

建筑新人类 – BIM 专业

梁志旋

香港建筑信息模拟学会会长



BUILDING INFORMATION MODELLING

模拟不只是模型

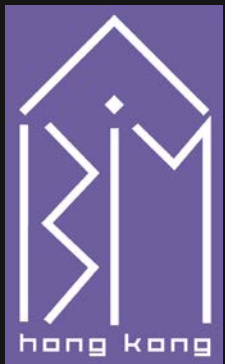


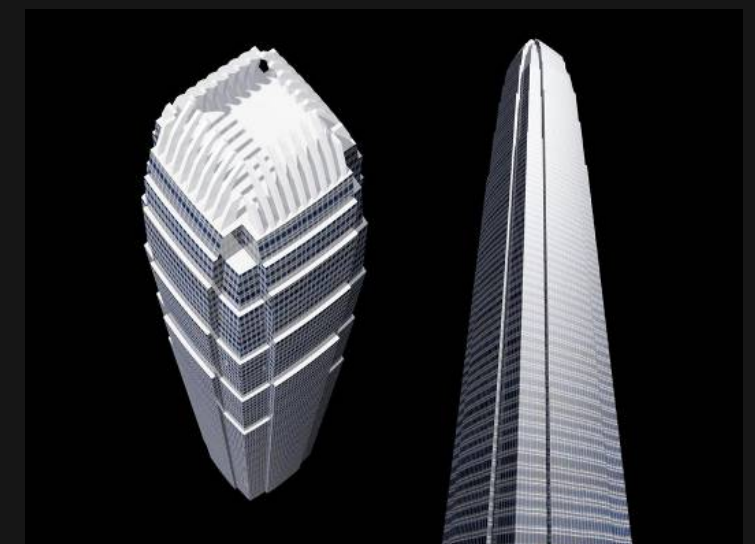
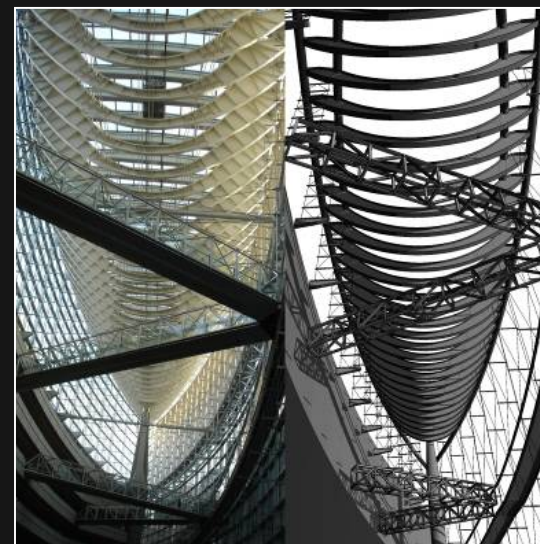
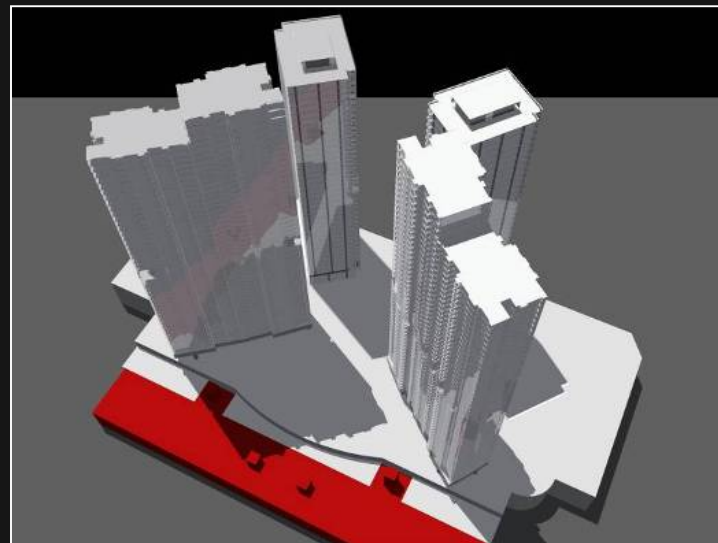
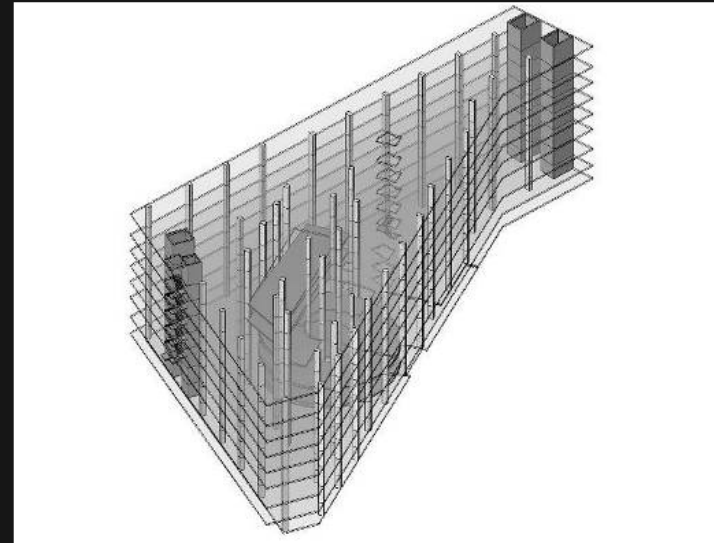
建筑专业 (Building Professional)

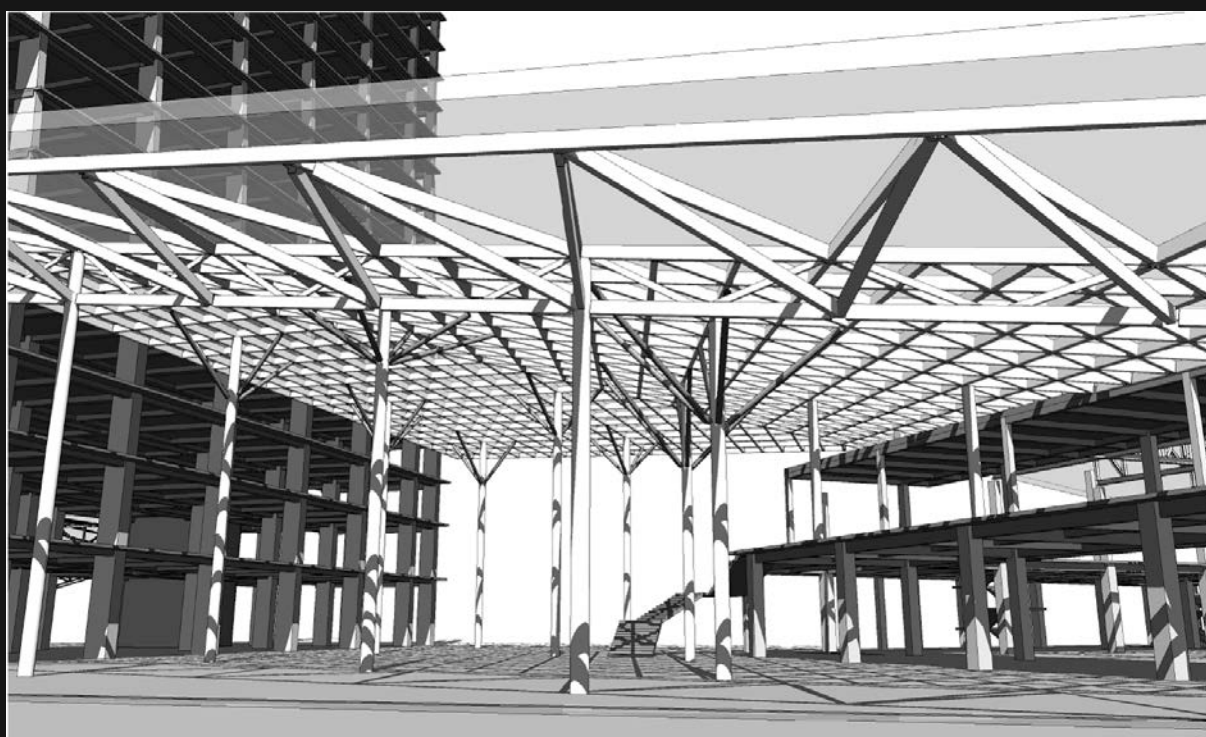
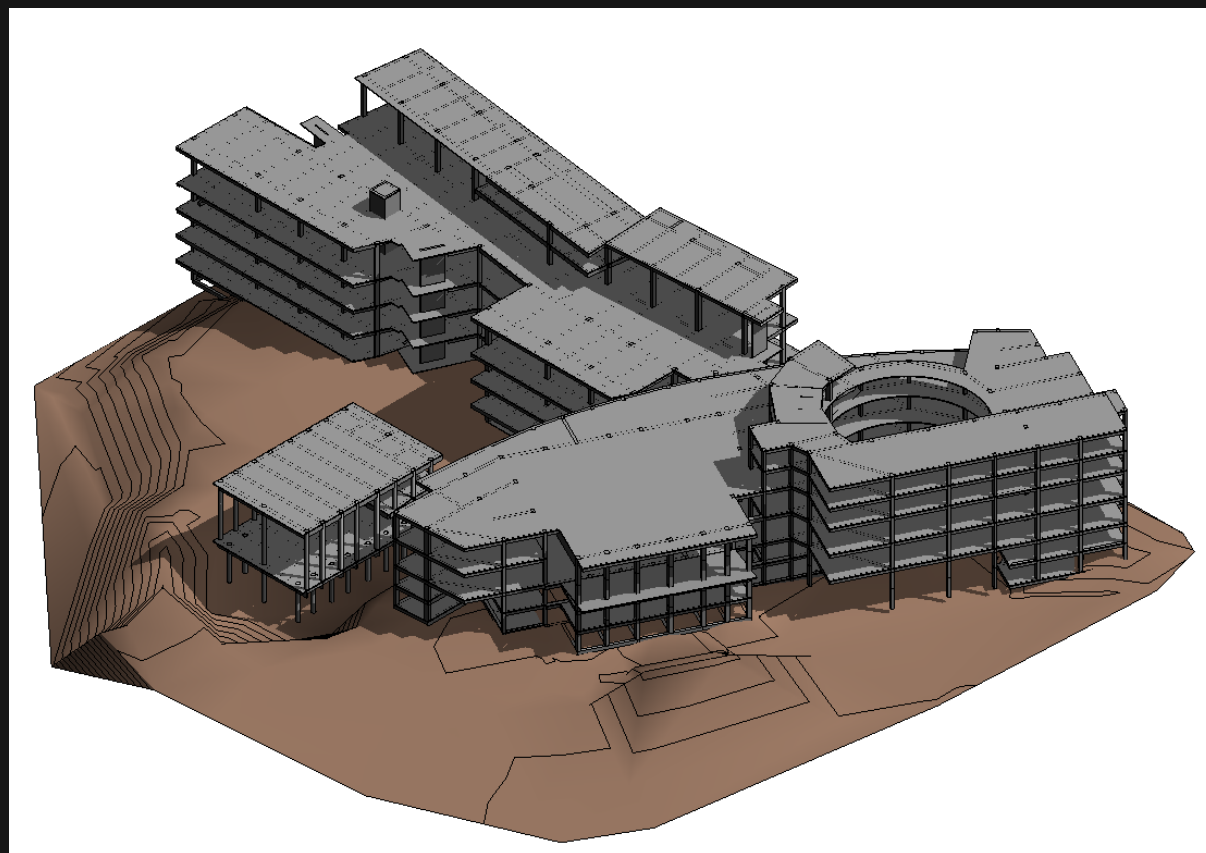
- 建筑师模拟体量、外观、布置、面积、净高 ...
- 结构工程师模拟结构布置，与各领域专协同，进行结构分析
- 机电工程师模拟耗能、空间协同
- ...

模型只是模拟的工具

Model is a tool for Modelling

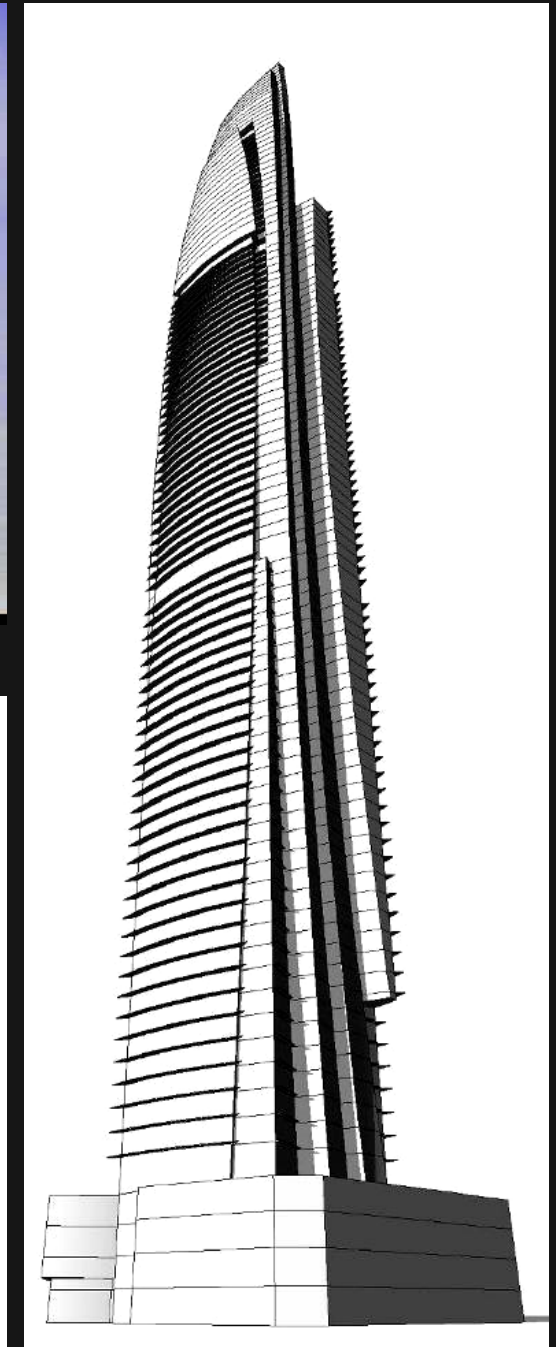
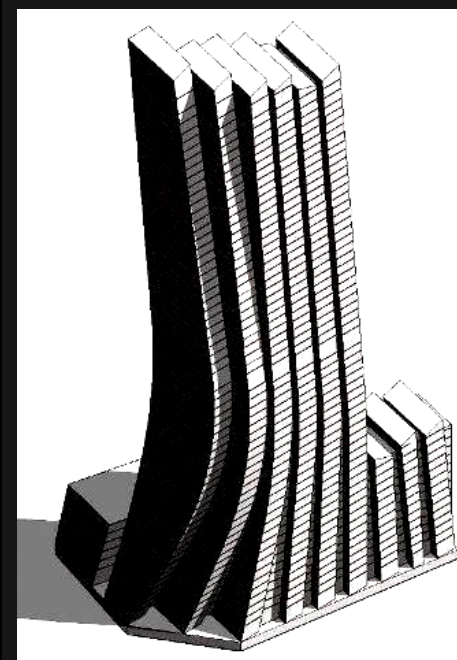
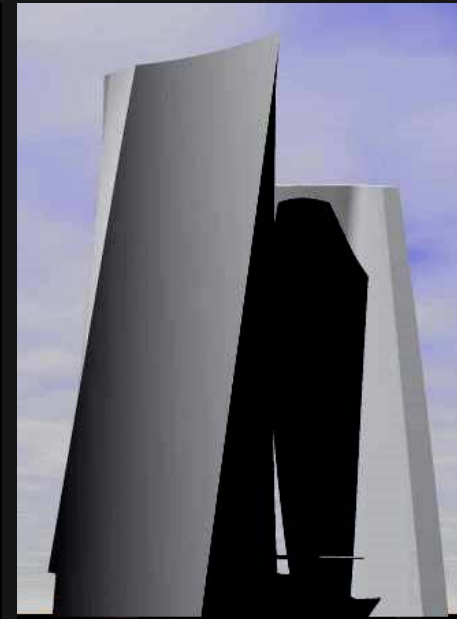
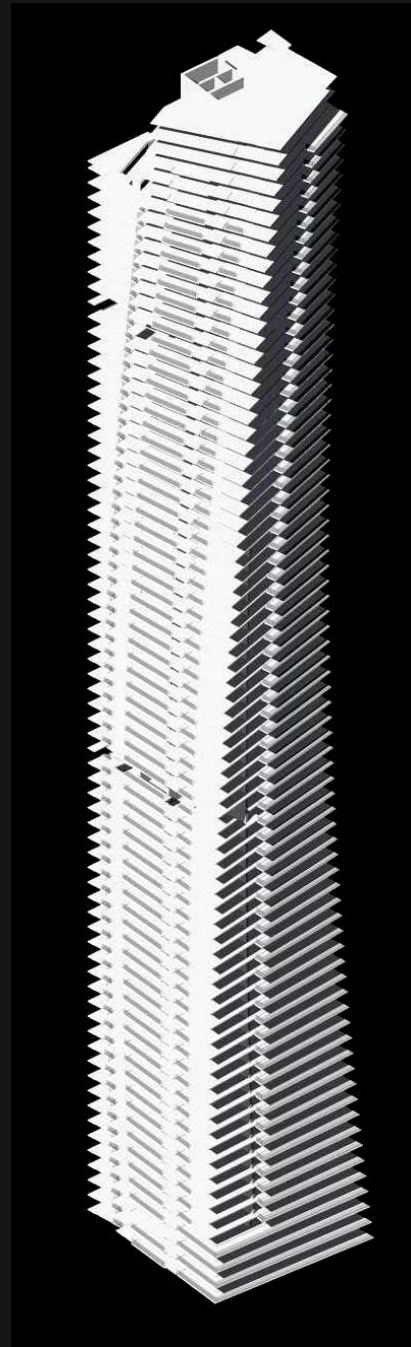
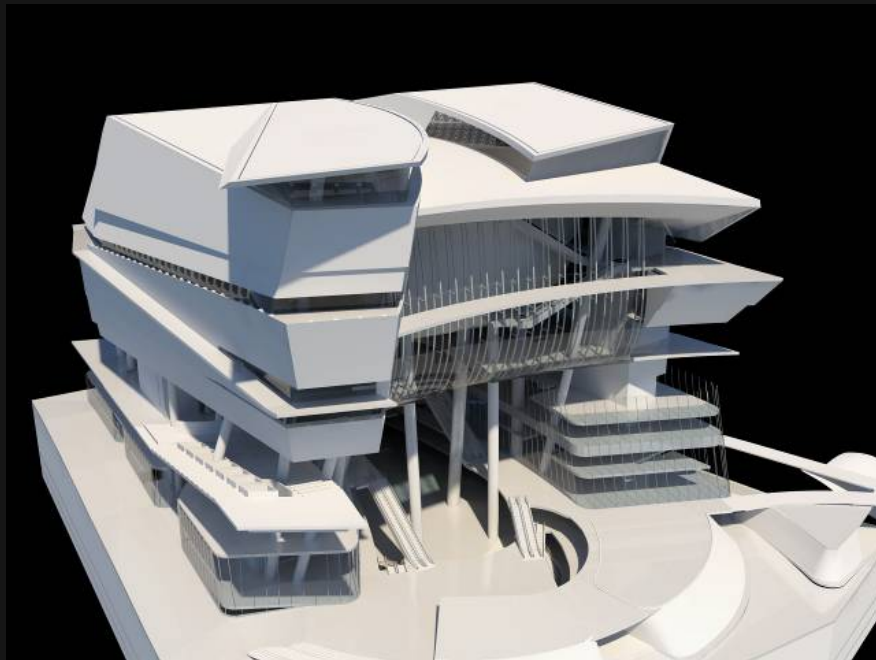


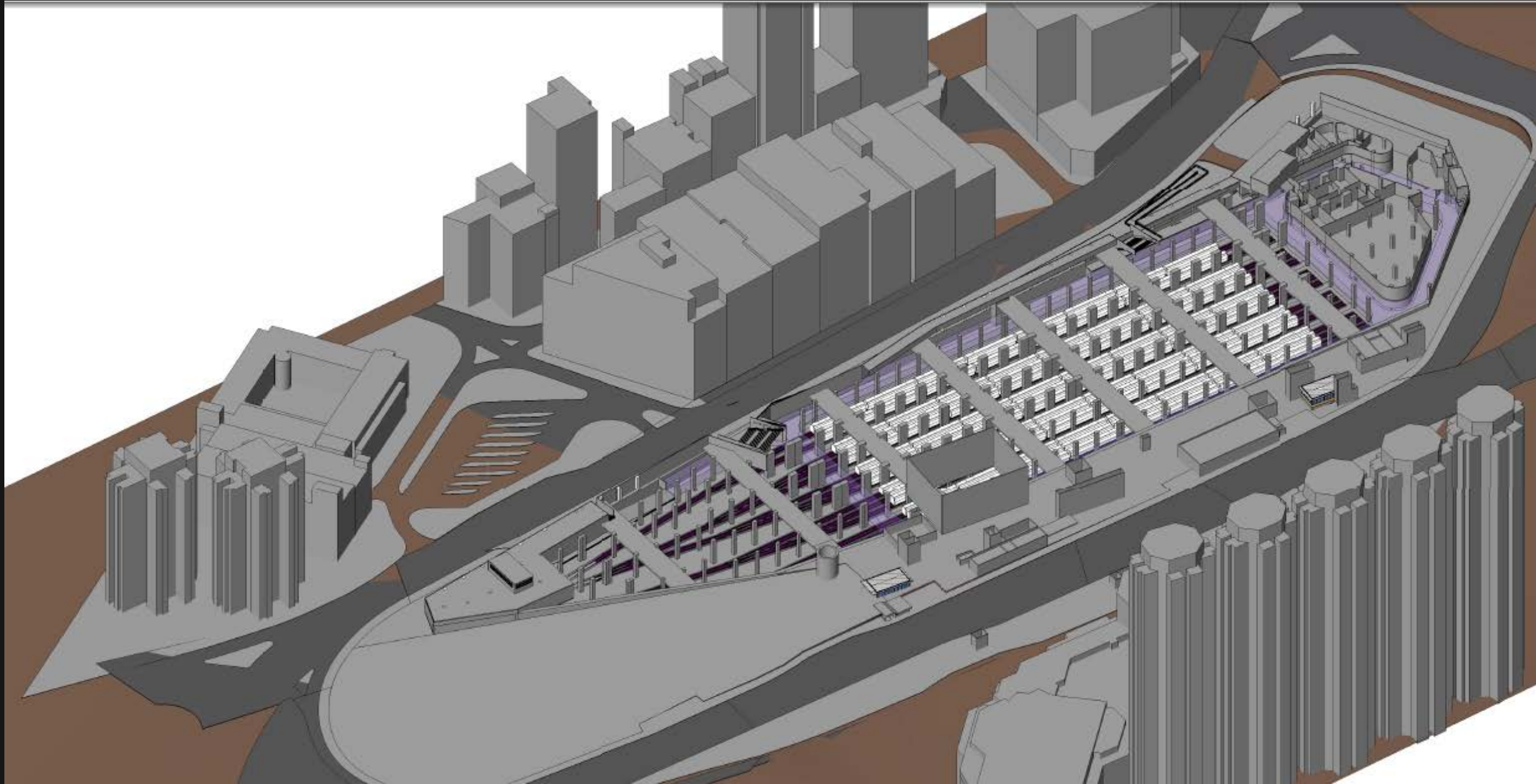




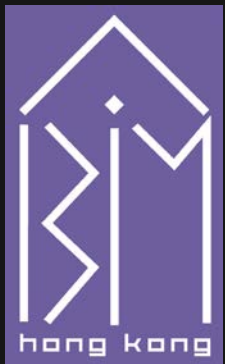
Complex Geometry

- Ocean Heights I, Dubai
(With courtesy of Aedas Ltd.)
- Dancing Tower, Abu Dhabi
(With courtesy of Aedas Ltd.)
- Empire Tower, Dubai
(With courtesy of Aedas Ltd.)
- Ocean Heights II, Dubai
(With courtesy of Aedas Ltd.)
- Singapore CCRC Vista Xchange, One-North, Singapore
(With courtesy of Aedas Ltd.)

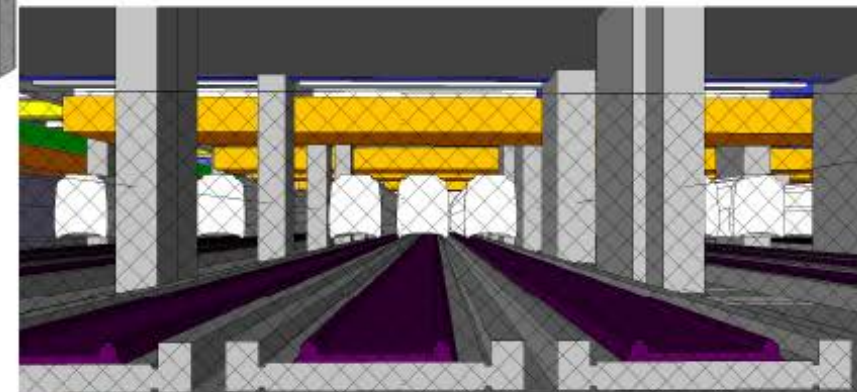
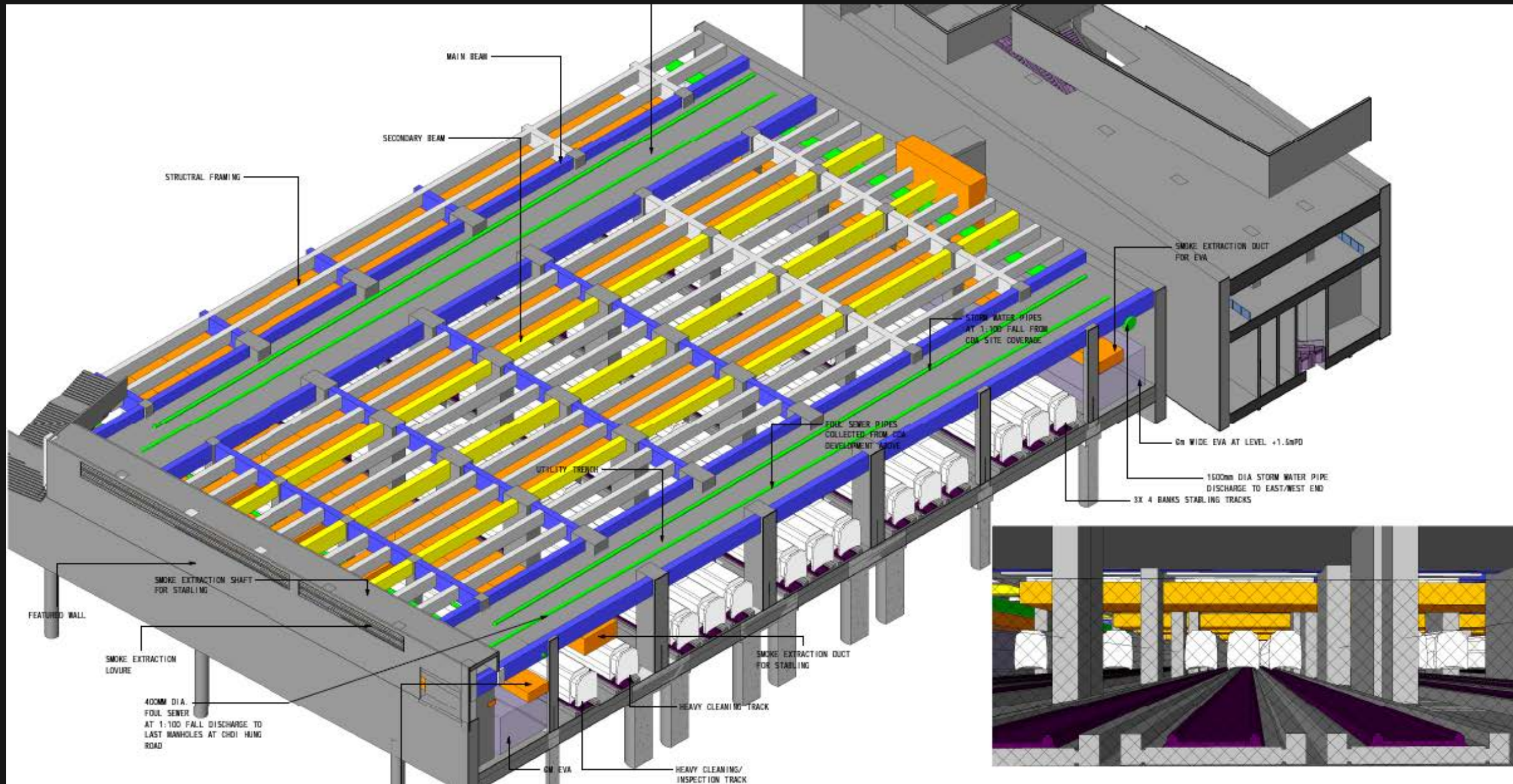


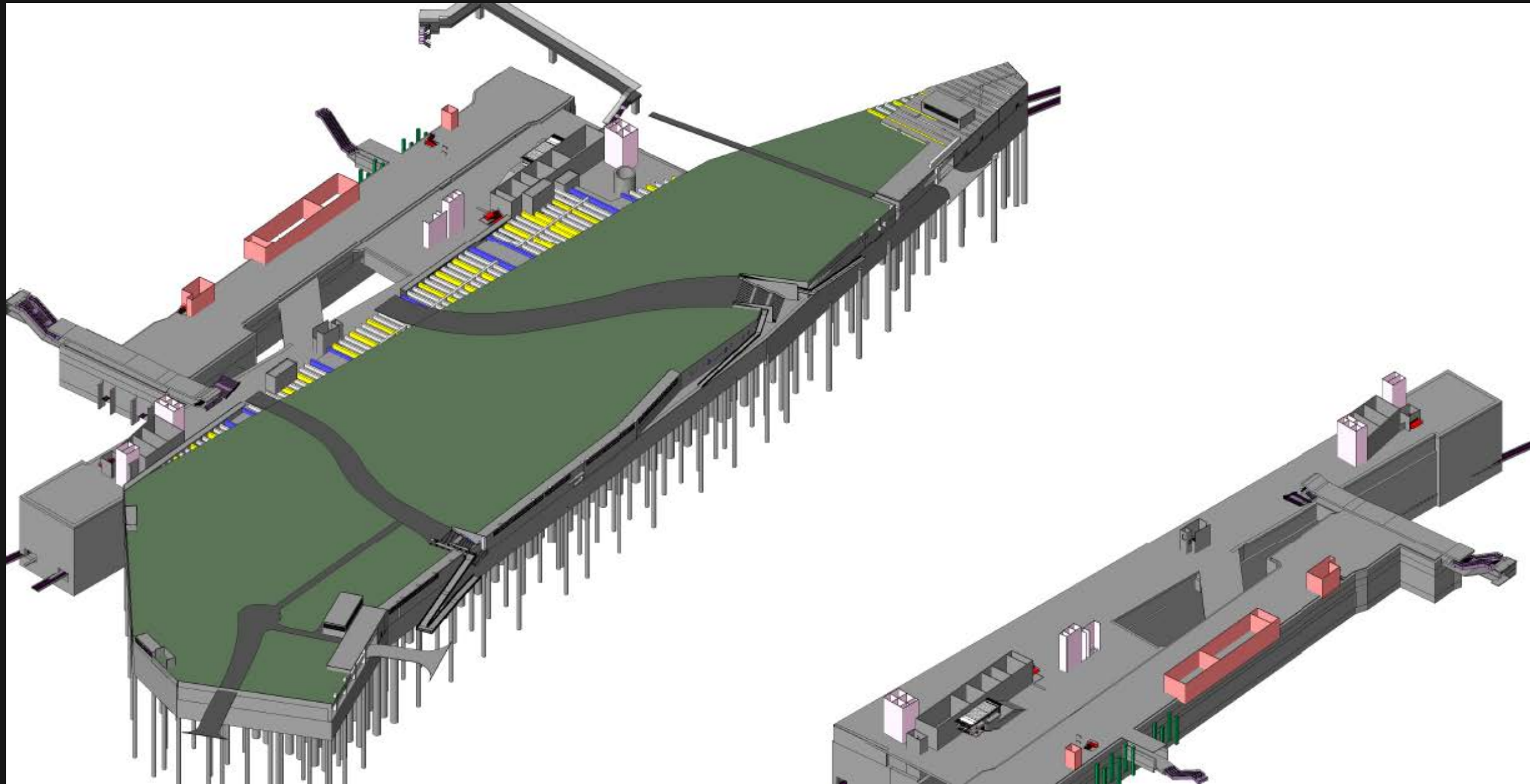


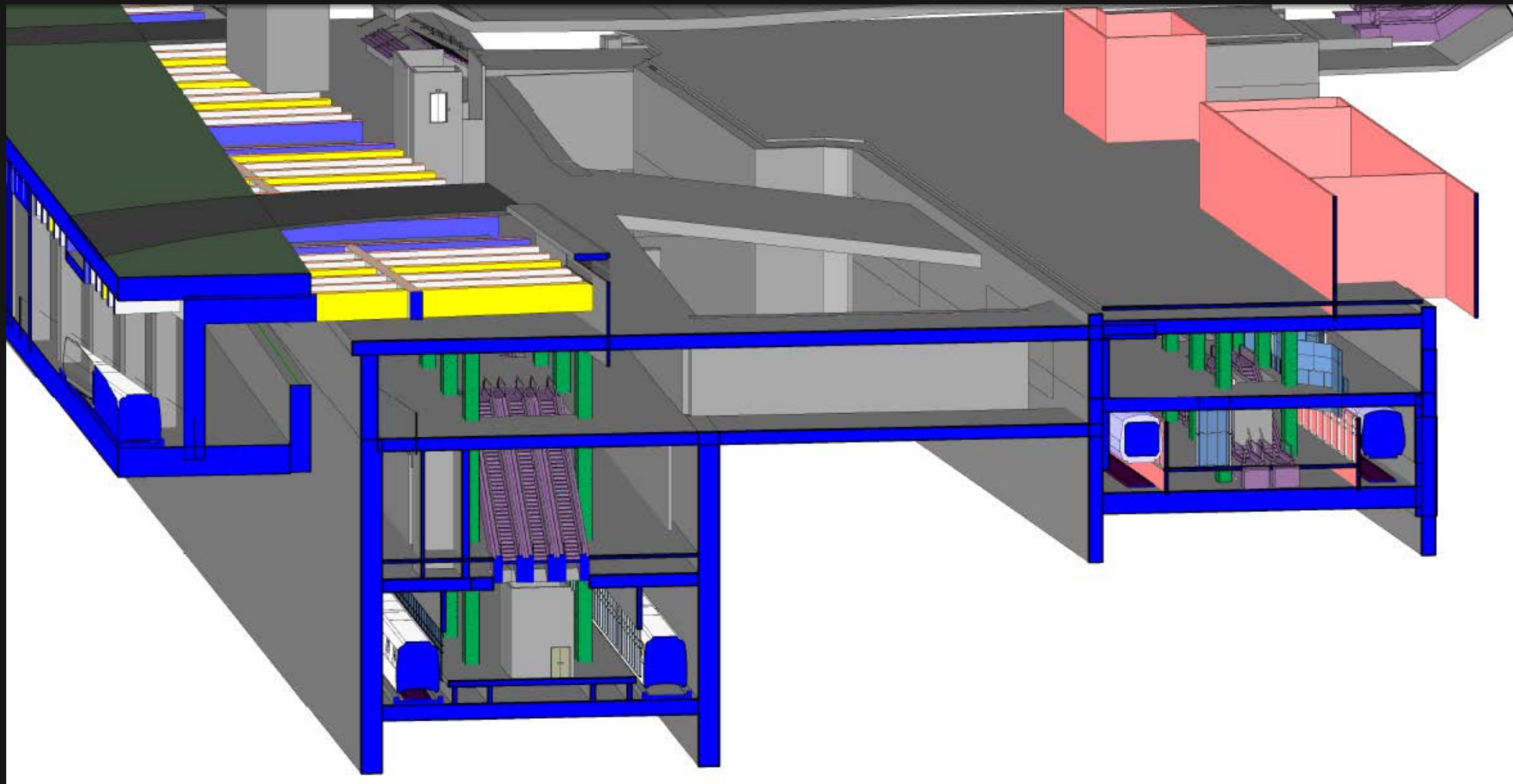














嘉里建设

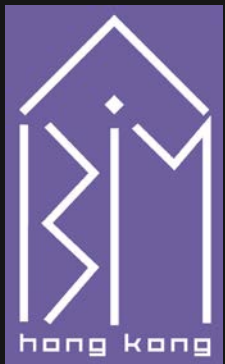
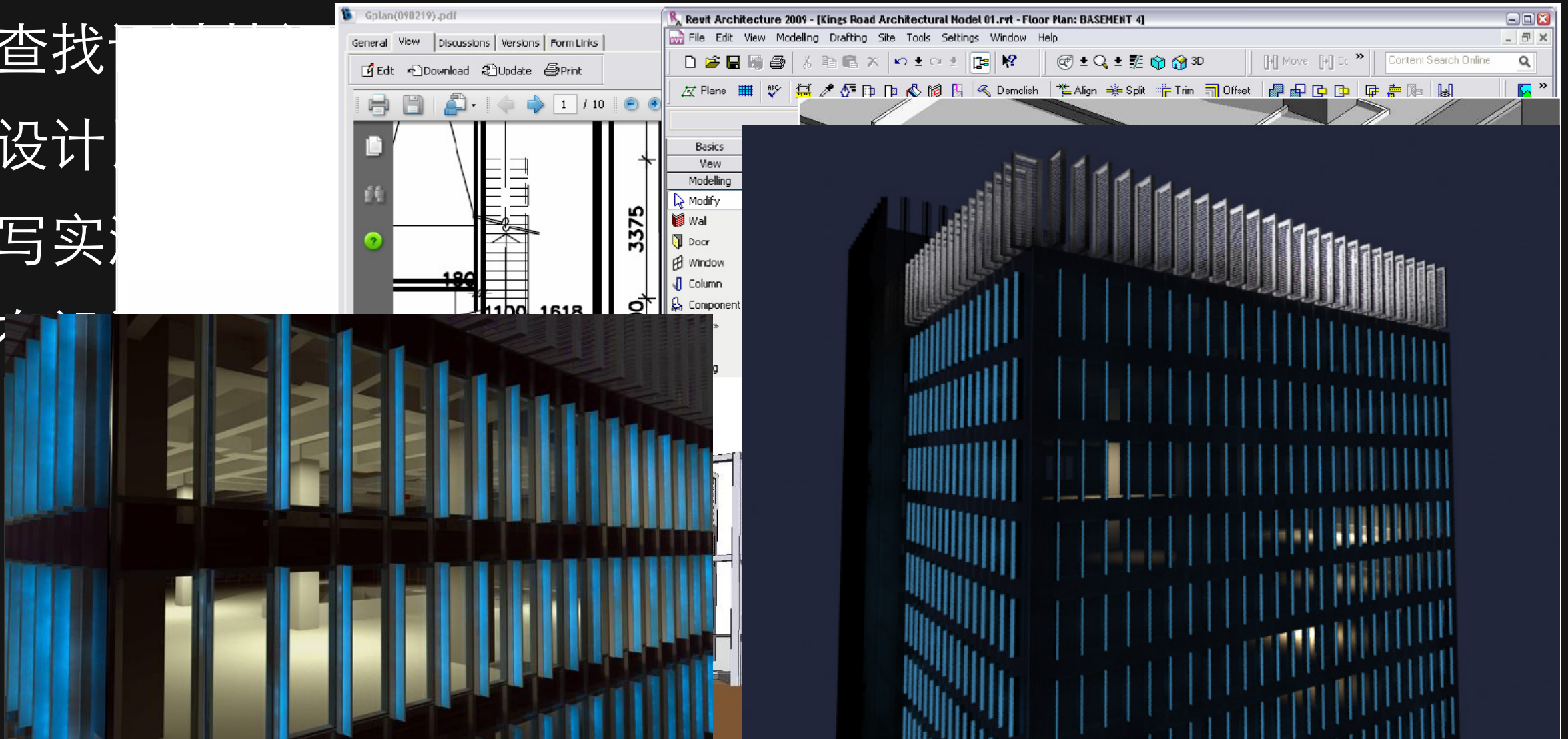
863-865 King's Road

- Advance Service
- Grade A Office
- Ideal Location
- Harbour View

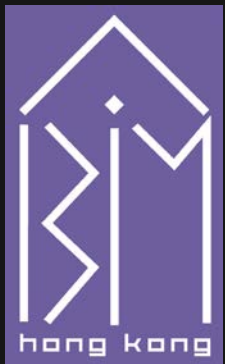


目标 (Objectives)

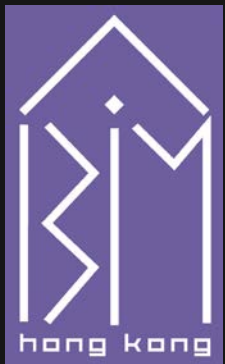
- 试用BIM以探讨为项目带来的好处
- 要求数据提供
- 查找
- 设计
- 写实
- 为



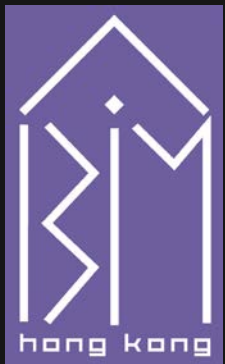
这过程 (The Application)...



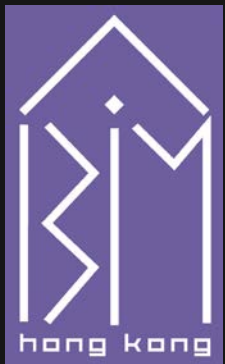
屋顶构件 (Roof Features)



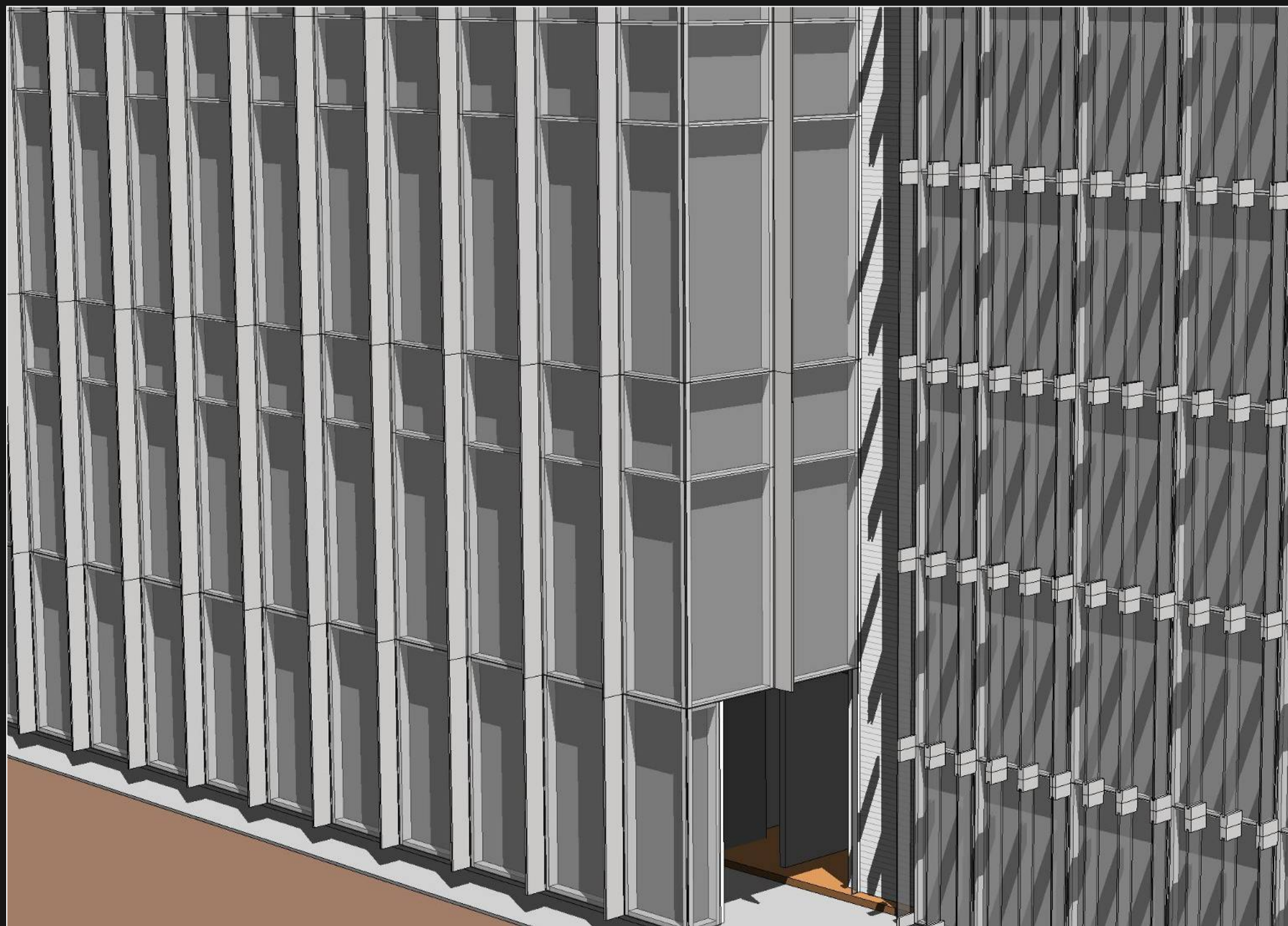
幕墙 – 高层 (Facade – High Zone)



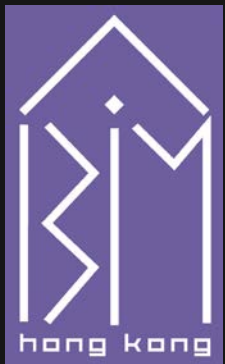
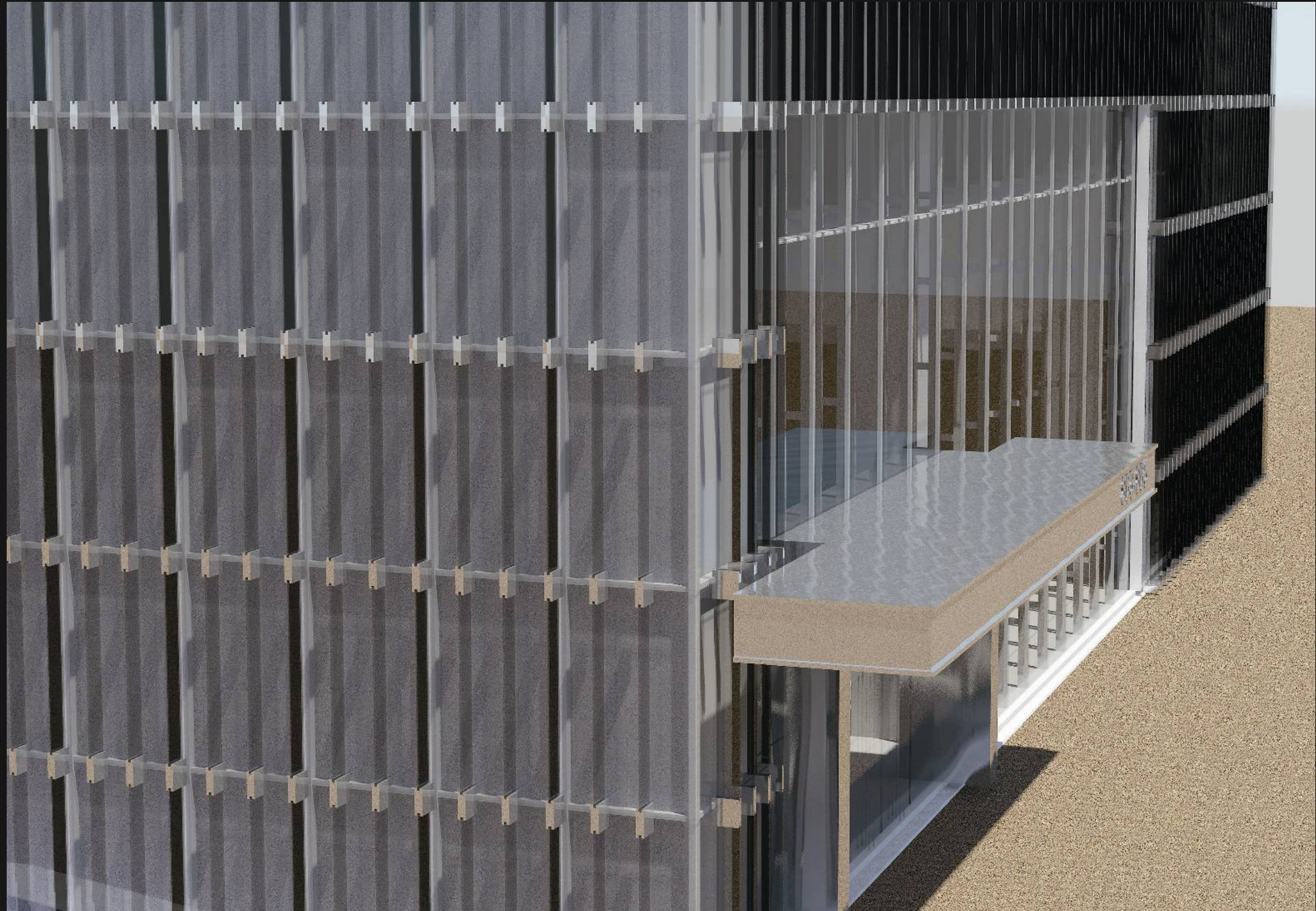
幕墙 - 中层 (Facade)



幕墙 – 低层 (Facade – Low Zone)

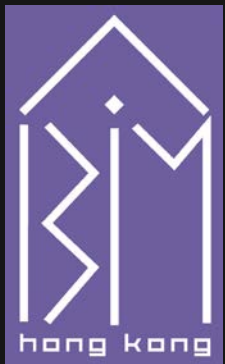


主入口 (Main Entrance)



成就及得着 (Achievements and Findings)

- 设计图纸得以仔细审阅
- 协同问题得以查出
- 透过更新模型，设计改动得以验证
- 设计论证得以在三维环境进行
- 设计比选方案都存于模型内至最终决定
- 设计图纸在解决问题后才发出
- 编写了BIM手册



>>提升设计素质 (Enhance Design Quality)



嘉里建设

追求优秀设计

Strive for Excellence

大型公共房屋中 标准单元式单位设计 迈向定制处理

内容提供：

香港房屋委员会
发展及建筑处



香港房屋委员会及房屋署

- 建设符合负担水平和可持续发展的公众租住房给真正有需要的市民
- 供应全香港30%人口的住房
- 每年兴建15,000个住房单位



发展及建筑处

- 负责规划、发展及兴建公共租住房屋
- 「针对性建筑设计」令每个项目在环保、健康生活、设计水平及可持续发展的潜力得以最大的发挥
- 「标准单元式单位」
 - 实现设计灵活性
 - 在建筑设计实现效率和效益
 - 特别订制单位类型、平面布置、层高以迎合个别项目需要



标准单元式单位



一至二人单位



单睡房单位



二至三人单位



双睡房单位



标准单元式单位

- 由基本组件
至细致模型

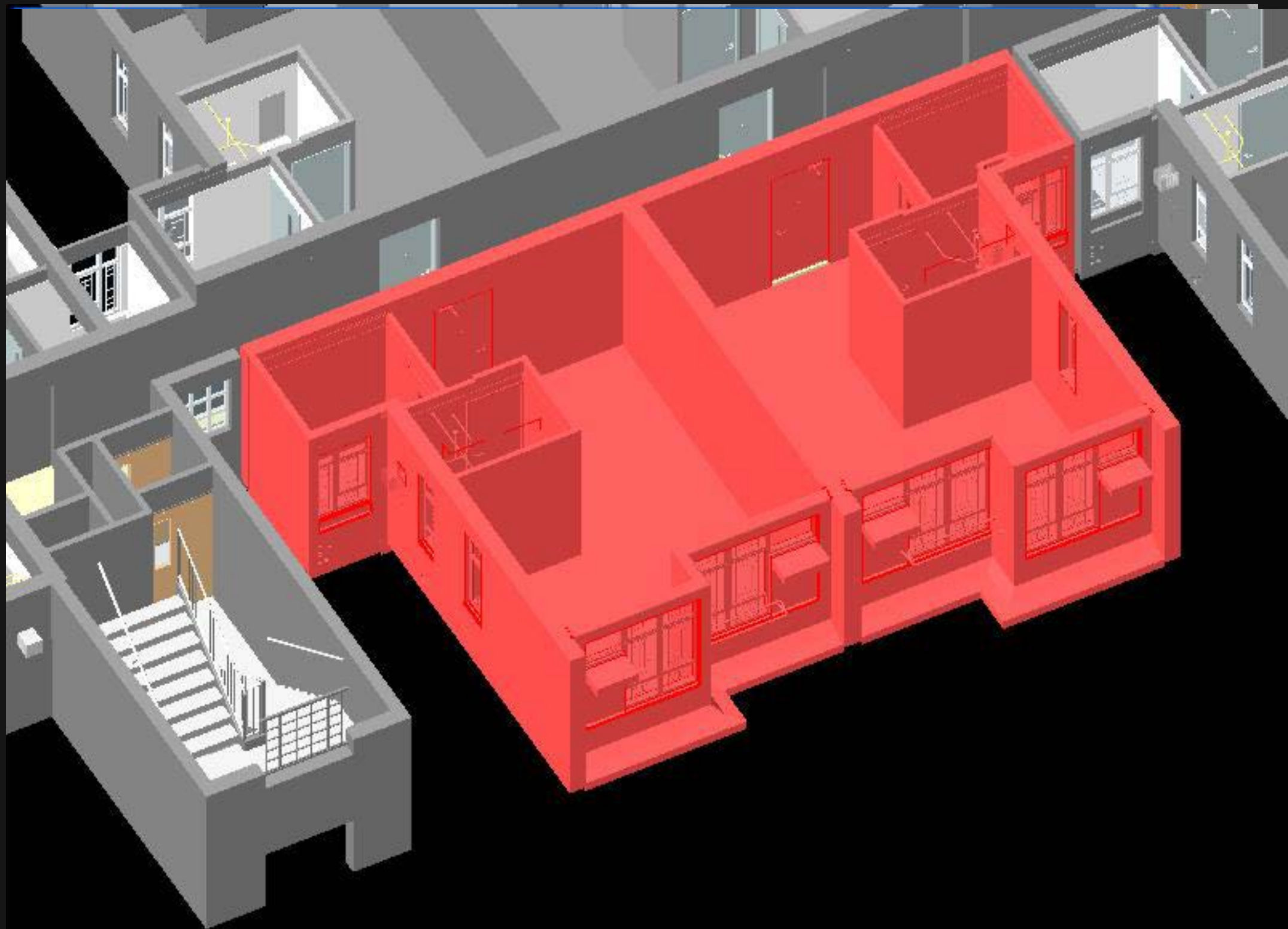


将标准单元式单位组合成翼楼



标准单元式单位

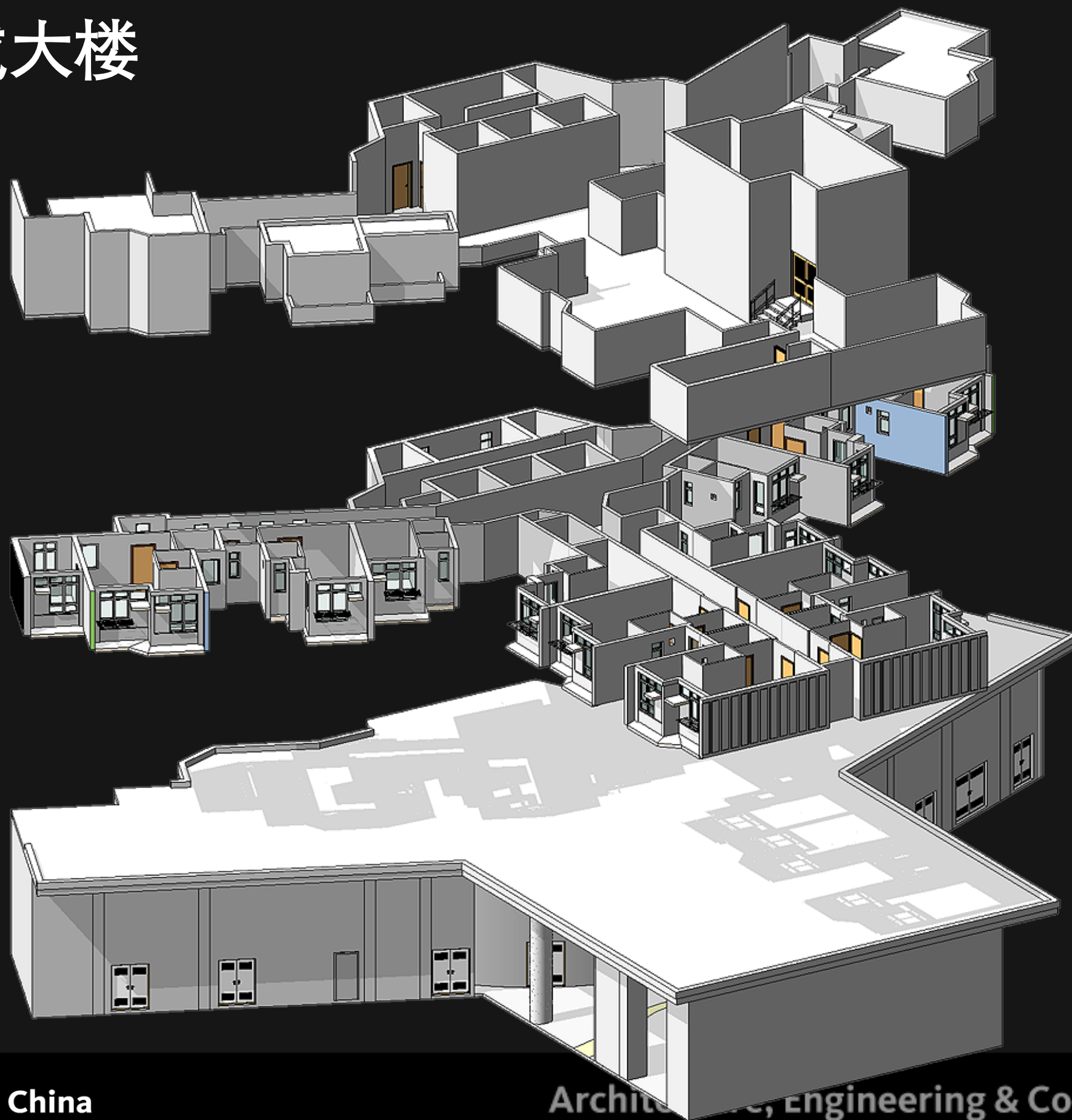
- 建筑设计可根据已修改的标准单元式单位进行更新



将翼楼组成楼层

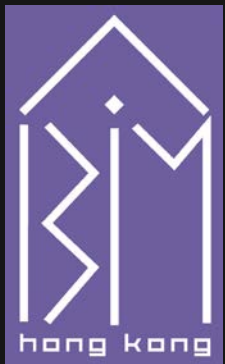


将楼层组成大楼

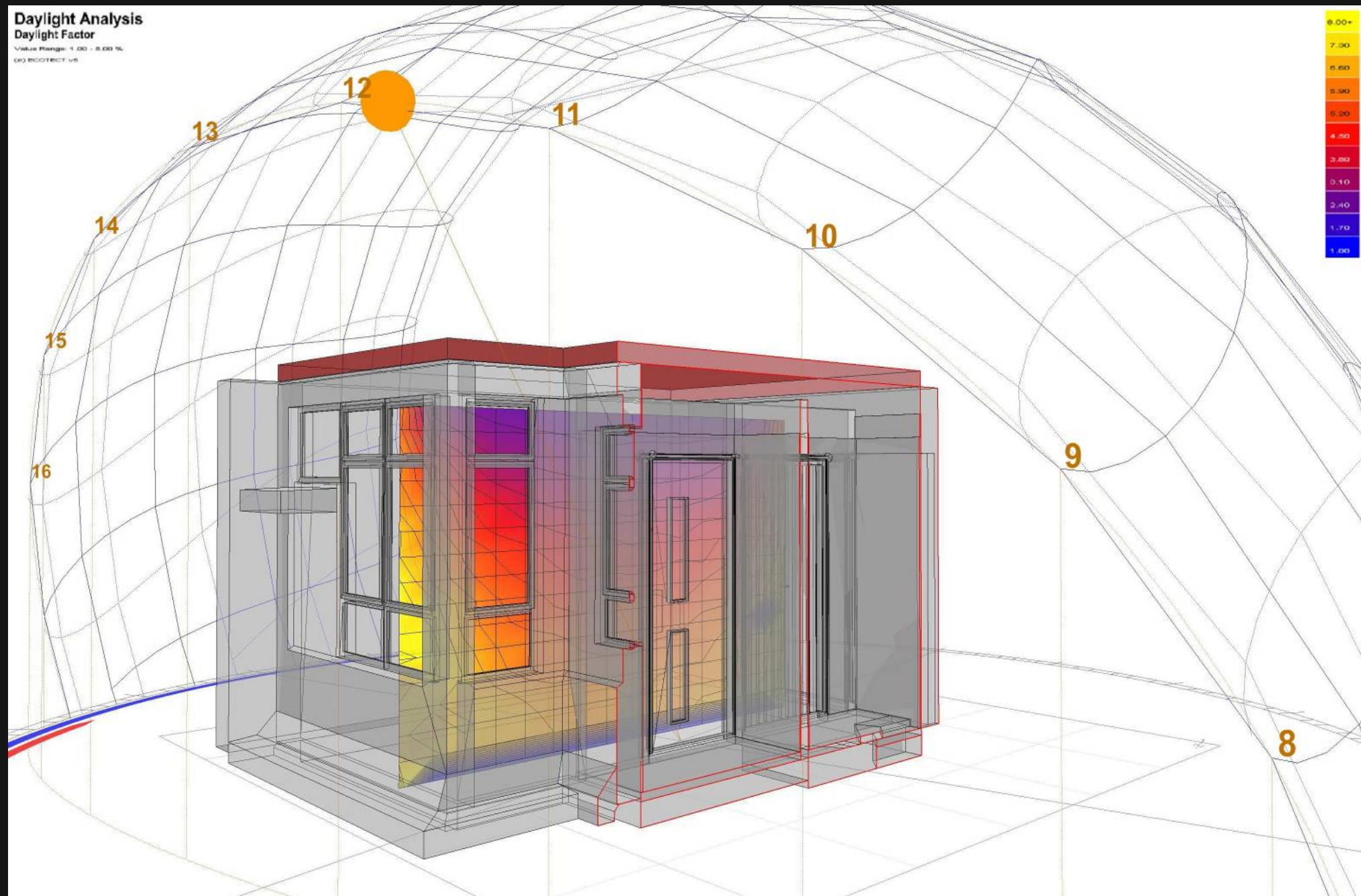


环境评估

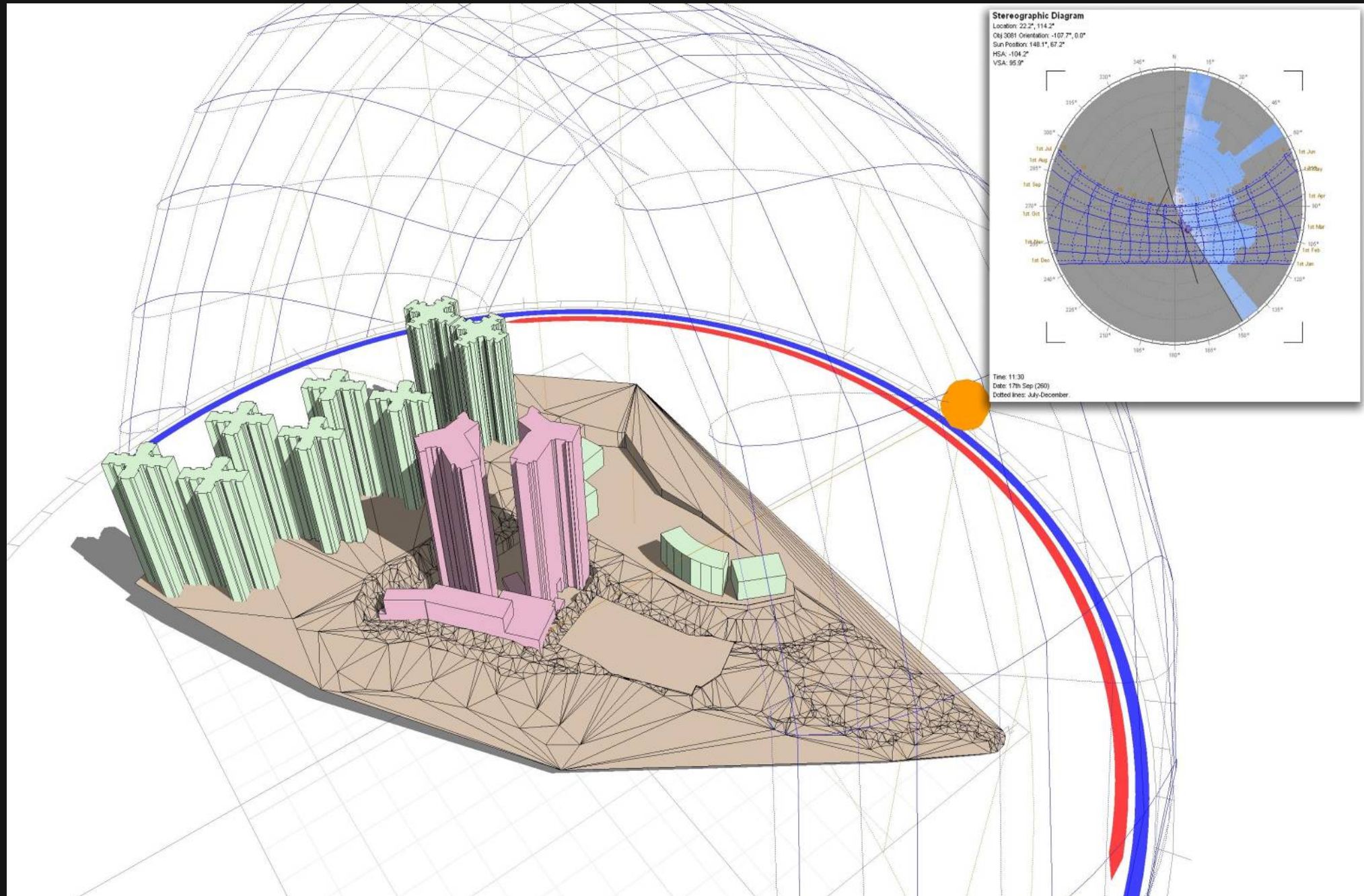
- 为创建更美好生活环境以 BIM模型进行环境评估，包括：
 - 日照
 - 通风
 - 耗能
 - 碳排放
 - 绿色设计
- 使设计更形象化
- 更容易令公众明白



环境评估 - 日照分析



环境评估 - 投影分析



房屋署标准：BIM用户指南及参考手册

**Building Information Modelling (BIM)
User Guide
for
Development and Construction Division
of
Hong Kong Housing Authority**



(Version 1.0)
May 2009

Prepared by Business Process Unit
Development & Construction Division
Housing Department

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The Government of the Hong Kong Special Administrative Region

**Building Information Modelling (BIM)
Library Components Design Guide
for
Development and Construction Division
of
Hong Kong Housing Authority**



(Version 1.0)
May 2009

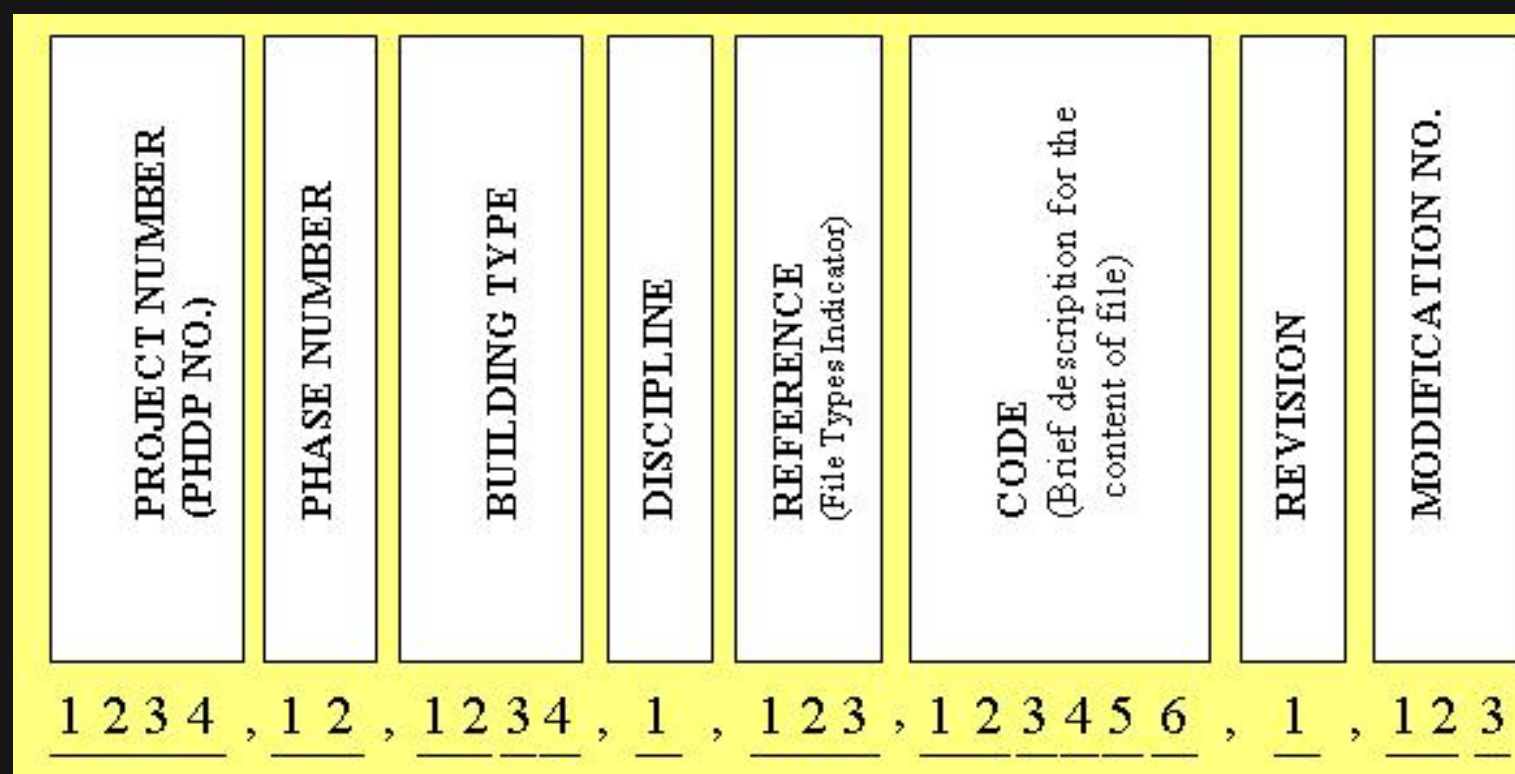
Prepared by Business Process Unit
Development & Construction Division
Housing Department

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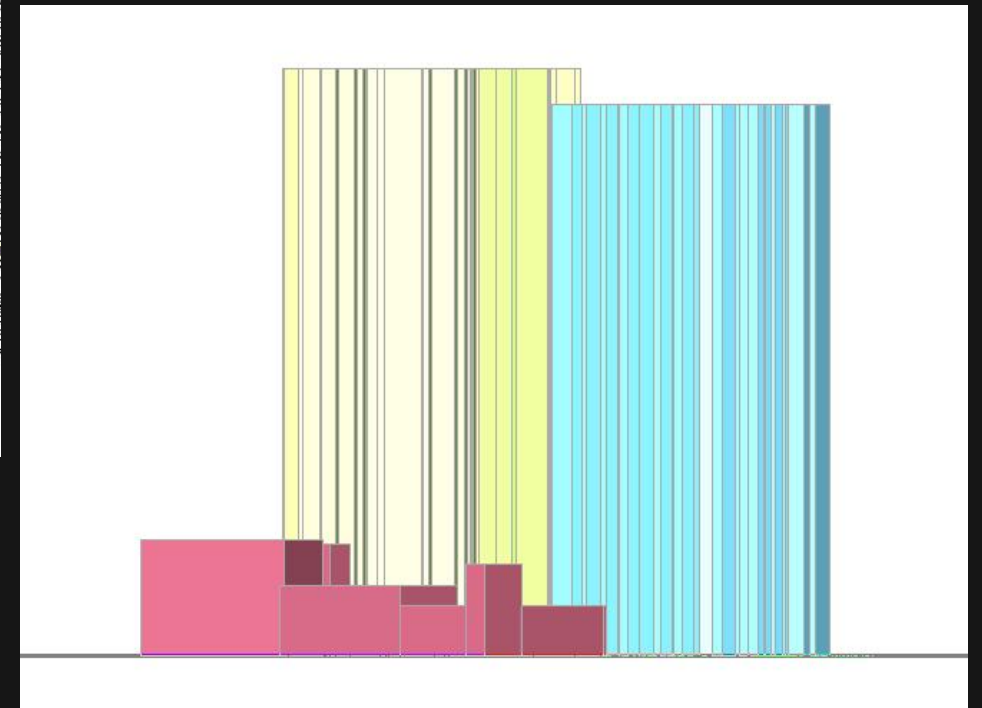
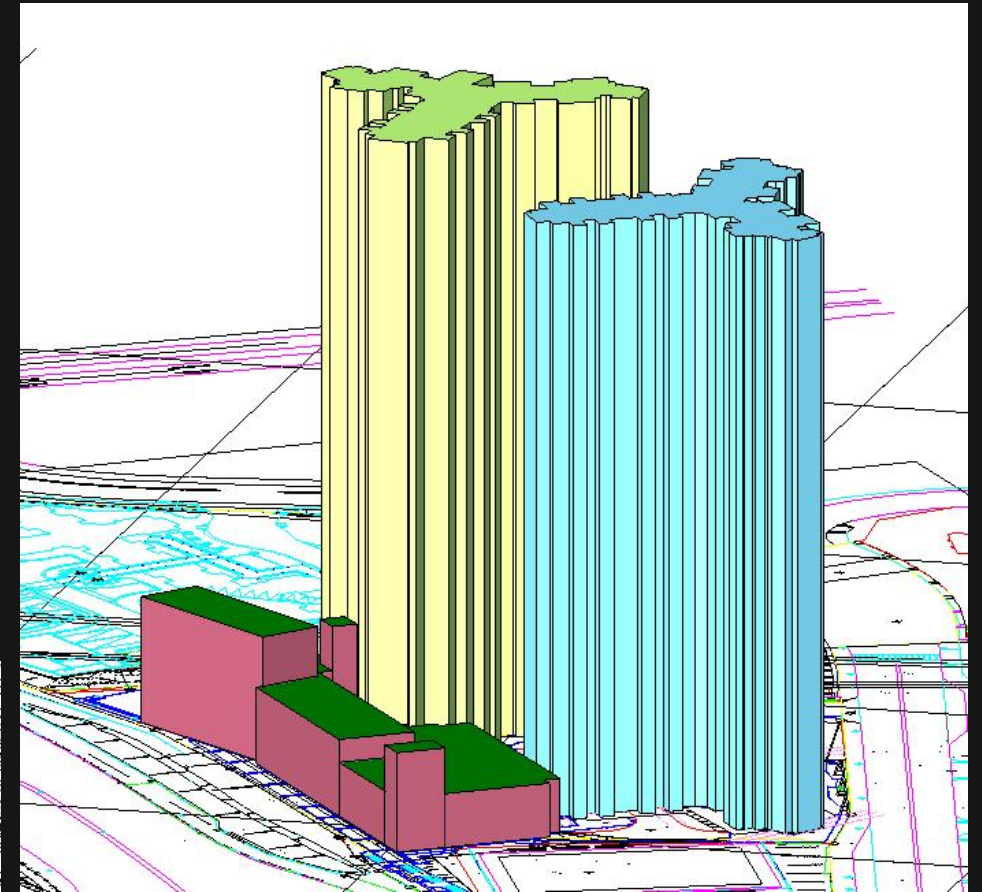
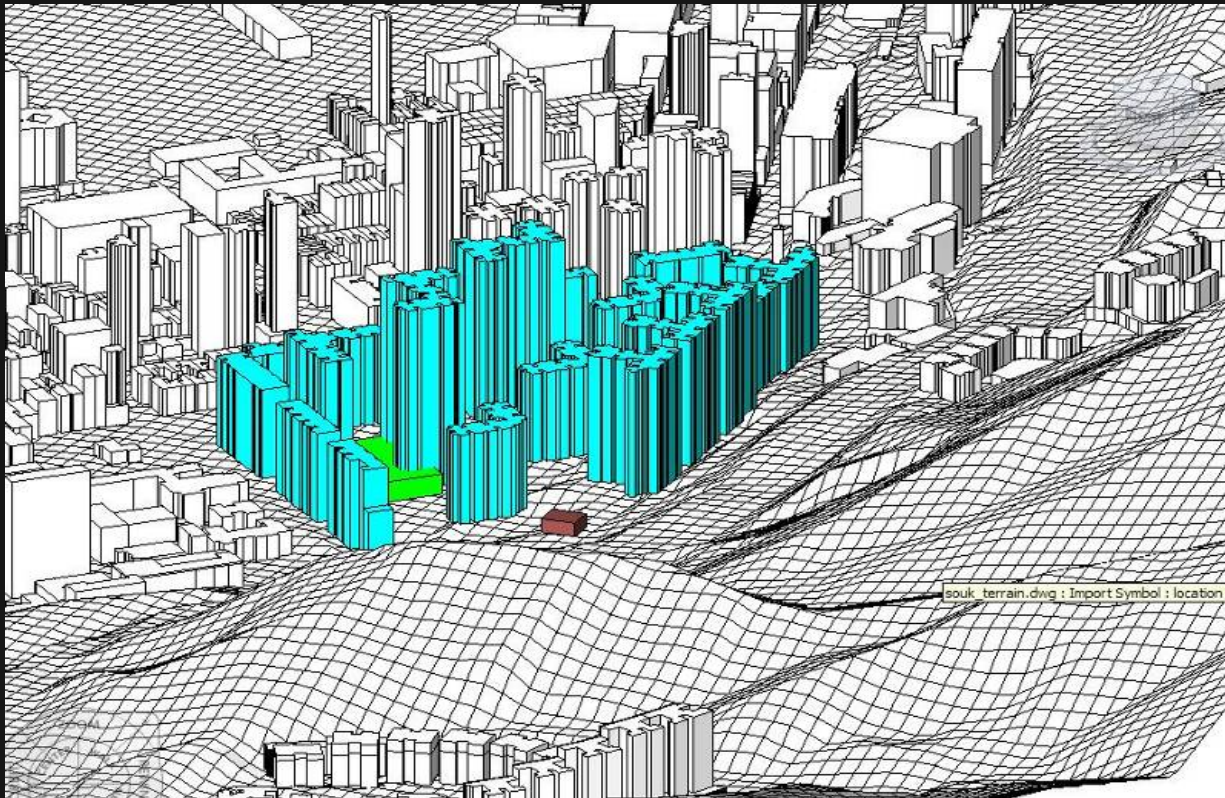
房屋署标准

- 始建模型的标准程序
 - 新建项目模型（标准范本）
 - 组建大楼（单位 → 翼楼 → 楼层 → 大楼 → 场地）
- 参照及取名规约
 - 取名标准化令模型文件得以容易辨识



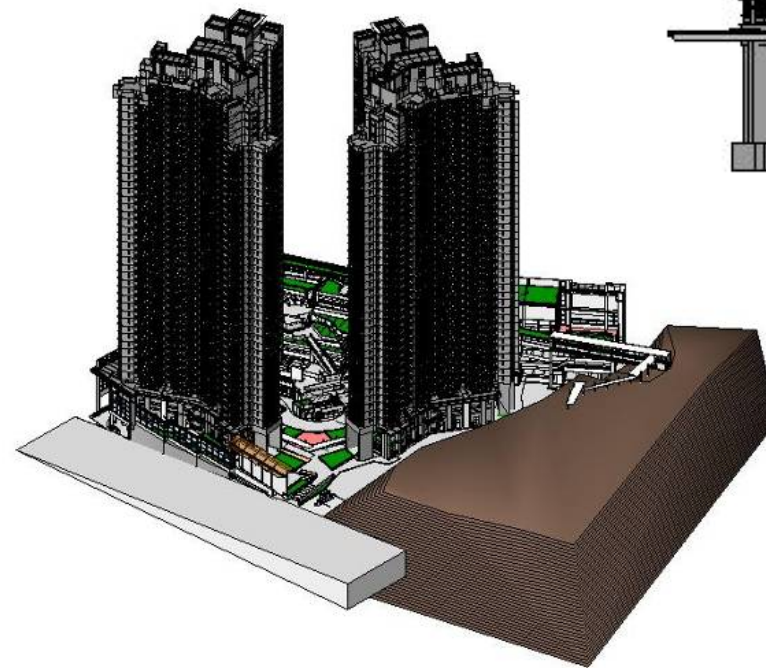
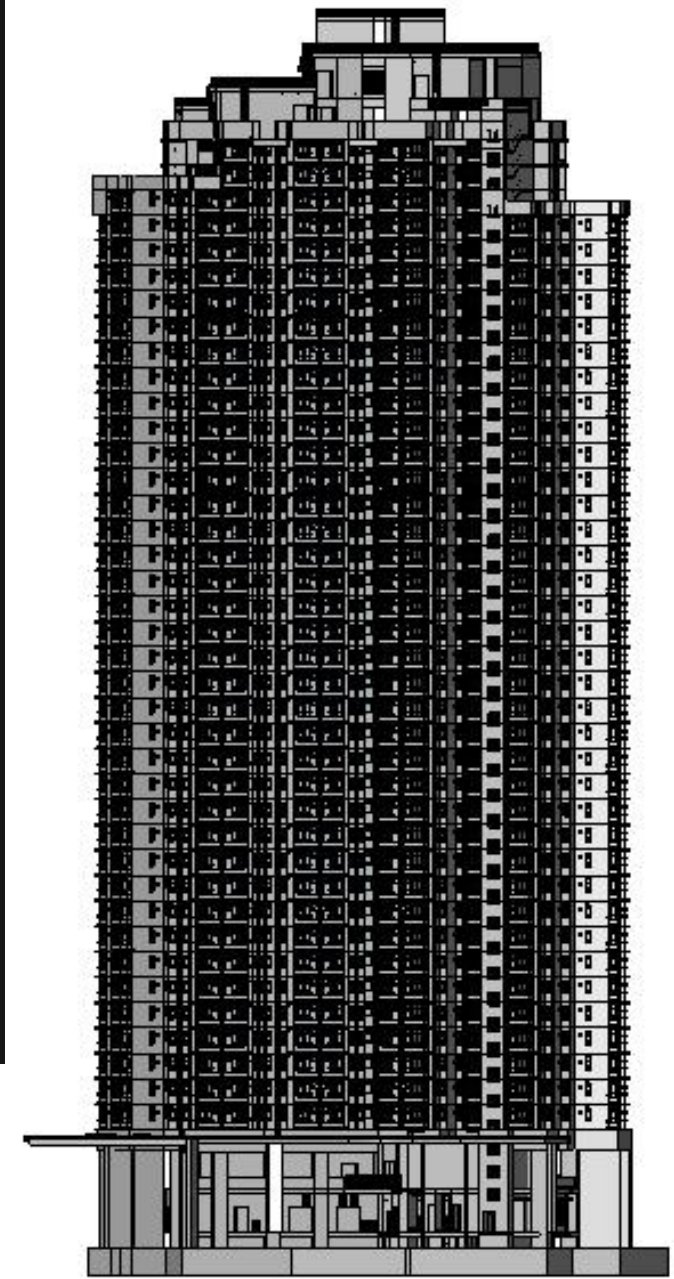
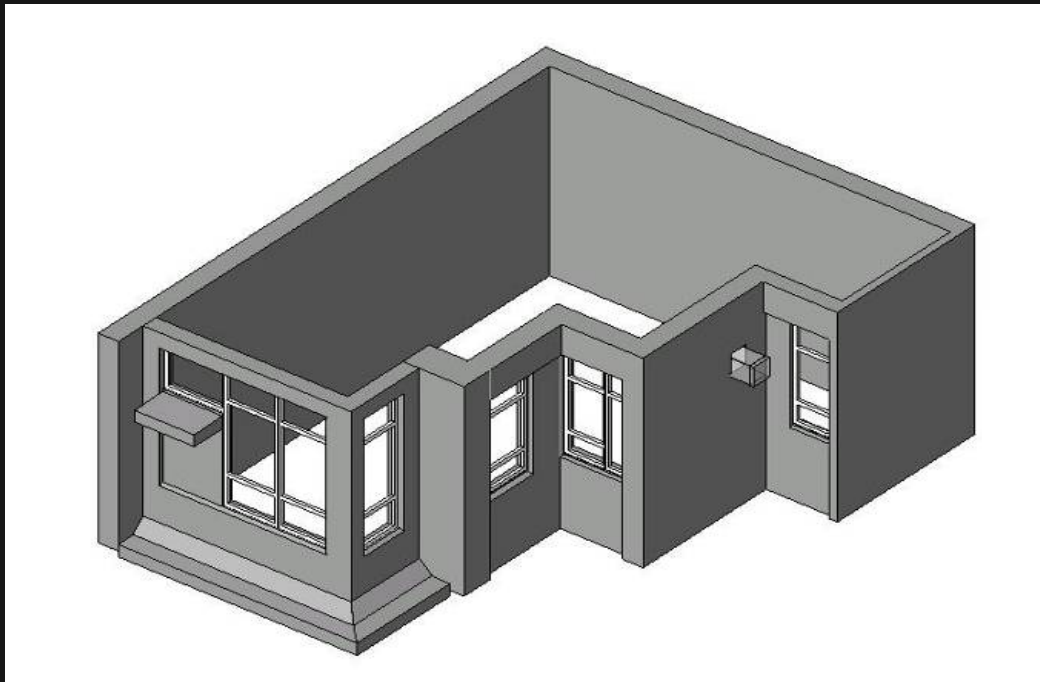
房屋署标准

- 内容深度
 - LD0 – 大楼的体量



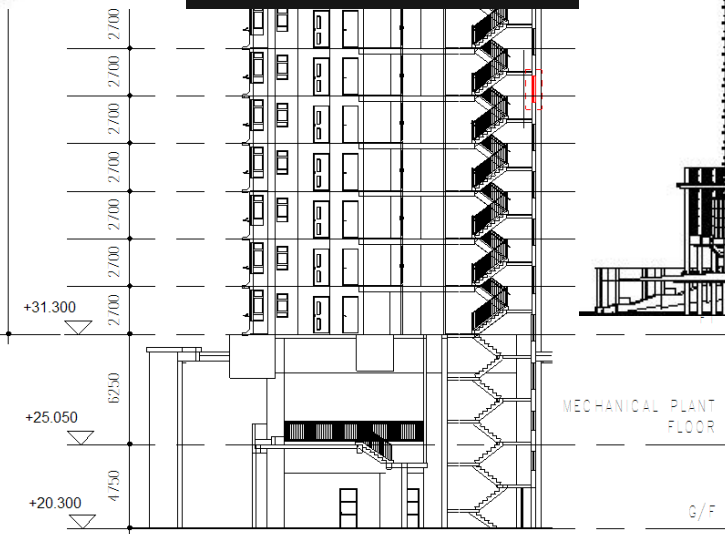
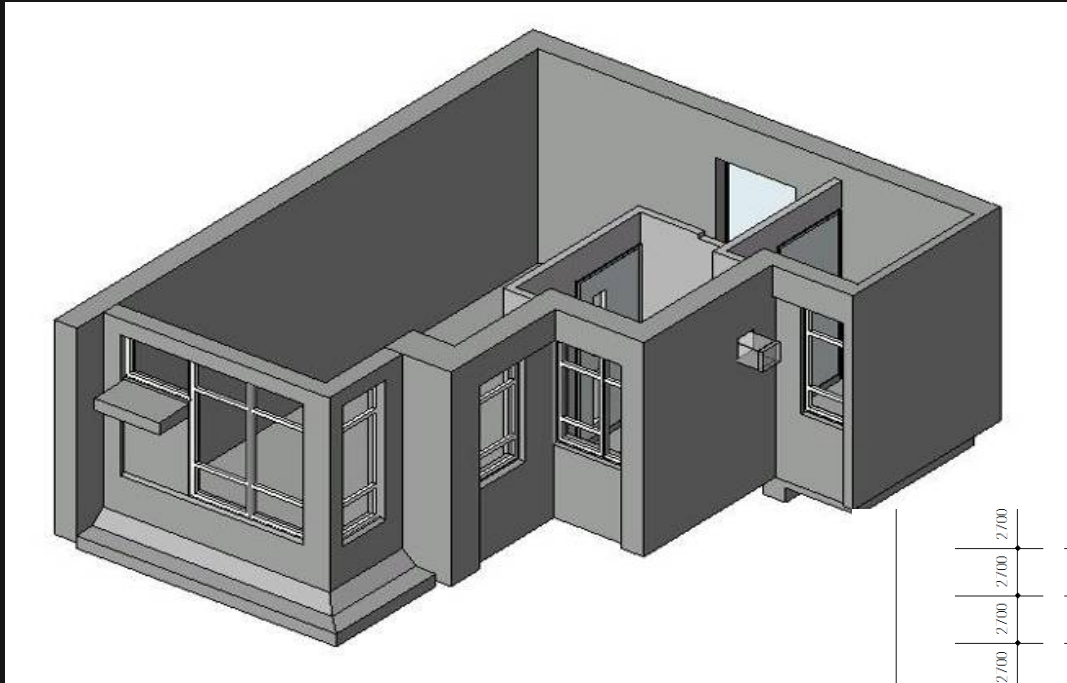
房屋署标准

- 内容深度
 - LD1 – 没有间格墙及配置等的标准单元式单位作为制作立面图之用



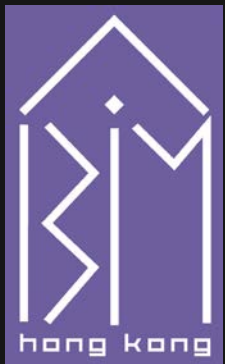
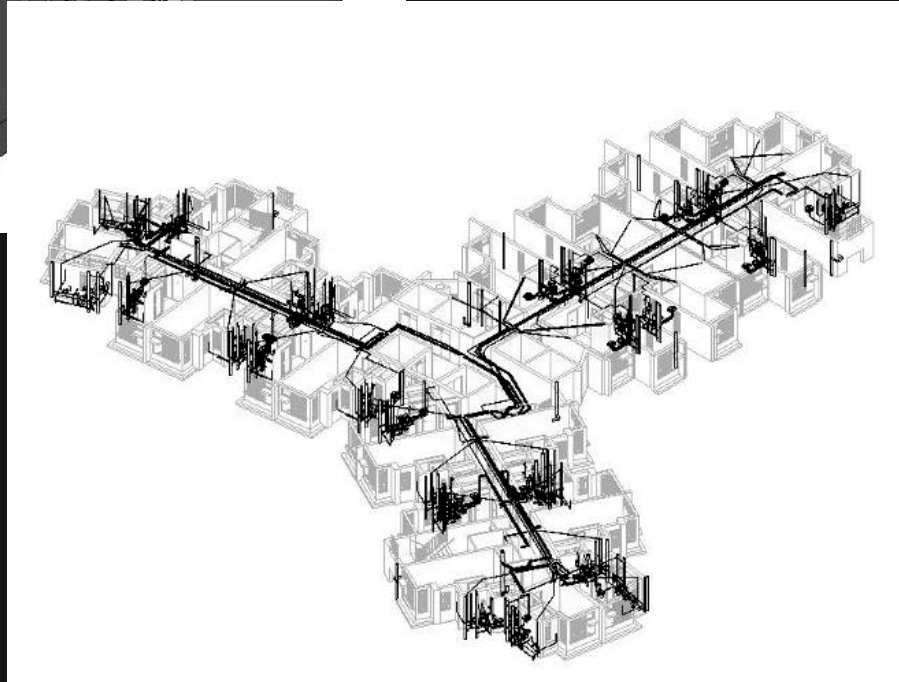
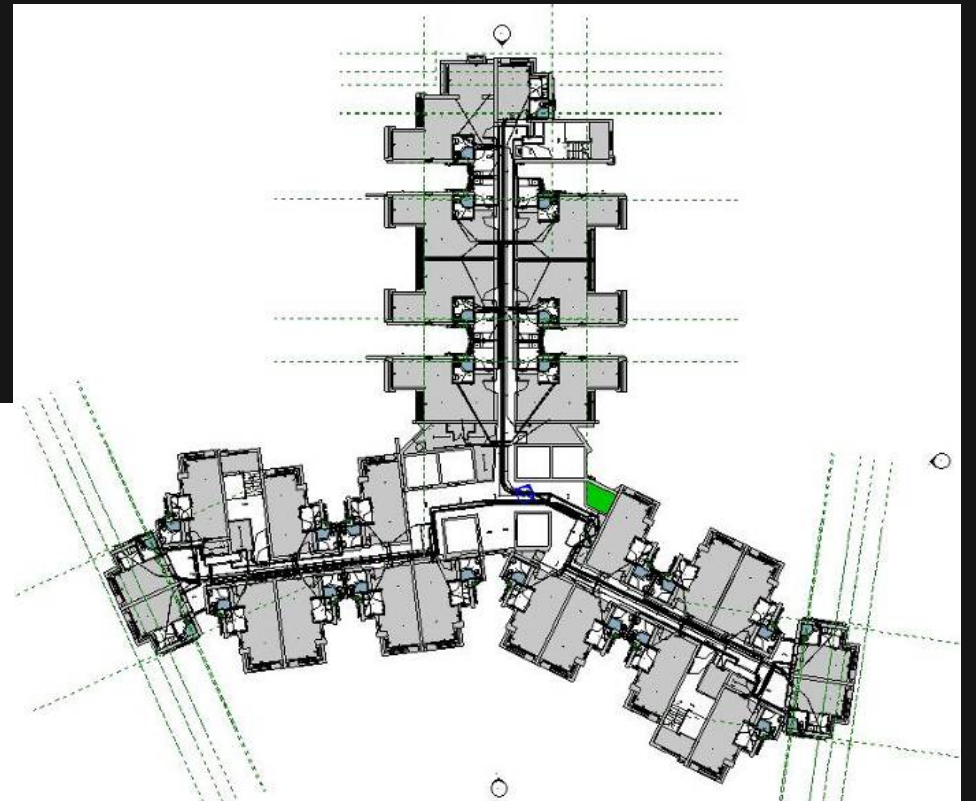
房屋署标准

- 内容深度
 - LD2 – 只有基本间格墙及配置等的标准单元式单位作为制作剖面图之用

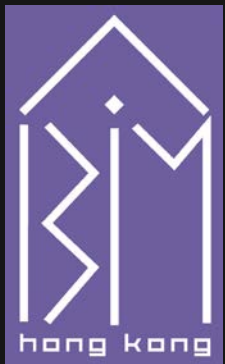


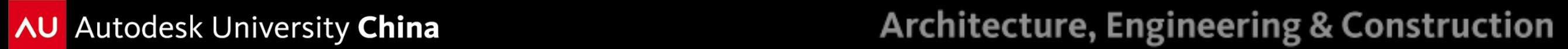
房屋署标准

- 内容深度
 - LD3 – 用作导出单位或单层的施工图纸及大样

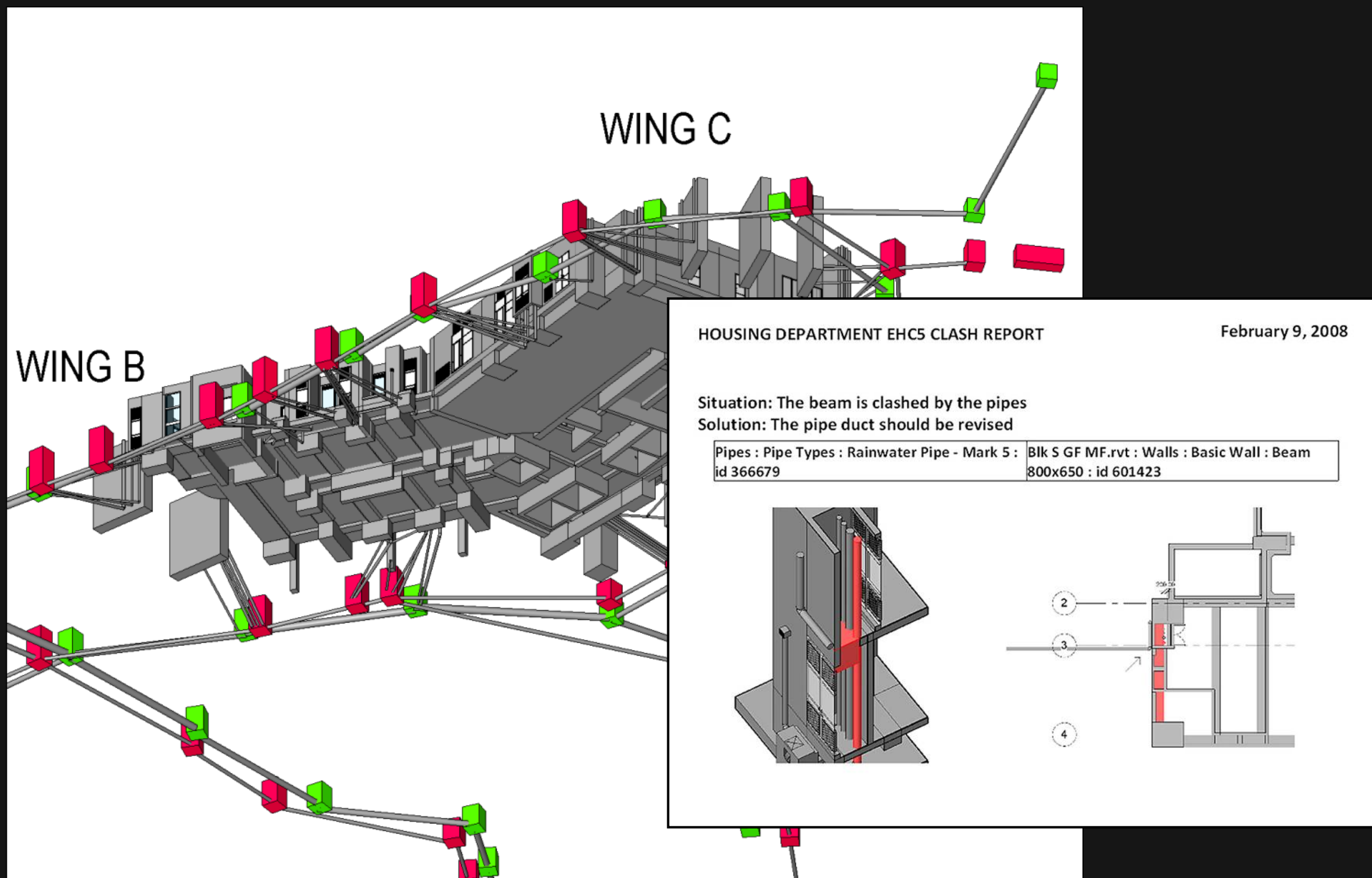


香港葵涌项目





东隧出口项目第五期 - 碰撞检查

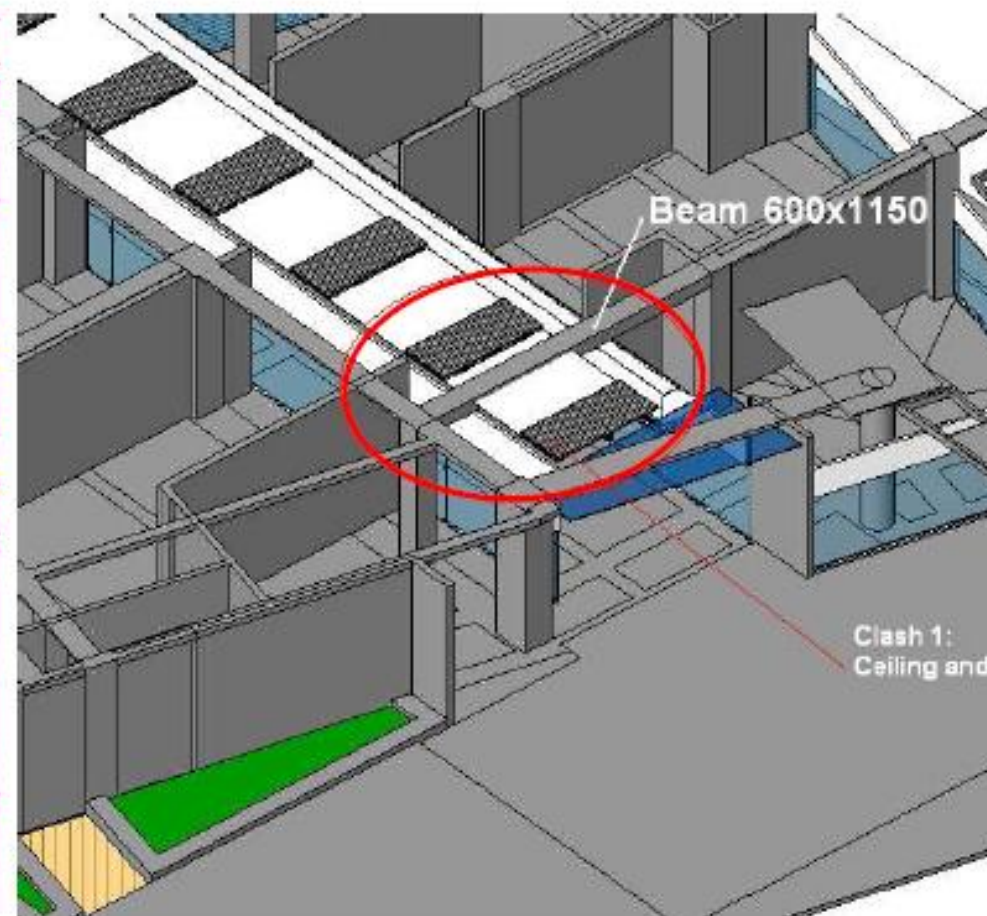


碰撞检查

No.	ARSE001	Location	LG/F Between Grid 2,3 and Grid J	
Object 1	Ceiling		Object 2	Beam 600x1150
Report Date	25 th May2009		Resolved Date	25 th May 2009
Status	Resolved		Solution	Update structure design, modify beam size
Reference Drawing	KL77/6/CC/A/AS-21/B(Ceiling Plan) KL77/6/CC/S/EL003/F (Structure Plan)			



Clash Plan



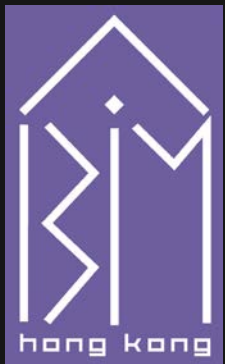
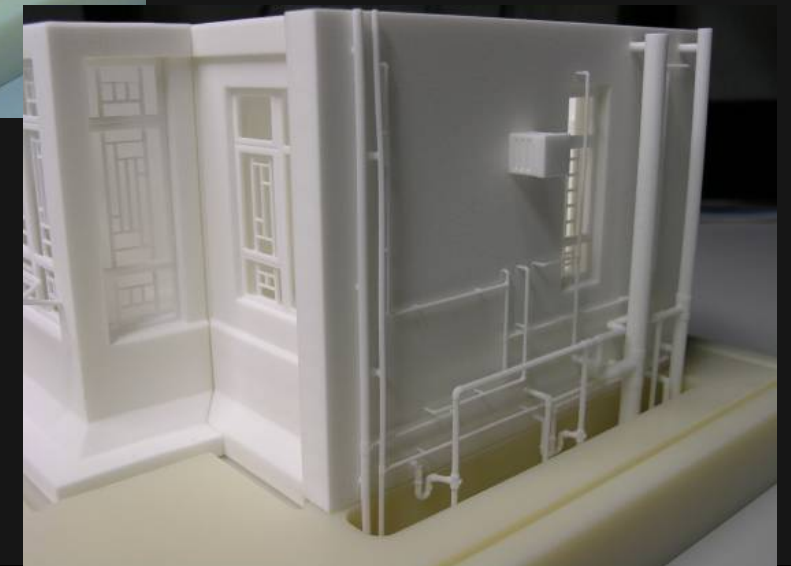
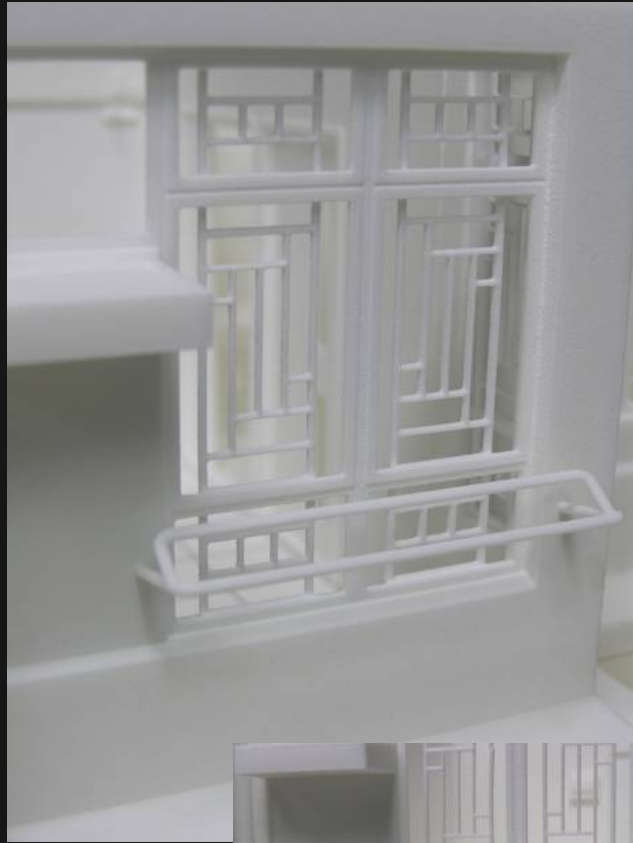
Clash 3D Section



东隧出口项目第五期

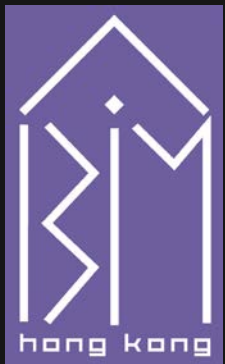


实体模型 - 快速成型技术



总结

- 实现更实用的、经济的及环保的建筑设计
- 单元式单位
 - 更快的开发各种设计选型作比选
 - 进行设计优化
- 提升效率，实现绿色及健康生活条件优化设计



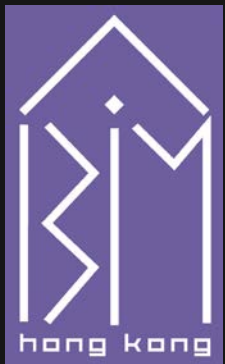
香港房屋委员会及房屋署

用心建家
美好家园
和谐共融



BIM专业

- 认真
- 论证
- 面对公众





The Hong Kong Institute of
Building Information Modelling
香港建築信息模擬學會

We are **BIMers**

