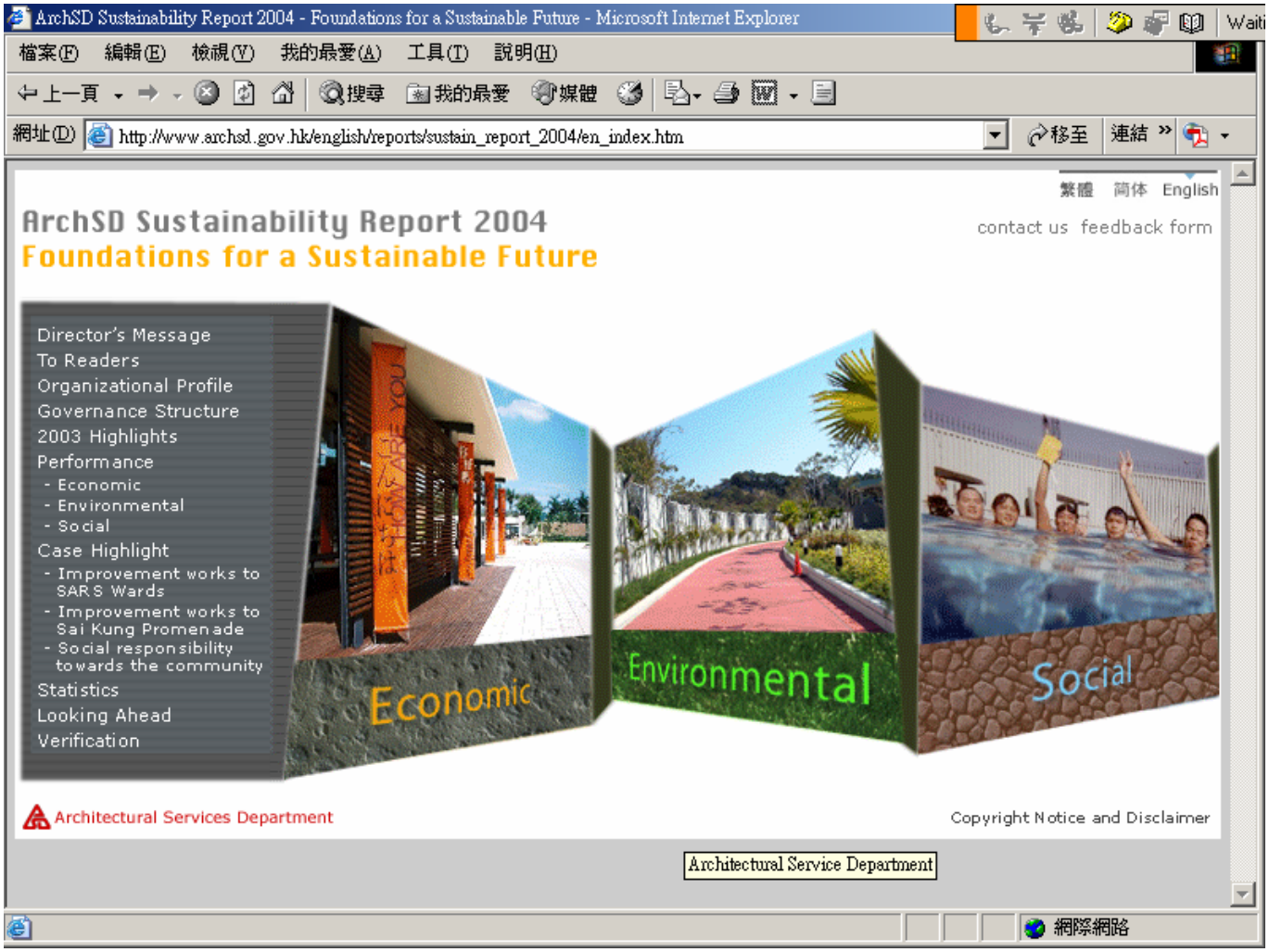
ArchSD Sustainability Report 2004



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http://www.archsd.gov.hk/english/reports/sustain_report_2004/en_index.htm

Director’s Message

I have the delight to present you with our first Sustainability Report 2004, which summarizes our economic, environmental and social performance in 2003. In our 2003 Environmental, Health and Safety Report covering our performance in 2002, we were honoured to have been awarded commendation in the ACCA Hong Kong Awards 2003 for sustainability reporting. Our initiative of adopting a transparent and accountable manner of reporting our operational, environmental, health and safety performances had been recognized. This gives us the motivation to pursue further by expanding the scope of this year's report to cover also our economic and social performance and to maintain a balanced and reasonable representation of our sustainability performance.

2003 is a disquieting year of Hong Kong. The outbreak of Severe Acute Respiratory Syndrome (SARS) during the spring of 2003 had raised a number of challenges for all people especially for medical practitioners, architects, engineers and property managers. To prevent the possible resurgence of SARS in future is not only our professional duty but also our social obligation. We worked in collaboration with the Hospital Authority, to implement an urgent project of enhancing the infection control facilities in 6 major hospitals. Despite the risks of contracting SARS, the hospital enhancement works were started in July 2003 and successfully completed in March 2004.

In the design, procurement and maintenance of public facilities, we took the holistic approach to consider the integration and compatibility of our projects with the surrounding environment, and the conservation and efficient use of land, energy and material resources. By way of the projects like the Science Park Phase 1, Improvement to Sai Kung Waterfront, Public Health Laboratory Centre etc., we had implemented our sustainable initiatives in practice and in operation.

To pursue our goal of creating a healthy, safe and sustainable built environment for our community and to seek continual improvement of our performance in environmental, social and economic aspects, we are committed to work in partnership with our strategic partners and maintain dialogues with our key stakeholders. We will strengthen our role as corporate advisor to Government on environmental sustainability in property planning and development. We will

also enhance our work in research and development, and promote excellence and best practice in the construction industry.

I believe that with the full support from you, our partners and stakeholders, we will collaborate to achieve our common objective in the sustainable development of the built environment in Hong Kong.

Yue Chi Hang, JP
Director of Architectural Services

To Our Readers

Scope of the Report

This sustainability report covers the period from 1 January 2003 until 31 December 2003. It shows in greater depth of our progress on the economic, environmental and social performance and our initiatives towards meeting the challenges of sustainable development. It also describes our policies and management structure that enabled us to implement the "Plan-Do-Check-Act" cycle and seek continual improvement. To reduce paper consumption, the report is presented only in web-based format.

Engaging Our Stakeholders

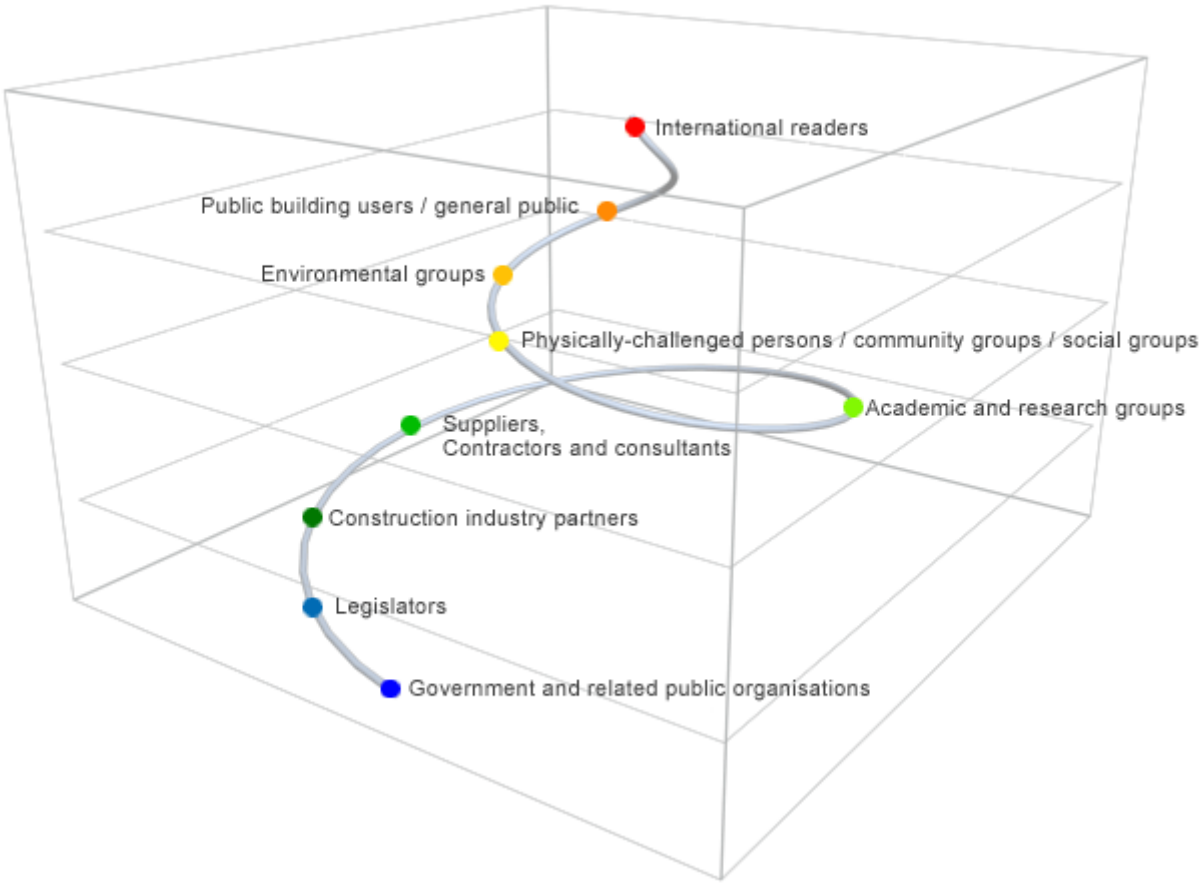
We understand the importance of engaging our stakeholders to enhance the quality of our services and products. The Client Satisfaction Survey on completed projects is an effective way to obtain feedback from our clients. We address the concerns raised by our clients and have identified a number of areas for improvement. From the survey results obtained in late 2002 to 2003, 87% of our completed projects achieved 60% satisfied level or above in the overall performance.

Throughout the past, we have endeavored to build up links with our stakeholders by communicating our performance and achievements and sharing our experience through the annual reporting process. We are grateful to have valuable feedbacks from our stakeholders on our previous reports. For example, we have comments saying that our reports were interesting, informative, useful and well presented. On areas like the health, safety and social performance and the case highlight, we were happy to receive several excellent ratings from our stakeholders. On the other hand, we were commented of the inappropriate timing of the report and could not provide up-to-date information on our targets and performance. Though we have targeted to publish this year's report earlier, this was hampered by the need to make reference to the Global Reporting Initiative's Draft Sector Supplement for Public Agencies, which was only issued in August 2004.

For further Information

If you are interested in obtaining more information, please visit our website at http://www.archsd.gov.hk/ or
contact Ms. Karen Cheng, Quality and Environmental Management Unit, by phone at 2867 3682, fax at 2290 2271 or
email to chengkl@archsd.gov.hk.

A Roadmap for Our Stakeholders



Topics

Policy and Management

QEHS policy and Governance structure

Organizational profile

Response to public needs

Key Issues and Initiatives

Economic / Environmental / Social performance

Improvement works to SARS wards

Improvement works to Sai Kung Promenade

Social responsibility towards the community

Key Performance Indicators

Economic / Environmental / Social performance

Supply Chain

Supplier and contractor management

Sustainable procurement

Compliance

Environmental compliance statistics

H&S compliance statistics

Objectives and Targets

Economic / Environmental / Social performance

Looking Ahead

Statistics and Verification

Highlights for 2003

Summary of statistics for 2003

Verification statement by independent third party

QEHS = Quality, Environmental, Health and Safety

H&S = Health and Safety

Organizational Profile

Vision, Mission, Core Values

Vision	Mission	Core Values
To maintain our position as the leading practice for procuring and maintaining community facilities	To provide services in a professional manner	Cost and time efficient project delivery High professional quality standards Responsible practices and sound QEHS and social performance

Director of Architectural Services

QEHS Management and Strategic Units / Committees

Departmental Safety and Environmental Advisory Unit (DSEAU) >

ISO 9001 and ISO 14001 Working Group >

Deputy Director of Architectural Services

Quality and Environmental Management Committee

< Quality and Environmental Management Unit (QEMU)

< Green Manager Committee

Divisional Structure, Capability and Staffing

Building Services Branch
- Building Services Engineers

Property Services Branch
- Property Services Managers

Project Management Branch
- Project Managers

Architectural Branch
- Architects and Landscape Architects

Headquarters
- Human resources and supporting staff

Quantity Surveying Branch
- Quantity Surveyors

Structural Engineering Branch
- Structural Engineers

	DAILY	FACILITIES	FACILITIES UPKEEP	MONITORING &

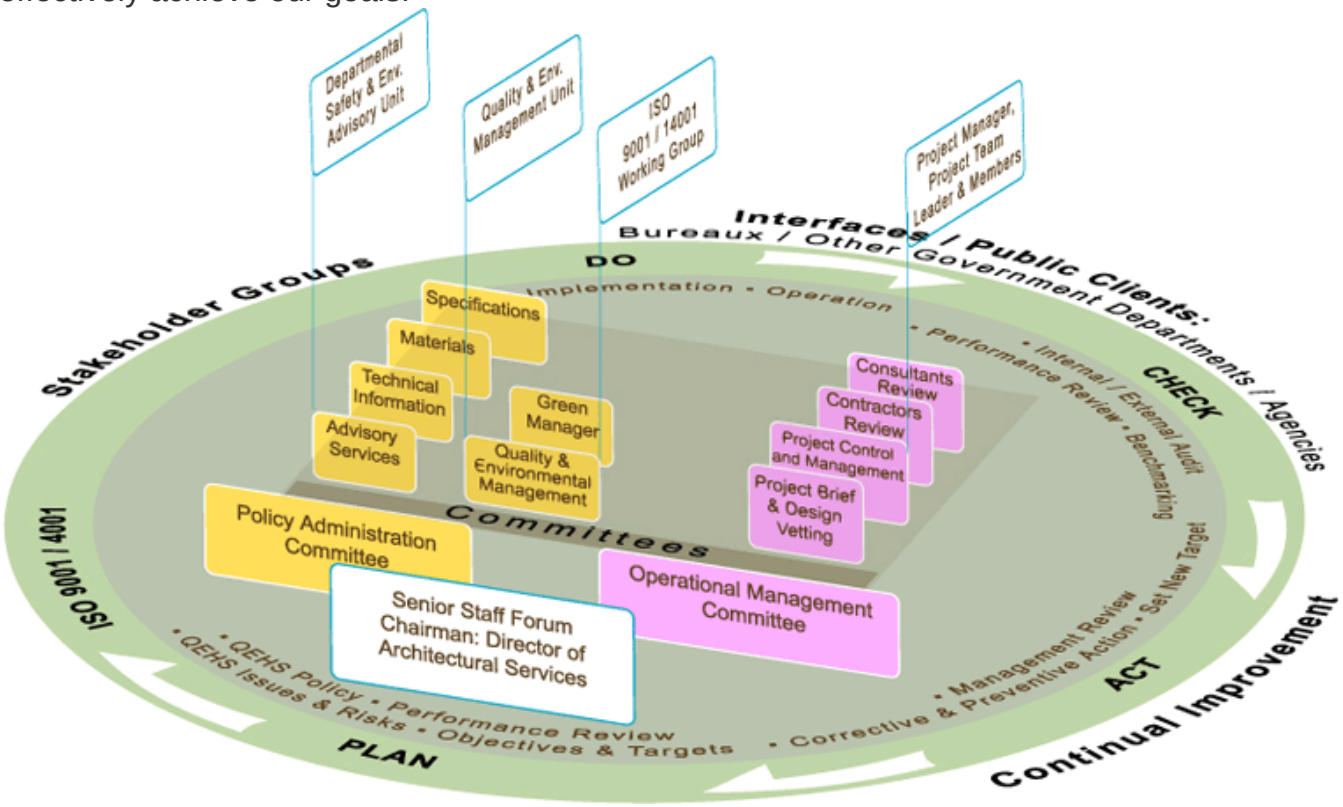
	OPERATIONS Office Activities	**DEVELOPMENT** Planning & Design / Construction & Demolition	Maintenance & Renovation	**ADVISORY SERVICES** Monitoring & Advice
Accountability	ArchSD Headquarters and all branches	ArchSD Headquarters and all branches	Property Services Branch	ArchSD Headquarters and all branches
Responsibility	**Senior management and directorate level involved in:** - Formulating vision and strategies; and - Overseeing operations **Frontline and working level involved in:** - Implementing overarching principles, policies and initiatives; - Addressing clients / users needs	**Executive, management, supervisory and frontline staff involved in providing professional and project management services, including:** - Designing facilities to meet the client / user's needs; - Assisting user departments to develop and specify their requirements; and - Appointing contractors and consultants and monitoring their work to ensure compliance with ArchSD's requirements	**Executive, management, supervisory and frontline staff involved in:** - Maintaining government buildings and facilities; - Maintaining non-government premises such as schools and hospitals; and - Refurbishment, fitting-out, alterations, additions, and improvements and emergency repairs to all properties maintained by the Branch	**Executive, management, supervisory and frontline staff involved in:** - Providing professional and technical advice to Government and quasi-government organizations on construction costs, practices and standards in relation to building, engineering and landscaping services; - Supervising subvented and joint-venture projects to ensure value for money and conformance with government requirements

Consultants, Contractors, & Suppliers Under Out Management	**Contractors and suppliers for:** Office supplies, housekeeping, office refurbishment / fire services and security installations, IT systems, transportation, etc.	**6 major categories of consultants for:** Architectural landscape, architectural, building services, building surveying, quantity surveying and structural engineering.	**31 categories of specialist contractors and suppliers, including those for:** Land piling, space frame system, landscaping, air-conditioning, audio electronics, burglar alarm and security, electrical, uninterruptible power supply, fire services, fountain, lift, escalator and passenger conveyor, mechanical plant and equipment, repair and restoration of historic buildings, etc.	Consultants and contractors employed under subvented and quasi-government organizations and owners of subvented projects.

Output	Conduct of daily operations in light of the vision, mission and core values and the administration and management of ArchSD's policies and operations for all of the major service areas.	**Planning and development of buildings to serve:** - Commercial needs: office and multi-purpose buildings - Domestic needs: government quarters and village housing - Educational needs: schools and education centres - Security needs: police / fire stations and magistracy buildings - Industrial needs: workshops and depots - Recreational needs: swimming pools, recreation centres and parks - Medical needs: hospitals,clinics and health centres - Heritage needs: restored / re-adapted heritage buildings	**Maintenance / monitoring / upgrades of buildings to achieve:** - Clean, tidy building spaces; - Functional building components (e.g. A/C, electrical, lift, fire service, security, IT connection, etc); - Renovated building space and upgraded service features; and - Buildings incorporated with accessibility features for the physically-challenged	**Provision of professional advice for government projects and subvented / entrusted projects to ensure:** - Professional considerations for technical, structural, architectural and building services requirements; - Due considerations for environmental sustainability; - Attention to health and safety requirements; - Considerations for landscaping and innovative ideas; and - "Value for Money" design and construction

Our Governance Structure

The organization model of ArchSD is basically a 4 tiers structure which falls in line with the "Plan-Do-Check-Act" cycle. The top tier has the strategic planning role in determining the vision, commitment and strategic goals for the department. The second tier has the management role in setting the improvement goals and improvement processes, determining alternatives, reviewing and monitoring the management system. The third and fourth tiers are responsible to execute tasks, resolve problems and render technical, administrative and clerical support to effectively achieve our goals.



Our QEHS Policies

To design, procure, maintain property and advise professionally

Architectural Services Department, when offering our Clients a comprehensive range of multi-disciplinary professional and technical services for public buildings and facilities, is committed to :

- Fulfil the agreed requirements of our Clients to the highest professional standards.
- Deliver our services in an environmentally responsible manner by implementing conservation of energy, preventing pollution and reducing the consumption of natural resources.
- Manage our health and safety risks to ensure a safe and healthy environment for our staff, our contractors and other people who may be affected by our work.
- Comply with all relevant legislation and regulations as a minimum requirement, and, wherever practicable, to achieve standards beyond those that are legally required.
- Provide adequate resources as well as training to all staff to continually improve our quality, environmental, health and safety performance and effectiveness.
- Promote Arch SD's principles of quality, environmental sustainability, health and safety to our partners in work, the construction industry and the general public.

Yue Chi Hang, JP

Director of Architectural Services

2003 Highligts

In 2003, we have:

Economic Performance

Managed projects totaling HK$56 billion with HK$11.67 billion allocated to capital expenditures in 2003 (comprising 41% of the capital works expenditure of all Works Departments of the HKSAR Government) and a further expenditure of HK$2.32 billion on routine maintenance and minor alteration work
Completed a total of 62 new major facilities, including 26 new schools, 2 school improvement projects, 1 cremator replacement, 7 recreation and government facilities, 9 hospital redevelopment and improvement projects, 2 toilet improvement works, 2 markets, 4 facilities improvement works, 5 enhancement of security facilities, 2 buildings of the Science Park and 2 fire stations with ambulance depot
Completed several major projects including Hong Kong Science Park (Phase 1b), Police Dog Unit and Force Search Unit Complex, Tin Shui Wai Fire Station cum Ambulance Depot, Jordan Valley Playground Phase II, Stage II, School Improvement Programme Phase II Package 3, Replacement of Cremators at Kwai Chung Crematorium, Sai Kung Waterfront Improvement, Expansion of Kiosks and Other Facilities at Lok Ma Chau Boundary Crossing, Enhancement of Infection Control Facilities in Hospitals, Tai Po Market Complex, Centre Street Market at Sai Ying Pun
Maintained and serviced 27,440,000 m^2 of HKSAR Government properties
Provided 5,700 professional advice to subvented/entrusted projects and 5,100 advice to other projects

Environmental Performance

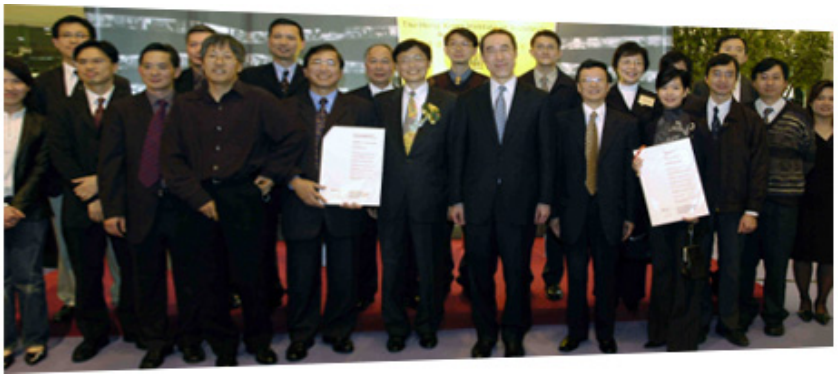
Provided 282 general advice on environmental sustainability issues.
Provided specific advice on environmental sustainability issues to 208 projects.
Incorporated 3.94m^3 concrete per $M contract sum and 3.12$m^3$ hardcore per $M contract sum using recycled aggregate in the contract requirements
Planted 35,300 m^2 of landscaped areas within the urban environment with 1,056,289 trees, shrubs and annuals
Incorporated roof garden to 70% of our new projects and incorporated landscape in 100% of new projects
Saved an estimated HK$108 million off our clients' electricity consumption in 2003 through energy efficient designs

Social Performance

Enhanced 927 nos. of isolation beds in 6 acute hospitals to combat the possible resurgence of SARS
Inspected the drainage systems of 431 nos. of schools and staff quarters to combat SARS
Commenced the upgrading of 18 modification projects to government facilities to cater for the needs of physically-challenged persons, an investment totaling HK$3.43 million.
Experienced a construction site accident frequency rate of 0.68 per 100,000 manhours in comparison to the HK construction industry rate of 1.89 per 100,000 manhours
Provided training to 407 staff from consultants and contractors on site safety and environmental management
Completed independent site audits to 90 - 120 ArchSD's sites each month to check the effectiveness of mosquito control
Developed tool-box talks on Dengue Fever and distributed to contractors as reference for conducting their own training

Awards

Achieved the highest rating of "Excellent" under the Hong Kong Building Environmental Assessment Method (HK-BEAM) for new office design for the Photonics Centre (Building 4a) and the Wireless Centre (Building 4b) of Science Park
Attained 177 energy efficiency registration certificates for building services systems in a total of 43 new projects under the Energy Efficiency Registration Scheme
Received HKIA Merit Award for the project Public Health Laboratory Centre and the President's Prize for the project Improvement to Sai Kung Waterfront under the Hong Kong Institute of Architects Annual Awards 2003
Received a Commendation for Sustainability Reporting in the Association of Chartered Certified Accountants (ACCA) Hong Kong Sustainability Reporting Awards 2003 for our EHS Report 2003



Economic Performance

Key Economic Performance Indicators in Financial Year 2003/04

Facilities Development
339 capital projects valued at HK$56 billion on rolling programme
92 capital projects completed with expenditure of HK$11,670M on works

Facilities Upkeep
27,400,000 m^2 of gross floor area maintained
363,000 works orders completed with expenditure of HK$4,648M

Monitoring and Advisory Services
900 subvented projects monitored valued at HK$58 billion
5,700 technical advice given for subvented projects
5,100 technical advice given for other projects

Business Areas

Working under the Secretary for the Environment, Transport and Works, ArchSD acts as Government's architect in providing full professional, technical and financial management services for the development and maintenance of public buildings (other than public housing) in three main areas:

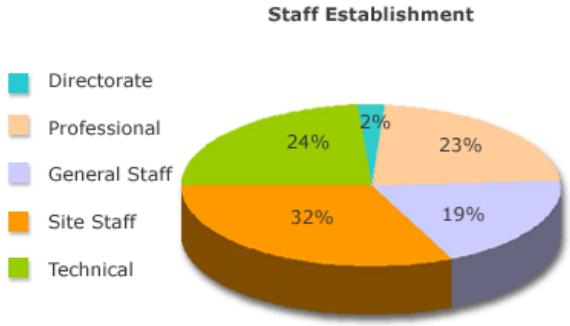
1. Technical advice and monitoring services to all bureaux and departments on projects receiving government subvention and on government projects entrusted to or in joint venture with the private sector. About 900 projects, valued at $58 billion, were monitored during the year;

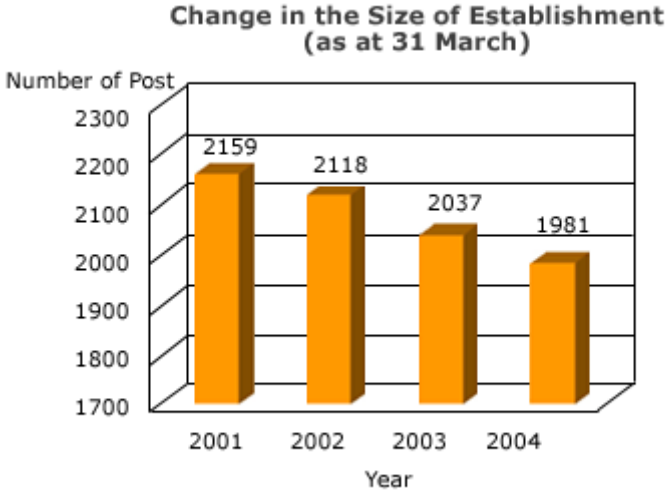
2. Professional and technical services for project management, design and supervision of the construction of building projects in the Public Works Programme and those of the Hospital Authority (HA). During the year, the rolling programme covered 339 projects at a total value of about $56 billion; and

3. Building maintenance services, including the provision of general maintenance for all public buildings and facilities as well as those of the HA, covering a total floor area of approximately 27.4 million m^2. ArchSD also undertakes conservation and restoration of listed buildings and gazetted monuments and emergency and major repairs to all subvented schools outside public housing estates.

Our Staff

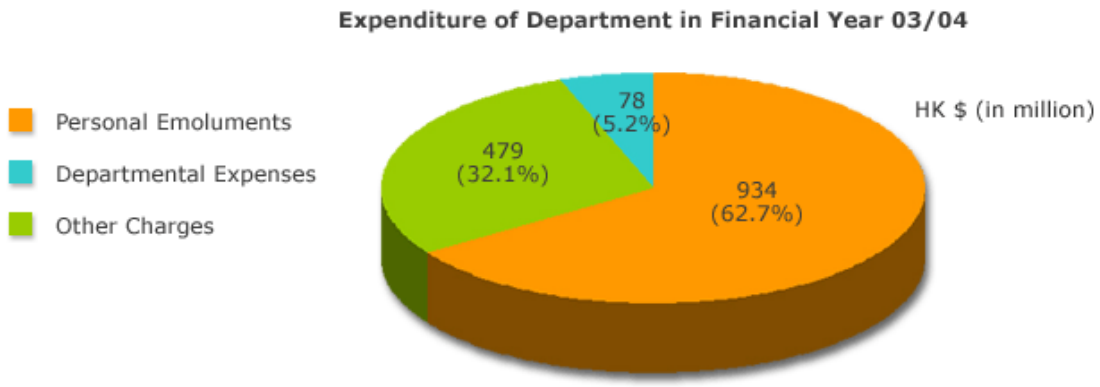
As at 31 March of 2004, ArchSD has 1981 staff comprising architects, building services engineers, landscape architects, maintenance surveyors, quantity surveyors, structural engineers, technical officers, site supervisory staff and general grade officers. They are all based in Hong Kong and among them about 24% are female staff working in various ranks.

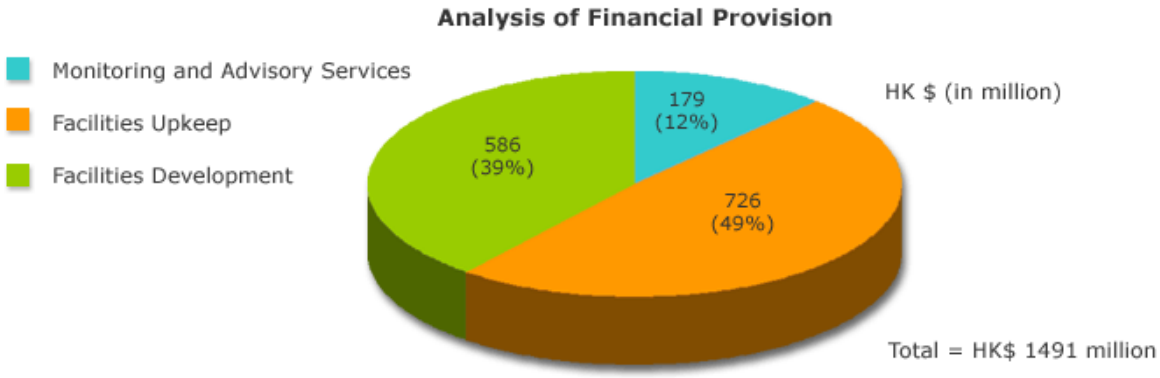




Funding and Expenditure

The funding source for the departmental expenditure and capital works expenditure are mainly allocated from the General Revenue Account and the Capital Works Reserve Fund of the HKSAR Government. The departmental expenditure for 2003/04 is $1,491 million with a reduction of 2.9% as compared with that of 2002/03.





In 2003, the actual expenditure on building projects undertaken or monitored by the department was $11.67 billion. The building projects undertaken by the department were mainly under the categories of schools; disciplined services like fire stations, ambulance depots, police headquarters, immigration service training school and boundary crossing facilities; medical and health like the hospital improvement projects; recreation, culture and tourism like the market complex, visitor center and waterfront projects etc.

More comprehensive information of our financial performance is described in our Controlling Officer's Report which is available from the HKSAR Government website at http://www.budget.gov.hk.

Goals, Targets & Performance

Key Issues	Key Initiatives
Project budget planning	Financial control targets for projects and daily operations Technical feasibility study to identify opportunities for integrating cost-effective sustainable design to projects Value Management process to identify innovative ideas and stakeholder views early in the planning stage

Project expenditure control	Implementation of ISO 9001 Quality Management System to ensure sound fiscal and quality management of projects "Approved Project Estimate" (APE) mechanism for budget control Monitoring and reporting on financial performance including monthly budget reports, internal and external audits and the annual Controlling Officer's Report for the Public
Responsible procurement and tendering	Incorporation of sustainability principles in all projects Adoption of ArchSD's partnering approach with the private sector Process to select approved consultants and contractors, and to monitor and assess their performance in compliance with ArchSD's requirements
Efficient and effective services	Provision of a one-stop-shop for architectural and engineering advisory and monitoring services Fostering of a customer service culture Open forums for users to receive feedback and assess the efficiency and effectiveness of ArchSD's services

Legend: = target substantially achieved; = target achieved; = target progressing; = target not achieved

LONG-TERM GOAL

- **Implementation of projects based on prudent financial principles and high quality standards in a time and resource efficient manner.**
- **Management of operational funds to meet budget requirements and ensure financial stability.**

Key Objectives	Key Targets	Measurement Methods / Indicators	2003 Performance and Status		Follow-on Targets for 2004 and Beyond
Assess client satisfaction	Conduct client satisfaction surveys for newly completed projects and set up a Client Satisfaction Index (CSI)	Measured in terms of no. of client satisfaction surveys conducted and identification of improvement areas for the following year	12 client satisfaction survey completed in 2003. A client Satisfaction Index was set up at end of 2003		Conduct client satisfaction survey for at least 12 newly completed projects and 90% of projects to achieve Satisfied Level on the overall performance

Improve timeliness of service and project delivery	Deliver, in a timely manner, at least 80% of projects scheduled for completion within the financial year 2003/04	Measured in terms of % of no. of projects that are completed on schedule out of total no.	97% of projects (28 out of 29) were completed on time.		Deliver, in a timely manner, at least 90% of projects scheduled for completion within the financial year 2004/05
	Provide advice on building, engineering services and planning and development issues within 10 calendar days of receipt of request for 90% of all subvented projects	Measured in terms of % of no. of advice that are provided within 10 days out of total no.	92% of advice (2531 out of 2751) were provided within 10 days		Same target on-going
	Attend to 99% emergency repairs, e.g. a burst water pipe, on Hong Kong Island, in Kowloon and new towns in the New Territories, within 1 hour of notification	Measured In terms of % of no. of emergency repairs that are attended to within 1 hour of notification out of total no.	99.66% of urgent repairs (4,103 out of 4,117) were attended to within 1 hour of notification		Same target on-going

	Outsource public projects to harness resources in the private sector	Measured in terms of % of total value of capital works projects under ArchSD mandate that are outsourced to private sector	59% (about HK $35 billion) of total value of capital works projects under ArchSD mandate were outsourced to private sector		Same target on-going
Promote improvements in standard of services	Complete the review of the existing General Specification on Buildings and prepare for the publishing of a new edition of the General Specification by end of 2003	Measured in terms of progress towards publishing a new edition of the General Specification by end of 2003	The 2003 Edition of the General Specification for Building was issued in Dec 2003		Target completed

Environmental Performance

Key Environmental Performance Indicators in 2003

Energy, Materials and Resources Consumption	
Electricity (APB Centre only):	2,588 MWh; 250 kWh per m^2
Building Integrated Photovoltaic (BIPV) adopted:	120kW BIPV system at the Science Park Buildings, 8kW solar heating panel system at the Sha Tau Kok Fire Station and Police Dog Unit & Force Search Unit at Sha Ling
Types of fire suppressants/extinguishing agents:	CO_2, Clean Agent Type Gaseous Systems including FM200, FE13, FIC
Types of refrigerants:	R134a, R407c, R410a, CO_2, Ammonia
Paper and paper products:	200 tonnes

Emissions, Waste and Compliance	
GHG emissions equivalents (APB Centre only):	1,139 tonnes CO_2
GHG emissions reduction equivalents (new projects):	47,500 tonnes CO_2
Construction and Demolition (C&D) Waste disposed of to landfills:	107,126 tonnes

C&D materials disposed of to public fill areas:	474,357 m^3
Construction sites adopted the trip ticket system:	179 nos.
Environmental convictions:	one on water pollution and 11 on noise pollution

Supplier/Contractor/Consultant Management and Service Stewardship	
On-site review of contractor performance:	4,714 contractor performance reports completed (reviewed quarterly)
Review of consultant performance:	693 consultant performance reports completed (reviewed quarterly)
Green Contractor Awards Scheme:	118 sites participated, 5 awards given (1 Gold, 2 Silver and 2 Bronze awards)

Awareness Raising	
No. of environmental training courses (including internal and external seminars / workshops /training courses / visits):	50
No. of trainees on environmental (for ArchSD staff):	777

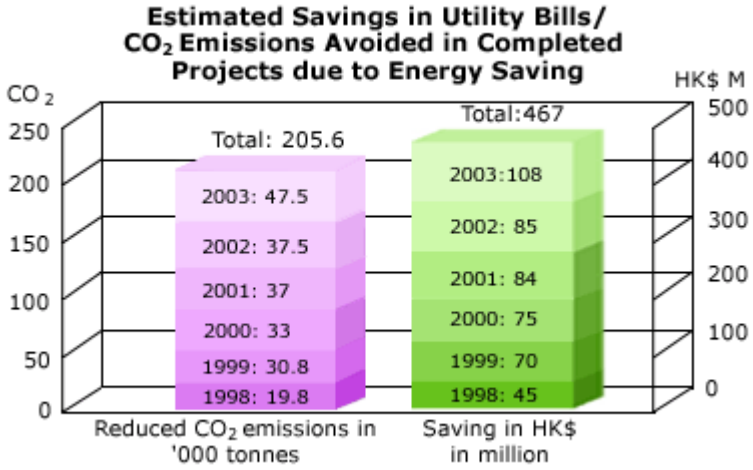
Environmental Expenditure	
Capital expenditure on environmental works (including pollution control, abatement and mitigation; environmental works; ISO 14001 EMS and housekeeping):	HK$399M
Manpower expenditure on environmental works and matters:	HK$77.7M
Expenditure on environmental review and impact assessments for projects:	HK$3.1M
Expenditure on environmental training:	HK$243,435

Reducing Footprint

We are seeking every opportunity to minimize the environmental impact of our products and activities. Through the implementation of sustainable design concepts and sustainable construction practices on site, we carefully plan the integration and compatibility of our projects with the surrounding environment, the conservation and efficient use of land, energy and material resources. In our office, we implement the best practices of green office management and adopt the principle of avoid, reduce, reuse/recycle and use of recycled products for our daily operation.

Energy Efficiency

We take the lead in implementing energy efficient technologies in building services installations. Through the use of water-cooled air-conditioning systems, high efficiency chillers, heat pumps, thermal wheels, high performance lighting systems and demand control systems etc., we achieved an estimated annual saving of 108,000 MWh of energy in 2003. We adopt the “overall energy approach” in building design to critically consider the energy dynamic of buildings so as to achieve good quality built environment while ensuring sustainable use of energy. In 2003, we successfully registered 177 installations under the Energy Efficiency Registration Scheme for Buildings launched by EMSD.



Clean and Renewable Energy

The installation of building integrated photovoltaic (BIPV) system in Science Park Phase I Project is a showcase for implementing renewable energy technology in buildings. It is projected that the series of BIPV installations can save approximately 200 MWh of electricity consumption annually. Other projects completed in 2003 utilizing solar energy for water heating are: Sha Tau Kok Fire Station and Police Dog Unit & Force Search Unit at Sha Ling.

In the project Hong Kong International Wetland Park Phase II, we take the initiative to install the first geothermal heat pump air-conditioning system and utilize the wetland around as a source of heat and a heat sink. Through 468 pairs of vertical geothermal pipe heat exchanger buried in the wetland, heated water from water-cooled refrigeration plants and cool water from water source heat pump are circulated in a common condenser water loop to exchange their energy directly. The system operates at a high efficiency, substantial low running cost and without direct rejection of waste heat into the atmosphere.

Sustainable Building Design

To encourage our staff as well as consultants to commit themselves to environmentally sustainable design, we organize Sustainable Design Awards Competition annually as a recognition of the contribution made by project teams in the sustainable design. We also select projects to go through an environmental performance assessment using the HK-BEAM (Hong Kong Building Environmental Assessment Method). In 2003, the Photonics Centre (Building 4a) and the Wireless Centre (Building 4b) of Science Park have achieved the highest HK-BEAM rating of “Excellent” in terms of environmental design and building management provisions.

In 2003, projects awarded with Certificates of Merit in the Sustainable Design Awards were:

- Re-provisioning of Diamond Hill Crematorium
- Stanley Complex
- Building 4 in Science Park at Pak Shek Kok
- Building 5 in Science Park at Pak Shek Kok
- Primary School in Ma Wan
- Primary School in Sze Mei Street, San Po Kong









Sustainable Construction

We promote best practices on site management by requiring our contractors to implement sustainable site management and best practices. The 'pay for site

cleanliness' and 'pay for waste management' policies have been incorporated in the contract requirements to ensure that payment is given only when contractors meet the stipulated requirements to a satisfactory level. The performances of our contractors in terms of environmental management are closely monitored and assessed on a quarterly basis.

Through the participation in our annual Green Contractor Award Scheme and in the Environment, Transport and Works Bureau's Considerate Contractors Site Award Scheme, awards are given to the contractors to recognize their outstanding performance in pursuing good site safety standards and good environmental site management.

In 2003, five contractors had won awards in the Green Contractor Award Scheme. They were:

Gold Award

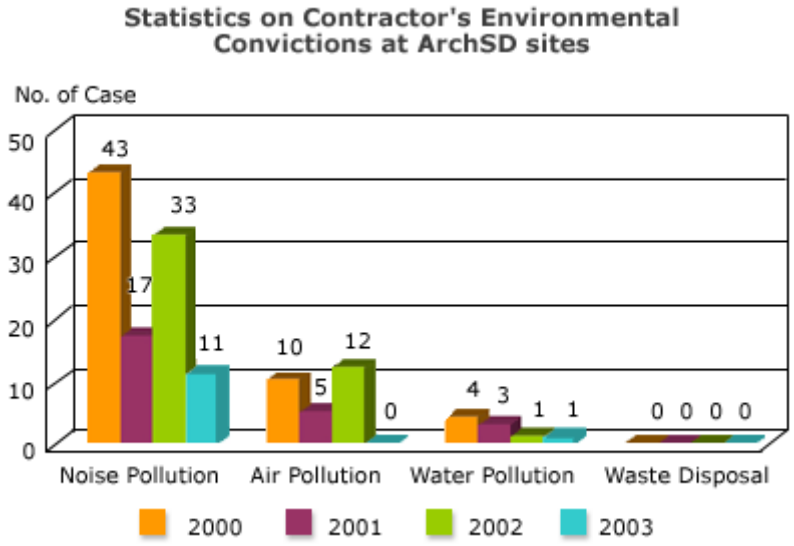
- Gammon Skanska Limited for the Fire Station with Ambulance Depot and Police Post at Penny's Bay

Silver Awards

- Chevalier (Construction) Co. Ltd. for the International Wetland Park and Visitor Centre at Tin Shui Wai - Phase II Works
- Shui On Construction Co. Ltd. for the Castle Peak Hospital Redevelopment - Phase II Stage 2

Bronze Awards

- Free Form Construction Co. Ltd. for the Water Sports Centre at Stanley Main Beach
- Hip Hing Construction Co. Ltd. for the Design and Construction of the N.T. South Regional Police Headquarters and Operational Base at Tsuen Wan.



Sustainable Procurement

Inclusion of requirements for environmentally friendly materials in project specifications has proofed to be an effective way of promoting environmental sustainability. Our General Specification for Building 2003 Edition has been published. In addition to the requirement on the use of timber from certified sustainable forests, the use of environmental friendly carpet, recycled aggregates in concrete and low VOC paint are incorporated.

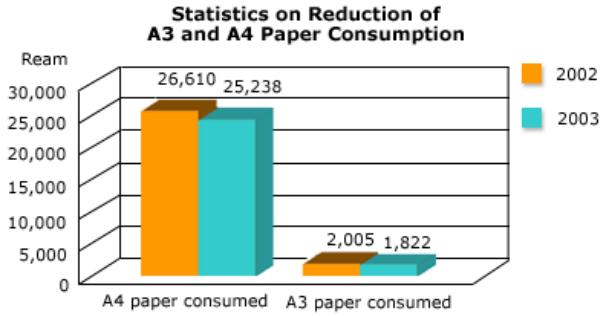
Construction & Demolition Materials

The reduction of C&D wastes continued to be a priority of the Department. The requirements for 'waste management plan' and the implementation of the 'trip ticket system (TTS)' are specified in the contract documents and site works are closely monitored by our site supervisory staff. We issue internal guidelines to tighten the control over the disposal of C&D waste. In 2003, we handled 93,654 nos. of trip tickets from 179 ArchSD's sites and we disposed 474,357 m^3 C&D materials to the Public Fill and 107,126 tonnes C&D wastes to Landfill.

However, we regret that despite our effort in tightening the control, in May 2003 two of our contractors failed to comply with the trip ticket system and had made unauthorized dumping from two of our sites to the Conservation Area at Shuen Wan Marshes. In these incidents, the consultants and the contractors were seriously warned and were required to take immediate action to tighten up the control of the trip ticket system, and at the same time to reinstate the affected land immediately. The corrective actions were then checked and accepted by all concerned parties. We had also reminded all project staff to monitor closely the implementation of the trip ticket system, and carry out thorough checking of the trip ticket records on sites.


Green Office Management

We fully realize the benefits of using electronic media to disseminate information. Since early 2000, we had completed the Government Office Automation Programme. Through the use of e-mail, e-fax, e-manual, e-circular and e-tendering, we achieve great reduction on paper consumption. In 2003, we recorded a reduction of 5% for A4 paper, 9% for A3 paper and 33% for plotting drawing paper as compared with last year's consumption.



Energy Efficiency Awards Scheme

To support the commitment of the Government to cut energy consumption in government buildings, we have implemented a series of energy saving measures in our offices. For example, the installation of timers to automatically switch off non-emergency lighting, exhaust fans and power sockets after office hours, rescheduling the running time of the air-conditioning plants and lift services, the installation of T5 lighting system with electronic ballast and motion sensor during retrofit programmes and the installation of photo sensor to control carpark lighting. In 2003, we achieved a 3% reduction in the total electricity consumption in APB Centre. We also participated in the first Hong Kong Awards for Energy Efficiency and Conservation in Government with the aim to benchmark our performance and to share experience with colleagues in other departments.

Goals, Targets and Performance

Key Issues	Key Initiatives

Environmental design	Inclusion of environmentally sustainable design features and systems Use of HK-BEAM guidelines at the project design stage to maximize the inclusion of environmentally sustainable aspects in buildings Implementation of the value management process to identify innovative ideas and stakeholder views on sustainable design aspects early in the planning stage Provision of advice on environmental design and management to government, quasi-government and subvented organizations and the public
Resource/material use and conservation	Inclusion of requirements to minimize use of resources and materials in specifications Promotion of "green office" culture through ArchSD's Green Manager, Quality and Environmental Management Committee and staff engagement
Energy efficiency	Adoption of Total Energy Approach into the design methodology for air-conditioning systems to achieve satisfactory air quality without compromising energy efficiency Inclusion of Code of Practice for Energy Efficiency requirements
Environmentally preferable building materials	Use of green materials database to source environmental friendly materials Inclusion of requirements for environmentally friendly materials in specifications
Emissions, effluents and waste	Innovative design to minimize emissions, discharges and wastes, arising from building life cycle Implementation of office initiatives to reduce water and energy use, to recycle paper and aluminium cans and to reuse toner cartridges
Renewable and clean energy	Incorporation of clean and renewable energy sources and systems in new projects and building refurbishment wherever feasible
Slope safety, landscaping and biodiversity	Maintenance of slope database to facilitate monitoring, inspection and upgrading of slopes Incorporation of environmentally sensitive and aesthetically pleasing slope features in the design Incorporation of innovative and environmentally sensitive landscaping in the design Consideration of the surrounding environment, local species at the at the project design stage, during construction and in landscaping and slope works
Promoting best practice and higher standards	Recognition of achievements through the Green Contractor Awards and Sustainable Design Awards Strengthening role in research and development Working closely with industrial partners to seek continual improvement

Legend: ⏭= target substantially achieved; ▶= target achieved; ●= target progressing; ◀= target not achieved

LONG-TERM GOAL: **Public buildings that are designed, constructed, refurbished, managed, maintained and demolished based on environmentally sustainable principles.**					
Key Objectives	**Key Targets**	**Measurement Methods / Indicators**	**2003 Performance and Status**		**Follow-on Targets for 2004 and Beyond**
Promote environmental awareness through advisory services to government and quasi-government clients	To give technical advice on environmental protection measures to government departments and quasi-government bodies	Measured in terms of no. of environmental advice given	282 no. of environmental advice given	◀	Same target on-going
	Provide technical advice on environmental protection measures for subvented/ entrusted projects	Measured in terms of no. of environmental advice given	53 nos. of environmental advice given	◀	Same target on-going
Manage contractors through monitoring of environmental performance	Collect and analyze information on contractors' environmental regulatory performance at ArchSD sites	Measured in terms of no. of environmental convictions at ArchSD sites, compare statistics against at all Hong Kong sites	12 environmental convictions (including 1 water pollution, 11 noise pollution, 0 air pollution and 0 waste disposal), compared to a total of 151 (~8%) at all Hong Kong sites	▶	Same target on-going

Strengthen waste management by monitoring waste arising from ArchSD's new projects	Develop a database to monitor construction and demolition material (C&DM) arising from ArchSD's new construction sites	Measured in terms of no. of contracts covered in the database	179 contracts monitored and input into the database with data collected on 10 types of C&DM		Same target on-going
	Develop a database to monitor types of waste arising from maintenance projects	Measured in terms of no. of projects with statistics collected	Statistics of 53 projects collected		Same target on-going
Upgrade existing buildings with environmental installations	Include replacement of lighting systems in planned maintenance and refurbishment projects to make new systems at least 15% more energy efficient than old systems	Measured in terms of % reduction in light of saving in kWh	New systems are about 20% more energy efficient than old ones given an electricity saving of about 834,401 kWh after completion of planned maintenance and refurbishment projects		Include replacement of lighting systems in planned maintenance and refurbishment projects to make new systems at least 20% more energy efficient than old systems
Achieve energy efficiency and conserve energy	Achieve an Overall Thermal Transmission Value (OTTV) of not more than 23 W/m^2 for 92% of all new projects provided with air conditioning, and an OTTV of not more than 18 W/m^2 for 30% of these projects	Measured in terms of % of no. of new projects that achieved the targeted OTTV level out of total no.	100% (11 out of 11) of all new projects have achieved an OTTV of less than 23W/m^2, and 36% (4 out of 11) of new projects have achieved an OTTV of less than 18W/m^2		Same target on-going

	Use fresh water-cooled heat rejection system for central air-conditioning system in 60% of all new projects located within Water Authority designated areas	Measured in terms of % of projects out of total no.	66.7% (2 out of 3) of all new projects located within the designated areas have installed fresh waster-cooled heat rejection system		Same target on-going
Promote the use of renewable and clean energy	Use Nickel-Metal Hydride (Ni-MH) batteries or batteries of equivalent capacity and environmental preference in fire services installations requiring batteries (e.g. fire service system, emergency lighting, burglar alarm, security system, lift and escalator installations) in at least 85% of all new projects	Measured in terms of % of projects out of total no.	87.8% (36 out of 41 projects) complied with the target		This target has become a mandatory requirement for year 2004 onwards

Use environmentally preferable materials (e.g. materials from renewable sources, reusables, recyclables, recycled materials, non-ozone depleting substances, etc.)	Reduce the use of timber by using alternative structural solutions (e.g. metal hoarding, system form-work, metal form-work, semi-pre-cast flooring system, pre-cast roofing, dry walls and other structural means such as steel structural section, left-in formwork, etc.)	Measured in terms of quantity of timber saved per $M in contract value	0.352m^3 /$M timber saved		Same target on-going
	Use recycled structural materials (e.g. recycled aggregate)	Measured in terms of quantity of recycled material used per $M in contract value.	3.94 m^3 /$M concrete & 3.12 m^3 /$M hardcore using recycled aggregate was incorporated in the contract requirements		Same target on-going
Conserve resources	Incorporate water-saving devices in 40% of sanitary appliances in new buildings	Measured in terms of no. of sanitary fittings with water-saving devices in new buildings out of all fittings	Overall, 44% (2,606 out of 5,911) of all sanitary fittings are installed with water-saving devices This included: 55% (1,873 out of 3,396) of water taps are installed with water-saving devices 29% (733 out of 2,515) of water cistern for WCs are installed with below 7.5 litres capacity or with dual flush		Incorporate water-saving devices in 45% of all sanitary appliances all new buildings

			water-saving devices		

Legend: ⏭= target substantially achieved; ▶= target achieved; ●= target progressing; ◀= target not achieved

LONG-TERM GOAL: **Cityscape and open space that is both environmentally sound and aesthetically pleasing**					
Key Objectives	**Key Targets**	**Measurement Methods / Indicators**	**2003 Performance and Status**		**Follow-on Targets for 2004 and Beyond**
Use landscaping as extensively as possible to improve visual and air quality of the urban built environment	Landscape usable roof area (i.e. roof gardens) to 70% of new projects	Measured in terms of no. and % of projects	70% (19 out of 27) of all new building projects have incorporated roof garden	▶	Same target on-going
	Incorporate landscaping in buildings (i.e. terraces, balconies and other covered and semi-covered areas) to 90% of new projects	Measured in terms of no. and % of projects	100% (20 out of 20) of all new projects have incorporated landscaping in building	▶	Incorporate landscaping in buildings for 95% of new projects

Legend: ⏭= target substantially achieved; ▶= target achieved; ●= target progressing; ◀= target not achieved

LONG-TERM GOAL: **Operations conducted with continual improvements in environmental performance**					
Key Objectives	**Key Targets**	**Measurement Methods / Indicators**	**2003 Performance and Status**		**Follow-on Targets for 2004 and Beyond**
Improve the working environment and conserve resources	Reduce electricity use at the ArchSD Property Services Branch (APB) Centre by	Measured in terms of consumption in kWh/m2 and % reduction	250 kWh/m^2 (i.e. 2,588,710 kWh). A reduction of 3.03% in kWh/m2 consumption is achieved compared with 2002	⏭	Reduce electricity use at the ArchSD Property Services

	0.2%				Branch (APB) Centre by a further 3%
Avoid, reduce, reuse and recycle	Use pre-insulated pipes with or without cladding for chilled water riser pipes and pipes in plant room to 40% of all projects.	Measured in terms of no. and % of projects	46.7% (7 out of 15) of all projects complied with the target		Same target on-going
	Collect waste paper, aluminum can and plastic bottle for recycling and monitor quantity for the APB Centre	Measured in terms of quantity collected in kg	5,600kg waste paper, 1,149 nos. of aluminum cans and 1,113 nos. of plastic bottle were collected and sent for recycling		Same target on-going
Promote environmental awareness	Organize/arrange staff participation in courses/ seminars/visits related to environmental issues	Measured in terms of no. of environmental courses/seminars/visits organized for/participated by staff	Staff were signed on to and participated in 50 environmental training courses/seminars/visits		Same target on-going
	Promote environmental awareness to consultants, contractors and the general public through publicity functions, e.g. seminars, interviews, forums and exhibitions	Measured in terms of no. of publicity functions	Organized / participated in 16 publicity functions to promote environmental awareness		Same target on-going

Social Performance

Key Social Performance Indicators in 2003

Health & Safety	
Contractors at ArchSD sites	
Fatalities:	1 case
Accidents and injuries:	331 cases
Fatal accident rate:	0.002
Non-fatal accident rate:	0.68
Internal ArchSD staff	
Fatalities:	0 case
Fatal accident rate (per 100,000 manhours):	0
Reportable non-fatal injuries:	6 cases
Total sick days of all ArchSD's staff:	3,739 days (28,042 manhours)

Facilities for Physically-challenged Staff	
No. of staff with disabilities:	56
No. of car parking spaces for physically-challenged users:	2 out of 37 parking spaces for ArchSD in Queensway headquarter

Staff Training and Development	
Continual learning and training:	4,323 ArchSD staff attended training
No. of H&S training courses (including internal and external seminars/workshops/training courses/visits):	60
No. of trainees on H&S courses (for ArchSD staff only):	2,005

Supplier/Contractor/Consultant Management and Service Stewardship	
Manhour input by contractors on site work:	48,506,739 manhours
On-site review of contractor performance:	4,714 contractor performance reports completed (reviewed quarterly)
Review of consultant performance:	693 consultant performance reports completed (reviewed quarterly)
Green Contractor Awards Scheme:	118 sites participated, 5 awards given (1 Gold, 2 Silver and 2 Bronze awards)
No. of in-house H&S training courses for consultants/contractors:	5
No. of trainees on in-house H&S courses (for consultants/contractors only)	407
No. of projects nominated to participate in the	14

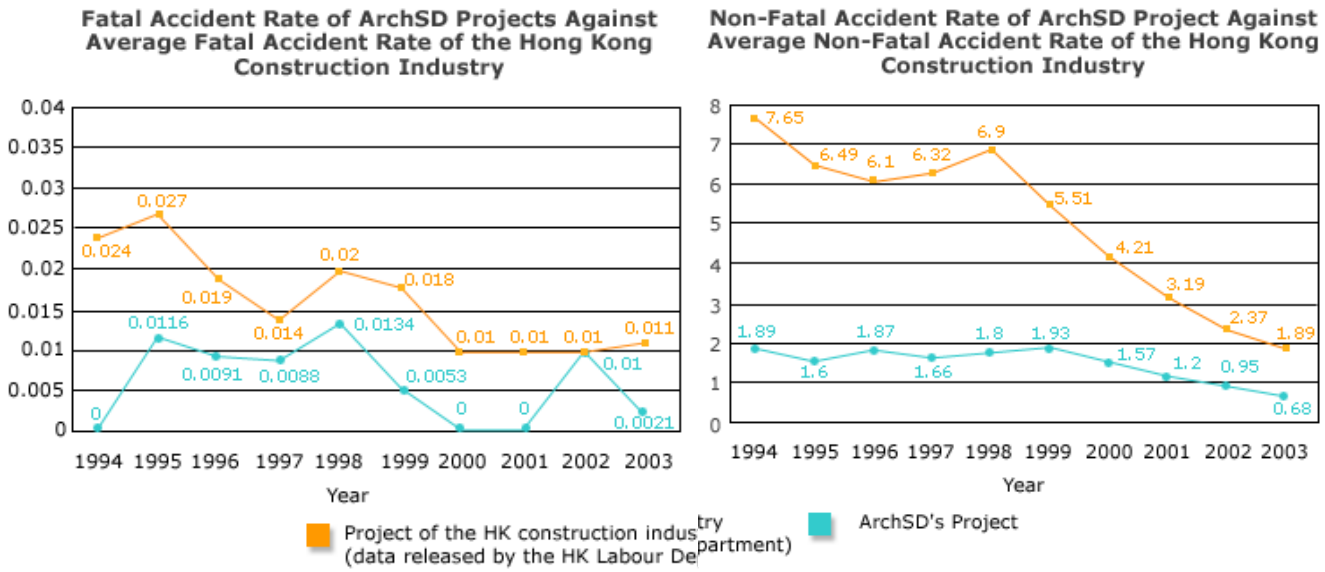
Considerate Contractors Site Award Scheme:	
No. of projects received the Considerate Contractors Site Award:	4

Social Considerations in Design	
% of new building designs that had incorporated social considerations (e.g. for disadvantaged groups):	100%
No. of isolation beds in acute hospitals that had been enhanced with infection control facilities:	927

Community Volunteer Work	
Types of community volunteer work events that staff participated:	Cantonese opera singing performance, house-warming visits to elderly homes and rehabilitation centers, home decoration for the aged
Total no. of voluntary work hours done by ArchSD's staff:	577 hours. ArchSD received a Bronze Award from the Social Welfare Department
Total no. of staff participated in various voluntary works:	33
No. of ArchSD's staff received Commendation for voluntary service:	6
No. of staff participated in blood donation activities organized by ArchSD:	100

Construction Safety

Through the enforcement of best practice and strengthening of our control on health and safety on sites, the non-fatal accident rate was decreased to 0.68 per 100,000 manhours albeit there was one fatality case. We will continue our efforts to closely monitor our safety performance and to conduct more training workshops for our contractors, consultants and site supervisory staff so as to increase their awareness on site safety. In 2003, 14 ArchSD sites participated in the Environment, Transport and Works Bureau's Considerate Contractors Site Award Scheme and 4 sites had received the awards.

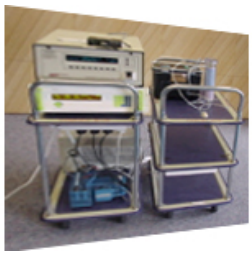


Occupational Health and Safety

We have the responsibility of providing a safe and healthy work environment for our staff, visitors and all those who may be affected by our work. We plan to establish and implement a health and safety management system in accordance with the requirements of the internationally recognized standard, OHSAS 18001 by 2006. A working group is formed to organize the implementation work.

OHSAS = Occupational Health and Safety Assessment Series

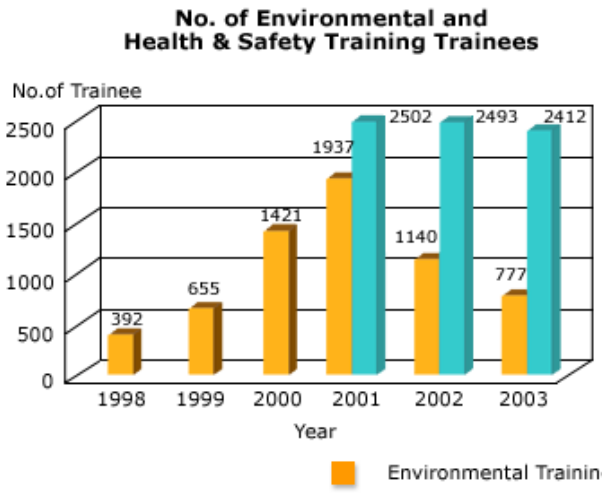
Indoor Air Quality

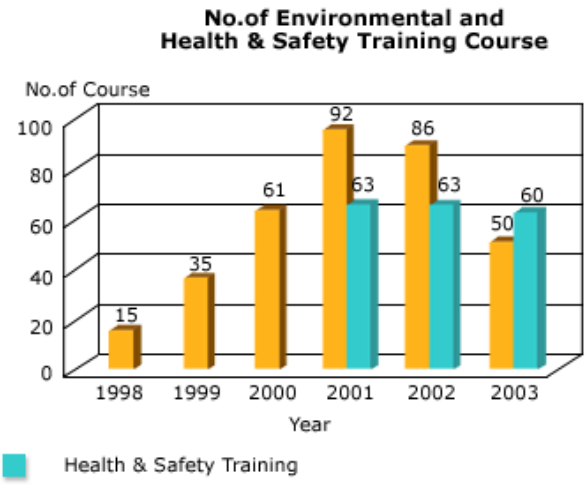


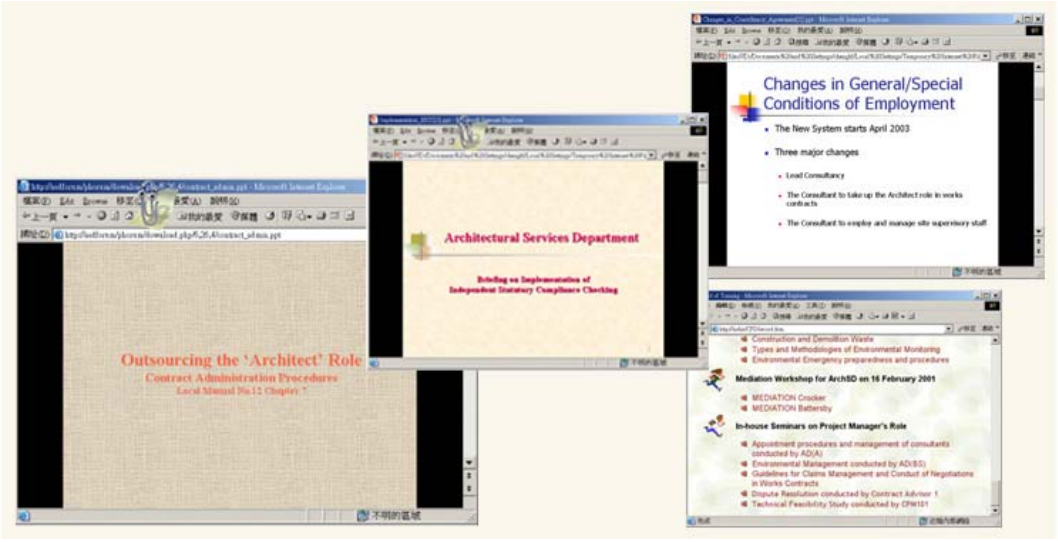
To achieve good indoor air quality in government buildings, we strengthen our competence in handling IAQ issues. Since 2000, we have provided our staff with training courses given by chemists, microbiologists and engineers from universities.Up to now, we have already trained-up over 200 staff and equipped them with either the basic, intermediate or advance IAQ knowledge and skills. We procure IAQ measurement instruments, set up an IAQ laboratory and establish an in-house IAQ assessment team. We plan to conduct measurements in our new projects as to verify the effectiveness of our design for indoor air quality.

Staff Development and Training

Our staff are our greatest asset. We implement a series of capacity building programmes to give staff opportunities to develop their skill and capability of taking up new responsibilities and challenges. In 2003, 6,974 staff attended training courses, seminars and workshops on technical, management, environmental, health and safety and self-development aspects. We also launch a cost effective e-learning initiative by sharing training materials with our staff through our departmental intranet.







Staff Activities

Striking a balance between work and health is always the aspiration of our staff. In 2003, a series of self-initiative sports activities were organized, like the Tai-chi classes, lunch-time swimming sessions, singing performances and charity marathons. A number of activities were also held by our staff associations in collaboration with professional institutions, like the technical site visits to some of the prestigious buildings, lunch time talks and shows, golf competitions, etc.

We Concern And Care To Those In Need

ArchSD Volunteer Service Team, consists of more than 30 core members at present, actively participates in voluntary services for the community. Throughout the year, the Voluntary Service Team had organized various social and recreational activities for the aged and people with mental or physical disabilities, such as performed Cantonese opera singing shows in elderly residential homes and provided household renovation services for the elderlies living in public estates etc. During the SARS period, our staff had also participated in the Territory-wide Cleansing Day and we had raised HK$137,000 from staff for the We Care Education Fund.

Cultural Heritage

ArchSD realizes the importance of heritage conservation as to retain and safeguard the cultural significance of a place with respect of the existing historical and physical integrity of the cultural property. In close collaboration with the Antiquities Authority, we have handled a number of conservation projects, like the King Law Ka Suk Ancestral Hall, Kun Ting Study Hall, Restoration of Tai Fu Tai Nobleman's House, Sai Ying Pun District Community Centre, etc. Our dedicated effort is recognized and we are honoured to receive a number of heritage awards given by renowned organizations, like the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Architects Regional Council Asia and the Hong Kong Institute of Architect.

Universal Accessibility

People with different abilities are part of our community. Like all others, they are entitled to play an active role in community life. Taking into consideration the need to provide better access facilities for people with disabilities and the trend of increasing number of age people, we take the initiative to study the issue of universal accessibility with the objectives to increase the awareness, to initiate innovative design towards a more accessible and sustainable environment and to recommend best practices and design guidelines on universal accessibility.

Goals, Targets and Performance

Key Issues	Key Initiatives
Health and safety practices	Ongoing assessment and audits of site safety by ArchSD staff Implementation of the "Pay for Safety Scheme" to ensure contractors to prioritize adequate resources for implementing health and safety measures Participation in ETWB's Considerate Contractor Site Award Scheme that rewards excellence in health and safety practices Provision of seminars and talks on health and safety practices
Building safety	Incorporation of building safety features Inclusion of contractual requirements for building safety in new projects and improvement works Provision of assistance to implement safety design and management principles in accordance with UK's "Construction (Design & Management) Regulation"
Building accessibility	Incorporation of building accessibility features to meet the needs of the physically-challenged Inclusion of contractual requirements for building accessibility in new projects and improvement works Provision of technical advice and support on building accessibility to the government
Cultural heritage	Restoration and preservation of historically/culturally listed buildings and monuments Provision of advice and support on historically/culturally listed buildings and monuments and on adaptive reuse/preservation of historical buildings
Indoor air quality	Incorporation of building features and building services installations to strive for excellent indoor air quality (e.g. use of pre-treated fresh air, air-flow pathways, environmentally preferable materials) Inclusion of contractual requirements on indoor air quality for new projects and improvement works
Working environment	Adherence to HKSAR Government policies on human rights, equal opportunities and non-discrimination Provision of a healthy office culture (e.g. stress management, Tai Chi classes, work ergonomics, green plants)
Staff development and training	Review of annual staff training needs and provision of induction, refresher and new-skills training Provision of health and safety promotion workshops Provision on training for consultants and contractors according to community EHS requirements and to assist them to improve performance
Volunteer Work	Participation to voluntary services and social charities

Legend: ⏭= target substantially achieved; ▶= target achieved; ●= target progressing; ◀= target not achieved

LONG-TERM GOAL: Projects that are implemented in a socially responsible manner taking into account the relevant health and safety, social and cultural heritage concerns					
Key Objectives	**Key Targets**	**Measurement Methods / Indicators**	**2003 Performance and Status**		**Follow-on Targets for 2004 and Beyond**
Improve air quality in the built environment	Install carbon dioxide monitoring sensors to control the amount of fresh air to ensure carbon dioxide level is lower than 800 ppm for 85% of all new projects with central air conditioning system	Measured in terms of no. of projects	87.8% (8 out of 9) of all new projects complied with the target		Remark:This target has become a mandatory requirement for year 2004 onwards
Improve health and safety performance at ArchSD sites	Reduce accident rate to 1.25 per 100,000 manhours (equivalent to less than 45 accidents per 1,000 workers per year)	Measured in terms of the rate of an accident occurring for each 100,000 manhours	Accident rate is 0.68 per 100,000 manhours.		Reduce accident rate to 1.0 per 100,000 manhours (equivalent to less than 36 accidents per 1,000 workers per year)
Promote safety awareness	Organize in-house construction site safety workshops / seminars / site visits for staff and contractors and consultants	Measured in terms of no. of workshops / seminars / site visits organized	10 in-house safety workshops / seminars and 1 site visit have been organized for ArchSD staff and consultants, with a total of 1391 attendants.		Same target on-going

	Arrange staff to participate in external construction site safety workshops / seminars / courses	Measured in terms of no. and types of site safety courses, workshops, seminars, visits that are organized for / participated by staff	1021 ArchSD staff attended external safety workshops / seminars / courses provided by external parties		Same target on-going
Build capacity	Organize training activities based on an annual departmental training plan compiled by all branches	Measured in terms of no. of participants which met the annual departmental training plan.	4,323 staff had received training and the achievement is 100%		Same target on-going
	Provide at least 1.5 mandays continuous professional development training for all building services staff in a year	Measured in terms of no. of mandays for continuous professional development training	2.3 mandays continuous professional development training was provided for all BS staff		The same performance will be maintained for coming years

Legend: ⏭= target substantially achieved; ▶= target achieved; ●= target progressing; ◀= target not achieved

LONG-TERM GOAL: **Appropriate considerations are given to specific stakeholder concerns through the maintenance of dialogue with suppliers, contractors and all user communities and other interest parties**					
Key Objectives	**Key Targets**	**Measurement Methods / Indicators**	**2003 Performance and Status**		**Follow-on Targets for 2004 and Beyond**
Maintain dialogue with key stakeholders and address their concerns	Review feedback from stakeholders on EHS Report and address in next report	Measured in terms of feedback addressed in 2003 report	Feedback addressed in the section "To Our Readers"		Same target on-going

Case Highlight

Improvement Works to SARS Wards

The outbreak of Severe Acute Respiratory Syndrome (SARS) in 2003 exposed the urgent need to enhance the infection control facilities in public hospitals in order to combat the possible resurgence of SARS in future. An improvement plan was drawn up immediately to list out all necessary alteration and improvement works to enhance the infection control facilities of 6 acute hospitals, namely Pamela Youde Nethersole Eastern Hospital, Prince of Wales Hospital, Princess Margaret Hospital (PMH), Queen Elizabeth Hospital, Queen Mary Hospital and Tuen Mun Hospital.

Despite the constraints of extremely tight time frame, the requirement of maintaining ongoing service of the hospitals and the limitations of the physical layout of existing ward areas, we were able to complete all the improvement works as scheduled.

Enhancing the infection control facilities
Creation of negative pressure in isolation rooms or cubicles in relation to surrounding areas;
Dilution of bioload by having air flowing from lower to higher risk areas with sufficient air change rates;
Installation of HEPA filters for air purification;
Prevention of cross-contamination by minimizing air turbulences and setting proper compartmentation;
Providing more gowning/de-gowning areas for proper fitting and appropriate removal of personal protective equipment and hand-washing facilities for promoting hand hygiene to guard against transmission of the disease by contact
Providing shower facilities for washing off respiratory secretions, body fluids or excreta of patients

Solving the critical problems encountered
The improvement works to 6 acute hospitals were started in July 2003 and completed in March 2004
It involved a total of 28,616 m^2 floor areas and 927 beds were enhanced exceeding the original scope of 890 beds, which including 59 isolation beds in ICU, 868 beds in Isolation Wards
Existing site configurations were found smaller than the planned one and redesign works were required to suit the site constraint
Ongoing medical services should be maintained which imposed the need for a decanting programme
Services diversion works were required to support the decanting of wards
Most of the work had to be carried out at night time to suit the operational needs of the hospitals whilst at the same time mitigation works were required to minimize nuisance to patients
Defective pipework and building conditions required urgent repair and rectification works prior to conversion into isolation rooms
Insufficient power supply to support the new air-conditioning and mechanical ventilation systems in the isolation wards required new transformers and emergency generators
Insufficient chilled water supply to support the new air-conditioning system required the installation of new chillers

Improvement Works to Sai Kung Promenade

Sai Kung, known as Hong Kong's Back Garden, is embraced with some of the finest scenery, traditional villages, a great diversity of activities, and is designated as a tourism development region. To sustain the long-term development of the tourism industry in Hong Kong, improvement works to Sai Kung Waterfront is initiated.

The Sai Kung Waterfront Park is converted from a neglected park and has been re-designed and re-vitalized as the new landmark of the Sai Kung District. Inside the Park are alfresco dining places, kiosks, self-serviced visitor center, a feature pool, a chess garden and sitting out areas. The development of the Park has become a success story of the "local economy development" model.

Key Social and Environmental Features

Community Needs and Accessibility
A gathering place for relaxation, outdoor performance and social interaction
A visitor's pavilion at the entrance with banners in ten different languages welcoming visitors from all parts of the world

- Interactive touch screen and large Sai Kung map provide geographical and tourist information
- Accessible by various means of transportation
- A gateway to the tranquility of the Sai Kung Country Park

Cultural Heritage

- Unique town park with heritage and identity
- A delightful blend of traditional charm and modern appeal and a mixture of Chinese and Western
- Giant paper sampans printed with newscripts tell the history of Sai Kung

Sustainable Planning and Design

- Recycling existing urban space in enhancing spatial and functional linkage
- Conversion and modification of existing structures to become alfresco dining places, kiosks and covered walkway
- Making the open space more convenient, user-friendly and consistent with Sai Kung's leisurely mood

Environmental Compatibility

- Pleasant and environmental friendly natural cooling by the sea to replace mechanical air-conditioning
- Alfresco dining areas sit beside the sea enjoying the breeze while tasting the most delicious cuisines
- Use of certified timber from sustainable forest
- Newly built toilets right behind the bus terminal serve as a noise buffet for the park

Landscaping Biodiversity

- Preservation of existing palm trees together with the new timber trellis to provide natural shading
- Grassy chess garden under the shade of trees

Social Responsibility Towards the Community

"Serve with Heart, Live with Passion". This is the motto of our staff in the Voluntary Service Team, who are self-motivated to offer assistance to the needy. Despite the increased workload and pressure at work, over 30 staff have given-up their leisure time during Saturdays and Sundays to serve the community through different activities.

They pay regular visits to the elderly homes and rehabilitation centres, and make full use of their talents in performing folk songs and Cantonese operas. They participate in birthday parties and various recreational activities for the severely handicapped. They render their expertise and knowledge to help the singleton elderlies renovating their homes.

In 2003, the Voluntary Service Team worked in collaboration with the Tung Wah Group of Hospital and the China Light & Power Holdings Limited to launch the programme of "Home Decoration for Aged". Some 20 dwellings in Choi Hung Estate were renovated and upgraded. Some of the premises had never been toughed up for the past 30 years.

Our staff's dedication and commitment to serve the community were deeply appreciated by the recipients of their service and we were honoured to receive a Bronze Award for Voluntary Service from the Social Welfare Department, which marked our contribution of 577 service hours during the year.

Summary of Statistics

Energy Choice, Consumption and Design Efficiency	Unit	2003	2002	2001
Electricity consumed (APB Centre only) (1)	kWh/m²	250.4	262.4	272.2
Building complexes with OTTV < 23 W/m² (2)	% of total no. of projects	100% of 14	97% of 30	93% of 15
Buildings complexes with OTTV < 18 W/m² (2)	% of total no. of projects	43% of 14	63% of 30	67% of 15
High performance building service equipment used (3)	no. applied	553	431	278
Energy saved due to energy efficient (estimated) (4)	kWh	108,000,000	85,000,000	84,000,000
Equivalent monetary savings	HK$	108M	85M	84M

Solar PV panels under design or construction [5]	m^2	8,300	7,000	1,700

Materials Choice and Consumption	Unit	2003	2002	2001
Non-ozone Depleting Substances				
Refrigerants installed	no. of application	34	34	19
Fire extinguishing agents used	no. of application	9	6	7
Office Materials				
A4-size office paper with 100% recycled content used	reams	700	500	50
Total paper and paper products used [6]	tonnes	200	290 [7]	-
Types of environmentally preferable office supplies in use	types	17	17	-

Emissions to Air	Unit	2003	2002	2001
CO_2 emissions equivalent to electricity consumption (APB Centre only) [8]	tonnes	1,139	1,194	1,238
CO_2 emissions avoided equivalent to energy saved [8]	tonnes	47,500	37,500	37,000

Waste Avoidance, Arising, Treatment and Disposal	Unit	2003	2002	2001
Construction Activities				
Timber saved due to use of reusable metal hoardings	m^3	645	1,040	476
Timber saved due to use of pre-cast/semi pre-cast slab construction, aluminum and steel table formwork	m^3	694	1,641	1,972
Timber saved due to use of metal formwork for in-situ construction	m^3	225	37	2,203
C&D wastes disposed of to landfills	tonnes	107,126	42,100	-
C&D materials disposed of to public fill areas	m^3	474,357	642,704	-
Concrete with recycled aggregates used per $M contract value	m^3 / $M	3.94	-	-
Hardcore with recycled aggregates used per $M contract value	m^3 / $M	3.12	-	-
Internal Housekeeping				
Office paper recovered for recycling	tonnes	5,600	5,950	7,700

Biodiviersity	Unit	2003	2002	2001
Landscaped areas to improve biodiversity	m^2	35,300	94,338	-
Trees and shrubs planted for urban landscaping	Trees; shrubs no.	35,502; 942,317	16,480; 903,898	-
Annuals (flowering plants) planted for urban landscaping	no.	78,470	114,426	-

Health and Safety	Unit	2003	2002	2001
At ArchSD Construction Sites				
Fatalities	cases	1	4	0
Non-fatal reportable accidents (9)	cases	331	366	421
Fatal accident rate (per 100,000 manhours)	ArchSD (HKCI)	0.0021(0.01)	0.01 (0.01)	0 (0.01)
Non-fatal accident rate (per 100,000 manhours)	ArchSD (HKCI)	0.68(1.89)	0.95 (2.37)	1.20 (3.19)
At ArchSD Offices				
Fatalities	cases	0	0	-

Awareness Raising and Training	Unit	2003	2002	2001
Training for Staff and Contractors				
Environmental training (i.e. courses / seminars / workshops / visits)	no.	50	86	92
Trainees on environmental courses	no.	777	1140	1937
H&S training (i.e. courses / seminars / workshops / visits)	no.	60	63	63
Trainees on H&S courses	no.	2,412	2,493	2,502
Outreach for the Public				
EHS exhibitions / talks	no.	18	13	20

EHS Compliance	Unit	2003	2002	2001
Environmental convictions at ArchSD sites	no.	12	46	25
H&S convictions at ArchSD sites	no.	85	83	58

Target Achievement Status	Unit	2003	2002	2001
No. of targets achieved (10)	no.	45	33	31
No. of targets achieved better than expected (10)	no.	21	29	12
No. of targets on-going (10)	no.	3	6	2

No. of targets failed (10)	no.	4	4	4
Overall performance (i.e. targets achieved / total no. of targets)	%	90% (66 of 73)	86% (62 of 72)	88% (43 of 49)

Explanatory Notes:

- = data not collected / not available
HKCI = Hong Kong Construction Industry

(1) The total floor area of the APB Centre is approx. 10,340m^2.

(2) Figures based on calculated data available from design projects approved by ArchSD at the Stage 3 Detailed Design Phase.

(3) Figures compiled based on the data of project completion for new works and the date of issue for the works order for refurbishment projects.

(4) Figures calculated based on the projected savings due to the use of energy saving building services equipment.

(5) Figures based on the number of projects under design and construction.

(6) Figures include consumption of A4-size office paper, A3-size office paper, computer paper, plotting drawing paper, plotting tracing paper, printing drawing paper and envelopes.

(7) Figure for 2002 has been revised from 177.2 to 290 tonnes to add back paper consumption of printing drawing paper.

(8) CO_2 emission equivalents are calculated based on a conversion factor of 0.44kg CO_2 per kWh.

(9) A non-fatal reportable accident is defined as an accident that results in incapacity for more than 3 days.

(10) Target achievement for 2002 and 2003 include environmental targets under the ISO 14001 system and quality targets under the ISO 9001 system. Whilst the targets achievement for 2001 includes environmental targets only.

Looking Ahead

We will continue our effort to move ahead and work in partnership with our strategic partners and stakeholders to achieve the sustainable development of Hong Kong.

Build Capacity

Continuous education related to technical, environmental and sustainable development will be organized to let our staff keep abreast of the new development and to equip them with the skills and capabilities to take up new challenges. We will also provide necessary training and guidelines to our consultants and contractors to ensure that they follow our quality, environmental and safety objectives and practices.

Outsourcing

The outsourcing of our works to consultants for public facilities development will be continued and our monitoring role on outsourcing work will be further enhanced to ensure good quality of service. We set up the Statutory Compliance Checking Unit and the Structural Checking Unit to take up the role as the building authority for government projects, to ensure that the building proposals from our consultants and the building works carried out on sites are in compliance with the Buildings Ordinance and its subsidiary regulations on architectural and structural matters and are of good quality standards.

Energy Efficiency

We continued to take the lead to implement innovative and energy efficient technologies and to promote wider application of renewable and clean energy in government projects. We strive to integrate sustainability principles in the building services design work by considering the holistic life cycle analysis of the systems. We will strengthen the research work on new technologies, look for ways to improve energy efficiency and promote good energy management practice for saving energy.

Research and Development

To seek continual improvement and to be the leading promoter of excellence in the quality, environmental, health and safety practices in the construction industry, we are committed to play a more active role in research and development. We will continue our efforts to evaluate new construction materials and technologies, and to explore innovative design, construction and operation methodologies for the benefit of the construction industry in Hong Kong.

Verification Statement

Scope and Objectives

Hong Kong Productivity Council (HKPC) was commissioned by Architectural Services Department (ArchSD) to verify the Department's first Sustainability Report 2004 (hereinafter the "Report") which covers on ArchSD's economic, environmental and social performance (hereinafter "ArchSD's performance") during the calendar year of 2003.The objectives of HKPC's verification work are to:

- Assess whether the Report covers all relevant issues in relation to ArchSD's performance;
- Assess whether the selected statements and data presented in the Report are accurate;
- Assess whether the data collection and information management systems used to prepare the Report are reliable; and
- Provide recommendations for future reports

Approach

Our verification procedures comprised a review of the Report, selection of a representative sample of statements and data and interviews with representatives from ArchSD. During the interviews, the documented supporting materials relating to the selected statements and data as well as ArchSD's management practices and sustainability initiatives were explained to and examined by our consultants.

Results

Report Completeness

The Report presents a balanced and comprehensive overview of ArchSD's performance with respect to its core roles, responsibilities and activities. The Report presents extensive information in a structured manner to communicate ArchSD's commitments to promoting sustainable development of Hong Kong and the progress in achieving its economic, environmental, health, safety and social objectives and targets. The Report also sets out directions and long-term goals for the future.

Report Accuracy and Reliability

The Report is considered to be reliable and reflects an accurate account of ArchSD's management practices and performance. The data collection and information management systems used are considered to be both effective and reliable.

Recommendations for Future Reports

ArchSD is commended for expanding its previous Environmental, Health and Safety Report to this first Sustainability Report and including more information on its performance. In addition, we congratulate ArchSD on continually improving its performance and we further encourage ArchSD to consider the following in the preparation of its future reports:

- To enhance the readability by providing a linkage between ArchSD's activities and initiatives in pursuing sustainable development and subsequently how its performance contributes to the

sustainable development of Hong Kong; and

- To further enhance the data collection and management systems in order to facilitate efficient analysis and presentation of data within the defined reporting period

K L Tsang
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Environment & Product Innovation
Hong Kong Productivity Council
17 December 2004