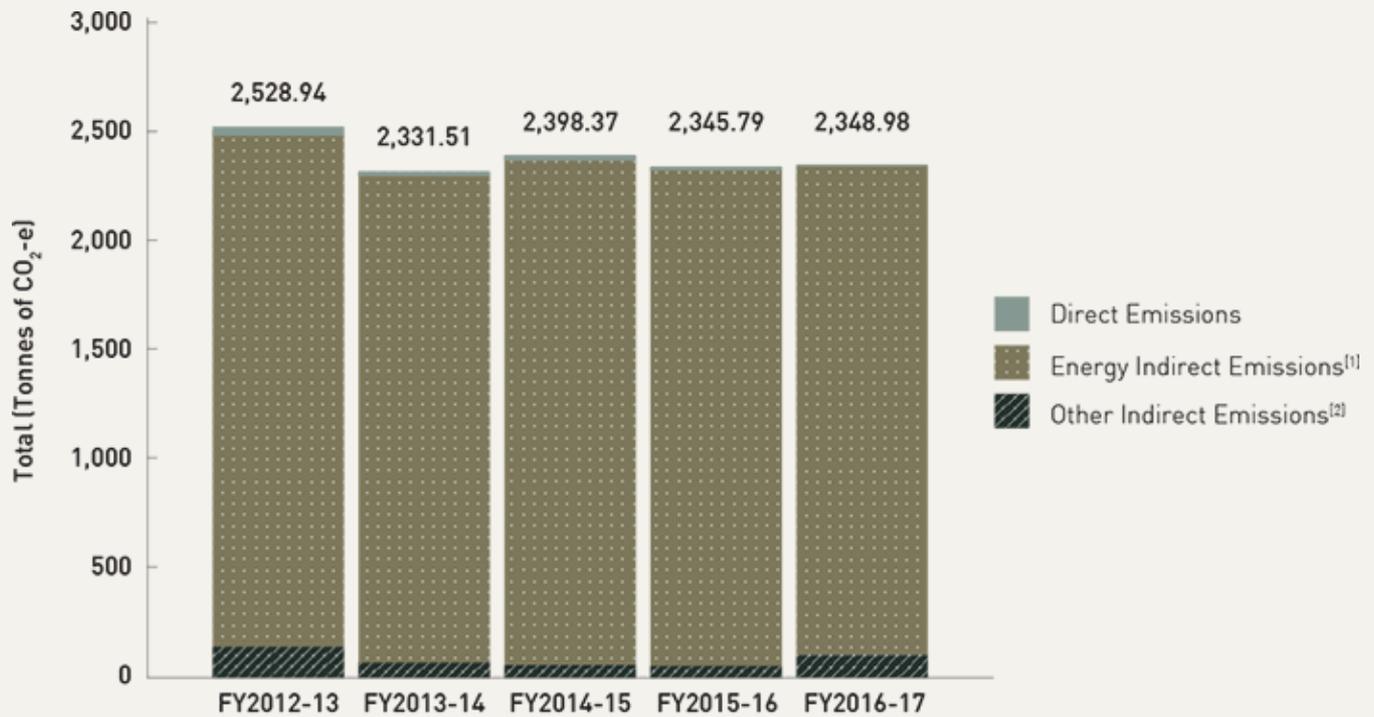


"Class of Excellence" of Energywi\$e Certificate

In support of the carbon emissions reduction targets set out in the Hong Kong's Climate Action Plan 2030+, ArchSD conducts carbon audits regularly to enhance our carbon performance. By keep tracking our carbon emissions at QGO and APB Centre, we can monitor our progress and identify areas for improvements in a timely manner. The three major greenhouse gas contributors including CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O are taken into account in these carbon audits.

## Carbon Emissions in the Queensway Government Offices

Minor fluctuations in the carbon emissions for ArchSD offices in QGO were observed in the past five financial years. With enhanced staff’s awareness on energy conservation and implementation of energy saving measures in QGO, there was about 7.1% reduction in carbon emissions in this 5 year period.

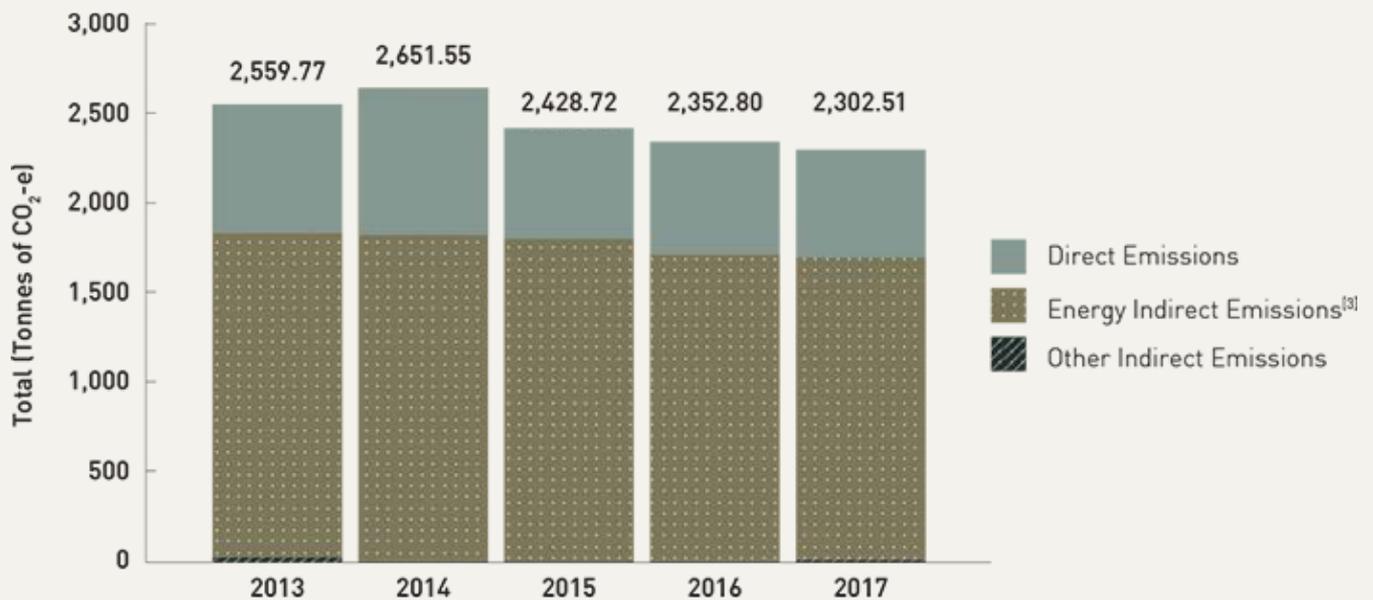


	FY2012-13	FY2013-14	FY2014-15	FY2015-16	FY2016-17
Direct Emissions (Tonnes of CO <sub>2</sub> -e)	24.05	14.90	18.92	6.90	6.87
Energy Indirect Emissions (Tonnes of CO <sub>2</sub> -e) <sup>[1]</sup>	2,385.64	2,277.59	2,344.73	2,255.11	2,247.02
Other Indirect Emissions (Tonnes of CO <sub>2</sub> -e) <sup>[2]</sup>	119.25	39.02	34.72	83.78	95.09
<b>Total (Tonnes of CO<sub>2</sub>-e)<sup>[2]</sup></b>	<b>2,528.94</b>	<b>2,331.51</b>	<b>2,398.37</b>	<b>2,345.79</b>	<b>2,348.98</b>

- [1] Territory-wide default emission factor was used for the calculation of emissions.
- [2] The figures in FY 2012-13, FY 2013-14, FY 2014-15, FY 2015-16 and FY 2016-17 are calculated by using the actual paper consumption (A3 & A4) and waste paper collected for recycling in QGO.

## Carbon Emissions in APB Centre

In the past five years from 2013 to 2017, except for an increase in 2014, the amount of carbon emissions in APB Centre was in a downward trend. With upgrading / enhanced maintenance of the air-conditioning system and applications of various energy efficient features, the carbon emissions was recorded a drop of about 10.0% in this 5 year period.



	2013	2014	2015	2016	2017
Direct Emissions (Tonnes of CO <sub>2</sub> -e)	732.33	886.29	619.08	628.22	601.86
Energy Indirect Emissions (Tonnes of CO <sub>2</sub> -e) <sup>[3]</sup>	1,785.41	1,756.58	1,802.93	1,719.53	1,686.67
Other Indirect Emissions (Tonnes of CO <sub>2</sub> -e)	42.04	8.68	6.72	5.05	13.98

	2013	2014	2015	2016	2017
Total (Tonnes of CO <sub>2</sub> -e)	2,559.77	2,651.55	2,428.72	2,352.80	2,302.51

[3] Territory-wide default emission factor was used for the calculation of emissions.

## Waste Management

ArchSD continues to strengthen waste management by establishing new waste targets and initiatives. We have set up various waste collection facilities for a wide range of items including waste paper, plastic bottles, aluminium cans, used CDs or DVDs and used printer toner cartridges in our offices at APB Centre and QGO. Furthermore, we proactively engage our IT equipment suppliers to facilitate the reuse and recycling of our old computer accessories and electrical appliances. In the reporting year, we successfully recycled over 20,000 kg of A3 and A4 waste paper, and attained the "Class of Excellence" Wastewi\$e Certificate of HKGOC in recognition of our effort in waste management.



"Class of Excellence" of Wastewi\$e Certificate

## Water Management

ArchSD is committed to responsible water resource management. This includes regular monitoring of potable water and flushing water consumption at our offices and promoting water conservation by establishing the Department's General Circular "Measures of Green Housekeeping". Over the years, we have also installed a variety of water saving devices including sensor taps, dual flush cisterns and devices in APB Centre.

## Indoor Air Quality Management

Indoor air quality (IAQ) is another key focus area of ArchSD in sustainability management. To safeguard the health and safety of our staff, we strictly follow the relevant guidelines published by the Environmental Protection Department (EPD) to foster a working environment with good IAQ. We joined the Indoor Air Quality Certification Scheme organised by EPD and regularly monitor and assess our IAQ performance by engaging accredited bodies to conduct IAQ assessments. Under the HKGOC scheme, we were awarded "Basic Level" of IAQwi\$e Certificates for both QGO and APB Centre during the reporting year.





"Basic Level" of IAQWi\$e Certificates for QGO and APB Centre

## Cultivating a Green Culture

We endeavor to continuously raise the environmental awareness among our staff and encourage them to put the environmental principles into practice. A designated team of 74 Green Wardens (previously known as energy warden) with staff members from various branches and divisions has been appointed to assist in implementing and monitoring the environmental programmes of ArchSD. Our staff are urged to proactively participate in environmental activities and training to enhance their environmental awareness and professional qualifications in specific green aspects. Up to December 2017, 172 staff members of ArchSD have obtained the BEAM Pro qualification.

## CLIENTS AND BUSINESS PARTNERS

- Project Management
- Engaging the Industry and Community
- Contributing to Community Development



## PROJECT MANAGEMENT

ArchSD not only is committed to the provision of high-quality public buildings and facilities for the society, we also endeavours to advocate the best sustainability practices and high standards of professional integrity in the building industry. By engaging key stakeholders including our clients and business partners in a strategic manner, we can promote sustainability throughout the supply chain. We require all ArchSD's contractors and suppliers to strictly abide by Hong Kong Laws, such as the anti-corruption laws, upon submission of their tenders.

### Meeting Clients' Expectation

ArchSD makes continuous effort in reaching client satisfaction through constant review, measurement and analysis of clients' feedback. In the reporting year, we continued to focus on taking clients' interests and expectations into account throughout the lifecycle of projects. With ongoing improvement in our operations and project management, we are committed to delivering high quality and professional services to our clients.

Our annual Client Satisfaction Survey is one of our key tools for understanding our client satisfaction. In 2017, a total of 12 surveys were conducted for projects that were under

planning or newly completed. The surveys were designed to help us understand clients' satisfaction level on our overall performance and our responsiveness in communication with clients.

## Satisfied Level on Overall Performance

---

100%

of the completed projects achieved level of "Satisfied" or above on overall performance

Over  
90%

of the completed projects achieved level of "Totally Satisfied" or "Very Satisfied" on overall performance

## Enhancement on the Communication with Clients

---

100%

achieved the target – replying the clients within 2 months after the survey on the progress of the observations raised

## Achieving Building Sustainability

---

In line with the objectives and strategies set out by the Government in combating climate change, ArchSD is well-positioned to drive the implementation of green building initiatives for both new and existing buildings and influence across industries, in particular our contractors and industry partners.

ArchSD is one of the pioneers in adopting the Building Environmental Assessment Method (BEAM) on new structural development. BEAM is a widely used voluntary labelling scheme in Hong Kong that examines the entire life cycle performance of buildings from planning, design and construction to management, operation and maintenance. Buildings will be awarded applicable credits under each performance category as well as an overall performance grade upon fulfilling the assessment criteria.

During the reporting year, we successfully achieved the BEAM and BEAM Plus certifications for 48 buildings, BEAM Plus Interior certifications for 2 offices and BEAM Plus Existing Building (Selective Scheme) for one office.

## Certified Buildings under the BEAM by the end of 2017

Type of Certificate	Rating		Subtotal
	Excellent	Very Good	
BEAM Certification* (Version 1/96R, 2/96 & 2/96R)	11	2	13

Type of Certificate	Rating		Subtotal
	Platinum	Gold	
BEAM Certification** (Version 4/03 & 4/04)	18	10	28
BEAM Plus (New Buildings) Certification*** (Version 1.1 & 1.2)	4	3	7

Type of Certificate	Rating (Platinum)	Subtotal
BEAM Plus (Interior) Certification	2	2

Type of Certificate	Rating (Excellent)	Subtotal
BEAM Plus Existing Building (Version 2.0 Selective Scheme) Certification	1	1

Total		51
-------	--	----

\*Reference to specific versions of the BEAM Certificate:

- Version 1/96R – An Environmental Assessment Method for New Air-conditioned Office Premises. 1999;
- Version 2/96 – An Environmental Assessment Method for Existing Air-conditioned Office Premises. 1996; and
- Version 2/96R – An Environmental Assessment Method for Existing Air-conditioned Office Premises. 1999.

\*\*Reference to specific versions of the BEAM Certificate:

- Version 4/03 – Pilot Version of Hong Kong Building Environmental Assessment Method for New Buildings Developments. 2003; and
- Version 4/04 – Hong Kong Building Environmental Assessment Method for New Buildings. 2004.

\*\*\*Reference to specific versions of the BEAM Certificate:

- Version 1.1 - BEAM Plus New Buildings. 2010; and
- Version 1.2 - BEAM Plus New Buildings. 2012.

## Green and Safety Culture of Contractors

ArchSD is always seeking opportunities to further advance the safety culture of our contractors. We require our contractors to follow all applicable site safety requirements to induce a more widespread application of industry best practices. Contractors are encouraged to access comprehensive guidance materials in our knowledge bank, including site safety checklists, briefing notes, safety audit results, and other relevant documents. We also actively disseminate safety information such as the Work Safety Alerts issued by Labour Department and other safety reminders to our contractors periodically.

In order to raise our site safety standards, members of our Departmental Safety & Environmental Advisory Unit visit project locations to perform surprise inspections regarding particular site safety issues and to ensure corrective actions are taken in a timely manner.

In 2017, we completed a total of 81 site inspections on selected site safety topics or issues and surprise site safety inspections for new works sites, including:



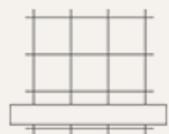
Site cleanliness and mosquito control (25 nos. of inspection)



Falsework safety (5 nos. of inspection);



Electrical safety (9 nos. of inspection);

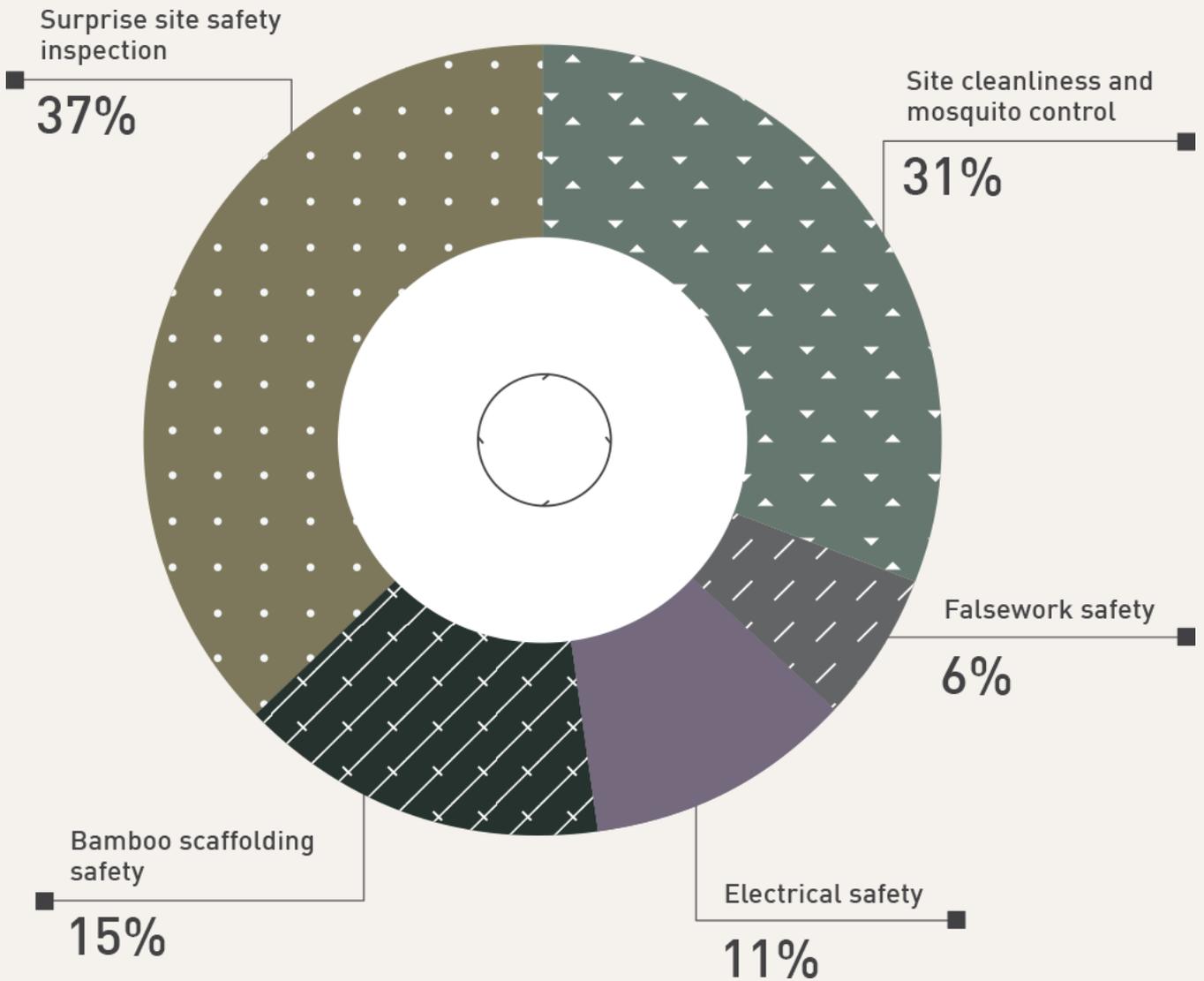


Bamboo scaffold safety (12 nos. of inspection); and



Surprise site safety inspection (30 nos. of inspection).

## Site Inspections on selected safety topics



## Recognition to Contractors

We recognised commendable and outstanding performance of contractors, subcontractors and site personnel in demonstrating good environmental performance, site safety and considerate manner in carrying out public works. We offer formal commendation mainly through two award schemes, namely the Considerate Contractors Site Awards and the Green Contractor Award.

## Considerate Contractors Site Awards

Jointly organised by the DEVB and Construction Industry Council, the annual Considerate Contractors Site Award Scheme aims to raise awareness of construction site safety and promote good practices in site safety and environmental aspects. Nominated entrants of the scheme are categorised into two types of contracts: (i) New Works Contracts and (ii) Repair Maintenance, Alteration and Addition (RMAA) Works Contracts. Each entrant will be assessed based on its environmental consciousness, site safety performance and management. The scheme is further divided into 4 different award categories, such as the Considerate Contractors Site Awards, the Outstanding Environmental Management and Performance Awards, Model Worker Awards, Model Frontline Supervisor Awards and Model Subcontractor Awards.

The 24<sup>th</sup> Considerate Contractors Site Award Scheme Award Presentation Ceremony was held on 29 May 2018, where top performing “considerate” sites from both the public works and the non-public works celebrated their success. ArchSD’s contractors received the great honour of 4 awards including:



24<sup>th</sup> Considerate Contractors Site Award Scheme Award Presentation Ceremony

Contracts	Achievements
<b>Considerate Contractors Site Award</b>	

■ New Works Category

<p>Construction of a 30 - classroom Secondary School at Site 1A - 2, Kai Tak Development (Contract No. SS E517)  <b>Contractor:</b> Hanison Construction Company Limited</p>	<p>Merit</p>
--	--------------

Contracts	Achievements
	Considerate Contractors Site Award
Design and Construction of West Kowloon Government Offices in Yau Ma Tei, Hong Kong (Contract No. SS C502) <b>Contractor:</b> Hip Hing Engineering Company Limited / Hip Hing Construction Company Limited	Merit
Construction of Sports Centre, Community Hall and Football Pitches in Area 1, Tai Po (Contract No. SS E509) <b>Contractor:</b> Hanison Construction Company Limited	Merit
■ RMAA Works Category	
Term Contract for the Alterations, Additions, Maintenance & Repair of Building & Lands & Other Properties for which the ArchSD (PSB) is Responsible for the Government of the HKSAR [Designated Contract Area: Hong Kong Island Western, Southern and Lantau Island] (Contract No. TC E912) <b>Contractor:</b> Sun Fook Kong Construction Ltd.	Silver

## Green Contractor Award

We always encourage our contractors to build green and compliment their effort in daily operation by organising the Green Contractor Award (the Award) annually. The Award acknowledges contractor's measures in energy saving, water conservation, waste reduction, emissions mitigation, and environmental management, which help minimise their environmental impact at the construction sites.

In 2017, the Gold and Silver Awards were presented to the following contractors, which involved projects under construction during the year or maintenance projects with contract sums exceeding \$30 million.

## GOLD AWARD

### Hanison Construction Co., Ltd



- Contract No. SSE509  
Construction of Sports Centre, Community Hall and Football Pitches in Area 1, Tai Po
- Contract No. SSE517  
Construction of A 30-classroom secondary school at site 1A-2, Kai Tak Development

## SILVER AWARD

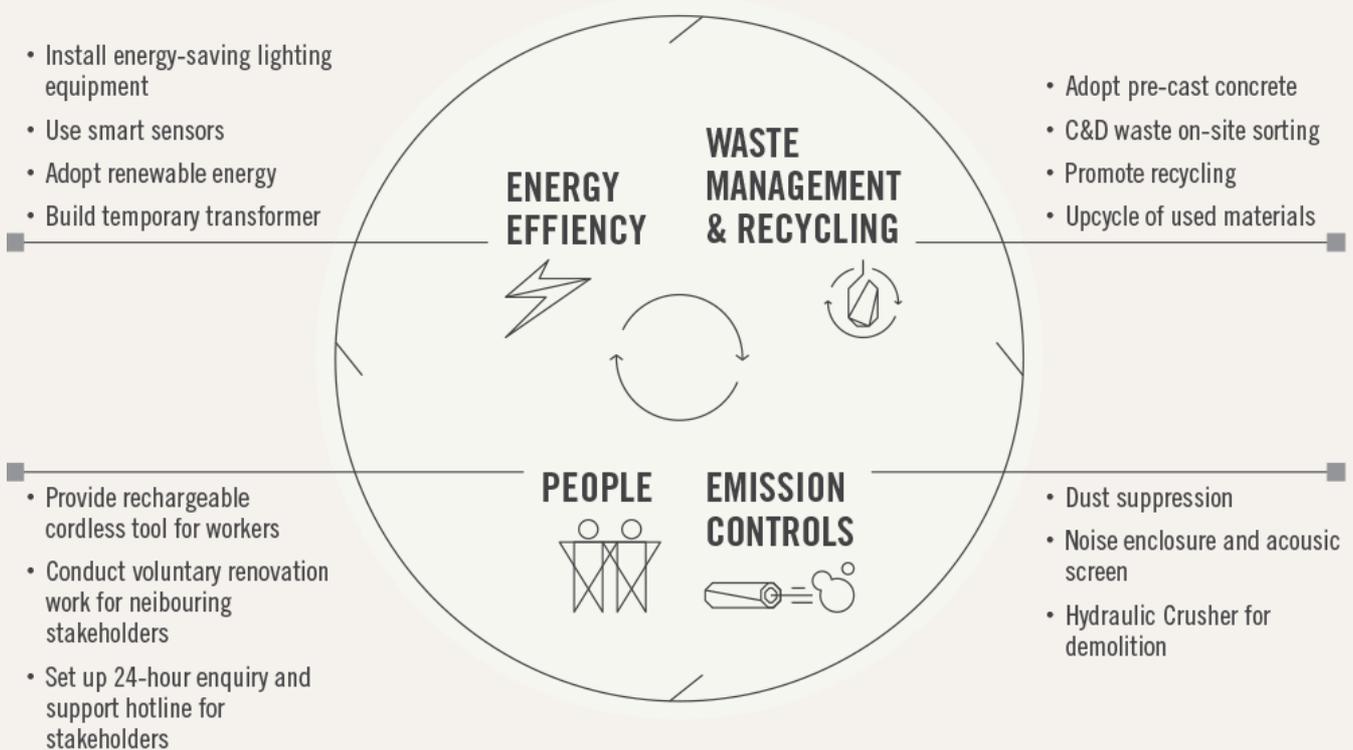
### Hsin Chong - Build King Joint Venture



- Contract No. SSC503  
Design and Construction of Kowloon East Regional Headquarters and Operational Base cum Ngau Tau Kok Divisional Police Station at 105 Concorde Road, Kai Tak

## Green and Smart Practices of Contractors

To conduct continual improvement on on-site environmental performance, our contractors have applied various measures related to their site operations for ArchSD's projects, among which innovative and self-initiated practises were also introduced. An overview of their green and smart practices are depicted below.



## CLIENTS AND BUSINESS PARTNERS

- Project Management
- Engaging the Industry and Community
- Contributing to Community Development



## ENGAGING THE INDUSTRY AND COMMUNITY

To demonstrate our social responsibility in enhancing the industrial capabilities and for the betterment of the society, ArchSD actively participates in various industrial and professional events to exchange knowledge and share our expertise as well as best practices with the industry, and meanwhile is highly involved in many community engagement activities.

## Sharing through Professional Events

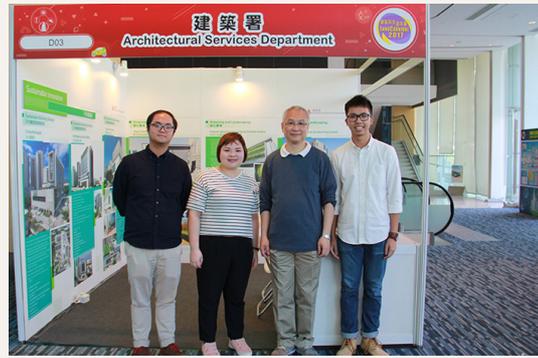
Many of our works touch upon green and sustainable building development. In this regard, we organise exhibitions in various publicity channels to deliver our latest information and achievement on this subject while showcasing cross-cutting innovations and technology on sustainable building to the industry and general public.

Similar to last year, we took presence in the 12<sup>th</sup> edition of Eco Expo Asia at October 2017, which was a four-day expo from 26 October to 29 October 2017 jointly organised by the Hong Kong Trade Development Council (HKTDC), Messe Frankfurt (HK) Ltd. and co-organised by the Environment Bureau. ArchSD set up a booth with the theme of “Sustainable Innovation” to display our latest solutions and achievement in green buildings and energy efficiency.



ArchSD Exhibition at Eco-expo 2017

In addition to Eco Expo Asia, ArchSD participated in the InnoCarnival 2017 organised by the Innovation and Technology Commission (ITC) from 21 October to 29 October 2017. Being the anchor event of the InnoTech Month 2017, InnoCarnival 2017 targeted to raise public awareness on technology, research and development as well as cultivate an innovative culture among the community through an array of exhibitions, workshops, seminars, guided tours, etc. During the event, we set up a display booth to showcase some of our innovative sustainable designs and project works to visitors.



Display Booth at InnoCarnival 2017

## Supporting Social Events

Since 1990s, ArchSD has taken part in the annual Hong Kong Flower Show (Flower Show) organised by the Leisure and Cultural Services Department to help promote public interest and awareness of preservation to our natural environment. Our landscape design this year echoed with the event theme of “Blossoms of Love” by using the theme flower of roses. The 2017 Flower Show attracted more than 200 horticultural organisations, governmental departments and private sectors from 17 countries to support and showcase their floral art displays. A record-breaking number of 670,000 tourists visited the show.



ArchSD's Landscape Display at Flower Show 2017

## CLIENTS AND BUSINESS PARTNERS

- Project Management
- Engaging the Industry and Community
- Contributing to Community Development



## CONTRIBUTING TO COMMUNITY DEVELOPMENT

We encourage employees to lend their hands in various volunteer services that can foster harmony and care within the community. We have established the Volunteer Service Team to regularly organise voluntary events for our staff to exhibit care and support to the disadvantaged and the needy. In 2017, we served 24 community activities with a total of 1,248 hours.

## Staff Volunteer Service

	2017	2016	2015
Total number of hours of staff volunteer service	1,248	1,185	1,233
Number of volunteers	48	46	44
Number of voluntary projects completed	24	18	21
Number of active Volunteer Service Team members <sup>[1]</sup>	19	16	18
Number of staff received Commendation for voluntary service <sup>[2]</sup>	14	11	15

**[1]** Active Volunteer Service Team member is defined as team member contributes more than 20 hours on volunteer service.

**[2]** Staff who receives commendation for volunteer service is defined as team member contributes more than 30 hours on volunteer service.



Game Day with the Disabled

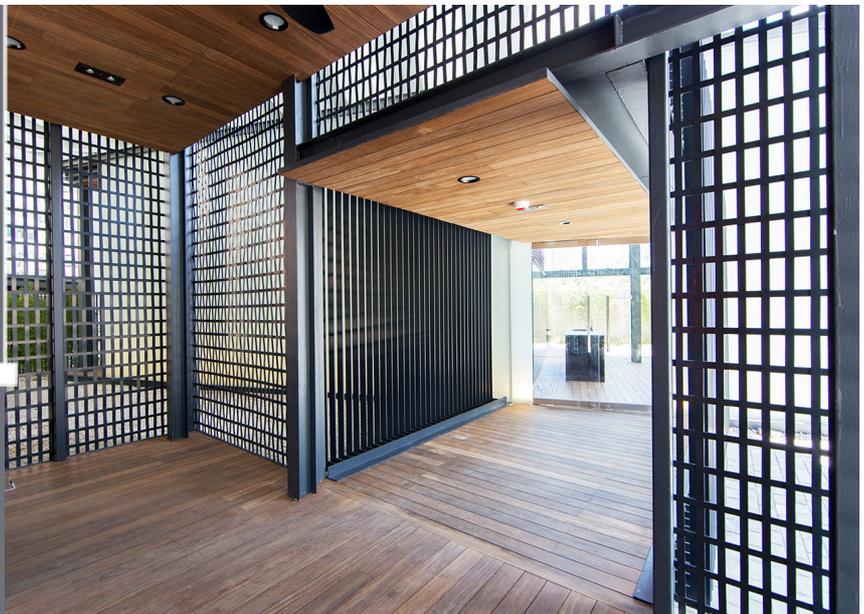


Painting Programme for the Elderly



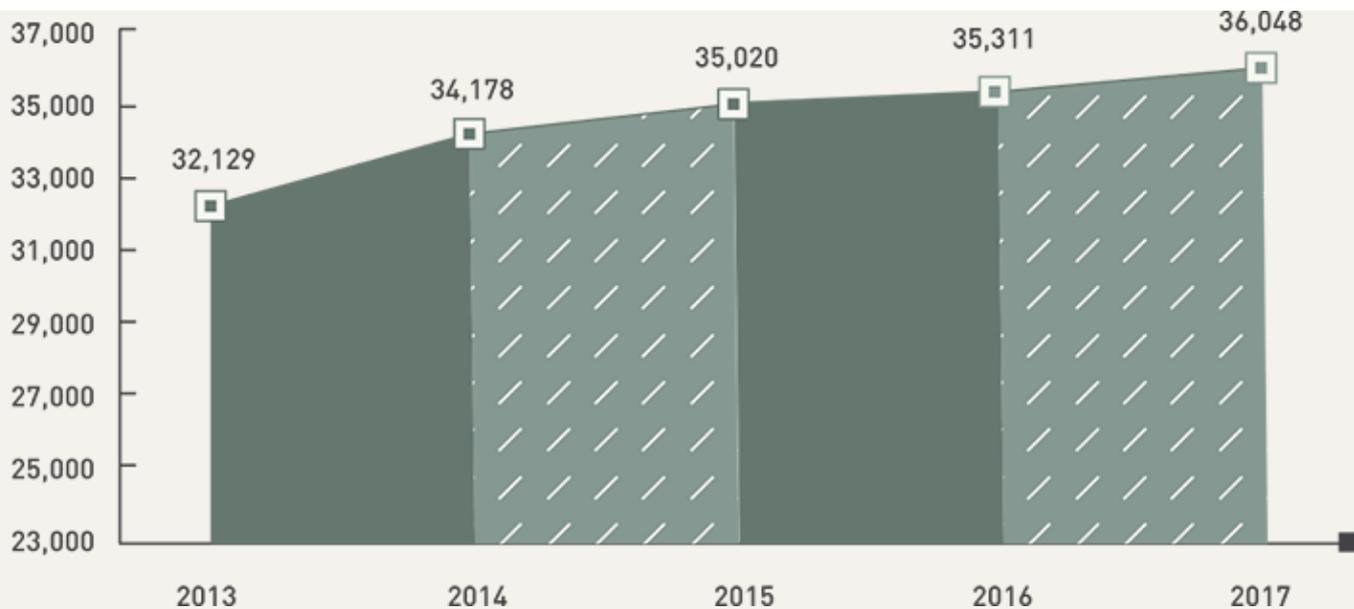
Our staff participated in the OXFAM Trail Walker 2017 to support Oxfam's work on poverty alleviation and emergency relief

# HUMAN RESOURCES



ArchSD pays a high regard for staff development as we understand our success depends critically on our staff. Apart from offering a safe and respectful environment, ArchSD strives to provide our staff with comprehensive training to help them update the necessary knowledge, skills and abilities to meet operational requirements, as well as to realise their potential. Our training is well-aligned with the departmental goals and staff development needs. It covers a broad scope of topics which include Leadership & Management Skills, Professional & Vocational Training and Career Development. During the year, we organised 412 training courses that account for a total of 36,048 training hours. Each staff member, on average, received 20 hours of training.

Training Type	No. of Trainees	No. of Training Hours
Leadership & Management Skills	165	1,532
Professional & Vocational Training	6,601	28,157
Career Development	722	6,359
<b>Total</b>	<b>7,488</b>	<b>36,048</b>



## Staff Recreational Activities

ArchSD values the holistic wellbeing of our staff. While placing a strong emphasis in cultivating a harmonious working culture, we always encourage our staff to participate in recreational activities for a healthy work-life balance and build a stronger team spirit and sense of belonging to our department. This year, our staff took part in various sports and recreational activities organised by ourselves or external organisations. Highlights of this year were shown below:



ArchSD Table Tennis Team at the Development Bureau Table Tennis Tournament



ArchSD Swimming Team at the Swimming Gala



Strong team spirit demonstrated at the Hong Kong Institute of Architects (HKIA) Sports Day on 18 April 2018



ArchSD Team playing Tug-O-War at the HKIA Sports Day



Our staff participated at a Badminton Competition



2017 Annual Dinner

# OBJECTIVES AND TARGETS



To ensure continuous improvement in our sustainability performance, we have established a number of sustainability objectives and targets to review our performances each year. In 2017, we achieved most of our targets regarding environmental, social and project quality issues. Details of our achievements during the year and the targets for 2018 are tabulated below.

## ON ENVIRONMENTAL ISSUES

Long Term Objectives	Targets for 2017	Achievements	Target Compliances	Targets for 2018
Reduce water consumption	<ul style="list-style-type: none"> <li>Water taps in 100% of new projects to be Grade 2 or above; 50% of these projects to be Grade 1 under the Mandatory Water Efficiency Labelling Scheme (WELS) of WSD unless there are genuine operational or technical needs for not doing so</li> </ul>	<ul style="list-style-type: none"> <li>All water taps in 100% of the 14 new projects are Grade 2 or above</li> <li>79% of water taps in these projects are Grade 1 or above</li> </ul>	Complied	2017 targets to be maintained in 2018
Reduce energy consumption	<ul style="list-style-type: none"> <li>To achieve OTTV of not more than 23 W/m<sup>2</sup> in 100%</li> </ul>	<ul style="list-style-type: none"> <li>100% projects with OTTV less than 23 W/m<sup>2</sup></li> </ul>	Complied	2017 targets to be maintained in 2018

Long Term Objectives	Targets for 2017	Achievements	Target Compliances	Targets for 2018
	<p>of all new projects with air conditioning installations</p> <ul style="list-style-type: none"> <li>■ 75% of these projects to achieve an even lower OTTV of not more than 18 W/m<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>■ 90.9% projects with OTTV less than 18 W/m<sup>2</sup></li> </ul>		
<p>Promote a healthy and sustainable development</p>	<ul style="list-style-type: none"> <li>■ 85% of the new in-house and outsourced projects with Capital Project Estimate (CPE) / Approved Project Estimate (APE) greater than \$30 millions shall use pulverised-fly ash (PFA) or ground-granulated blast-furnace slag (GGBS) in concrete</li> </ul>	<ul style="list-style-type: none"> <li>■ 100% of the new projects have used PFA or GG BS concrete</li> </ul>	<p>Complied</p>	<ul style="list-style-type: none"> <li>■ 87% of the new in-house and outsourced projects with Capital Project Estimate (CPE) / Approved Project Estimate (APE) greater than \$30 millions shall use pulverised-fly ash (PFA) or ground-granulated blast-furnace slag (GGBS) in concrete.</li> </ul>
<p>Reduce the consumption of natural resources</p>	<ul style="list-style-type: none"> <li>■ To reduce the use of timber by using alternative structural solutions such as metal hoarding, system formwork, metal formwork, semi-precast flooring system, precast roofing, dry walls and other structural means such as steel structural section, left-in formwork, etc.</li> </ul>	<p>0.491 m<sup>3</sup>/\$millions timber saved</p>	<p>Complied</p>	<p>2017 targets to be maintained in 2018</p>
<p>Comply with all relevant environmental legislation</p>	<ul style="list-style-type: none"> <li>■ To maintain a database to collect and analyse information</li> </ul>	<p>There was no environmental legislation conviction in ArchSD sites in 2017</p>	<p>Complied</p>	<p>2017 targets to be maintained in 2018</p>

Long Term Objectives	Targets for 2017	Achievements	Target Compliances	Targets for 2018
	regarding contractors' environmental regulatory performance			
Increase environmental awareness	<ul style="list-style-type: none"> <li>■ To record and monitor general technical advice on environmental protection measures in line with Arch SD environmental policy</li> </ul>	1,401 nos. of environmental advice given as at 31/12/2017	Complied	2017 targets to be maintained in 2018
Improve Green Housekeeping Management	<ul style="list-style-type: none"> <li>■ To reduce A4 paper consumption by 7.5% as compared with the base year 2005</li> </ul>	<ul style="list-style-type: none"> <li>■ With data normalised, there were 54.0% and 4.8% saving when compared with 2005 and 2016 respectively</li> </ul>	Complied	2017 targets to be maintained in 2018
	<ul style="list-style-type: none"> <li>■ To reduce electricity consumption (exclude A/C system) by 1.2% at QGO as compared with the base year 2013</li> </ul>	<ul style="list-style-type: none"> <li>■ With data normalised<sup>[1]</sup>, there was 20.7% and 16.6% saving when compared with 2013 and 2016 respectively</li> </ul>	Complied	To reduce electricity consumption (exclude A/C system) by 1.5% at QGO as compared with the base year 2013
	<ul style="list-style-type: none"> <li>■ To reduce electricity consumption by 1.5% at APB as compared with the base year 2013</li> </ul>	<ul style="list-style-type: none"> <li>■ With data normalised<sup>[1]</sup>, there was 11.0% saving and 1.0% increase when compared with 2013 and 2016 respectively</li> </ul>	Complied	To reduce electricity consumption by 2% at APB as compared with the base year 2013

[1] The electricity consumption was normalised with the consideration of number of server rooms and number of staff.

## ON PROJECT QUALITY ISSUES

Long Term Objectives	Targets for 2017	Achievements	Target Compliances	Targets for 2018
<p>Improve the quality of our services and project delivery</p>	<ul style="list-style-type: none"> <li>To commence not less than 90% of new Public Works Programme (PWP) projects scheduled in 2017 in accordance with the commencement dates committed in the 2016 Resource Allocation Exercise (RAE)</li> </ul>	<ul style="list-style-type: none"> <li>100% of the new projects commenced works in 2017</li> </ul>	<p>Complied</p>	<p>To commence not less than <b>90%</b> of new Public Works Programme (PWP) projects scheduled in 2018 in accordance with the commencement dates committed in the 2017 RAE</p>
	<ul style="list-style-type: none"> <li>To monitor the expenditure on Capital Works Programme (CWP) projects within ArchSD's purview against the original estimates, ensuring that the over-spending and under-spending shall be within 5% of the corresponding provisions in the Printed Estimates</li> </ul>	<ul style="list-style-type: none"> <li>There was a forecasted 3.6% under-spending when compared to the Original Estimate</li> </ul>	<p>Complied</p>	<p>2017 targets to be maintained in 2018</p>
	<ul style="list-style-type: none"> <li>To ensure 100% of capital and minor works projects to be completed within the agreed time scale (in the Quarter of the year calendar)</li> </ul>	<ul style="list-style-type: none"> <li>100% have been completed within the approved time scale in the scheduled quarter of 2017</li> </ul>	<p>Complied</p>	<p>2017 targets to be maintained in 2018</p>
	<ul style="list-style-type: none"> <li>100% of projects to have certificate of completion</li> </ul>	<ul style="list-style-type: none"> <li>80% of completion certificates were issued within one</li> </ul>	<p>Not complied</p>	<p>2017 targets to be maintained in 2018</p>

Long Term Objectives	Targets for 2017	Achievements	Target Compliances	Targets for 2018
	issued within one month after the certified date of substantial completion	month after the certified date of substantial completion		
	<ul style="list-style-type: none"> <li>90% of projects to complete outstanding works and defects rectification and issue maintenance certificate within 6 months from the expiry of the maintenance period</li> </ul>	<ul style="list-style-type: none"> <li>100% of maintenance certificates were issued within the 6-month tolerance</li> </ul>	Complied	2017 targets to be maintained in 2018
	<ul style="list-style-type: none"> <li>100% of the completed projects to achieve Satisfied Level or above on the overall performance in Client Satisfaction Survey</li> </ul>	<ul style="list-style-type: none"> <li>100% of the projects have achieved Satisfied Level or above on the overall performance</li> </ul>	Complied	2017 targets to be maintained in 2018

## ON SOCIAL ISSUES

Long Term Objectives	Targets for 2017	Achievements	Target Compliances	Targets for 2018
Minimising accident rate for ArchSD staff	<ul style="list-style-type: none"> <li>Accident rate for ArchSD staff should be not more than 2 occupational injuries per 1,000 staff per year</li> </ul>	<ul style="list-style-type: none"> <li>There were 2 reportable accidents with an accident rate of 1.09 per 1,000 staff</li> </ul>	Complied	<ul style="list-style-type: none"> <li>Accident rate for ArchSD staff should be not more than 0.18 occupational injuries per 100,000 man-hours worked</li> </ul>

Long Term Objectives	Targets for 2017	Achievements	Target Compliances	Targets for 2018
				per year
Minimising the accident rate in ArchSD contracts	<ul style="list-style-type: none"> <li>■ Accident rate in ArchSD contracts should be less than 0.6 reportable accident per 100,000 man-hours worked</li> </ul>	<ul style="list-style-type: none"> <li>■ 0.28 reportable accidents per 100,000 man-hours worked</li> </ul>	Complied	2017 targets to be maintained in 2018
Promoting the awareness on safety and health amongst construction workers	<ul style="list-style-type: none"> <li>■ At least 45% of ArchSD contracts would participate in the ArchSD Site Safety Model Worker Award Scheme</li> </ul>	<ul style="list-style-type: none"> <li>■ 79% of ArchSD contracts participated in Safety Model Worker Award Scheme in 2017</li> </ul>	Complied	2017 targets to be maintained in 2018
Promoting the awareness on safety and health amongst contractors	<ul style="list-style-type: none"> <li>■ At least 50% of ArchSD eligible new works contracts and 50% of eligible maintenance term contracts would participate in Development Bureau Considerate Contractors Site Award Scheme (CCSAS)</li> </ul>	<ul style="list-style-type: none"> <li>■ 79% of eligible ArchSD new works contracts and 89% of eligible maintenance term contracts participated in CCSAS 2017</li> </ul>	Complied	2017 targets to be maintained in 2018
Enhancing the occupational safety and health within the workplace	<ul style="list-style-type: none"> <li>■ Safety walk for workplaces would be conducted at least quarterly</li> </ul>	<ul style="list-style-type: none"> <li>■ Safety walk at workplaces has been conducted accordingly</li> </ul>	Complied	2017 targets to be maintained in 2018
Strengthening	<ul style="list-style-type: none"> <li>■ At least 12</li> </ul>	<ul style="list-style-type: none"> <li>■ 16 external training</li> </ul>	Complied	2017 targets to be

Long Term Objectives	Targets for 2017	Achievements	Target Compliances	Targets for 2018
health and safety knowledge for project staff with external training	external safety training courses should be arranged for project and office staff per year	courses were conducted and attended by 536 professional/technical/site staff in 2017		maintained in 2018
Upkeeping safety and health awareness of professional, technical and site supervisory staff, consultants and contractors with in-house briefing	<ul style="list-style-type: none"> <li>■ At least 4 in-house workshops on safety and health should be organised</li> </ul>	<ul style="list-style-type: none"> <li>■ 5 in-house workshops / seminars were conducted</li> </ul>	Complied	2017 targets to be maintained in 2018

# DATA SUMMARY



## Environmental Performance

### Resources Usage - Energy

	Units	2017	2016	2015	2014	2013
Electricity consumed (QGO and APB Centre) <sup>[1]</sup>	kWh/m <sup>2</sup>	200	208	217	219	218
CO <sub>2</sub> emission equivalent to electricity consumption (QGO and APB Centre) <sup>[2]</sup>	Tonnes CO <sub>2</sub> -e	3,553	3,664	3,840	3,817	3,808
Energy saved due to energy efficient installations <sup>[3]</sup>	GWh	4.44	5.74	5.16	0.79 <sup>[4]</sup>	6.90
Equivalent monetary savings <sup>[5]</sup>	HK\$ million	5.33	6.89	6.19	0.95 <sup>[4]</sup>	6.90

	Units	2017	2016	2015	2014	2013
Avoided CO <sub>2</sub> emissions <sup>[3]</sup>	Kilo Tonnes CO <sub>2</sub> -e	3.11	4.02	3.61	0.55 <sup>[4]</sup>	4.83

**[1]** Offices in QGO and APB Centre represent a majority of total ArchSD office space. Total ArchSD office area is assumed to be 25,386.2 m<sup>2</sup> (11,275.4 m<sup>2</sup> for APB and 14,110.8 m<sup>2</sup> for QGO 31/F& 33/F-41/F). The percentage of electricity consumption of the whole premises for ArchSD office at APB & QGO is assumed to be 100% and 20% respectively.

**[2]** Territory wide default GHG emission factors (0.7) were used 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, HKSAR in February 2010.

**[3]** Energy efficient features refer to energy saving installation for air-conditioning systems, lighting systems, hot water systems, lift & escalator systems, building energy management system and renewable energy technologies.

**[4]** The nature of the completed projects (i.e. parks, open spaces, promenade, aqua privies, radar station, etc.) in 2014 did not warrant significant energy saving in term of BS installations.

**[5]** The electricity tariff is assumed to be HK\$ 1.2 per kWh and HK\$ 1.0 per kWh from 2014 onward and before 2014 respectively.

## Resource Usage - Fuel

	Units	2017	2016	2015	2014	2013
Fuel consumption by ArchSD's pool cars	Litre	12,626	12,656	13,071	12,800	13,142
GHG emission equivalent to fuel consumption by ArchSD pool cars <sup>[6]</sup>	Tonnes CO <sub>2</sub> -e	34.2	34.3	35.4	34.7	35.6

**[6]** GHG emission factors for mobile combustion are 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, HKSAR in February 2010.

## Resource Usage - Office Materials

	Units	2017	2016	2015	2014	2013
A4 paper consumption	Reams	16,947	18,082	18,169	18,485	18,346
A3 paper consumption	Reams	1,020	1,169	1,171	1,118	1,053
Envelop consumption	No.	37,615	35,672	42,883	44,084	43,294

## Waste Management in Programme Areas of Facilities Development and Upkeeping

	Units	2017	2016	2015	2014	2013
Construction & demolition materials						
C&D waste disposed of to landfills	Tonnes	44,891	36,775	46,822	37,593	24,125
C&D materials disposed of to public fill areas	Tonnes	518,946	543,054	693,029	604,238	644,728

### Recyclable waste collected at APB Centre

Waste paper	kg	15,579	15,717	15,932	19,522	19,335
Aluminium	No.	2,050	1,676	1,631	4,918	5,900
Plastic bottles	No.	4,102	3,798	3,013	2,975	3,385

## Environmental Convictions of Contractors

	Units	2017	2016	2015	2014	2013
Convictions per 100,000 man-hours	ArchSD's sites (All construction sites in HK)	0.034 (0.216)	0.122 (0.191)	0 <sup>[7]</sup> (0.25)	0.35 (0.275)	0.15 (0.618)
Monetary value of significant fines	HK\$	5,000	100,000	0 <sup>[7]</sup>	227,000	18,500

**[7]** In 2015, most of the on-site projects were in the final stages of the construction, hence environmental impacts to the neighbourhood were manageable and contented.

## Environmental Expenditure

	Units	2017	2016	2015	2014	2013
Resources devoted to environmental works <sup>[8]</sup>	HK\$ million	1,101.3	568.4	639.3	761.6	892.2
Percentage of annual expenditure	%	9.7	6.3	7.3	10.9	12.2

**[8]** Resources devoted to environmental works included the expenditures on environmental nature projects and associated personal emoluments and departmental charges, staff's environmental training and works on maintaining environmental management system.

# Social Performance <sup>[9]</sup>

## Staff

	Units	2017	2016	2015	2014	2013
Staff establishment (As at 31 December)	No.	1,859	1,835	1,814	1,810	1,795

[9] Staff data is extracted from the records kept in the personnel section.

## Staff Breakdown

### By Post (based on staff establishment)

Directorate	%	2
Professional	%	25
General Staff	%	20
Site Staff	%	31
Technical	%	22

### By Employment Type

Full-time	%	100
-----------	---	-----

### By Employment Contract

Permanent (male)	%	63
Permanent (female)	%	31

Contract (male)	%	4
Contract (female)	%	2
By Age (31.3.2018)		
Age under 30	%	12
Age 30-49	%	46
Age 50 or above	%	42
By Ethnicity		
Local	%	100
Non-local	%	0
By Gender		
Male	%	67
Female	%	33

## Staff Training

	Units	2017	2016	2015	2014	2013
No. of training courses (including internal and external seminars/ workshops/ training courses/ visits)	No.	412	366	374	287	270
Numbers of trainees	No.	7,488	8,302	6,961	6,619	6,674

## Training Hours Breakdown <sup>[10]</sup>

Type of Staff	Total Training Hours Received (hours)	Training Hours Per Staff (hours)
Directorate Staff	1,343	36
Professional Grade Staff	17,204	37
Technical, Site Supervisory and General Grade Staff	17,501	13
Total	36,048	20

**[10]** As there is no distinct requirement regarding receiving training in terms of gender, we do not report the data broken down by gender.

## Anti-corruption Training

Type of Staff	Number of Staff Participated Anti-corruption Training	Percentage of Staff against establishment
Directorate Staff	3	8.1%
Professional Grade Staff	129	27.7%
Technical, Site Supervisory and General Grade Staff	293	21.6%

## Staff Turnover

	Male	Female
Age under 30	0.3% (6)	0.1% (1)
Age 30-50	1% (19)	0.1% (1)
Age 51-55	0.2% (4)	0.1% (1)
Age 56-60	3.5% (65)	0.7% (12)

## New Employee Hires

	Male	Female
Age under 30	2.8% (51)	1.1% (20)
Age 30-50	2.7% (50)	1.2% (22)
Age 51-55	0.1% (1)	0% (0)
Age 56-60	0% (0)	0% (0)

## Staff Injury

	Units	2017	2016	2015	2014	2013
Staff injury cases <sup>[11]</sup>	No.	2 (Male:1, Female: 1)	5 (Male: 4, Female: 1)	4	4	1
Staff sick leave granted for staff injury cases	Days	14.5	168.5	50	174	7

**[11]** The definition of staff injury cases is the reported cases of occupational injuries, under Employee's Compensation Ordinance, resulting in death or incapacity for work over 3 days.

## Contractor's Accident Rate

	Units	2017	2016	2015	2014	2013
No. of fatalities <sup>[12]</sup> (ArchSD)	No.	1 (Male:1, Female:0)	2 (Male:2, Female:0)	0	1 (Male:1, Female:0)	0
Fatal accident rate <sup>[12]</sup> (ArchSD)	per 100,000 man-hours	0.003	0.007	0	0.004	0
Fatal accident rate <sup>[13]</sup> (HK Construction Industry)	per 100,000 man-hours	0.005	0.003	0.006	0.007	0.008
No. of non-fatal accidents (ArchSD) <sup>[12]</sup>	No.	94 (Male: 88, Female: 6)	70 (Male: 64, Female: 6)	98	80	68
Non-fatal accident rate <sup>[12]</sup> (ArchSD)	per 100,000 man-hours	0.28	0.26	0.34	0.30	0.27
Non-fatal accident rate <sup>[13]</sup> (HK Construction Industry)	per 100,000 man-hours	0.91	0.96	1.08	1.16	1.13

**[12]** Data of 2017 and the previous years was extracted from PWP Construction Site Safety and Environmental Statistics System (PCSES) of DEVB as at 31 July 2018.

**[13]** The accident rate of the HK 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.

102-48

# REPORT VERIFICATION



## Scope and Objective

Hong Kong Quality Assurance Agency (“HKQAA”) was commissioned by the Architectural Services Department (hereinafter referred to as “ArchSD”) of the Government of the Hong Kong Special Administrative Region to provide independent assurance of the ArchSD Sustainability Report 2018 (‘the Report’) which was prepared in accordance with the Core option of the GRI Standards issued by the Global Reporting Initiative (GRI). The Report states ArchSD’s major activities and achievements on sustainable development from 1<sup>st</sup> January 2017 to 31<sup>st</sup> December 2017. Besides, the financial data are reported for the financial year ended 31<sup>st</sup> March 2018.

## Assurance Methodology

The assurance process was undertaken with reference to the International Standard on Assurance Engagement 3000 (‘ISAE 3000’) – “Assurance Engagement Other Than Audits or Reviews of Historical Financial Information”. In addition, reliability of the selected sustainability information and data were verified following the process consisted of:

- Identification and classification of statements, figures, charts and data sets to be verified
- Verification of selected representative samples of data and information consolidated in the Report, reviewing relevant documentation, interviewing responsible personnel with accountability for preparing the Report
- Cross-checking the raw data and evidence of the selected samples that support the reporting content in order to reduce the risk of error or omission to an acceptably low level

## Independence

---

HKQAA was not involved in collecting and calculating the reporting data, or in the development of the Report. HKQAA's activities are independent from ArchSD.

## Conclusion

---

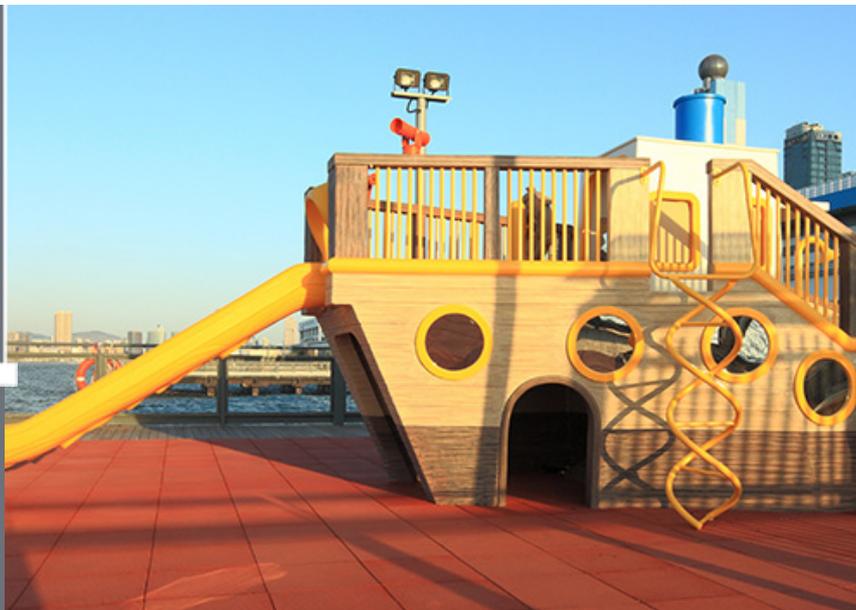
Base on the outcome of the verification process, HKQAA confirmed that the report was prepared based on the Core options of the GRI Standards. The information presented in the Report provided a material and complete representation of the performance of ArchSD in the context of sustainable development. The verification team confirmed that the Report was prepared based on factual statements and that the data contained within the Report are accurate. It is a fair and honest representation of initiatives, targets, progress and performance on ArchSD's sustainable development achievements.

**Signed on behalf of Hong Kong Quality Assurance Agency**



Jorine Tam  
Director, Corporate Business  
September 2018

# GRI CONTENT INDEX



This report has been prepared in accordance with the GRI Standards: Core option. The General Disclosures and Topic-specific Standards are presented below with either linkage to the reported section(s) or direct answer.

## General Disclosures

GRI Standards	General Disclosures	Reference or direct answer	External Assurance
---------------	---------------------	----------------------------	--------------------

GRI 101: Foundation 2016

GRI 102: General Disclosures 2016	Organisational Profile			
	102-1	Name of organisation	<a href="#">About Us</a>	✓
	102-2	Activities, brands, products, and services	<a href="#">About Us</a>	✓

General Disclosures				
GRI Standards	General Disclosures		Reference or direct answer	External Assurance
	102-3	Location of headquarters	<u>About Us</u>	✓
	102-4	Location of operations	Hong Kong only	✓
	102-5	Ownership and legal form	Part of the Hong Kong SAR Government	✓
	102-6	Markets served	<u>Strategy and Management</u>	✓
	102-7	Scale of the organisation	<u>About Us</u>	✓
	102-8	Information on employees and other workers	<u>Data Summary</u>	✓
	102-9	Supply chain	<u>Project Management</u>	✓
	102-10	Significant changes to the organisation and its supply chain	No significant change	✓
	102-11	Precautionary Principle or approach	<u>Strategy and Management</u>	✓
	102-12	External initiatives	<u>About This Report</u> <u>Strategy and Management</u>	✓
	102-13	Membership of associations	<u>Strategy and Management</u>	✓

General Disclosures			
GRI Standards	General Disclosures	Reference or direct answer	External Assurance
Strategy			
102-14	Statement from senior decision-maker	<u>Message from the Director</u>	✓
Ethics and Integrity			
102-16	Values, principles, standards, and norms of behaviour	<u>Strategy and Management</u>	✓
Governance			
102-18	Governance structure	<u>About Us</u>	✓
Stakeholder Engagement			
102-40	List of stakeholder groups	<u>Engagement Approach</u>	✓ <u>Report Verification</u>
102-41	Collective bargaining agreements	None. There is no collective bargaining legislation exists in Hong Kong but we have maintained various staff engagement channels such as the Departmental Consultative Committee, Joint Staff Consultation Group, Staff Motivation Scheme, Web Forum, Staff Relation Units and other staff associations.	✓ <u>Report Verification</u>
102-42	Identifying and selecting stakeholders	<u>Main Focus Areas</u>	✓ <u>Report Verification</u>

		General Disclosures		
GRI Standards	General Disclosures		Reference or direct answer	External Assurance
	102-43	Approach to stakeholder engagement	<p><u>Engagement Approach</u></p> <p>We have regular engagement with members of each group: (i) annual appraisals for staff; (ii) quarterly performance reports for consultants and contractors; and (iii) Client Satisfaction Survey for clients.</p>	✓ <u>Report Verification</u>
	102-44	Key topics and concerns raised	<p><u>Main Focus Areas</u> <u>Engagement Approach</u></p>	✓ <u>Report Verification</u>
Reporting Practice				
	102-45	Entities included in the consolidated financial statements	<u>About Us</u>	✓ <u>Report Verification</u>
	102-46	Defining report content and topic Boundaries	<p><u>About This Report</u> <u>Main Focus Areas</u></p>	✓ <u>Report Verification</u>
	102-47	List of material topics	<u>Main Focus Areas</u>	✓ <u>Report Verification</u>
	102-48	Restatements of information	<u>Data Summary</u>	✓ <u>Report Verification</u>
	102-49	Changes in reporting	No significant change	✓ <u>Report Verification</u>
	102-50	Reporting period	<u>About This Report</u>	✓

General Disclosures				
GRI Standards	General Disclosures		Reference or direct answer	External Assurance
	102-51	Date of most recent report	ArchSD Sustainability Report 2017 was published in September 2017.	✓
	102-52	Reporting cycle	<a href="#">About This Report</a>	✓
	102-53	Contact point for questions regarding the report	<a href="#">Feedback</a>	✓
	102-54	Claims of reporting in accordance with the GRI Standards	<a href="#">About This Report</a> <a href="#">GRI Content Index</a>	✓
	102-55	GRI content index	<a href="#">GRI Content Index</a>	✓
	102-56	External assurance	<a href="#">About This Report</a> <a href="#">Report Verification</a>	✓

### Topic-specific Standards

GRI Standards	Material Topics		Reference or direct answer	External Assurance
	Procurement Practices			
GRI 103: Management Approach 2016	103-1 103-2 103-3		<a href="#">Project Management</a>	✓

## Topic-specific Standards

GRI Standards	Material Topics		Reference or direct answer	External Assurance
GRI 204: Procurement Practices 2016	204-1	Proportion of spending on local suppliers	In 2017, all our purchases were from local suppliers (defined as companies registered in Hong Kong).	✓
	Anti-corruption			
GRI 103: Management Approach 2016	103-1 103-2 103-3		<u>Strategy and Management</u>	✓
GRI 205: Anti-corruption 2016	205-2	Communication and training about anti-corruption policies and procedures	<u>Data Summary.</u>	✓
	205-3	Confirmed incidents of corruption and actions taken	<u>Strategy and Management</u>	✓
	Energy			
GRI 103: Management Approach 2016	103-1 103-2 103-3		<u>Sustainable Building Design In-house Green Management Objectives and Targets</u>	✓
GRI 302: Energy 2016	302-1	Energy consumption within the organisation	<u>Data Summary.</u>	✓
	302-4	Reduction of energy consumption	<u>Data Summary.</u>	✓
	Emissions			

## Topic-specific Standards

GRI Standards	Material Topics		Reference or direct answer	External Assurance
GRI 103: Management Approach 2016	103-1 103-2 103-3		<u>In-house Green Management Objectives and Targets</u>	✓
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions	<u>In-house Green Management</u>	✓
	305-2	Energy indirect (Scope 2) GHG emissions	<u>In-house Green Management</u>	✓
	305-3	Other indirect (Scope 3) GHG emissions	<u>In-house Green Management</u>	✓
	Effluents and Waste			
GRI 103: Management Approach 2016	103-1 103-2 103-3		<u>In-house Green Management Objectives and Targets</u>	✓
GRI 306: Effluents and Waste 2016	306-2	Waste by type and disposal method	<u>Data Summary.</u>	✓
	Environmental Compliance			
GRI 103: Management Approach 2016	103-1 103-2 103-3		<u>Strategy and Management</u>	✓
GRI 307: Environmental Compliance 2016	307-1	Non-compliance with environmental laws and regulations	<u>Data Summary.</u>	✓

## Topic-specific Standards

GRI Standards	Material Topics		Reference or direct answer	External Assurance
	Supplier Environmental Assessment			
GRI 103: Management Approach 2016	103-1 103-2 103-3		<u>Project Management</u>	✓
GRI 308: Supplier Environmental Assessment 2016	308-1	New suppliers that were screened using environmental criteria	ArchSD only appoints contractors and suppliers from lists of relevant categories, which are maintained by the Government of HKSAR. The listed contractors and suppliers have to fulfill certain requirements, which are mainly related to the establishment of their companies, set out by the administrators of these lists. Contractors and suppliers are also required to achieve ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007 certifications in order to be included in these lists.	✓
	Employment			
GRI 103: Management Approach 2016	103-1 103-2 103-3		<u>Human Resources</u>	✓
GRI 401: Employment 2016	401-1	New employee hires and employee turnover	<u>Data Summary.</u>	✓
	Occupational Health and Safety			
GRI 103: Management Approach 2016	103-1 103-2 103-3		<u>Project Management Objectives and Targets</u>	✓

## Topic-specific Standards

GRI Standards	Material Topics		Reference or direct answer	External Assurance
GRI 403: Occupational Health and Safety 2016	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	<u>Data Summary.</u>	✓
	Training and Education			
GRI 103: Management Approach 2016	103-1 103-2 103-3		<u>Human Resources</u>	✓
GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee	<u>Data Summary.</u>	✓
	404-3	Percentage of employees receiving regular performance and career development reviews	All staff receive regular performance appraisal.	✓
	Non-discrimination			
GRI 103: Management Approach 2016	103-1 103-2 103-3		<u>Strategy and Management</u>	✓
GRI 406: Non-discrimination 2016	406-1	Incidents of discrimination and corrective actions taken	No incident of discrimination was reported in 2017.	✓

# GLOSSARY



<b>Building Environmental Assessment Method (BEAM)</b>	<p>Quote from BEAM Society, "A means by which to benchmark and improve performance in the planning, design, construction, commissioning, operation and management of buildings." BEAM Plus is a comprehensive environmental assessment scheme recognised by the Hong Kong Green Building Council (HKGBC). Issued in 2012, BEAM Plus Version 1.2 for New Buildings and Existing Buildings is enhanced from the earlier version in providing Passive Design as an alternative method for assessment."</p>
<b>Building Energy Codes (BEC)</b>	<p>Building Energy Codes is a suite of guidance that covers five aspects of installation practices, including lighting, air conditioning, electrical and lift &amp; escalator installations. It stipulates the minimum energy performance standards (MEPS) of these installations practices.</p>
<b>Buildability Evaluation System (BES)</b>	<p>The Buildability Evaluation System is an assessment and scoring approach to rationalise project designs and facilitate asset maintenance; promote mechanisation and prefabrication; enhance construction productivity and project cost management to achieve value for money in public building projects.</p>
<b>Building Information Modelling (BIM)</b>	<p>Building Information Modelling is the process of generating and managing building data during its planning, design, construction and operation stage. The process uses multi-dimensional building modelling software to represent the three-dimensional and digital data of buildings, and adopt digital data environment and unified data structure to enhance team collaboration and productivity.</p>
<b>Carbon Audit</b>	<p>A systematic and scientific approach to account for the greenhouse gas emissions arising from the operations of the buildings.</p>
<b>Carbon Footprint</b>	<p>The carbon footprint is the measurement of all greenhouse gases an individual produces in daily lives through burning fossil fuels for electricity, heating, transportation, etc, usually in the unit of tonnes (or kg) of carbon dioxide equivalent.</p>
<b>Corporate Intelligence</b>	<p>ArchSD aims at enhancing its operational efficiency by applying smart and innovative technologies in the work process through the CO-i development. The</p>

<b>(CO-i)</b>	core of the proposed CO-i development is a big data bank with linkage to various application systems to facilitate the “Architectural Intelligence”, including integrated project management platform, advanced asset information system integrated with Building Information Modelling (BIM), mobile platform for construction site supervision and work flow digitalisation, etc.
<b>Community Green Station</b>	A Community Green Station is operated by non-profit-making organisations to provide support for the community in the collection of low economic value recyclables such as electrical appliances, compact fluorescent lamps, fluorescent tubes, glass bottles and rechargeable batteries. With a view to promoting green living at the community level, the collected items will be delivered to qualified recyclers for proper treatment and turning waste into resources.
<b>Considerate Contractors Site Award</b>	It is an award to promote a considerate attitude and good site safety, health and environmental practices for both Public Works and non-Public Works sites.
<b>Designated Projects</b>	Designated projects are projects or proposals that may have an adverse impact on the environment. They are covered by the Environmental Impact Assessment Ordinance in which they are categorised into two schedules: Schedule 2 and 3. (Details please refer to <a href="#">A Guide to the Environmental Impact Assessment Ordinance</a> .)
<b>Earth Tube</b>	Earth Tubes are a passive design in architecture that enable the transfer of ground source energy to heat or cool ventilation air. They are standard concrete tubes that run underground and precondition the temperature of incoming air before it enters the building, thus reducing the energy required to heat or cool the building.
<b>Energy Audit</b>	An Energy Audit is an examination of an energy consuming equipment/system to ensure that energy is being used efficiently. It is an effective energy management tool. By identifying and implementing the means to achieve energy efficiency and conservation, not only can energy savings be achieved, but also equipment/system services life can be extended. All these mean savings in money.
<b>Environmental Impact Assessment (EIA)</b>	A process to assess the potential environmental impacts and environmental benefits (in quantitative and qualitative terms) of a project in the early planning stages as well as identify any alternatives or mitigation measures.
<b>Environmental Impact Assessment Ordinance (EIAO)</b>	An Ordinance to assess the impact on the environment of certain projects and proposals, for protecting the environment and for incidental matters through the application of the EIA process and the environmental permit system.
<b>Extranet</b>	The ArchSD Extranet is a private secured web portal with restricted access to enhance communication and information exchange with external users such as consultants and contractors, and to streamline contract management of works projects undertaken by the Department.
<b>Global Reporting</b>	A multi-stakeholder-governed institution which provides a framework for sustainability reporting, which is commonly used all over the world. This

<b>Initiative (GRI)</b>	framework sets out the principles and indicators that entities can use to measure and report their economic, social and environmental performance. GRI launched its Sustainability Reporting Standards (GRI Standards) in October 2016.
<b>Green Building Awards (GBA)</b>	Jointly organised by the Hong Kong Green Building Council and the Professional Green Building Council, GBA is a biennial industry award which aims to provide recognition to building-related projects with excellent performance and contributions in sustainability and the built environment. It also encourages the industry to transform the mainstream market towards wider adoption of sustainable planning, design, construction, management, operation, maintenance, renovation and decommissioning of buildings.
<b>Green Contractor Award</b>	Green Contractor Award is organised by ArchSD every year to appraise contractors that have excellent performance in construction sites through demonstrating their environmental and social conscious commitments with the implementation of effective green measures.
<b>Greenhouse Gases</b>	Greenhouse gases refer to those which are able to absorb and hold heat in the atmosphere, either occurring naturally (e.g. carbon dioxide, methane, ozone and water vapour) or exclusively resulting from human activities (e.g. hydrofluorocarbons).
<b>Grey Water</b>	Grey water is the wastewater generated from domestic activities such as hand washing and cloth laundering. It is suitable for reuse as landscape irrigation or even toilet flushing.
<b>Hong Kong Energy Efficiency Registration Scheme for Buildings</b>	This scheme was launched by the Electrical & Mechanical Services Department for promoting the application of Building Energy Codes since October 1998. It provides an official platform for interested parties to register their buildings which comply with BECs.
<b>Important Tree</b>	Important Trees are trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria: trees of 100 years old or above; trees of cultural, historical or memorable significance e.g. Fung Shui tree, tree as landmark of monastery or heritage monument, and trees in memory of an important person or event; trees of precious or rare species; trees of outstanding form (taking account of overall tree sizes, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or trees with trunk diameter equal or exceeding 1.0 m (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.
<b>ISO 50001 Energy Management System</b>	ISO 50001 is an international standard first published by International Organization for Standardization (ISO) on 15 June 2011, which specifies requirements for the establishment of an energy management system. Adopting ISO 50001 Energy Management System enables organisations to improve their energy performance, which generally includes energy use, energy efficiency and energy consumption, in a systematic approach. Similar to other well-known ISO standards such as ISO 9001 and ISO 14001, ISO 50001 is also based on the PLAN-DO-CHECK-ACT approach to assist organisations in achieving continual improvement.
<b>Knowledge Management</b>	KM portal is to manage the knowledge life cycle from generation, harvesting, formation of practice wisdom and sharing to publishing, monitoring and renewal.

<b>(KM) Portal</b>	The whole process is manifested in the operational regime under a 3-tier system, i.e. the ArchSD Knowledge Bank (K-Bank), branches/divisions KM hubs and knowledge community workspace.
<b>Leadership in Energy and Environmental Design (LEED)</b>	The Leadership in Energy and Environmental Design (LEED) Green Building Rating System, developed by the U.S. Green Building Council (USGBC), provides a suite of standards for environmentally sustainable construction.
<b>Microclimate Study</b>	Microclimate study acts as an environmental performance factor of the site providing environmental characteristic of the site for the purpose of creating a sustainable environment which provides the greater comfort for the development.
<b>Modular Integrated Construction (MiC)</b>	Reference to BD's PNAP, Modular Integrated Construction refers to a construction method whereby free-standing volumetric modules (with finishes, fixtures, fittings, etc.) are manufactured off-site and then transported for constructing buildings.
<b>Overall Thermal Transfer Value (OTTV)</b>	A measure of the energy transferred through the envelope of a building and has a direct correlation with energy consumption.
<b>Preliminary Environmental Review (PER)</b>	<p>It is a study that determines the current environmental conditions of the project site through inspecting the potential environmental impacts associated with the project and recommending corresponding mitigation measures.</p> <p>All Government Projects are required to carry out PER at the early stage of the projects (Feasibility Study Stage).</p>
<b>Practice Note for Authorized Persons and Registered Structural Engineers (PNAP)</b>	It was formerly known as <u>Practice Note for Authorized Persons and Registered Structural Engineers (PNAP)</u> have been issued since 1974. The Building Authority issues practice notes to authorised persons, registered structural engineers and registered geotechnical engineers from time to time to promulgate how the Authority applies and enforces the provisions of the Buildings Ordinance (BO) and its subsidiary regulations as well as other administrative and advisory matters in the administration of the BO.
<b>Program on Source Separation of Commercial and Industrial Waste</b>	It has been launched by EPD since 2007. It aims to encourage the property management sector to undertake initiative to set up and implement suitable mechanism to separate and recover waste within commercial & industrial (C&I) premises. This will facilitate the tenants / occupants to practice waste separation and recycling in workplace with ease.
<b>Post Occupancy Evaluation (POE)</b>	Post Occupancy Evaluation is a management tool tailor-made to evaluate the performance, assess the effectiveness of sophisticated building services systems after client occupancy, and to address clients' concerns on the functional requirements and energy consumption of their recently completed building projects.
<b>Register of Old and Valuable Trees</b>	The Leisure and Cultural Services Department, Agriculture, Fisheries and Conservation Department and Housing Department have identified some 500 Old Trees

	and Valuable Trees on unleased Government land within built-up areas or tourist attractive spots in village areas to provide priority protection.
<b>Smart City</b>	A Smart City is a city which capitalises on new technologies and developments to enhance its systems, operations and service delivery. Smart Cities share one thing in common, the application of information and communications to connect and integrate the systems and services of the city. The goal for Smart Cities is to improve city management and residents' quality of life through the efficient use of resources and service delivery whilst at the same time reducing environmental footprint.
<b>Stakeholder</b>	It refers to individuals, groups or organisations which experience directly or indirectly the actions and policies implemented by an organisation.
<b>Sustainable Development</b>	Sustainable development is the development approach which meets the desires of the present and preserves the environment and natural resource for the future generations.
<b>Testing and Commissioning (T&amp;C)</b>	Testing and Commissioning (T&C) is generally regarded as testing of equipment and systems separately, in order to ensure that they are safe and meet the design requirements.
<b>Resource Allocation Exercise (RAE)</b>	It is a practice to schedule activities and assign available resources in an economic way, so that predetermined constraints of resource availability and/or project time are not exceeded. Each HKSAR Government Department has to earmark an amount of Recurrent/Capital spending in October that to be included in the budget of the following year.
<b>Universal Accessibility</b>	The concept of Universal Design forms the backbone of Universal Accessibility. It is a design approach to a universally accessible standard in which all products, environments and communications will allow for the widest spectrum of our community regardless of diversity, age and ability.
<b>U-value</b>	The rate of heat flow through a material. It is measured as the amount of heat flow through 1m <sup>2</sup> of the material for every degree difference in temperature each second.
<b>Valuable Tree</b>	Refers to the "valuable trees" in the Register of Old and Valuable Trees which are distinguished in the following categories: Trees of large size; Trees of precious or rare species; Trees of particularly old age (e.g. aged 100 or above); Trees of cultural, historical or memorable significance; and Trees of outstanding form.
<b>Vertical Greening</b>	Vertical greening is the application of a vegetative cover to a wall/vertical structure. It serves as the thermal insulation to building to moderate temperature and relative humidity to the site. It also helps in filtrating dust pollution, reducing noise pollution and enhancing the biological diversity of the building and its surroundings.

# FEEDBACK



## Sustainability Report 2018

Thank you for reading our report. Your comments and suggestions for our continuous improvement are invaluable. Please take a few minutes to complete this form and send it back to us.

1. How strongly do you agree with the following statements about the report?

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Additional comments
Most relevant issues are covered.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text" value="Enter comments"/>
Content is balanced and reliable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text" value="Enter comments"/>
Content is clear and easy to understand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text" value="Enter comments"/>
Structure and layout are rational and easy to use.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text" value="Enter comments"/>

2. How would you rate the overall report?

Excellent	Good	Adequate	Marginal	Poor	Additional comments
<input type="radio"/>	<input type="text" value="Enter comments"/>				

3. In accordance with the report, how would you rate our sustainability performance?

Excellent      Good      Adequate      Marginal      Poor      **Additional comments**

Enter comments

4. What information would you like to see in future reports?

Enter comments

5. Other comments:

Enter comments

6. Which of the following best describes you?

- Client of ArchSD
- Government Department
- Consultant / Contractor / Supplier / Construction Industry
- Architect / Engineer / Landscape Architect / Surveyor
- Non-governmental Organisation
- Academic / Education Sector
- Staff of ArchSD
- General Public
- Other

If you would like to receive future reports / information from us, please provide your contacts:

Your Name:

Your Organisation:

Your Telephone:

e.g. 2596 0361

Your Email address:

e.g. imu@archsd.gov.hk

Submit

Reset

Thank you and we appreciate your feedback.

You may also print this page and fax to: +852 2596 0361 or contact our Integrated Management Unit by email to [imu@archsd.gov.hk](mailto:imu@archsd.gov.hk).

The information will be used in strictly confidential and for communication and statistical purpose only. All personal data are handled in accordance with the provision of the Personal Data (Privacy) Ordinance and our [Privacy Policy Statement](#).