CONSTRUCTION INDUSTRY COUNCIL
建造業議會

Case Sharing of BIM Adoption (Sub-contractors) funded by the CITF

12 February 2026

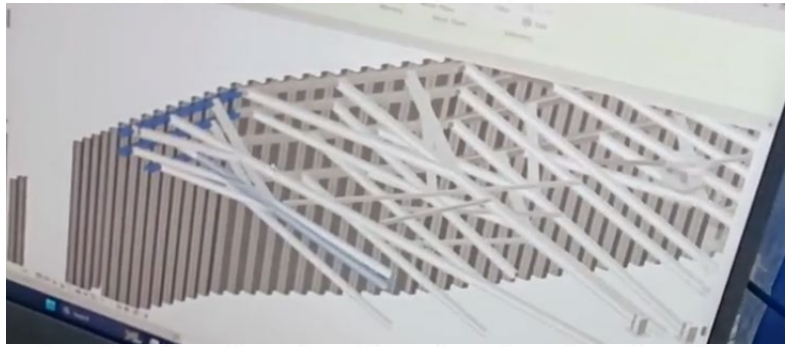
Case Sharing of BIM Adoption (Sub-contractors)

1. Structural and Civil
   - **Foundation and Piling**
   - **Reinforcement Bar Fixing**
2. Finishing
   - **Gazier work / Curtain wall**
   - **Marble, Granite and Stone work (Landscaping)**
   - **Cladding system / Ceiling system**
3. E&M
   - **Heating, Ventilation and Air-conditioning (HVAC)**
   - **Fire Services Installation**
   - **Electrical**
   - **Plumbing / Building Drainage Installation**
   - **Multi-trade integrated Mechanical, Electrical and Plumbing**

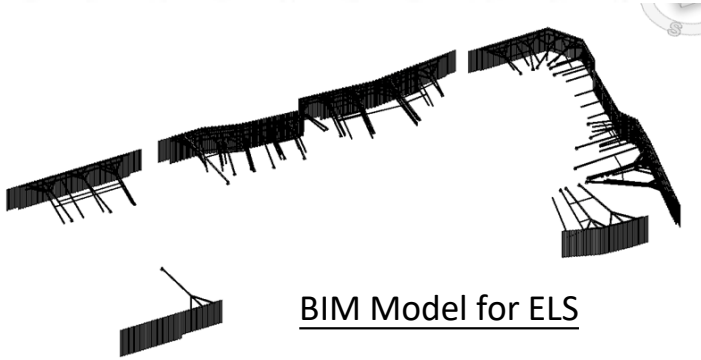
Structural and Civil – Foundation and Piling

Submission ID:	12535
Product:	(PBS18-002) Architecture Engineering & Construction Collection
Site:	Public Housing Development – Tung Chung Area 103
User:	Sub-contractor - Foundation and Piling

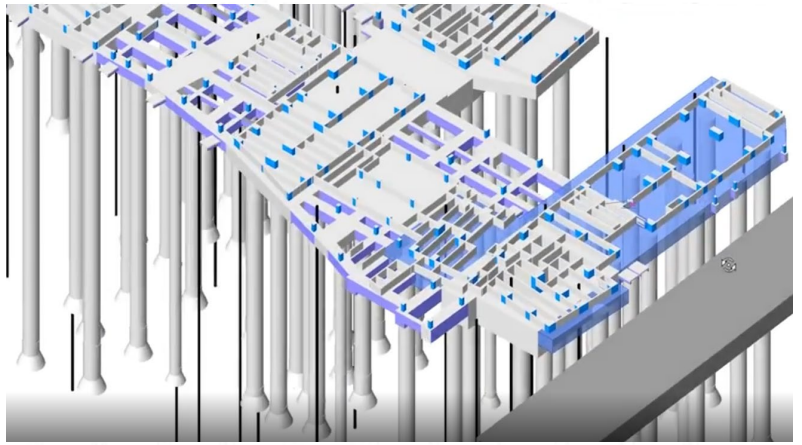
Uses:	Design Authoring, Review, Coordination
Merits:	• ↑ communication and collaboration between parties. • ↑ design efficiency and buildability. • ↓ conflict in design stage • ↓ abortive work or design change in construction stage



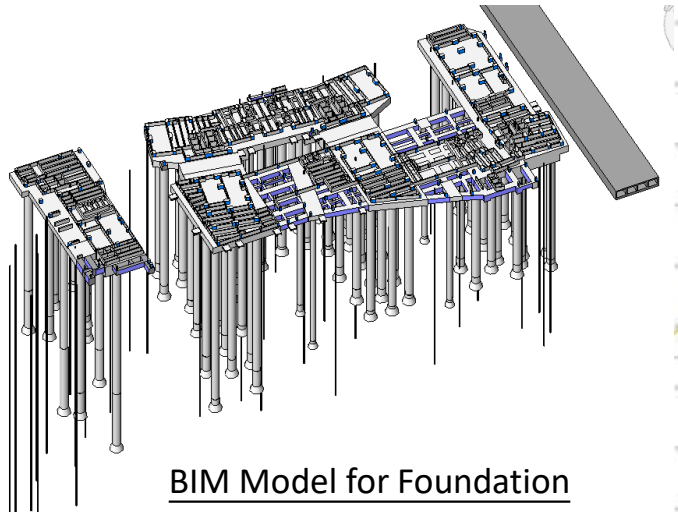
BIM Model for ELS



BIM Model for ELS



BIM Model for Foundation

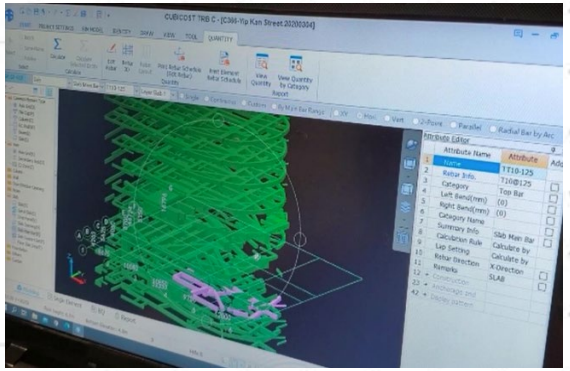


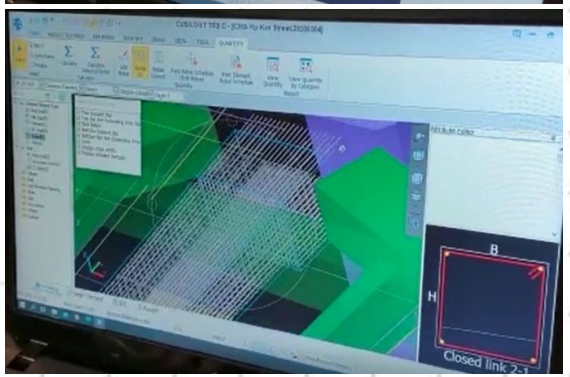
BIM Model for Foundation

Structural and Civil – Reinforcement Bar Fixing

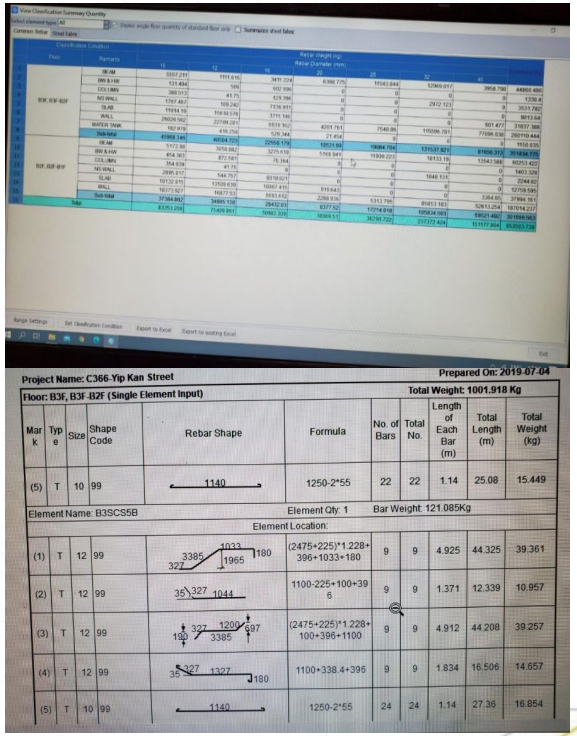
Submission ID:	1746
Product:	(PBS19-006) Cubicost Take-off for Rebar
Site:	Office Development at AIL 462 Yip Kan Street
User:	Sub-contractor - Reinforcement Bar Fixing

Uses:	Quantity take-off, Drawing Generation
Merits:	• ↑ drawing accuracy, clear dimension information (less misleading information) • ↑ costing and quantity take off accuracy • ↑ productivity in drawing generation, save time in checking and verifying Bar Bending Schedule • ↓ human error (less missing dimension)





Accurate costing information take from BIM model



Project Name: C366-Yip Kan Street — Prepared On: 2019-07-04
Floor: B3F, B3F-B2F (Single Element Input) — Total Weight: 1001.918 Kg

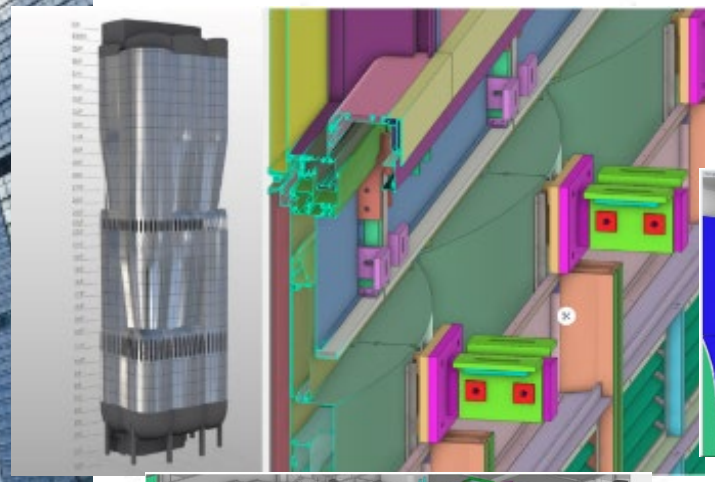
Mark	Type	Size	Shape Code	Rebar Shape	Formula	No. of Bars	Total No.	Length of Each Bar (m)	Total Length (m)	Total Weight (kg)
(5)	T	10	99	1140	1250-2*55	22	22	1.14	25.08	15.449
Element Name: B3SCS5B					Element Qty: 1			Bar Weight: 121.085Kg		
Element Location:										
(1)	T	12	99	3385 327 1033 1965 180	(2475+225)*1.228+396+1033+180	9	9	4.925	44.325	39.361
(2)	T	12	99	35 327 1044	1100-225+100+396	9	9	1.371	12.339	10.957
(3)	T	12	99	190 327 3385 1200 597	(2475+225)*1.228+100+396+1100	9	9	4.912	44.208	39.257
(4)	T	12	99	35 327 1327 180	1100+338.4+396	9	9	1.834	16.506	14.657
(5)	T	10	99	1140	1250-2*55	24	24	1.14	27.36	16.854

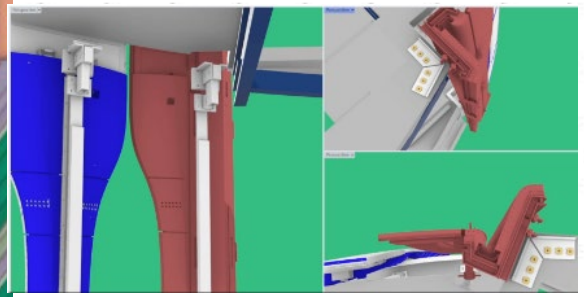
Drawing and schedule generated from BIM model

Finishing - Gaizer work / Curtain wall

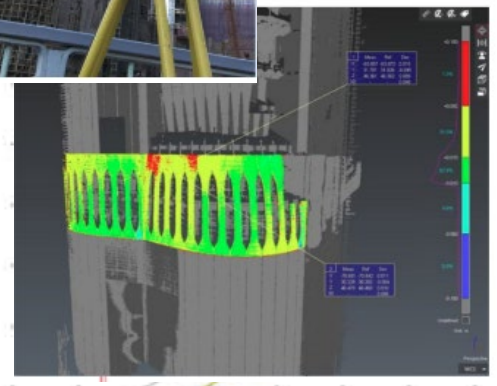
Submission ID:	3949
Product:	(PBS18-002) Architecture Engineering & Construction Collection
Site:	2 Murray Road - The Henderson
User:	Sub-contractor - Gaizer work / Curtain Wall

Uses:	Design Authoring, Review, Coordination, and Installation
Merits:	• ↑ efficiency through High-precision BIM models and parameter settings for five-axis CNC machines enable digital manufacturing; • ↑ accuracy and assembly quality through on-site laser surveying and simulating operation sequences in the BIM model tests installation feasibility, helping operators plan effectively • ↓ human errors in fully automated production processes.





Precision in BIM model enable advanced manufacturing through automated production process

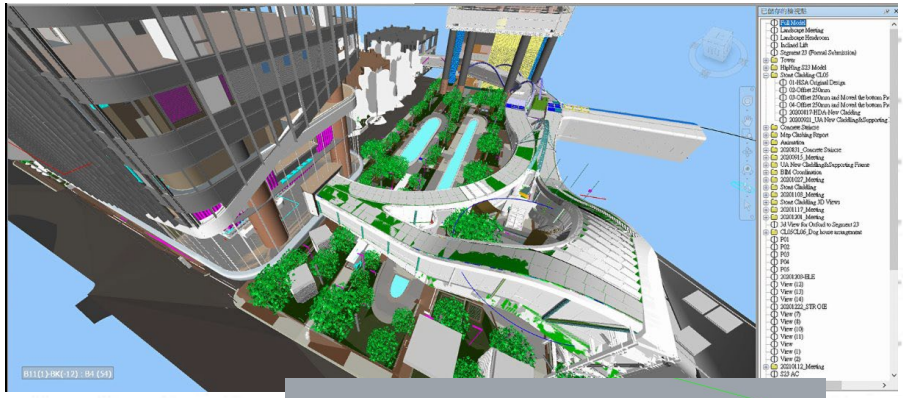


Laser 3D Scan and coordination in BIM model that enable accurate assembly

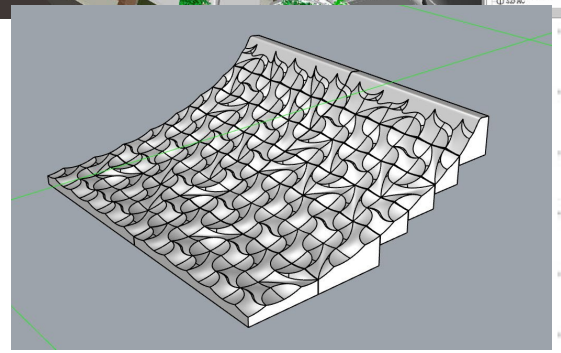
Finishing – Marble, Granite and Stone work (Landscaping)

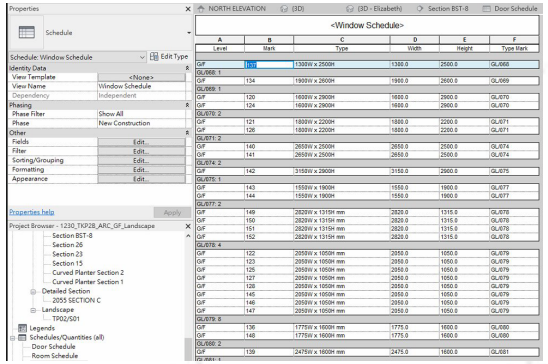
Submission ID:	3951
Product:	(PBS18-002) Architecture Engineering & Construction Collection and Rhino 6
Site:	Taikoo Place, Quarry Bay
User:	Sub-contractor - Marble, Granite and Stone work (Landscaping)

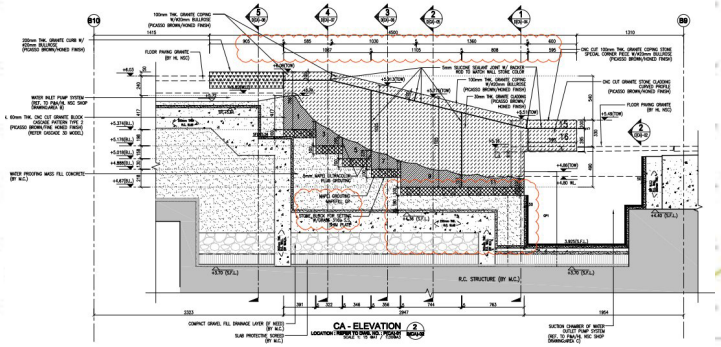
Uses:	Design Authoring, Review, Coordination and Drawing Generation
Merits:	• ↑ efficiency, drawing production time has reduced by 38%. • ↑ coordination. Reduce visual blind spots in the 2D drawings, strengthen quality control, and minimize mistakes.



Design authoring of complex geometry and interfaces





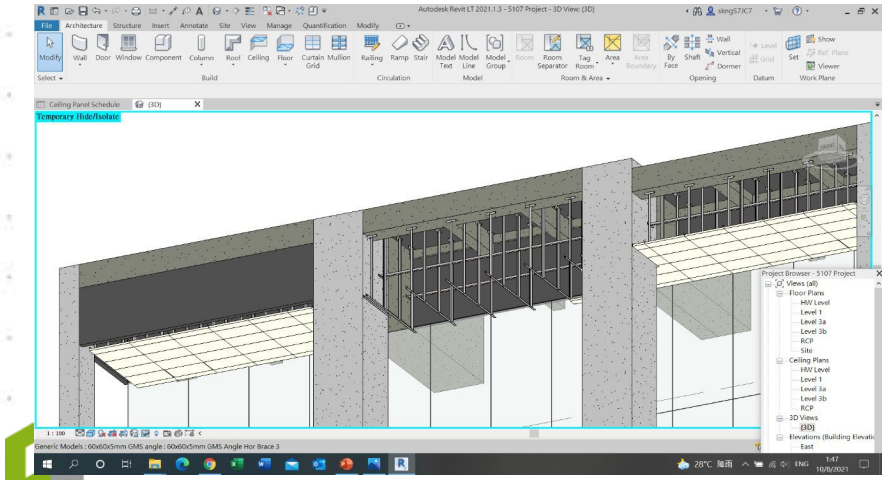


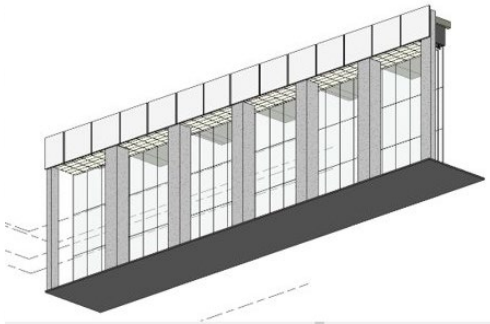
Drawing Generation and Coordination

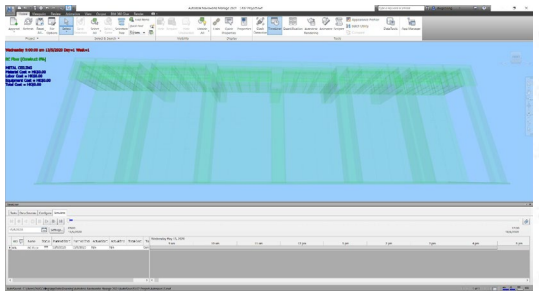
Finishing – Cladding System / Ceiling System

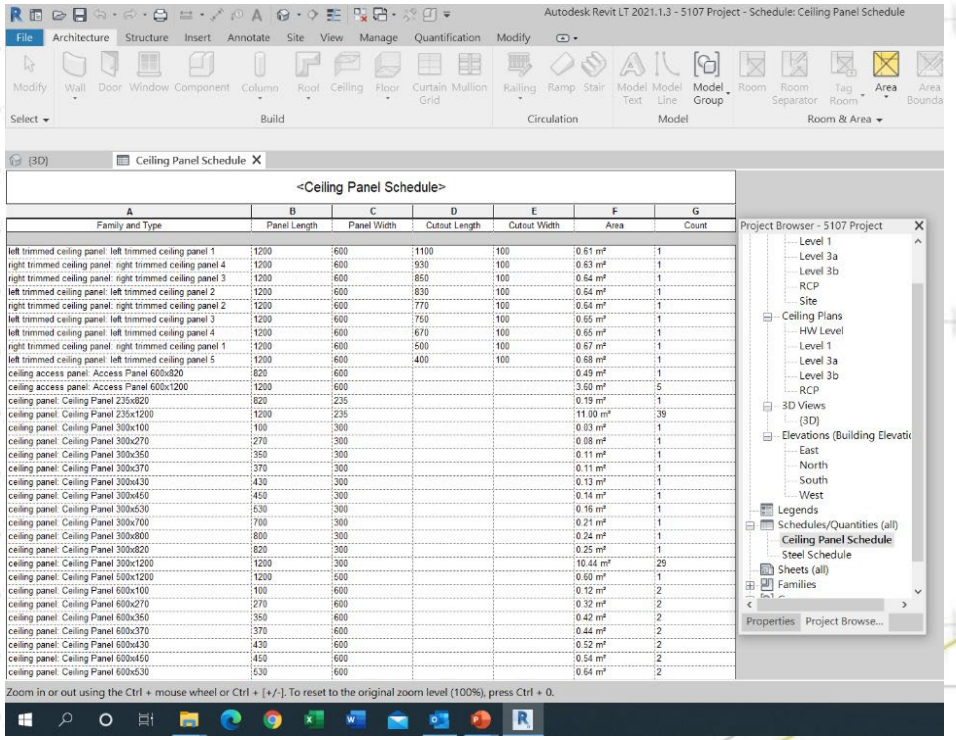
Submission ID:	5488
Product:	(PBS18-002) Architecture Engineering & Construction Collection
Site:	New Private Teaching Hospital at Chinese University of Hong Kong, Shatin
User:	Sub-contractor – Cladding system / Ceiling system

Uses:	Design Coordination, Drawing Generation, Cost Estimation (Quantity take-off)
Merits:	• ↑ efficiency and accuracy through BIM quantity take-off • ↑ coordination and ↓ wastage of non-standard shaped ceiling panel data for factory manufacturing from BIM model







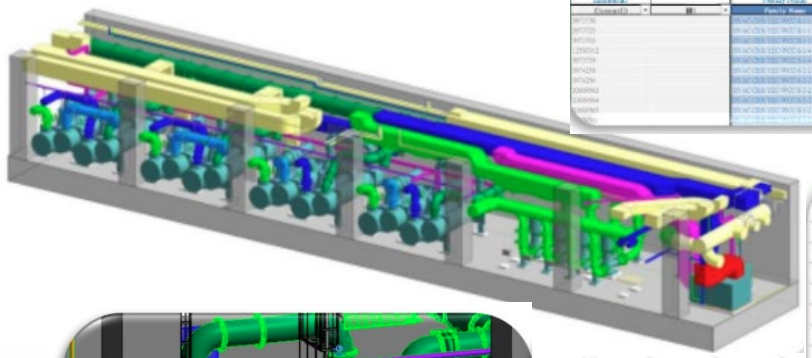


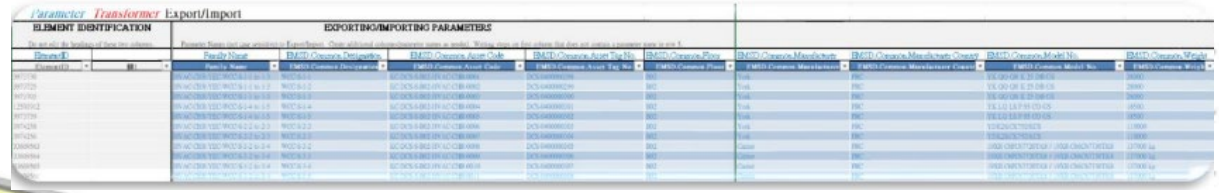
Design coordination, Drawing Generation and Quantity take off through BIM model

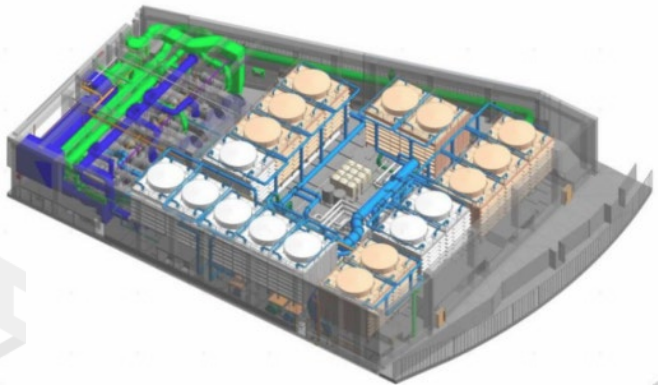
E&M – Heating, Ventilation and Air-conditioning (HVAC)

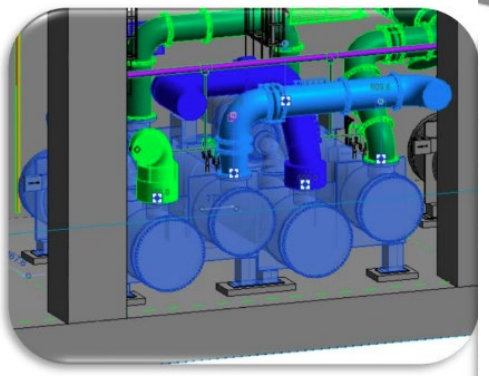
Submission ID:	4441
Product:	1.(PBS19-009) MagiCAD for Revit (Support and Hanger Module) 2.(PBS19-011) RushForth Tools for Revit
Site:	District Cooling System at Kai Tak Development Phase III (Package D) – E & M Installation
User:	Sub-contractor - E&M (HVAC)

Use:	Design Authoring, Review, Coordination, Drawing Generation and Installation
Merits:	• ↑ design efficiency with easy visualisation and checking of site constraints • ↑ assembly efficiency through installation simulation and standardization of parts with high traceability • ↓ material wastage through high percentage of prefabrication

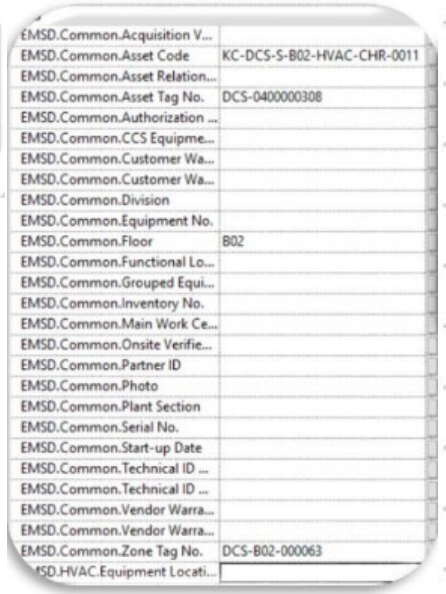


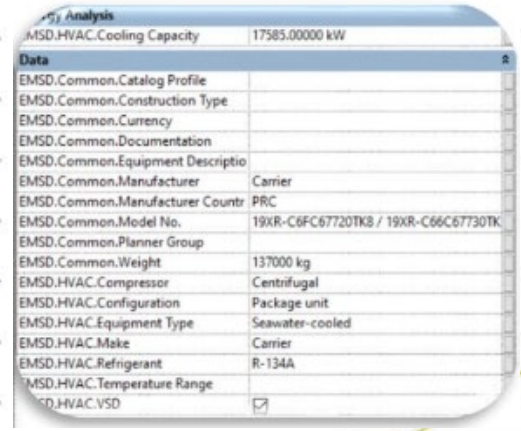






Improved design efficiency through 3D visualization in BIM model



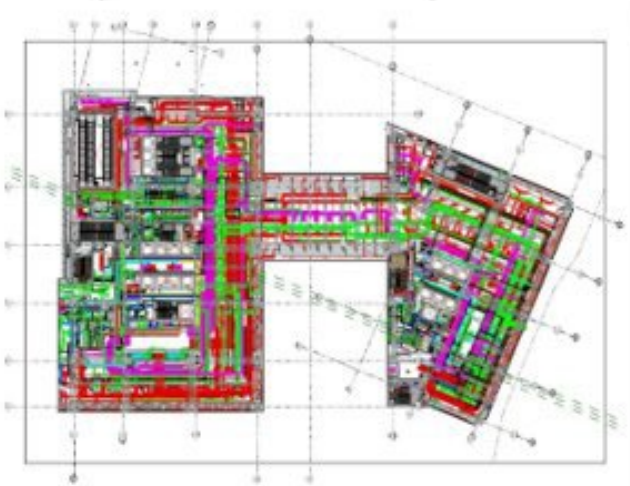


Drawing generation from 3D BIM model

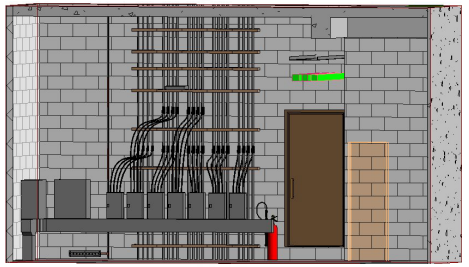
E&M – Electrical

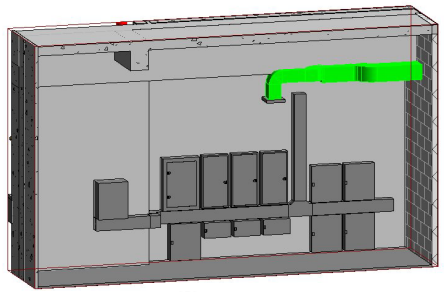
Submission ID:	4280
Product:	(PBS18-002) Architecture Engineering & Construction Collection
Site:	Immigration Headquarters in Tseung Kwun O
User:	Sub-contractor – E&M (Electrical)

Uses:	Design Authoring, Review, Coordination, Drawing Generation and Installation
Merits:	• ↑ coordination with design walk-through, clash analysis / spool drawings generation • ↑ accuracy and ↓ error through standardisation using object library

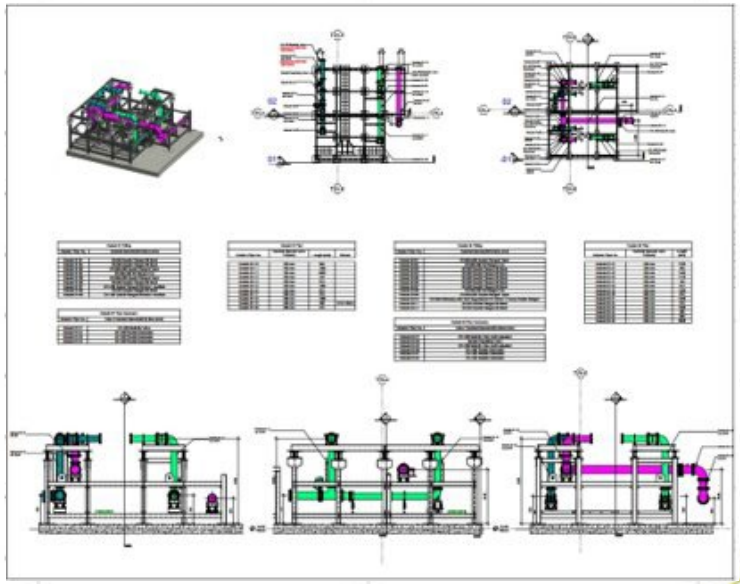


Design coordination, design walk-through , clash analysis and coordination in BIM model





Use of standardized BIM object

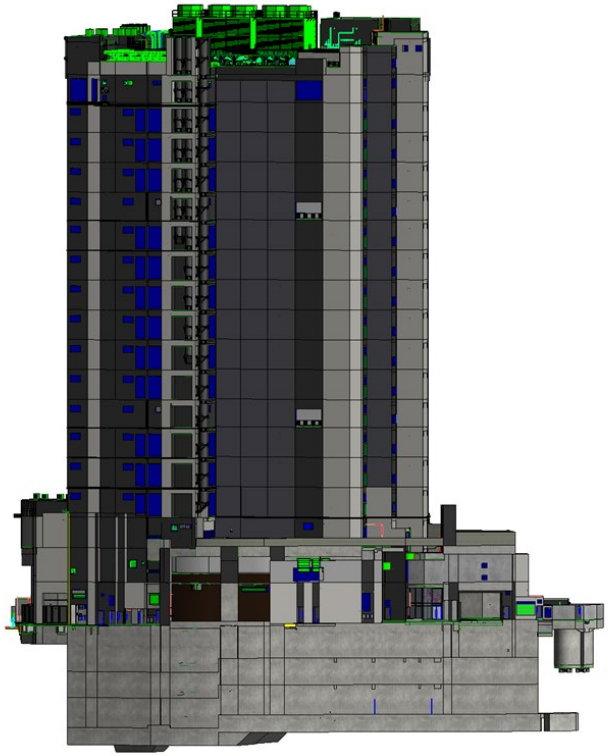


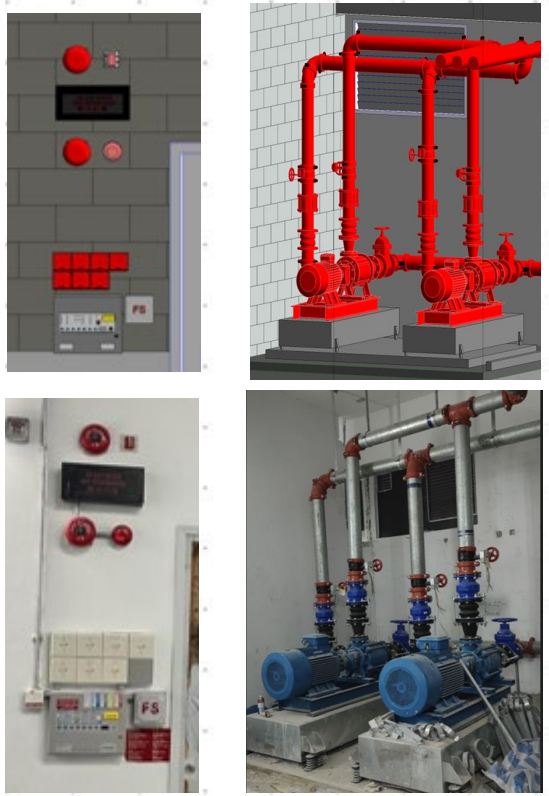
Drawing generation from BIM Model

E&M – Fire Services Installation

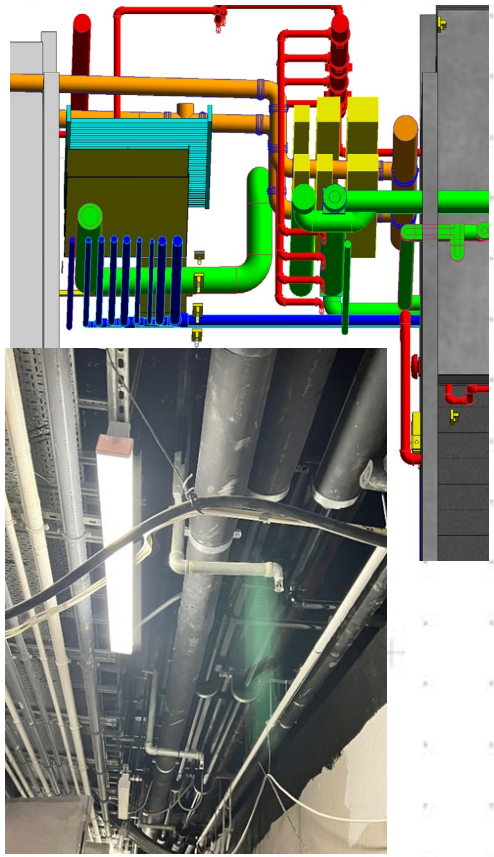
Submission ID:	6729
Product:	(PBS18-002) Architecture Engineering & Construction Collection
Site:	T.W.T.L 428 Ma Kok Street, Tsuen Wan
User:	Sub-contractor (Fire Services Installation)

Uses:	Design authoring, Review, and Coordination
Merits:	• ↑ productivity and time saving through good preparation before construction • ↑ quality through pre-identify conflicts in the overall design • ↓ 83% time in exporting data into reports makes processing easier compared to traditional method.





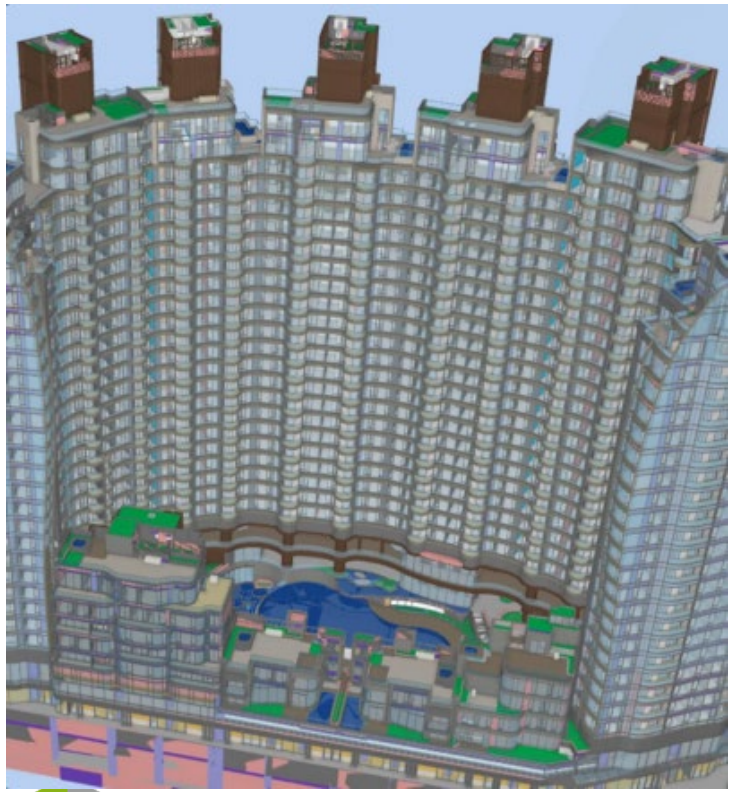
BIM design and completed works

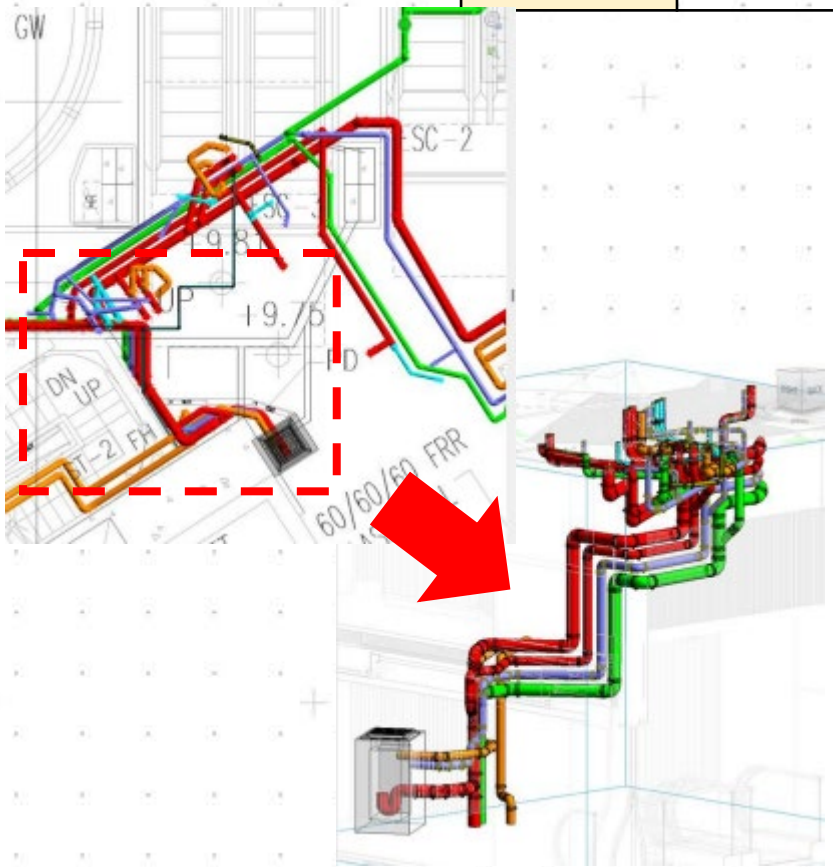


E&M – Plumbing / Building Drainage Installation

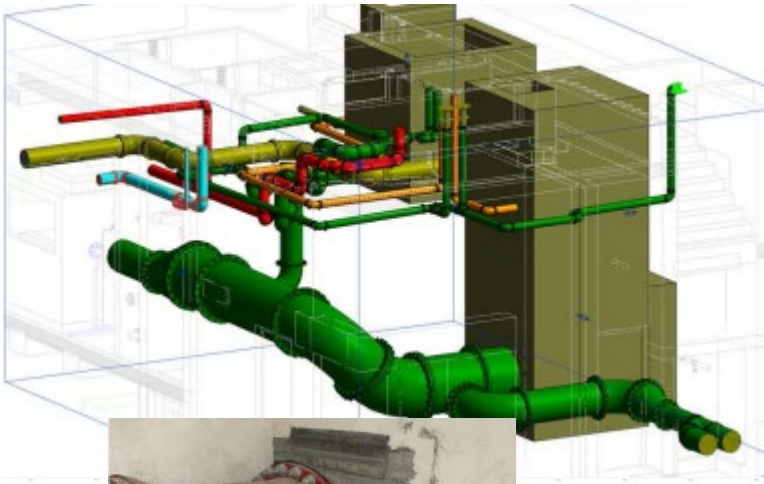
Submission ID:	8314
Product:	(PBS18-003) AutoCAD Revit LT Suite
Site:	NKIL 6551, KAI TAK AREA 4C, SITE 3, KOWLOON
User:	Sub-contractor – E&M (Plumbing)

Uses:	Design authoring, Review, and Coordination
Merits:	• ↑20-30% Productivity, Standard databases such as COBie format to simplify information input in construction supervision and ensure consistency across teams and reduce human errors • ↓ re-work through cconflict analysis and real-time QC





Conflict analysis in BIM model

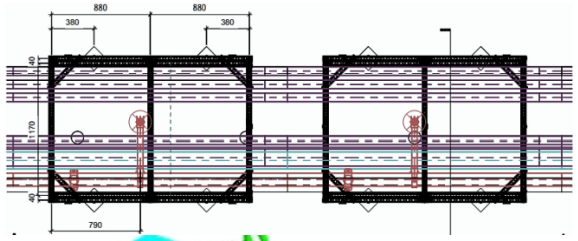


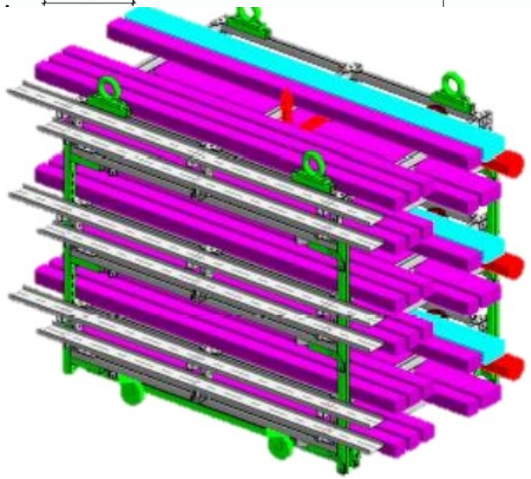
Simulation through BIM Model before on-site Installation

E&M – Multi-trade integrated Mechanical, Electrical and Plumbing

Submission ID:	15604
Product:	(PBS18-002) Architecture Engineering & Construction Collection
Site:	Legislative Council Complex
User:	Sub-contractor (E&M)

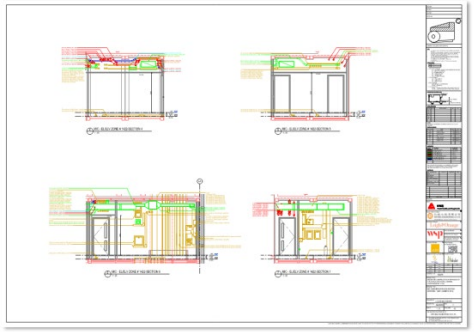
Uses:	Design authoring, Review, Coordination, Drawing Generation and Manufacturing
Merits:	• BIM Model integrates multi-disciplinary models, visualizing the structural details that enables design development • Off-site prefabricated manufacturing based on BIM model. • Quality Inspection by using AR with BIM Model





Visualisation of BIM model

4D Modelling for visualizing construction method



Fabrication Drawing from BIM Model

Inspection of as-built with BIM model design in AR