

COMPANY
Sun Hung Kai Properties Limited

PROJECT
Proposed Residential Development at T.M.T.L
No.515, King Sau Lane, Tuen Mun

LOCATION
T.M.T.L.No.515, King Sau Lane, Tuen Mun

TYPE
Residential

SCHEDULED TIME OF COMPLETION
2nd Quarter of 2019

Condensed Project Schedule Made Possible and Safer with BIM



About Sun Hung Kai Properties Limited

Sun Hung Kai Properties Limited ("SHKP") was publicly listed in 1972 and is now one of the largest property companies in Hong Kong. It specialises in developing premium-quality residential projects, offices and shopping centres. The Group employs more than 37,000 people.

Sun Hung Kai Properties puts its long-standing belief in "Building Homes with Heart" into practice, on the one hand by developing residences of the finest quality and offering first-class service to its customers, and by contributing to the good of the community to make Hong Kong a better home for everyone.

The Group understands that buying a home is one of the biggest decisions people make in their lives, and so it spares no effort to deliver the very best. Vertical integration from planning, material sourcing and construction through to project monitoring and property management ensures high standards in every aspect of a development.

The Group's seasoned management team follows prudent strategies for long-term business development and the company's philosophy includes a strong sense of corporate social responsibility, both to its customers and to the public. The Group works for the benefit of the community with wide-ranging initiatives to protect the environment, care for the less fortunate and foster educational development.

Sun Hung Kai Properties – We're "Building Homes with Heart".

BIM PARTNERS
Sun Hung Kai Architects & Engineers Limited
Archiplus International Limited
Teamfield Building Contractors Limited
Vircon Limited

Project Description

In current trade practices, design models have to be remodelled in construction stages. To help resolve this challenge, Sun Hung Kai Properties (SHKP) adopted the Integrated Project Delivery (IPD) approach for the "Proposed Residential Development at T.M.T.L No.515, King Sau Lane, Tuen Mun" project from the beginning, and to be continued for the whole project stage. That is, one model is used all the way through the project life cycle. The model and workflow are well organised to meet the purpose of design as well as construction study.

Project Challenges

As SHKP always puts the customer first and offers quality products for customers, BIM models are used to provide the best end-user experience.

With the tight schedule and site constraints, project matters like detailed design, construction method, schedule and cost etc. are hardly optimised. For example, we are planning to employ a climbing scaffolding system to replace bamboo scaffolding. But there is no real case applications in Hong Kong. There is a risk for a new application.

Solutions for challenges

An integrated Project Delivery (IPD) approach was used from the beginning. The model and workflow are well organised to meet the purpose of design as well as construction study.

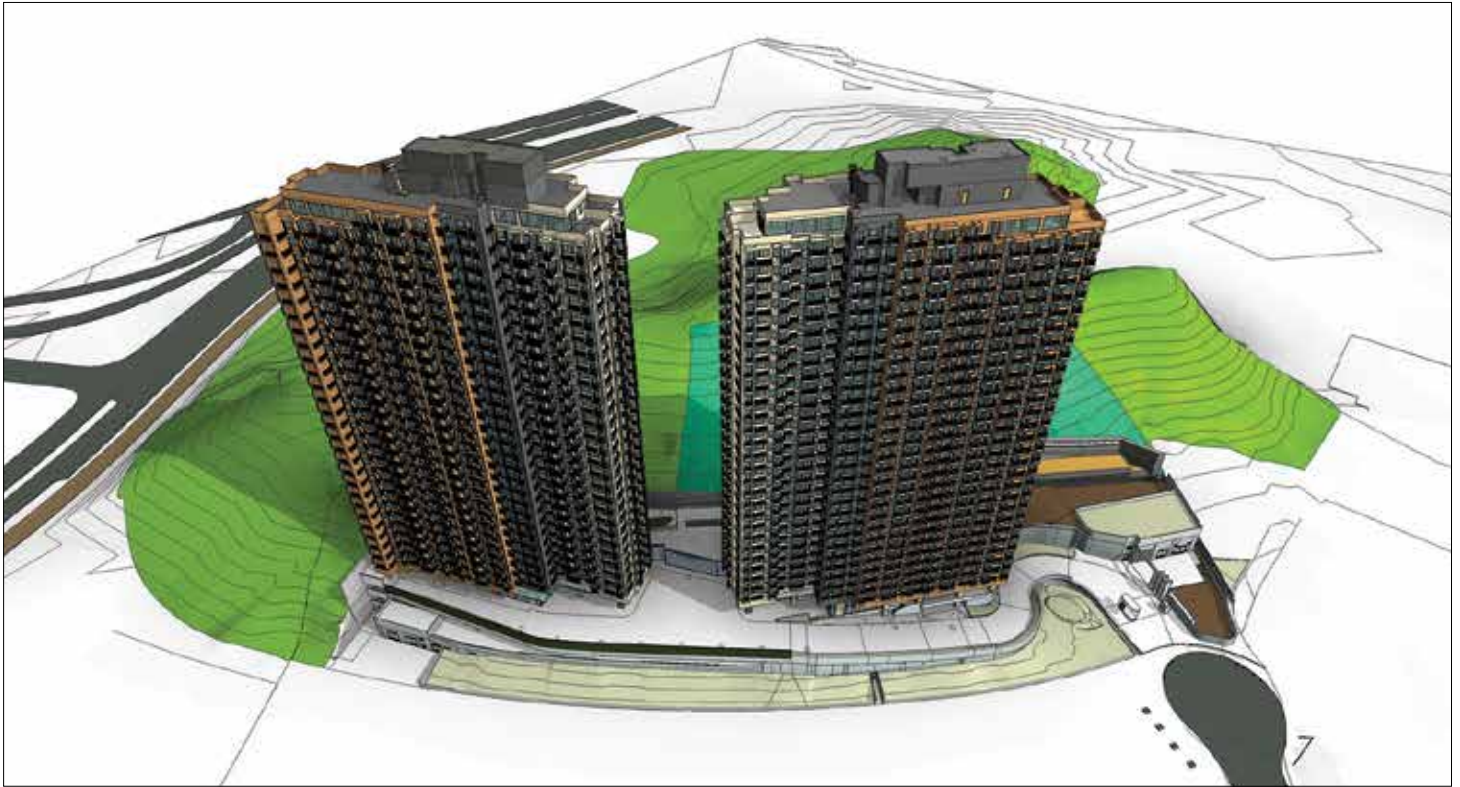
The integrated project team for design and construction maximises the value of BIM models. With the BIM team and construction team involved in the project at very early stage, they can advise the project team on the construction schedule, cost and buildability according to any project design changes, by means of the BIM model. The program schedule can be condensed as well, and let the design team have more time and more information to optimise the design and better prepare the construction planning.

How does BIM benefit the project?

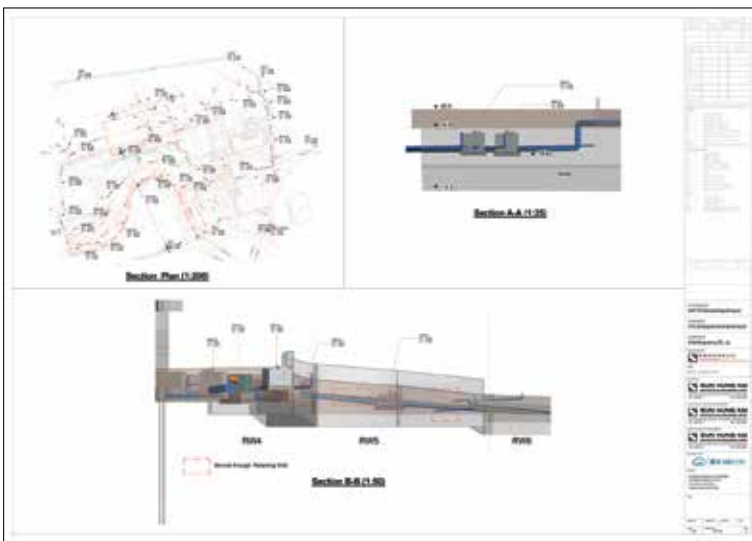
As the project schedule is tight and there's a requirement to improve safety and conditions in the construction site, we are planning to employ climbing scaffolding to replace the bamboo scaffolding. We used BIM to do the feasibility study on the climbing scaffolding for construction use – such as by simulating the construction cycle to present the working zone for each trade, for each floor, so they can understand the planning of the construction cycle and identify the potential problems with using climbing scaffolding and possible dangerous areas in the scaffolding design.

Better with BIM

To enhance safety awareness, we use BIM to present the Emergency Escape, for all workers to easily remember and record the escape routes. The study of the BIM model is one of the tasks of the safety officer in preparing the risk assessment. For example, the climbing scaffolding system is a good solution for enhancing safety. But, it is tailor-made design. The safety officer will study the relationship between the BIM design model and climbing scaffolding BIM, and the construction sequence of the climbing scaffolding, to determine potential danger zones and discover potential problems.



Proposed Residential Development at T.M.T.L No.515, King Sau Lane, Tuen Mun
Image courtesy of Sun Hung Kai Properties Limited



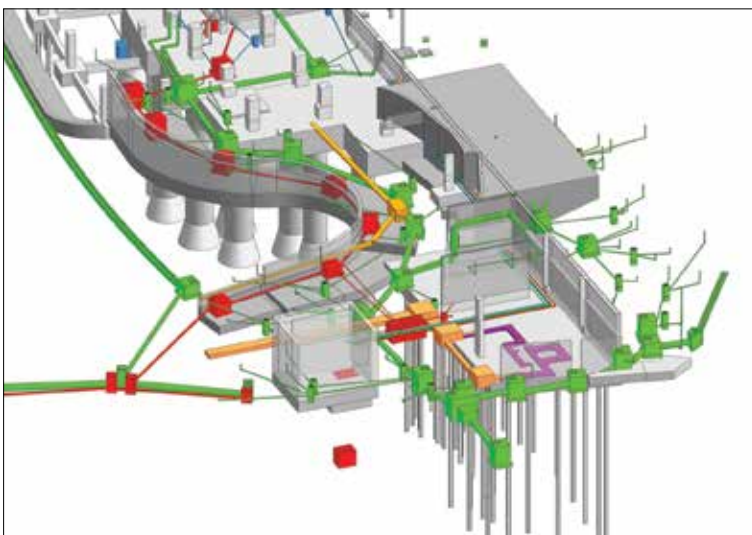
Exported CAD Sections of pavement submitted to Construction team
Image courtesy of Sun Hung Kai Properties Limited



Safety Officer can review the model through VR to prepare risk management
Image courtesy of Sun Hung Kai Properties Limited



Use A360 to review the design.
Image courtesy of Sun Hung Kai Properties Limited



Create construction model in design stage to show the relationship between building services and structural layout
Image courtesy of Sun Hung Kai Properties Limited