

# PILLARS

We shape a **safe**, **high quality**, **sustainable** and **friendly** built environment.

Building and Construction  Authority



## Developments Abroad Gain Green Mark Recognition

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*Photoshoot location: One North Condominium*

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# PILLARS

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## CEO's Message



Dear readers,

This year's BCA Awards Night was another great success, thanks to the tremendous support of industry partners and to the BCA staff who worked tirelessly prior to the event. This time round, we gave out a record number of 159 awards to outstanding industry members, signifying the strong commitment the industry has made towards building a safe, high quality, sustainable and friendly built environment.

During the awards ceremony, we also launched the Construction Productivity and Capability Fund (CPCF), which will be used to enhance productivity and build capability in the construction sector over the next five years. Local firms can leverage on this fund to improve work processes, raise the level of productivity in our industry, develop new construction engineering capabilities and in turn sharpen Singapore's competitive edge globally.

This year, the highest number of awards went to Green Mark recipients, with the addition of two new categories – Green Mark for Existing Buildings and Green Mark for New Parks. Since we introduced the 2nd Green Building Masterplan in 2009, much emphasis have been placed on greening existing buildings to reduce the carbon footprint within the building sector. Although the retrofitting of an existing building poses many challenges, twenty-one existing buildings overcame the odds to attain the Green Mark Award, with five buildings achieving the highest accolade – the Platinum award.

It is even more heartening to note that BCA's Green Mark is fast gaining popularity both locally and within the ASEAN region. We have received certification requests from developments overseas and even from past Green Mark

award winners who have retrofitted their buildings to be more energy efficient so that they can qualify for a higher rating during the next assessment.

Apart from advocating sustainability in the design phase, exemplary construction practices that minimise the impact on the immediate physical environment and on the community are also recognised through the Green and Gracious Builder Award. Two new categories were added to the award this year – Star rating for commendable builders that stand out from the rest, and a Certified category to attract new entrants by providing basic entry level standards.

To further promote best Green and Gracious practices within the industry, BCA's Quality and Certification Department recently launched the Green and Gracious Builder Guide during the ASEAN Constructors Federation Conference. The new guide features best practices in addressing environmental concerns and mitigating inconveniences to the public and surrounding premises during construction. I hope more builders will incorporate such best practices into their construction processes in the future.

Dr John Keung  
Chief Executive Officer

# BCA Awards 2010

## Record Number of Awards, New Fund Launched

A record number of 159 awards were handed out at this year's BCA Awards to recognise achievements of excellence in safety, quality, sustainability and user-friendliness within the built environment.

This year, the industry saw the introduction of new award categories, such as the Green Mark for Overseas Buildings Award and the Green Mark for New Parks Award. Two new tiers, Star and Certified, were also introduced for the Green and Gracious Award.

The winners received their awards from Ms Grace Fu, Senior Minister of State for National Development and Education, and Mr Quek See Tiat, BCA's Chairman, at the awards ceremony held at the Shangri-la Hotel on 26 May.

Another highlight of the evening was the launch of the \$250 million Construction Productivity and Capability Fund, which would be injected into the industry to help firms improve productivity through technology adoption, manpower development and skills upgrading, and to build capability in niche areas.

For more information on the incentive schemes under the Construction Productivity and Capability Fund, please visit "Government Assistance" at [www.bca.gov.sg](http://www.bca.gov.sg) or contact CPCF Toll-free hotline 1800-325 5050.





*Ken Bangsar, Malaysia  
(Residential New Buildings)  
Gold<sup>Plus</sup>*

# Developments Abroad Gain Green Mark Recognition

A new category for overseas projects was added to the BCA Green Mark for Buildings and Green Mark for Office Interior Awards. Eight projects from Malaysia, Thailand and China were recognised for their efforts in developing environmentally friendly buildings.

The addition of the new category underscores Green Mark's growing popularity within the region as a rating system developed specially for the tropical climate. It is also one of 21 Green Building rating systems recognised by the World Green Building Council.

Notably, both local and overseas developers have been leveraging on Singapore's Green Mark brand to provide a meaningful differentiation to their buildings within the building and real estate industry. As at 2009, there were more than 70 Green Mark projects across the ASEAN region, China, India and the Middle East

The benefits of having a Green Mark building include a reduction in water and energy bills, an improvement in indoor environmental quality for healthy living and a reduction of potential environmental impact.



*GTower, Malaysia  
(Non-Residential  
New Buildings)  
Gold*



*Millennium  
Residence @  
Sukhumvit, Thailand  
(Residential New  
Buildings)  
Gold*



*The Arcadia, China  
(Residential New  
Buildings)  
Gold*



*The La Quinta, China  
(Residential New  
Buildings)  
Gold*

## Green Mark for Buildings Award (Overseas Projects)

Award	Project Name	Category	Client/Developer
Gold <sup>Plus</sup>	Ken Bangsar, Malaysia	Residential New Buildings	Ken Property Sdn Bhd
Gold	GTower, Malaysia	Non-Residential New Buildings	GTower Sdn Bhd
Gold	Millennium Residence @ Sukhumvit, Thailand	Residential New Buildings	MR Sukhumvit Ltd
Gold	The Arcadia, China	Residential New Buildings	吉宝置业 天津市鸿吉房地产开发有限公司
Gold	The La Quinta, China	Residential New Buildings	吉宝置业 中国昆明春城湖畔旅游置业发展有限公司
Certified	Villa Riviera, China	Residential New Buildings	吉宝置业 上海明虹房地产有限公司
Certified	Challis Damansara, Malaysia	Residential New Buildings	Sunway City Berhad

## Green Mark for Office Interior Award (Overseas Projects)

Award	Project Name	Tenant/Owner
Gold	BHP Billiton Shared Services Centre Malaysia Sdn Bhd	BHP Billiton Shared Services Centre Malaysia Sdn Bhd

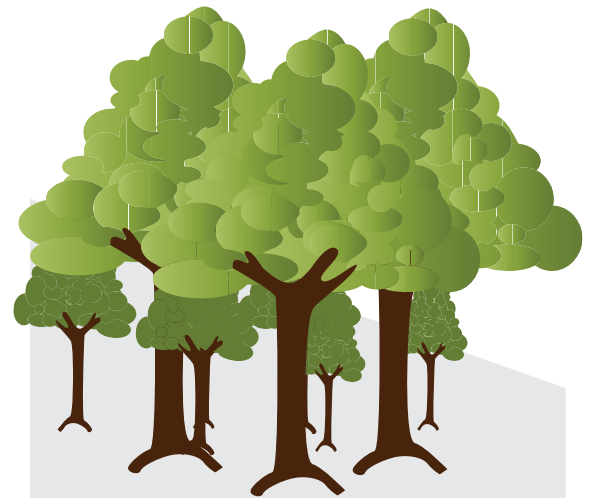
# Age is No Barrier to a Green Future

It is not just new buildings that are contributing to environmental sustainability. Twenty-one existing buildings proved that despite their age, they could also be retrofitted with environmentally friendly features to reduce energy consumption within the building sector.

These 21 buildings became the first batch of existing buildings to be conferred the Green Mark for Buildings Award at this year's awards ceremony. Of these, five buildings were also first to clinch the Platinum award under the "Existing Buildings" category, which is the highest tier of recognition under the Green Mark scheme.

The new category was introduced to the BCA Green Mark for Buildings Award this year, to recognise the contributions made by owners of existing building towards the green cause. The winners were lauded for their initiatives and commitment in adopting green features and practices within the buildings. In particular, the Award acknowledged the challenges and difficulties of retrofitting an existing building compared to constructing a green building from scratch.

BCA's 2nd Green Building Masterplan, which was introduced in April last year, placed special emphasis on the greening of existing buildings in Singapore. As the large stock of existing buildings consume one-third of the national end-use electricity, it is necessary to retrofit them with green features to reduce energy consumption and lower the carbon footprint. Besides seeing significant savings in cost, the Green Mark brand name has also reportedly raised the value of the buildings within the real estate market.



## Platinum winners



*Furama City Centre and Furama  
Singapore Hotel & Shopping Centre  
(Non-Residential Existing Buildings)*



*Parkway Parade  
(Non-Residential Existing Buildings)*

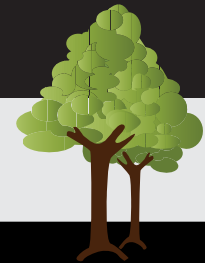
*Six Battery Road  
(Non-Residential Existing Buildings)*



*PoMo  
(Non-Residential Existing Buildings)*



*The Galen  
(Non-Residential Existing Buildings)*



## Green Mark for Buildings Award (Existing Buildings)

Award	Project Name	Client/Developer
Platinum	Furama City Centre and Furama Singapore Hotel & Shopping Centre	The Management Corporation Strata Title Plan No. 1246, Furama City Centre
Platinum	Parkway Parade	The Management Corporation Strata Title No. 1008
Platinum	PoMo	Paradiz Investments Pte Ltd / Lend Lease
Platinum	Six Battery Road	CapitaCommercial Trust
Platinum	The Galen	Singapore Science Park Ltd
Gold	3M Woodlands Plant	3M Singapore Pte Ltd
Gold	Keppel Bay Tower	HarbourFront One Private Limited (A joint venture between Keppel Corporation Limited, Keppel Land Limited and HarbourFront Private Limited)
Gold	Parliament House	Government of Republic of Singapore c/o of Parliament of Singapore
Gold	Plaza By The Park	City Developments Limited
Gold	Singapore Changi Airport Terminal 3	Changi Airport Group (Singapore) Pte Ltd
Gold	Treetops Executive Residences	British and Malayan Trustees Ltd
Gold	YS-ONE	Housing & Development Board
Certified	AMK Tech I	Housing & Development Board
Certified	Bukit Panjang Plaza	CapitaMall Trust
Certified	Capital Square	Keppel Land Limited
Certified	Great Eastern Centre (MCST 2781)	The Management Corporation Strata Title Plan No. 2781
Certified	Lot One Shoppers' Mall	CapitaMall Trust
Certified	School of Chemical and Biomedical Engineering Block N1.3	Nanyang Technological University
Certified	Science Centre Singapore (Main Building)	Science Centre Board
Certified	Standard Chartered Bank, Bukit Timah Branch	Standard Chartered Bank
Certified	Tung Centre	The Management Corporation Strata Title Plan No. 1500

# Green Mark for New Parks

New parks in Singapore can now be certified for their sustainability with the recent introduction of the Green Mark for New Parks Award by BCA and NParks. Two new parks were the first batch to be accorded recognition and certification under this new category.

The Green Mark for New Parks Award aims to inspire and promote sustainable park design as well as to identify best practices in park design, construction, management and maintenance planning. The award will assess civic landscape areas for their social and economic sustainability with a strong emphasis on environmental sustainability. This environmental assessment framework also complements the BCA-NParks Green Mark for Park scheme for existing parks, which was introduced in 2008.

## Assessment Criteria

- Material Resource
- Water Efficiency
- Energy Efficiency
- Greenery and Urban Ecology
- Design for Ease of Maintenance and Accessibility
- Parks Development and Construction Management
- Other Green Initiatives



*Dairy Farm Nature Park  
National Parks Board  
(New Parks)  
Certified*



*Greenwood Sanctuary @ Admiralty  
Housing & Development Board  
(New Parks)  
Certified*

## Green Mark for Existing Parks Award (Certified)



*Bedok Reservoir Park  
National Parks Board*

*West Coast Park  
National Parks Board*

*Japanese Garden  
(Seiwaen)  
JTC Corporation*





# Champions of Universal Design

Tampines Primary School together with City Square Mall and City Green earned Gold honours for their efforts in creating an inclusive built environment. They were among 13 buildings who were awarded the BCA Universal Design Award this year for incorporating exemplary Universal Design within their premises.



## Tampines Primary School

Located within an HDB neighbourhood, town centre and key transport nodes, Tampines Primary School is integrated into a community-orientated development, where the community can share the school's facilities after school hours.

### Universal Design Features:

- High visual axis to the adjacent Tampines Park with seamless connectivity to key amenities and communal spaces.
- Seamless links and high visual clarity for easy navigation, enabling users to reach their destination quickly.
- Shower stalls in changing rooms are fitted with flip-down seats for users with diverse mobility.
- Tactile floor markings cognitively placed along external routes leading into the main areas, as well as at the accessible drop-off points.
- Pro-family facilities such as family parking lot, room for lactating mothers (for staff) with diaper changing provision and toddler seat.



## City Square Mall and City Green

Universal Design principles were applied throughout the whole development phase for City Square Mall and City Green, resulting in the building's user-friendliness.

### Universal Design Features:

- Seamless integration with public transport facilities, such as the MRT station, and comfortable waiting areas for shuttle buses and taxis at the basement.
- Comfortable ambience for shoppers to rest at the City Green Park.
- Universal friendly customer service counters which cater to all, e.g., magnifying glass for reading, kiddy cabs and wheelchair rental, and hand phone charging.
- Coloured zones adopted at the basement car park for ease of orientation, with designated priority parking for families, the handicapped and also hybrid and electric cars.
- Nursery rooms and toilets equipped with child-friendly sanitary fixtures are strategically located in the mall.
- Special attention to users' needs in the micro-design such as having armrest on seats as well as holders for walking sticks.
- Detailed provisions of family friendly facilities are depicted clearly on the toilet signages.

## Universal Design Awards for the Built Environment

Award	Project Name	Owner	Architect
Gold	City Square Mall and City Green	City Developments Limited	Ong&Ong Pte Ltd
Gold	Tampines Primary School	Ministry of Education	CPG Consultants Pte Ltd
Silver	313@Somerset	Lend Lease Retail Investments 1 Pte Ltd	Aedas Pte Ltd
Silver	Toa Payoh Sensory Park	Housing & Development Board	Surbana International Consultants Pte Ltd
Bronze	Al-Mawaddah Mosque	Majlis Ugama Islam Singapura (Islamic Religious Council of Singapore)	Park + Associates Pte Ltd
Bronze	New Supreme Court Building	Supreme Court Singapore	CPG Consultants Pte Ltd Foster + Partners
Bronze	The Singapore Islamic Hub	Majlis Ugama Islam Singapura (Islamic Religious Council of Singapore)	RSP Architects Planners & Engineers (Pte) Ltd
Bronze	City Square Residences	City Developments Limited	Ong&Ong Pte Ltd
Bronze	Linear Green @ Bedok	Housing & Development Board	Surbana International Consultants Pte Ltd
Bronze	Clementi Green	Housing & Development Board	Surbana International Consultants Pte Ltd
Bronze	Northpoint Shopping Centre	Frasers Centrepoint Trust	Architects 61 Pte Ltd
Bronze	Tampines Bus Interchange	Land Transport Authority	Land Transport Authority Innove' Design
Bronze	Teck Ghee Heartlands	Housing & Development Board	Surbana International Consultants Pte Ltd

# Green and Gracious Stars



Dragages Singapore and Hyundai Engineering & Construction became the first-ever Star winners of the Green and Gracious Builder Award. The new Star rating was introduced to recognise exemplary builders who stand out from the rest. In addition, a Certified rating was also included to attract new entrants by providing basic entry level standards.

### Dragages: Clean, Green and Happy

Through the use of prefabrication in its projects, Dragages Singapore was able to increase productivity and improve cleanliness on site. The firm also introduced sustainable solutions in the design and construction of its projects, such as the use of "green concrete" for key structural elements of a building.

Staff welfare is another priority at Dragages Singapore. Despite the dusty image and environment of a construction site, the firm ensures that the cleanliness of its toilets is not compromised. At one project site, regular cleaning of the toilets earned the builder the highest rating of '5-Star' in the Happy Toilet Programme from the Restroom Association Singapore. Dragages was also the first construction firm to win the LOO award for its efforts to educate workers on toilet etiquette at project sites and for its commitment to maintain clean toilets facilities. Additionally, the firm organised recreational activities to improve inter-team bonding and camaraderie among its workers and staff.



### Hyundai: For Environment, Staff Welfare and Community

At Hyundai Engineering & Construction, the utilisation of energy- and water-efficient features, such as a water recycling plant, helped conserve resources on site and ensure a sustainable future.

The builder also looks after its employees by conducting daily morning exercises and providing vending machines and ice cube dispensers. And whenever possible, it would encourage its employees to invest time in community work, in support of the firm's commitment to corporate social responsibility.



## Green and Gracious Builder Award

Award	Firm
Star	Dragages Singapore Pte Ltd
Star	Hyundai Engineering & Construction Co Ltd
Excellent	Ho Lee Construction Pte Ltd
Excellent	Millennium International Builders Pte Ltd
Excellent	Teambuild Construction Pte Ltd
Excellent	Chang Hua Construction Pte Ltd
Merit	Hexagroup Pte Ltd



# Overcoming Safety Challenges to Win

The road to design and engineering safety may not be an easy one. But three projects showed that they could overcome challenges and limitations with excellent design solutions while maintaining high safety standards. For their efforts, the Qualified Persons for these exemplary projects were recognised and honoured with the BCA Design and Engineering Safety Excellence Award at this year's BCA Awards ceremony.



## 313@Somerset

The construction of 313@Somerset involved diverting the 10-metre wide Stamford Canal at Somerset and reconstructing the permanent canal to pass through the basement of the building. This task required extensive risk assessment and engineering expertise to ensure that the works were carried out safely. Tight space constraints were also one of the challenges the engineering team had to overcome, as the site was situated close to the underground MRT line in the heart of Orchard Road.



## 78 Shenton Way

The seven-storey 78 Shenton Way is built above an existing four-storey carpark which had to be in operation throughout the construction. The site also posed the challenge of being within close proximity of buildings in one of the busiest parts of Singapore, so careful and meticulous planning was needed without compromising public safety.

## City Square Residences

The engineering team for City Square Residences had to build a 126-metre wide diaphragm wall to mitigate the risks in constructing three levels of basement car parks under difficult soil conditions. The wall also protected the structural safety of old shop houses in its vicinity.



## Design and Engineering Safety Excellence Award

Award	Project Name	Category	Qualified Person
Award	313@Somerset	Commercial	Er Wong Pui Fun, Joanne
Award	78 Shenton Way	Commercial	Er Liew Keng How, Kenneth
Award	City Square Residences	Residential	Er Yeo Choon Chong
Merit	71 Robinson Road	Commercial	Er Lai Huen Poh
Merit	Jurong Point 2 / The Centris	Commercial	Er Yeo Choon Chong
Merit	City Square Mall	Commercial	Er Yeo Choon Chong
Merit	Changi Terminal 3	Institutional & Industrial	Er Kueh Lip Kuang
Merit	Fusionopolis@one-north	Institutional & Industrial	Er Chan Yek Seng Er Pueh Jye Huey
Merit	Singapore Flyer	Civil Engineering	Er Ho Chong Leong
Merit	Marina Barrage	Civil Engineering	Er Ho Siew Koon
Merit	Sengkang N2C36	Residential	Er Ng Peng Yuen, John
Merit	BIDV Tower, Hanoi, Vietnam	Overseas Projects	Er Leung Wai Man

# Epitomes of Construction Excellence

Twelve awards and nine certificates of merit were given out for exemplary construction quality and workmanship at this year's Construction Excellence Award. Luxury condominiums under the residential building category took up five out of twelve places, while two civil engineering projects stood out to clinch awards for achieving engineering marvels in the underground construction of the Kallang-Paya Lebar Expressway and the first stage of the Circle Line. Here is the line-up of this year's winning projects.

*The Central*



*Pan Pacific Serviced Suites*



*Block N2.1, NTU*



*The Sail @ Marina Bay*



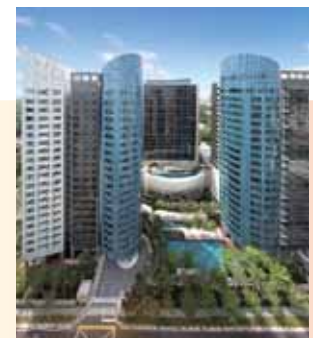
*Upgrading of Bukit Panjang Government High School*



*Parc Emily Condominium*



*The Azure*



*St. Regis Residences*



*Construction and Completion of Dhoby Ghaut, Bras Basah, Esplanade and Promenade Stations and Tunnels – Circle Line Stage 1 C825*



*Kallang-Paya Lebar Expressway Contract 423*



*RiverEdge*



*Linear Green @ Bedok (Bedok Town Centre Contract 6)*

## Construction Excellence Award 2010

Award Type	Project Name	Award Category	Builder	Client
Award	The Azure	Residential Buildings – \$1200/m <sup>2</sup> & Above	China Construction (South Pacific) Development Co Pte Ltd	Frasers Centrepoint Limited
Award	Block N2.1, NTU	Institutional Buildings	China Construction (South Pacific) Development Co Pte Ltd	Nanyang Technological University
Award	The Central	Commercial / Mixed Development Buildings	Hexacon Construction Pte Ltd	Far East Organization
Award	Construction and Completion of Dhoby Ghaut, Bras Basah, Esplanade and Promenade Stations and Tunnels – Circle Line Stage 1 C825	Civil Engineering Projects	WH-STEC-NCC Joint Venture	Land Transport Authority
Award	Kallang-Paya Lebar Expressway Contract 423	Civil Engineering Projects	Samsung C&T Corporation	Land Transport Authority
Award	Linear Green @ Bedok (Bedok Town Centre Contract 6)	Residential Buildings – Below \$1200/m <sup>2</sup>	China Construction (South Pacific) / Development Co Pte Ltd	Housing & Development Board
Award	Parc Emily Condominium	Residential Buildings – \$1200/m <sup>2</sup> & Above	Tiong Seng Contractors (Pte) Ltd	City Developments Limited / TID Pte Ltd
Award	Pan Pacific Serviced Suites	Commercial / Mixed Development Buildings	Kajima Overseas Asia Pte Ltd	UOL Group Ltd
Award	RiverEdge	Residential Buildings – \$1200/m <sup>2</sup> & Above	Tiong Seng Contractors (Pte) Ltd	Riveredge Development Pte Ltd
Award	St. Regis Residences	Residential Buildings – \$1200/m <sup>2</sup> & Above	Kajima Overseas Asia Pte Ltd / Tiong Seng Contractors (Pte) Ltd	City Developments Limited/ Hong Leong Holdings Ltd / TID Pte Ltd
Award	The Sail @ Marina Bay	Residential Buildings – \$1200/m <sup>2</sup> & Above	Dragages Singapore Pte Ltd	Glangary Pte Ltd
Award	Upgrading of Bukit Panjang Government High School at Choa Chu Kang Avenue 4, Singapore	Institutional Buildings	Guan Ho Construction Co. Pte Ltd	Ministry of Education
Merit	The Beacon @ Cantonment Road	Residential Buildings – \$1200/m <sup>2</sup> & Above	China Construction (South Pacific) Development Co Pte Ltd	Cantonment Realty Pte Ltd
Merit	Construction and Completion of Serangoon Interchange Station including Tunnels – Circle Line Stage 3 C852	Civil Engineering Projects	WH-STEC-AM Joint Venture	Land Transport Authority
Merit	The Grange	Residential Buildings – \$1200/m <sup>2</sup> & Above	Thian Sung Construction Pte Ltd	Grange Development Pte Ltd
Merit	Fusionopolis Phase 1 @ one-north (Superstructure)	Industrial Buildings	Shimizu Corporation	JTC Corporation
Merit	Jurong West Neighbourhood 3 Contract 30A	Residential Buildings – Below \$1200/m <sup>2</sup>	Sim Lian Construction Co (Pte) Ltd	Housing & Development Board
Merit	Proposed Additions and Alterations to Existing Bukit Batok Secondary School at Bukit Batok West Avenue 8, Singapore	Institutional Buildings	Kwan Yong Construction Pte Ltd	Ministry of Education
Merit	Proposed Rebuilding of Pei Tong Primary School at Clementi Avenue 5, Singapore	Institutional Buildings	Kwan Yong Construction Pte Ltd	Ministry of Education
Merit	The Stellar	Residential Buildings – \$1200/m <sup>2</sup> & Above	Woh Hup (Pte) Ltd	GuocoLand Limited
Merit	Varsity Park Condominium	Residential Buildings – \$1200/m <sup>2</sup> & Above	Woh Hup (Pte) Ltd	CapitaLand Residential Singapore Pte Ltd



Now in its second year, the Built Environment Leadership Award welcomed its latest cohort of winners at the BCA Awards Night. The Award was introduced to recognise outstanding industry firms that had demonstrated excellence and leadership in shaping a safe, high-quality, sustainable and friendly built environment in Singapore. It also serves as a comprehensive roadmap for the building and construction industry to level up and be spurred towards a higher degree of professionalism with enhanced capabilities and competitiveness.

Award  
Type Firm

Gold Class Beca Carter Hollings & Ferner (S.E.A) Pte Ltd 

Gold Class CPG Consultants Pte Ltd



Gold Class DP Architects Pte Ltd



Gold Class Dragages Singapore Pte Ltd



# Green Honours Roll for 2010

## Green Mark for Buildings Award (New Buildings)

## Platinum

Project Name	Client/Developer
Cube 8	City Developments Limited
Education Resource Centre	National University of Singapore
InnoVillage@SP	Singapore Polytechnic
Lian Beng Building	Lian Beng Investment Pte Ltd
Samwoh Eco Green Building	Samwoh Corporation Pte Ltd
SkyTerrace @ Dawson	Housing & Development Board
SkyVille @ Dawson	Housing & Development Board
Solaris	SB (Solaire) Investment Pte Ltd
Tree House	City Developments Limited/ Hong Realty (Pte) Ltd
United World College South East Asia (East Campus)	JTC Corporation
Volari	City Developments Limited
Woh Hup Building	Woh Hup Holdings (Pte) Ltd
W Singapore Sentosa Cove	City Developments Limited
Zero Energy Building @ BCA Academy	Building and Construction Authority

## Gold Plus

Project Name	Client/Developer
137 Market Street	Grace Global Ventures I Pte Ltd
Caterpillar Reman Facility	Caterpillar S.A.R.L. Singapore Branch
Condominium at Pasir Ris Grove (Parcel 2)	City Developments Limited/ Hong Realty (Pte) Ltd/ Hong Leong Holdings Ltd
GKE Warehouse cum Office	GKE Warehousing & Logistics Pte Ltd
MDIS Residences @ Stirling	Management Development Institute of Singapore
Natura Loft	Qingjian Realty Pte Ltd
NUHS Tower Block	National University Health System (NUHS)
Proposed Condominium at Farrer Road	Morganite Pte. Ltd. (Jointly developed by CapitaLand with three other shareholders, including Hotel Properties Limited and a fund managed by Morgan Stanley Real Estate)
The Interlace	Ankerite (Pte) Ltd (Jointly developed by CapitaLand with two other shareholders, including Hotel Properties Limited)
UE BizHub East Business Park, Offices & Retail Development	United Engineers Developments Pte Ltd

## Gold

Project Name	Client/Developer
76 Shenton	Hong Leong Holdings Ltd
Ascentia Sky	Winpride Investment Pte Ltd
Caltex Clementi Petrol Station	Chevron Singapore Pte Ltd
Elliot at the East Coast	Elliot Development Pte Ltd
Genentech ECP-1 Facility	Roche Singapore Technical Operations Pte Ltd
GSK-SN02 Warehouse	GlaxoSmithKline Biologicals
IBM Singapore Technology Park	Boustead Projects Investments Pte Ltd
Jurong Data Centre Development	Jurong Data Centre Development Pte Ltd
Kim Chuan Telecommunications Complex 2	HSBC Institutional Trust Services (S) Ltd
Martin Place Residences	FCL Land Pte Ltd
Meadows @ Peirce	UOL Development Pte Ltd (A subsidiary of UOL Group Ltd)
Merlimau Building Project	Singapore Refining Company Private Limited
Mochtar Riady Building / NUS Business School	National University of Singapore
nex	Gold Ridge Private Ltd
Office @ Scotts Road	Sun Venture (S) Investments Pte Ltd
Park Central @ AMK	Greatearth Developments Pte Ltd
Plaza 8 @ CBP	HSBC Institutional Trust Services (S) Ltd as Trustee of Ascendas Real Estate Investment Trust (A-REIT)
Poh Ern Shih Temple	Poh Ern Shih Temple
Punggol East C30B	Housing & Development Board
Singapore Commodity Hub Extension	CWT Ltd



InnoVillage@SP



SkyTerrace @ Dawson



W Singapore Sentosa Cove

## Gold

Project Name	Client/Developer
Tampines Lodge	Housing & Development Board
Tanglin Trust School (6th Form Centre)	Tanglin Trust School Ltd
TATA Communications Exchange	Mapletree Trustee Pte Ltd As Trustee of Mapletree Singapore Industrial Trust
The Trizon	Ideal Homes Pte Ltd (A subsidiary of Singapore Land Ltd)
Trevista	Choice Homes Gamma Pte Ltd (A subsidiary of NTUC Choice Homes Co-operative Ltd)
Tuas Lodge 1	Dormitory Investments Pte Ltd
UE BizHub EAST Hotel Suites, Serviced Offices & Convention Centre	United Engineers Developments Pte Ltd
West Park BizCentral	SB (Westpark) Investment Pte Ltd
Woodlands N5C20	Housing & Development Board

## Certified

Project Name	Client/Developer
111 Emerald Hill	LaSalle Investment Management Pte Ltd
CASPIAN	Yishun Land Pte Ltd (A subsidiary of Frasers Centrepoint Ltd)
Co-Location of Syariah Court and Tribunal for Maintenance of Parents with Red Cross Home for the Disabled	Ministry of Community Development, Youth and Sports
Development of Additional Racing, Training and Riding Facilities involving Racing Stables, Resting Stables, Uphill Track, Riding Center and Ancillary Structure to Singapore Racecourse	Singapore Turf Club
Lush on Holland Hill	SP Holland Hill Pte Ltd
Luxus Hills (Phase 1)	Singapore United Estates (Pte) Ltd (A subsidiary of Bukit Sembawang Estates Ltd)
Maha Bodhi School	Maha Bodhi School & Ministry of Education
*SCAPE	Ministry of Community Development, Youth and Sports
T-Lab at National University of Singapore	National University of Singapore

## Green Mark for Office Interior Award

Award Type	Project Name	Tenant/Owner
Gold <sup>Plus</sup>	Deutsche Bank AG, Asia Pacific Head Office	Deutsche Bank AG
Gold <sup>Plus</sup>	Noble Resources Pte Ltd	Noble Resources Pte Ltd
Gold	Squire Mech Pte Ltd	Squire Mech Pte Ltd
Certified	Kajima Overseas Asia Pte Ltd (Development Division)	Kajima Overseas Asia Pte Ltd

## Green Mark for Districts Award

Award Type	Project Name	Client/Developer
Gold <sup>Plus</sup>	National University of Singapore University Town	National University Of Singapore
Gold <sup>Plus</sup>	Resorts World Sentosa	Resorts World at Sentosa Pte Ltd

# Facility Management Goes Green

As BCA forges ahead to green Singapore's built environment, one area of focus is to build up capabilities in sustainable facility management.

To this end, BCA Academy recently teamed up with the International Facility Management Association (IFMA) to organise the inaugural BCAA-IFMA Regional Conference themed "Sustainability Facility Management: A Business Advantage to Organisation." Held in April, the two-day conference was well-attended by regional and local facility management practitioners, coming together to exchange ideas on pertinent issues on promoting sustainable facility management.

During the conference, eight speakers delivered papers focused on integrating facility management with core businesses, featuring best practices and addressing value-added facility management through innovation, technology and engineering. They also shared successful case studies on the unique operational paradigm needed for sustainable facility management.

At the conference, BCA and IFMA signed a memorandum of understanding to promote and advance the facility management profession in Singapore. Through sharing resources, promoting educational programmes and having joint collaborations to create and implement new products and services, BCA and IFMA hope to drive the local facilities management industry forward in the near future.

To complement these initiatives, BCA Academy also offers a comprehensive suite of specialist certificate courses and academic diploma and degree programmes for professionals engaged in facility management at all levels. More information on these courses can be found at [www.bcaa.gov.sg](http://www.bcaa.gov.sg).

Left (top down):

1. Dr John Keung, CEO of BCA, giving the opening address.
2. Participants at the conference.
3. Networking session during the breaks.
4. An engaging panel discussion with the guest speakers.



Right (top down):

1. Dr John Keung (left) and Mr Tony Keane (right), President and CEO of the International Facility Management Association, signing the MOU.
2. Mr Tony Keane presenting the keynote paper on 'Moving Forward - the FM Profession in a Carbon Constrained World'.
3. Mr Alex Lam engaging the audience with his paper on 'FM Beyond 2012 - An Apocalyptic Re-ordering of our FM Profession'.
4. Mr Charles Claar presenting his paper on 'An Update on Worldwide FM Education'.



# Builders' Guide to Being Green and Gracious

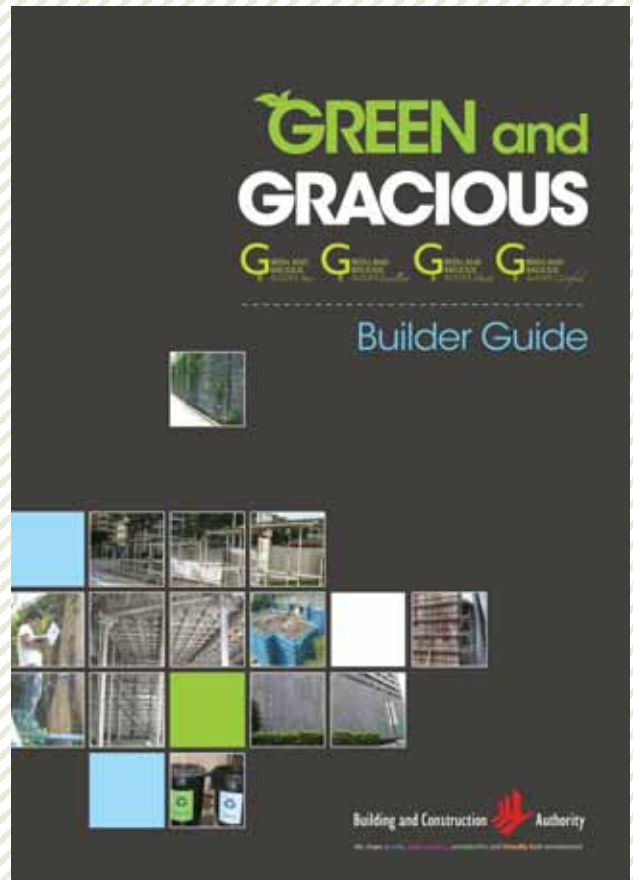
BCA has produced the Green and Gracious Builder Guide to help raise the level of environmental consciousness and professionalism among builders. The guide book shares best practices in addressing environmental concerns and mitigating possible inconveniences to the public caused by construction works.

All the practical examples featured in the guide book were gathered from builders who participated in the Green and Gracious Builder Scheme. The scheme, which was introduced in 2009, serves as a benchmark of a builder's corporate social responsibility to the environment and to the general public.

Apart from setting standards for green practices, the scheme also sets standards for gracious practices. Over time, these gracious practices will improve the image of builders and the construction industry, particularly among communities who may be affected by the construction activities near them.

The Green and Gracious Builder Guide was launched at the ASEAN Constructors Federation Conference on 15 June. The conference, themed 'Sustainable Green Practices for Contractors', was jointly organised by the Singapore Environment Council and the Singapore Contractors Association to share sustainable practices among fellow contractors in the ASEAN countries. Ms Grace Fu, Senior Minister of State for National Development and Education was the guest-of-honour at the event, which attracted more than 200 participants comprising developers, government agency officers, consultants, local and overseas builders.

The Green and Gracious Builder Guide is available at the Information/Enquiry Counter on Level One of BCA Academy or at BCA's Contractors Registry Counter on Level Two of MND Complex. Alternatively, the softcopy can be downloaded from [http://www.bca.gov.sg/Awards/GGBA/GGB\\_book.html](http://www.bca.gov.sg/Awards/GGBA/GGB_book.html).



From left: **Dr Sudarto**, Chairman, Asean Constructors Federation and Indonesia Contractors Association; **Dr Ho Nyok Yong**, 1st Vice President, SCAL; **Mr Andrew Khng**, President, SCAL; **Ms Grace Fu**, Senior Minister of State for National Development and Education; **Mr Lam Siew Wah**, Deputy CEO (Industry Development), BCA; **Mr Howard Shaw**, Executive Director, Singapore Environment Council.

## Young Leaders

# The Vital Link to Project Cost Management

Phan Lay Eng from KPK Quantity Surveyors (Singapore) Pte Ltd shares her thoughts on why she finds her quantity surveying job both challenging and satisfying.

Quantity surveying is possibly one of the most misunderstood professions in the construction industry. When talking to people outside the industry, I always attempt to explain the nature of my profession in the simplest way – which is to handle all cost related issues of construction projects.

While this does not do justice to the scope that quantity surveying encompasses, it takes away the awkward moments of people trying to grasp what exactly a quantity surveyor does.

As a Project Director with KPK Quantity Surveyors (Singapore), I find my job as a consulting quantity surveyor a challenging one. Quantity surveying is a vital part of the entire construction process. It encompasses formulating procurement strategies, providing cost and contractual advice, controlling costs, value engineering and post contract administration of construction projects up to the final payment for the project.

I have been provided with many opportunities to work on different types of projects both locally and overseas. Some of my completed projects in Singapore include the One North Condominium, located in the lifestyle and business hub of



Phan Lay Eng  
Project Director  
KPK Quantity Surveyors (Singapore) Pte Ltd

biomedical, infocomm and digital media industries at Buona Vista and Stage 3 of the MRT Circle Line. The project includes stations and tunnels from Bartley station to Marymount station. Overseas, I have worked on the Villa Riviera, a riverfront development by Keppel Land in Ho Chi Minh City, Vietnam and the Banyan Tree Resort located at the foot of Jade Dragon Snow Mountain in the charming ancient town of Lijiang, a Unesco World Heritage site in China.

At the moment, I oversee the Vietnam office of KPK Quantity Surveyors and spend 75% of my time shuttling between Ho Chi Minh City, Hanoi, Danang and Singapore. Running an operation in Vietnam is undoubtedly a big challenge as the construction industry is at a different stage of maturity as compared to Singapore. I have to work with local practices and cultural differences as well as varying skill levels of staff.

However, I find fulfillment in overcoming the odds and achieving clients' satisfaction of a job well done. This provides me with the motivation and zest to excel in future endeavours.

*The Built Environment Young Leaders Programme (YLP) is BCA's latest initiative to nurture young professionals with the dedication, passion and leadership qualities to lead the construction sector in the near future. Launched in 2009, this programme aims to proactively engage these capable professionals within the industry by giving them a greater stake in the advancement of the industry. In addition, the YLP will facilitate their training and upgrading progression so that they can constantly enhance their competency and enjoy greater job satisfaction.*



Banyan Tree, Lijiang, China



One North Condominium, Singapore

# More Design Flexibility for Civil Defence Shelters



View of RC tunnel wall used to protect blast hatch

With the recent revisions in technical requirements for staircase and storey shelters, architects have more options and flexibility in designing the Civil Defence (CD) shelters. Here are some highlights of the revised requirements. The full technical requirements for staircase and storey shelters, including the latest revisions, can be found at [www.corenet.gov.sg](http://www.corenet.gov.sg).

## Alternative Shielding Walls

Shelter designs can now allow for a lift shaft or a refuse chute wall (FIGURE 1) or an arrangement of full-height reinforced concrete walls (FIGURE 2) to be used as a shielding wall for the protection of the shelter door.

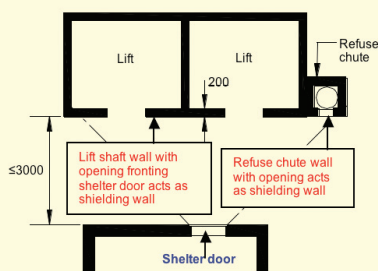


FIGURE 1

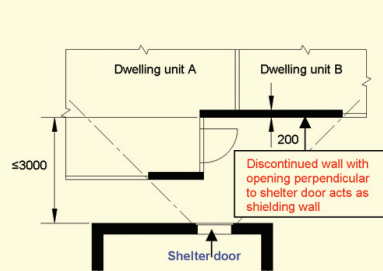


FIGURE 2

## Ongoing Reviews

BCA and the Singapore Civil Defence Force (SCDF) have been reviewing and updating technical requirements governing the planning, designing and construction of CD shelters regularly. The updates seek to provide greater design flexibility, speed up plan approval processes and improve the operation and maintenance of the shelters.

## Blast Hatch

The reinforced concrete tunnel wall (FIGURE 3) can be used to protect the blast hatch located at the top of the mechanically-ventilated riser.

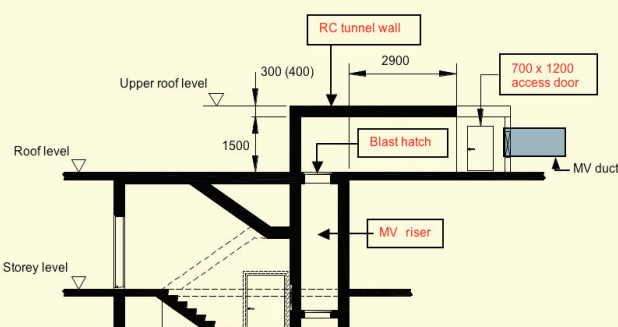


FIGURE 3

Note: All dimensions are in mm.

Before embarking on the review of CD shelter technical requirements, BCA gathered feedback from architects, engineers and stakeholders. It also studied past approved waiver cases so that the results could be incorporated into the revised requirements.

CD shelters come in the form of household shelters, storey shelters or staircase shelters. Storey and staircase shelters are alternatives to household shelters and are suitable for studio apartments or smaller flats. In recent years, storey shelters have been adopted for smaller-sized flats in public housing projects, whereas staircase shelters are more commonly used in private apartments and condominiums.

The most recent update of technical requirements for storey and staircase shelters was implemented and published in January 2010.

# India Calling

The sizeable Indian market provides many opportunities for growth in the construction sector where there is high demand for housing and infrastructure. But local firms venturing there need to understand the cultural norms and work ethics of the Indian society to harvest results there.

These perspectives were shared at a recent 'Developing Business in India' seminar organised by BCA to familiarise industry stakeholders with business opportunities in India. About 80 participants from the industry attended the event on 13 April.

At the event, four guest speakers were present to share information on business opportunities, working experiences, taxation framework and cultural norms. They were Mr Manish Motwani, Director of DTZ India; Mr R Vasudevan, Executive Director of Trans Corporate Advisory Services; Mr B Shiva, CEO of Paper Clip Consultancy, and Mr Lee Fu Nyap, Senior Vice President of Ascendas India.

Following the presentations, an insightful panel discussion took place, hosted by Mr William Lau, Principal Partner of A.Alliance. During the discussion, Mr Lau encouraged the audience to actively work with BCA to explore the many global opportunities abroad.

For more information on upcoming seminars or opportunities available in India, please contact Mr Ron Tan at [ron\\_tan@bca.gov.sg](mailto:ron_tan@bca.gov.sg), Mr Eric Jin at [eric\\_jin@bca.gov.sg](mailto:eric_jin@bca.gov.sg) or Mr Ding Lit Siong at [ding\\_lit\\_siong@bca.gov.sg](mailto:ding_lit_siong@bca.gov.sg).



*Participants listening intently to Guest Speaker, Mr Manish Motwani.*



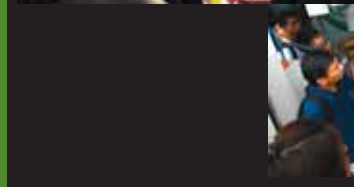
*Panel discussion hosted by Mr William Lau (extreme right).*

## Will the Green Sparks Please Stand Up?

The first public-private initiative between BCA and City Developments Limited (CDL) was launched in April to engage local tertiary students in the national effort to green the built environment and to raise awareness of best green building practices and solutions among future practitioners.

The BCA-CDL Green Sparks Competition presented students with the challenge of enhancing the environmental performance of the existing Fuji Xerox Towers. The 38-storey office building, which is owned by CDL, attained the BCA Green Mark Gold award in 2008, so the task was for students to submit their retrofitting proposal to further reduce the building's energy consumption and lower its carbon footprint. The retrofitted building should then qualify for the highest accolade under BCA's Green Mark Scheme – the Green Mark Platinum status.

More than 220 students attended the three site briefings in April and May, and were given a tour around the building to allow them to better understand the requirements of the competition. Their proposals will be judged according to five criteria – energy savings and environmental benefits, feasibility and cost effectiveness, creativity, replicability, and presentation. The results of the competition will be revealed in August, with the top three winning teams each receiving a plaque and a cash prize of between \$5,000 to \$10,000.



# Fresh AMP Graduates Join Industry Discussion



The second cohort of the SMU-BCA Advanced Management Programme (AMP) graduated on 26 April at the Singapore Management University (SMU). The graduation ceremony was followed by a panel discussion chaired by SMU's Associate Professor Ms Annie Koh with four guest speakers from the industry.

A total of 40 graduates received their certificates from Dr John Keung, Chief Executive Officer of BCA, and Mr Chan Heng Kee, Chief Executive of the Workforce Development Agency. In the opening address, Dr Keung announced that in response to the national call for higher productivity, a new Productivity Module will be incorporated in the third intake of the nine-module SMU-BCA AMP programme which will commence on 18 August 2010.

The panel discussion, which followed, focused on "The Impetus for Growing Global", which led to a consensus that the local property market still offered growth prospects for developers. Mr Chng Chee Beow, Property Director of WingTai Asia was upbeat on the outlook of the local property market, citing the efficient transport network as a reason for the recent increase in prices. Mr Song Seng Wun, Regional Economist of CIMB-GK Research, added that the low interest rates and prospective buyers from Hong Kong and China also play a part in fuelling demand within Singapore's property market. On globalisation, Mr Kevin Wong, Group CEO of Keppel Land, said that his company still had most of its assets in Singapore even though it was gaining substantial exposure in Vietnam and China. He revealed that Keppel Land was also "looking very carefully" at Indonesia.

For more information on the third intake of the SMU-BCA Advanced Management Programme, please contact Serene Tan at 6828-0287 or [serenetan@smu.edu.sg](mailto:serenetan@smu.edu.sg).

## Design Considerations & Simplified TOP Application Process for Public Vehicular Decks over Excavation Sites



*Temporary public vehicular deck over Rochor Canal*

Since 1 October 2008, bridges and decking for public vehicles over excavation sites are being regulated in a similar manner as permanent building works. Therefore, plan approval and permit to commence structural works will be required for this type of structures. Qualified Persons (QPs) have the option of designing these structures with their support system either independent or integrated with the structural system of the earth-retaining or stabilising structures used in the excavation. Just as in the case of permanent building works, the QP has to apply for a Temporary Occupation Permit (TOP) before the vehicular deck can be opened to public traffic for the first time.

Several briefing sessions were held for QPs involved in the design and construction of public vehicular decks over excavation sites, to allow them to have a clearer understanding of the key design considerations and the simplified TOP application process that has been implemented.

For more details on the circular, please visit <http://www.corenet.gov.sg/einfo>.

# Higher Green Mark Standards in Selected New Strategic Growth Areas



CBD Skyline

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Projects developed on Government Land Sales sites in Marina Bay and Downtown Core, Jurong Gateway in Jurong Lake District, Kallang Riverside and Paya Lebar Central will now have to meet higher Green Mark standards.

This requirement was announced in BCA's 2nd Green Building Masterplan in 2009 to maximise the potential for cost-effective energy savings in the built environment. New developments in these areas sold from 5 May 2010 onwards would have to meet the higher standards, as outlined in the table below.

Prior to the building plan submission, the Qualified Person should apply for the Green Mark Certification with BCA under the BCA Green Mark Certification Standard for New Buildings. The project would need to obtain its appropriate Green Mark Certification before a Temporary Occupation Permit or Certificate of Statutory Completion can be issued.

## Selected Strategic Areas

Marina Bay	Green Mark Platinum
Downtown Core, including areas within the CBD located next to Marina Bay	
Jurong Lake District	Green Mark Gold <sup>Plus</sup>
Kallang Riverside	
Paya Lebar Central	

## Green Mark Certification for GLS Sites

Green Mark Platinum

Green Mark Gold<sup>Plus</sup>

## Revised Code of Practice for Installation, Operation and Maintenance of Electric Passenger and Goods Lift

From 1 July 2010, both BCA and the Fire Safety & Shelter Department will be adopting a revised code of practice for provision of lifts. The revision was made to keep abreast with the latest changes in technology and to incorporate good practices.

Any lift designed to provide vertical transportation of people is required to comply with the requirements of the prevailing code of practice. In particular, the lift car bottom clearance of at least 600mm must be provided in the lift pit for the safety of the lift technicians working in the lift pit during maintenance.

With the adoption of the new code of practice, building plans submitted to BCA on or after 1 July will have to meet the new Standard, SS 550:2009 (Code of Practice for Installation, Operation and Maintenance of Electric Passenger and Goods Lift), instead of the current code of practice CP 2.

The revised standard SS 550:2009 can be purchased from SPRING Singapore.



# Events

(Jul ~ Aug 2010)

Date	Event	Contact
7 Jul 2010	Seminar on "Recent Developments in Slope Stability Analysis & Monitoring, Instrumentation and Mapping"	<p>BCA Academy            – Business Development Unit            DID: 62489843/824            Email: <a href="mailto:bca_academy@bca.gov.sg">bca_academy@bca.gov.sg</a></p>
7, 9, 14 & 16 Jul 2010	Geotechnical Instrumentation for Engineers	
14 & 15 Jul 2010	GMP Programme – CORE Module – Efficient Building Envelope Design, ETTV & RETV	
19 & 20 Jul 2010	Project Management	
19 & 20 Jul 2010	Renovation for Public Housing	
21 Jul 2010	Achieving Workplace Safety & Health Excellence in Construction cum exhibition	
21, 22 & 23 Jul 2010	Certified QM/CONQUAS Managers Course	
26 ~ 30 Jul 2010	HFT Stuttgart – BCA Executive Development Programme 2010 – Innovations in Sustainable Design & Technology	
26 & 27 Jul 2010	2-day Workshop on "Behavioural Safety for the Construction Industry"	
27 Jul ~ 17 Sep 2010	Certification Course for Green Mark Facilities Manager	
28 & 30 Jul 2010/26 & 27 Aug 2010	Risk Management Course (BizSAFE Level 2)	
2 & 3 Aug 2010	GMP Programme – ELECTIVE Module – IAQ Solutions For Sustainable Buildings	
5 Aug 2010	1-day workshop on Preparing and Defending Loss and Expense Claims	
6 Aug 2010, am	Code of Practice on Buildable Design	
12 & 13 Aug 2010	GMP Programme – ELECTIVE Module – Efficient Eco-Lighting Design for Buildings	
17, 19, 24 & 26 Aug 2010	Pile Foundations Design and Construction for Engineers	
17 ~ 18 Aug 2010	2-day Theory Workshop on Material Recycling for Sustainable Construction	
18 Aug 2010, am	Understanding the Green Mark Criteria for Existing Buildings and office Interior	
18 Aug 2010 ~ 28 Oct 2010	Singapore Management University-BCA Advanced Management Programme for Leaders of The Building & Construction Industry	
19, 20 & 23 Aug 2010	GMP Programme – CORE Module – Energy Efficient Air-Conditioning for Commercial Buildings	
23, 24 & 25 Aug 2010	Essential Knowledge in Local Regulations and Construction Practices	
30 & 31 Aug 2010	2-day Workshop on "Deliver Your Presentation with Powerful and Professional Performance"	
31 Aug 2010	Workshop on Understanding Professional Negligence Claims	
1 Sep 2010	1-day Experiential Workshop on Material Recycling for Sustainable Construction	
19 ~ 23 Sep 2010	VNU-BCA Advanced Management Programme (Real Estate Development in Vietnam)	
10 ~ 17 Oct 2010	Tsinghua University-BCA Advanced Management Programme: Real Estate Development & Management in China	

# Let's Build A

# GREEN

# Future!

## THE BCA GREEN BUILDING EXHIBITION 2010



- 1 The Little Red Dot is turning Green**  
Learn more about how Singapore is greening up its buildings!
- 2 Take a walk through a Green Home**  
Enjoy a tour in a green living room, bedroom, kitchen and bathroom!
- 3 Greening your world with the green professionals**  
More ways to a greener world as told by Architects, Developers, Engineers and other Industry Professionals!

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