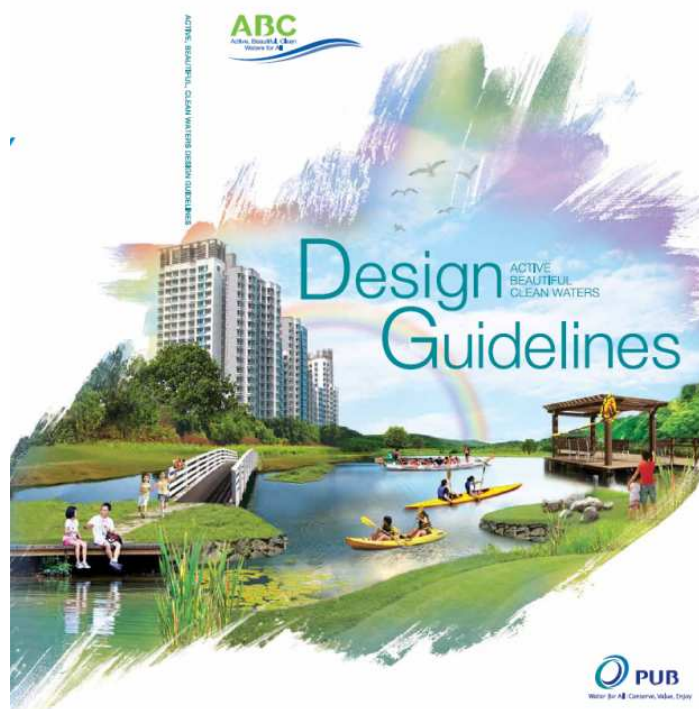




Workshop on Active Beautiful & Clean Waters Design

Understanding ABC Waters Design Guidelines & Stormwater Quality Management - Planning and Designing ABC Waters Design features

organized by IES



- Date** : 28-29 June 2012 (Thursday-Friday)
- Time** : 8.30 am – 6.00 pm
- Venue** : PUB Water Hub, 80 Toh Guan Road East, Singapore 608575
- Fee** : \$490 - IES member, SIA member, SILA member
\$630 - Non-member
- CPD** : (PEB) / (SIA) / (QECP) - **To Be Confirmed**



Workshop on Active Beautiful & Clean Waters Design

INTRODUCTION

Two-thirds of Singapore functions as local catchment areas. Under the Active, Beautiful, Clean Waters (ABC Waters) Programme, PUB has embarked on a journey to harness the full potential of our waters by integrating them with our environment. Over the past 2 to 3 years, public agencies and private developers have also embraced the ABC Waters design that leads to improvement in water quality, enhanced biodiversity and new recreational space for people to get closer to water.

The objective of the workshop is to create awareness on ABC Waters design concept; ABC Waters design features and its application in Singapore amongst professionals in the industry and allow sharing of project experience and interactions between professionals around the world.

Supported by:





Workshop on Active Beautiful & Clean Waters Design

Workshop Outline: Day 1

ABC Waters Management Strategies

(2 hr by **Mrs Ong Geok Suat** and **Ms Gayathri Kalyanaraman**)

- ABC Waters Programme
- ABC Waters Design Guidelines
 - Understand planning, design and performance considerations for ABC Waters Management including:
 - Catchment Elements
 - Treatment Elements
 - Collection & Storage Elements
 - Understand Safety Considerations, Public Health & Maintenance
 - Understand Multi-disciplinary nature of ABC Waters Management
- ABC Waters Certification Scheme

Integrating ABC Waters Design in Project Planning & Integration of Waterbody design in master plan and architectural concept

(2 hr by **Mr Siew Man Kok** and **Mr Stephen Caffyn**)

- Site Context & Analysis of Existing Site Conditions
- Integrating ABC Elements into Landscape Planning Strategies
- ABC Waters elements and their Implementation
- Opportunities: Activities, Aesthetics, Ecology & Bio-diversity, Access & Crossings, Education

Case Studies

(1 hr by **Mrs Ong Geok Suat**, **Ms Gayathri Kalyanaraman** and **Mr Veera**)

- Design consideration of Balam Estate Rain Garden
 - Design calculation
 - Soil specification
 - Plant selection
 - Maintenance checklist

Definition, background, sense, use, function, technical details, construction method and maintenance of:

- Cleansing biotopes
- Bio-engineering

(1 hr by **Mr Tobias Baur** / **Mr Leonard Ng**)

Function and layout, treatment principles, various design and planning considerations and local examples of:

- Sedimentation Basins
- Swale/Buffer systems
- Bioretention Swales
- Bioretention Basins

(2 hr by **Dr Stephen Tan**)



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Workshop Outline: Day 2

Stormwater Quality Management

(6 hr by **Dr May Chui**)

- ABC Waters Design and stormwater quality management;
- Understand stormwater quality parameters including:
 - Suspended solids
 - Nutrients
 - Litter
 - Metals
- Formulate stormwater management Strategy
- Sizing of Stormwater treatment Systems
- Introduction to Model for Urban Stormwater Improvement Conceptualization (MUSIC)

Constructed Wetlands

(1 hr by **Prof Brian Shutes**)

- Introduction to wetland treatment technology
- Design of treatment wetlands (design features and different types of wetland systems)
- Pollutant removal mechanisms and the role of wetland plants
- Plant selection and common species used in treatment wetlands
- Wetland monitoring, management and maintenance (wetland performance, plant management, water quality monitoring)



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Speaker Profile

Mrs Ong Geok Suat

Mrs Ong Geok Suat graduated with a Bachelor in Civil Engineering from National University of Singapore. She also obtained a Master of Applied Science in Environmental Engineering from University of Toronto, Canada.

She has over 20 years of experience in planning and designing both drainage and used water infrastructure as well as in the operation and management of water reclamation and NEWater facilities. She is currently working in PUB and involved in the formulation of ABC Waters Design Guidelines, ABC Waters Certification and pilot testing of ABC Waters Design features.

Ms Gayathri Kalyanaraman

Ms Gayathri graduated with a Bachelor in Civil Engineering from National University of Singapore. She has also obtained a Master of Science in Environmental Engineering from National University of Singapore. She works in ABC Waters Programme branch in Catchment and Waterways Department, PUB. She has earlier been involved in the master planning and implementation of ABC Waters projects and is currently involved in promoting ABC Waters design concept to public agencies, professionals and developers and in the ABC Waters Certification scheme.

Mr Siew Man Kok

A graduate of National University of Singapore in 1989, Mr Siew Man Kok set up MKPL Architects with his partner, Ms Cheng Pai Ling in 1995. Starting with small dwellings, their high quality design saw their body of works grew to high rise residential apartments, institutional, conservation, interior design, landscape design and master planning. Besides garnering both local & international awards for their works, MKPL's design is also appreciated by clients from Malaysia, Hong Kong, China, India, Dubai & Canada. Some of their notable works are Glentrees condominium, a shop house at Cuff Road and the Visitors' Centre at Horticulture Park. Their high rise school design for the Singapore International School in Hong Kong is also attracting the attention of the Ministry of Education and URA who are looking into the future models of education facilities in the context.

Mr Siew also found time to teach in NUS as a part-time tutor from 1994 to 2010 as well as an examiner from 2002 to 2004. He is also contributing his time as a member of the Architectural Design Panel of HDB, a member of the Design Advisory Committee of URA and a member of the Preservation of Monument Board.

Mr Stephen Caffyn

Stephen Caffyn has over 20 years experience working as a Landscape Architect in private practice in the UK, Hong Kong, and Singapore. Stephen Caffyn is the Principal Landscape Architect of Stephen Caffyn Landscape Design specializing in landscape design, urban design, landscape master planning, environmental impact assessments, garden design and roof garden design.

Mr Veera Sekaran

Mr Veera Sekaran is a Botanist, a Horticulturist and an ISA certified Arborist. He also delivers lectures for the Masters in Landscape Architecture (MLA) programme at NUS. He was involved in the development of the landscapes of the Zoo, Night Safari and Changi Airport. Mr. Sekaran was the Assistant Director on NParks. Mr Sekaran is currently the managing director of Greenology Pte Ltd and has also developed the Greenology Vertical Greenery (GVG), a low-cost, efficient and sustainable green wall system. He designed and built the first Rain Garden in Singapore at Balam Estate. Mr Sekaran provides various consultancies in Singapore and to countries such as Africa, Morocco, Pakistan, Malaysia, Vietnam, Indonesia and India in various technical fields in landscapes, environment and urban greening.



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Prof Brian Shutes

Prof Shutes is the Emeritus Professor of Ecotechnology at Middlesex University, London. Prof Shutes specialises in the assessment of water pollution impacts and treatment of surface runoff and domestic wastewater by constructed wetlands and sustainable urban drainage systems (SUDS). He was the co-chair of the International Water Association (IWA) Specialist Group on the use of Macrophytes in Water Pollution Control (1996-2008) and partner in the SWITCH program on Sustainable Integrated Urban Water Management funded by the European Commission. Prof Shutes has been involved in the development and delivery of many international environmental management projects and has worked in various locations and countries including Malaysia, China, Hong Kong, Taiwan, Georgia, Kazakhstan and Europe.

He received the silver medal jointly awarded with the Hong Kong Highways Dept by Hong Kong Institute of Landscape Architects (HKILA) for the Created Wetland at San Tin Villages in 2002. He actively shares his rich experience through training programmes and publications. He has published 3 books on constructed wetland systems and more than one hundred of journal articles, conference proceedings papers and technical guidance manuals.

Dr May Chui Ting Fong

Dr Chui Ting Fong May is an assistant professor in the Department of Civil and Environmental Engineering at National University of Singapore. She received her PhD in environmental fluid mechanics and hydrology from Stanford University. She has been studying and modeling hydrologic processes such as groundwater surface-water interactions for a number of years. She has also been working in the field of ecohydrology, researching the coupled dynamics between hydrology and vegetation. She is currently investigating the impact of sewer leaks on both subsurface and surface water quality, as well as the feasibility of creating eco-friendly flow regimes in urbanized canals. Her teaching areas include hydraulics, water resources engineering and groundwater hydrology.

Dr Stephen Tan Boon Kean

Dr Stephen Tan is currently the Vice President (Environmental) with CPG Consultants. Dr Tan is a hydrology, hydraulic and water quality specialist. Some of his ongoing and completed projects related to implementation of ABC Waters Design Features include Lower Seletar Family Bay (Singapore), Sengkang Floating Island (Singapore), Lorong Halus Wetland (Singapore), Gardens by the Bay (Singapore), MacRitchie Reservoir Phase 2 (Singapore); Punggol-Serangoon Reservoir Scheme (Singapore), Eco-Tourism Park (Vietnam), Integrated Water Management for Pearlhill Development (Qingdao, China), Pilot Rain Garden and Bio-Retention Swales in Brunei Darussalam; Redevelopment of Sungei Buloh Wetland Reserve (Singapore). Dr Tan obtained his PhD from the Nanyang University of Singapore.

Mr Leonard Ng

Leonard's academic background and design interest lay at the juncture between man and his environment with the aim of finding a long term sustainable balance between them. His approach involves extensive collaboration with diverse professions to foment holistic landscape based solutions that engage and educate users while respecting the environment. His recent works features design that integrates the water found onsite with the surrounding urban development in a sensitive manner.

Mr Tobias Baur

Before becoming Director of Atelier Dreiseitl Asia in February 2008, Mr. Baur was a key member of the firm's headquarter office in Ueberlingen, Germany. During this time, he acted as both designer and project manager for several challenging, multi-faceted projects within Europe as well as Asia. To every project, he brings unique leadership abilities that have proven invaluable in organizing large consultant teams to exceed client expectations of design quality and time/budget management. With a geared focus on urban planning and design, Tobias offers particular expertise in areas of public open space design, urban waterways and their connection to the urban environment, natural river restoration, and sustainable design.



Workshop on Active Beautiful & Clean Waters Design

Registration Form

Workshop on ABC Waters Design

Date : 28-29 June 2012
Time : 8.30 am – 6.00 pm (Thursday-Friday)
Venue : PUB Water Hub, 80 Toh Guan Road East, Singapore 608575
Fees * : \$490.00 (IES/SIA/SILA Members) \$630.00 (Non-Members)

Please register online/fax the completed form **by 20 Apr 2012 before 3pm** to:
Rasheedah Goh- IES Academy 70 Bukit Tinggi Road S (289758) Tel: 6463 9211 Fax: 6463 9468

Participant Details

Name: _____ NRIC: _____

Company : _____ Designation: _____

Address 1 : _____
(For mailing of invoice and receipt)

Address 2 : _____
(For mailing of Certificate)

Postal Code : _____ Sex : _____ Male / Female

Mobile No. : _____ Fax : _____

Email : _____
(For sending of confirmation email)

Please indicate : IES/SIA/SILA members IES/SIA/SILA M'ship No.: _____ PEB/BOA No.: _____ (if applicable)
 Non-members Sponsored by company Vegetarian

Contact Person Details (if different from participant)

Name : _____ Designation: _____

Tel : _____ Fax: _____

Email : _____

Payment Details

Bank / Cheque No.: _____ Amount (\$): _____

* All Fees are inclusive of 7 % GST. Cheque should be made payable to: "IES".

Acceptance of Terms and Conditions for Registrations of IES Academy's Events

I agree to abide by the Terms and Conditions for Registration of IES Academy's Events.

Name : _____ Signature: _____



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TERMS & CONDITIONS COURSE REGISTRATION

Registration

Registration can be done either online or by faxing in the registration form.

Any registration, whether on-line or fax will be on a ***first-come-first-served basis*** and will only be confirmed upon receipt of full payment by The Institution of Engineers, Singapore (IES).

Email and phone registrations will not be accepted.

Closing Date & Payment

The closing date of the event will be 7 days prior to event commencement date. Cheques should be crossed 'A/C payee only' and made payable to 'IES', with the ***Date of event, Title of The Event and participants' name indicated clearly on the back of the cheque***, and post to:

**IES Academy
70 Bukit Tinggi Road
Singapore 289758**

Confirmation of Registration

Confirmation of registration will be given 7 days prior to the commencement date of event via email. If you do not receive the said confirmation email, you are required to contact IESA general admin immediately at 6463 9211 (office).

IESA reserves the right to allow only confirmed and paid registrants to attend the Event.

Withdrawals/Refunds of Fees

Notice of withdrawal must be given in writing to IESA. Policy on refund of course fee is as follows:

- **FULL** refund if we receive your written notice of withdrawal at least 7 days before the commencement of the Event.
- **NO** refund otherwise.

No show of participant would not be accepted as reason for withdrawal/refund.

Replacement is allowed but restricted to once only. Replacement will be allowed only if written notice is received by us at least 3 working days before the commencement of the event. However, when an IES member is replaced by a non-member, the participant has to pay the difference in the relevant fees.

Cancellation/Postponement

Changes in Venue, Dates, Time and Speakers for the Events can occur due to unforeseen circumstances. IESA reserves the full rights to cancel or postpone the Event under such circumstances without prior reasons. Every effort, however, will be made to inform the participants or contact person of any cancellation or postponement.

Fees will be refunded in FULL if any Event is cancelled by IESA.

Enquiries

For further enquiries, please contact IESA general office at Tel: 6463 9211.