

Project:
High Park Grand

Location:
No.68 Boundary Street, Mong Kok,
Hong Kong

Type:
Residential Development

Scheduled Time of Completion:
Late 2014

BIM Empowers Value Driven Design

“Building construction is teamwork, and everyone has to know what is happening. This is the beauty of BIM: everyone can make a contribution.”

Kevin Ng,

Deputy General Manager
Project Management (2) Department,
Henderson Land



Image courtesy of Henderson Land Development Company Limited

Henderson Land Development Company Limited is developing a residential building, High Park Grand, in north Kowloon. It's a relatively small urban renewal project, comprising 41 units, scheduled for completion in late 2014. Henderson Land is utilising BIM to maximise quality, including by making the most of views to north and south.

BIM Partners Involved:

- Hung Shun Investment Company Limited
- Andrew Lee King Fun & Associates Architects Limited
- The Oval Partnership Limited
- CL3 Architects Limited
- J. Roger Preston Limited
- Stephen Cheng Consulting Engineers Limited
- Heng Lai Construction Company Limited



Image courtesy of Henderson Land Development Company Limited

Making apartments as liveable as possible

“High Park Grand is at Boundary Street, between a densely populated area to the south, and a more open and green landscape to the north,” says Kevin Ng, Deputy General Manager – Project Management (2) Department, Henderson Land. “We are using BIM for more than its basic function of clash identification, by refining and optimising the design, such as massing disposition, external view checking and interior spatial enhancement.”

The project will become part of Henderson Land’s “H Collection” (urban redevelopment boutique residences) notes Mr Ng, adding that Henderson Land views the use of BIM as part of the quality driven decision making process: “We think the quality of a building really important – and it involves far more than decorations such as stonework. We try to make apartments as liveable as possible.”

Everyone can contribute

“We have used BIM from the beginning of this project,” says Ernest Wong, Project Manager – Project Management (2) Department, Henderson Land. “Architects, structural engineers, and electrical and mechanical engineers have all used the BIM model to refine the details.”

Though the team produced 2D designs on paper, BIM helped with aspects such as optimising massing disposition, reducing clashes, and increasing ceiling height to make rooms more spacious. “Using 2D would have been more time consuming for this, relying on experience and judgement,” says Mr Wong.

“BIM enables us to visualise the project before we go to the site, and make early decisions,” says Mr Ng. “Building construction is teamwork, and everyone has to know what is happening –

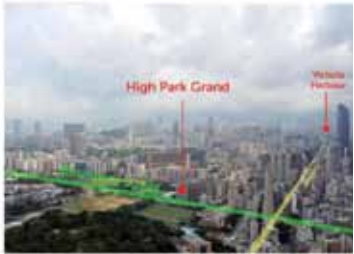


Image courtesy of Henderson Land Development Company Limited

so if there are problems or opportunities, they can give support and input. This is the beauty of BIM: everyone can make a contribution."

Views from without and within

The design team made special use of BIM in optimising views of and from the building. "We put all building services at the back of the building, facing south," says Mr Ng. "But there are stunning views to Tsim Sha Tsui at the back, so we wanted to know how we could create big picture windows."

The team changed routing of pipes for gas supplies and water supplies, to maximise window areas, and incorporate ventilation louvres into windows. They also hide the pipes as much as possible, effectively opening up the exterior. "Now, the back of the building is no longer typical; to people outside it will appear like the front," says Mr Ng.

As the BIM model included simple representations of surrounding buildings, it also provided opportunities for checking views from within apartments – such as checking whether

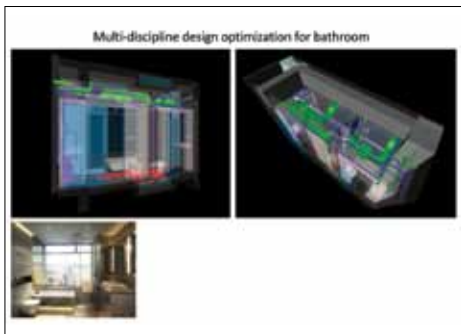


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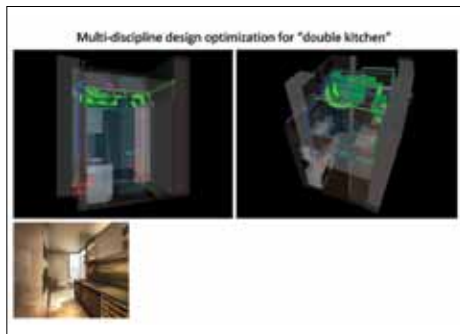


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View study to visualize the views from each residential flat

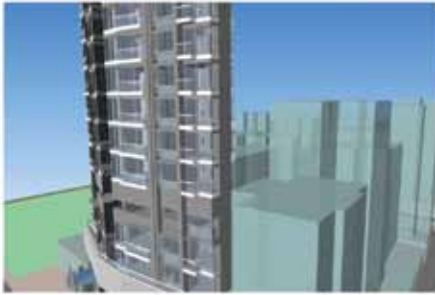
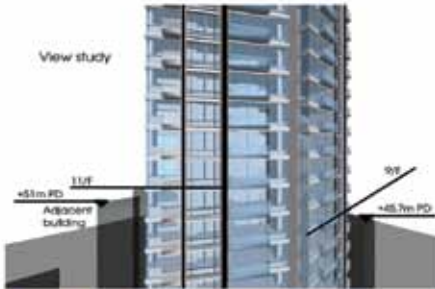


Image courtesy of Henderson Land Development Company Limited

the view from a 10th floor apartment was blocked by a neighbouring building.

Faster decisions

“By making decisions based on the BIM model, we achieved faster response times in the design process,” says Mr Wong. “For instance, we had a lot of curtain walls, and precast facades, requiring very precise information.” A visualisation of the building façade helped the designers to formulate and rationalize the complicated podium glass wall design.

The 3D model was a far better way of showing aspects of design such as predetermined holes through the precast concrete wall panels where service ducts would penetrate walls, which would be difficult to show in 2D. This was important as the building design is compact,

with no space for large ducts, and significant potential for clashes.

The BIM model also facilitated interactions between different teams. “For example, we modelled services through common areas, and checked whether there may be long term maintenance issues,” says Mr Ng. “This helped make decisions involving stakeholders who might be unfamiliar with 2D drawings. In the past, this would have required a lot of talking, with several illustrations, to explain internal alignments. BIM is ‘reader friendly’, so the model can be understood by laymen.”

Quality boosted with BIM

The BIM model may later help with facilities management for High Park Grand. Although Henderson Land finds BIM is powerful and versatile, Mr Ng says there are some issues,

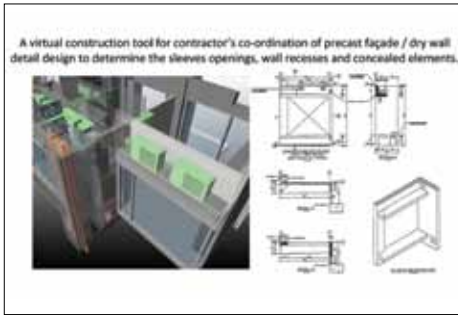


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such as not all consultants are sufficiently versatile to use BIM.

Henderson Land has also held some training courses for consultants, so they learned how to use a BIM. "It's part of a process to enhance quality," says Mr Ng. Henderson Land will expand use of BIM, such as for producing drawings while designing office developments. There is an extra cost for using BIM compared to 2D drawings alone, but this is not overwhelming, and there are significant benefits too. "In the past, the decision-making process tended to be cost driven," reflects Mr Ng. "But we are now shifting to value driven decisions – such as with High Park Grand, where we have achieved light, airy interiors, together with a liveable external area."

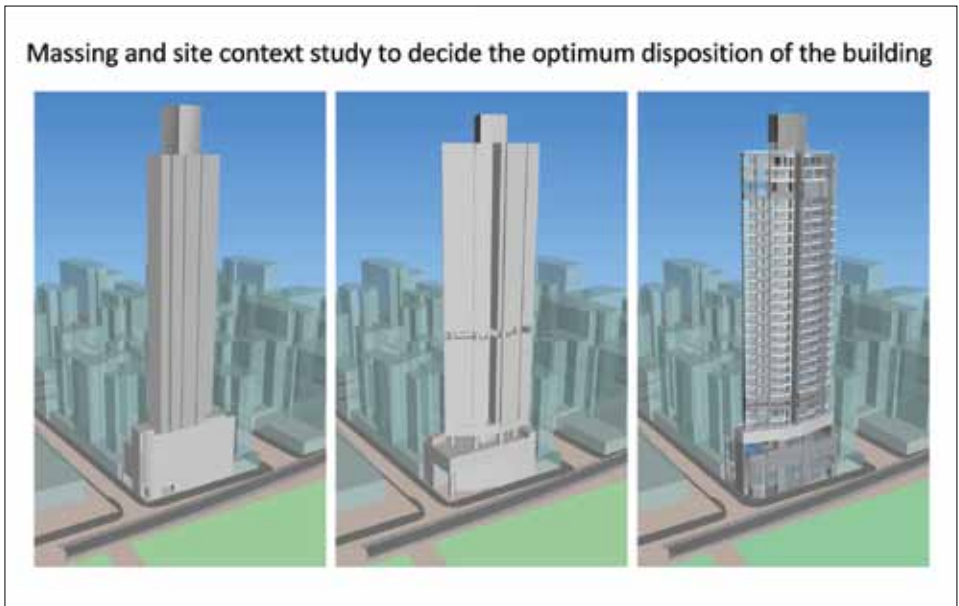


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恒基兆業地產集團
HENDERSON LAND GROUP



About Henderson Land Group

Founded in 1976 by its Chairman, Dr The Honourable Lee Shau Kee, GBM, Henderson Land Development Company Limited is a leading property group with a focus on Hong Kong and mainland China. Its core businesses comprise property development and property investment. In addition, it has direct equity interests in a listed subsidiary, Henderson Investment Limited, and three listed associates, The Hong Kong and China Gas Company Limited (which in turn has equity stakes in a listed subsidiary, Towngas China Company Limited), Hong Kong Ferry (Holdings) Company Limited and Miramar Hotel and Investment Company, Limited.

Henderson Land has been listed in Hong Kong since 1981 where it is one of the largest property groups. As at 31 December 2012, Henderson Land had market capitalization of HK\$132 billion and the combined market capitalization of the Company, its subsidiaries and associates was HK\$342 billion.

With sustainability as a core consideration, The Group is conscientious in its approach to deliver attractive and efficient properties in unrivalled locations that contribute positively to their context. The Group has received numerous awards and accreditations recognizing its effort in sustainability. The Group's recent development Double Cove has won Hong Kong Green Building Award (Merit Award), and Best Innovative Green Building Award (Bronze Prize) in the International MIPIM Asia 2012 Awards. Double Cove and The Gloucester have both achieved 3-star top rating of Green Building Design Label granted by the China Green Building (Hong Kong) Council. Furthermore, five of the Group's latest projects including Double Cove, The Gloucester, High Park, High Park Grand and Mira Moon are bestowed Five Stars Awards in the International Property Award 2013.