

GO BEYOND REACH NEW HORIZONS

SUSTAINABILITY REPORT
2021



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MESSAGE FROM THE DIRECTOR

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MESSAGE FROM THE DIRECTOR



MS. WINNIE HO, JP

—
Director of Architectural Services

||| STAY CURIOUS, STAY POSITIVE.
KEEP GOING, KEEP EXPLORING. |||

I am enthusiastic and grateful to witness the publication of this Sustainability Report and to convey my first message as the Director of the Architectural Services Department (ArchSD) in the Report. Together with our members of senior staff forum, we decided to use **“Go Beyond · Reach New Horizons”** as the theme of the report. Thanks to the concerted efforts of my predecessor and colleagues, we continue to grow stronger as we advance our vision and mission.

Year 2021 marks the 35th anniversary of ArchSD. For over three decades, we integrate social consideration and use design thinking as a tool to facilitate stakeholder communication to provide the general public with accessible public and leisure spaces for inter-generational solidarity, enhancing the community with heart and care. This innovative, human-centric and nature-balanced design concept is well reflected in our projects “Hoi Ha Visitor Centre”, “Tai Po Lung Mei Beach Building”, “Kai Tak Promenade (Hong Kong Children’s Hospital Section)” and “Wan Chai Pier Harbourfront Area”.

Setting our sights on creating a healthy and low carbon lifestyle for our citizen, as well as transforming Hong Kong into a sustainable and lively city in the future, we aim to raise the quality of public facilities in Hong Kong to a new level to improve productivity, quality and sustainable performance through innovation. Our project “Fire Services Department Pak Shing Kok Married Quarters”, being the first high-rise concrete modular integrated construction (MiC) building project in Hong Kong, showcases the possibility of adopting the latest innovative and sustainable construction methodologies, and advances Hong Kong’s construction industry towards a new horizon.

Our desire to explore opportunities and push the limits has earned us professional and industry-wide recognition. In 2020, our project “Hong Kong Children’s Hospital” was awarded with both the top Quality Excellence Award and the Grand Award of Hong Kong Non-Residential

(New Building – Government, Institution or Community) Category. Another project, “North Lantau Hospital Hong Kong Infection Control Centre” received a Highly Commended Award in the European Health Design Award 2021 – Design for Adaptation and Transformation Category. On training and development, our “TechnoLand” programme specially designed for our technical officers was bestowed “Silver Award” and “Excellence in Future Skills Development” in Award for Excellence in Training and Development 2021 organised by The Hong Kong Management Association. We are developing our “Corporate Intelligence” (CO-i) digitalisation programme and this programme received a Bronze Award in the Construction Industry Council (CIC) Construction Digitalisation Award 2021 (Organisation Category – Client). We feel extremely honored and encouraged for these achievements.

I am sincerely grateful for the endless efforts made by our partners, clients and multigenerational colleagues that have culminated in our achievements, enabling ArchSD to look beyond the present and to reach new horizons.

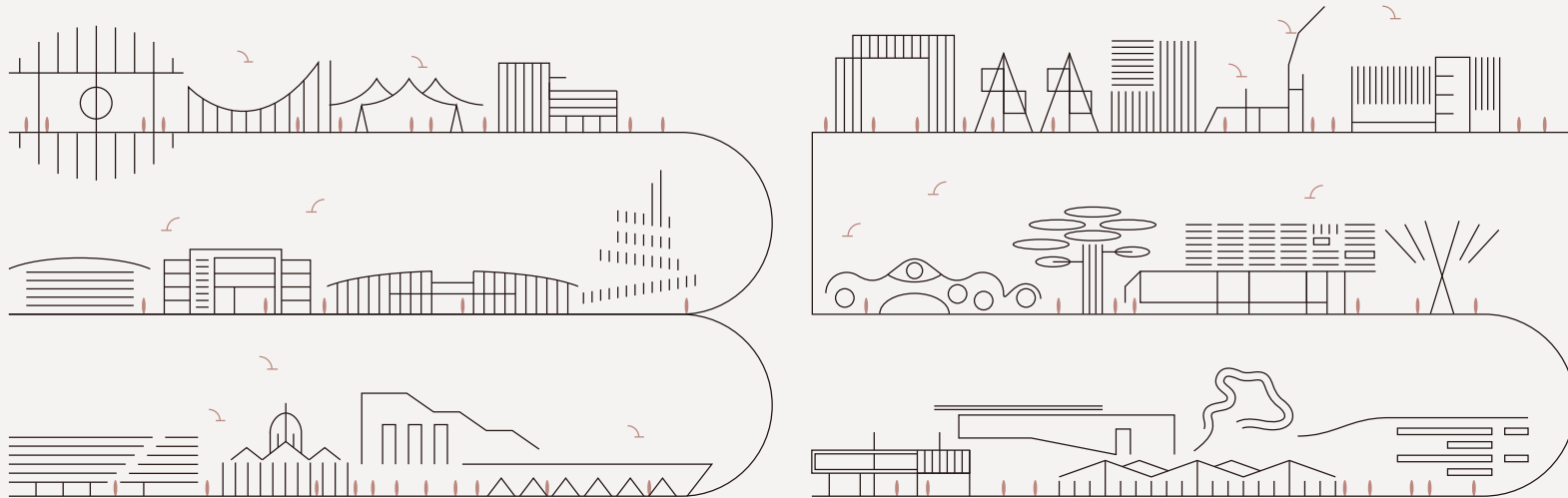
In line with the spirit of “We Build Our City. We Build Your Dream”, the slogan of ArchSD’s 35th anniversary, let us join hands to shape our beloved city together.

Wishing you all achieving your goals and adding grandeur in life!

Cheers,



OUR 35-YEAR SUSTAINABILITY JOURNEY



FOR THREE AND A HALF DECADES, ARCHSD HAS ALWAYS
KEEP EXPLORING NEW GROUNDS AND PUSHING
BOUNDARIES TO SET NEW HORIZONS FOR THE
CONSTRUCTION INDUSTRY. AND IN 2021 – THE YEAR OF OUR
35TH ANNIVERSARY – WE CONTINUE TO PURSUE
EXCELLENCE AND TO PROVIDE PUBLIC FACILITIES WITH
HIGH QUALITY FOR THE EVOLVING NEEDS OF OUR
BEAUTIFUL CITY, HONG KONG.

APPLYING CUTTING-EDGE TECHNOLOGY

ArchSD has always been at the frontier of sustainable design approaches, both passive and active design. And we promote and embrace innovative technologies and construction methods that further boost project quality and productivity.

We began to explore building information modelling (BIM) technology in 2012. A dedicated BIM Supporting Team was established in 2018 to monitor its implementation and to support research, development and training. We had developed BIM guides for adoption in construction projects. Since 2014, ArchSD has been receiving great recognition and renowned BIM awards every year. We were regarded as an advanced BIM Adopter in CIC's BIM Adoption Survey 2019.

ArchSD has also pioneered the development and application of innovative construction. We have established "Innovative Construction Focus Group" to acquire new knowledge from global practices on innovative construction and to identify appropriate projects to carry out field trial.

We adopted MiC for the "Fire Services Department Pak Shing Kok Married Quarters" project. For this – Hong Kong's first high-rise concrete MiC building – the productivity of on-site labour when constructing a typical floor improved by 100 per cent, compared with the cast-in-situ baseline. As of 2020, 60 of our projects have utilised this construction method.



2001 PUBLIC HEALTH LABORATORY CENTRE AT NAM CHEONG STREET

- A complex building adopted various sustainability designs:
 - Heat recovery system
 - Air handling system equipped with variable frequency drives
 - Central control and monitoring system
 - Separate switching control of lighting
 - Network analysers for outgoing and incoming electrical risers

Awards

- Hong Kong Institute of Architects Annual Award 2003 – Merit Award
- Quality Building Award 2004 Certificate of Merit (Non-Residential category)



2005 HONG KONG WETLAND PARK

- A prime example of harmony of human and nature
- First geothermal heat pump air-conditioning system installed in Hong Kong
- Reduced electricity consumption by 25% compared to traditional air-conditioning system

Awards

- 2005 Hong Kong Institution of Engineers Environmental Division & Hong Kong Construction Association - Environmental Paper Award – The First runner-up
- 2005 Hong Kong Institute of Architects Annual Award – Medal of the Year
- 2006 Hong Kong Green Building Award – Grand Award (New Buildings Category)



2012 TEMPORARY BUILDING FOR THE ENERGIZING KOWLOON EAST OFFICE

- The first temporary office building rated Final Platinum of BEAM Plus V1.1 for New Buildings in HK
- Environmental Performance:
 - 33% reduction in annual energy consumption
 - 57% reduction in fresh water consumption
 - 22% reduction in flushing water demand
 - 69% construction waste reused
 - 50% building materials are prefabricated

Awards

- Civil Service Outstanding Service Award Scheme 2013 Partnership Award – Meritorious Award



2013 KAI TAK CRUISE TERMINAL BUILDING

- One of the largest public roof gardens in Hong Kong
- Rainwater and air-conditioning condensate water recycling system was adopted

Awards

- HKILA Design Awards 2014 – Merit
- Hong Kong Institute of Engineers – Joint Structural Division Structural Excellence Award 2014 Grand Award
- Green Building Award 2012 – Merit Award (New Buildings Category – Building under Construction)



2015 TRADE AND INDUSTRY TOWER (TI TOWER) IN KAI TAK DEVELOPMENT AREA

- A prominent green and energy conserving building project example deploying passive and active design approaches.
- Special vertical green belt on the building façades
- Renewable energy installations were extensively adopted, including building integrated PV system, solar water heating system, solar chimney, solar tracking optical fiber light pipe, anidolic light pipes and daylight sun-tubes
- BEAM Plus V1.1 for New Buildings Final Platinum Rating Project

Awards

- Green Building Award 2014 – Grand Award (Buildings Under Construction in New Buildings Category)



2015 THE VICTORIA PEAK FIRE STATION

- Heritage Information Modelling (HIM) using advanced BIM, mobile communication, AR technologies was developed
- Enhanced interactions and communications among people by providing visual, interactive and readily accessible information

Awards

- AutoDesk BIM Awards 2015 – Winner
- 2015 – Best BIM Application in Addition & Alteration Project



2017 HONG KONG CHILDREN'S HOSPITAL

- First hospital in Hong Kong specialised to provide family and child-centric tertiary care to children
- Sustainable design features, including:
 - Automatic demand control of chilled water circulation system
 - Reclaim of heat energy and renewable energy source application
 - 40% of greenery coverage to reduce the heat island effect and improve air quality
- BEAM Plus V1.2 for New Buildings Final Platinum Rating Project

Awards

- Asia Pacific Federation of Project Management Awards 2018 – Winner
- Australian Institute of Building 2018 National Professional Excellence Awards – People's Choice Award
- European Healthcare Design Award 2018 – Judges Long List
- RICS Construction Project Management Team of the Year Awards 2019 – Certificate of Excellence



2019 COGNITIO COLLEGE (KOWLOON)

- Passive design approach was applied, including:
 - The podium deck, surrounded by four block clusters linked by semi-open corridors, created spaces in different orientations which allow natural breeze to pass through the building.
 - Exterior spaces were designed in diverse lush ambience to minimise heat island effect
 - Classrooms were designed with 3-side natural lighting and incorporating three window typologies can achieve better sunlight orientation response
 - Rainwater harvesting system was adopted to conserve water resources

Awards

- Green Building Award 2019 – Grand Award (New Buildings Category: Projects Under Construction and/or Design – Institutional Building)



2021 FIRE SERVICES DEPARTMENT PAK SHING KOK MARRIED QUARTERS

- Hong Kong's first high-rise concrete MiC building project
- Reduced over 50% construction waste and around 70% on-site water and electricity consumption
- Enhanced productivity, site safety, environmental performance and cost-effectiveness

Awards

- Organisations Category – Project Owner (Public Sector) – Merit Award

COMMUNICATING OUR COMMITMENT & ACHIEVEMENTS

To share our environmentally sustainable efforts and achievements, we began publishing Environmental, Health and Safety (EHS) Reports in 1998. From 2004, the coverage expanded, and they were renamed Sustainability Reports.

As our sustainability journey progresses, our disclosure practices evolve. Where once we followed departmental guidelines, now we adhere to international protocols including the GRI Standards and Sustainability Accounting Standards Board (SASB) Standards.

Our annual sustainability reports let our stakeholders and the public whom we serve understand our performance. Their expectations – communicated to us via interviews and consultations – have helped us devise more effective strategies and goals. In pursuit of a fully sustainable operation, our performance is reviewed on a regular basis to ensure we meet our annual objectives and targets.



1998

First EHS Report



2004

First Sustainability Report published



2010

Verified to GRI G3 guidelines, fulfilling the highest requirement of “A+” application level



2013

First government department in HK to publish sustainability report in accordance with the GRI G4 Guidelines



2019

Mapping with United Nations' Sustainable Development Goals (UNSDGs)



2021

The first government department in HK to take reference to SASB Standards

CELEBRATING OUR ACHIEVEMENTS

We have achieved outstanding results in terms of environmental efficiency, project quality and social responsibility.

ENVIRONMENTAL EFFICIENCY



2005-2020

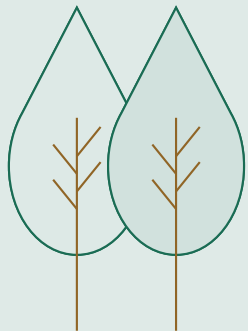
↓ 55%



2005-2020

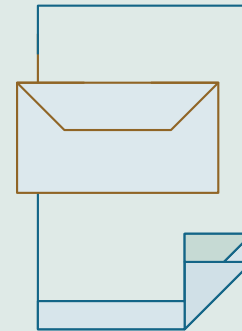
↓ 33%

Our Queensway Government Offices and APB Centre have reduced electricity consumption by 55% and CO₂ emissions by 33% compared with 2005.



6 MILLION TREES

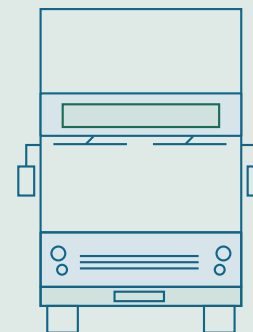
Energy-efficient installation in our projects saved an estimated 208 GWh from 2005 to 2020. This reduced CO₂ emissions by 145 kilotonnes; equivalent to planting 6 million trees per year.



↓ 19%

↓ 64%

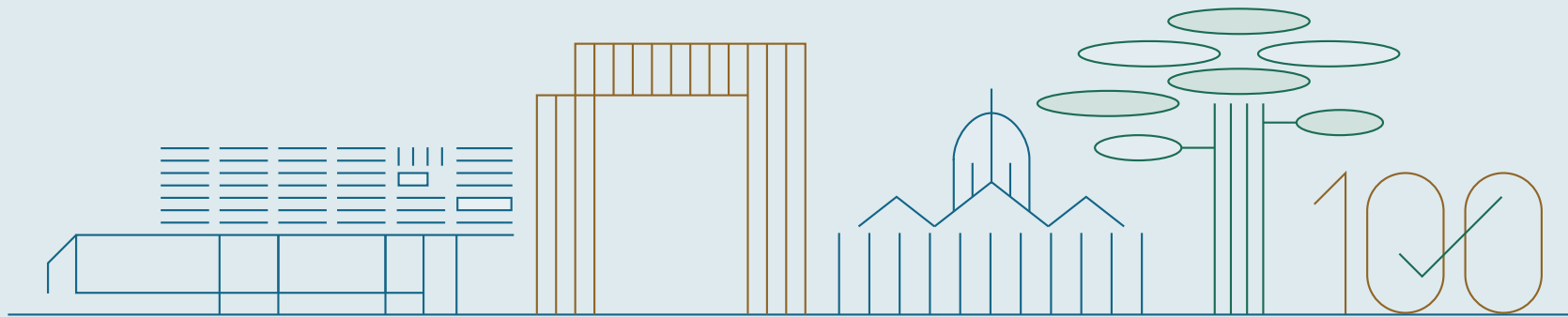
At our offices, we have achieved a 19% reduction in A4 paper consumption and a 64 per cent reduction in envelopes comparing with 2005 level.



8 DOUBLE DECK BUS

A total of 214 tonnes of wastepaper has been recycled since 2005, equivalent to the weight of 8 double-decker buses.

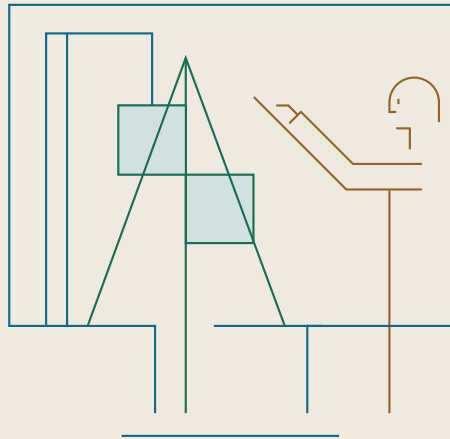
PROJECT QUALITY



ArchSD has long been dedicated to providing high quality service to our city. We set targets to enhance the quality of our services and our project delivery. Through regular review, we achieved most of our targets in environmental, project quality and social issues.

In our client satisfaction surveys, 100% of the cited projects have achieved an overall performance rating of 'Satisfied' or above.

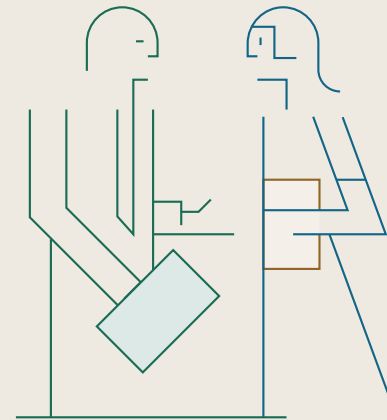
SOCIAL RESPONSIBILITY



2005-2020

↑78%

Our staff training courses – including seminars, workshops, courses and visits – have risen from 237 in 2005 to 422 in 2020.



2005-2020

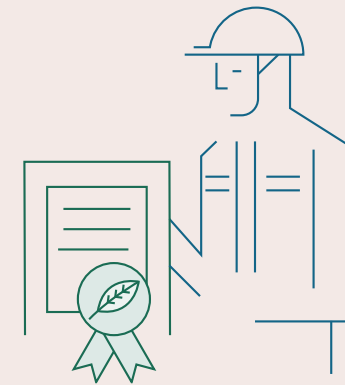
↑580%

Meanwhile, the number of trainees has risen from 1,255 in 2005 to 8,551 in 2020.

AWARDS & RECOGNITIONS



- Over the past 35 years, ArchSD has earned more than 260 awards. These include **35** from the Hong Kong Institute of Architects, **23** at the Green Building Awards and **23** at the Quality Building Awards.
- Other sustainability-related wins include Hong Kong Green Awards, an Award for recognising companies or organisations with exceptional performance on green management and/or sustainable procurement and CIC Construction Innovation Award, plus citations from the Inclusive Environment Recognition Scheme and Hong Kong Awards for Environmental Excellence.



We also encourage contractors' sustainability development and push for higher environmental and health standards in our industry. In 2001, we initiated the Green Contractor Award to encourage the former. These awards continue today.

ArchSD has been striving for low carbon construction over the past 35 years through deploying various sustainable and innovative ideas, covering from facility development to upkeep. In supporting the Hong Kong Government's commitment to achieving carbon neutrality before 2050, we will make every effort to bring our practices to a higher level along our sustainable journey to shape the future of Net Zero.

ABOUT THIS REPORT

OBJECTIVES

This report – themed **‘Go beyond • Reach new horizons’** – is the 18th annual sustainability report published by the Architectural Services Department (‘ArchSD’ or ‘the Department’) of the Government of the Hong Kong Special Administrative Region of the People’s Republic of China. It presents ArchSD’s sustainability initiatives and performance in economic, environmental and social aspects in 2020.

Apart from demonstrating our achievements in the reporting year, the report illustrates our commitment to serving our community even better in the future, through ongoing efforts and improvements in our sustainability.

SCOPE

GRI102-46

The Sustainability Report 2021 (‘the Report’) highlights ArchSD’s key sustainability initiatives and achievement from 1 January 2020 to 31 December 2020. It covers the sustainability performance and initiatives of our four project management branches, five functional branches and two central management divisions.

Data represents absolute figures as of 31 December 2020 (unless otherwise stated) to the best of our knowledge. Financial data is for the financial year ended 31 March 2021. All monetary values are in Hong Kong Dollars.

PRINCIPLES

This report has been prepared in accordance with the GRI Standards: core option, the Environmental Protection Department’s [‘A Guide to Environmental Reporting for Controlling Officers’](#) and ‘Guidelines on preparation of annual departmental reports’, the Director of Information Services’ memo dated 20 October 2016. It also refers to the Sustainability Accounting Standard for the Engineering and Construction Industry, as defined by SASB.

The GRI Content Index correlates GRI disclosures with associated sections in this report. An independent third party was engaged to assure the materiality, credibility and reliability of the report and its adherence to the core option of the GRI Standards. We also engaged the GRI Materiality Disclosures Service to ensure General Disclosures 102-40 to 102-49 were correctly located and could be easily found by readers.

NOTES TO READERS

This report is published online as a web-based interactive html version and as a PDF. It is available in English, Traditional Chinese and Simplified Chinese. The interface has been prepared in accordance with Level AA Conformance to [W3C Web Content Accessibility Guidelines 2.1](#) and HTML5. The report can also be viewed via tablet.

Key features are:

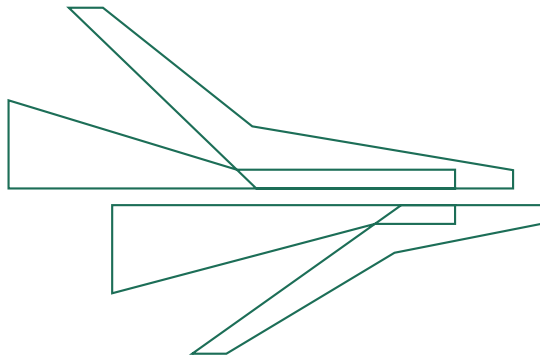
- An on-screen font size that provides comfortable reading options for different users
 - Picture enlargement, to assist viewing of images, graphics and charts
 - A search function, to enable readers to locate specific sections and information
 - Dark mode display option, for a comfortable reading experience
 - A ‘My report’ function that enables readers to temporarily store selected sections for consolidating into one and printing
 - The ‘Data summary’ section provides a quick review of our performance in key areas; and
 - Glossary section provides definitions of technical terms using in or relevant to the Report.
-

ARCHSD AT A GLANCE

OUR ORGANISATION AND ROLES

CORE FUNCTIONS

ArchSD performs three core functions in relation to Government-owned and Government-funded facilities:



MONITORING AND ADVISORY SERVICE

providing effective professional and technical advice to the Government and quasi-government organisations and to oversee subvented, and entrusted projects

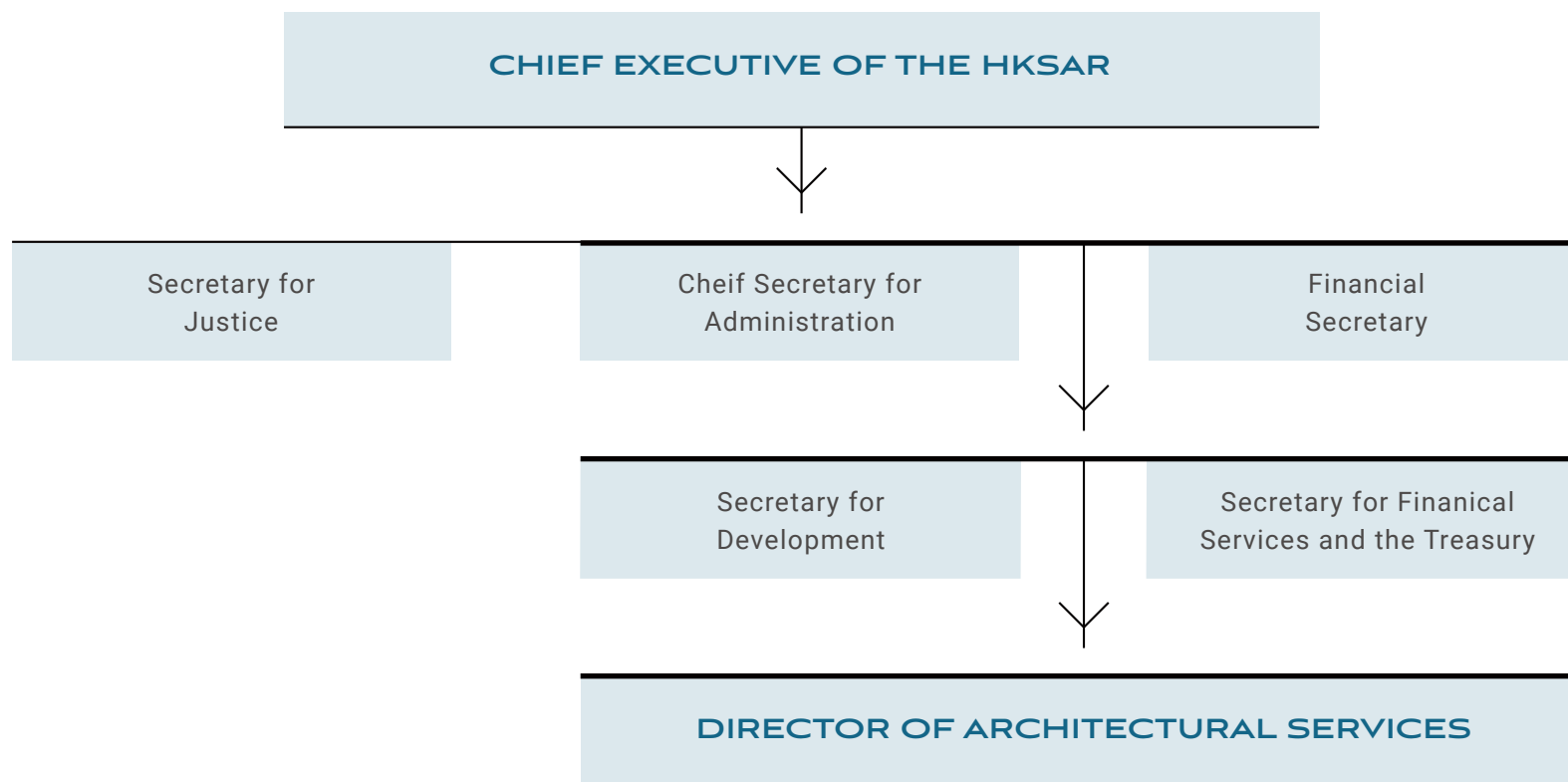
FACILITIES UPKEEP

providing efficient and cost-effective professional and project management services for the maintenance and refurbishment of buildings and facilities

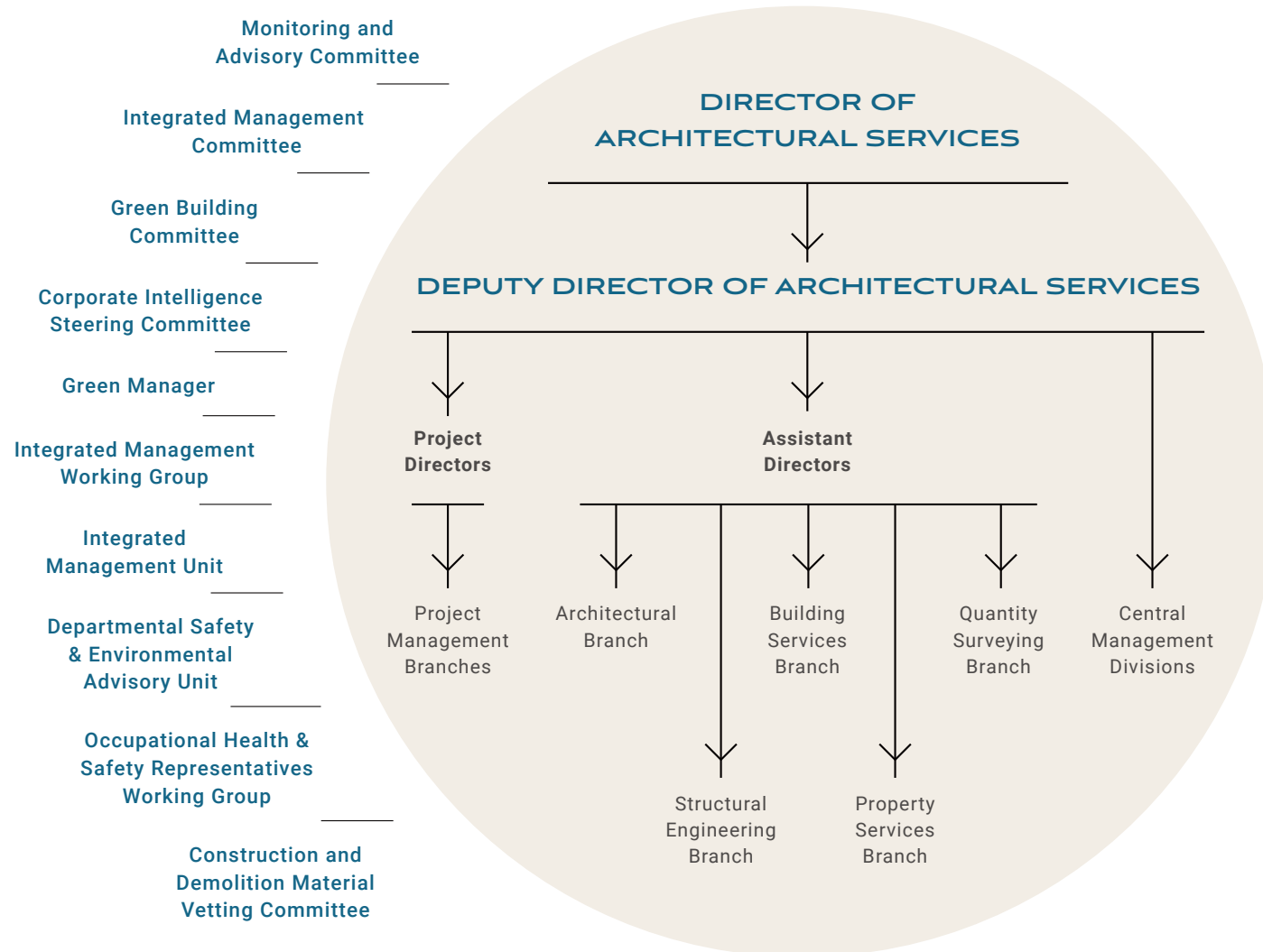
FACILITIES DEVELOPMENT

providing 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



ORGANISATION STRUCTURE



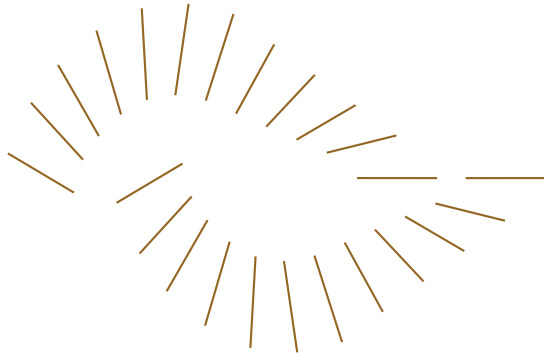
Senior management oversees and directs our overall sustainability strategies and policies. Meanwhile, representatives and groups drive sustainability across the organisation. These representatives and groups include Monitoring and Advisory Committee, Integrated Management Committee, Green Building Committee, Corporate Intelligence Steering Committee, Green Manager, Integrated Management Working Group, Integrated Management Unit, Departmental Safety & Environmental Advisory Unit, Occupational Health & Safety Representatives Working Group, and Construction and Demolition Material Vetting Committee.

MANAGEMENT TEAM



- | | | | |
|------------------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------------|
| 1 Ms. Winnie HO, JP
Director of Architectural Services | 2 Mr. Edward TSE, JP
Deputy Director of Architectural Services | 3 Ms. Alice YEUNG, JP
Assistant Director (Architectural) | 4 Mr. P.C. CHAN
Assistant Director (Building Services) |
| 5 Mr. Alan SIN
Assistant Director (Property Services) | 6 Mr. K.M. LEUNG, JP
Assistant Director (Quantity Surveying) | 7 Mr. K.L. TSE, JP
Assistant Director (Structural Engineering) | 8 Ms. Winnie CHONG
Departmental Secretary |
| 9 Mr. Frank WONG, JP
Project Director/1 | 10 Mr. Michael LI
Project Director/2 | 11 Mr. Victor TAI
Project Director/3 | 12 Mr. Allen LEUNG
Project Director/4 |

FUNDING AND MODE OF OPERATION

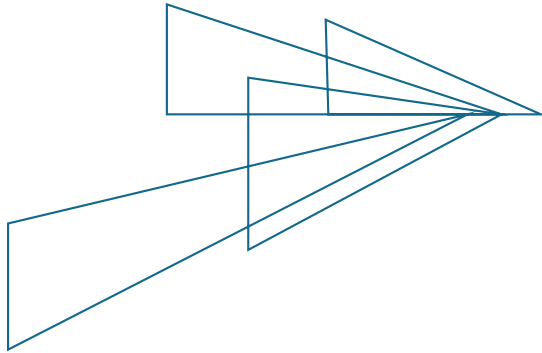


Our Departmental operation is funded by the Capital Works Reserve Fund. This is approved, monitored and reviewed by the Legislative Council, the Lotteries Fund – approved by the Director of Social Welfare – and the Anti-epidemic Fund, launched by the Government in 2020.

In 2020, we created a total of **8,397** jobs by awarding works contracts and consultancies. We commenced **34** new works and term contracts during the year

DEPARTMENT EXPENDITURE

GRI102-45



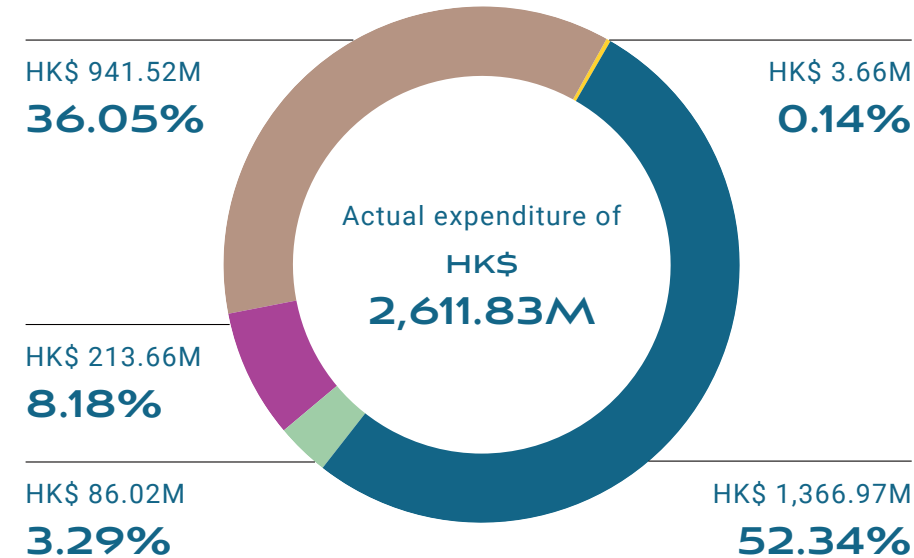
In the financial year 2020-21, our department expenditure recorded an overall increase of around 8.63%^[1] as comparing with the previous financial year in 2019-20. A breakdown of our department and programme areas^[2] for 2020-21 appears below.

Financial information and key performance details can be found in the ArchSD Controlling Officer's Report of the 2021-22 Estimates of the Government of the HKSAR, available at www.budget.gov.hk.

- [1] The actual Departmental Expenditure 2020-21 was HK\$ 2,611.83 million, there was around 8.63% increase as comparing with the actual Departmental Expenditure 2019-20 of HK\$2,404.39 million.
- [2] There are three programme areas of ArchSD's services: Monitoring and advisory services, Facilities upkeep and Facilities development.

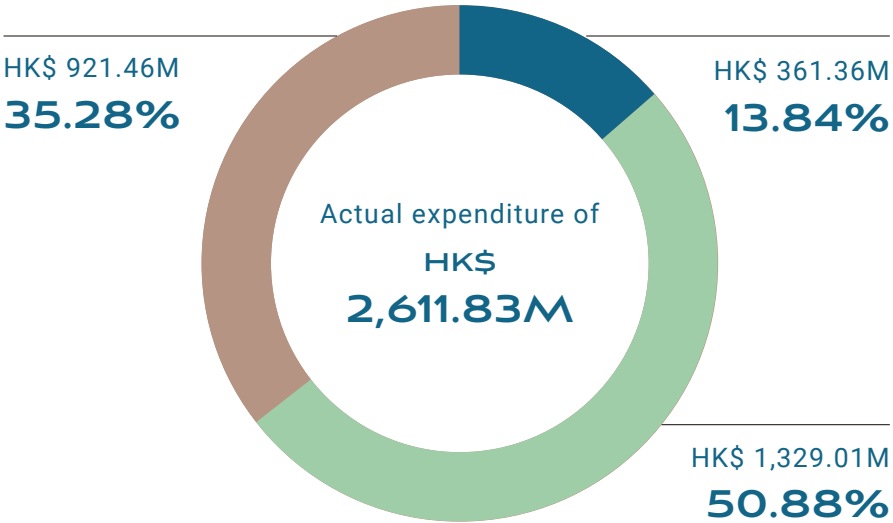
DEPARTMENTAL EXPENDITURE BREAKDOWN BY SUBHEAD

- Personal salaries and allowances
- Personnel related expenses
- Departmental expenses
- Other charges
- Capital account

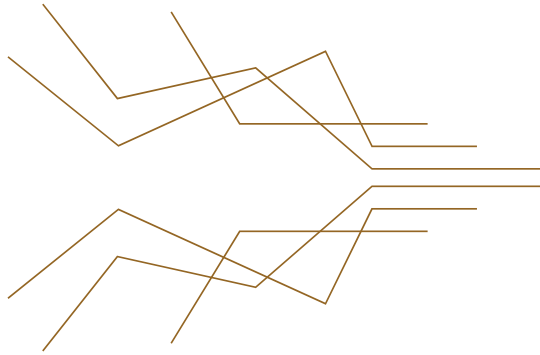


DEPARTMENTAL
EXPENDITURE BREAKDOWN
BY PROGRAMMES

- Monitoring and advisory services
- Facilities upkeep
- Facilities development



KEY FACTS OF THE DEPARTMENT



Founded on

11 April 1986

Staff establishment

2,046 as by 31 March 2021

Headquarters

Queensway Government Offices, 66 Queensway, Hong Kong

Other offices

- APB Centre, Hunghom, Kowloon
- Cityplaza 3, 14 Taikoo Wan Road, Quarry Bay, Hong Kong
- Wanchai Tower, 12 Harbour Road, Wan Chai, Hong Kong
- Rumsey Street Carpark, 2 Rumsey Street, Sheung Wan, Hong Kong

Total office area

35,708.32 m²

Our services (for the calendar year 2020)

- Number of subvented/entrusted projects reviewed: **671**
- Number of facilities development projects completed: **31**
- Building floor area of properties maintained: **33,147,000 m²**
- Government spending on building projects: **HK\$ 14,381.3 million**
- Value of new works under development: **HK\$ 293.2 billion**

AWARDS AND ACHIEVEMENTS

ArchSD is dedicated to serving our community with care and concern. Despite ever-changing challenges – urban needs, social instability, health crises and climate change – we remain committed to enriching

the living environment through quality professional services.

In 2020, we were honoured to have our efforts recognised by local and global professional bodies and institutions. A selection follows.

QUALITY BUILDING AWARD 2020

This biennial award – decided by nine professional organisations in Hong Kong – celebrates buildings that embody excellence. It encourages the construction sectors to work together, to achieve the highest levels of professionalism and competitiveness.

As announced in June 2021, ArchSD earned the following for projects in 2020:



HONG KONG CHILDREN'S HOSPITAL

Quality Excellence Award

Hong Kong Non-residential (New Building-Government, Institution of Community)
Category – Grand Award



KWAI CHUNG HOSPITAL DAY RECOVERY CENTRE

Hong Kong Non-residential
(New Building-Government, Institution of Community)
Category – Merit Award



WEST KOWLOON GOVERNMENT OFFICES

Hong Kong Non-residential (New Building-
Government, Institution of Community)
Category – Merit Award



HONG KONG MUSEUM OF ART

Hong Kong Building (Renovation / Revitalisation)
Category – Merit Award

THE ROYAL INSTITUTION OF CHARTERED SURVEYORS (RICS) AWARDS 2020 HONG KONG

One of the Asia-Pacific region's top built environment institutions, the RICS Awards Hong Kong celebrates the achievements and developments of industry professionals who create better places and spaces for living and working, and who help to build resilient, successful communities. ArchSD was commended with the following award in 2020:



HONG KONG MUSEUM OF ART

Excellence in category
'Refurbishment / Revitalisation Team of the Year'

THE HONG KONG INSTITUTE OF ARCHITECTS (HKIA) ANNUAL AWARDS 2019/20

The HKIA Annual Awards aims to give professional recognition to outstanding architectures. During the year, we were pleased to have the following projects receiving the Awards, including:



HOI HA
VISITOR CENTRE

—
President's Prize



CHE KUNG TEMPLE
SPORTS CENTRE

—
Merit Award of Hong Kong – Community Building

THE GREATER BAY AREA URBAN DESIGN AWARDS 2020

Established by the Hong Kong Institute of Urban Design, the Awards aim at elevating the overall standard of urban design in the Greater Bay Area through recognition of excellent urban design related projects, and fostering collaboration and exchange among industry practitioners.

In 2020, the following projects were granted the Awards:



CATTLE DEPOT
ART PARK

—
Built Project – Merit Award



LUNG TSUN STONE BRIDGE
PRESERVATION CORRIDOR

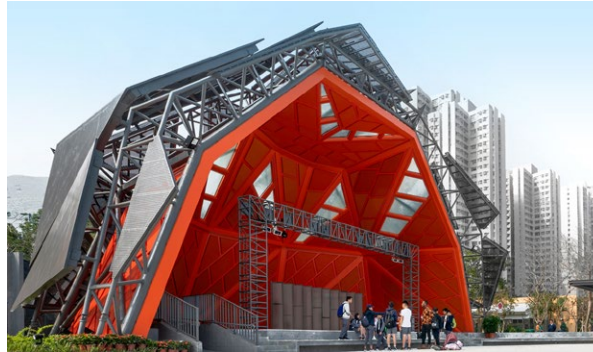
—
Plan / Concept – Merit Award



KWUN TONG PROMENADE

—

Built Project – Nominated Award



EASTERN DISTRICT CULTURAL SQUARE

—

Built Project – Nominated Award



REVITALISATION OF WOODSIDE INTO BIODIVERSITY EDUCATION CENTRE

—

Built Project – Nominated Award



KAI TAK STATION SQUARE

—

Plan / Concept – Nominated Award



TUEN MUN INCLUSIVE PLAYGROUND

—

Urban Intervention – Nominated Award

CIC SUSTAINABLE CONSTRUCTION AWARD 2020

The Sustainability Construction Award is launched by the CIC in 2018. The Award honors best practices in sustainability among organisations and practitioners in the construction industry. Our project **'Fire Services Department Pak Shing Kok Married Quarters'** is the first high-rise concrete MiC building in Hong Kong. The project showcased the benefits to our environment and construction productivity by using MiC, and was granted the Merit Award in 2020.



FIRE SERVICES DEPARTMENT
PAK SHING KOK
MARRIED QUARTERS

—
Organisations Category – Project Owner
(Public Sector) – Merit Award

HONG KONG INSTITUTE OF BUILDING INFORMATION MODELLING (HKIBIM) AWARD 2020

Hosted by HKIBIM, this award focuses on BIM projects, initiatives and organisations that actively apply BIM technology throughout the project lifecycle in or outside of Hong Kong. The award allows industry professionals to showcase their efforts and accomplishments in promoting the usage of BIM.

As announced in April 2021, ArchSD earned the following awards:



NORTH LANTAU HOSPITAL –
HONG KONG INFECTION
CONTROL CENTRE

–
Government Projects Category – Gold



CONSTRUCTION OF A FOOTBRIDGE
WITH LIFT TOWER TO CONNECT
THE AP LEI CHAU WIND TOWER
PARK AND AP LEI CHAU ESTATE

–
Government Projects Category – Bronze



CONSTRUCTION OF FLIGHT
SIMULATOR TRAINING CENTRE OF THE
GOVERNMENT FLYING SERVICE ITEM

–
Government Projects Category – Bronze



DESIGN AND CONSTRUCTION OF
REDEVELOPMENT OF
QUEEN MARY HOSPITAL, PHASE 1

–
Government Projects Category – Bronze



INSTALLATION OF AIR- CONDITIONING SYSTEM AT TAI WAI MARKET

Government Projects Category – Bronze



MODERNISATION OF ABERDEEN MARKET CUM COOKED FOOD CENTRE

Government Projects Category – Bronze



KAI TAK STATION SQUARE

Government Projects Category – Bronze

CELEBRATION OF BIM ACHIEVEMENT 2020

Hosted by CIC, the Celebration aims to inspire organisations and practitioners to continually be creative, innovative, transformative or disruptive in bringing BIM to its full potential.

In 2020, we were commended with the following awards:

ARCHITECTURAL SERVICES DEPARTMENT

—
BIM Organisations 2020

HERITAGE INFORMATION MODELLING OF PEAK STATION

—
BIM Projects 2020

MR. TSOI CHEUNG-FAAT, TO(A)/BIM/1

—
Young BIMers 2020

HONG KONG AWARDS FOR ENVIRONMENTAL EXCELLENCE (HKAEE) 2019

Led by the Environmental Campaign Committee, the HKAEE encourages businesses and organisations to adopt green management. It benchmarks their commitment to best practice and their outstanding environmental performance across 15 sectors.

We were pleased to be recognised with the:

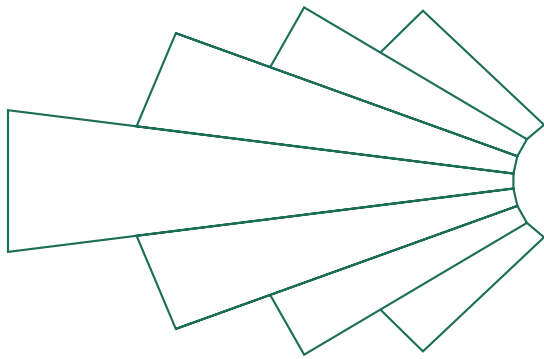


ARCHITECTURAL SERVICES DEPARTMENT

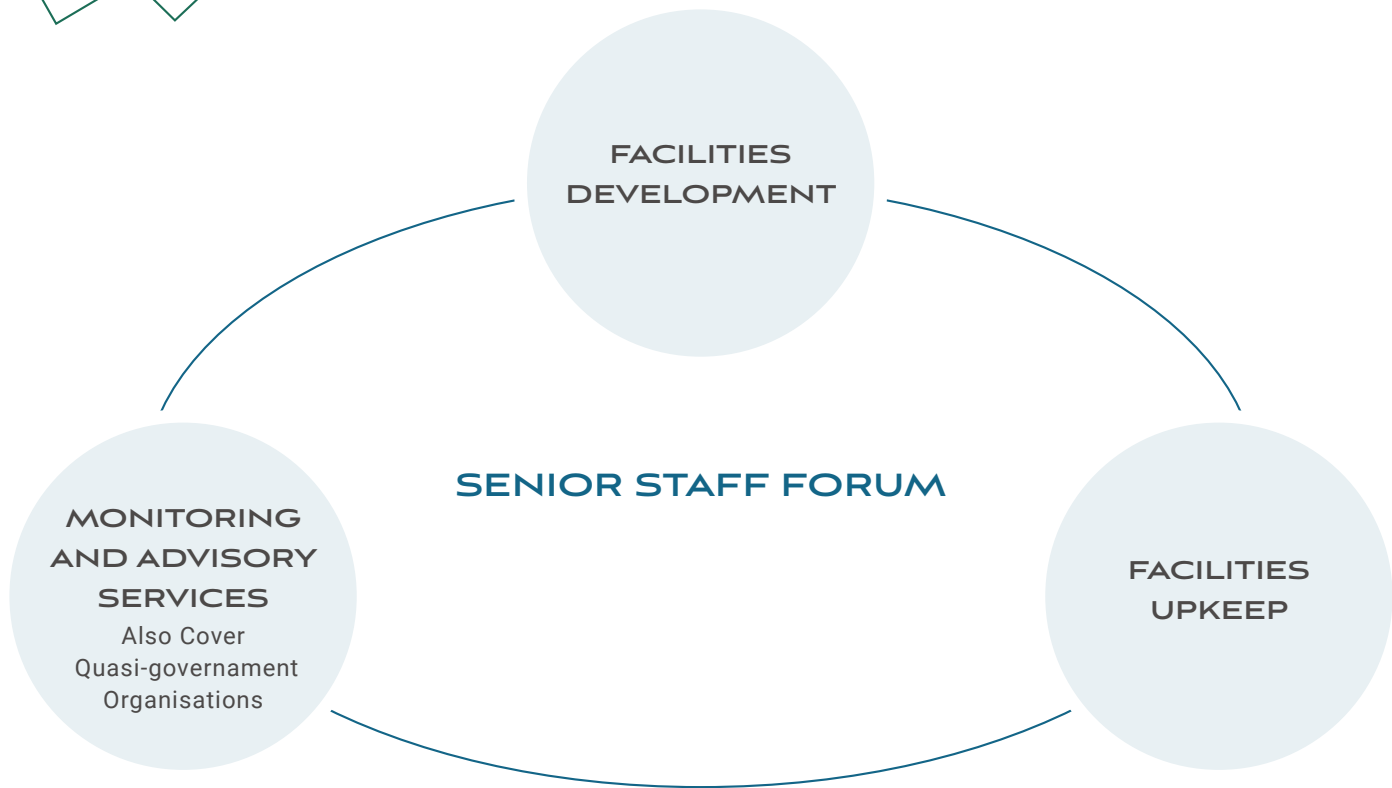
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Public and Community Services – Bronze Award

MANAGEMENT AND ENGAGEMENT

UPHOLDING HIGH STANDARDS ON STRATEGY AND MANAGEMENT



Robust governance is the cornerstone of our long-term sustainable development. Our senior management oversees the implementation of sustainability strategies and policies. A Senior Staff Forum (SSF), chaired by the Director, is in place to oversee internal operations and sustainable development agenda. The SSF is also responsible for the formulation and regular review of Departmental policies, strategies and goals.



SENIOR STAFF FORUM



MS. WINNIE HO, JP
Director of Architectural Services



MR. EDWARD TSE, JP
Deputy Director of Architectural Services



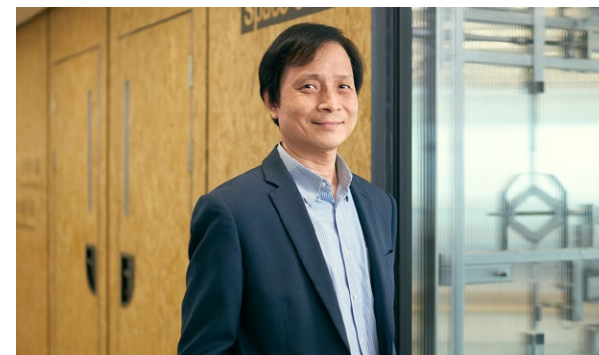
MS. ALICE YEUNG, JP
Assistant Director (Architectural)



MR. P.C. CHAN
Assistant Director (Building Services)



MR. ALAN SIN
Assistant Director (Property Services)



MR. K.M. LEUNG, JP
Assistant Director (Quantity Surveying)



MR. K.L. TSE, JP
Assistant Director (Structural Engineering)



MS. WINNIE CHONG
Departmental Secretary



MR. FRANK WONG, JP
Project Director/1



MR. MICHAEL LI
Project Director/2

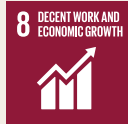


MR. VICTOR TAI
Project Director/3



MR. ALLEN LEUNG
Project Director/4

SUPPORTING THE UNSDGS



We promote inclusiveness and value diversity in our workforce. And we provide equal opportunities in employment

To improve efficiency, service quality and long-term environmental and social performance, we offer substantial training for all people working for or on behalf of ArchSD

We maintain strong corporate governance, to uphold high ethical standards and professional integrity. We have zero tolerance for corruption

INTRODUCING OUR VISION, MISSION AND VALUES

VISION

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

MISSION

Ensure the quality, cost effectiveness and sustainable development of community facilities

Ensure the quality and cost effectiveness in the upkeep of community facilities

Provide quality professional advisory services on community facilities and related matters

Promote best practices in the building industry

VALUES

Professionalism

Commitment

Accountability

Integrity

Versatility

Continuous Improvement

Team Spirit

Partnering Spirit

Caring Attitude

ESTABLISHING POLICIES AND GUIDELINES

To demonstrate ArchSD's commitment to long-term sustainability in our operations, we have put in place a Departmental Quality, Environmental, Health, and Safety Policy. We adhere to the following guidelines for all services and operations:

- Fulfil the agreed requirements of our clients to the highest professional standards
- Deliver our services in an environmentally responsible manner by conserving energy, preventing pollution and reducing the consumption of natural resources
- Eliminate hazards and reduce our health and safety risks to ensure a safe and healthy environment for our staff, our contractors and people who may be affected by our work
- Involve and, where appropriate, consult our staff, our contractors and people who may be affected by our work – and their representatives – to enhance our health and safety
- Fully comply with applicable legislation and requirements, and – wherever practical – 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, performance, efficiency and environmental, health and safety management
- Promote ArchSD's principles of quality, environmental sustainability, health and safety to our partners in work, the construction industry and the general public; and

Guarantee our services and operations align with international standards. ArchSD holds ISO 9001 Quality Management Standard, ISO 14001 Environmental Management Standard and ISO 45001 Occupational Health and Safety Management System certifications. Together, these constitute our Integrated Management System (IMS). Our APB Centre in Hung Hom has held ISO 50001 Energy Management certification since 2014. We also refer to ISO 26000 for guidance on socially responsible behaviours. To foster continual improvement, the SSF will keep up to monitor and review the performance of our IMS at least once a year.

MANAGING RISK

To minimise potential hazards and harms to our operations, we actively identify and monitor emerging risks and thereby implement various mitigation plans. Through a comprehensive risk assessment exercise, we identify, assess, mitigate and monitor potential risks within our operational control and report details of the assessment to the Department for considerations in any decision-making process.

Our project risk assessments strictly follow guidelines published by the Development Bureau, such as the Technical Circular (Works) No. 6/2005: Implementation of Systematic Risk Management in Public Works Projects. We manage and control potential risks throughout the entire lifecycle of our projects. Project teams would organise integrated risk assessment workshops to identify risks and formulate precautionary control measures for effective monitoring.

MAINTAINING ETHICS AND PROFESSIONALISM

ArchSD upholds a high level of integrity and ethics. We require all staff to comply with the regulations stated in the Prevention of Bribery Ordinance. Any suspicions of bribery or corruption must be immediately reported to the SSF and the Independent Commission Against Corruption for further investigation. We are also committed to fulfilling all compliance obligations including applicable legislations and other requirements including but not limited to anti-corruption and anti-competitive activities. During the reporting period, no such cases were reported.

We spare no effort to secure employment rights and enhance the capabilities and technical proficiency of our staff. We strictly comply with the Employment Ordinance and provide staff with diverse benefits and training opportunities.

We strictly uphold safety at our construction sites, adhering to – or even surpassing – statutory requirements and DEVB guidelines. For large-scale projects, we appoint Labour Relations Officers at an early stage to resolve any disputes between contractors and workers. We also act an active role in organising and participating in events such as ArchSD's Site Safety Model Workers Award Scheme, Considerate Contractors Site Award Scheme co-organised by DEVB and the CIC and trials of new site safety initiatives to encourage proactive safety management practices.

Apart from employment practices, ArchSD also focuses on the quality of service we delivered. We conduct annual customer satisfaction survey to review our performance and service quality. We have established a dedicated team to handle clients' feedback and opinions to drive continuous improvement.

WAY FORWARD

With the aim to bring the construction industry to a higher level in an innovating manner, ArchSD will keep persisting to expand its adoption and promotion of innovative design, procurement and construction technologies. We will keep exploring and implementing advanced technologies and digital infrastructure that will improve quality while simultaneously improving construction efficiency and cost control, such as BIM, smart asset management and artificial intelligence (AI) etc. We have been building CO-i in recent years for digital transformation with our partners, consultants, and contractors. To improve the business efficiency, we are in the way to develop and implement digital works supervision, material submission and statutory plan submission for better mobility and productivity in project delivery.

Encouraging collaboration between both local and international stakeholders always place a pivotal position in our plan. We have been promoting cooperation & networking with local industry stakeholders for generating and exchanging new ideas & knowledge, as well as bringing in such external expertise to enrich our operation and build a healthier eco-system for all.

Corporate communications go a long way towards keeping our staff and outside stakeholders engaged with the broad picture of ArchSD. One of our measures is by developing publicity plan to enhance corporate image. We will continue to put more efforts on reaching out to share knowledge and promote best practices on quality and sustainable built environment through different platforms and channels, for example website, social media, newsletter, etc. While year 2021 marks the 35th anniversary of ArchSD, various events will be organised to celebrate ArchSD's journey in setting high standards for the architectural industry, pursuing excellent services in its professional field for the evolving needs of the city.

On nurturing of talents, we will devote more resources in trainings and activities to enrich staffs with various kind of exposures and experiences in designated topics. We will continue to cultivate and enhance our staff's spirit and awareness in adopting new technologies in their work, nurture talents by providing diverse working and training opportunities for their career development. To equip talents with the capacity of handling emerging environmental and social crisis and adverse situations, leadership is the key and relevant programmes will be established.

PURSuing CONTInUAL IMPROVEMENT

ArchSD would not be satisfied with our achievements and takes initiative to pursue continual improvement. To this end, we formulate Departmental Annual Plan (DAP) every year which encompasses our targets and objectives. At the same time, cross-functional review

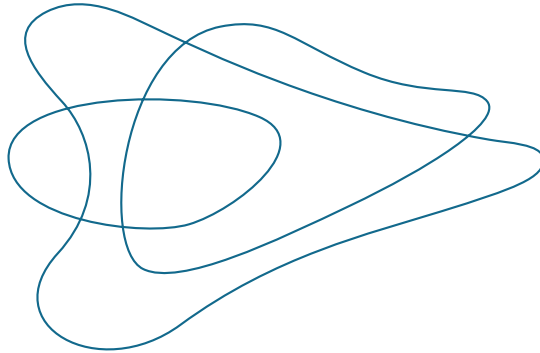
meetings are held regularly to review the progress towards the targets.

The 2020-21 DAP outlines four key focus areas and the followings are our achievement highlights during the year:

FOCUS AREA	ACHIEVEMENT HIGHLIGHTS (AS AT 31 MARCH 2021)
Enrich the Collaborative Development of CO-i, Innovation & Technologies (I&T) and Knowledge Management (KM)	<ul style="list-style-type: none"> • Uploaded 107 knowledge papers and After Action Reports to our Knowledge Bank and Hubs • Hosted 22 knowledge-sharing or collaboration events with external stakeholders in calendar year 2020 • Completed 11 CO-i projects in this year • Formed a new cross discipline CO-i taskforce, focusing on the system development of the Integrated Project Management Portal • Completed a six-month trial of the Pilot Works Order Management Module for COT of Shun Lee DSQ
Enhance Innovative Construction, Inclusive Design, Buildability and Cost Control	<ul style="list-style-type: none"> • Established InnoBank: a one-stop online platform for sharing information on innovative construction technology. This will keep track of innovative construction technologies adopted in ArchSD projects • Used AI and drones to carry out three aerial inspections of external walls • Used AI and drones to inspect Chinese tiled roofs at five venues • Installed water leakage detectors at 14 venues. These use Internet of Things technology to facilitate early detection of water leaks and prevent damages due to flooding • Adopted design for manufacturing and assembly application (DfMA) in three public toilet makeovers • Incorporated Robotic Application under Innovation and Creativity Proposal of the Marking Scheme into Maintenance Term Contracts 2021 (Hong Kong and New Territories) • Enhanced the Buildability Evaluation System assessment and scoring to rationalise project designs and facilitate asset maintenance
Enhance Public Safety and Building Resilience	<ul style="list-style-type: none"> • Incorporated inspection of fire safety and drainage system for buildings (≤ 3 storeys and ≥ 26 years old), and trial application of unmanned aircraft, in Maintenance Term Contracts 2020 (Kowloon) and Maintenance Term Contracts 2021 (Hong Kong and New Territories) • Established Design for Resilience Sub-group team to review ongoing and new designs to combat vandalism, wind, flooding and epidemics, and to formulate relevant guidelines • Launched Design for Resilience Community: an interactive platform for colleagues to find relevant materials, share good practice, exchange opinions and discuss designs for resilience. <i>Draft Guidelines on Building Resilience: Part 1 (Vandalism/Graffiti)</i> were uploaded to the Community in December 2020
Enhance Staff Training and Development	<ul style="list-style-type: none"> • Arranged 104 courses on innovation, social inclusion and public engagement and 52 on CO-i and knowledge transfer

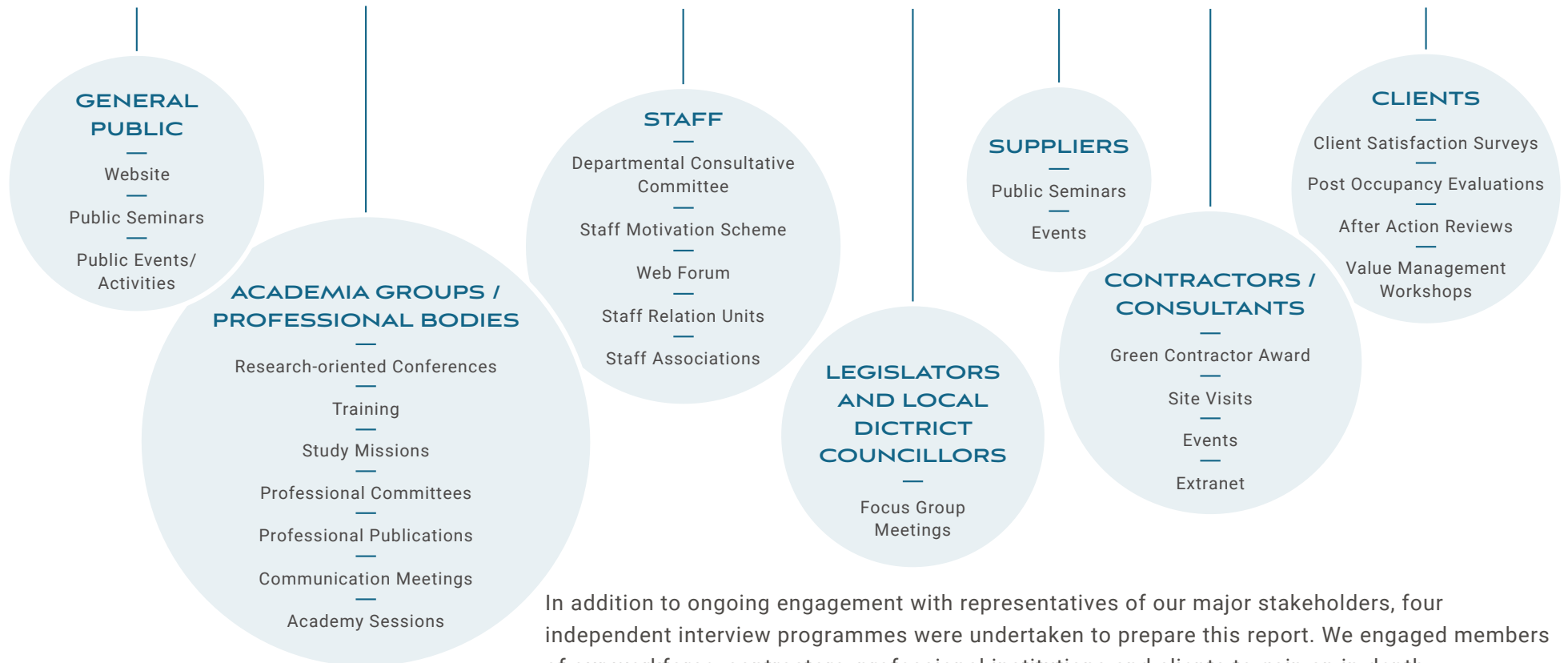
ENGAGING STAKEHOLDERS

GRI102-40, GRI102-43, GRI102-44



Understanding the perspectives, goals and values of our valued stakeholders from all backgrounds is essential. To respond to their needs and to foster long-term trust, we maintain two-way communication via these channels:

STAKEHOLDER GROUP



In addition to ongoing engagement with representatives of our major stakeholders, four independent interview programmes were undertaken to prepare this report. We engaged members of our workforce, contractors, professional institutions and clients to gain an in-depth understanding of their expectations and gather feedback for our continuous improvement on long-term sustainability and overall performance.

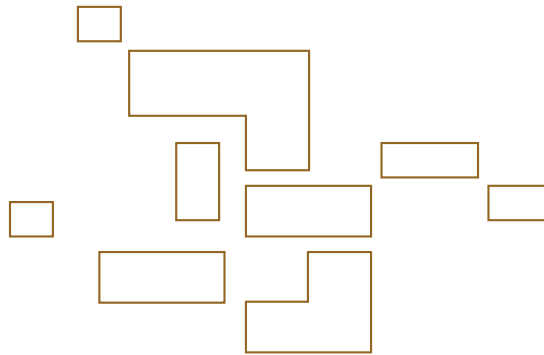
SUPPORTING EXTERNAL ASSOCIATIONS AND COMMITTEES

To bolster our external engagement, ArchSD representatives provide recommendations to and share knowledge with professional bodies and external committees, such as:

- **Steering Committee on Climate Change and Carbon Neutrality**, to steer long-term strategy in combating climate change and achieving carbon neutrality in Hong Kong;
- **DEVB Building Information Modelling (BIM) Working Group** to formulate strategies for promoting the adoption of BIM and digital technology in the construction industry;
- **Joint Working Group on Modular Integrated Construction (MiC)**, to identify suitable technology and practice of modular integrated construction in Hong Kong; and
- **Steering Committee on the Promotion of Green Building and Renewable Energy**, to formulate strategies to promote green buildings and renewable energy and make recommendations on relevant measures.

ESTABLISHING OUR MAIN FOCUS AREAS AND MATERIALITY

GRI102-42, GRI102-44, GRI102-46, GRI102-47



By integrating the feedback of stakeholders via our engagement channels and independent interviews, we identified the sustainability areas that accord to their interests and to the existing or potential impact on our operations, services and connections. We also align with global initiatives - the UNSDGs. In the reporting year, we have updated the list of sustainability issues as material to our operations. We also reviewed the mapping with the UNSDGs which are of the highest relevancy and subject to impacts created by ArchSD's operations. This exercise has helped us focus on the formulation of policies and measures to improve particular sustainability performance.

This report focuses on those areas, with our strategies and practices showcased in the relevant chapters.



ECONOMIC

Procurement Practices
Anti-corruption







SOCIAL

Employment
Occupational Health and Safety

Training and Education
Non-discrimination
Community investment









ENVIRONMENTAL

Energy
Emissions
Effluents and Waste

Supplier
Environmental Assessment
Green Building







INNOVATING BEYOND THE MOMENT

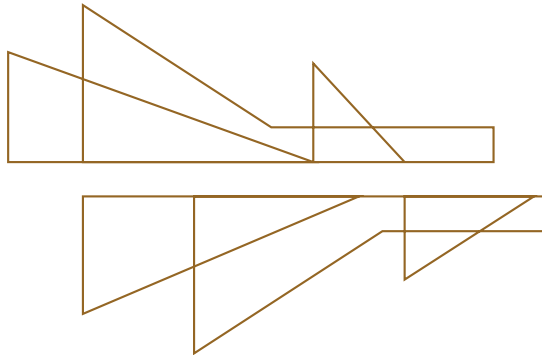
ADOPTING SUSTAINABLE AND GREEN BUILDING DESIGN

GRI102-44

SUPPORTING THE UNSDGS



We adopt active and passive sustainable building designs, to enhance energy efficiency and thermal comfort



Buildings account for about 90% of Hong Kong's total electricity usage, attributing to over 60% of carbon emissions of the city. To reduce their environmental impact, we actively adopt innovative, sustainable and smart designs, and promote the effective use of energy, materials and land.

PASSIVE DESIGN APPROACHES

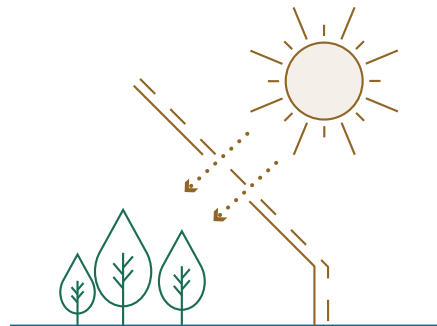
Passive design harness building architecture to provide energy-saving benefits and enhance thermal comfort. With appropriate planning, disposition, orientation, building form and

material selection, the interaction between buildings and the local microclimate is optimised.

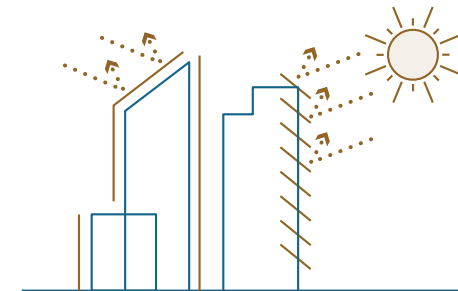
Aspects to be considered include:



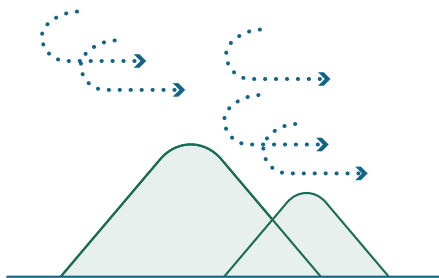
Mitigating heat island effect or elevated temperature



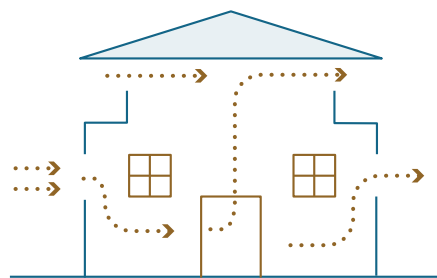
Daylighting



Reducing heat gain through building envelopes



Natural ventilation



Passive Cooling



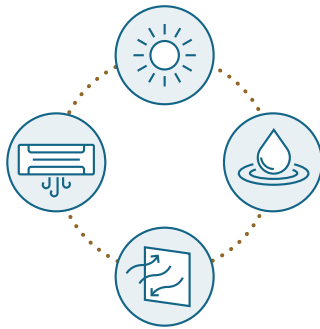
Air ventilation around buildings

ACTIVE SUSTAINABLE BUILDING DESIGN APPROACHES

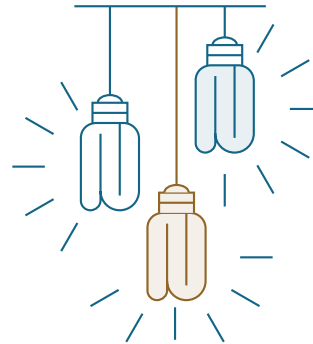
Active design approach utilises electrical and mechanical systems to create comfortable and sustainable conditions. Such systems contribute to improving

energy efficiency, water conservation and indoor air quality.

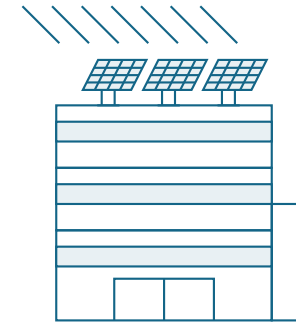
Aspects to be considered include:



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



Lighting systems



Renewable energy technologies

SELECTION OF SUSTAINABLE CONSTRUCTION MATERIALS

The selection and prioritisation of sustainable construction methods and materials are also key aspects of sustainable buildings. During construction, prefabrication and pollution

control are commonly practised. Additionally, the 3R principles – reduce, reuse and recycle – are widely adopted to effectively manage construction and demolition waste. When

sourcing materials for new building projects, ArchSD is committed to using sustainable materials such as recycled materials and timber from well-managed sources.

PROJECTS WITH SUSTAINABLE FEATURES

CASE STUDY

TRANSPORT DEPARTMENT'S VEHICLE EXAMINATION COMPLEX



Transport Department's Vehicle Examination Centre (VEC)
at Sai Tso Wan Road, Tsing Yi

II' A SHOWCASE ON SUSTAINABLE BUILDING DESIGN 'II



—
PROJECT TEAM

THE NEW VEC IS CONCEIVED AS A SUSTAINABLE DESIGN EXEMPLAR FOR GOVERNMENT BUILDINGS. WE STRIVE TO ACHIEVE VARIOUS NATIONAL AND INTERNATIONAL SUSTAINABILITY BENCHMARKS IN THIS SIGNATURE PROJECT.

ArchSD endeavored to achieve Gold rating under BEAM Plus and adopted both passive and active sustainable designs in this project. Façade fins were installed for an optimal shading performance in winter and summer. Large openings design allows the capture of natural cross ventilation inside the building. We also took a step further to utilise high-performance glazing to optimise the overall thermal transmittance value, energy efficiency, occupant thermal comfort and natural daylight penetration.

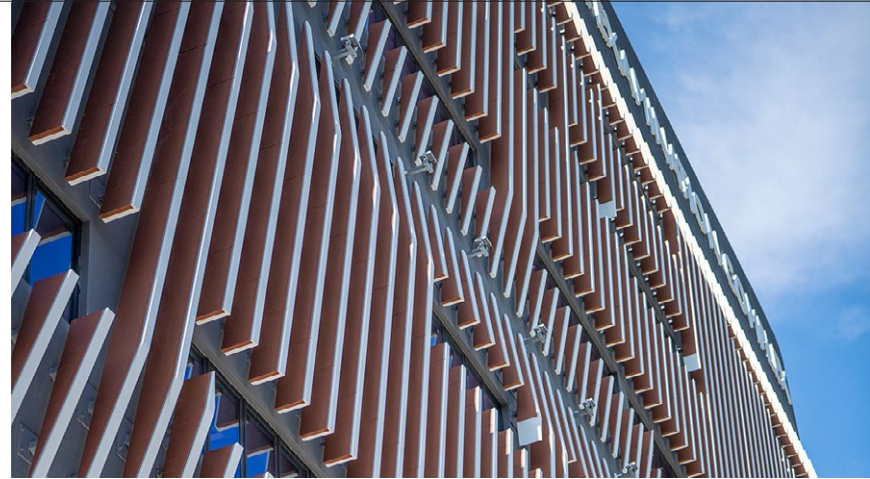
A wide range of active designs was incorporated to promote both performance and sustainability. Mechanical fans with sensors were in place to minimise pollutant level. Lighting systems were designed to optimise energy conservation. Aiming to advocate renewable energy adoption, solar panels were installed as a clean source of energy supply.

In addition to sustainable design, we also initiated the leveraging of innovative technologies since the initial planning of the project to further boost up its energy efficiency and sustainable performance. 3D Scanning was used to obtain an accurate measurement of the surrounding features. BIM models and computerised simulations were adopted for better design and quality control.

CASE STUDY
—
TRANSPORT DEPARTMENT'S VEHICLE EXAMINATION COMPLEX



Green roof for heat transfer reduction



Façade fin is specifically tilted by 15 degrees for optimum shading performance



Lawn areas with rich green landscape



Modular cooling tower and condensing water pipework system

CASE STUDY
—
TRANSPORT DEPARTMENT'S VEHICLE EXAMINATION COMPLEX



Solar panels on rooftop

PROJECTS WITH SUSTAINABLE FEATURES

CASE STUDY

CONVERSION OF THE FORMER FRENCH MISSION BUILDING FOR ACCOMMODATION USE BY LAW-RELATED ORGANISATIONS AND RELATED PURPOSES



Overview of the building

CONVERSION OF THE FORMER FRENCH MISSION BUILDING FOR ACCOMMODATION USE BY
LAW-RELATED ORGANISATIONS AND RELATED PURPOSES

II' ADOPT GREEN FEATURES WITHOUT COMPROMISING ITS HERITAGE VALUE 'II

THE PROJECT CONVERTS THE FORMER FRENCH MISSION BUILDING FOR ACCOMMODATION USE BY LAW-RELATED ORGANISATIONS AND RELATED PURPOSES TO MEET THE MODERN FUNCTIONAL DEMANDS AND GREEN BUILDING CRITERIA WHILE RETAINING ITS HISTORICAL VALUE.

The former French Mission Building (FMB) is a four-storey building with an internal courtyard at a site of about 1,360 m² at Battery Path. The FMB was not only restored to its architectural style when first completed in 1919 as far as practicable based on available historical records but also given a new life to serve for accommodation use by law-related organisations and related purposes. The key objective of Green Adaptive Reuse is a powerful alternative to building demolition and has delivered great economical, social and environmental benefits to the society while preserving important heritage values that define our culture over time.

The original building structures, materials and finishes such as timber floor, external timber shutter, etc. were mostly retained to restore the valuable character of the building and reduce the construction wastes. Old timber cabinets installed during its use as former Court of Final Appeal were skillfully transformed into new wardrobes for giving out to underprivileged groups. Despite the various constraints of renovation works, the project has achieved Provisional Gold rating under BEAM Plus.

CASE STUDY

CONVERSION OF THE FORMER FRENCH MISSION BUILDING FOR ACCOMMODATION USE BY
LAW-RELATED ORGANISATIONS AND RELATED PURPOSES



Restored external timber shutters which serve as effective sun shading device since 1919



Restored internal courtyard meeting current statutory standards for adaptive reuse



Restored timber floor to retain building character and reduce construction wastes



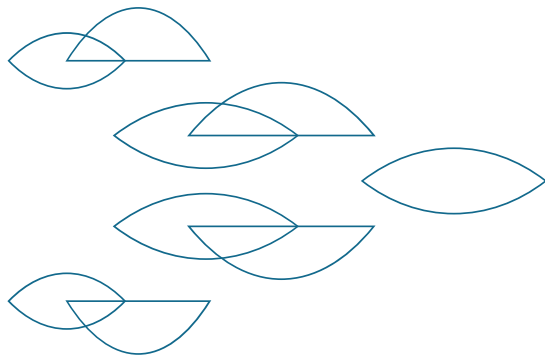
Transformed the old timber cabinets into new wardrobes and installed at underprivileged groups

EMBRACING INNOVATIVE CONSTRUCTION AND TECHNOLOGY

SUPPORTING THE UNSDGS



We promote innovative construction methods such as MiC and Multi-trade integrated Mechanical, Electrical and Plumbing (MiMEP) to streamline our construction process and advocate the technologies in the construction sector



Innovation is the key to the success of the construction industry. As an exemplary leader in the industry, we are dedicated to promoting the latest ideas and technologies to the industry peers. In the long run, innovation drives productivity and sustainable development and helps us address the challenges in the industry.

ArchSD has been devoting to exploiting and promoting the adoption of MiC and MiMEP in the construction industry of Hong Kong. MiC 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. MiMEP is considered as a continuity of recent success of MiC for the local construction industry, which refers to the integration of multi-trade building services components into a single assembly of prefabricated modules, manufactured in a factory then transported to the site for connection of modules to complete various trades of building services installations on site. The MiMEP construction method has the benefit of reducing on-site labour demand and not being affected by site constraints.

With the adoption of these two innovative construction methods, it can not only contribute to enhancing the quality of construction and mitigating environmental impacts like carbon emissions and waste generation, but also benefit in helping relieve the challenges that local industry is facing with, including demand of workforce, aging of skilled labour, stringent site safety and quality requirement, and high demand of construction productivity especially in challenging time.



Integrated Air Handling Unit



**Ceiling mounted multi-trade
horizontal services module**



**Modular cooling tower & condensing
water pipework system**



**Modular cooling tower & condensing
water pipework system**

PROJECTS WITH INNOVATIVE FEATURES

CASE STUDY

FIRE SERVICES DEPARTMENT PAK SHING KOK MARRIED QUARTERS



General view of Fire Services Department
Pak Shing Kok Married Quarters



II' THE FIRST HIGH-RISE CONCRETE MiC BUILDING IN HONG KONG 'II



—
TECHNICAL EXPERIENCE SHARING FOR
ADOPTION OF MiC TECHNOLOGY

STANDARDISATION, SIMPLIFICATION AND SINGLE INTEGRATED ELEMENTS ADOPTION IN THE DESIGN AND CONSTRUCTION OF THIS PROJECT WHILE MINIMISING THE IMPACT TO THE ENVIRONMENT AND COMMUNITY.

The project comprises of four 16-storey blocks and one 17-storey block. There are also ancillary facilities and a central landscaped area for supporting functions and leisure purposes.

The typical floor of each block was constructed using 46 concrete modules to form 8 dwelling units, with size of about 50 m² each. In total, the project provides 648 dwelling units, comprising 3,726 modules that are prefabricated off-site.

The mass production of MiC modules with standardised layout allows easier construction, enhancing economic efficiency. By adopting MiC, the construction works is completed earlier than the target completion date by overlapping the on-site works and off-site fabrication works. Waste, carbon emission, noise and water pollution from site were also significantly minimised e.g. amount of landfill was reduced by over 50%; on-site water and electricity consumption was around 70% lower than in conventional construction practices, etc.

With the successful application of MiC in this pilot project, it is expected that the innovative construction method will continue to improve construction productivity, expedite work progress, enhance site safety and ensure the quality of works for our sustainable built environment.

CASE STUDY
—
FIRE SERVICES DEPARTMENT PAK SHING KOK MARRIED QUARTERS



Aerial view of the project



Adoption of BIM and MiC for design and construction

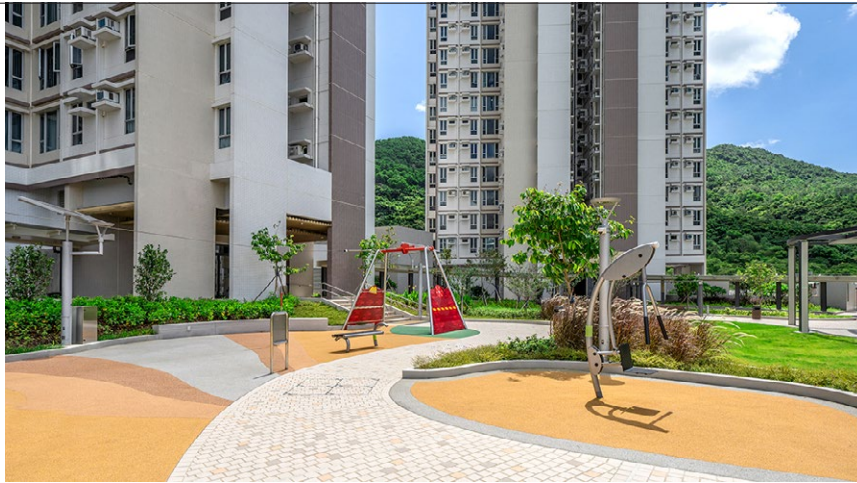


On-site assembly of prefabricated elements



Green path with shelter connects buildings

CASE STUDY
—
FIRE SERVICES DEPARTMENT PAK SHING KOK MARRIED QUARTERS



Fitness facilities in the central area



Sitting out area with shelter

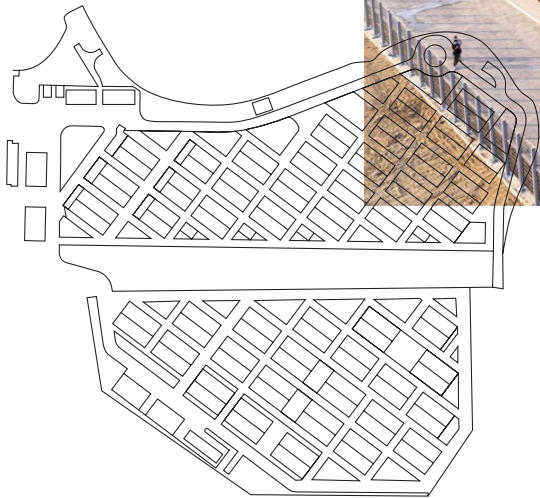


Central garden feature with extensive landscaping

PROJECTS WITH INNOVATIVE FEATURES

CASE STUDY

TEMPORARY QUARANTINE CENTRE AT PENNY'S BAY



Temporary Quarantine Centre at
Penny's Bay, Lantau Island

II' CONSTRUCTION OF THIS MAGNITUDE IN SUCH A SPEED WAS FIRST OF ITS KIND 'II

WE WORKED CLOSELY WITH VARIOUS BUREAUX, DEPARTMENTS AND CONTRACTORS TO PROVIDE OVER 3,000 NUMBER OF NEW QUARANTINE UNITS IN PHASES AT PENNY'S BAY WITHIN A 10-MONTH PERIOD.

The COVID-19 outbreak spread rapidly in the world in 2020. The compulsory quarantine demands far outnumbered the available quarantine facilities at the time. There was an urgent need to increase quarantine facilities to avoid widespread of virus in the local community. To tackle this, we have applied an innovative construction method, MiC, which contributing to the fast-track completion of the project.

The quarantine units are standardised for off-site fabrication. Fully furnished volumetric MiC units, prefabricated stairs, corridors, mechanical, electrical and plumbing modules were delivered directly to the site from factories and were ready to use after simple installation. This method enhanced efficiency, shortened the construction period and improved site safety and building quality. With innovating and caring in mind, we also utilised easy-to-clean materials and enhanced drainage design to lower the risk of possible spread of viruses and germs.

Construction of this magnitude at such a speed is first of its kind. The project has turned risks into opportunities and we have witnessed the passion for innovation through joining hands with the whole construction industry.

CASE STUDY
—
TEMPORARY QUARANTINE CENTRE AT PENNY'S BAY



Temporary Quarantine Centre at Penny's Bay, Lantau Island



Temporary Quarantine Centre at Penny's Bay, Lantau Island



Quarantine units standardised and adopted MiC for off-site fabrication



On-site installation of MiC units

CASE STUDY
—
TEMPORARY QUARANTINE CENTRE AT PENNY'S BAY



Collaboration with various phases of project contractors for construction coordination

PROJECTS WITH INNOVATIVE FEATURES

CASE STUDY

NORTH LANTAU HOSPITAL HONG KONG INFECTION CONTROL CENTRE (HKICC)



Design and Construction of North Lantau HKICC

II' HOW INNOVATIVE TECHNOLOGIES TRANSFORM THE CONSTRUCTION OF A HOSPITAL 'II

BY ADOPTING MiC AND MiMEP CONSTRUCTION METHOD, THE HKICC EQUIPPED WITH OVER 800 ISOLATION BEDS WAS BUILT WITHIN 4 MONTHS.

Innovative construction methodologies, MiC and MiMEP by assistance of full-scale BIM, were adopted extensively in this project which significantly raised quality of site coordination, simplified and speeded up the installation as well as improved the construction accuracy. Standardised isolation wards were built with each cubicle composing of 3 MiC units which were prefabricated offsite in factories and then transported to the site for installation. This resulted in a greatly compressed construction period and minimised adverse environmental impacts.

Meanwhile, VR and AR technologies were also deployed to help coordinate the details of the MiC wards for accurate mass production, position and rapid installation. A smart-site management system was also in place to facilitate project supervision, thereby saving time and manpower resources.

Innovation is the key to complete this project in solely 4-month period and in spite of that, the project managed to fully fulfil the stringent infection control requirements with robust building services installations without compromising in terms of its scale and quality against other local public hospitals.

We are honoured to achieve the Certificate of Gold Award by the Hong Kong Institute of Building Information in 2020 as recognition of our active and successful use of BIM technology in the project cycle.

CASE STUDY
—
NORTH LANTAU HOSPITAL HONG KONG INFECTION CONTROL CENTRE (HKICC)



Aerial view of the project buildings



Smart Site Management from Site Office



Dashboards of displaying BIM model for MiC / MiMEP and Smart Site Management System at Site Office



AR Technology for BIM Model

CASE STUDY
—
NORTH LANTAU HOSPITAL HONG KONG INFECTION CONTROL CENTRE (HKICC)

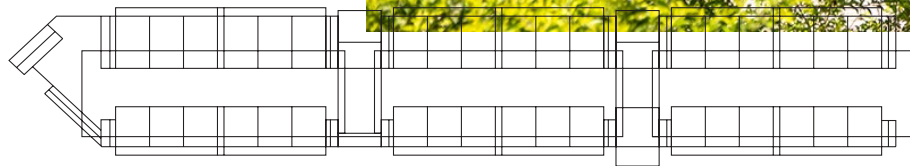


Installation of standardised unit

PROJECTS WITH INNOVATIVE FEATURES

CASE STUDY

FEHD SKYLIGHT MARKET



A convenient shopping facility with fresh foods for
local community residents

THE FIRST NEW TEMPORARY PUBLIC MARKET DEVELOPED IN RECENT DECADES

SITUATED IN TIN SHUI WAI, THE FEHD SKYLIGHT MARKET TOOK ABOUT A YEAR FROM PLANNING, CONSTRUCTION TO COMMISSIONING, PROVIDING RESIDENTS A CONVENIENT SHOPPING ENVIRONMENT.

The project aims to provide a temporary market as a transitional arrangement to meet the local demand for additional choices of fresh food provisions. It comprises 40 market stalls with a single storey container structure including 4 reserved places of pop-up stalls and ancillary services facilities with a loading and unloading bay.

By adopting MiC, the container stalls and prefabricated components were assembled on-site, allowing speedy completion within a year. Modules of the main roof shelters and the feature gutters were manufactured off-site and transported to the site for assembly using the DfMA method, achieving better workmanship and less waste in the construction site.

Meanwhile, we deployed new innovative technologies including smart micro-environment sensors to facilitate environmental monitoring. We also adopted smart materials including anti-bacteria & self-cleaning enamel panel and anti-bacteria & anti-dust coating for louvers in ventilation areas to provide residents with a pleasant and healthy shopping environment.

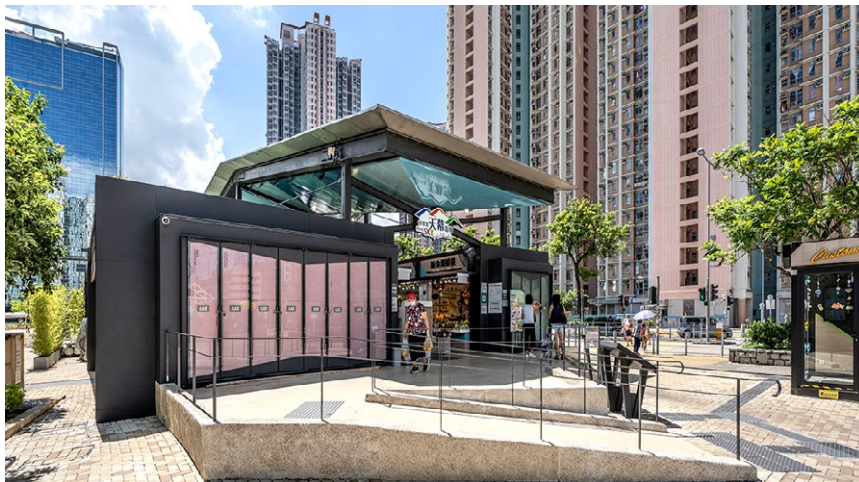
CASE STUDY
—
FEHD SKYLIGHT MARKET



Aerial view of FEHD Skylight Market



Modules of the MiC containers for market stalls were manufactured off-site and transported to site for assembly



Accessible entrance of the market



Micro-environment sensors for environmental monitoring

CASE STUDY
—
FEHD SKYLIGHT MARKET



40 market stalls (including 36 fixed stalls and 4 temporary stalls) are provided in the market



Anti-bacterial and self-cleaning enamel panel

INTERVIEW WITH CONTRACTOR



MR. DANNY C.S. HUNG

Executive Director & President, China State Construction Engineering (Hong Kong) Limited

Over the past few years, we have built a strong relationship with ArchSD through the delivery of various signature projects including the Temporary Quarantine Centre at Penny's Bay (Phases 1 and 3B), the North Lantau Hospital Hong Kong Infection Control Centre and the Hong Kong Children's Hospital. These projects are continued representations of ArchSD's long-standing commitment to sustainable and innovative construction.

ArchSD's proactive approach is particularly evident with the application of MiC. With the backing of ArchSD, we were able to smoothly and swiftly complete the construction of the quarantine centre to combat the fast-growing

spread of COVID-19 and meet the urgent anti-pandemic needs. Taking advantage of simultaneous fabrication of modular units in factories and on-site construction, the adoption of MiC shortened the project period significantly, as well as delivering a higher building quality and reduction of construction waste. ArchSD has also inspired us to adopt other sustainable construction approaches. The Penny's Bay project encompasses multiple sustainable features including the use of eco-friendly building materials that improve air quality, and sustainable life cycle planning of the quarantine units which can be demounted and repurposed after use. With ArchSD's support of these features, we are able to push new frontiers in Hong Kong's construction industry.

Throughout the course of different projects, ArchSD often shares its experiences and latest insights with us, in order to engage us in building a better construction industry together. ArchSD has also launched incentive schemes to recognise contractors' contributions to innovative and sustainable construction. We are honoured to obtain this year's Green Contractor Award – Special Award (Fast Track Project).

Our journey with ArchSD has always been a fruitful partnership. We look forward to future collaborations with ArchSD to continue the exploration and implementation of innovative construction methodologies and technologies that drives sustainability in the industry.

OUR RESPONSE

We are grateful for our contractors and project teams' efforts in pursuit of sustainability in all projects. As we advance on our sustainable journey, we remain committed to promoting sustainable and innovative construction methods and technologies and to strengthening our partnership with contractors to realise our sustainability vision together.

INTERVIEW WITH USER



MS. ALMAZ LEUNG

–
Assistant Director
(Market Special Duties), FEHD

FEHD Skylight Market, which is a temporary market commissioned in December 2020 in Tin Shui Wai, was built through the close and collaborative partnership between FEHD and ArchSD. With the aim to offer an additional choice to the public in purchasing fresh food early, we endeavoured to shorten the overall project lead time of FEHD Skylight Market as much as practicable. Thanks to ArchSD for its continuous support and professional advice on sustainable and innovative solutions throughout the planning, design, construction and commissioning phases – the project was successfully completed in about one year despite amidst the pandemic.

ArchSD demonstrated a high standard of professionalism and dedication at different

stages of the project. During the planning stage, ArchSD displayed foresight and liaised closely with various works departments and relevant organisations in an efficient manner with a view to sorting out possible technical issues and exploring effective solutions together. This was crucial to getting the project ready for proceeding to the construction stage within a short period of time. Apart from the liaison work from a technical perspective, ArchSD also provided full support and joined FEHD in the consultation with stakeholders on the project, including meeting with stakeholders and consultation with Yuen Long District Council, etc. With a good understanding of the positioning of public markets as one of the major sources of purchasing fresh provisions for the general public, which should be kept decent, clean, neat and tidy without being unduly upmarket, ArchSD placed market functionality, operational efficiency and user satisfaction high on the design agenda while adopting the concept of “place making” with the intention to create it as a place for leisure and gathering, enabling the market to serve a greater social function. To address concerns about public hygiene especially during the pandemic, ArchSD also introduced innovative features such as anti-fouling and antibacterial ceramic panels between market stalls, and nano-coating in ventilation areas to reduce dust accumulation.

With a view to commissioning the market as soon as possible, ArchSD proposed an up-stand

foundation design to minimise excavation, which facilitated construction and reduced the construction time. We also appreciate ArchSD taking the initiative to embrace innovative construction methods including MiC and DfMA to overcome the challenges of a tight construction schedule.

We look forward to ongoing and close collaboration with ArchSD in other public facilities projects. We will continue to join hands with ArchSD to promote sustainability and provide quality facilities and services for the public.

OUR RESPONSE

It has been our great honour to collaborate with FEHD to design and construct FEHD Skylight Market successfully and efficiently during this challenging time. Its great success was also attributed to FEHD’s devotion to providing the public with quality facilities. We are grateful for all the feedback from FEHD during the implementation of this project leading to the successful completion of the project. Looking ahead, we will continue to liaise with FEHD to leverage latest design and technologies in the pursuit of sustainable development in public facilities.

PROMOTING A SUSTAINABLE WORKING ENVIRONMENT

GRI 102-44

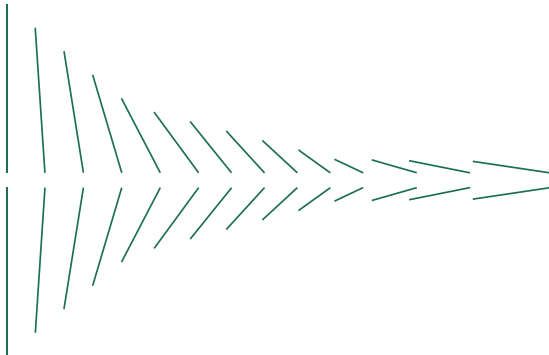
SUPPORTING THE UNSDGS



We have established a robust IMS encompasses aspects of environmental protection, occupational health and safety, and quality management to benchmark our environmental performance and ensure it remains at international standards

We conduct regular audits to verify the carbon footprint of our offices. And we explore technological advances and good practice to optimise resource consumption

We develop and circulate green housekeeping guidelines and raise awareness of green office practices



We priorities sustainability and, to that end, strive to align our operations with international standards for environmental protection, energy conservation, and health and safety. We also support international initiatives and promote sustainability in our offices, aiming to create a green working space.

The UNSDGs drive the continuous development of our sustainable working environment.

PROMOTING A GREEN WORKING CULTURE

Amid climate and environmental change, we strive to leverage our expertise to create architecture that is sustainable and climate-resilient. As a leader in the construction sector, we shoulder the responsibility of a government department to create green workplace. To this end, we have formulated a departmental Quality, Environmental, Health and Safety Policy with commitments on pollution prevent and energy and resources conservation. We are also committed to

fostering employee environmental awareness through programmes and daily engagement to optimise our sustainability efforts.

In addition to the policy, our IMS lays a solid foundation for overall environmental and energy management (ISO 14001 and ISO 50001), occupational health and safety (ISO 45001) and quality management (ISO 9001). It enables us to use international standards to benchmark our performance. Guidelines, procedures and strategies based on this

system are used to monitor and improve our performance in energy, waste, water use and indoor air quality.

Through the joint efforts of management and staff, ArchSD is once again awarded the Hong Kong Green Organisation Certificate (HKGOC). Consecutive recognition of the Environmental Campaign Committee serves as a testament to our continuous efforts and a driving force to our conscientious contribution to environmental protection in our workplace in the future.

MANAGING OUR ENERGY USE AND CARBON EMISSIONS



U'Class of Excellence'
Energywi\$e Certificate

Climate change demands that we take action and contribute to the government's long-term plan on achieving carbon neutrality in 2050. Acknowledging energy consumption, principally electricity consumption, is the primary source of our carbon footprint, we manage our consumption practices across our operating premises to ensure efficient energy utilisation. We continue to monitor our electricity use and explore different energy efficiency measures, such as lighting retrofitting works at our offices, to minimise the related greenhouse gas (GHG) emissions.

ArchSD is pleased to have maintained HKGOC's 'Excellent Level' Energywi\$e certificate in the reporting year. We are deeply honoured that our energy saving efforts have been widely recognised by the industry and the public.

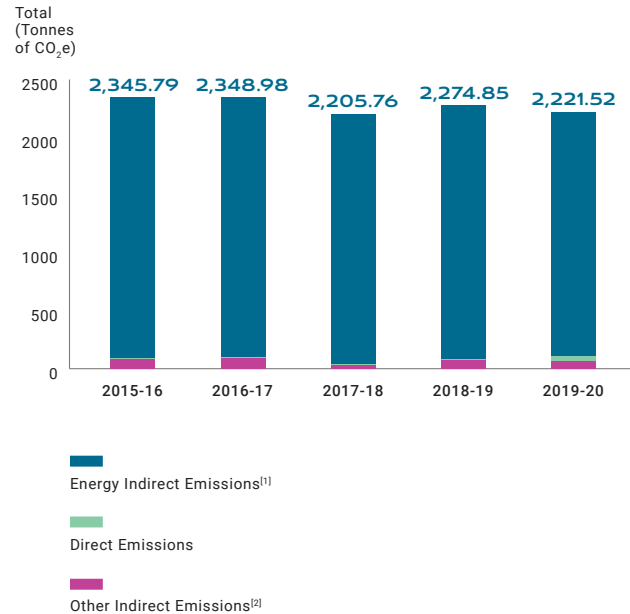
ArchSD formulates proactive measures to incorporate the elements set out in the Hong Kong's Climate Action Plan 2050 published by Environment Bureau, including a set of city-wide carbon emission reduction targets and actionable items.

To understand our direct and indirect GHG emissions and move towards the common goal, we conduct regular audits to verify our carbon footprint. These are carried out in accordance with the international Greenhouse Gas Protocol and refer to guidelines published by the Environmental Protection Department and the Electrical and Mechanical Services Department.

Three major GHGs – CO₂, CH₄ and N₂O, produced by our electricity and fuel consumption – are tracked closely. Other operating data will also be reviewed, to ensure that the audits are consistent and measurable, and that they faithfully reflect our performance.

CARBON EMISSIONS PRODUCED BY OUR OFFICE LOCATED AT THE QUEENSWAY GOVERNMENT OFFICES

The carbon emissions produced by our office located at the Queensway Government offices (QGO) have remained stable over the past five years.



	FY2015-16	FY2016-17	FY2017-18	FY2018-19 ^[3]	FY2019-20
Direct Emissions (Tonnes of CO ₂ e)	6.90	6.87	7.12	9.70	34.83
Energy Indirect Emissions (Tonnes of CO ₂ e) ^[1]	2,255.11	2,247.02	2,169.03	2,192.62	2,117.74
Other Indirect Emissions (Tonnes of CO ₂ e) ^[2]	83.78	95.09	29.61	72.53	68.95
Total (Tonnes of CO₂e)	2,345.79	2,348.98	2,205.76	2,274.85	2,221.52

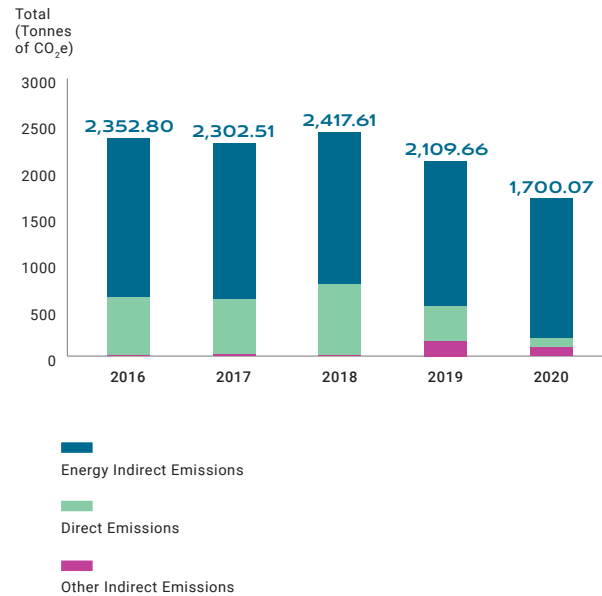
[1] A territory-wide default emissions factor was used to calculate these emissions.

[2] The figures were calculated by measuring the actual usage of fuel in mobile sources and paper consumption (A3 and A4) and wastepaper collected for recycling at QGO.

[3] The slight increment in total carbon emission recorded in FY2018-19 was due to the increase in fuel usage of mobile sources combustion for transportation needs to remote project sites; the increase in overall electricity consumption of commonly used facilities in QGO; and the decrease in paper recycling, which ArchSD has been persuading electronic digitisation and actively promoting Co-i in our office operation.

CARBON EMISSIONS PRODUCED BY APB CENTRE

Upgrades to the APB Centre's air conditioning, regular maintenance and the application of energy efficiency features resulted in a gradual drop of about 27.76% in carbon emissions in 2020 compared to 2016.



	2016	2017	2018	2019	2020
Direct Emissions (Tonnes of CO ₂ e)	628.22	601.86	769.69	370.63	102.79
Energy Indirect Emissions (Tonnes of CO ₂ e) ^[4]	1,719.53	1,686.67	1,642.88	1,576.60	1,503.58
Other Indirect Emissions (Tonnes of CO ₂ e)	5.05	13.98	5.04	162.43	93.70
Total (Tonnes of CO₂e)	2,352.80	2,302.51	2,417.61	2,109.66	1,700.07

[4] A territory-wide default emissions factor was used to calculate these emissions.

MANAGING WASTE



'Excellence Level'
Wastewi\$e Certificate

To support the government's advocacy on waste management, we encourage waste reduction at source and promotes active recycling across our branches and offices. Green housekeeping guidelines are issued to disseminate information about appropriate practices in waste reduction, recycling and handling. For example, the guidelines set out principles for paper consumption and reduction to avoid unnecessary wastage. At the APB centre and QGO, collection facilities are set up for the collection of various recyclables, including but not limited to

wastepaper, plastic bottles, used toner cartridges, aluminium cans and used CDs.

Additionally, we formulate annual targets to drive improvement progress, together with close monitoring on the implementation of different waste management programmes.

Our responsible waste management efforts have, for consecutive years, earned us an 'Excellence Level' Wastewi\$e Certificate (part of the HKGOC Scheme).

MANAGING WATER

We strive to conserve water resources by efficient water usage and deploying different water saving devices. We have installed auto-sensing taps and dual flush cisterns to avoid excessive use. We closely track consumption

and flushing, and regularly maintain the water supply system. Our green housekeeping circular outlines good practices to raise our staff's awareness of water conservation.

MANAGING INDOOR AIR QUALITY



'Good Level' WastewiSe Certificate

To ensure a green and healthy working environment, we adhere to good management practices suggested in the guidelines published by Environmental Protection Department and we support its voluntary Indoor Air Quality (IAQ) Certificate Scheme to pursue a good performance in IAQ. Our IAQ

performance is regularly assessed by accredited bodies.

During the reporting year, we are honoured that both APB Centre and QGO have been awarded 'Good Level' IAQWiSe Certificates.

CULTIVATING ENVIRONMENTAL AWARENESS

ArchSD does not limit our efforts in resource efficiency improvement and pollution prevention, but also nurtures environmental awareness across our workplace and invites our staff to join the department's long-term environmental sustainability journey. We integrate green elements into our employees' work culture and make clear the part they play in environmental protection. To that end, we constantly disseminate environmental messages and reminders of good practices

via the intranet, emails and other communication channels to them.

We also encourage our staff to participate in activities and training sessions related to environmental initiatives, global issues, and trends, both internally and externally organised. During the year, in spite of pandemic situation, our staff took part in 36 environmental related training courses. We have also established a team of 74 Green Wardens to help spread green messages and

support the implementation of ArchSD's green programmes and activities. We also support employees to obtain professional qualifications in diverse environmental domains. For example, some of our staff members maintain the BEAM Pro green building-related qualifications. With the resources and time devoted, we believe that the environmental awareness and knowledge at all levels in ArchSD will increase.

ELEVATING COMMUNITY BETTERMENT UNITING HUMANITY, NATURE AND ARCHITECTURE

GRI102-44

SUPPORTING THE UNSDGS



We are committed to enhancing connections in our community and providing high quality public buildings and facilities

We are dedicated to creating a sustainable city, by providing the community with safe, inclusive and green public spaces

We strive to incorporate social considerations into our projects, to create a harmonious and inclusive living environment



With a dense urban environment, accessible and quality public spaces are highly valued in Hong Kong. ArchSD is committed to creating inclusive public spaces and providing venues for activities that connect community members from diverse backgrounds.

We strive to promote social interaction and symbiosis between humans and nature. Our goal is to enable visitors to enjoy their leisure time by providing a respite from the fast pace of city life.

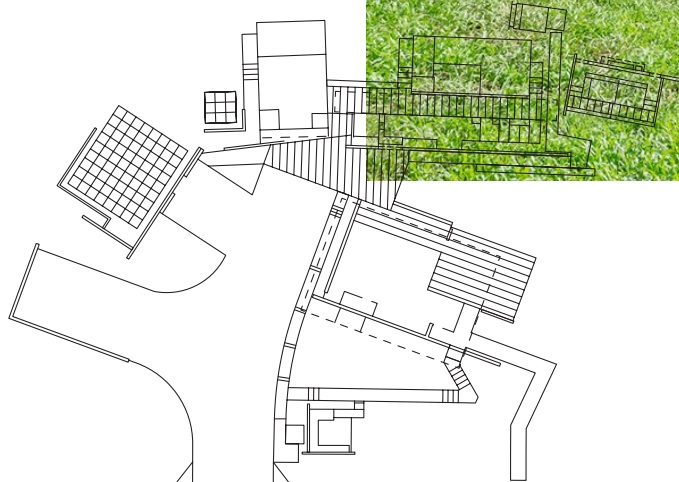
PROJECTS WITH COMMUNITY-FRIENDLY FEATURES

CASE STUDY

HOI HA VISITOR CENTRE



A rural settlement in the manner of an old traditional village with individual buildings that are organically related to the surrounding landscape



II' IDEAL PLACES FOR LEISURE BEFORE REACHING THE WATERFRONT 'II

LOCATED IN THE FASCINATING COUNTRYSIDE OF SAI KUNG, THE CENTRE CONNECTS VISITORS TO THE HOI HA WAN MARINE PARK TO EXPLORE A SCENIC SEA AREA WITH DIVERSE MARINE LIVES IN HONG KONG.

This is the first visitor centre for marine park in Hong Kong. The idea of the Centre is to create a rural settlement of an old traditional village with individual buildings that are organically related to the surrounding landscape. It serves to introduce the Marine Park to visitors before they proceed to the waterfront via the trail.

It embraces lawns with trees for gathering of visitors, serving as ideal places for leisure before reaching the waterfront. It aims to provide visitors with a plateau for outdoor gathering and a place of mediation between architecture and nature. The multi-purpose room, designed as a glass pavilion facing the heart of the village, related directly to the lawn as a form of continuity between inside and outside. This small-town like atmosphere with different varieties of veranda and small courtyard spaces, closely knitted together to form a comprehensive character of a locus that reinterprets the idea of old traditional village in a new manner.

Situated in the country park, the project ties together sustainable measures to reduce impact to the nature, while demonstrate to visitors on the related building technologies. Solar panels and photovoltaic bollards are installed to compensate electricity consumption. Rainwater is collected for recycling use through collection system and all wastewater generated in the centre is treated in-situ through a biological way.

CASE STUDY
—
HOI HA VISITOR CENTRE



Multi-purpose room as integration of indoor and outdoor /
place of leisure between buildings and nature

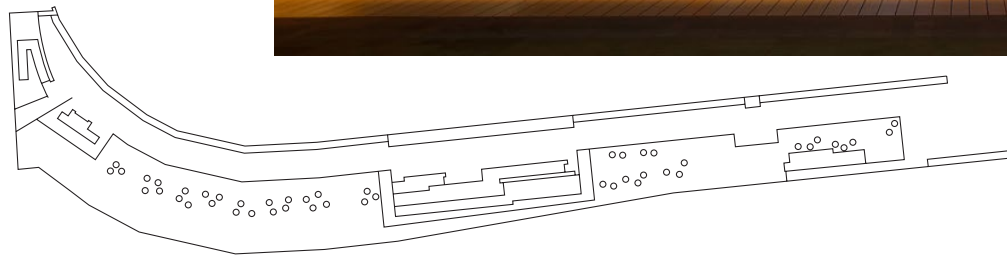


A plateau for outdoor gathering

PROJECTS WITH COMMUNITY-FRIENDLY FEATURES

CASE STUDY

NEW PROMENADE NEAR WAN CHAI FERRY PIER



Glass balustrade to bring public closer to the sea and
the Kowloon cityscape beyond

II' AN ACCESSIBLE AND ENJOYABLE RECREATIONAL SPACE OPEN TO THE PUBLIC 'II

THIS NEWLY OPEN PROMENADE HAS ALREADY ATTRACTED TENS OF THOUSANDS OF VISITORS. IT CONNECTS WAN CHAI NORTH TO SHEK TONG TSUI AND FORMS THE LONGEST PROMENADE ALONGSIDE VICTORIA HARBOUR.

With an aim to bridge the public to the Victoria Harbour, glass balustrades were adopted to offer a magnificent view of the water. Picture-frame pavilions were strategically located by the Harbour, bringing the public closer to the Harbour and the magnificent Kowloon cityscape. The promenade is also lined with trees to offer ample shade, which is crucial at the promenade in Hong Kong particularly during hot and humid summer.

Citizens can enjoy diversified activities at this promenade, ranging from jogging, sunbathing, resting under sheltered seating to photo-shooting. The promenade is also a pet-friendly spot where pets on leashes are welcome to visit.

People from all walks of life are able to enjoy the new promenade round the clock. The waterfront has been successfully transformed into a vibrant and attractive public space, enhancing the quality of life and giving a unique landmark for the neighbourhood.

CASE STUDY
—
NEW PROMENADE NEAR WAN CHAI FERRY PIER



Picture-frame pavilions offering alternative perspectives towards Victoria Harbour



Picture-frame pavilions offering alternative perspectives towards Victoria Harbour



Picture-frame pavilions offering alternative perspectives towards Victoria Harbour



Glass balustrade to bring public closer to the sea and the Kowloon cityscape beyond

CASE STUDY
—
NEW PROMENADE NEAR WAN CHAI FERRY PIER

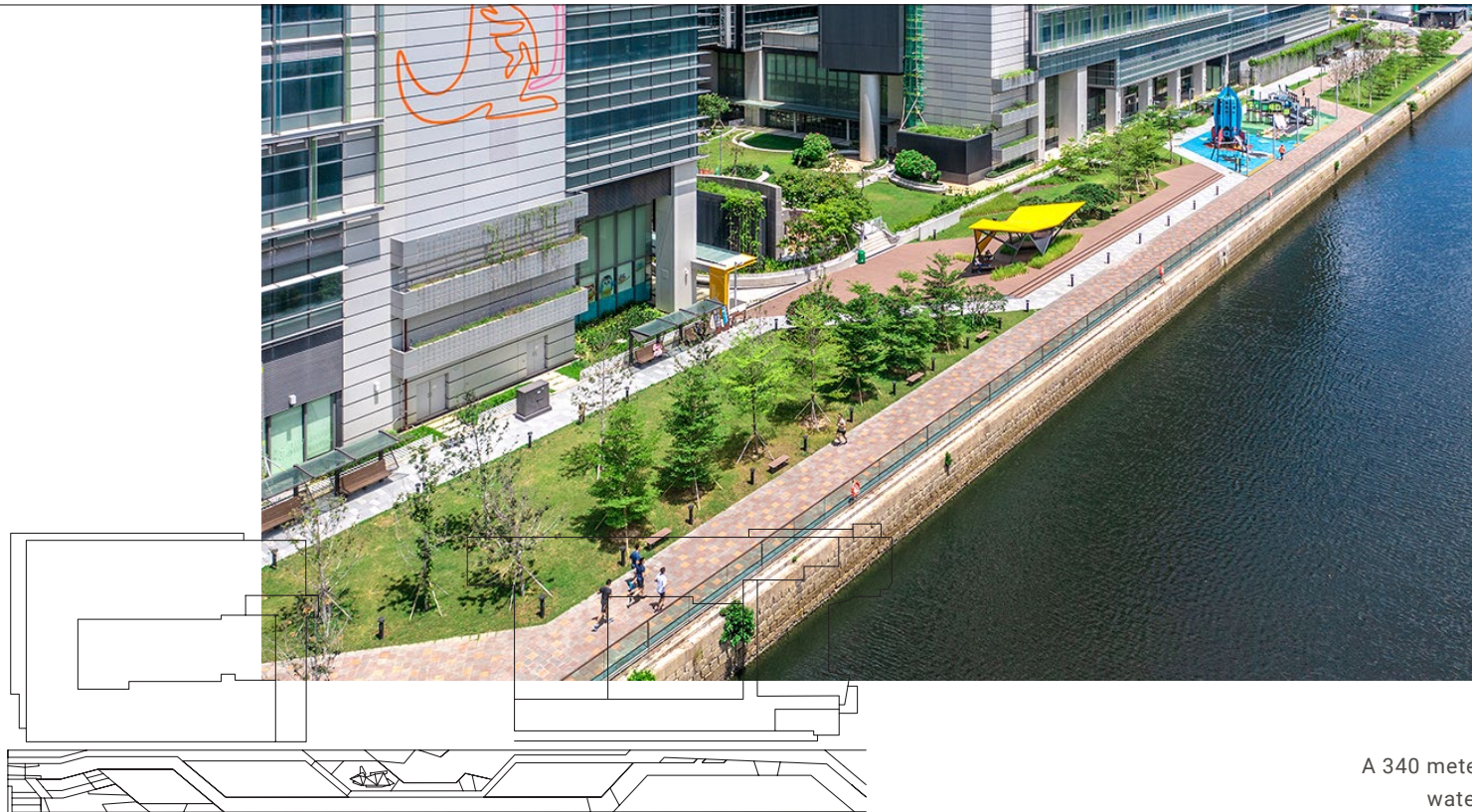


Lighting design infuses vibrancy at nighttime

PROJECTS WITH COMMUNITY-FRIENDLY FEATURES

CASE STUDY

KAI TAK PROMENADE (HONG KONG CHILDREN'S HOSPITAL SECTION)



A 340 meter continuous pedestrian
waterfront promenade

II' A DISTINGUISHED, VIBRANT, ATTRACTIVE AND PEOPLE- ORIENTED PUBLIC LEISURE SPACE BY VICTORIA HABOUR 'II



PROJECT TEAM

LOCATED AT THE SOUTHERN WATERFRONT OF THE HKCH IN KOWLOON BAY, THIS PROMENADE FORMS PART OF A PLANNED CONTINUOUS WATERFRONT PROMENADE EXTENDING FROM CHA KWO LING WATERFRONT TO MA TAU KOK WATERFRONT. IT IS 340 METRES LONG WITH A TOTAL AREA OF ABOUT 6,700 SQUARE METRES.

The completion of Kai Tak Promenade (Hong Kong Children's Hospital Section) has given birth to another popular place of attraction in the Kai Tak waterfront. The interaction between people and environment has successfully instilled vitality and vibrancy to the area.

With a large lawn adjacent to the sea, the promenade offers the public a brand new perspective to appreciate the scenic views of Victoria Harbour. There are recreation and leisure facilities along the promenade as well as plantations to appeal to children, families and visitors of all ages. Along the waterfront promenade, other features are available including a pedestrian walkway, a children playground, benches and rest area, as well as a building that provides ancillary services such as elderly-friendly toilets and a baby care room. To preserve the aviation culture of Kai Tai, various aviation-themed features and play facilities are incorporated to pay homage to the old Kai Tak Airport and create an unprecedented destination in Hong Kong.

ArchSD endeavours to promote and embrace sustainable living and outdoor active lifestyle to people in the community.

CASE STUDY
—
KAI TAK PROMENADE (HONG KONG CHILDREN'S HOSPITAL SECTION)



The Origami Airplane Pavilion is a tribute to the former Kai Tak Airport



Children playground area with aviation theme



Sheltered seating adjacent to the sea with lawns and trees



Landscaped area with resting benches

CASE STUDY
—
KAI TAK PROMENADE (HONG KONG CHILDREN'S HOSPITAL SECTION)



Featured installation using an old propeller from the Government Flying Service



Service block with elderly-friendly toilets and baby care room

PROJECTS WITH COMMUNITY-FRIENDLY FEATURES

CASE STUDY

TAI PO LUNG MEI BEACH BUILDING



The form of trellis roof echoes the ridgeline
of the Pat Sing Leng

II' INTEGRATING ARCHITECTURE WITH THE NATURE – LUNG MEI BEACH BATHHOUSE 'II

THE PROJECT IN LUNG MEI INCLUDES DEVELOPMENT OF A BEACH BUILDING, AIMING TO PROVIDE AN OBSERVATION DECK FOR VISITORS TO ENJOY THE STUNNING VIEWS OF THE LUNG MEI BEACH

Situating on the Lung Mei Beach as a new destination, the new beach building designed by ArchSD creates the connection between visitors and the nature.

The project includes the development of an observation deck and changing blocks. The observation deck is integrated with sun-shading shelters such that visitors could take a rest here and enjoy the sea breeze and sunset. Meanwhile, the changing blocks are also well equipped with changing rooms, shower facilities and washrooms for visitors.

The rippling roof of the observation deck, made with aluminium tubes, echoes the ridgeline of Pat Sin Leng in the background, while bamboo-moulded glassfibre reinforced cement panels were used for the external walls. An open and transparent design concept was applied when designing the building showcased by the triangular skylight in shower facilities which allows users to fully immerse in nature and enjoy the beautiful view of Pat Sin Leng.

CASE STUDY
—
TAI PO LUNG MEI BEACH BUILDING



The terracing building improves the connectivity between the access road and the beach



Observation deck for the enjoyment of sea breeze and sunset



Bamboo-moulded and glass fiber reinforced cement panels as external walls



Outdoor shower area

CASE STUDY
—
TAI PO LUNG MEI BEACH BUILDING



The permeability of building design for better enjoyment of the view

CREATING A CARING AND INCLUSIVE SOCIETY

GRI102-44

SUPPORTING THE UNSDGS



We encourage and mobilise our staff to participate in different volunteer services with care

We spare no effort in supporting community wellness through volunteering activities. To foster our colleagues' active participation, we have established a Volunteer Service Team to take part in volunteer services, such as redecorating homes for the elderly and visiting elderly homes.

Owing to COVID-19, and the need to maintain social distancing and staff safety, activities were significantly reduced in 2020. Nonetheless, we participated in 9 volunteer services, contributing a total of 219 hours of service to our community.

OUR COMMUNITY ENGAGEMENT AT A GLANCE

	2018	2019	2020
Total hours of staff volunteer service	1,044	1,128	219
Volunteers	58	46	37
Voluntary projects completed	21	16	9
Active Volunteer Service Team members ^[1]	14	19	0
Staff commended for voluntary service ^[2]	11	15	0

[1] Team members who contribute more than 20 hours of volunteering.

[2] Team members who contribute more than 30 hours of volunteering.

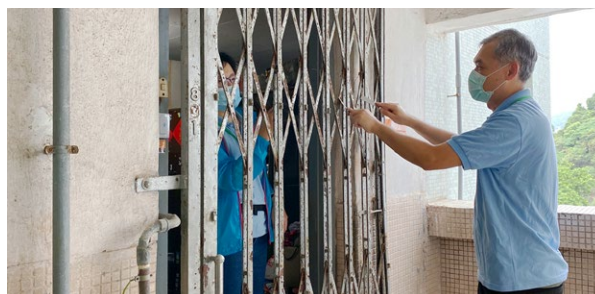
SNAPSHOT OF VOLUNTEER SERVICES IN 2020



Supporting a flag sale



Redecorating Homes of the Elderly



Visiting Elderly Homes
(Photos were taken in January 2020)

GROOMING OUR TALENT TO MEET NEW CHALLENGES

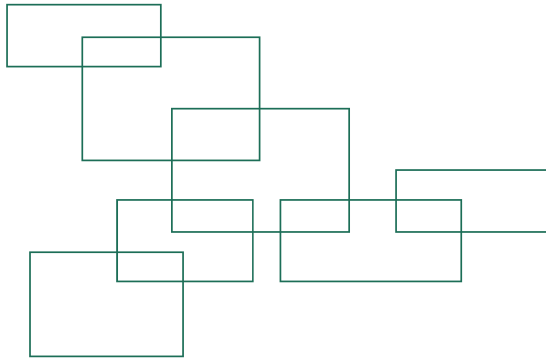
ENSURING A SAFE WORKPLACE

GRI102-44

SUPPORTING THE UNSDGS



We strive to uphold the highest health and safety standards through our commitments in the Quality, Environmental, Health and Safety Policy and by conducting regular safety inspections and risk assessments to safeguard our workforce.



We value the health and safety of all people working in premises supervised by ArchSD, and so ensure that workplaces are free of health and safety hazards. We abide by our departmental Quality, Environmental, Health and Safety Policy and seize every opportunity to reduce occupational injuries and illness.

Our department-wide ISO 45001 Occupational Health and Safety Management System aligns with international best practices and industry standards. Every quarter, our Occupational Health and Safety Representatives Working Group (OHSRWG) monitors and measures our performance against internal standards and targets, and evaluates the effectiveness of related measures. The OHSRWG also shoulders the responsibilities of consultation and communication between the Integrated Management Committee – chaired by the Deputy Director of Architectural Services – and general staff ensuring all the health and safety related matters of their concerns are heard and seriously dealt with.

Regular safety inspections identify health and safety hazards at our offices and project sites. We assess the likelihood of hazards and their impact on employees, then formulate and implement mitigation plans. Personnel are assigned to closely investigate and monitor all hazards, and maintain reports and records. Meanwhile, throughout the year, our safety audit programme covers operational, electrical, lifting and site safety.

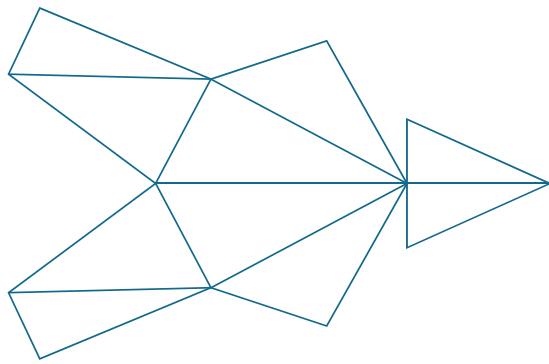
We devote time and resources to training, to enable our staff to perform their duties in accordance with required health and safety standards. This year's training included Smart Site for Safety, Construction Site Safety on Bamboo Scaffolding Works and Demolition Works, and Safety of Maintenance Works.

NURTURING OUR PEOPLE

SUPPORTING THE UNSDGS



We offer innovative learning opportunities and support our team in developing professional qualifications to unleash the talent of our staff



ArchSD understands building a professional and skilled workforce is critical in this ever-changing environment in the architecture and construction industry. Catching up with the pace of technology advancement, we spearhead to develop innovative learning platforms to keep our staff abreast of the latest trends and technical knowledge of the field, while facilitating the exchange of working experiences.

We design and offer our staff a wide range of training and development programmes by considering the departmental goals and staff development needs. Our programmes are tailored to the needs of professional officers, technical officers and site supervisory staff. This year, we placed special emphasis on innovation and technology such as MiC, BIM, MiMEP and DfMA, to ensure the agility of our talents when adapting to industry trends.

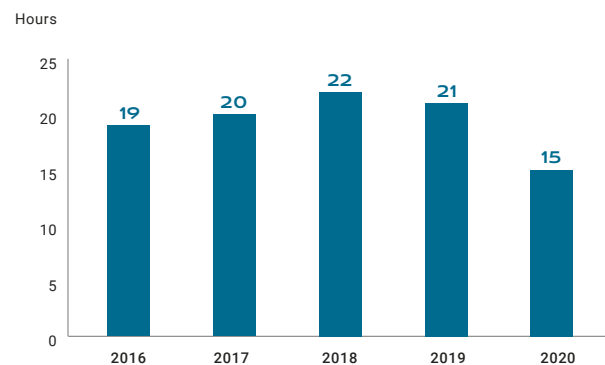
To maximise the effectiveness of the programmes, we deliver training through diverse channels. Staff can access resources in the form of academic talks, structured classroom training, workshops and seminars, large-scale symposiums, on-the-job training, coaching and mentoring, e-learning and competitions.

This year, we developed a brand new training and development programme called TechnoLand which put focus on strengthening the knowledge and skills of our technical officers, improving their versatilities to cope with new challenges. TechnoLand promotes intergenerational collaboration, whereby younger colleagues share their knowledge and tips on application of new technologies,

drafting and computer-aided design software while learning from the precious experience of their senior counterparts. It has an e-learning portal which gathers essential knowledge for newcomers to help them adapt quickly to the work environment. It also provides a platform for colleagues from different disciplines to share their experiences, tips and videos.

Amid the COVID-19 pandemic challenge, we responded quickly and adopted a hybrid method of physical attendance and on-line participation for our training courses. To ensure training continuity, we organised 422 training courses, totaling 30,238 hours. Each staff member received an average 15 hours of training.

TRAINING HOURS PER STAFF



TRAINING SUMMARY OF 2020

TRAINING	NO. OF TRAINEES	NO. OF TRAINING HOURS
Leadership & Management Skills	62	993
Professional & Vocational Training	8,234	27,667
Career Development	255	1,578
Total	8,551	30,238

INTERVIEW WITH STAFF



TECHNOLAND TEAM

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ArchSD

Our TechnoLand team – comprising technical officers from different branches of ArchSD – is very pleased that the Department actively provides cross-disciplinary knowledge exchange opportunities for its staff by creating this innovative programme. ArchSD is dedicated to serve as an exemplary industry leader through developing, adopting and promoting innovative technologies to improve construction productivity and sustainability performance in public facilities. When it comes to nurturing its talents, the Department is willing to take one step beyond as well. Unlike the traditional one-way training, TechnoLand programme promotes intergenerational collaboration that allows younger colleagues to share their experiences and skills regarding applications of new

technologies and software while cherishing the valuable insights of senior colleagues. This multifaceted and inclusive programme enables staff of all generations to acquire industry knowledge faster and adapt to industry changes and challenges.

An e-learning portal is also established under this Technoland programme which encompasses systematic and active knowledge transfer for our technical staff. For instance, there is a Technical Information section gathering essential knowledge for newcomers. The Site Tactics and Training Materials sections allow colleagues from different disciplines to share their experiences and tips on a wide array of technical topics. The sharing enables staff to learn by examples and pay extra attention to details in similar works of future projects. Members in this team also act as a helpdesk for all other colleagues: any staff encountering technical issues can ask for expert assistance from designated staff on specific topics during their daily work. We are very pleased to witness the increasing willingness of our colleagues in knowledge sharing their dedication to drive the Department's service quality as a whole.

The Department strives to keep us abreast of the latest industry information and help us adopt new innovative ideas. In addition, our

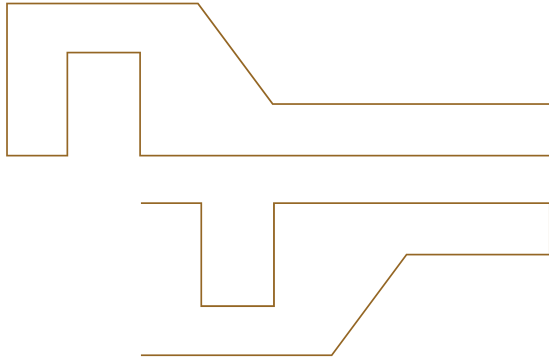
management takes the initiative to share valuable articles and courses through e-mail and other channels to encourage us to learn proactively. Our departmental training section also regularly organises events and invites staff to participate in external webinars, for example academic talks related to innovative technologies.

ArchSD provides us with solid training and daily support on new technologies. Management's proactiveness in implementing new ideas creates an excellent working culture that is open and nurturing.

OUR RESPONSE

We feel very honoured to be recognised by our colleagues. As a professional service provider, staff is always the foundation of our operation. We regard employees as our greatest asset, and hence devote tremendous resources to our training and development opportunities. Thanks to the contribution and dedication of every colleague, our performance has been recognised by the industry. We are committed to exploring and upgrading our supporting measures to ensure our team embraces upcoming challenges.

FOSTERING STAFF WELLNESS



Amid the unprecedented COVID-19 crisis, ArchSD responded promptly to protect the health and safety of staff. We adopted measures including home working, virtual meetings, promoting online co-working portals and maintaining social distancing. Despite the challenges, we remained agile and quickly adopted innovative solutions to maintain our efficiency and quality.

Complex global challenges such as COVID-19 and climate change have reinforced our belief in the importance of team spirit and cohesion. We continued to organise a wide spectrum of sports and recreational activities, such as hiking, beach-cleaning, photography courses and a bowling competition, through our ArchSD Site Supervisory Staff's Recreation, Sports and Welfare Group in order to promote our staff's mental and physical wellbeing as well as bonding within the team so that they support each other when faced with tasks and challenges, and advance together. We also organised an event "ArchSD Family Photo" for our staff to boost departmental harmony and create opportunities for team bonding.

We also encourage our staff to pursue work-life balance and maintain a good mental and physical wellbeing. We organised an innovative programme "Lunchat" in our Mentorship Scheme. Over lunch, we discuss a rich mix of topics, from wellness, ceramic art to outdoor activities and travelling. Through this relaxing chat sessions, we hope to foster a harmonious working environment of which the team supports each other through work and also personal challenges. Strict social distancing and hygiene measures were observed during these events.

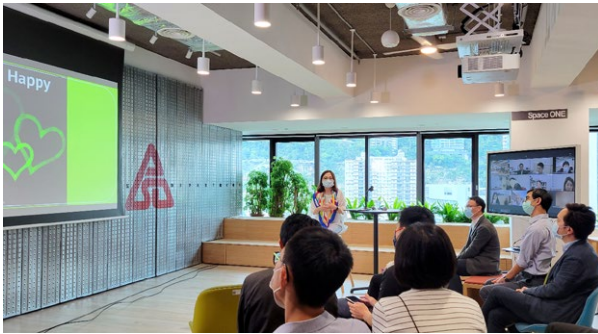
SPORTS AND RECREATIONAL HIGHLIGHTS



Sharing Session on Photography Theory



Beach Cleaning Day



Lunchchat event

SPORTS AND RECREATIONAL HIGHLIGHTS



ArchSD Family Photos

SPORTS AND RECREATIONAL HIGHLIGHTS



ArchSD Family Photos

SPORTS AND RECREATIONAL HIGHLIGHTS



ArchSD Family Photos

SPORTS AND RECREATIONAL HIGHLIGHTS



ArchSD Family Photos

SPORTS AND RECREATIONAL HIGHLIGHTS



ArchSD Family Photos

SPORTS AND RECREATIONAL HIGHLIGHTS



ArchSD Family Photos

COLLABORATING FOR SUSTAINABLE INDUSTRY SYNERGY

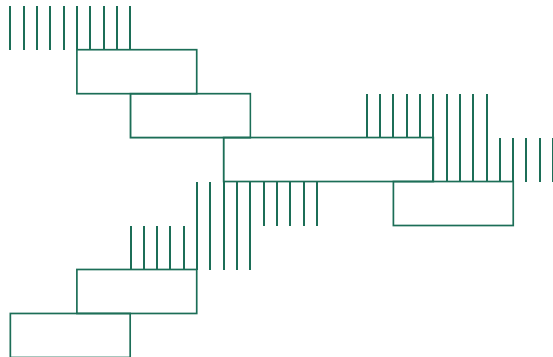
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SUPPORTING THE UNSDGS



We collaborate with bureaux and departments and other industry partners to organise seminars, experience sharing and focus groups

We organise regular site visits, meetings and workshops for the implementation of environmental, health and safety measures of the highest standards at construction sites



We maintain a robust ongoing stakeholder engagement with our key stakeholders, including clients and business partners, to ensure sustainability best practices are pursued throughout our value chain. All ArchSD contractors and suppliers are required to strictly abide by Hong Kong laws, such as those relating to anticorruption, upon submission of their tenders.

VALUING OUR CLIENTS

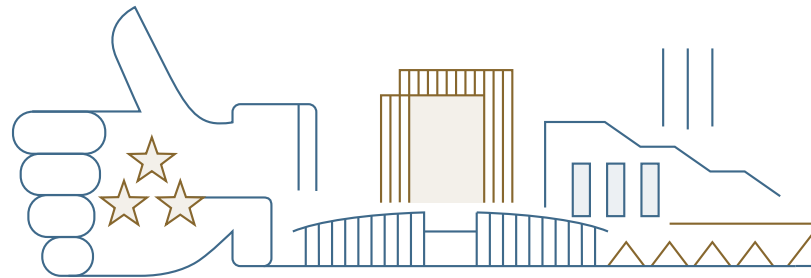
Customer satisfaction is always a top priority. Through ongoing reviews, measurement and comprehensive analysis, we obtain feedback and comments from clients, in order to proactively manage their interests and expectations throughout the lifecycle of projects. With this commitment to providing

excellent services, we have made progressive improvement and achieved impressive results during the reporting year.

To better understand and surpass the expectation of our clients, a Client Satisfaction Survey is conducted as one of our

key performance assessment metrics on a regular basis. In 2020, a total of 13 surveys were conducted for projects that were under design, construction or newly completed. The results reflected our overall outstanding performance during the year.

SATISFIED LEVEL ON OVERALL PERFORMANCE



100% of the completed projects
achieved level of 'Satisfied' or above
on overall performance

PROVIDING HIGH QUALITY, GREEN AND SUSTAINABLE BUILDINGS

As per the objective in improving climate resilience and fostering climate change mitigation stated by the Government, ArchSD has pioneered innovative projects which integrate elements of resilience and sustainability. We closely collaborate with our contractors and industry partners, aiming at implementing a wide array of green building initiatives and promoting sustainability across multiple industries.

To premise on the commitment to providing quality green and sustainable buildings, the adoption of the Building Environmental Assessment Method Plus (BEAM Plus) in new projects has illustrated ArchSD's strategic approach towards sustainability. This assessment scheme – widely recognised and adopted by industry peers in Hong Kong – examines the full lifecycle performance of buildings, from planning, design and construction to management, operation and maintenance. Upon fulfilling the assessment criteria, buildings are awarded merit in each performance category and an overall performance grade.

As of the end of 2020, we have earned BEAM and BEAM Plus certifications for 70 buildings, BEAM Plus Interior certifications for 3 offices and BEAM Plus Existing Building (Selective Scheme) for 3 buildings.

CERTIFIED BUILDINGS UNDER THE BEAM UP TO 2020

TYPE OF CERTIFICATE	RATING		SUBTOTAL
BEAM Certification* (Version 1/96R, 2/96 & 2/96R)	Excellent	Very Good	13
	11	2	
BEAM Certification** (Version 4/03 & 4/04)	Platinum	Gold	28
	17	11	
BEAM Plus (New Buildings) Certification*** (Version 1.1& 1.2)	12	17	29
BEAM Plus (Interior) Certification	Platinum		3
	3		
BEAM Plus Existing Building (Version 2.0 Selective Scheme) Certification	Excellent	Satisfactory	3
	2	1	
Total			76

- * 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.

ENSURING SAFETY CULTURE AT CONSTRUCTION SITES

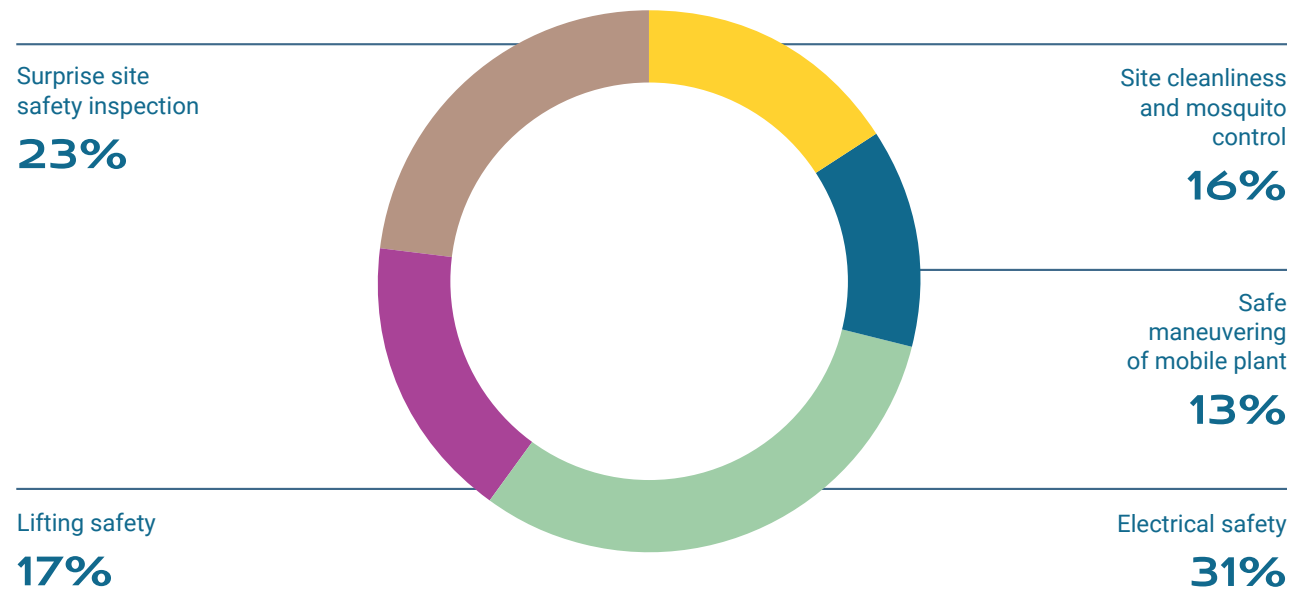
To maintain workplace safety, we required our contractors to strictly adhere to applicable site safety requirements while inducing industry best practices. Contractors are encouraged to access comprehensive guidance materials in our knowledge bank, including site safety checklists, briefing notes, safety audit results, and other relevant documents, alongside with the regular dissemination of information regarding Work Safety Alerts issued by Labour Department and other safety reminders.

To safeguard occupational health and safety of contractors, members of our Departmental Safety & Environmental Advisory Unit visit project locations to perform surprise inspections in relation to specific site safety issues that have been brought to our concerns and to ensure corrective actions are taken in a timely manner.

In 2020, we completed a total of 150 site inspections on selected site safety topics or issues and surprise site safety inspections for new work sites, including:

- Site cleanliness and mosquito control (24 nos. of inspection)
- Safe maneuvering of mobile plant (20 nos. of inspection)
- Electrical safety (47 nos. of inspection)
- Lifting safety (25 nos. of inspection)
- Surprise site safety inspection (34 nos. of inspection)

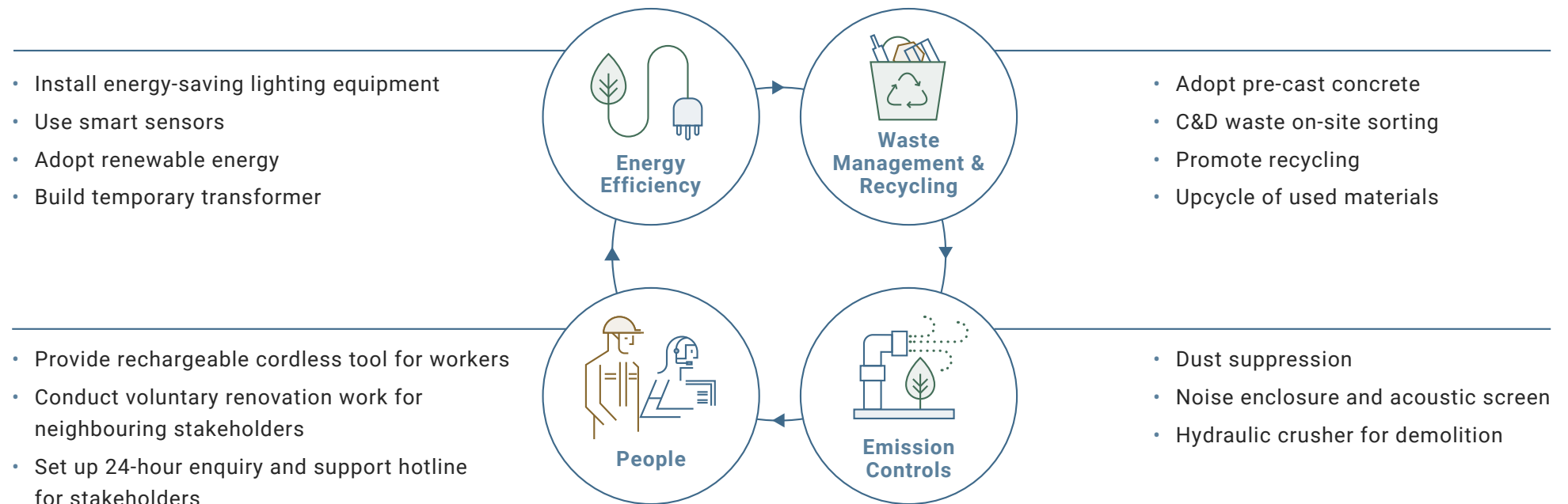
In addition, we arrange regular project progress meetings to keep track and review on contractors' environmental and safety performance. To rectify substandard performance, we conscientiously discuss with contractors for the formulation of action and improvement plans.



IMPLEMENTING GREEN AND SMART PRACTICES

In ArchSD's projects, diversified practices have been initiated and applied on site operations by our contractors to monitor on-site sustainability performance and progressively outperform the industry for

demonstration of best practices. Innovative and self-initiated practices were also introduced. The four major green and smart practices are described as follows:



RECOGNISING OUR CONTRACTORS' PERFORMANCE

In recognition of the outstanding performance of our contractors, subcontractors and site personnel, two formal commendation – Green Contractor Award and Considerate Contractors Site Award Scheme

Award are offered annually, praising their excellent environmental performance in carrying out projects.

GREEN CONTRACTOR AWARD

Our Green Contractor Award encourages green initiatives during construction, as well as compliments contractors' continual efforts in achieving sustainability. In 2020, numerous green measures such as energy-saving, water conservation, waste reduction, emissions mitigation and environmental management were initiated during daily operations.

In 2020, one Gold, one Silver, two Bronze, one Special Award and one Term Contract Award 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

Paul Y. – Able Joint Venture

Contract No.: SSF501

Design and Construction of Redevelopment of Queen Mary Hospital Phase I – Main Works at Pok Fu Lam Road, Hong Kong.

SILVER AWARD

Yau Lee Construction Company Limited

Contract No.: SSE502

Design and Construction of Rank and File Quarters for Fire Services Department at Area 106, Pak Shing Kok, Tsueng Kwan O

BRONZE AWARD

Hanison Construction Company Limited

Contract No.: SSE509

Construction of sports centre, community hall and football pitches in Area 1, Tai Po

Hip Hing Engineering Company Limited

Contract No.: SSG501

Design and Construction of Immigration Headquarters in Area 67, Tseung Kwan O

Contract No.: SSF505

Design and Construction of Inland Revenue Tower in Kai Tak Development Area

SPECIAL AWARD – FAST TRACK PROJECT

China State Construction Engineering (Hong Kong) Limited

Contract No.: SSJ519

Design and Construction of Temporary Quarantine Facilities at Penny's Bay, Lantau Island, New Territories

Contract No.: SSJ526

Design and Construction of Temporary Quarantine Facilities at Penny's Bay (Phase IIIB), Lantau Island, New Territories

TERM CONTRACT AWARD

Cheung Hing Construction Company Limited

Contract No.: TC C514

Term Contract for Design and Construction Works of District Community Green Stations

CONSIDERATE CONTRACTORS SITE AWARD SCHEME AWARD

Co-organised by DEVB and the CIC, this award scheme is to encourage contractors, subcontractors, and all personnel on the construction site operate in a responsible and considerate manner at all times, with due consideration of environment and public health and safety.

ArchSD's contractors received total 9 awards in both Considerate Contractors Site Award (CCSA) and Outstanding Environmental Management and Performance Award (OEMPA) categories, in the 27th Considerate Contractors Site Award Scheme Award, including:



CONTRACT TITLE	CONTRACTOR	CCSA		
		NEW WORKS CONTRACTS	RMAA WORKS CONTRACTS	OEMPA
1 SS F501 – Design and Construction of Redevelopment of Queen Mary Hospital (Phase 1) – Main Works	Paul Y. – Able Joint Venture	Merit	Not applicable	Silver
2 RF G508 – Conversion of Secondary Pool and Children's Pool for the Provision of Heated Pool at Morse Park Swimming Pool Complex	Chevalier (Construction) Company Limited	Merit	Not applicable	Merit
3 SS E502 – Design and Construction of Rank and File Quarters for Fire Services Department at Area 106, Pak Shing Kok, Tseung Kwan O	Yau Lee Construction Company Limited	Merit	Not applicable	Merit
4 TC H938 – Term Contract for the Maintenance of Slopes for which the Architectural Services Department (Property Services Branch) is Responsible [Designated Contract Area: New Territories and Outlying Islands (North)]	Cheung Hing Construction Company Limited	Not applicable	Merit	Merit
5 TC F928 – Term Contract for the Maintenance of Slopes for which the Architectural Services Department (Property Services Branch) is Responsible [Designated Contract Area: Hong Kong Island and Outlying Islands (South)]	Chun Wo Joint Venture	Not applicable	Merit	Not applicable

INTERVIEW WITH INDUSTRY



MR. CHAN KA KUI, SBS, JP

Chairman, Construction Industry Council

The CIC plays a facilitator role between the construction industry and the Government. We communicate the industry's needs and aspirations and solicit opinions from stakeholders. As one of our long-standing partners, we have been working with ArchSD to organise a variety of training and activities that support industry development, collaboration and improve construction productivity, and efficiency. To our pleasure, ArchSD has also enthusiastically responded to, and participated in, our industry events, such as Construction Industry Sports Day and Charity Fun Day, Construction Innovation Expo, conferences, competitions and awards.

ArchSD spares no effort in improving project site's occupational health and safety and

workers wellbeing, providing on-going support to enhance contractors' management approach and performance. ArchSD's projects consistently performed outstandingly in Considerate Contractors Site Award Scheme in which co-organise with the Development Bureau. We are dedicated to achieving zero fatal accidents in construction sites and promoting safety training to industry practitioners in order to strengthen industry safety standards through collaboration with ArchSD. We believe leveraging automation, industrialisation and digitisation are integral to this aim. ArchSD is leading the industry in this field. A good example is the Fire Services Department Pak Shing Kok Married Quarters, Hong Kong's first high-rise concrete MiC building project. On-site construction and safety risks were substantially minimised by adopting this fast-track technology, driving higher productivity, safety and sustainability.

Apart from promoting best practices among consultants and contractors, ArchSD holds a broader ambition: promoting zero-carbon buildings to align with the Government's goal of carbon neutrality by 2050. Both CIC and ArchSD share this goal. ArchSD promoted application of the CIC Carbon Assessment Tool through incorporating this functionality in six projects to measure the embodied carbon in

construction materials and emissions from on-site processes. We believe this enables the industry to achieve sustainability and contributes to the target of carbon reduction with ArchSD leading by example.

We look forward to ArchSD leveraging its leading position to further promote best practices in the construction industry and to innovate in industrialisation and smart green built environment. Cross collaboration and engagement between the public and private sectors, and between generations, will guide our industry to an even higher level of excellence.

OUR RESPONSE

We are honoured to have had our projects recognised and rewarded by the CIC. We regard the CIC as a one of the most valuable partners that shares our commitment and goals to promote occupational health and safety and the wellbeing of workers, and the adoption of innovative construction and technology. Now more than ever, we consider innovation and collaboration as key to the sustainable development incorporated in our DAP. And we view partnership with industry-related organisations as a vital engagement strategy for achieving sustainable synergy.

OBJECTIVES AND TARGETS

A wide range of targets track our sustainability performance. The following are our achievement highlights during the year:

ASPECT	TARGETS FOR 2020	ACHIEVEMENTS (FROM 1.1.2020 TO 31.12.2020)
Promoting sustainable and innovative building methods	At least 75% of the new projects shall adopt MiC/DfMA design approach for Building Services installation to enhance works quality.	92% of projects complied with the target.
	At least 90% of the new projects shall 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.	100% of projects complied with the target.
Adopting renewable energy	Renewable energy technologies (RETs) such as solar panels, solar hot water panels and wind turbines shall be provided to at least 80% of new buildings with CFA more than 10,000 m ² , contributing to at least 1.5% of total energy consumption for general power and lighting or to cover at least 20% of the available roof space unless installation of RETs are justified not feasible.	100% of projects complied with the target.
Promoting the use of Electric Vehicles	100% of the new maintenance term contracts shall be provided with at least 1 number of an electric vehicle.	100% of the new maintenance term contracts have been provided with at least 1 no. of the electric vehicle.

ASPECT	TARGETS FOR 2020	ACHIEVEMENTS (FROM 1.1.2020 TO 31.12.2020)
Knowledge sharing events and training	To hold at least 15 numbers of knowledge sharing or collaboration events with external stakeholders with an aim to generate utmost stakeholder value and enhance collaborative innovation.	23 numbers of knowledge-sharing events were conducted with external stakeholders.
	To strengthen staff training on innovation by organising Academy talks on BIM, MiC, CO-i, etc. by at least 8 sessions.	12 sessions on Innovation (on CO-i, BIM, MiC and DfMA etc.) were conducted.
	At least 12 external safety training courses on the latest safety technology, current safety legislation, accident investigation, etc. should be arranged for project and office staff per year	A total of 12 external training courses were conducted and attended by 356 professional/ technical/ site staff.
	At least 94% achievement on conducting briefing sessions or task communication meetings in each quarter to outsourced site supervisory staff or the contractor employed site supervisory staff in the outsourced projects and design and build projects.	The overall performance achieved was 99.5%.
Public engagement	To organise/contribute to publicity events by working together with project staff to publicise our achievements by at least 4 planned publicity event per month.	82 publicity events were organised/ participated in, i.e. 6.8 publicity events per month.
Handling complaints	100% of enquiries/public complaints are replied within 10 days.	100% of the public complaints received were replied within 10 days.
Project management	100% of capital and minor works projects to be completed within the agreed time scale.	100% capital and minor works projects completed within the agreed time scale

DEVELOPING A DEPARTMENTAL ANNUAL PLAN FOR 2021-22

As each new reporting year approaches, we formulate a DAP to steer our ongoing development and improvement. The 2021-22 DAP has four key strategic key areas: innovation, collaboration, corporate communication, and nurturing of talent.

Annual objectives and targets relate to those areas, allowing close monitoring of our progress towards an all-around sustainable operation. The objectives and targets are:

ON INNOVATION

To improve the quality and efficiency of our advisory services and facilities development and upkeep, we strive to:

- Adopt and promote innovative design, procurement and construction technologies
- Embrace advanced technologies and digital infrastructure

We put in place the following objectives and targets responding to this focus area, including but not limited to:

ASPECT	TARGETS FOR 2021
Promoting sustainable and innovative building methods	At least 80% of the new projects shall adopt MiC/DfMA design approach for Building Services installation to enhance works quality.
Adopting renewable energy	Renewable energy technologies (RETs) such as solar panels, solar hot water panels and wind turbines shall be provided to at least 80% of new buildings with CFA more than 10,000 m ² , contributing to at least 1.5% of total energy consumption for general power and lighting or to cover at least 25% of the available roof space unless installation of RETs are justified not feasible.
Promoting the use of Electric Vehicles	At least 8 numbers or 40% of the total numbers of contract vehicle (whichever is less) procured during the year for new maintenance term contracts shall be provided with at least 1 number of an electric vehicle.

ON COLLABORATION

We advocate collaboration and cross-fertilisation of innovative ideas to promote industry flourishing and to build a healthier eco-system for all. Therefore, we strive to:

- Enhance multi-disciplinary collaboration within the department and between bureau/departments
- Promote cooperation and networking with local industry stakeholders
- Explore collaboration opportunities at international level to bring quality of Hong Kong public architecture to new heights

We put in place the following objectives and targets responding to this focus area, including but not limited to:

ASPECT	TARGETS FOR 2021
Knowledge sharing events	To conduct at least 5 numbers of seminars/experience sharing sessions to cultivate innovation design/construction such as MiC / DfMA for Building Services installations.
	To hold at least 18 numbers of knowledge sharing or collaboration events with external stakeholders with an aim to generate utmost stakeholder value and enhance collaborative innovation.
Departmental Knowledge Hubs	To have not less than 70 numbers of consolidated knowledge papers submitted and uploaded to the ArchSD Knowledge Hubs.

ON CORPORATE COMMUNICATION

We value public opinions and actively seek dialogue with local communities and citizens. To this end, we strive to:

- Develop publicity plans to enhance corporate image
- Reach out to share knowledge and promote best practices on quality and sustainable built environment through different platforms
- Organise events for the ArchSD 35th Anniversary based on the theme “We Build Our City. We Build Your Dream.”

We put in place the following objectives and targets responding to this focus area, including but not limited to:

ASPECT	TARGETS FOR 2021
Public engagement	To organise/contribute to publicity events by working together with project staff to publicise our achievements by at least 4 planned publicity event per month.
Handling complaints	100% of enquiries/public complaints are replied within 10 days.
Promoting transparency	100% compliance with the target response time under the Code on Access to Information.

ON NURTURING OF TALENTS

Employees are the foundation of our operations and services. We continue to expand the resources dedicated to cultivating talents and strive to:

- Cultivate an innovative spirit and enhance staff’s awareness and readiness in adopting new technologies in their work
- Nurture talents by providing diverse working and training opportunities for their career development
- Build up leadership in crisis and adverse situation

We put in place the following objectives and targets responding to this focus area, including but not limited to:

ASPECT	TARGETS FOR 2021
Briefing sessions and trainings	To strengthen staff training on innovation by organising Academy talks on BIM, MiC, CO-i, etc. by at least 8 sessions. At least 12 external safety training courses on the latest safety technology, current safety legislation, accident investigation, etc. should be arranged for project and office staff per year

DATA SUMMARY

ENVIRONMENTAL PERFORMANCE

RESOURCES USAGE – ENERGY

	UNITS	2016	2017	2018	2019	2020
Energy used at QGO and APB Centre ^[1]						
Electricity consumed	kWh/m ²	208	200	196	190	125
CO2 emission equivalent to electricity consumption ^[2]	Tonnes CO ₂ -e	3,664	3,553	3,489	3,371	2,979
Energy saved by projects						
Estimated energy saved due to energy efficient installations ^[3]	GWh	5.74	4.44	0.76	6.86	2.42^[5]
Avoided CO ₂ emissions	Kilotonnes CO ₂ -e	4.02	3.11	0.53	4.8	1.69
No. of certified green buildings or under application						
Certified green buildings against third-party standards ^[4]	Number	3	6	6	7	13
Active projects seeking green building certifications against third-party standards ^[4]	Number	49	49	58	56	56

[1] Offices in QGO and APB Centre represent a majority of total ArchSD office space. In the calculation process, ArchSD office at APB Centre and QGO is assumed to consume 100% and 20% of the electricity of the whole premise 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] Third-party standards refer to BEAM Certification, BEAM Plus certified by the Hong Kong Green Building Council, LEED etc.

[5] In this Reporting Period, the number decreased due to that public facility projects and open area facilities design and construction account for the majority of our project portfolio this year, energy saving technologies were less applicable to be adopted in this type of projects.

RESOURCE USAGE – FUEL

	UNITS	2016	2017	2018	2019	2020
Fuel consumption by ArchSD's fleet	Litre	12,656	12,626	14,686	14,556	13,197
GHG emission equivalent to fuel consumption by ArchSD fleet ^[6]	Tonnes CO ₂ -e	34.3	34.2	39.8	39.4	35.7

[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 – WATER

	UNITS	2016	2017	2018	2019	2020
Water consumption by ArchSD ^[7]	m ³	20,968	12,945	15,923	13,109	10,485

[7] Offices in QGO and APB Centre represent a majority of total ArchSD office space. In the calculation process, ArchSD office at APB Centre and QGO is assumed to consume 100% and 20% of the water of the whole premise respectively.

RESOURCE USAGE – OFFICE MATERIALS

	UNITS	2016	2017	2018	2019	2020
A4 paper consumption	Reams	18,082	16,947	16,136	16,534	17,249
A3 paper consumption	Reams	1,169	1,020	1,124	1,247	1,252
Envelop consumption	No.	35,672	37,615	29,718	34,203	27,415

WASTE MANAGEMENT IN PROGRAMME AREAS OF FACILITIES DEVELOPMENT AND UPKEEPING

	UNITS	2016	2017	2018	2019	2020
Construction & demolition (C&D) materials						
C&D waste disposed of to landfills	Tonnes	36,775	44,891	57,571	43,970	47,768
C&D materials disposed of to public fill areas	Tonnes	543,054	518,946	679,910	745,343	839,544
Recyclable waste collected at APB Centre						
Waste paper	kg	15,717	15,579	12,094	8,243	8,119
Aluminium	No.	1,676	2,050	1,985	4,560	3,871
Plastic bottles	No.	3,798	4,102	3,918	7,071	4,237

ENVIRONMENTAL CONVICTIONS ^[8] OF CONTRACTORS

	UNITS	2016	2017	2018	2019	2020
Convictions per 100,000 man-hours	ArchSD sites (HK sites)	0.122 (0.191)	0.034 (0.216)	0.032 (0.192)	0.374 (0.197)	0.118 (0.087)
Monetary value of fines	HK\$	100,000	5,000	25,000	112,000	22,000

[8] Environmental convictions refers to instances of non-compliance associated with the environment, including, but not limited to violations of permits, standards, and/or regulations associated with waste, air quality and/or emissions, water discharges, hazardous spills, etc.

SOCIAL PERFORMANCE ^[9]

STAFF

	UNITS	2016	2017	2018	2019	2020
Staff establishment (as at 31 December of the year)	No.	1,835	1,859	1,907	1,961	2,032

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

STAFF ESTABLISHMENT BREAKDOWN

By post (based on staff establishment)	By employment contract	By ethnicity
Directorate grade staff 2.1% (42)	Permanent (male) 59.29% (1305)	Local 100%
Professional grade staff 27.7% (563)	Permanent (female) 30.22% (665)	Non-local 0%
General grade staff 18.8% (383)	Contract (male) full-time 6.82% (150)	By gender
Site supervisory staff 30.1% (611)	Contract (female) full-time 2.82% (62)	Male 66.7% (1469)
Technical grade staff 21.3% (433)	Contract (male) part-time 0.63% (14)	Female 33.3% (732)
By employment type	Contract (female) part-time 0.22% (5)	
Full-time 99% (2182)	Byage (as at 31 March 2021)	
Part-time 1% (19)	Age under 30 15.44% (304)	
	Age 30-49 54.44% (1072)	
	Age 50 or above 30.12% (593)	

STAFF TRAINING

	UNITS	2016	2017	2018	2019	2020
No. of training courses (including internal and external seminars/ workshops/ training courses/ visits)	No.	366	412	417	422	422
Numbers of trainees	No.	8,302	7,488	8,068	9,447	8,551

TRAINING HOURS BREAKDOWN ^[10]

TYPE OF STAFF	TOTAL TRAINING HOURS RECEIVED (HOURS)	TRAINING HOURS PER STAFF (HOURS)
Directorate grade staff	392.7	9
Professional grade staff	9,328.6	17
Technical grade, site supervisory and general grade staff	20,517.1	14
Total	30,238.4	15

[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 PARTICIPATED ANTI-CORRUPTION TRAINING ^[11]
Directorate grade staff	0	0%
Professional grade staff	110	19.5%
Technical grade, site supervisory and general grade staff	191	13.4%

[11] According to DEVB's 'Guidelines for Integrity Training Workshop' dated 16 July 2018, a 5-year training cycle has been adopted for ArchSD staff to receive integrity training at regular intervals. In the 5-year cycle of 2016 – 2020, 25 nos. of directorate grade staff, 476 nos. of professional grade staff and 1,050 nos. of technical grade, site supervisory and general grade staff in total have been received integrity training

STAFF TURNOVER

	MALE	FEMALE
Age under 30	0.95% (21)	0.27% (6)
Age 30-50	0.90% (20)	0.31% (7)
Age 51-55	0% (0)	0.09% (2)
Age 56 or above	2.63% (58)	1.18% (26)

NEW EMPLOYEE HIRED

	MALE	FEMALE
Age under 30	2.72% (60)	0.90% (20)
Age 30-50	3.31% (73)	1.81% (40)
Age 51-55	0.09% (2)	0% (0)
Age 56 or above	0% (0)	0% (0)

OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM

	NUMBER OF ALL EMPLOYEES AND WORKERS ^[12]	PERCENTAGE OF ALL EMPLOYEES AND WORKERS ^[12]
Covered by the system	2,032	100%
Covered by system that has been internally audited	2,032	100%
Covered by the system that has been audited or certified by an external party	2,032	100%

[12] Workers refer to persons who are not employees but whose work and/or workplace in ArchSD offices. The contractors' staff, who are directly employed and controlled by the contractors, are excluded from this disclosure.

STAFF INJURY

	UNITS	2016	2017	2018	2019	2020
Staff injury cases ^[13]	No.	5 (Male: 4, Female: 1)	2 (Male: 1, Female: 1)	1 (Male: 1)	2 (Male: 2)	2 (Male:1, Female:1)
Staff sick leave granted for staff injury cases	Days	168.5	14.5	9.5	20	19

[13] 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	2016	2017	2018	2019	2020
No. of fatalities ^[14] (ArchSD)	No.	2 (Male:2)	1 (Male:1)	0	0	0
Fatal accident rate ^[14] (ArchSD)	per 100,000 man-hours	0.007	0.003	0	0	0
Fatal accident rate ^[15] (HK Construction Industry)	per 100,000 man-hours	0.003	0.005	0.003	0.004	0.004
No. of non-fatal accidents ^[14] (ArchSD)	No.	71 (Male: 64, Female: 6; Unidentified: 1) ^[14]	103 (Male: 92, Female: 6, Unidentified: 5) ^[14]	154 (Male: 133, Female: 19, Unidentified: 2) ^[14]	81 (Male: 68, Female: 10, Unidentified: 3) ^[14]	81 (Male: 68, Female: 10, Unidentified: 3) ^[14]
Non-fatal accident rate (ArchSD) ^[14]	per 100,000 man-hours	0.26	0.31 ^[14]	0.42 ^[14]	0.27 ^[14]	0.27 ^[14]
Non-fatal accident rate (HK Construction Industry) ^[15]	per 100,000 man-hours	0.96	0.91	0.88	0.80	0.80

[14] Data of 2020 and the previous years was extracted from PWP Construction Site Safety and Environmental Statistics System (PCSES) of DEVB as on 16 June 2021. In 2016 to 2019, the number of non-fatal accidents and the non-fatal accident rate were adjusted.

[15] The accident rate of the Hong Kong Construction Industry is based on the published statistics of the Labour Department and using a conversion of 1.67 accidents per 100,000 man-hours equivalent to 60 accidents per 1,000 workers per year.

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 undertake an independent verification for the Sustainability Report 2021 (hereinafter referred to as “the Report”). The Report stated the sustainability performance of ArchSD in economic, environmental and social aspects in the period of 1st January 2020 to 31st December 2020.

The aim of this verification is to provide a reasonable assurance on the reliability of the report contents. The Report has been prepared in accordance with the Core Option of the GRI Sustainability Reporting Standards (GRI Standards).

LEVEL OF ASSURANCE AND METHODOLOGY

The process applied in this verification was based on the International Standard on Assurance Engagements 3000 (Revised), Assurance Engagements Other Than Audits or Reviews of Historical Financial Information issued by the International Auditing and Assurance Standards Board. Our evidence gathering process was designed to obtain a reasonable level of assurance as set out in the standard for the purpose of devising the verification conclusion. The extent of this verification process undertaken covered the criteria set in the GRI Standards: Core Option.

The verification process included verifying the systems and processes implemented for collecting, collating and reporting the sustainability performance data, reviewing relevant documentation, interviewing responsible personnel with accountability for preparing the reporting contents and verifying selected representative sample of data and information. Raw data and supporting evidence of the selected samples were thoroughly examined during the verification process according to the sampling plan.

INDEPENDENCE

ArchSD is responsible for the collection and presentation of the information presented. HKQAA is not involved in calculating, compiling, or in the development of the Report. Our verification activities are independent from ArchSD.

CONCLUSION

Based on the verification results and in accordance with the verification procedures undertaken, HKQAA has obtained reasonable assurance and is in the opinion that:

- The Report has been prepared in accordance with the GRI Standards: Core Option;
- The Report illustrates the sustainability performance of ArchSD, covering all material aspects, in a material, responsive, fair and balance manner; and
- The data and information disclosed in the Report are reliable and complete.

Nothing has come to HKQAA attention that the selected sustainability performance information and data contained in the Report has not been prepared and presented fairly and honestly, in all material aspects, in accordance with the verification criteria.

In conclusion, 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 2021

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. For the Materiality Disclosures Service, GRI reviewed that the GRI content index is clearly presented and the reference for Disclosures 102-40 to 102-49 align with appropriate sections in the body of the report.

With reference to the Sustainability Accounting Standard for the Engineering & Construction industry as defined by the standards of the Sustainability Accounting Standards Board (SASB), indicators disclosed in this report are also summarised in the table of topic-specific disclosures.

UNIVERSAL STANDARDS

GRI STANDARDS	DISCLOSURES AND DISCLOSURE TITLES	REFERENCE OR DIRECT ANSWER	EXTERNAL ASSURANCE
GRI 101: Foundation 2016			
GRI 102: General Disclosures 2016	Organisational Profile		
	102-1 Name of the organisation	ArchSD at a Glance	✓
	102-2 Activities, brands, products, and services	ArchSD at a Glance	✓
	102-3 Location of headquarters	ArchSD at a Glance	✓
	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	Hong Kong Only	✓
	102-7 Scale of the organisation	ArchSD at a Glance	✓
	102-8 Information on employees and other workers	Data Summary	✓
	102-9 Supply chain	Collaborating for Sustainability Industry Synergy	✓

GRI STANDARDS	DISCLOSURES AND DISCLOSURE TITLES	REFERENCE OR DIRECT ANSWER	EXTERNAL ASSURANCE
GRI 101: Foundation 2016			
GRI 102: General Disclosures 2016	Organisational Profile		
	102-10 Significant changes to the organisation and its supply chain	About this Report	✓
	102-11 Precautionary Principle or approach	Upholding High Standards on Strategy and Management	✓
	102-12 External initiatives	About this Report	✓
		Upholding High Standards on Strategy and Management	
	102-13 Membership of associations	Upholding High Standards on Strategy and Management	✓
	Strategy		
	102-14 Statement from senior decision-maker	Message from the Director	✓
	Ethics and Integrity		
	102-16 Values, principles, standards, and norms of behaviour	Upholding High Standards on Strategy and Management	✓
	Governance		
	102-18 Governance structure	ArchSD at a Glance	✓

GRI STANDARDS	DISCLOSURES AND DISCLOSURE TITLES	REFERENCE OR DIRECT ANSWER	EXTERNAL ASSURANCE
GRI 101: Foundation 2016			
GRI 102: General Disclosures 2016	Stakeholder Engagement		
	102-40 List of stakeholder groups	Engaging Stakeholders	✓
	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.	✓
	102-42 Identifying and selecting stakeholders	Engaging Stakeholders	✓
	102-43 Approach to stakeholder engagement	Engaging Stakeholders We have regular engagement with members of each group: <ul style="list-style-type: none"> • annual appraisals for staff; • quarterly performance reports for consultants and contractors; and • Client Satisfaction Survey for clients 	✓
	102-44 Key topics and concerns raised	Engaging Stakeholders Establishing Our Main Focus Areas and Materiality Adopting Sustainable and Green Building Design Embracing Innovative Construction and Technology Promoting a Sustainable Working Environment Collaborating for Sustainable Industry Synergy Elevating Community Betterment Grooming our Talent to Meet New Challenges	✓

GRI STANDARDS	DISCLOSURES AND DISCLOSURE TITLES	REFERENCE OR DIRECT ANSWER	EXTERNAL ASSURANCE
GRI 101: Foundation 2016			
GRI 102: General Disclosures 2016	Reporting Practice		
	102-45 Entities included in the consolidated financial statements	ArchSD at a Glance	✓
	102-46 Defining report content and topic Boundaries	About this Report Establishing Our Main Focus Areas and Materiality	✓
	102-47 List of material topics	Establishing Our Main Focus Areas and Materiality	✓
	102-48 Restatements of information	Data Summary	✓
	102-49 Changes in reporting	No significant changes	✓
	102-50 Reporting period	About this Report	✓
	102-51 Date of most recent report	ArchSD Sustainability Report 2020 was published in September 2020.	✓
	102-52 Reporting cycle	About this Report	✓
	102-53 Contact point for questions regarding the report	Feedback	✓
	102-54 Claims of reporting in accordance with the GRI Standards	About this Report GRI Content Index	✓
	102-55 GRI content index	GRI Content Index	✓
	102-56 External assurance	About this Report Report Verification	✓

TOPIC-SPECIFIC STANDARDS

GRI STANDARDS	MATERIAL TOPICS	SASB INDICATORS	REFERENCE OR DIRECT ANSWER	EXTERNAL ASSURANCE
Procurement Practices				
GRI 103: Management Approach 2016	103-1		Collaborating for Sustainable Industry Synergy	✓
	103-2			
	103-3			
GRI 204: Procurement Practices 2016	204-1	Proportion of spending on local suppliers	In 2020, all our purchases were from local suppliers (defined as companies registered in Hong Kong) except the procurement of publications.	✓
Anti-corruption				
GRI 103: Management Approach 2016	103-1	IF-EN-510a.3	Upholding High Standards on Strategy And Management	✓
	103-2			
	103-3			
GRI 205: Anti-corruption 2016	205-2	Communication and training about anti-corruption policies and procedures	Data Summary	✓
	205-3	Confirmed incidents of corruption and actions taken	Upholding High Standards on Strategy And Management	✓

GRI STANDARDS	MATERIAL TOPICS	SASB INDICATORS	REFERENCE OR DIRECT ANSWER	EXTERNAL ASSURANCE
Energy				
GRI 103: Management Approach 2016	103-1	IF-EN-410a.2	Adopting Sustainable and Green Building Design Embracing Innovative Construction and Technology Promoting a Sustainable Working Environment Objectives and Targets	✓
	103-2			
	103-3			
GRI 302: Energy 2016	302-1	Energy consumption within the organisation	Data Summary	✓
	302-4	Reduction of energy consumption	Data Summary	✓
Water and Effluents				
GRI 303: Water and Effluents 2018	303-1	Interactions with water as a shared resource	Promoting a Sustainable Working Environment Data Summary Water consumed by ArchSD is supplied by the Water Supplies Department, who identifies and manages water-related impacts on water sources.	✓
	303-2	Management of water discharge-related impacts	Effluents of ArchSD are discharged into municipal sewage treatment systems, and comply with local regulatory standards of effluents discharge	✓
	303-5	Water consumption	Data Summary	✓

GRI STANDARDS	MATERIAL TOPICS	SASB INDICATORS	REFERENCE OR DIRECT ANSWER	EXTERNAL ASSURANCE
Emissions				
GRI 103: Management Approach 2016	103-1	IF-EN-160a.2	Promoting a Sustainable Working Environment Objectives and Targets	✓
	103-2		Adopting Sustainable and Green Building Design	
	103-3		Embracing Innovative Construction and Technology	
GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions	Promoting a Sustainable Working Environment	✓
	305-2	Energy indirect (Scope 2) GHG emissions	Promoting a Sustainable Working Environment	✓
	305-3	Other indirect (Scope 3) GHG emissions	Promoting a Sustainable Working Environment	✓
Waste				
GRI 306: Waste 2020	306-1	Waste generation and significant waste-related impacts	Promoting a Sustainable Working Environment Objectives and Targets	✓
	306-2	Management of significant waste-related impacts	Promoting a Sustainable Working Environment	✓
	306-4	Waste diverted from disposal	Data Summary	✓
		Number of (1) commissioned projects certified to a third-party multi-attribute sustainability standard and (2) active projects seeking such certification	Collaborating for Sustainable Industry Synergy	✓

GRI STANDARDS	MATERIAL TOPICS	SASB INDICATORS	REFERENCE OR DIRECT ANSWER	EXTERNAL ASSURANCE
Environmental Compliance				
GRI 103: Management Approach 2016	103-1 103-2 103-3		Upholding High Standards on Strategy And Management	✓
GRI 307: Environmental Compliance 2016	307-1 Non-compliance with environmental laws and regulations	IF-EN-160a.1	Data Summary	✓
Supplier Environmental Assessment				
GRI 103: Management Approach 2016	103-1 103-2 103-3		Collaborating for Sustainable Industry Synergy	✓
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria		100%. ArchSD only appoints contractors and suppliers from lists of relevant categories, which are maintained by the Government of HKSAR. ArchSD expects contractors and suppliers to abide by the environmental terms set forth in their tenders. Anyone who violates the project terms will be disqualified or unlikely to be selected in the next round of bidding.	✓
Employment				
GRI 103: Management Approach 2016	103-1 103-2 103-3		Upholding High Standards on Strategy And Management	✓
GRI 401: Employment 2016	401-1 New employee hires and employee turnover		Data Summary	✓

GRI STANDARDS	MATERIAL TOPICS	SASB INDICATORS	REFERENCE OR DIRECT ANSWER	EXTERNAL ASSURANCE
Occupational Health and Safety				
GRI103: Management Approach 2016	103-1	IF-EN-250a.2	Collaborating for Sustainable Industry Synergy Objectives and Targets	✓
	103-2			
	103-3			
GRI 403: Occupational Health and Safety 2018	403-1	Occupational health and safety management system	Grooming our Talents to Meet New Challenges	✓
	403-2	Hazard identification, risk assessment, and incident investigation	Grooming our Talents to Meet New Challenges	
	403-3	Occupational health services	Grooming our Talents to Meet New Challenges	✓
	403-4	Worker participation, consultation, and communication on health and safety	Grooming our Talents to Meet New Challenges	✓
	403-5	Worker training on occupational health and safety	Grooming our Talents to Meet New Challenges	✓
	403-6	Promotion of worker health	Grooming our Talents to Meet New Challenges	✓
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Grooming our Talents to Meet New Challenges	✓
	403-8	Workers covered by an occupational health and safety management system	Data Summary	✓
	403-9	Work-related injuries	Data Summary	✓

GRI STANDARDS	MATERIAL TOPICS	SASB INDICATORS	REFERENCE OR DIRECT ANSWER	EXTERNAL ASSURANCE
Training and Education				
GR 103: Management Approach 2016	103-1		Grooming our Talents to Meet New Challenges	✓
	103-2			
	103-3			
GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee	Data Summary	✓
	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		Upholding High Standards on Strategy And Management	✓
	103-2			
	103-3			
GRI 406: Non-discrimination 2016	406-1	Incidents of discrimination and corrective actions taken	No incident of discrimination was reported in 2020.	✓

GLOSSARY

BUILDING ENVIRONMENTAL ASSESSMENT METHOD (BEAM) PLUS

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 was enhanced from the earlier version in providing Passive Design as an alternative method for assessment. BEAM Plus Version 2.0 for Existing Buildings has been officially launched in 2015. The new version contains major revisions to the assessment guidelines and offers greater flexibility in the scope of assessment, with a view to encouraging more participation by the existing buildings in Hong Kong. BEAM Plus Version 2.0 for New Buildings has been officially launched in 2019. The new version introduces new assessment credits that promote healthy living in order to place more emphasis on wellness of building users. In whilst, new assessment aspect Integrated Design and Construction Management is added to encourage adoption of integrated design approach to green buildings.

BUILDING INFORMATION MODELLING (BIM)

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 and unified data structure to enhance team collaboration and increase productivity.

CODE ON ACCESS TO INFORMATION

The Code on Access to Information (the Code) defines the scope of information that will be provided, sets out how the information will be made available either routinely or in response to a request, and lays down procedures governing its prompt release. The Code authorises and requires civil servants, routinely or on request, to provide information, and sets out procedures for review or complaint if a member of the public considers that the provisions of the Code have not been properly applied.

CORPORATE INTELLIGENCE (CO-i)

ArchSD aims at enhancing its operational efficiency by applying smart and innovative technologies in the work process through the CO-i development. The 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.

DESIGN FOR MANUFACTURE AND ASSEMBLY (DfMA)

It is a proactive design approach which focuses on the ease of manufacture and efficiency of assembly, enables offsite manufacture of high-quality construction components and efficient assembly of components on site. It is a well-established approach for accomplishing significant improvements in productivity, safety, quality and sustainability. It also enables identification, quantification and elimination of waste or inefficiency in product manufacture and assembly to achieve lean construction.

EXTRANET

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.

GLOBAL REPORTING INITIATIVE (GRI)	A multi-stakeholder-governed institution which provides a framework for sustainability reporting, which is commonly used all over the world. This framework sets out the principles and disclosure requirements 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.
GREENHOUSE GASES	Greenhouse gases refer to those which 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).
GREENHOUSE GAS PROTOCOL	Greenhouse Gas Protocol establishes comprehensive global standardised frameworks to measure and manage greenhouse gas (GHG) emissions from private and public sector operations, value chains and mitigation actions. It also supplies the world's most widely used greenhouse gas accounting standards.
HONG KONG'S CLIMATE ACTION PLAN 2050	In line with the spirit of the Paris Agreement, the Hong Kong's Climate Action Plan 2050 report, published by the Environment Bureau, sets out the strategies and targets for combating climate change and achieving carbon neutrality before 2050. The new plan outlines the four major decarbonisation strategies and measures, namely net-zero electricity generation, energy saving and green buildings, green transport and waste reduction.
HONG KONG GREEN ORGANISATION CERTIFICATE (HKGOC)	The Hong Kong Green Organisation Certification (HKGOC) aims to benchmark green organisations with substantial achievement in green management, to encourage participants to adopt environmental practices in different aspects and to recognise their efforts and commitments to the environment. It consists of five Certificates, namely 'Wastewi\$e Certificate', 'Energywi\$e Certificate', 'Productwi\$e Certificate', 'IAQwi\$e Certificate' and 'Carbon Reduction Certificate'.
ISO 14001 ENVIRONMENTAL MANAGEMENT SYSTEM	ISO 14001 is an international standard first published by International Organization for Standardization (ISO) in 1996, which specifies requirements for the establishment of an environmental management system. It is intended for use by organisations seeking to manage its environmental responsibilities in a systematic manner that contributes to the environmental pillar of sustainability.
ISO 45001 OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM	ISO 45001 is an international standard first published by International Organization for Standardization (ISO) in 2018. The standard specifies requirements for an occupational health and safety management system, and gives guidance for its use, to enable organisations to provide safe and healthy workplaces by preventing work-related injury and ill health, as well as by proactively improving its OH&S performance.
ISO 50001 ENERGY MANAGEMENT SYSTEM	ISO 50001 is an international standard first published by International Organization for Standardization (ISO) in 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.

ISO 9001 QUALITY MANAGEMENT SYSTEM	ISO 9001 is an international standard first published by International Organization for Standardization (ISO) in 1987, which specifies requirements for the establishment of a quality management system. Adopting ISO 9001 Quality Management System supports organisations to consistently provide products and services that meet customer and applicable statutory and regulatory requirements and enhance customer satisfaction through the different improvement processes.
INTEGRATED MANAGEMENT SYSTEM (IMS)	The Integrated Management System is the combination of our obtained certification of ISO 9001 Quality Management Standard, ISO 14001 Environmental Management Standard and ISO 45001 Occupational Health and Safety Management Standard which altogether constitute our Integrated Management System.
MICROCLIMATE	Microclimate generally refers to the specific climatic conditions within a small area (such as street, park, riverside, etc). Due to the influence of the surrounding terrain, orientation and density of buildings, weather conditions during the time as well as other factors, the climatic characteristics at an area may differ from those prevailing over the surrounding large region.
MODULAR INTEGRATED CONSTRUCTION (MiC)	Modular Integrated Construction (MiC) 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.
MULTI-TRADE INTEGRATED MEP (MiMEP)	Multi-trade integrated Mechanical, Electrical and Plumbing (MiMEP) refers to the integration of multi-trade building services components into a single assembly of prefabricated modules, manufactured in a factory then transported to the site for connection of modules to complete various trades of building services installations on site.
SUSTAINABILITY ACCOUNTING STANDARDS BOARD (SASB)	The Sustainability Accounting Standards Board (SASB) is an independent non-profit organisation that sets standards to guide the disclosure of financially material sustainability information by companies to their investors.
UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS (UNSDGs)	The Sustainable Development Goals are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including those related to poverty, inequality, climate change, environmental degradation, peace and justice.
WEB CONTENT ACCESSIBILITY GUIDELINES (WCAG)	Web Content Accessibility Guidelines (WCAG) covers a wide range of recommendations for making Web content more accessible. These guidelines help make content accessible to a wider range of people with disabilities, including blindness and low vision, deafness and hearing loss, learning disabilities, cognitive limitations, limited movement, speech disabilities, photosensitivity and combinations of these.

FEEDBACK

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.

Please rate the quality of our Sustainability Report 2021 based on the following criteria:

	Excellent	Good	Fair	Marginal	Poor
Content clarity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Visual design	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ease to find information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall rating on our sustainability performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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

Any other comments?

e.g. What content would you like to see in future sustainability reports? In which areas would you recommend us for improvement of the report quality?

Thank you and we appreciate your feedback.

The information will be used in strict confidence 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](#).