COMPANY
Andrew Lee King Fun & Associates Architects Limited

PROJECT
A 30-classroom primary school at Site KT2c, Development at Anderson Road, Kwun Tong

LOCATION
Site KT2c, Development at Anderson Road, Kwun Tong

TYPE
Institutional

SCHEDULED TIME OF COMPLETION
2024-25

From Paper Model to BIM Model: Integration of BIM for Building Better

ALKF+ 李景勳·雷煥庭建築師有限公司
andrew lee king fun & associates architects ltd.

About Andrew Lee King Fun & Associates Architects Limited

Andrew Lee King Fun & Associates Architects was first established in Hong Kong in 1962 and was incorporated as a limited company in 1998. It is now one of the most innovative and experienced architectural practices in Hong Kong.

Andrew Lee King Fun & Associates Architects Ltd. has extensive knowledge and expertise in managing large scale and complex institutional, commercial, retail, residential, hospitality, industrial and infrastructural projects for both the public and private sectors, locally and overseas. Our teams are dedicated to provide clients with the most personalized professional services, innovative design proficiency and efficient project management. We provide services in master planning, infrastructure study, building design, interior design, site supervision, project management, and all architecture related professional practices. Over the years, our portfolio has included 800+ satisfactorily completed projects of high prestige in Hong Kong, China, Macau, United States and Vietnam.

BIM PARTNERS

J. Roger Preston Limited

Siu Yin Wai & Associates Limited

AUTODESK PRODUCTS USED

Autodesk® AutoCAD®

Autodesk® BIM 360®

Autodesk® Dynamo

Autodesk® Navisworks®

Autodesk® Revit®

Project Description

The project is to design and construct a 30-classroom primary school at development at Anderson Road, Kwun Tong, Kowloon (Site No. KT2c). The school consist of 30 classrooms and other programmes including special classrooms, assembly hall, library, basketball courts and other ancillary facilities.

Project Challenges

Starting from 2015, the HKSAR Government initiated to adopt building information modelling (BIM) technology in the design and construction of major government capital works projects. Adopting BIM is being part of the project brief as the mediums of presentation and documentation for this project in different works stages.

The LOD increase in parallel with the progression of the work stages (from LOD 200 in design stage to LOD 400 in construction stage) to allow for adequate time as well as the necessary development of the design whilst cater for the necessary statutory submissions and structural calculations.

Solutions for challenges

Adoption of in-house BIM team from early design stage would encourage early consideration of structural as well as building services elements. Input from all trades (Structural / Building Services / Landscape) of project team into a singular 3D BIM model would enable clashes and area with insufficient headroom to be identified as early as possible and ensuring adequate time to resolve concerned matters.

BIM was particularly useful when we were working to adopt Modular Integrated Construction (MiC) and Design for Manufacturing and Assembly (DFMA) into the proposed development and what implication or adjustment that need to be at the earliest workstage.

How does BIM benefit the project?

Adoption of BIM was initiated from as early as the Feasibility, Inception Study and Planning Stage through to the current Tendering stage. In the upcoming Construction stage, BIM would continue be used to aid site coordination as well as preparation and generation of Shop Drawings, Combined Services Drawings (CSD) and so forth. The benefit of adopting BIM from the inception of the project through each of the different work stages can be summarized in the following:

· Early Start of Coordination between Multiple Trades

· Production of Statutory Submission Drawings and Tender Drawings.

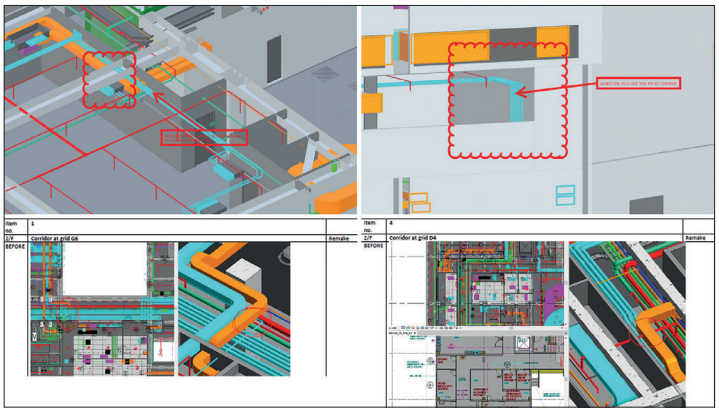
Better with BIM

With enough information inputted into the BIM model, project programme and quantity take off (QTO) schedule could be derived for better construction planning and site logistic.

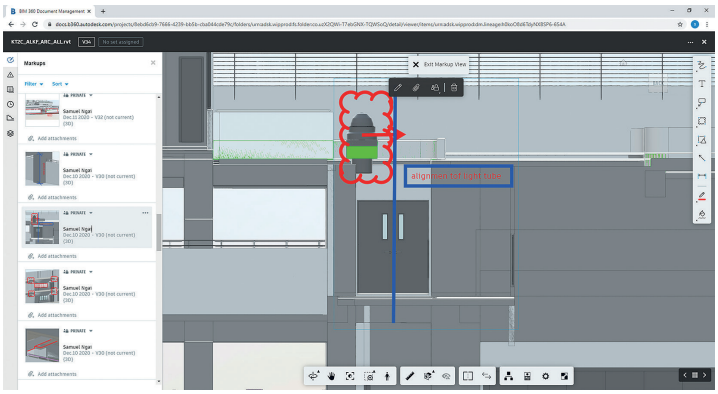
The BIM 360 serving as a favourable common data environment ensuring all parties working on the latest model and also stimulate cross checking of the 3D BIM model from multiple disciples. This was particularly reflected during the COVID-19 Pandemic when there was an extended period where the project team worked from home.

The BIM model also serves as a presentation tool and together with Virtual-Reality (VR) can facilitate better communication with the client though visual walk-through.

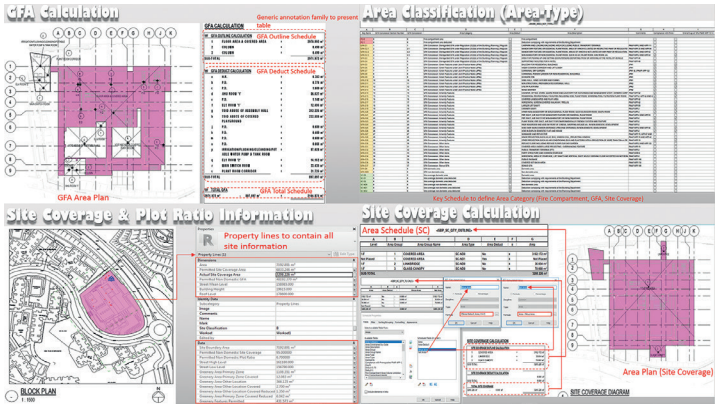
Overall View of Captioned Project (Artist's Impression)
Image Courtesy of Andrew Lee King Fun & Associates Architects Limited



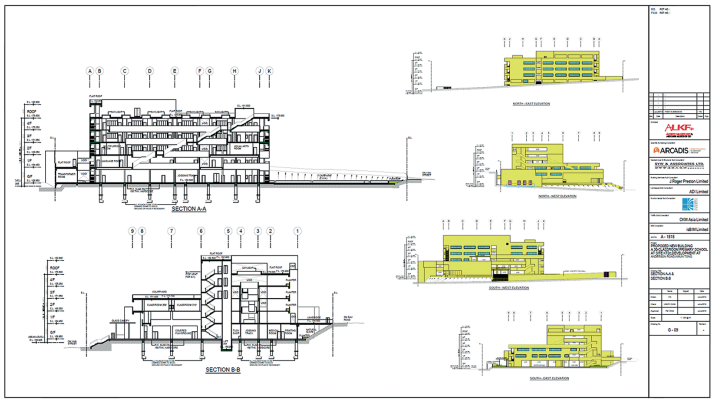
Clash detection of intergraded Arch, MEP & Structure Model
Image Courtesy of Andrew Lee King Fun & Associates Architects Limited



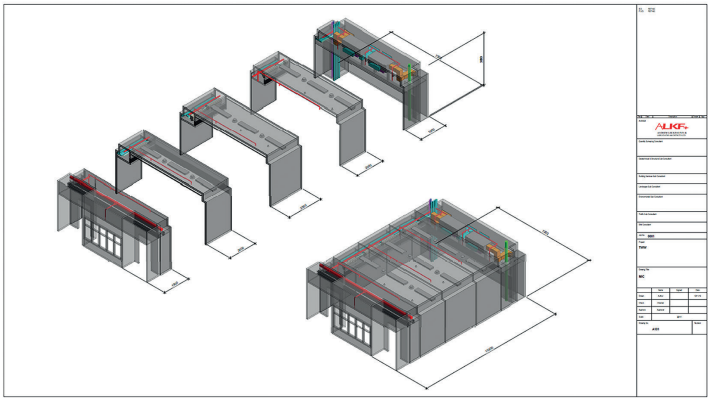
BIM 360 serving as a favorable common data environment (CDE) for design collaboration which is comply to BS EN ISO 19650
Image Courtesy of Andrew Lee King Fun & Associates Architects Limited



Automated calculation using in the statutory submission
Image Courtesy of Andrew Lee King Fun & Associates Architects Limited



Production of Statutory Submission Drawings and Tender Drawings
Image Courtesy of Andrew Lee King Fun & Associates Architects Limited



BIM enhanced design process for Modular Integrated Construction (MiC)
Image Courtesy of Andrew Lee King Fun & Associates Architects Limited

Virtual-Reality (VR) facilities better communication with the client though visual walk-through.
Image Courtesy of Andrew Lee King Fun & Associates Architects Limited

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