



**IES
GREEN PLAN**
Advancing the Singapore Green Plan 2030

ABC WATERS PROFESSIONALS COURSE – CORE MODULE CU 3 (Design, Construction and Maintenance of Swales and Buffer Strips) 16th Run

Organised By: IES Academy Pte Ltd



Date of Course	:	25 July 2024 (Thursday)
Time of Course	:	9.00am to 5.30pm
CPD Programme	:	PDU (PEB/CEng), 6 QECP, 2 BOA-SIA, 4 SILA
Venue	:	IES Academy Pte Ltd 80 Jurong East Street 21, #04-10 S (609607)
Fee (incl. 9% GST)	:	\$381.50 (IES/SIA/SILA Members) \$468.70 (Non Members)

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Water for All: Conserve, Value, Enjoy



LET'S MAKE SINGAPORE OUR GARDEN



INTRODUCTION

Two-third 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 2 to 3 years, other 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.

To build up the expertise of industry professionals in ABC design features, the ABC Waters Professional Programme was launched in September 2011. Comprising four core modules and four elective modules, the programme covers the concept, design, implementation and maintenance of ABC Waters design features.

Participants who complete all four core modules plus any two elective modules and meet the registration criteria of IES/SIA/SILA, would be eligible to be registered as an ABC Waters Professional. Details on the registration criteria can be found at the websites of IES, SIA and SILA. Participants who complete any single module would receive certificate of attendance for the module completed.

In line with the revisions to the Code of Practice on Surface Water Drainage, developers/owners shall engage an ABC Waters Professional to design, oversee the construction of, and develop a maintenance plan for the ABC Waters design features. The developer/owner shall submit the concept design and design calculations, endorsed by the ABC Waters Professional, to PUB as part of their Development Control (DC) submission.

On an annual basis, developers/owners shall also submit a Certificate of Inspection on ABC Waters design features, endorsed by an ABC Waters Professional, if applicable. The certificate of Inspection shall include a declaration on whether the features have been inspected, and are maintained satisfactorily and functioning well.

These new requirements on the endorsement of plans by ABC Waters Professionals will take effect from 1 Jan 2014 onwards.



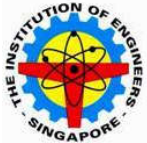
ABC WATERS PROFESSIONALS COURSE

CORE MODULE CU 3

Design, Construction and Maintenance of Swales and Buffer Strips

Course Schedule

Time	Event	Speaker
8.55am - 9.00am	ABC Waters Professional Programme - Overall Course Roadmap	IESA
9.00am - 10.15am	Overview of Swales: <ul style="list-style-type: none"> • Principles • Application Landscape design of swales <ul style="list-style-type: none"> • Siting in urban landscape • Vegetation considerations, soil considerations • Maintenance considerations for design 	Nicholaus Lee / Melissa Yip
10.15 - 10.30am	Tea Break	
10.30 - 12.30pm	Engineering Design of Swale <ul style="list-style-type: none"> • Hydraulics and other considerations for sustainable design • Step-by-step Worked Example • Case Examples 	Dr. Chew Soon Hoe
12.30pm - 1.30pm	Lunch Break	
1.30pm - 2.45pm	Application on Design Template: Hands-On Practice on Swale Calculation	Er. Simon Wong
2.45pm - 3.45pm	Construction management, construction sequence and important considerations	Poh Li Ping
3.45pm - 4.00pm	Tea Break	
4.00pm - 4.45pm	Operations and maintenance of swales Case Study on Swales and Buffer Strips	Poh Li Ping
4.45pm - 5.30pm	Assessment Quiz	Individual



ABC WATERS PROFESSIONALS COURSE

CORE MODULE CU 3

Design, Construction and Maintenance of Swales and Buffer Strips

Speakers' Profile

Nicholaus Lee

Mr. Nicholaus Lee is an accomplished professional with a Bachelor of Landscape Architecture (BLA) from Lincoln University, obtained in 2006. He has been an active member of the Singapore Institute of Landscape Architects (SILA) since 2008 and is currently serving as the Principal Landscape Architect at the National Parks Board (NParks). With over a decade of experience in the field, Mr. Lee has been actively engaged in the complete spectrum of landscape services and project management, from conceptualization to the design of softscape and hardscape elements, as well as scheduling and technical issue resolution, ensuring the successful completion of each project within the stipulated timeline. Leveraging his expertise in the Active, Beautiful and Clean (ABC) program, he has consistently added value to his projects by seamlessly integrating ABC concepts.

Dr. Chew Soon Hoe

Dr. Chew Soon Hoe received his PhD from University of California at Berkeley. He is currently an Assistant Professor in the Department of CE, NUS and also holds the position of Deputy Director of the Centre for Protective Technology, NUS. His research interests include geosynthetics, slopes engineering, land reclamation, soil improvement, soil erosion, numerical modeling in geotechnical engineering and geo-environmental engineering. In the past 15 years, he has conducted extensive research on geosynthetics, especially on the reinforcement, filtration and drainage applications of geosynthetics material. His other research interests include survivability of geotextiles, geosynthetics for erosion control, vertical drains testing and applications. He has been actively promoting the use of geosynthetics in civil engineering construction, and has been engaged as consultant to government agencies and private consultants and contractors on geosynthetics related projects and construction in this region. He is also actively consulted in general area of geotechnical engineering including slope stability, pile foundation and excavation related problem.

Er. Simon Wong T. J.

Er. Simon Wong T. J. is the Director of the Civil & Environmental Engineering (CEE) Division in Surbana Jurong Pte Ltd. As a registered Professional Engineer with the PE Board of Singapore, he has more than 25 years of working experience in the field of civil engineering and urban water management, both in Singapore and overseas. He has been involved in various drainage projects and flood studies, and also ABC Waters projects since becoming an ABC Waters Professional in 2013. In the overseas master-planning projects that he undertakes, he endeavours to incorporate ABC Waters design concept into the planning where possible, sharing the knowledge gained in Singapore with other countries.

Poh Li Ping

Ms Poh Li Ping is a Senior Engineer with PUB in the Catchment & Waterways Department. She obtained her post graduate degree in Civil Engineering from the National University of Singapore (NUS), specialising in Infrastructure Project Management. She joined CH2MHill Singapore Pte Ltd (now known as Jacobs Engineering Singapore Pte Ltd) in Year 2012 where she was involved from planning, designing to implementing several Active, Beautiful, Clean (ABC) Waters Projects in Singapore. Her recent completed ABC Waters Projects as ABC Waters designer are Siglap Canal, Siglap Outfall, Faber Hill Estate, Sungei Pandan Kechill and Bukit Timah First Diversion Canal. She enjoys the process of integrating Blue-Green infrastructures in public spaces with the support from the multi-disciplinary stakeholders.



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Registration Form

Date:	25 July 2024 (Thursday)		
Time:	9.00am to 5.00pm		
CPD Programme:	PDU (PEB/CEng), 6 QECP, 2 BOA-SIA, 4 SILA – <i>to be confirmed</i>		
Course Fees:	IES Members: \$381.50 / Non-Members: \$468.70		
Course Venue:	IES Academy@Jurong East 80 Jurong East Street 21 #04-10 Devan Nair Institute Singapore 609607		
Course Coordinator:	Nancie Neo; Email: nancie.neo@iesnet.org.sg		
Closing Date:	5 July 2024, Friday (<i>or earlier when all seats filled</i>)		
Participant's Details			
Name (as per NRIC):		NRIC/FIN:	
Company:		Designation:	
Billing Address:			
		Postal Code:	
Mobile:		Office:	
Email:			
Please indicate if any	<input type="checkbox"/> IES No:	<input type="checkbox"/> SILA/SIA No:	<input type="checkbox"/> Non-Member
	<input type="checkbox"/> PE/CE No:	<input type="checkbox"/> Company Sponsor	<input type="checkbox"/> Vegetarian
Contact Person (if different from above)			
Name:		Designation:	
Contact Number:			
Email:			
Payment Details (please indicate)			
<input type="checkbox"/> PayNow	<input type="checkbox"/> Bank Transfer	<input type="checkbox"/> Vendors@GOV:	
<input type="checkbox"/> Others:			
<p>➤ Course fee includes course materials & prevailing GST ➤ Certificate of Attendance is issue to participant with 100% attendance</p>			
Acceptance of Terms & Conditions for Registration of IES Academy Courses / Events I have read, deemed understood and agree to abide to Terms & Conditions for Registration of IES Academy courses / events.			
Name: _____	Signature & Date: _____		

TERMS & CONDITIONS ON COURSE REGISTRATION

Registration

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 IES Academy Pte Ltd unless otherwise invoice to company.

All registrations must be submitted with duly completed registration form.

Closing Date & Payment

The closing date of the event will be 1 week prior to event commencement date or earlier. Invoice will be sent to you via email when the course is confirmed to run. **PayNow and Bank Transfer available.**

Confirmation of Registration

Confirmation of registration will be given at least 1 week before the commencement date via email. ***If you do not receive the said confirmation email, you are required to contact IESA at 6463 9211 during office hours.***

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

Withdrawals/Refunds of Fees

- Written notice **at least 1 week in advance** before the commencement of the event
- Full course fee shall be refunded subjected to 4.5% transaction charge.
- **NO** refund otherwise.
- No show of participant would not be accepted as a valid reason for withdrawal/refund.
- One time replacement is allowed only if written notice is received by us at least 1 week 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. IES 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.

Course Funding

This course is supported by **UTAP (Union Training Assistance Programme)** for NTUC members. For more information on claiming course fee, please refer to NTUC Skilupgrade website.

<http://skillsupgrade.ntuc.org.sg/wps/portal/skillsupgrade/home>

PERSONAL DATA PROTECTION ACT

I consent to the processing by Institution of Engineers, Singapore of personal data, including sensitive personal data as defined in the Data Protection Act 2014, about me for the proper purposes of Institution of Engineers, Singapore (IES). I undertake to observe the provisions of the Data Protection Act 2014 in relation to any personal data I may myself hold and process as a Members of Institution of Engineers, Singapore, and I agree to indemnify Institution of Engineers, Singapore from liability for any claims or damages that may arise from the processing of this data. For more information kindly refer to [here](#).

Enquiries

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