



Henderson BIM Presentation

What does BIM mean to Developers

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HKIA Registered Architect*

BIM Practices

1. BIM office infrastructure
2. In-house Setup - Local Office > International Office
3. External Collaboration Setup
4. Cloud Base Project Collaboration Setup



B

= Building

建築

I

= Information

資訊

M

= Modelling

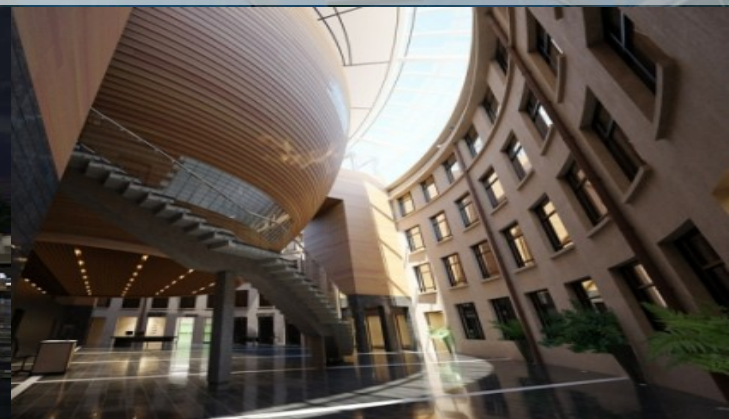
模型/ 模擬



Fake BIM

M + ?

JUST 3D MODEL – NOT BIM

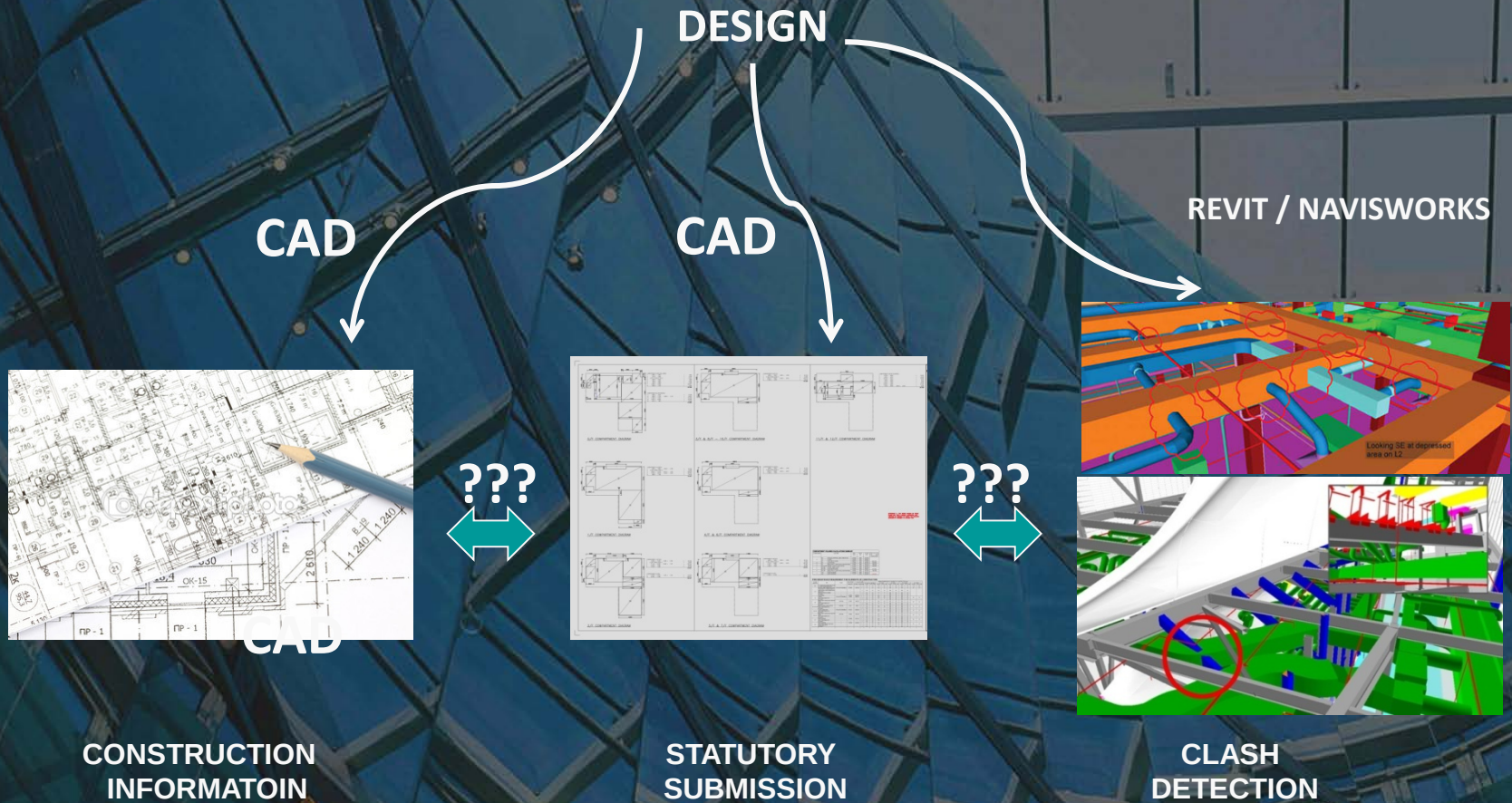


HALF-BIM

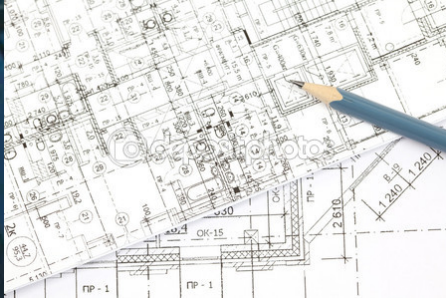
I <> M

3D MODEL >> QTO , CLASH ANALYSIS

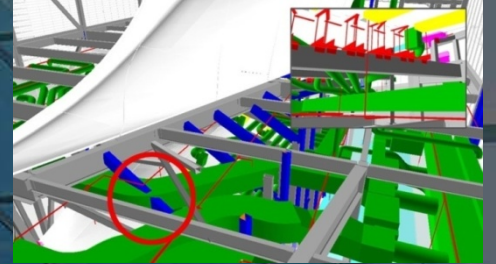
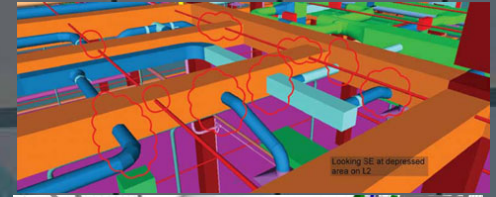
HALF BIM



REAL BIM

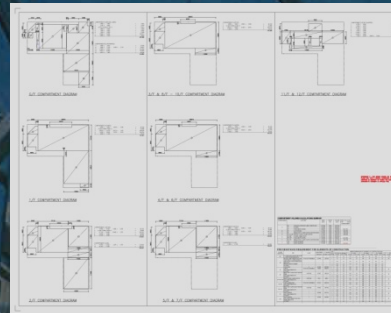


CONSTRUCTION
INFORMATOIN



CLASH
DETECTION

DESIGN
in
BIM



STATUTORY
SUBMISSION



REAL BIM

I = M

I > M

INFORMATION FROM MODEL,
INFORMATION MORE IMPORTANT

B I M



Modelling Information **Business**

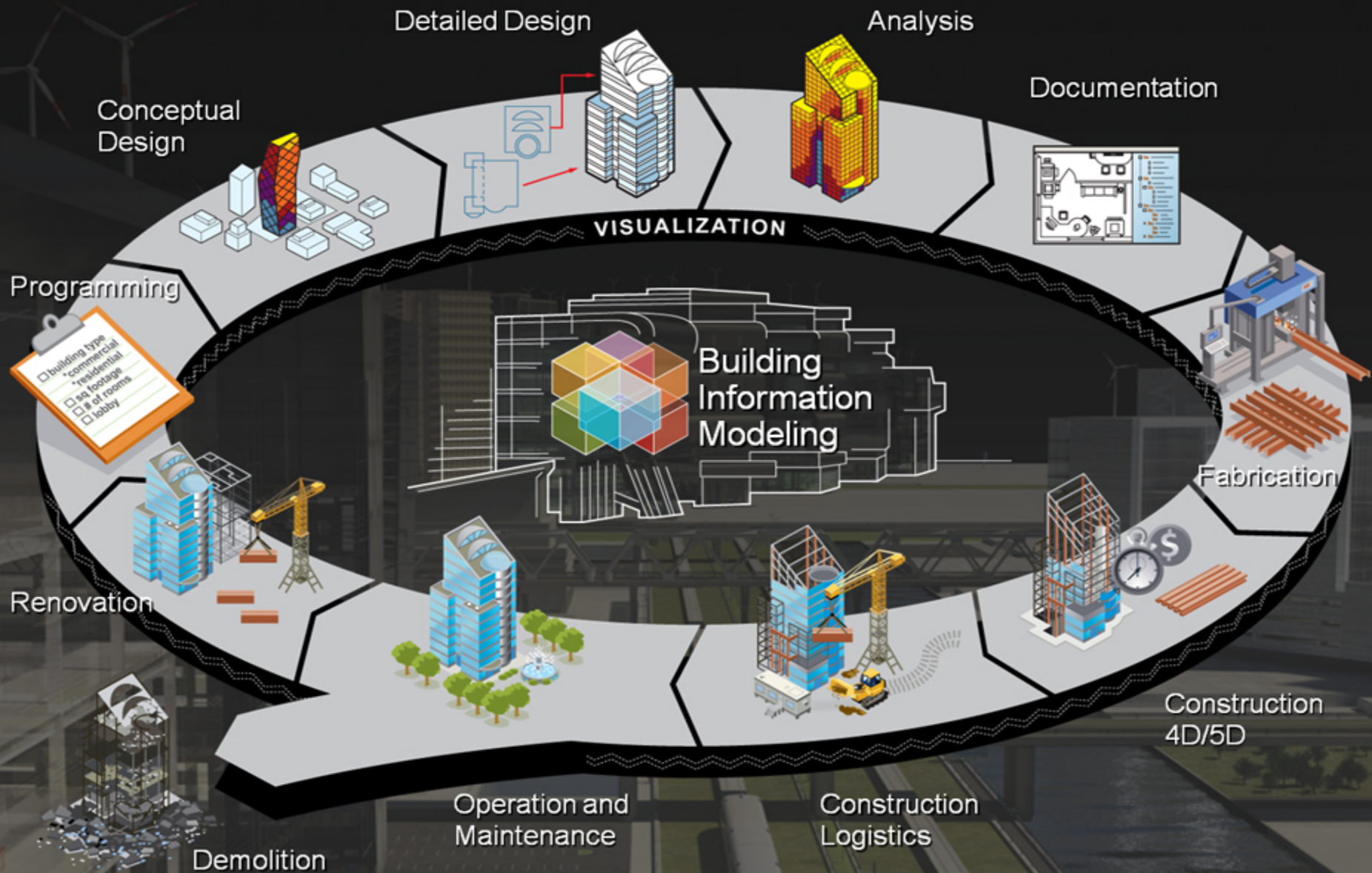


REAL BIM

M + I = B

BIM is a process, Business is the objective

Use of Building Information Modeling (BIM)



Building Projects

Modelling

Plan
Section
Elevation
Area Diagrams
Schematic Designs
General Building Plan
Structural Plans
E/M Drawings
Schematics
Details
Other Diagrams...

Information

Area Schedule
Finishing Schedules
Door/Window/Louvre
Schedules
Beam/ Column Schedule
Equipment Schedule...

Program

Cost Estimate
Quantity Take Off
Bills of Quantities
Variation Assessments

As a result.....

Inefficiencies（低生産性）, mistakes(エラー) and delays（工期延長） account for \$200 billion of the \$650 billion spent on construction in America every year.

New wiring, The Economist, January 13th, 2000

In the UK alone, the annual cost of rectifying construction defects(デフエク) caused by poorly detailed drawings and operatives being given incorrect instructions has been put at £1bn (≈\$1.66bn).

IT Construction Best Practice service, <http://www.itcbp.org.uk>

The process of construction is itself repeated in its essentials from project to project. Indeed, research suggests that up to 80% of inputs into buildings are repeated.

M4i, <http://www.m4i.org.uk>

Modelling

CAD SYSTEMs

e.g. AutoCAD,
Microstation

- Plan
- Section
- Elevation
- Area Diagrams
- Schematic Designs
- General Building Plan
- Structural Plans
- E/M Drawings
- Schematics
- Other Diagrams

Information

- Area Schedule
- Word Schedules
- Door/Window/Louvre Sch
- Excel (spreadsheet)
- Beam/Column Schedule
- Access (Data Base)
- MS Project
- BQ Softwares
- Quantity Take Off
- Bills of Materials
- Variations

Building Projects

Modelling

- Plan
- Section
- Elevation
- Area Diagrams
- Schematic Designs
- General Building Plan
- Structural Plans
- E/M Drawings
- Schematics
- Other Diagrams

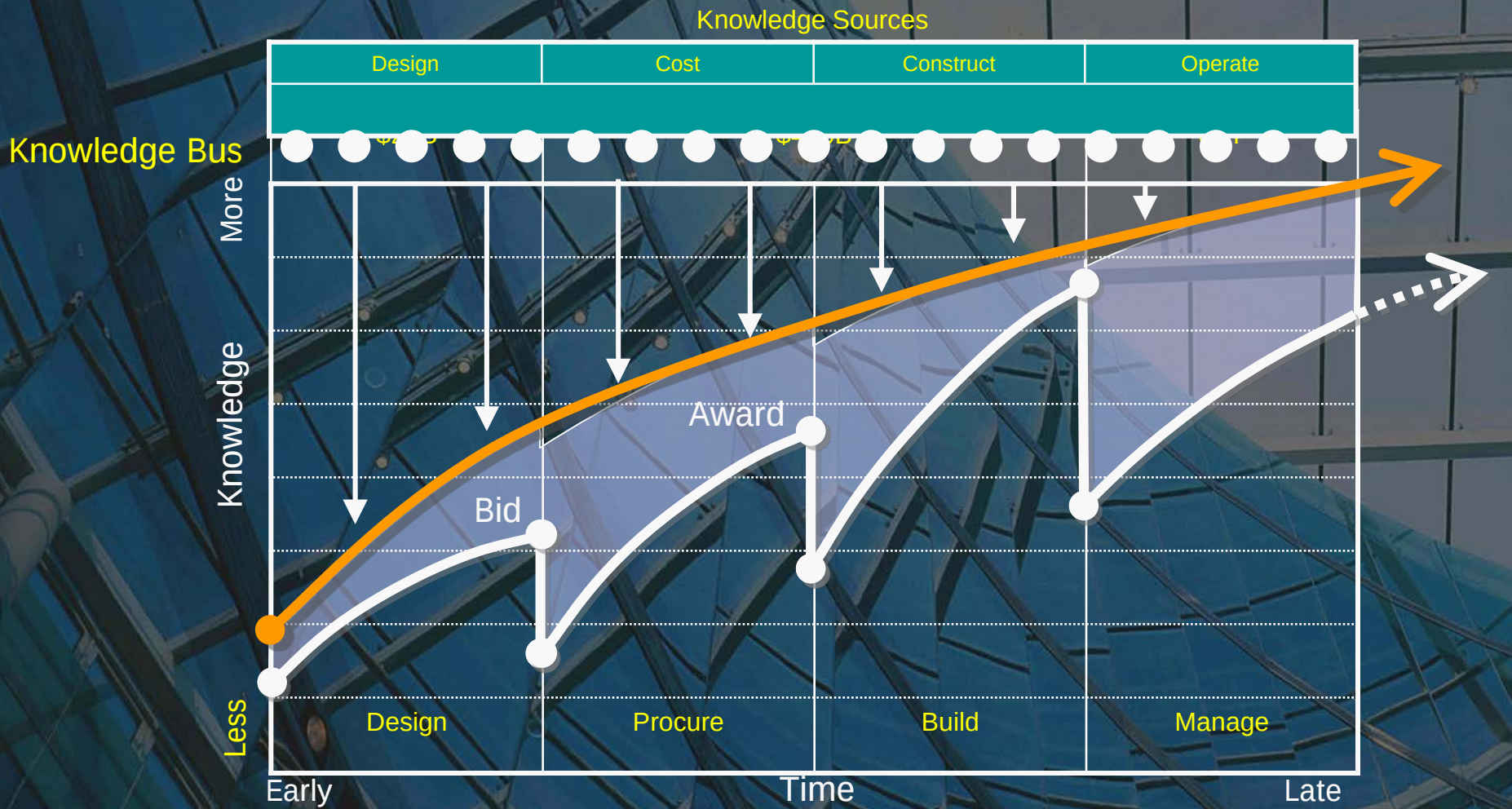
BIM

Information

- Area Schedule
- Finishing Schedules
- Door/Window/Louvre Sch
- Beam/Column Schedule
- Equipment Schedule
- Cost Estimate
- Quantity Take Off
- Bills of Quantities
- Variations

Building Information Modeling

信息化建筑模型



INFORMATION “BACKFLOW”

What is BIM (Building Information Model)

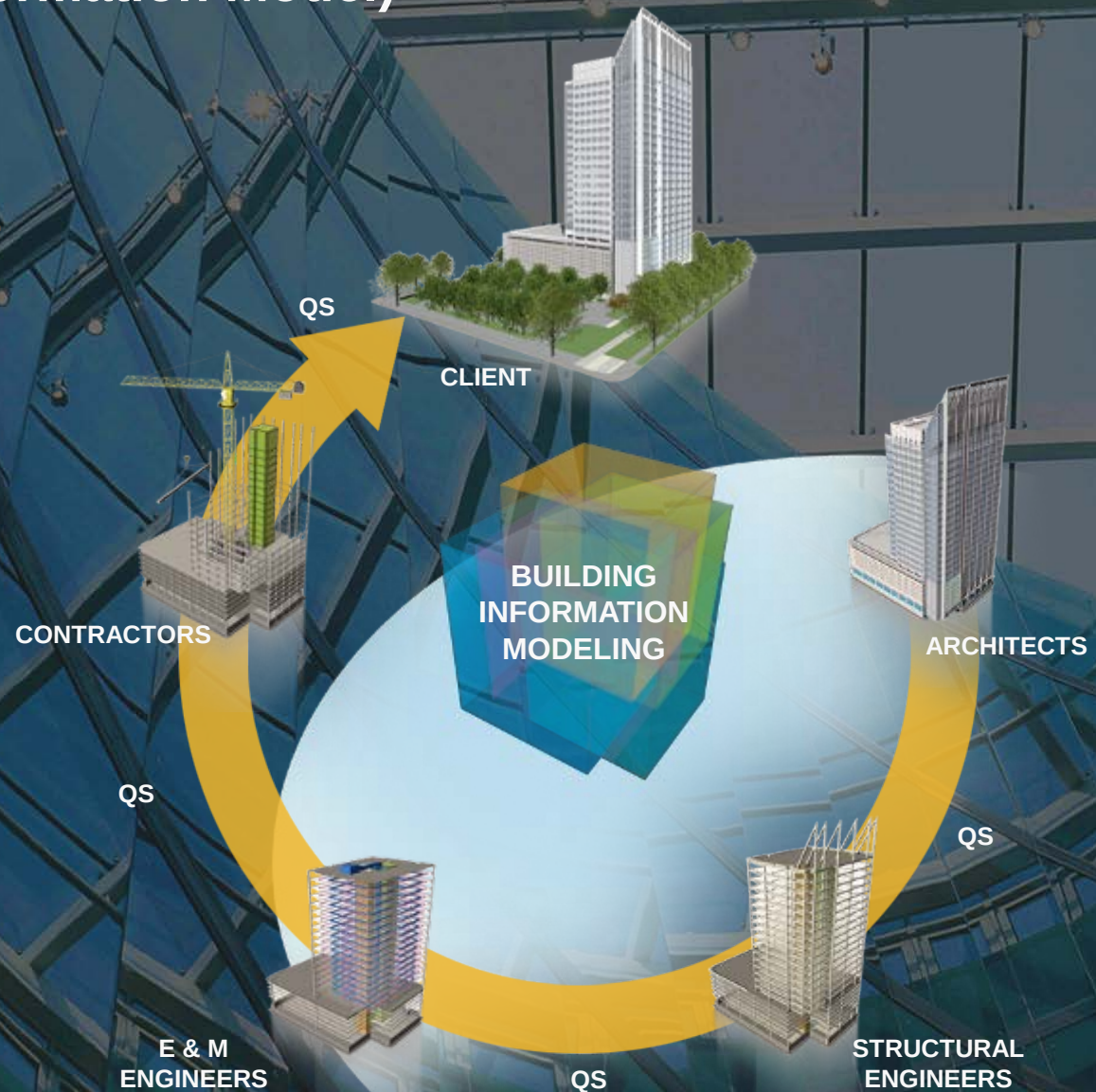
Graphical Data

+

Non-Graphical
Data

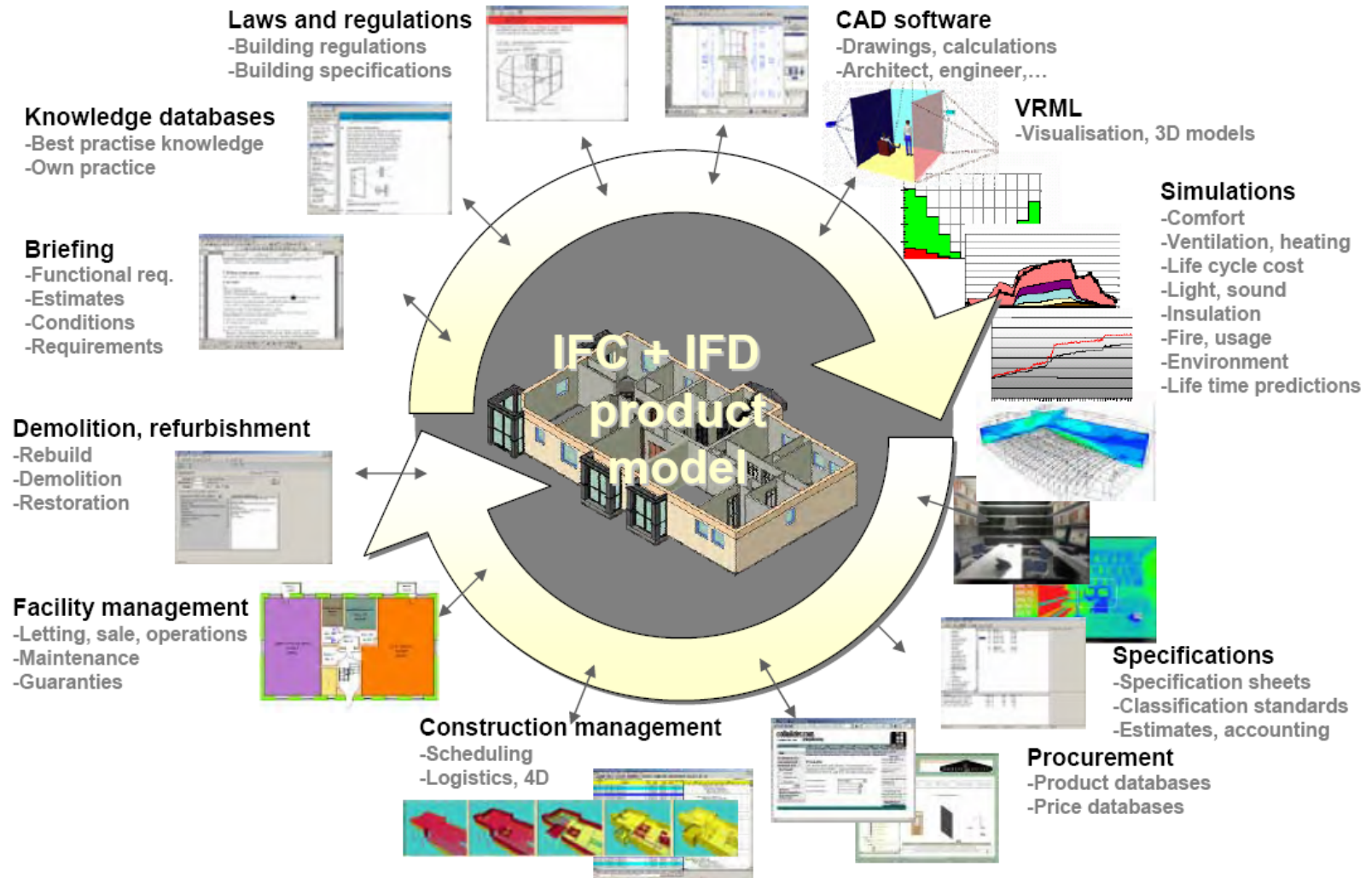
+

New workflow

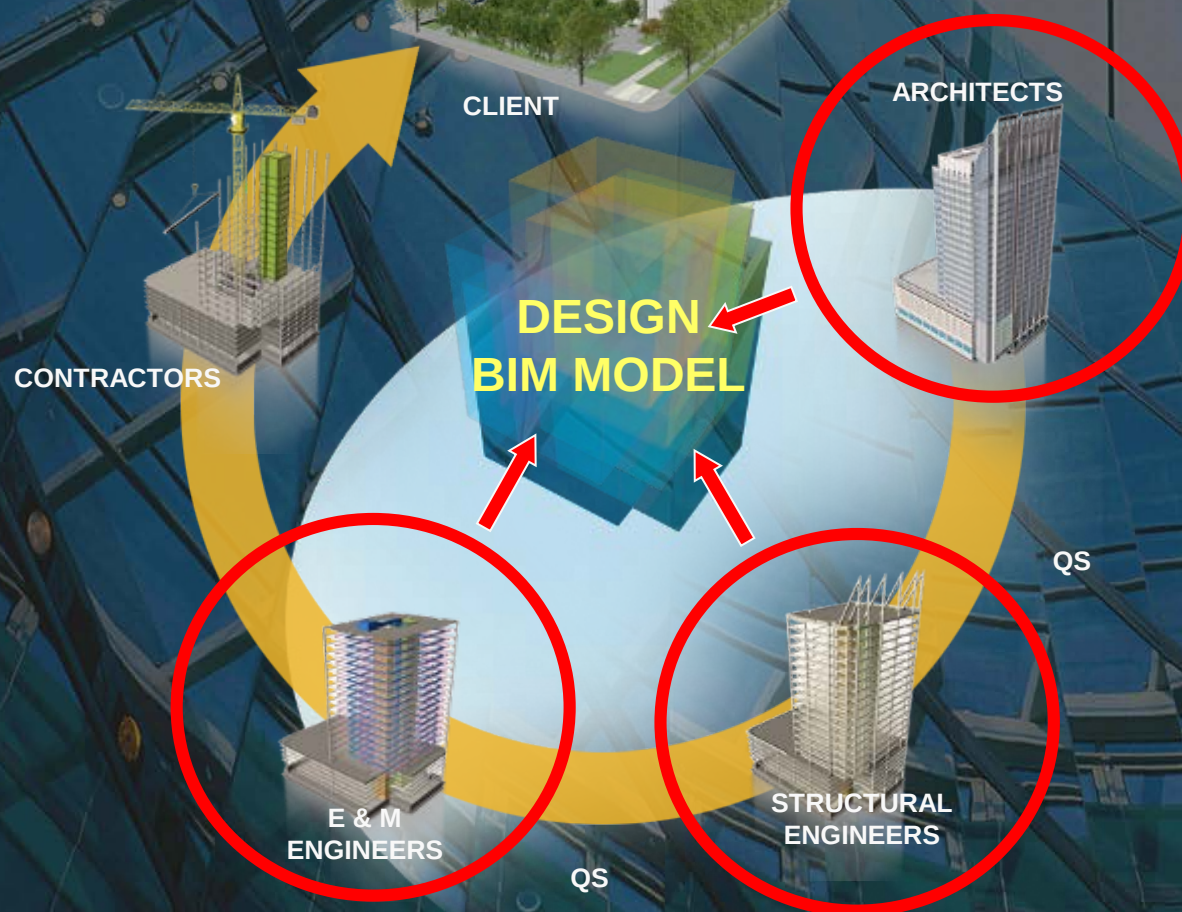




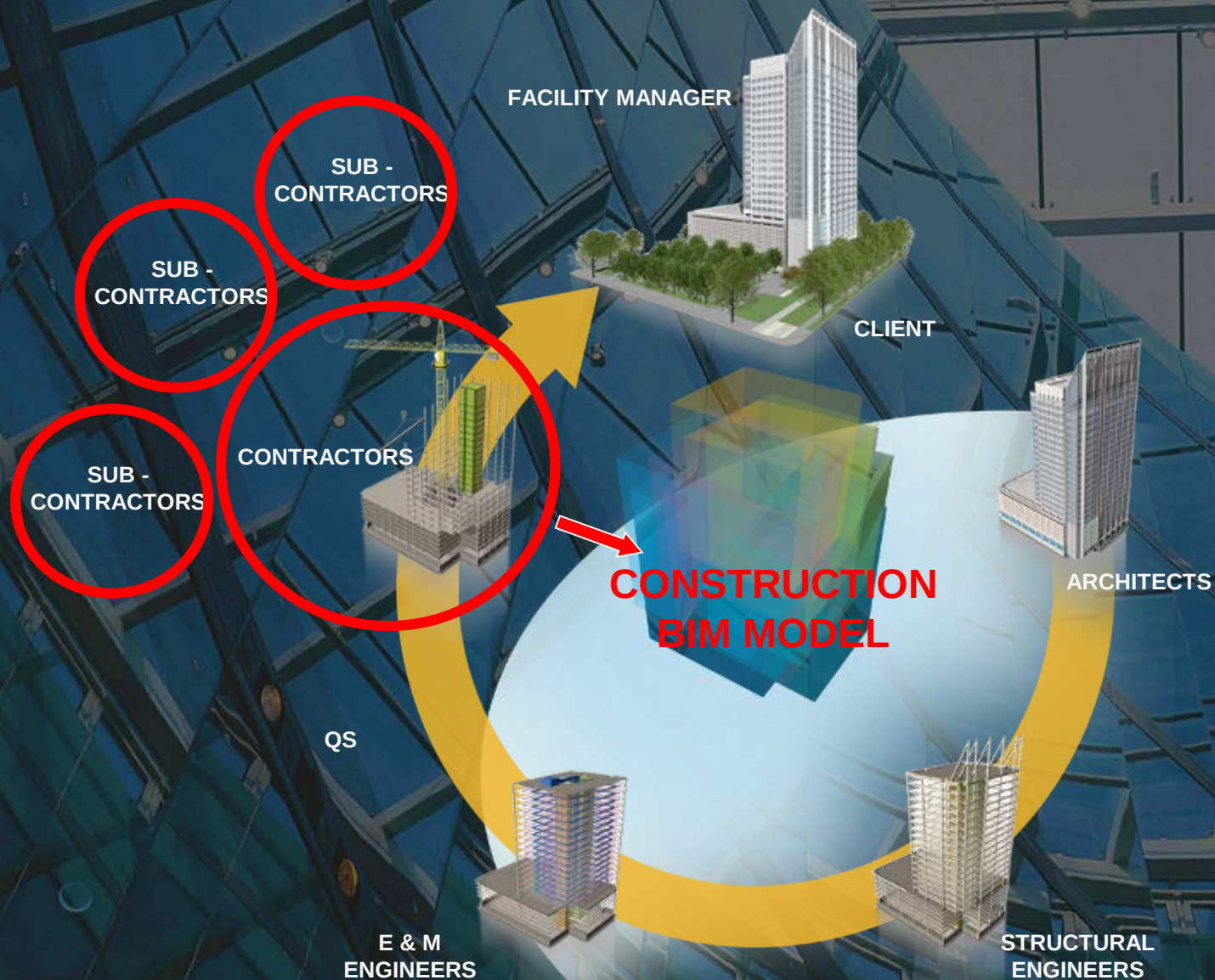
Tier 3 – Derived Lifecycle View



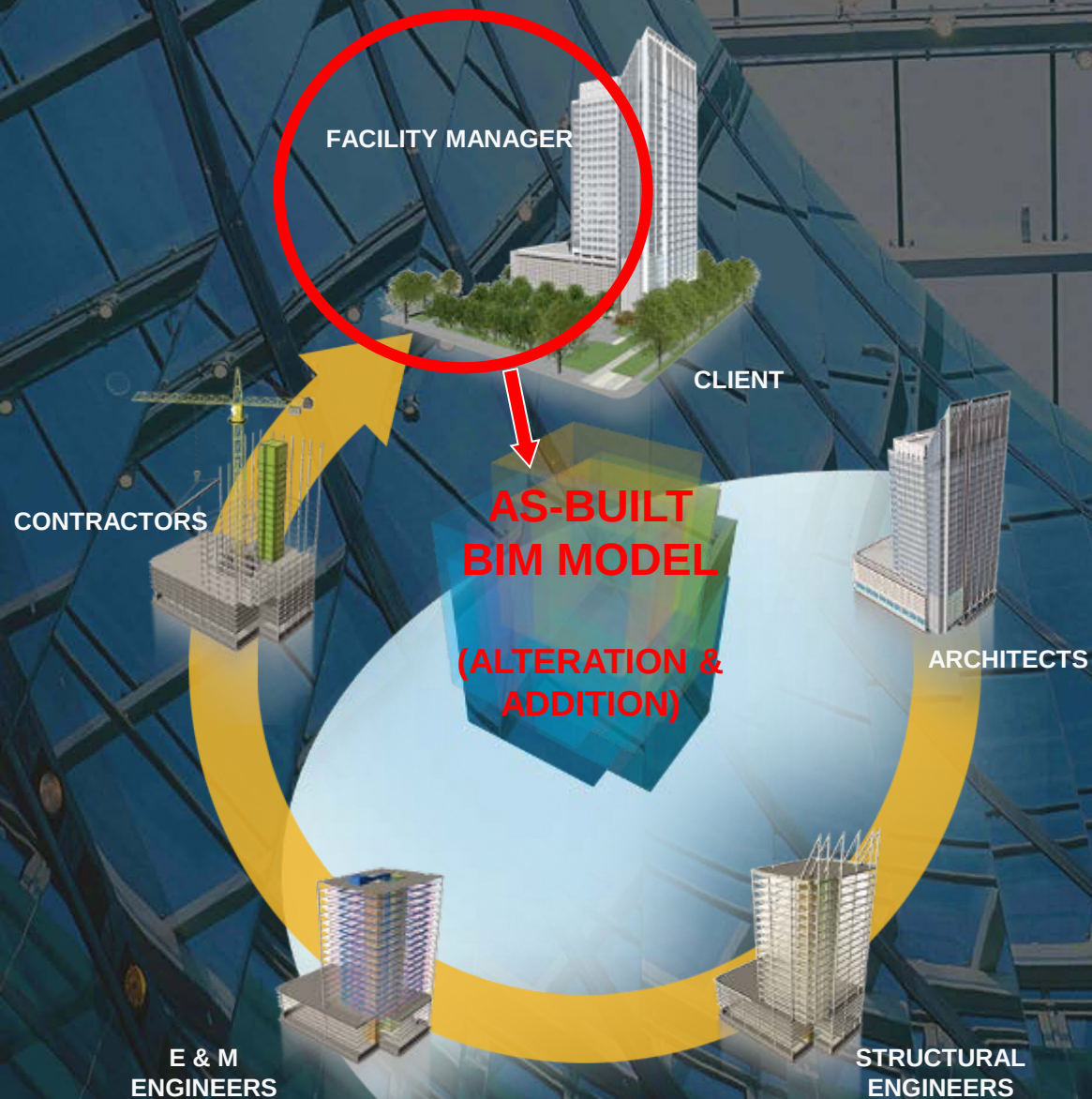
HOW BIM WORKS?



CONSTRUCTION BIM MODEL



AS BUILT BIM MODEL



Use of Building Information Modeling (BIM)

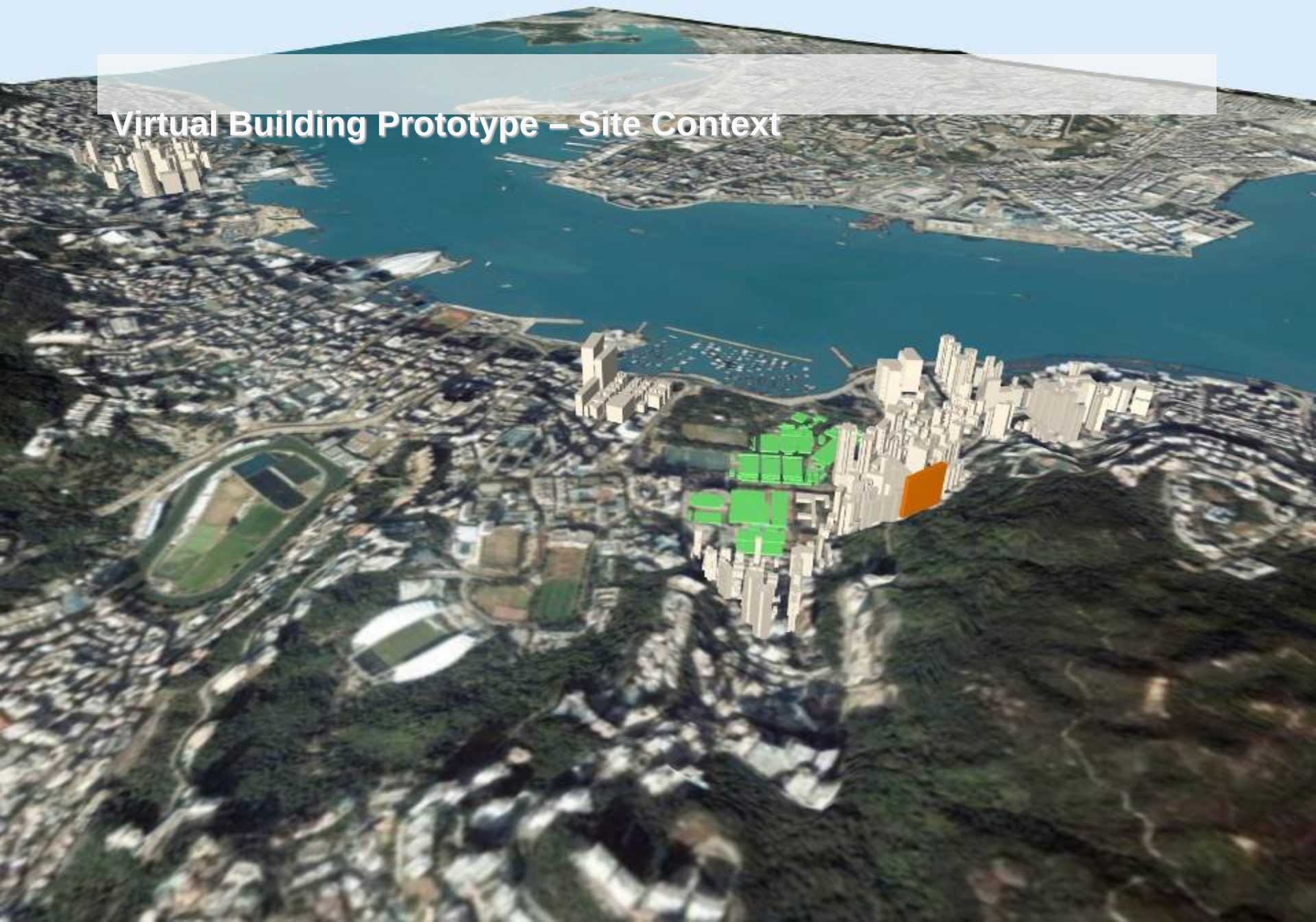
BIMの活用

1. **Design visualization** 設計の可視化
2. **Drawing Productions** 図面製作
3. **Services Co-ordination and Clash detection with other disciplines** 多部門との連携と干渉チェック
4. **Quantity taking and preparation of Tender Document** 数量拾い及び入札書類の作成
5. **Automated Statutory Submission** 確認申請図書作成の自動化
6. **Scientific analysis of different environmental aspects** 様々な環境解析
7. **Supply Chain Integration with the manufacturing and production** サプライヤとの連携
8. **Complex Geometry** 複雑な形状を実現可能

Use of Building Information Modeling (BIM)

1. **Design visualization** 設計の可視化
2. Drawing Productions
3. Services Co-ordination and Clash detection with other disciplines
4. Quantity taking and preparation of Tender Document
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Virtual Building Prototype – Site Context



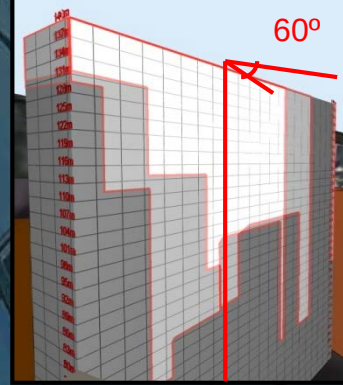
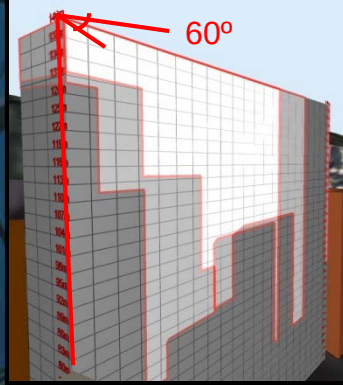
Views from: 140m

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

140m



140m

135m

130m

125m

120m

115m

110m

105m

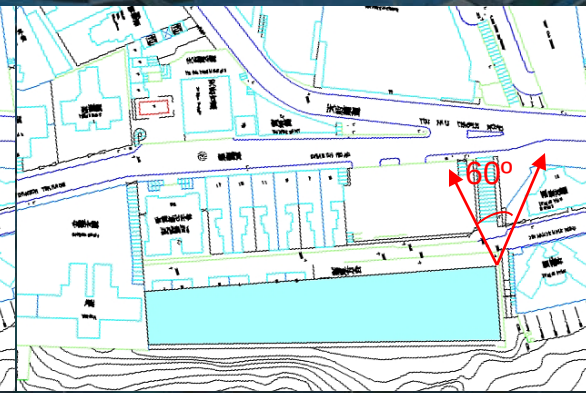
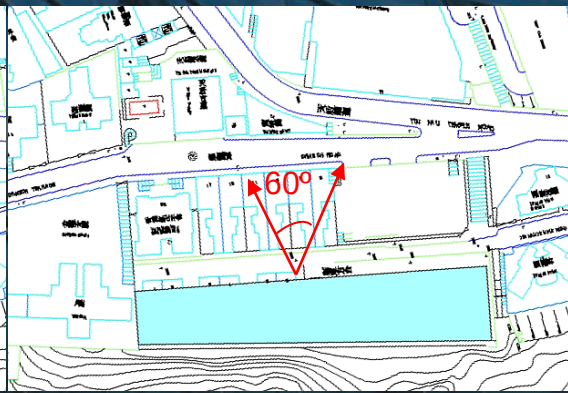
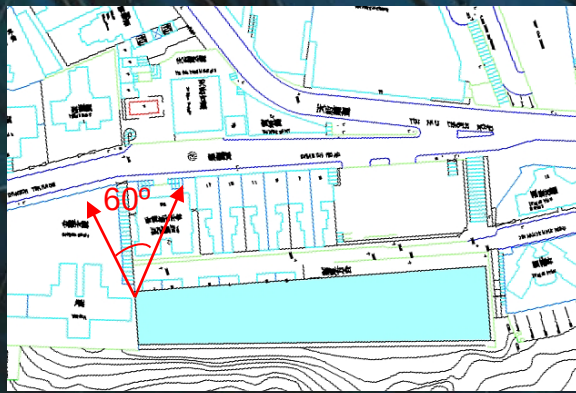
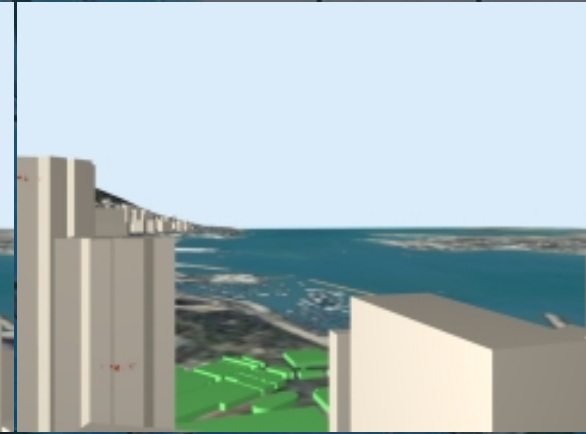
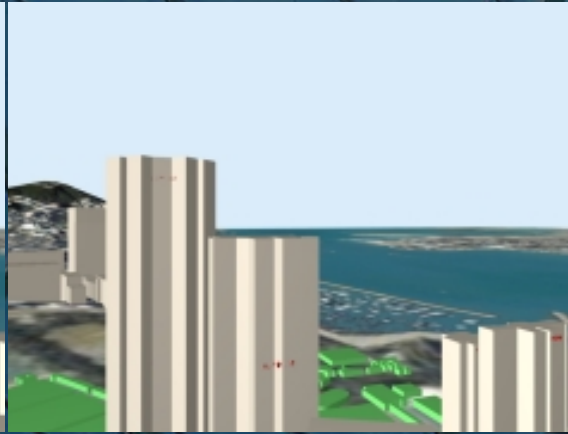
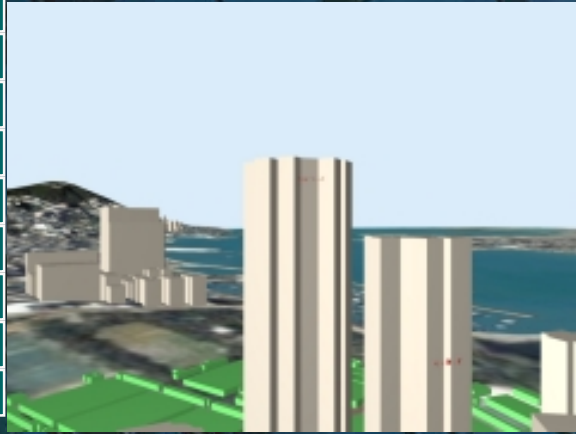
100m

95m

90m

85m

80m



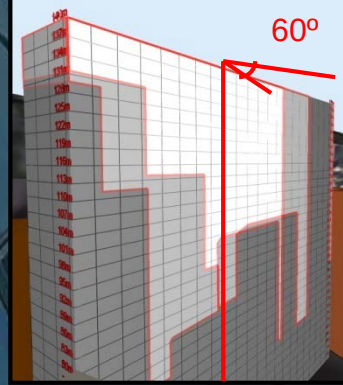
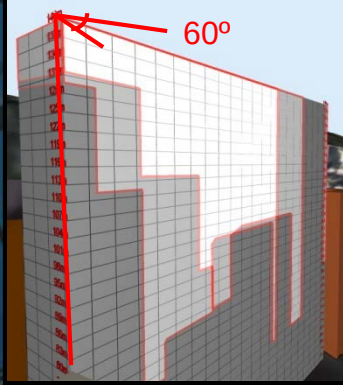
Views from: 135m

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

135m



140m

135m

130m

125m

120m

115m

110m

105m

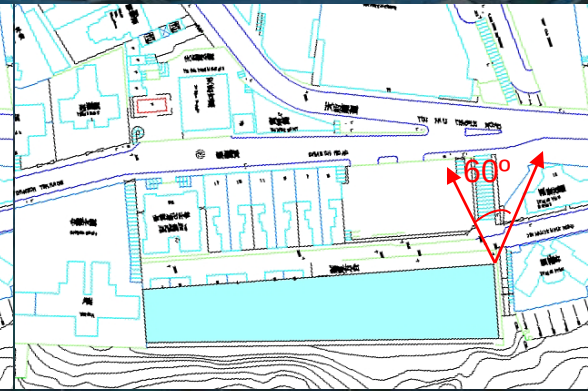
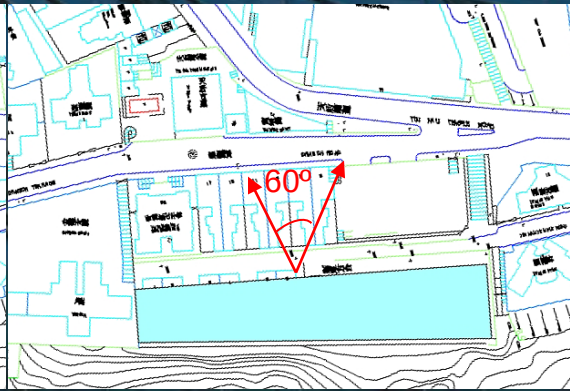
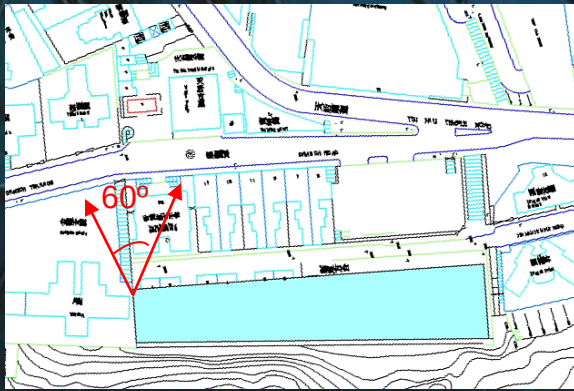
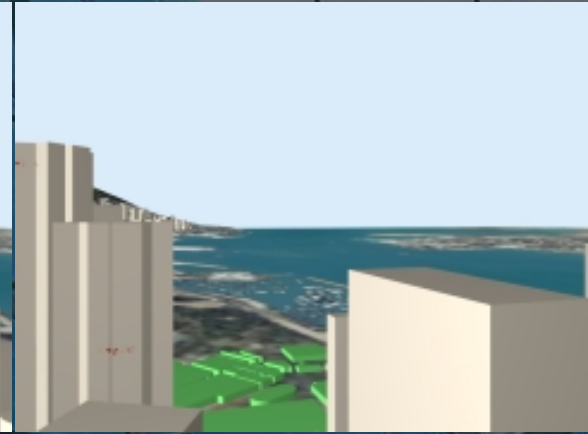
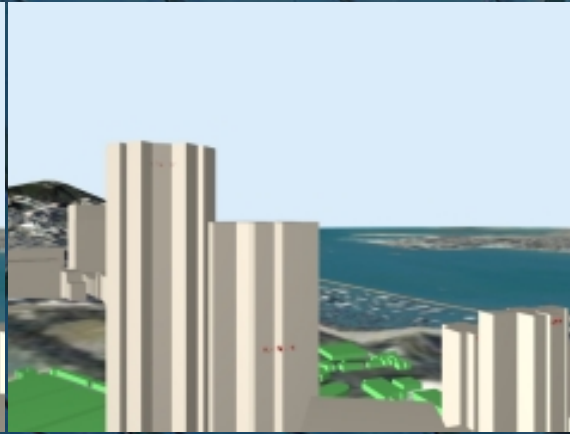
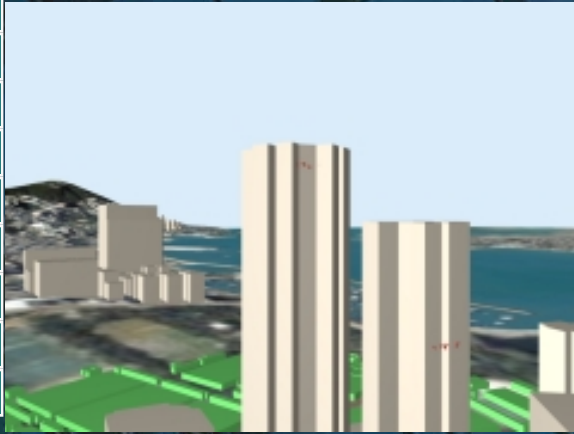
100m

95m

90m

85m

80m



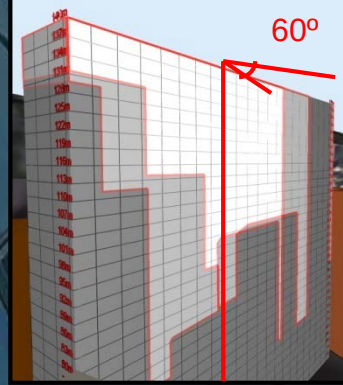
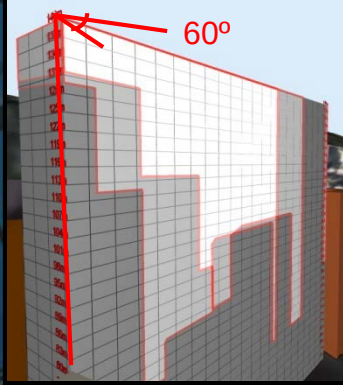
Views from: 130m

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

130m



140m

135m

130m

125m

120m

115m

110m

105m

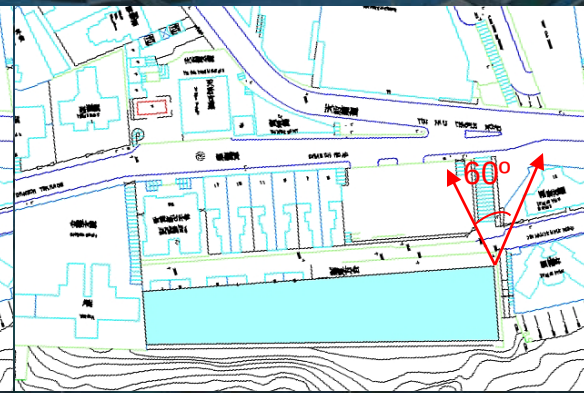
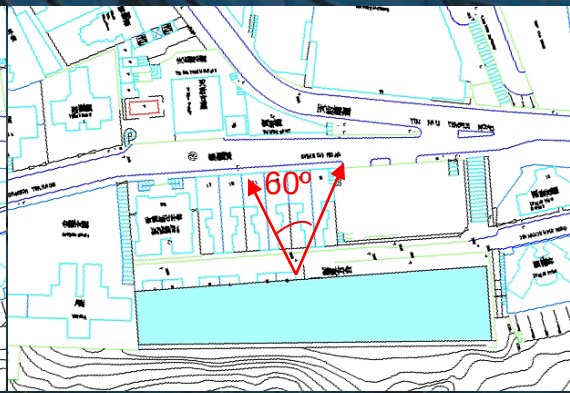
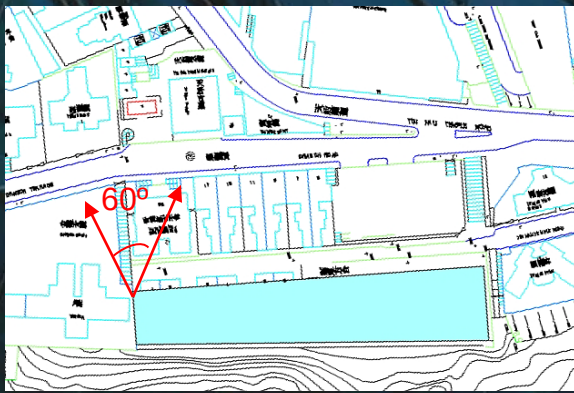
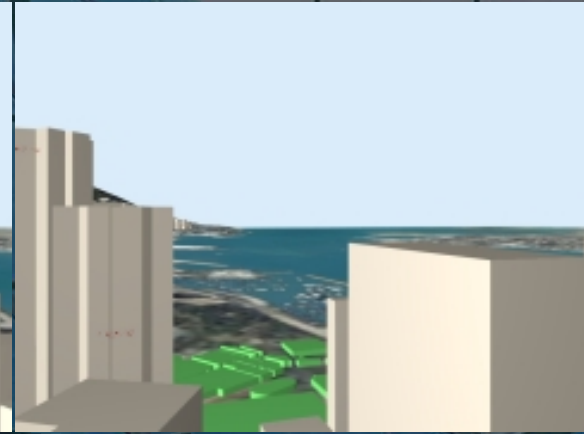
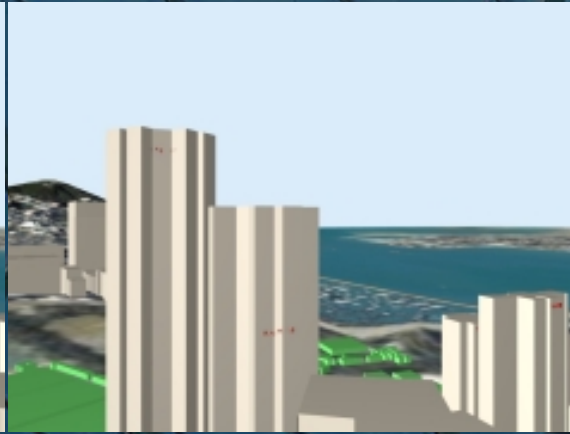
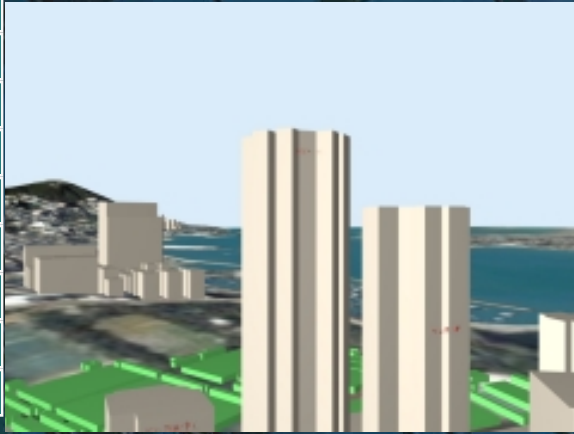
100m

95m

90m

85m

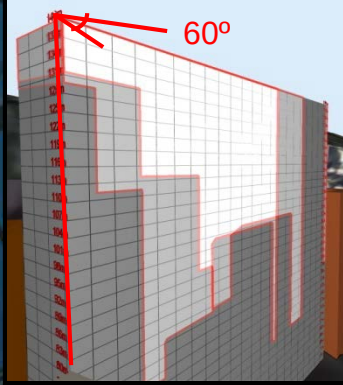
80m



Views from: 125m

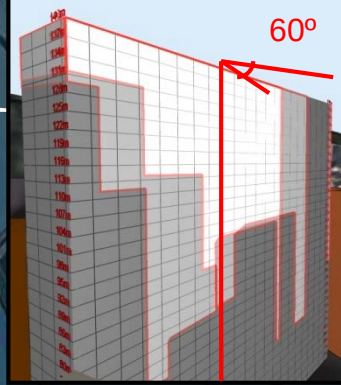
Tin Hau Temple Road No.1

125m



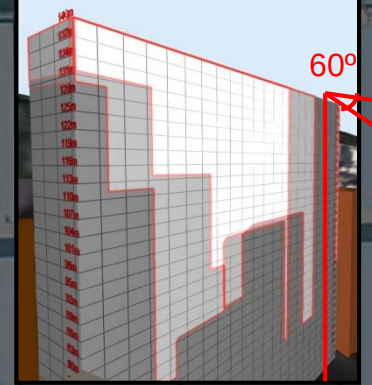
Tin Hau Temple Road No.1

1



Tin Hau Temple Road No.1

60°



140m

135m

130m

125m

120m

115m

110m

105m

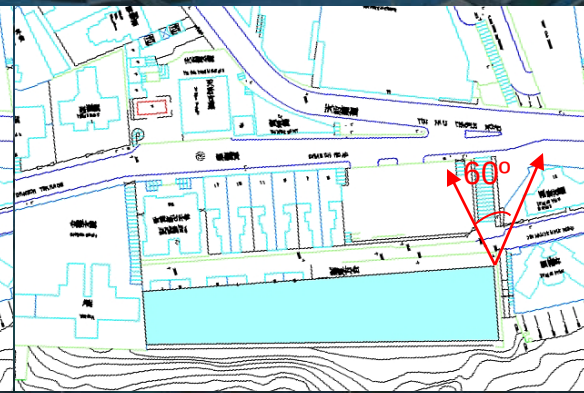
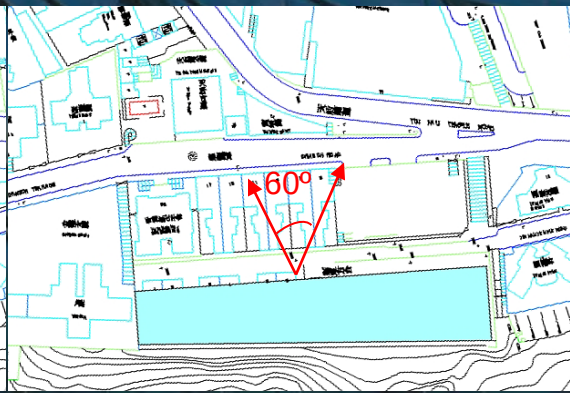
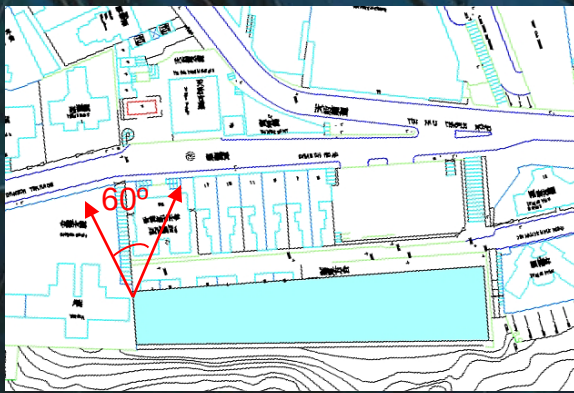
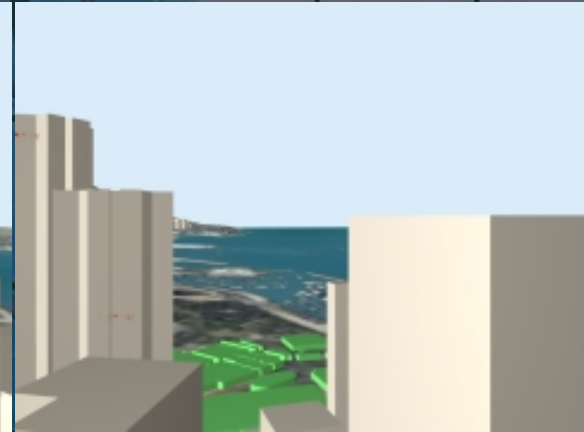
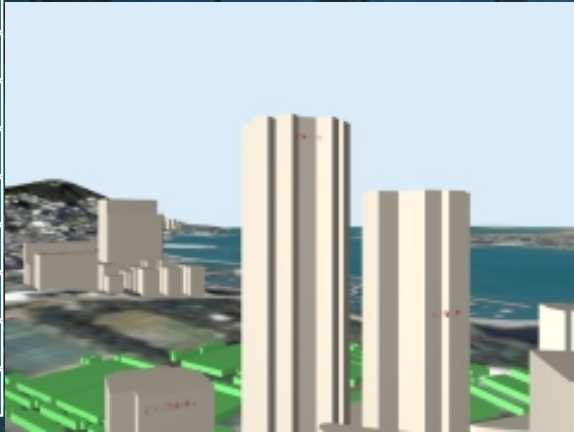
100m

95m

90m

85m

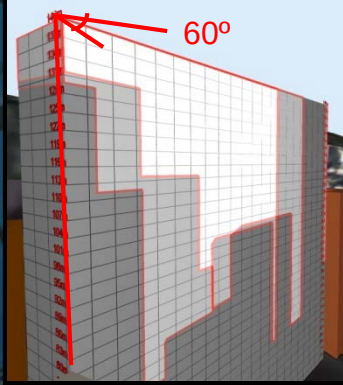
80m



Views from: 120m

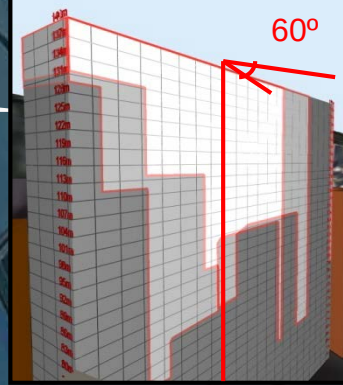
Tin Hau Temple Road No.1

120m



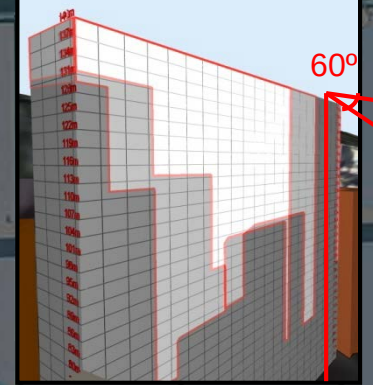
Tin Hau Temple Road No.1

1



Tin Hau Temple Road No.1

60°



140m

135m

130m

125m

120m

115m

110m

105m

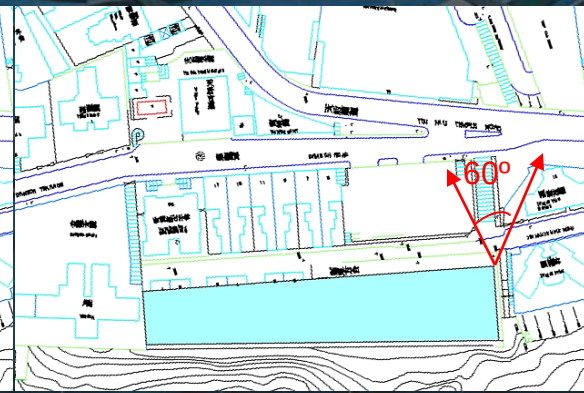
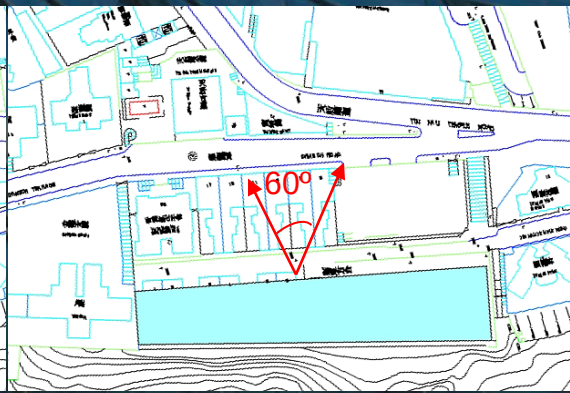
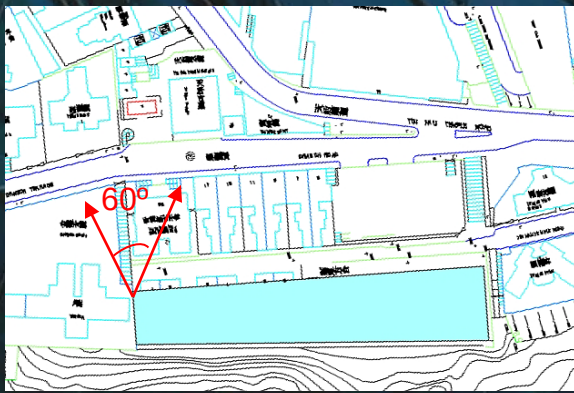
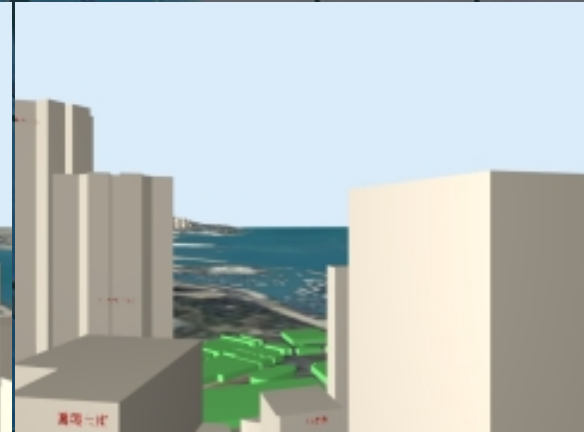
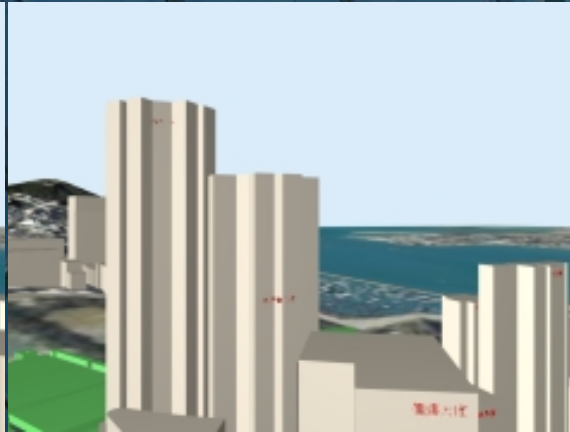
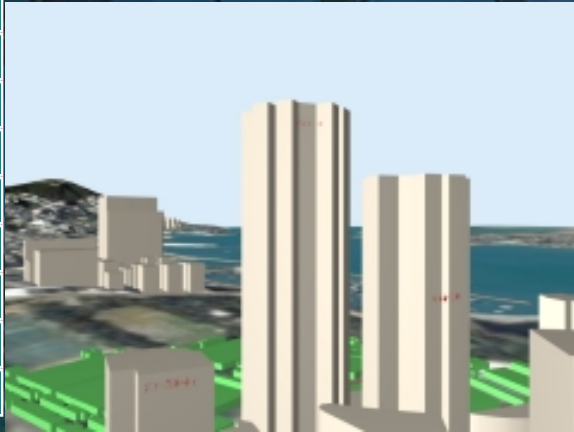
100m

95m

90m

85m

80m



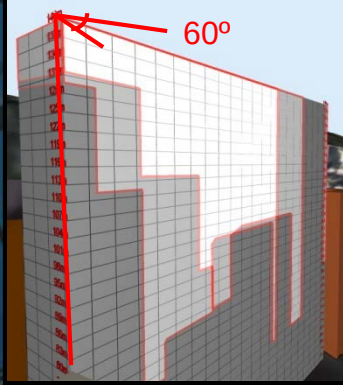
Views from: 115m

Tin Hau Temple Road No.1

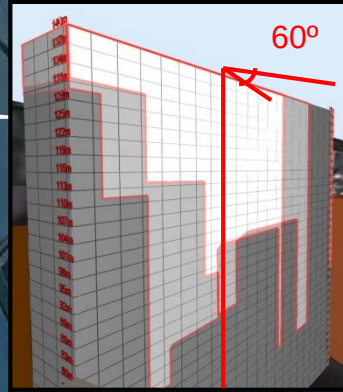
Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

115m



1



140m

135m

130m

125m

120m

115m

110m

105m

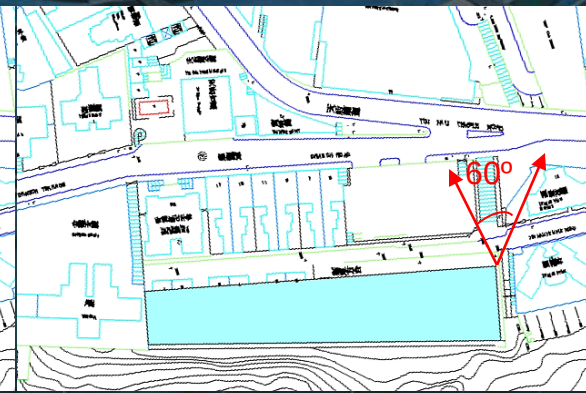
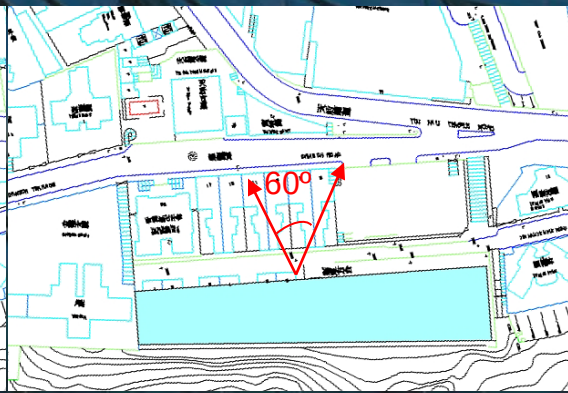
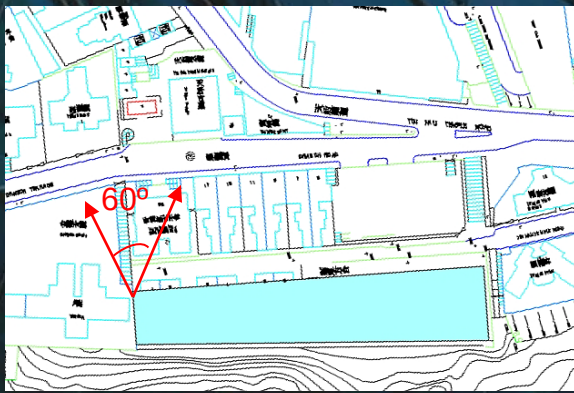
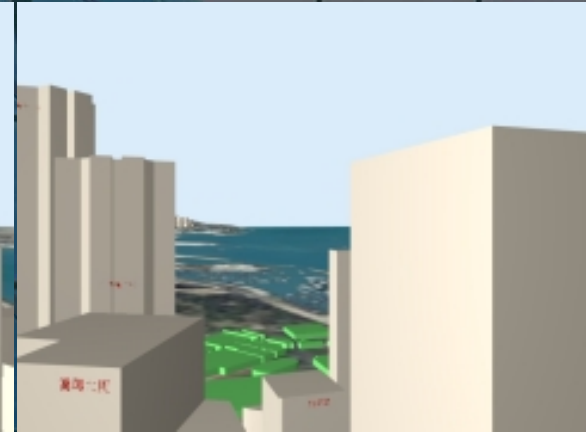
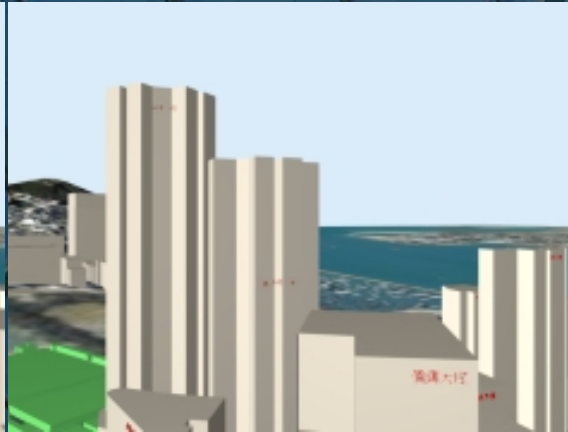
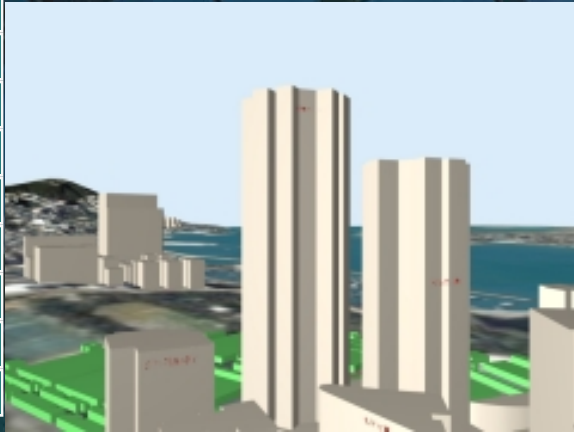
100m

95m

90m

85m

80m



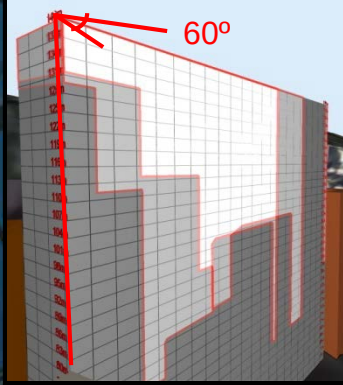
Views from: 110m

Tin Hau Temple Road No.1

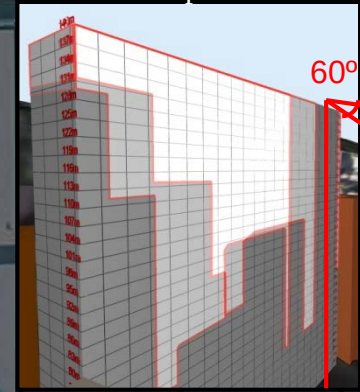
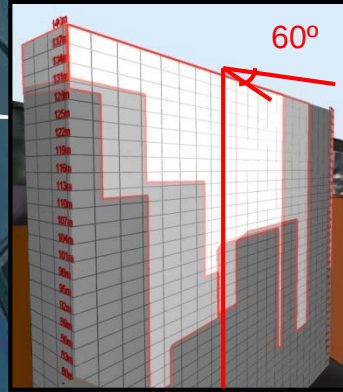
Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

110m



1



140m

135m

130m

125m

120m

115m

110m

105m

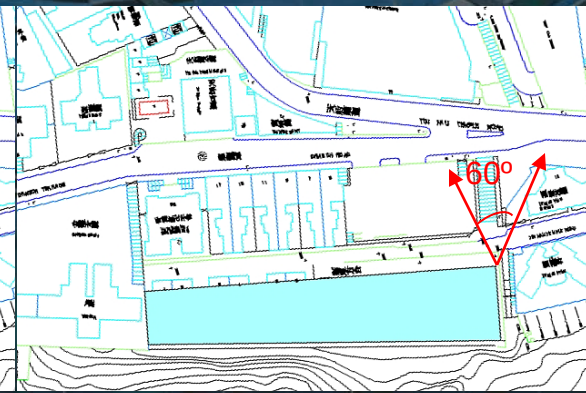
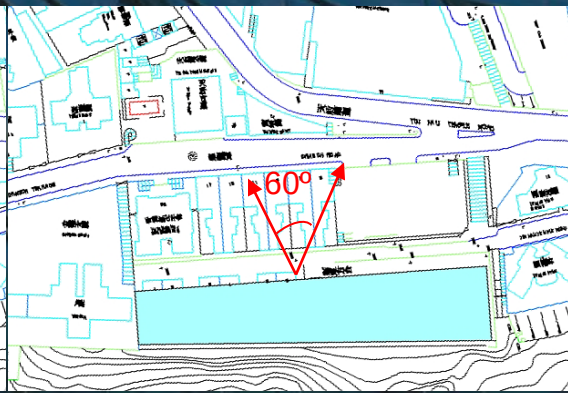
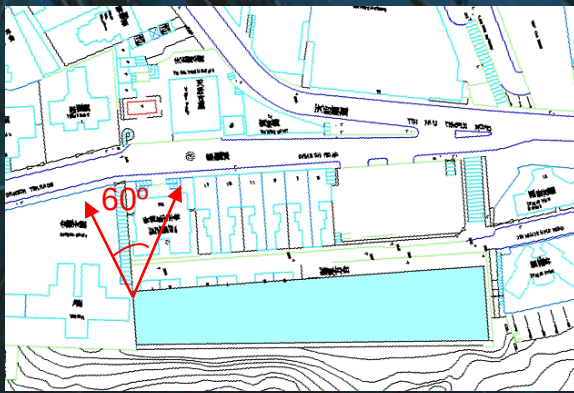
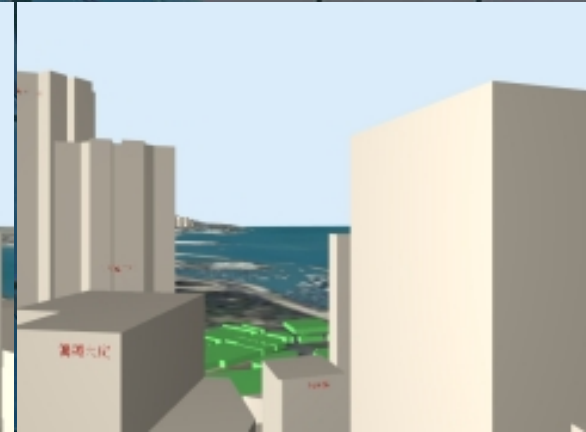
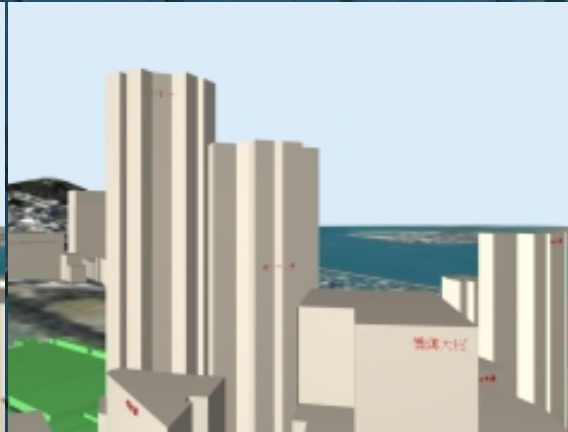
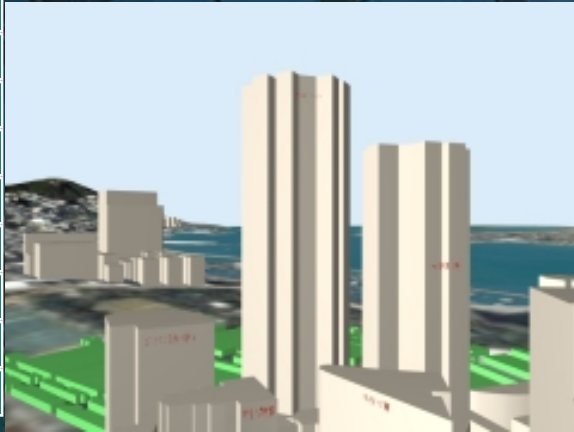
100m

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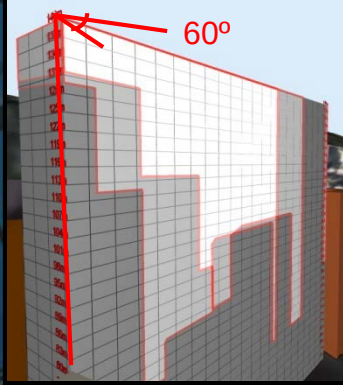
Views from: 105m

Tin Hau Temple Road No.1

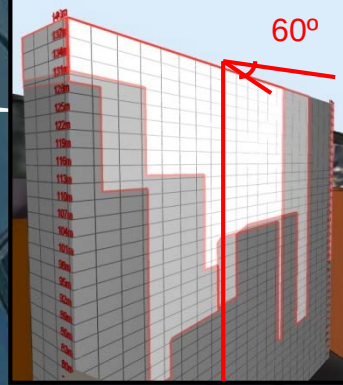
Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

105m



1



140m

135m

130m

125m

120m

115m

110m

105m

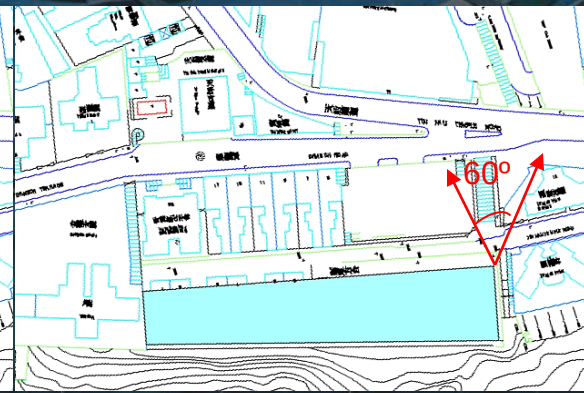
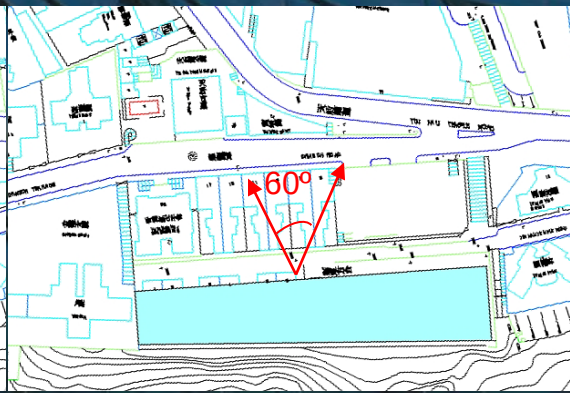
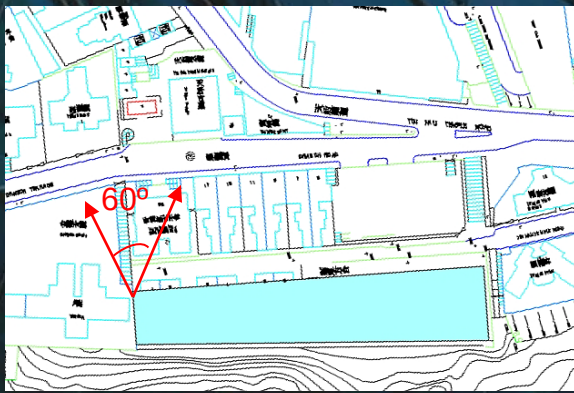
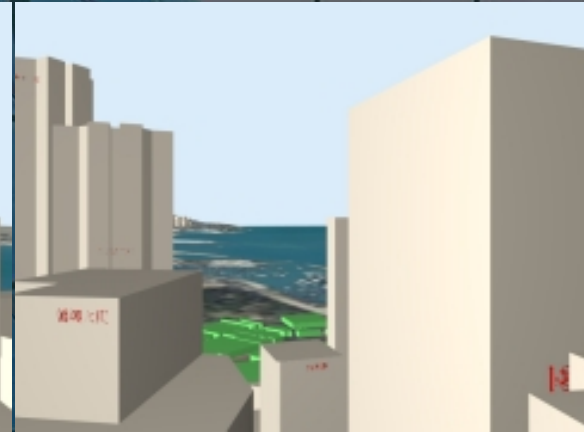
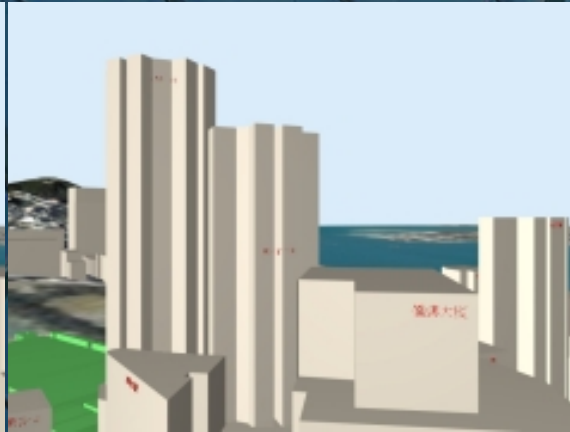
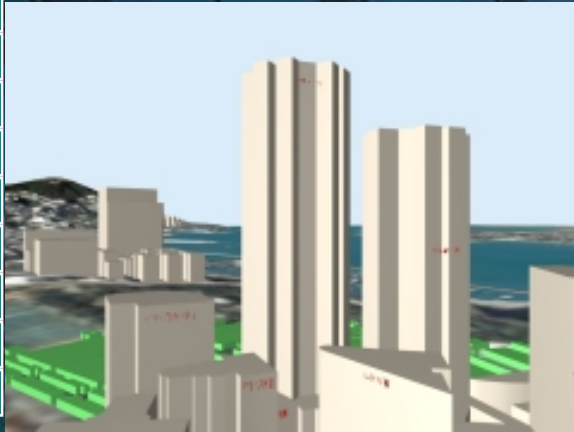
100m

95m

90m

85m

80m



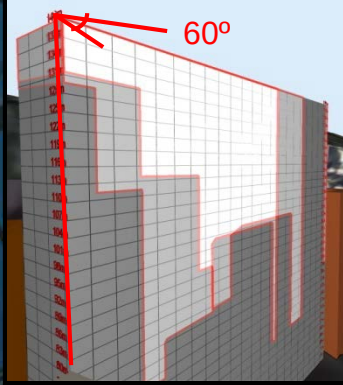
Views from: 100m

Tin Hau Temple Road No.1

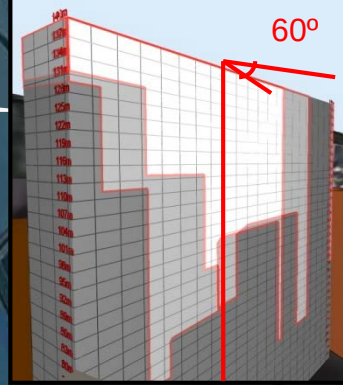
Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

100m



1



140m

135m

130m

125m

120m

115m

110m

105m

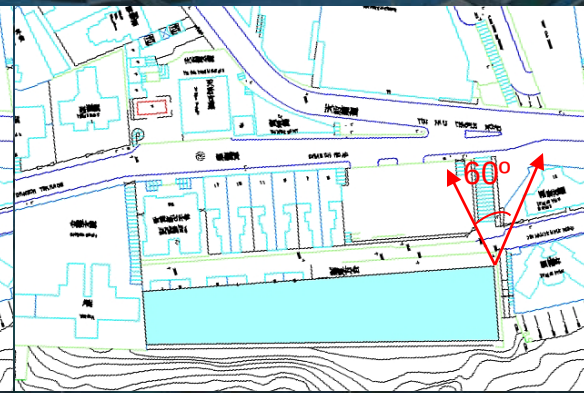
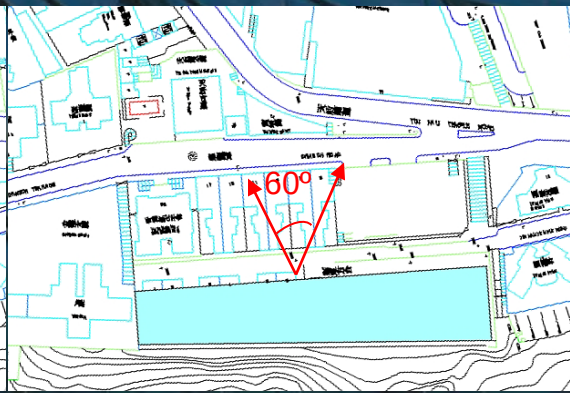
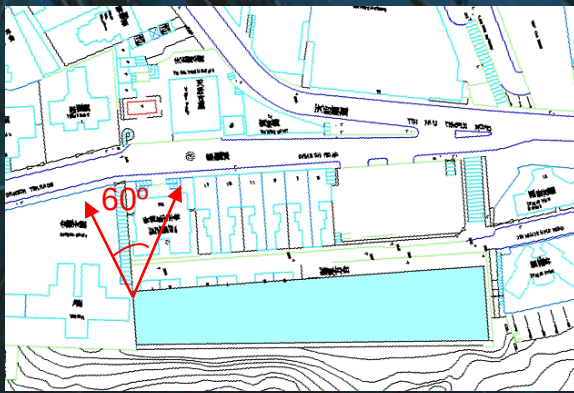
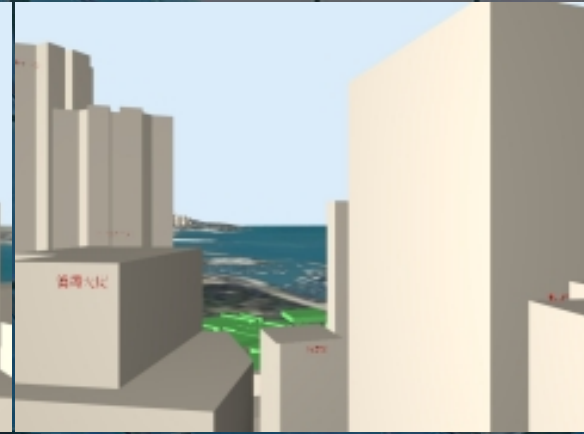
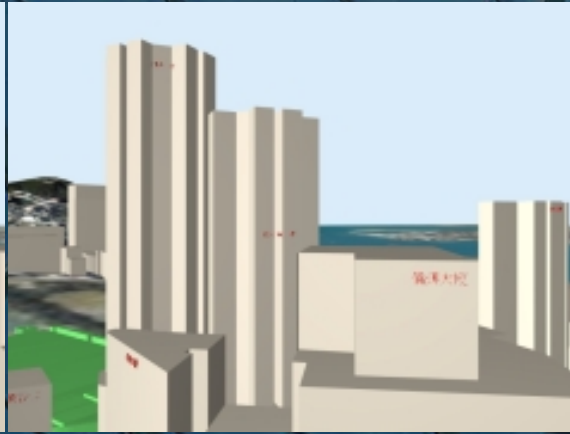
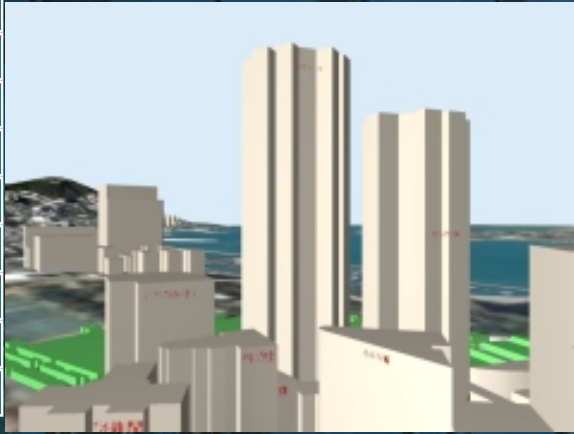
100m

95m

90m

85m

80m



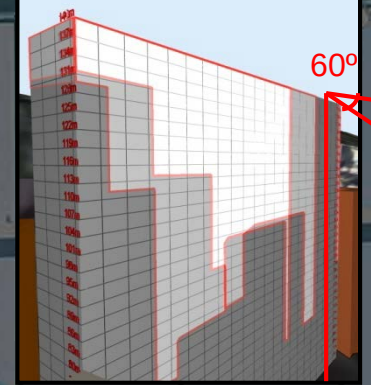
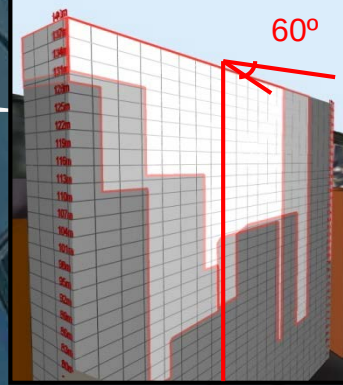
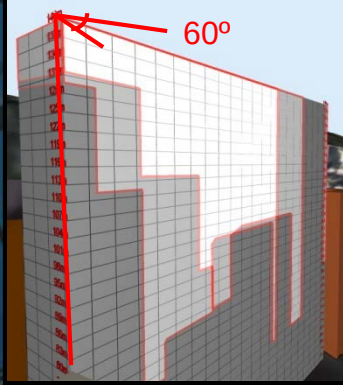
Views from: 95m

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

95m



140m

135m

130m

125m

120m

115m

110m

105m

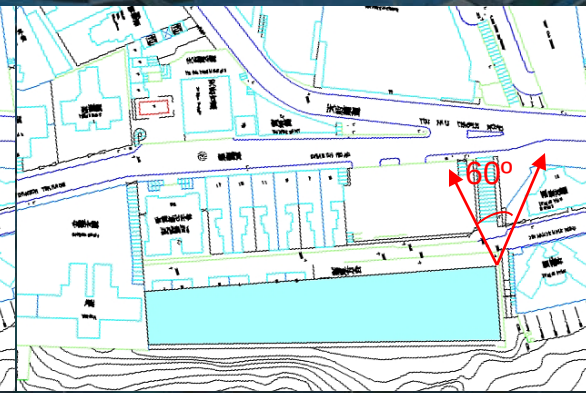
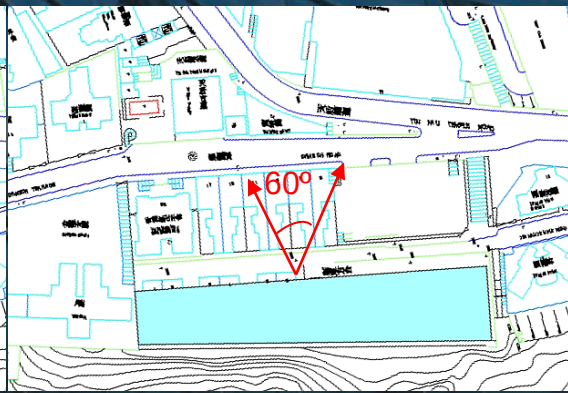
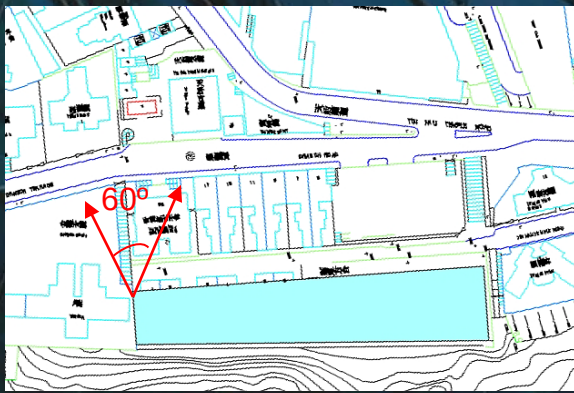
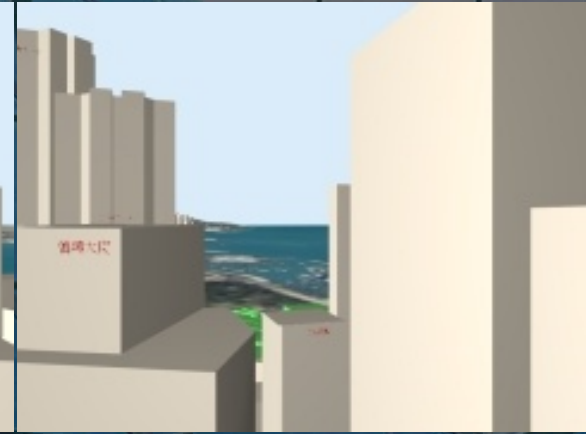
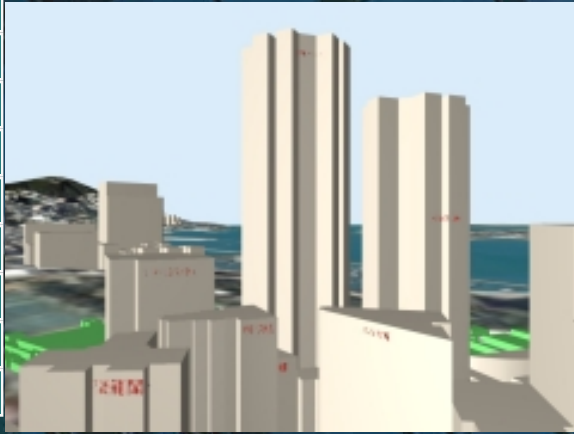
100m

95m

90m

85m

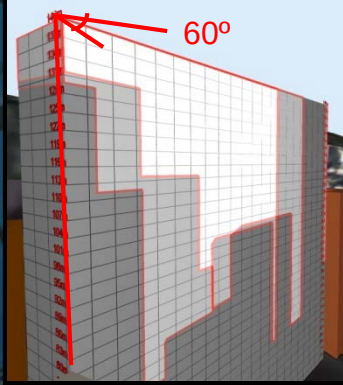
80m



Views from: 90m

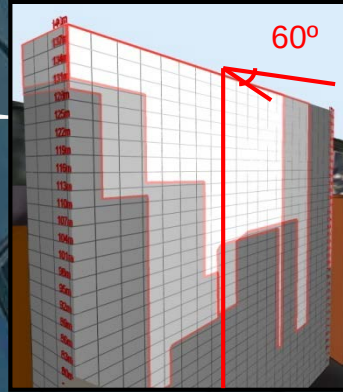
Tin Hau Temple Road No.1

90m



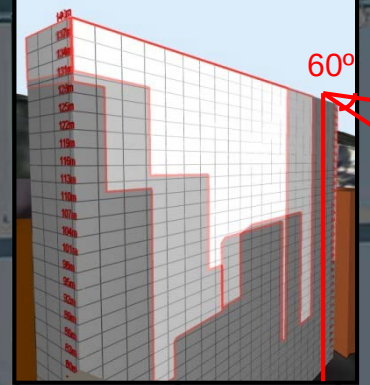
Tin Hau Temple Road No.1

1



Tin Hau Temple Road No.1

60°



140m

135m

130m

125m

120m

115m

110m

105m

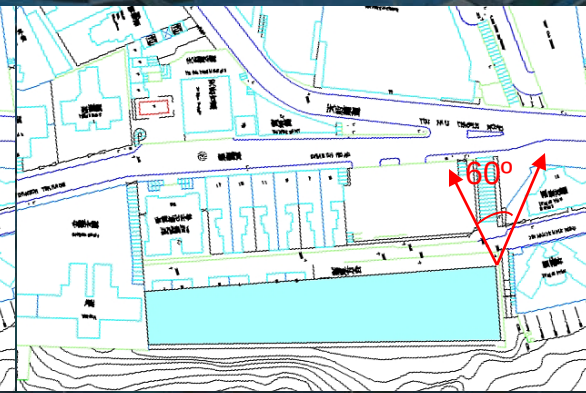
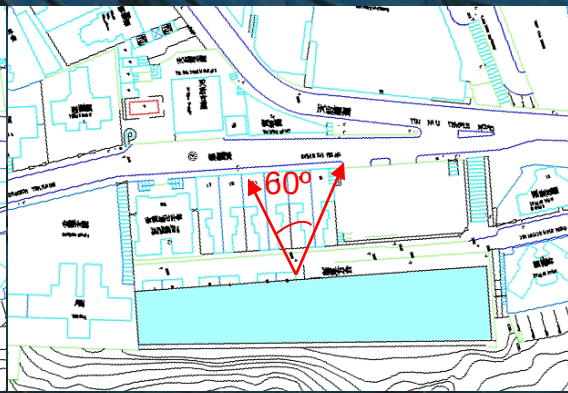
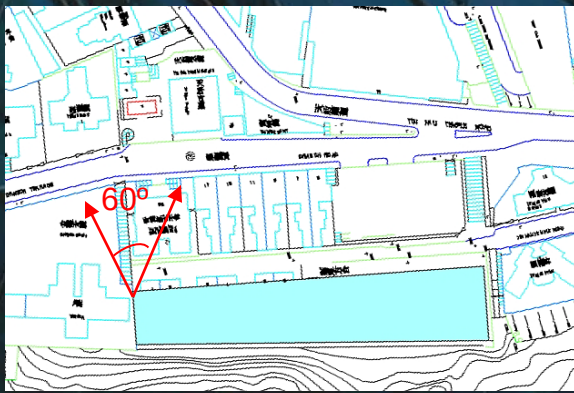
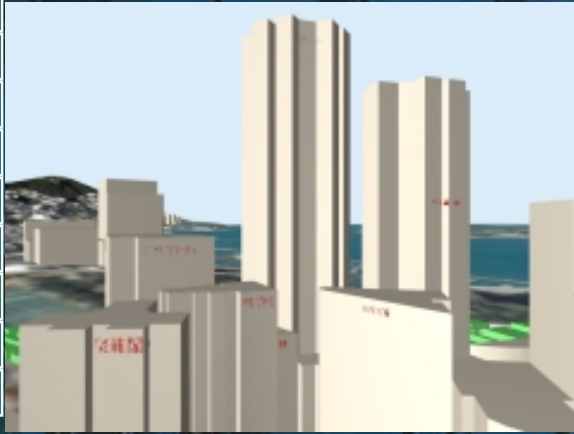
100m

95m

90m

85m

80m



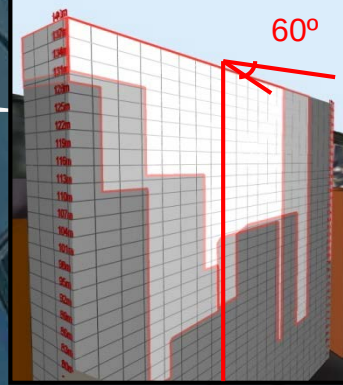
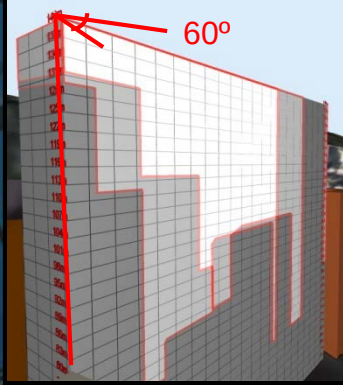
Views from: 85m

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

Tin Hau Temple Road No.1

85m



140m

135m

130m

125m

120m

115m

110m

105m

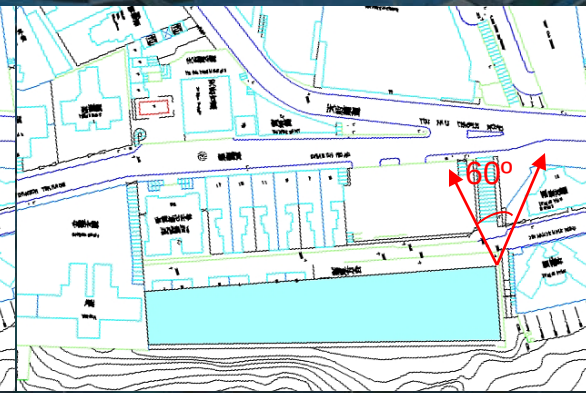
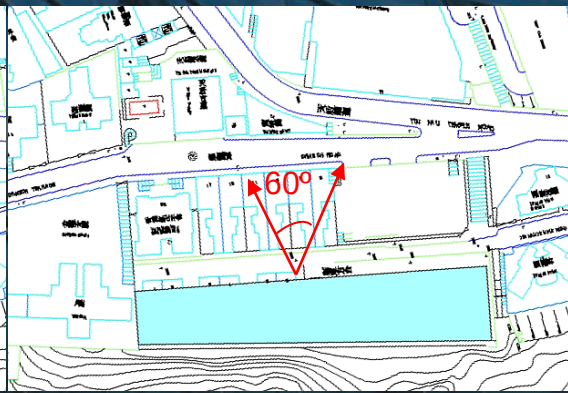
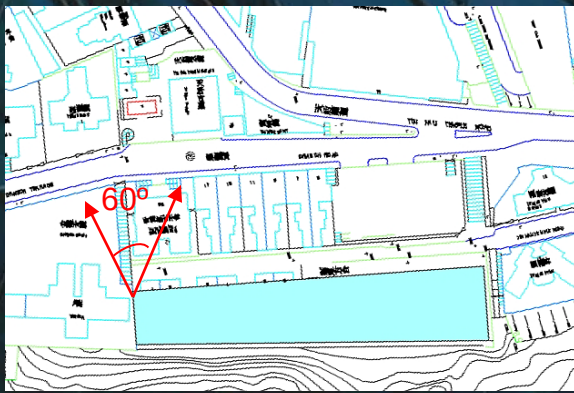
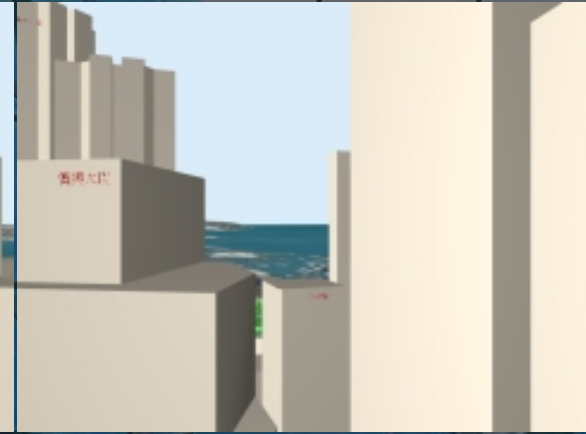
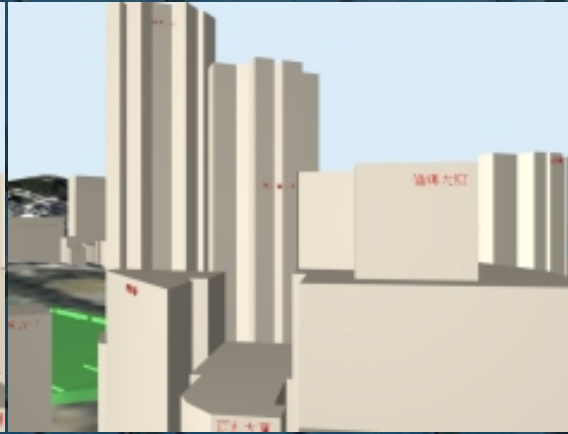
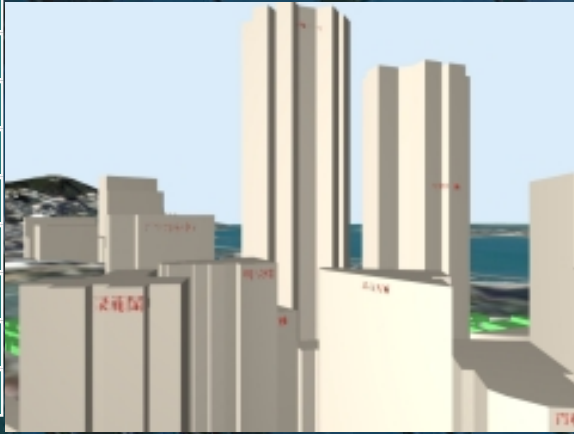
100m

95m

90m

85m

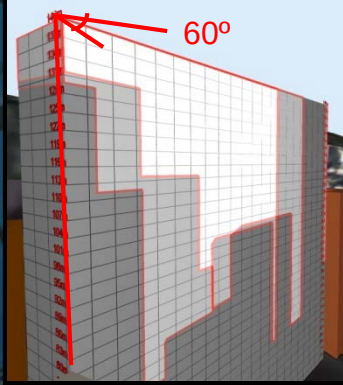
80m



Views from: 80m

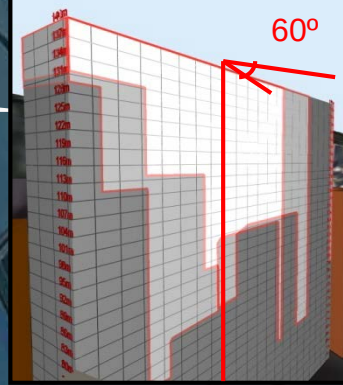
Tin Hau Temple Road No.1

80m



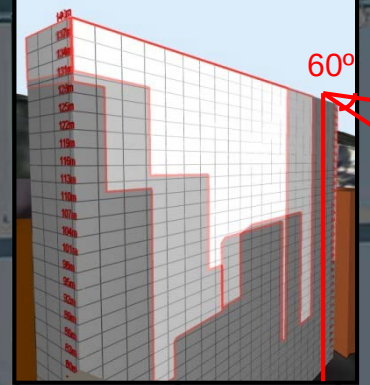
Tin Hau Temple Road No.1

1



Tin Hau Temple Road No.1

60°



140m

135m

130m

125m

120m

115m

110m

105m

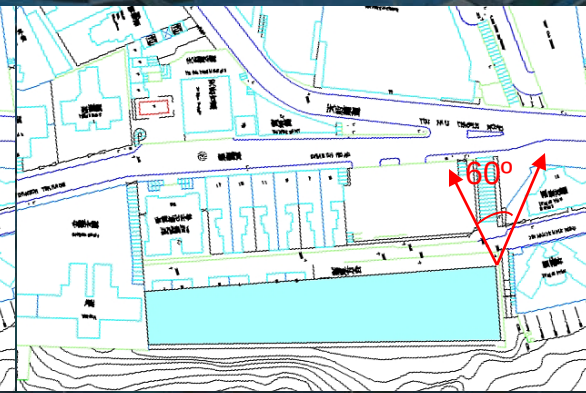
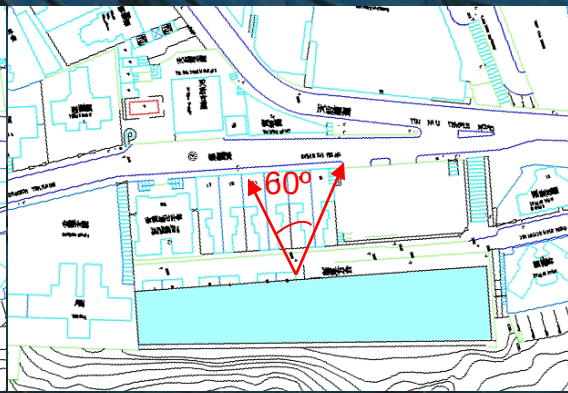
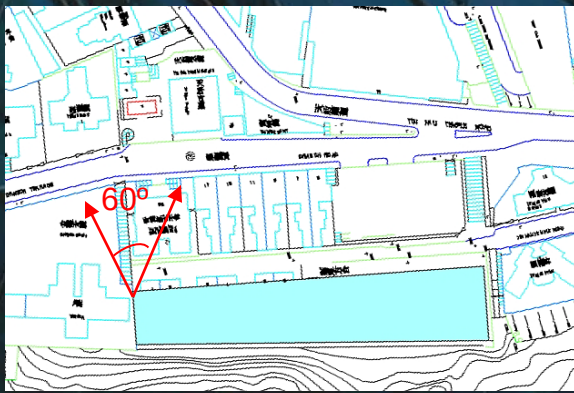
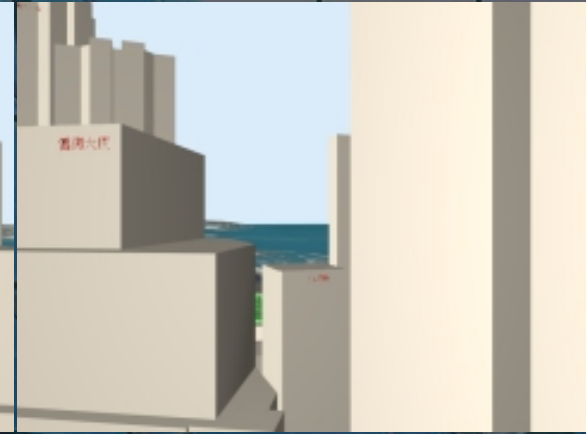
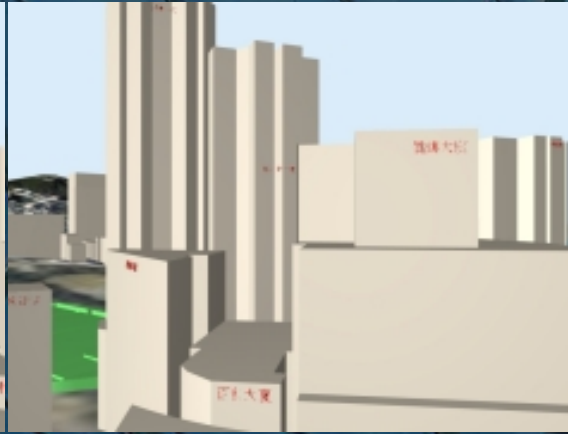
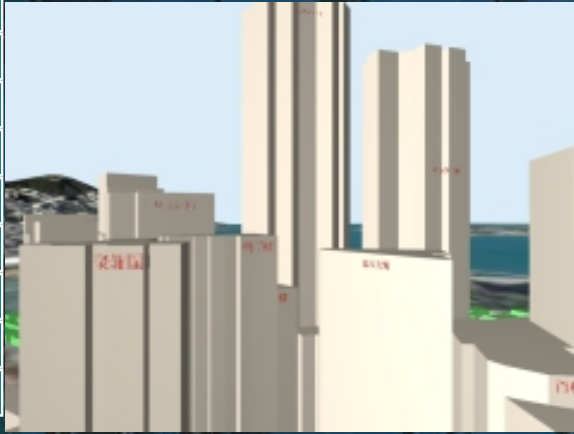
100m

95m

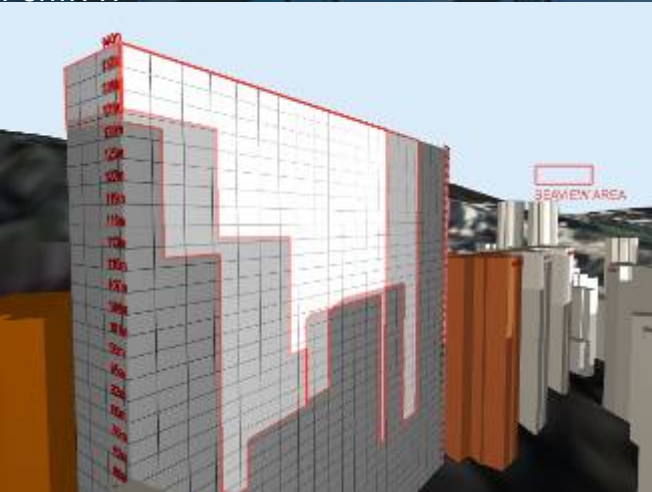
90m

85m

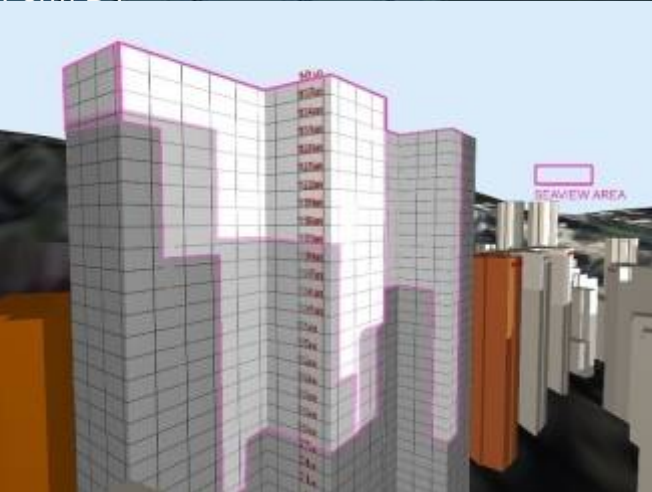
80m



Form A :



Form B :

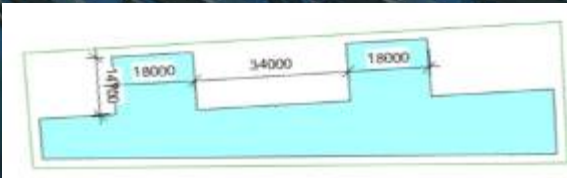
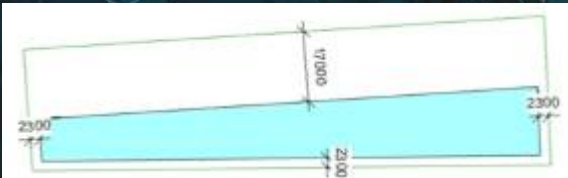
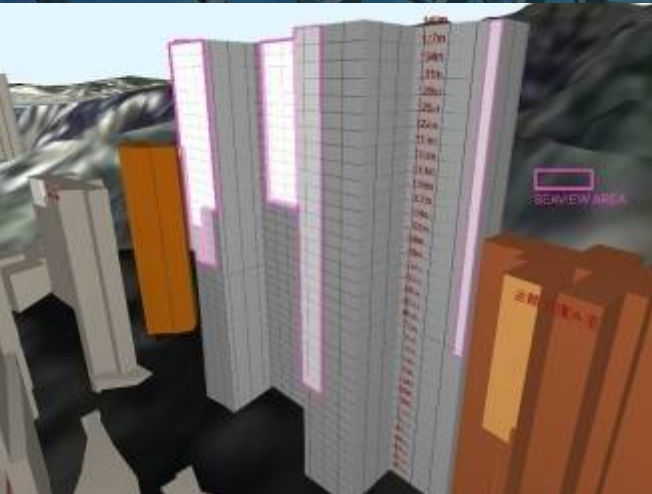
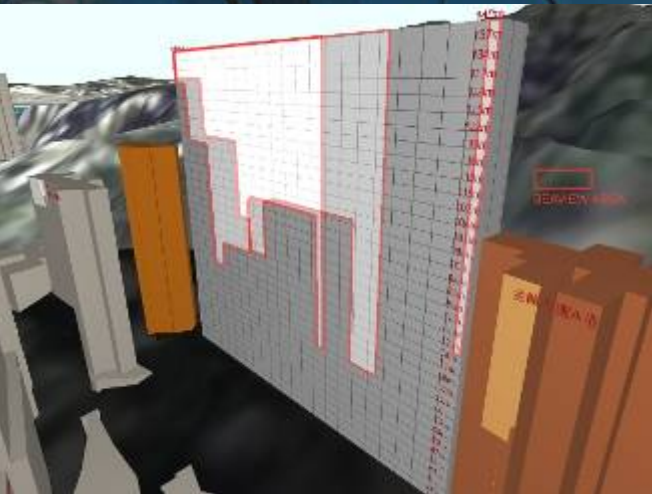


Form A

Sea View Area

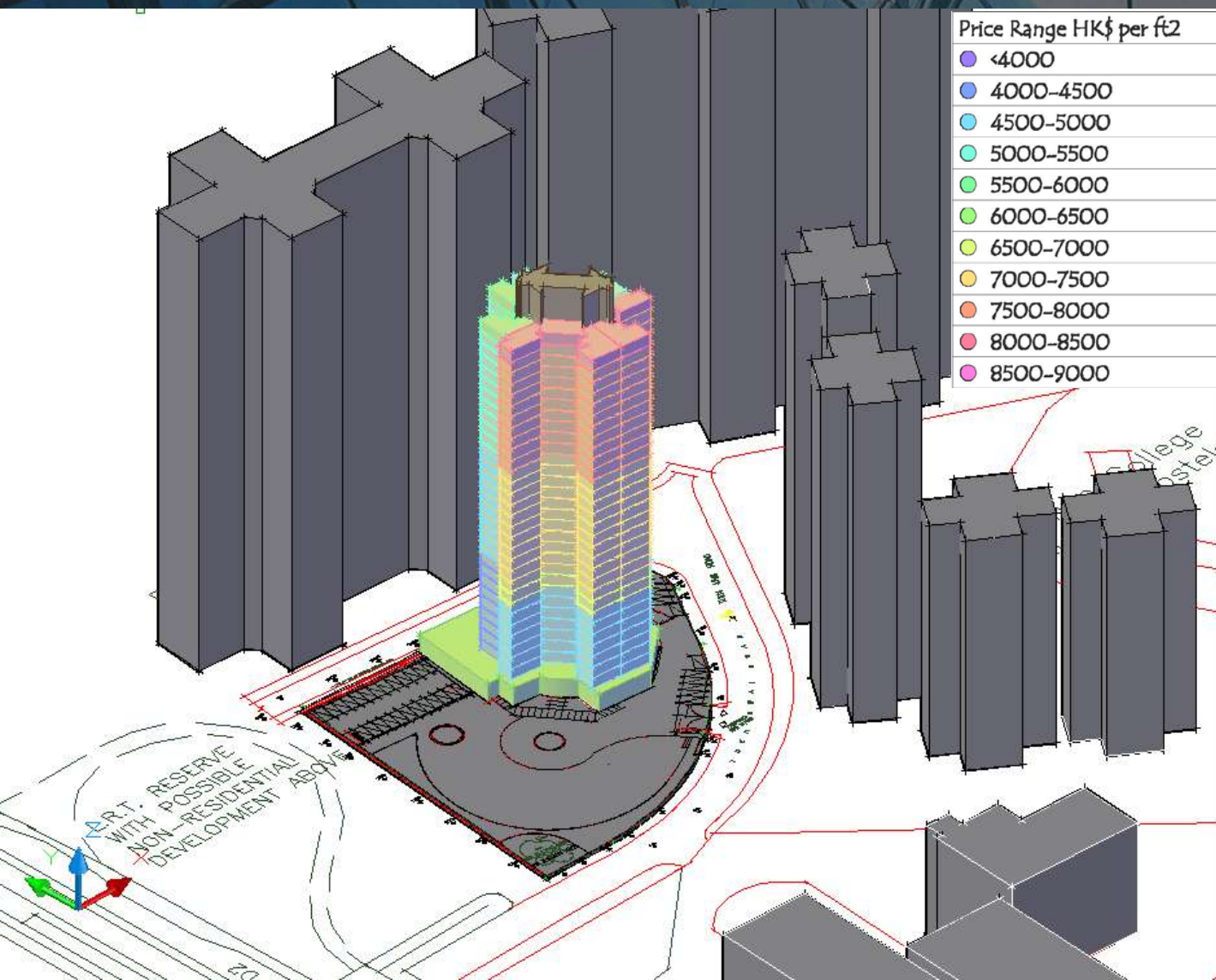
Form B

Sea View Area



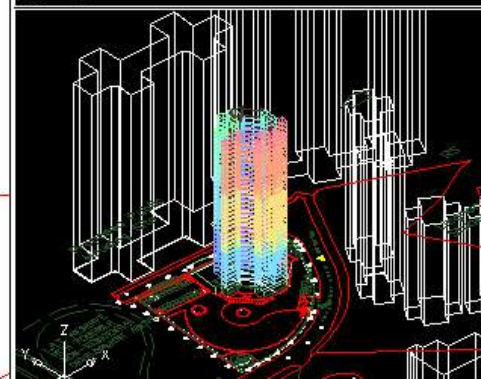
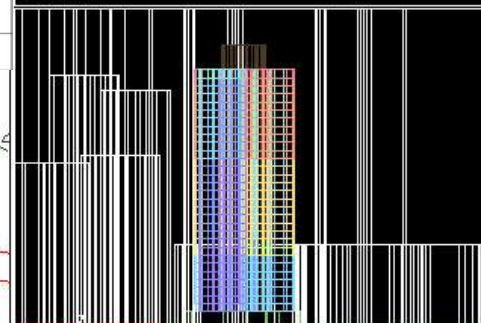
可研通設計平台

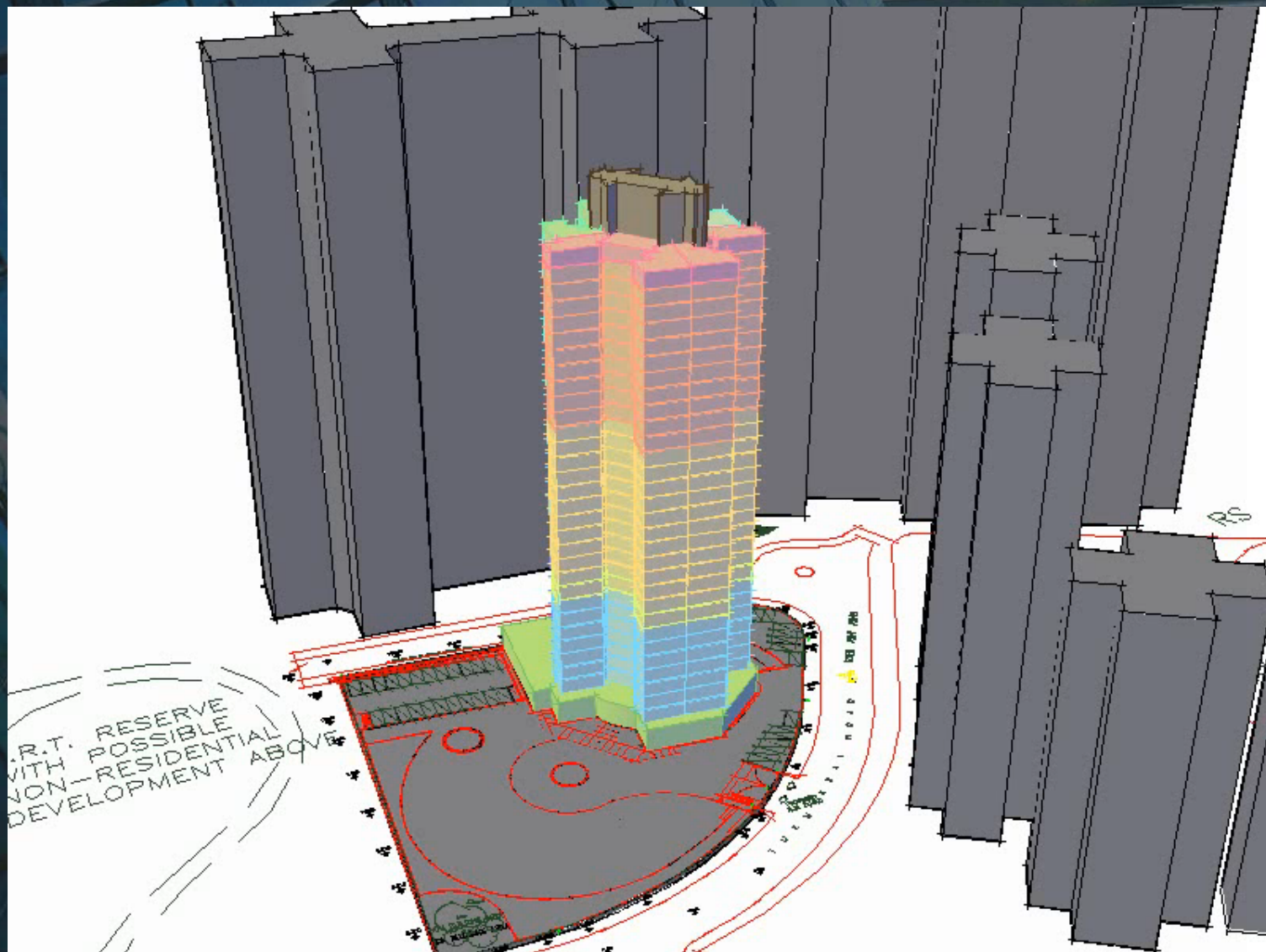
網上整合佈置,收益,景觀,成本,等等數據



Analysis

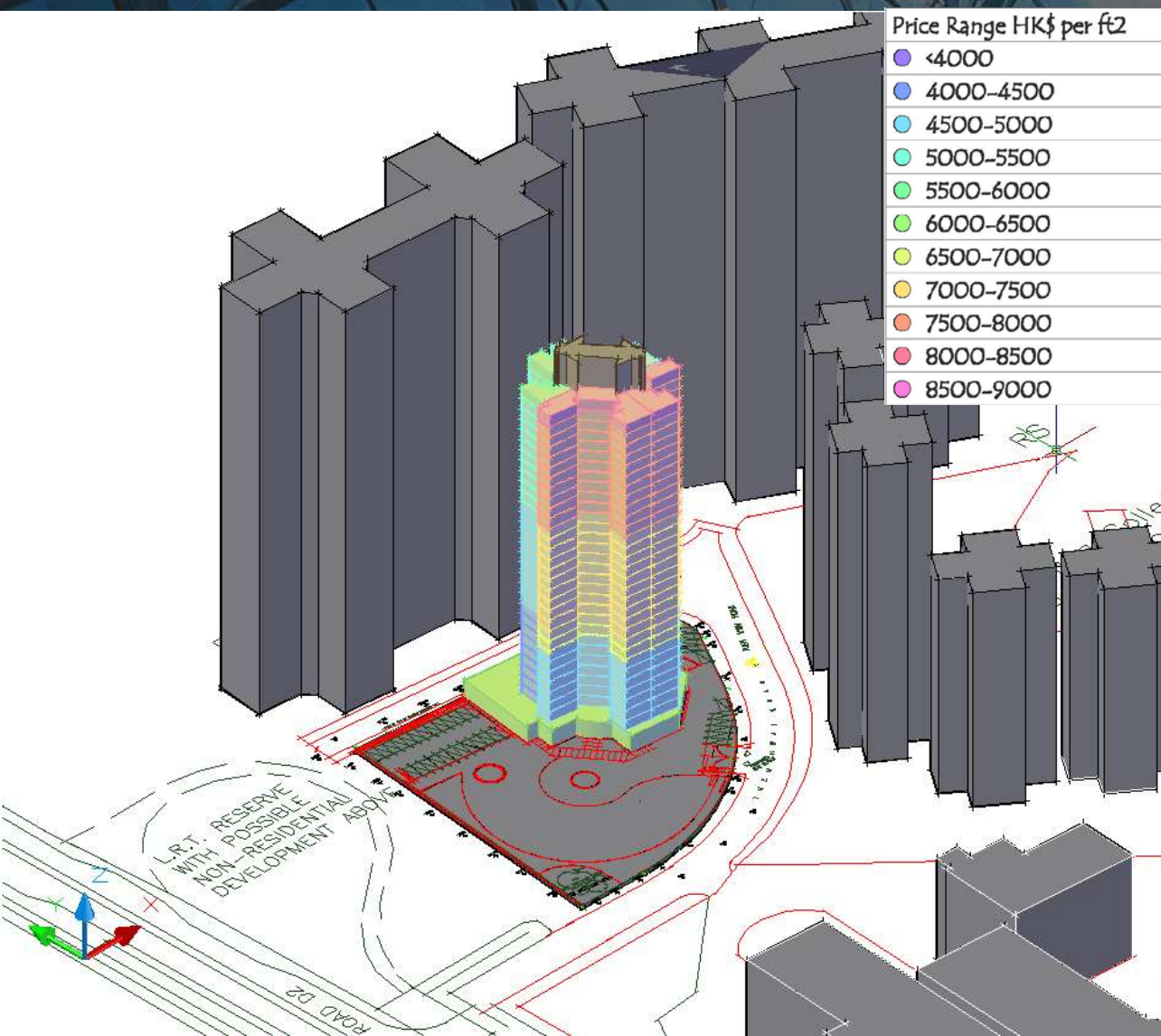
Area	Price / Flat
66	\$3,256,000
50	\$2,198,000
15780	\$967,386,000





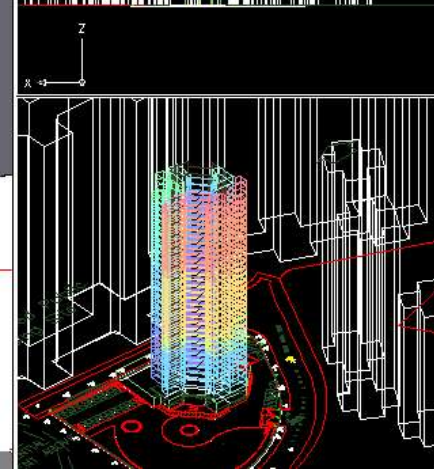
Price Range HK\$ per ft2	
●	<4000
●	4000-4500
●	4500-5000
●	5000-5500
●	5500-6000
●	6000-6500
●	6500-7000
●	7000-7500
●	7500-8000
●	8000-8500
●	8500-9000

可研通設計平台
網上整合佈置,收益,景觀,成本,等等數據



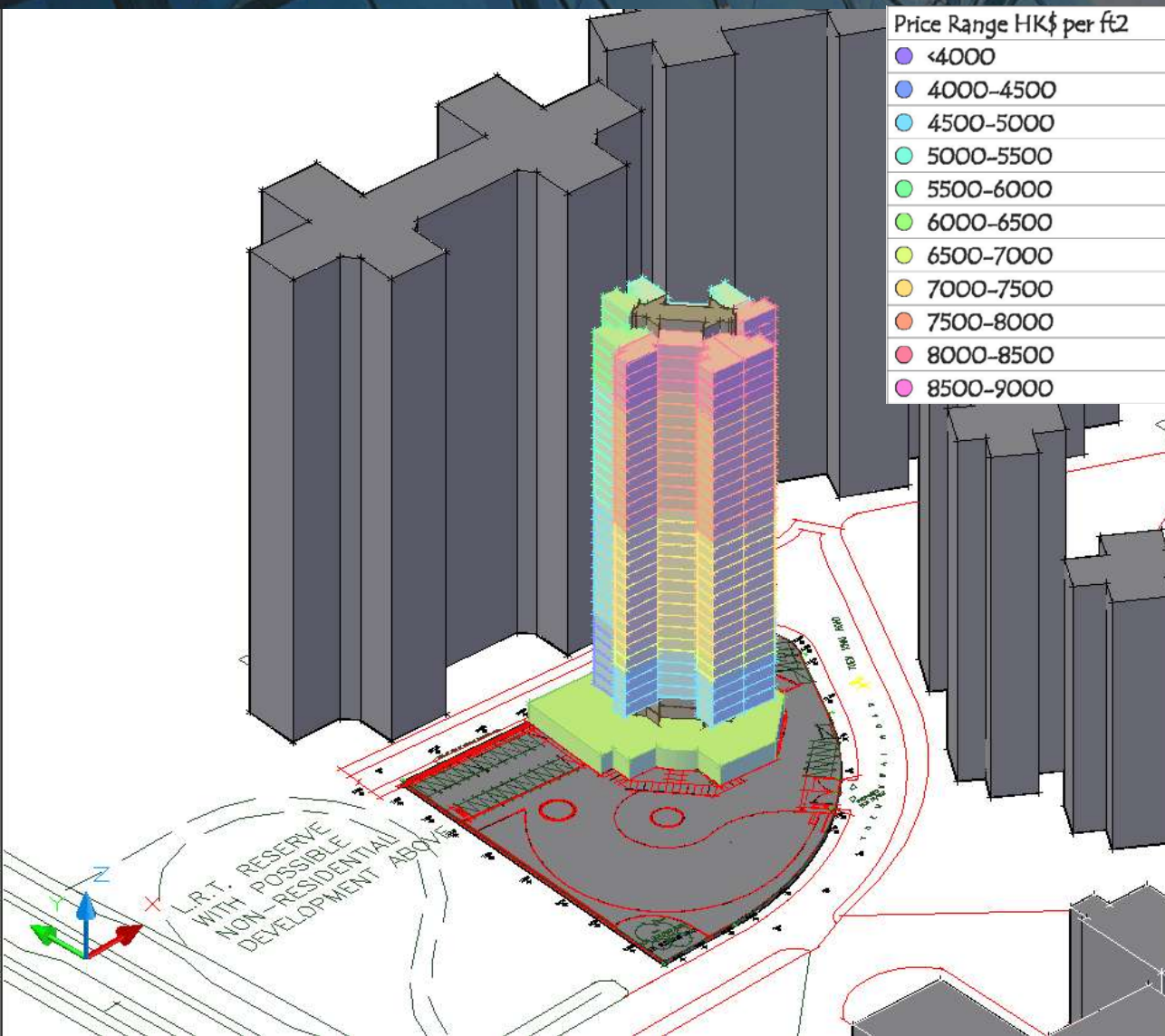
Analysis	
Area	Price / Flat
66	\$3,256,000
50	\$2,198,000
15780	\$967,386,000

Y
Z
X

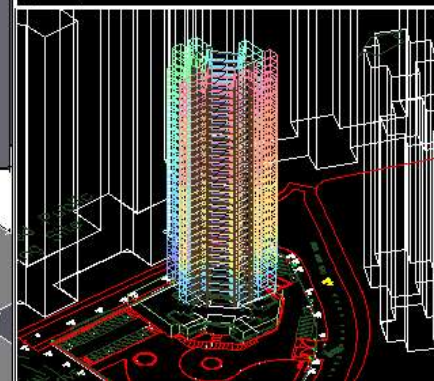


可研通設計平台

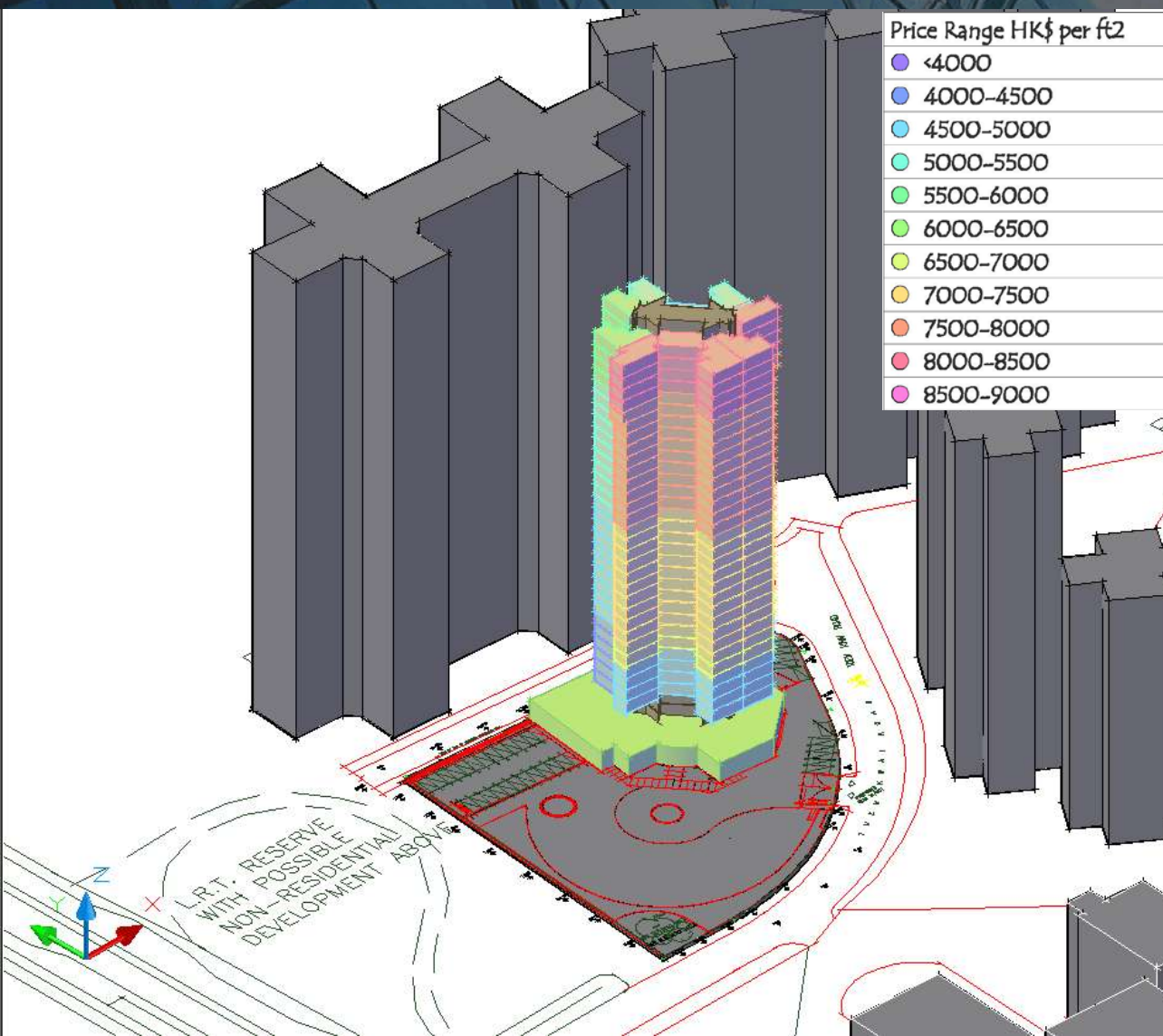
網上整合佈置,收益,景觀,成本,等等數據



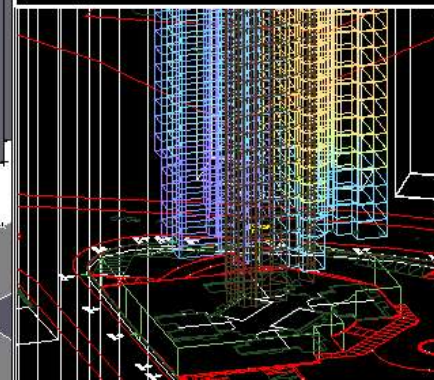
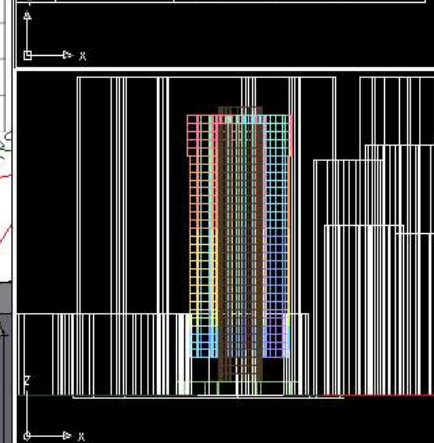
Value Analysis		
ft2	Area	Price / Flat
3	66	\$3,363,000
3	50	\$2,279,000
	15780	\$1,010,820,000

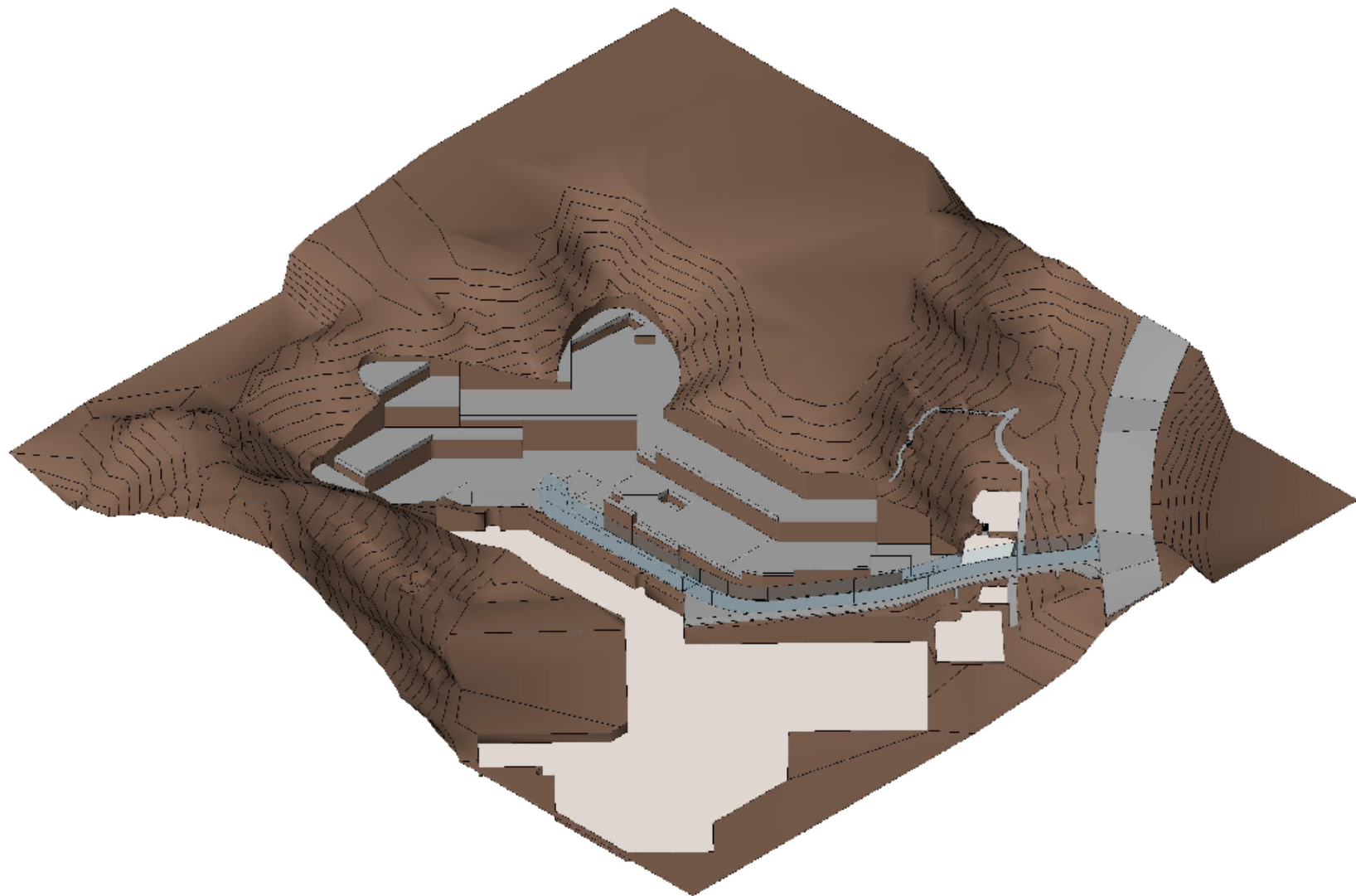


可研通設計平台 網上整合佈置,收益,景觀,成本,等等數據

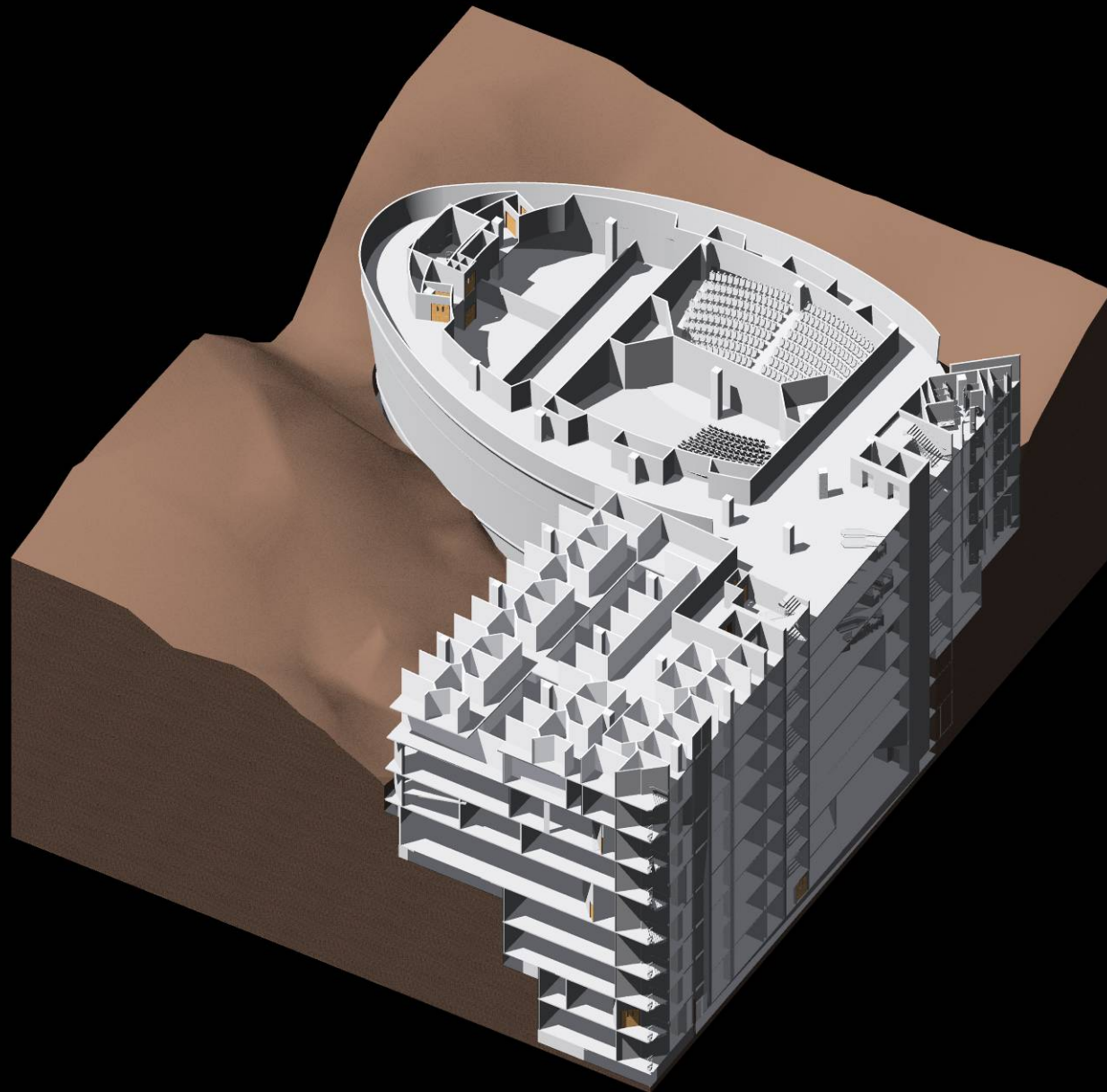


45	\$2,051,000
50	\$2,010,000
65	\$3,312,000
66	\$3,363,000
46	\$1,849,000
50	\$2,279,000
15780	\$1,012,542,000





TOPOGRAPHY HANDLING



BUILDING IN SITE CONTEXT

VISUALIZATION & DRAWING PRODUCTION



VISUALIZATION & PRODUCTION





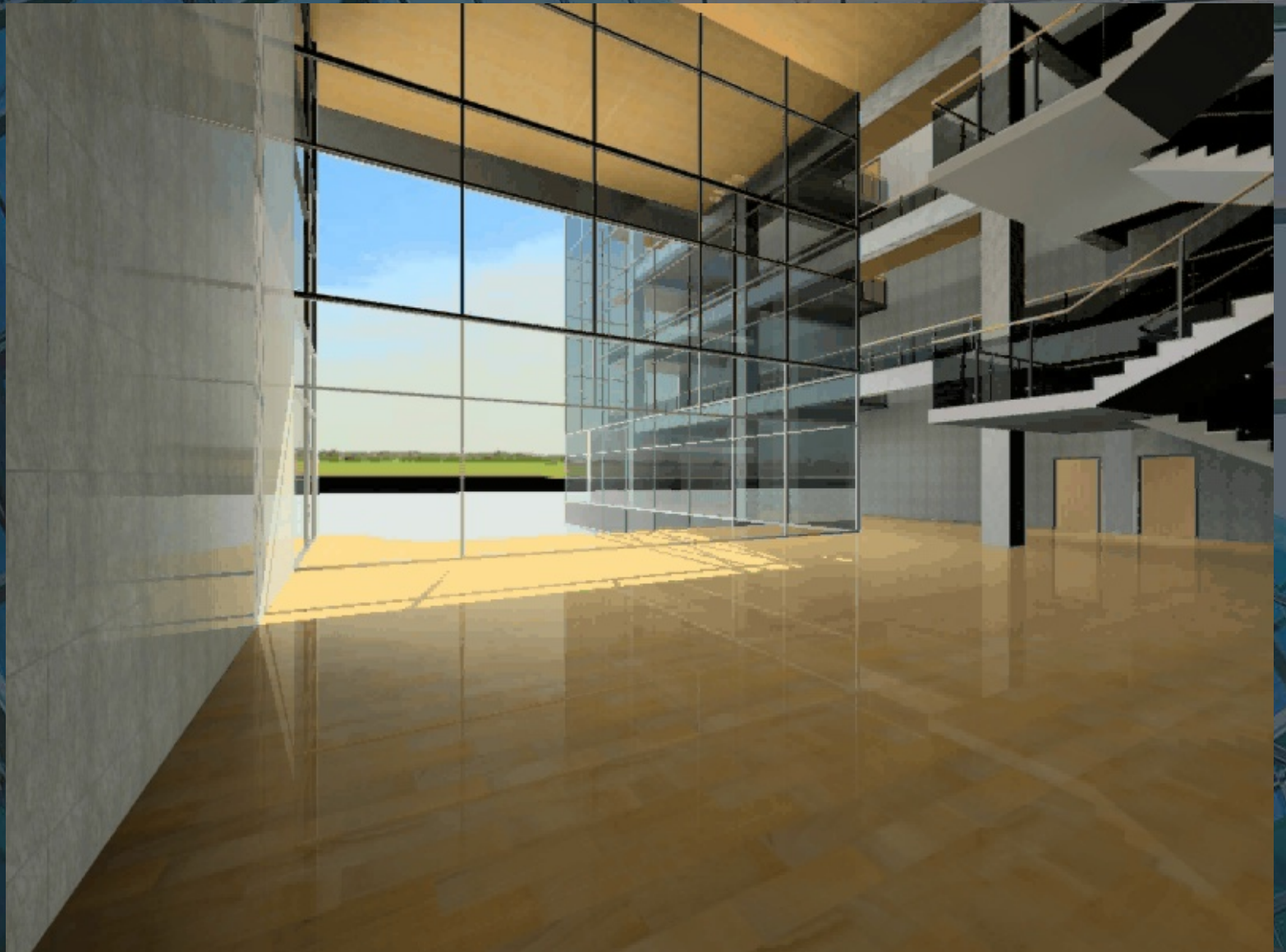
PERSPECTIVE

VISUALIZATION & PRODUCTION



VISUALIZATION & PRODUCTION

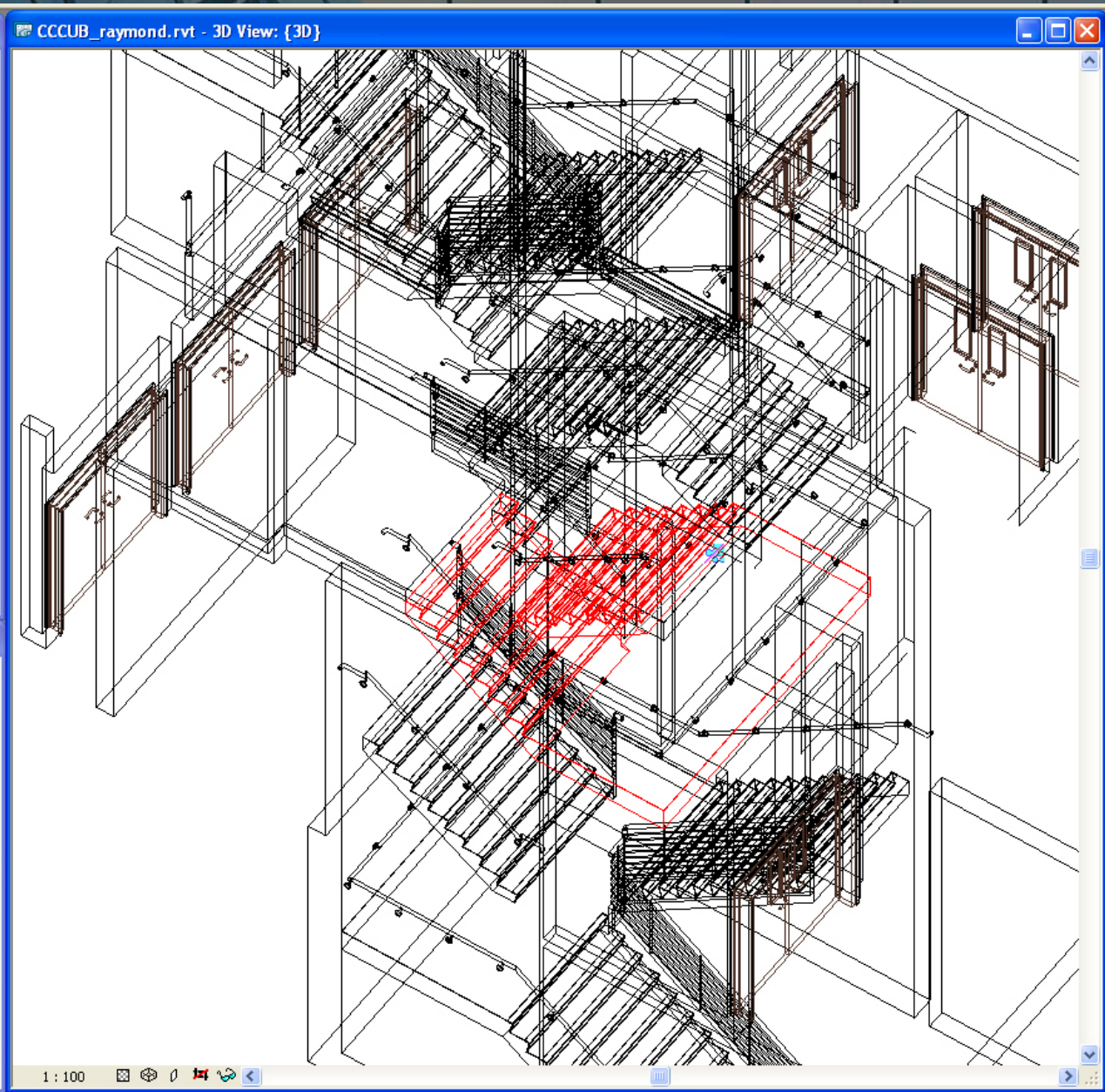
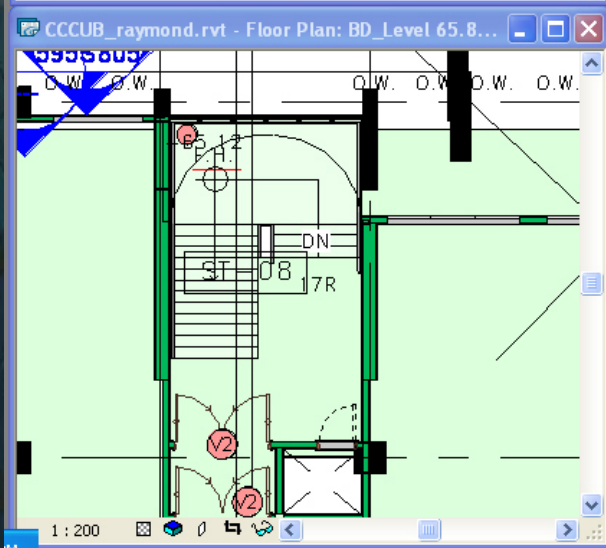
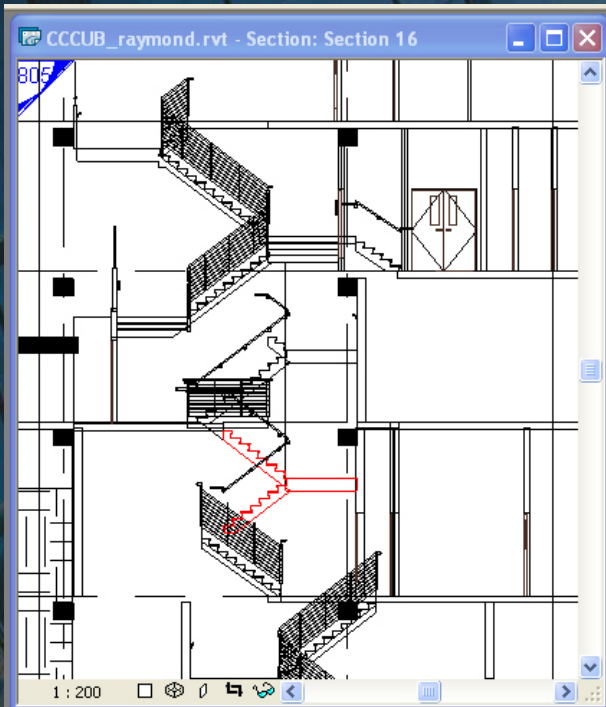




VISUALIZATION



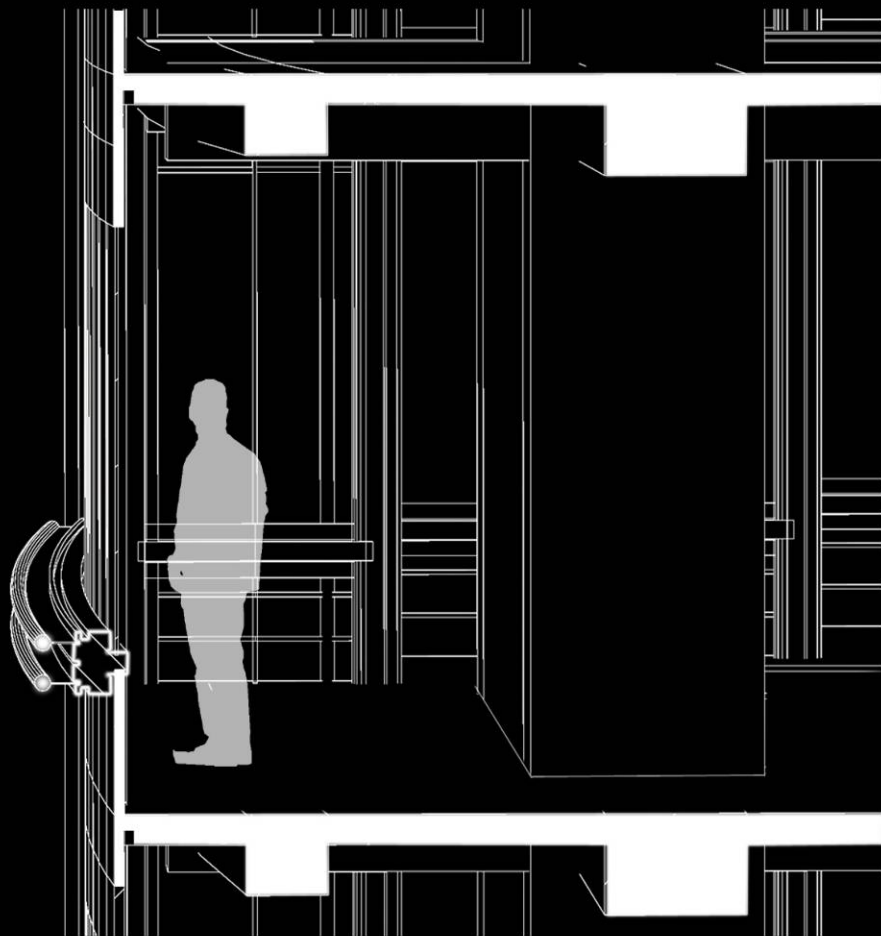
FAÇADE PANEL DESIGN



VERTICAL CO-ORDINATION



FAÇADE DESIGN and CO-ORDINATION

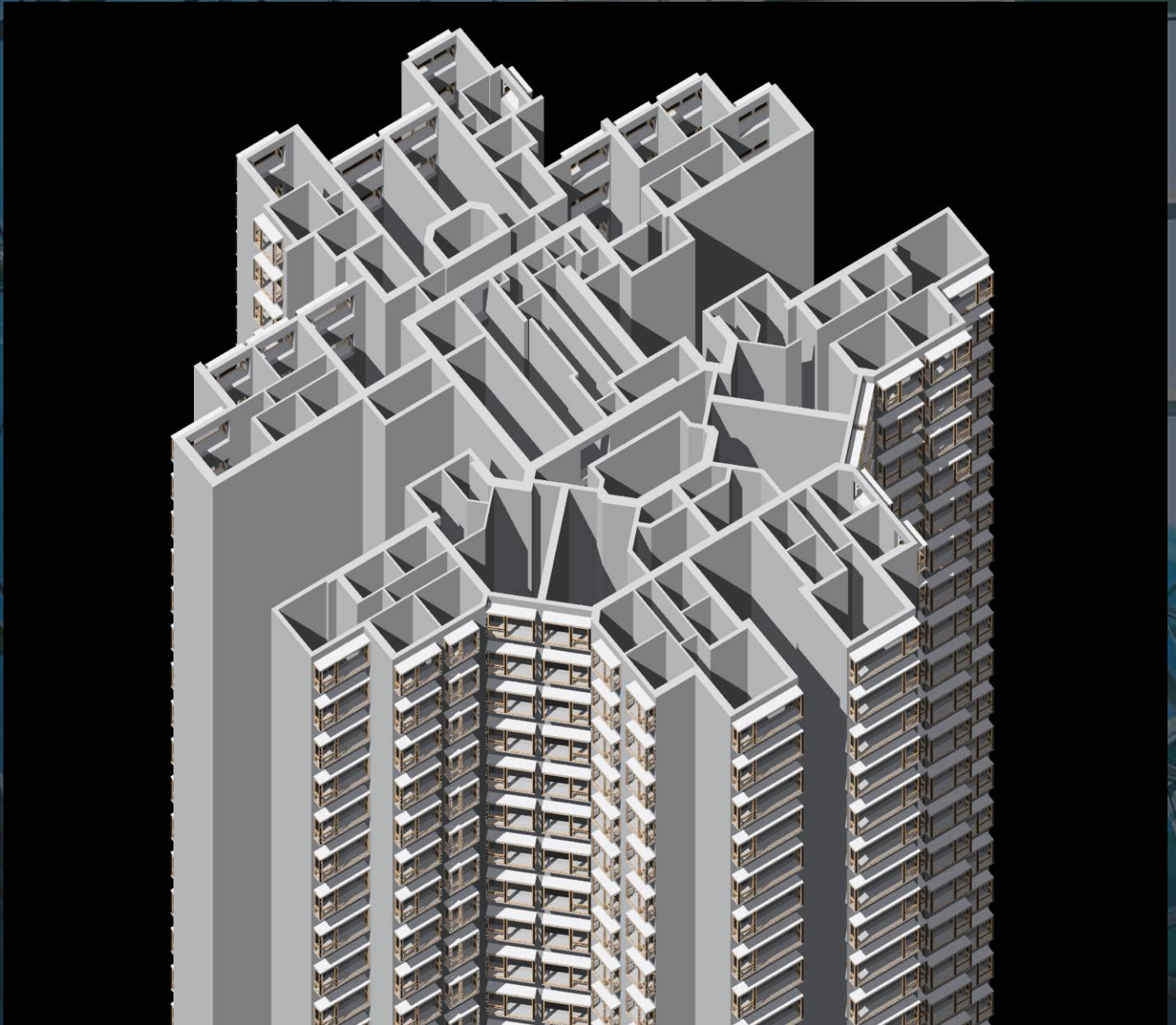


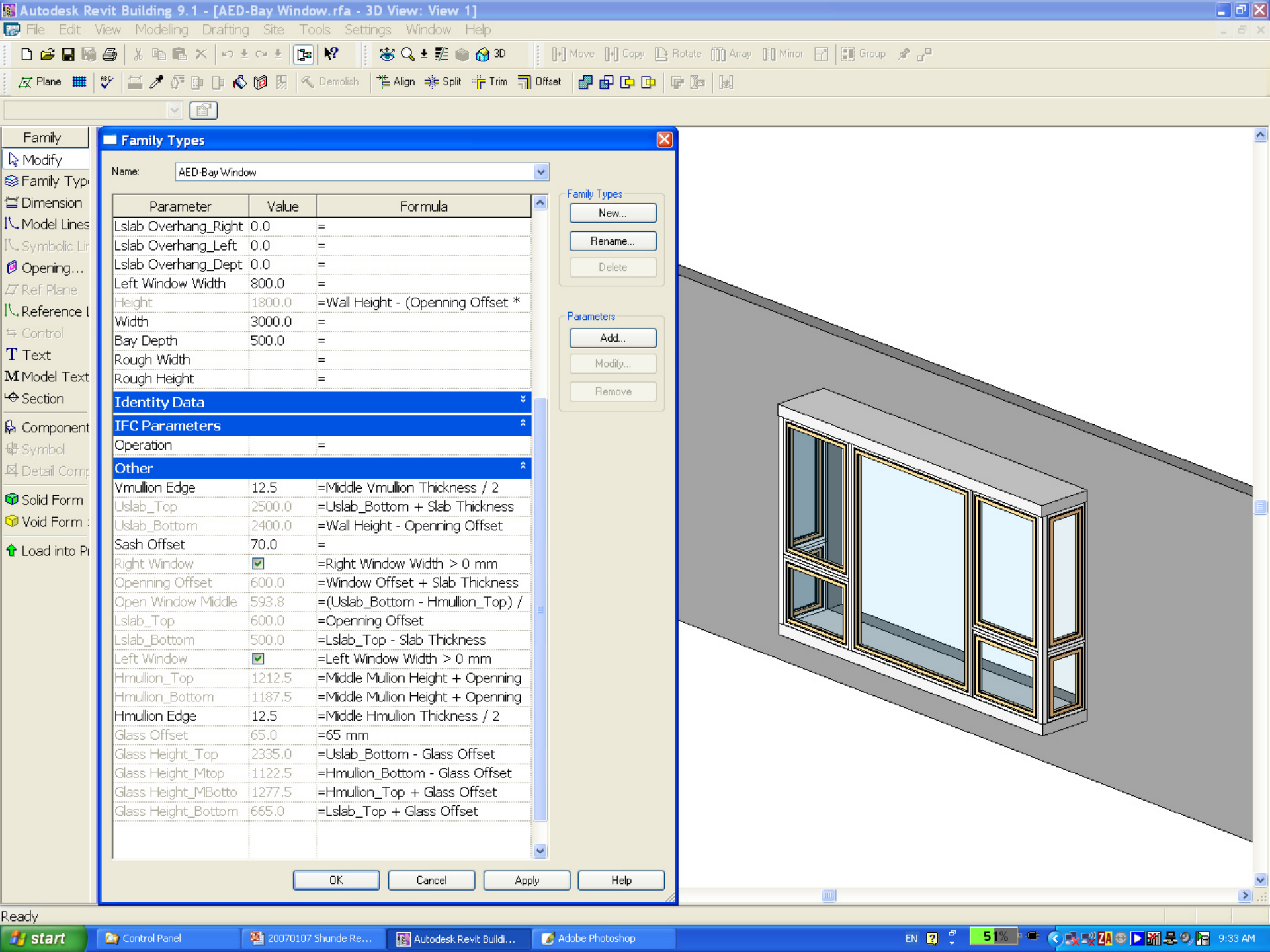
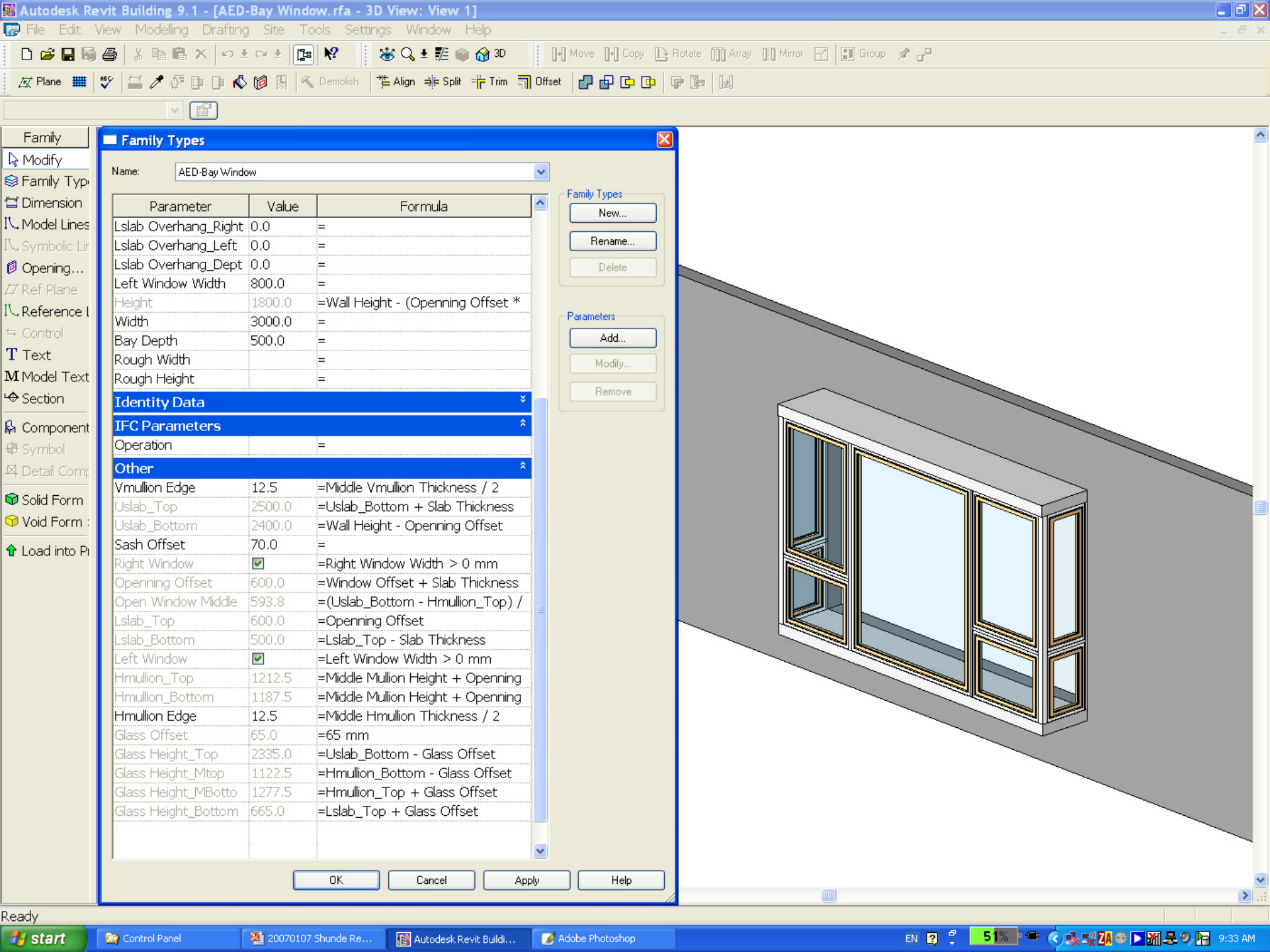
FAÇADE DESIGN and CO-ORDINATION



REPETITIONS vs VARIATIONS

PARAMETRIC MODELLING





Family Types

Name: AED-Bay Window

Parameter	Value	Formula
Lslab Overhang_Right	0.0	=
Lslab Overhang_Left	0.0	=
Lslab Overhang_Dept	0.0	=
Left Window Width	800.0	=
Height	1800.0	=Wall Height - (Opening Offset *
Width	4500.0	=
Bay Depth	500.0	=
Rough Width		=
Rough Height		=

Identity Data

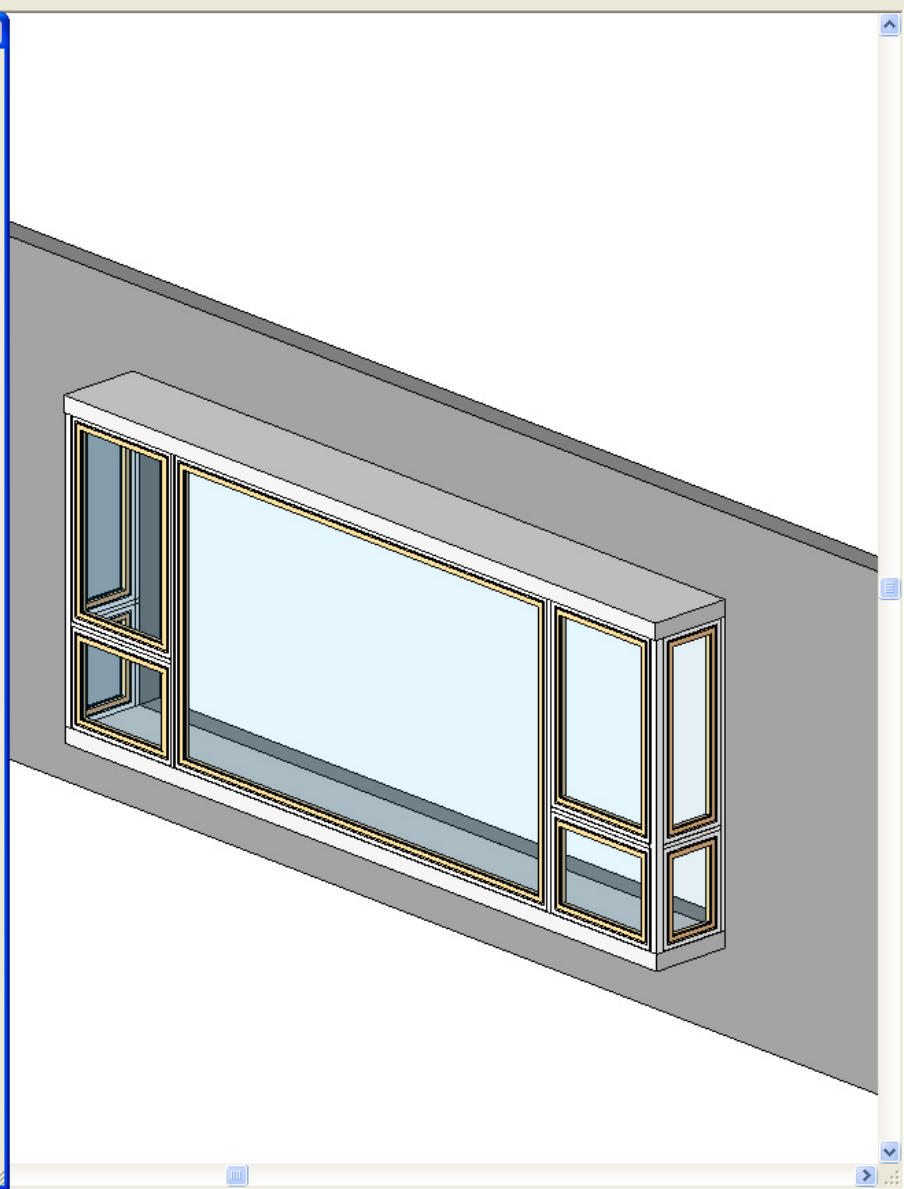
IFC Parameters

Operation =

Other

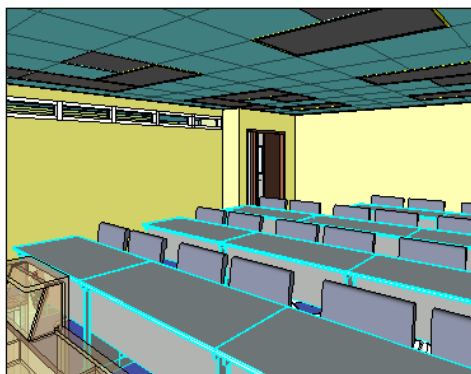
Vmullion Edge	12.5	=Middle Vmullion Thickness / 2
Uslab_Top	2500.0	=Uslab_Bottom + Slab Thickness
Uslab_Bottom	2400.0	=Wall Height - Opening Offset
Sash Offset	70.0	=
Right Window	☒	=Right Window Width > 0 mm
Opening Offset	600.0	=Window Offset + Slab Thickness
Open Window Middle	593.8	=(Uslab_Bottom - Hmullion_Top) /
Lslab_Top	600.0	=Opening Offset
Lslab_Bottom	500.0	=Lslab_Top - Slab Thickness
Left Window	☒	=Left Window Width > 0 mm
Hmullion_Top	1212.5	=Middle Mullion Height + Opening
Hmullion_Bottom	1187.5	=Middle Mullion Height + Opening
Hmullion Edge	12.5	=Middle Hmullion Thickness / 2
Glass Offset	65.0	=65 mm
Glass Height_Top	2335.0	=Uslab_Bottom - Glass Offset
Glass Height_Mtop	1122.5	=Hmullion_Bottom - Glass Offset
Glass Height_MBotto	1277.5	=Hmullion_Top + Glass Offset
Glass Height_Bottom	665.0	=Lslab_Top + Glass Offset

OK Cancel Apply Help

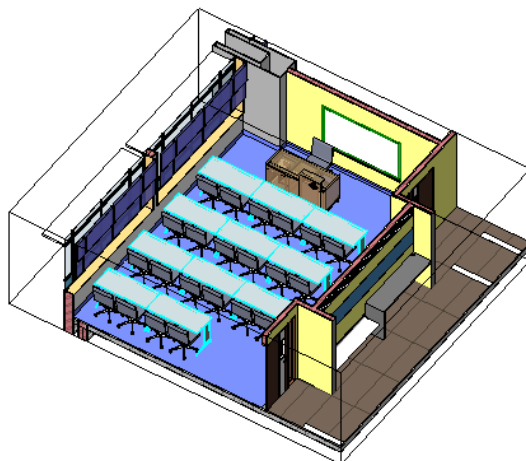


Use of Building Information Modeling (BIM)

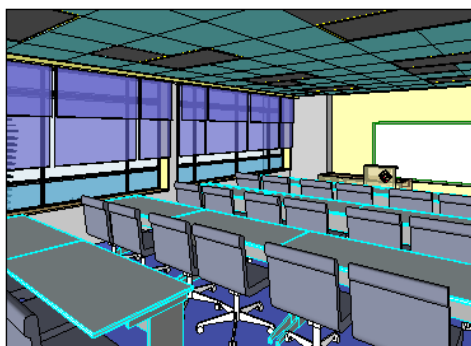
1. Design visualization
- 2. Drawing Productions 図面製作**
3. Services Co-ordination and Clash detection with other disciplines
4. Quantity taking and preparation of Tender Document
5. Automated Statutory Submission
6. Scientific analysis of different environmental aspects
7. Supply Chain Integration with the manufacturing and production
8. Complex Geometry



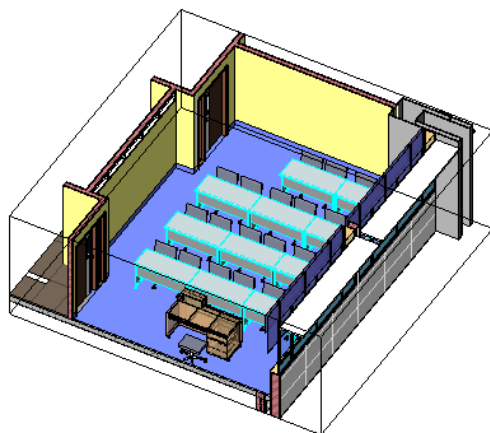
6 行政人员培训室立体示意图2



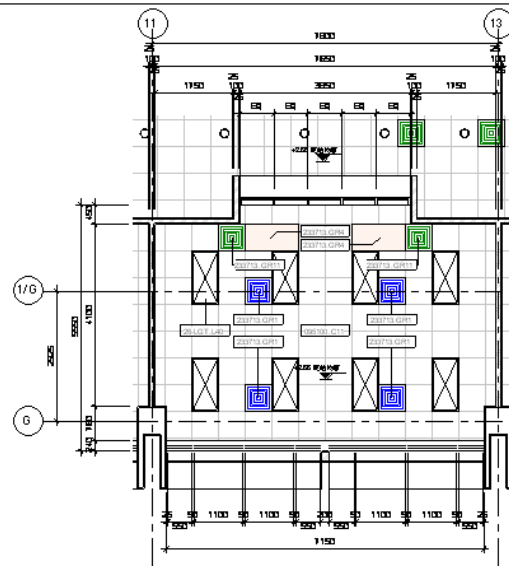
4 行政人员培训室立体剖面示意图2



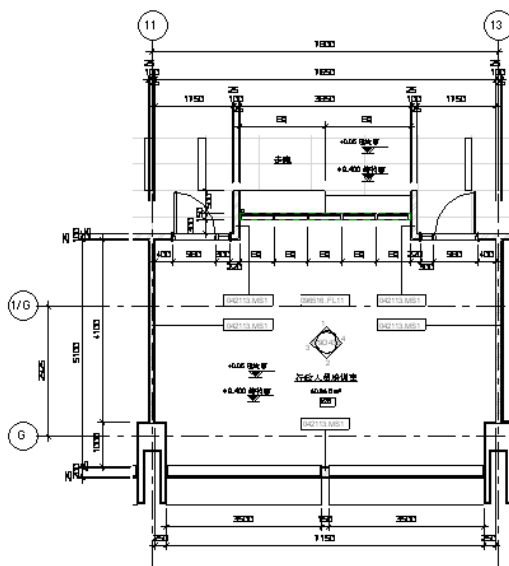
5 行政人员培训室立体示意图1



3 行政人员培训室立体剖面示意图1

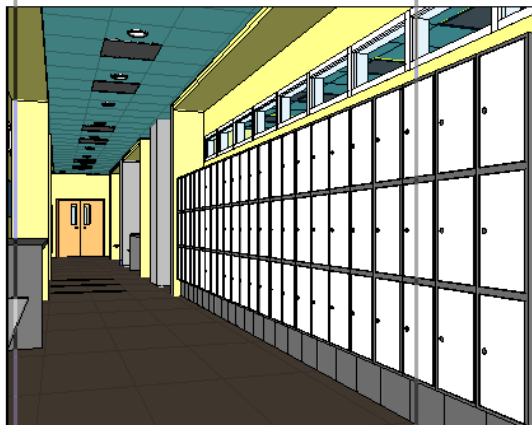


2 行政人员培训室天花平面图(高楼三层)1
1:50

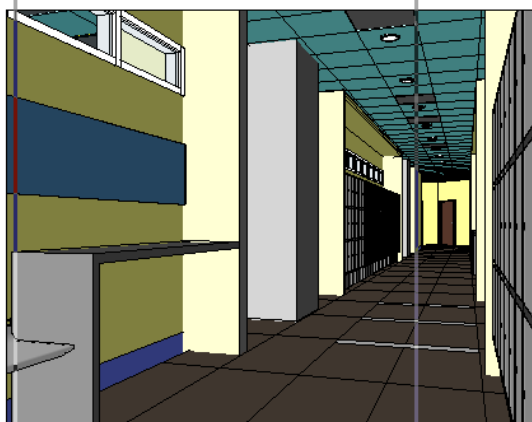


1 行政人员培训室平面图(高楼三层)1
1:50

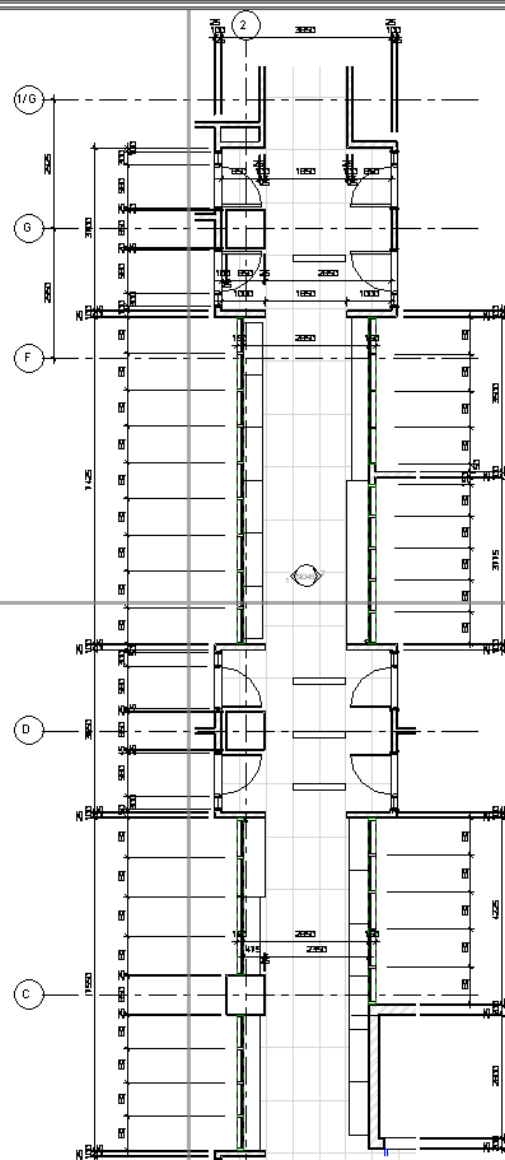
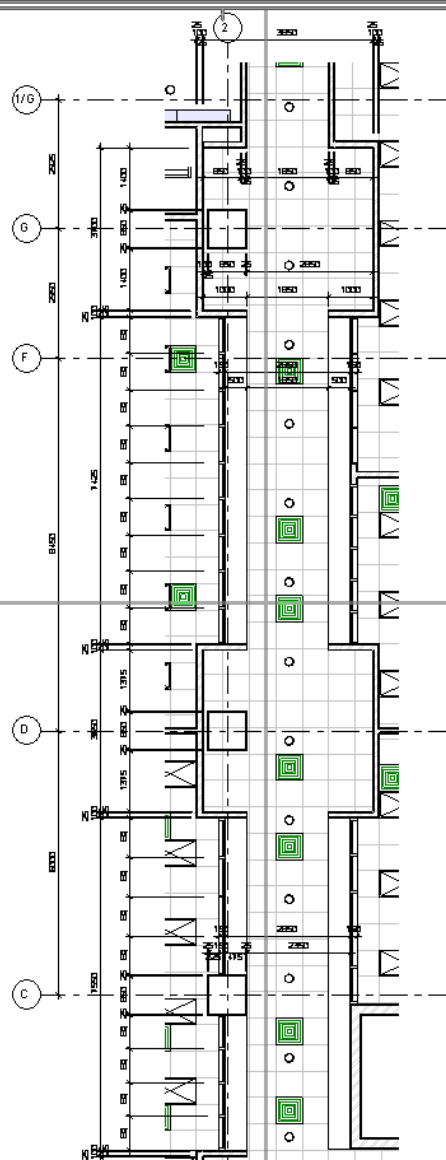
Drawing Type		S.D. SUBMISSION	
S.D. Submission No.		GOVERNMENT REFERENCE NO.	
F-221 Submission No.		GOVERNMENT REFERENCE NO.	
Author's Name			
AUTHORIZE PERMITTEE'S SIGNATURE AREA			
Notes			



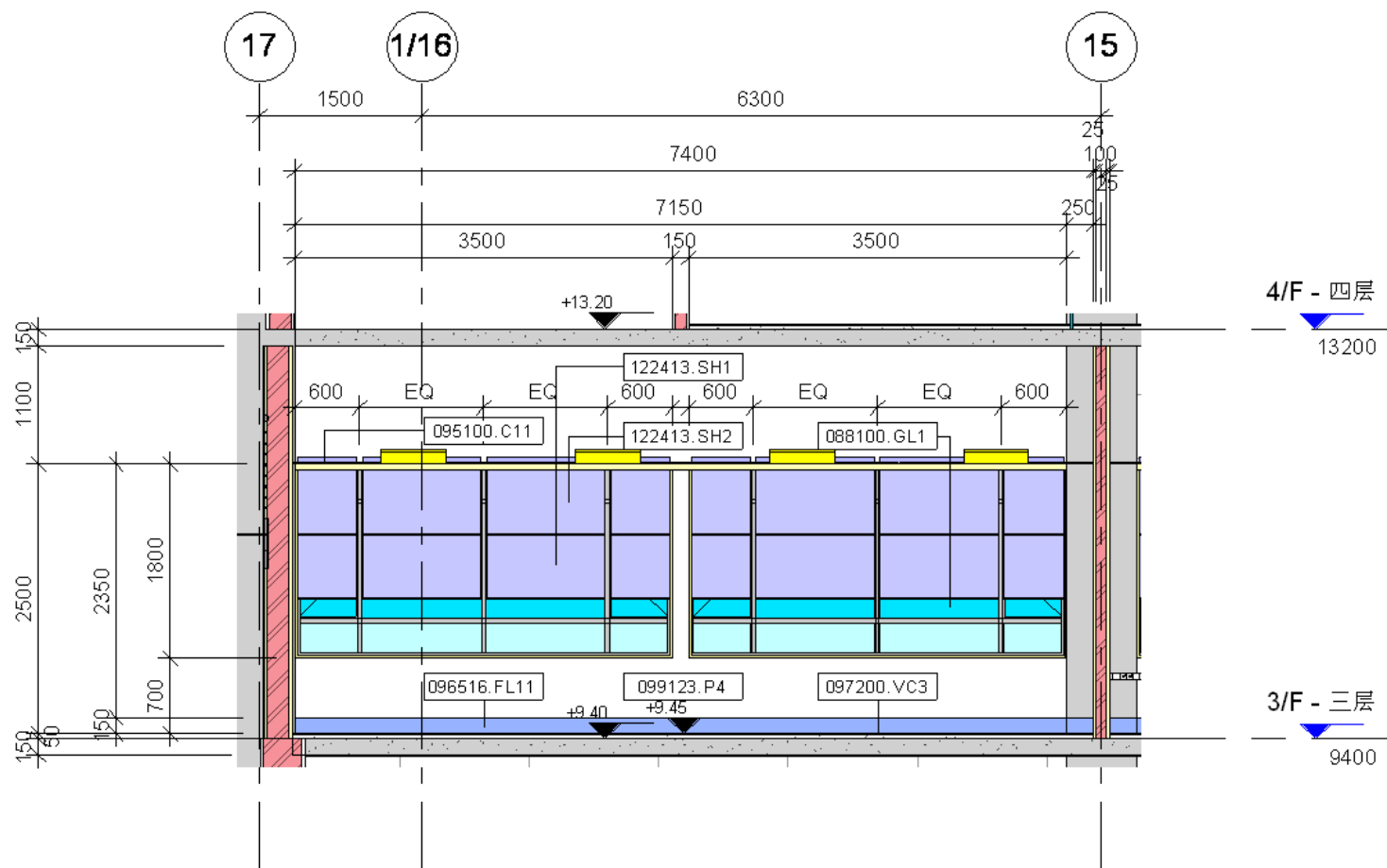
4 走廊立体示意图(低楼三至四层)2



3 走廊立体示意图(低楼三至四层)1



A vertical strip of various logos and brand names, including Aedas, The Hong Kong Polytechnic University, and others.



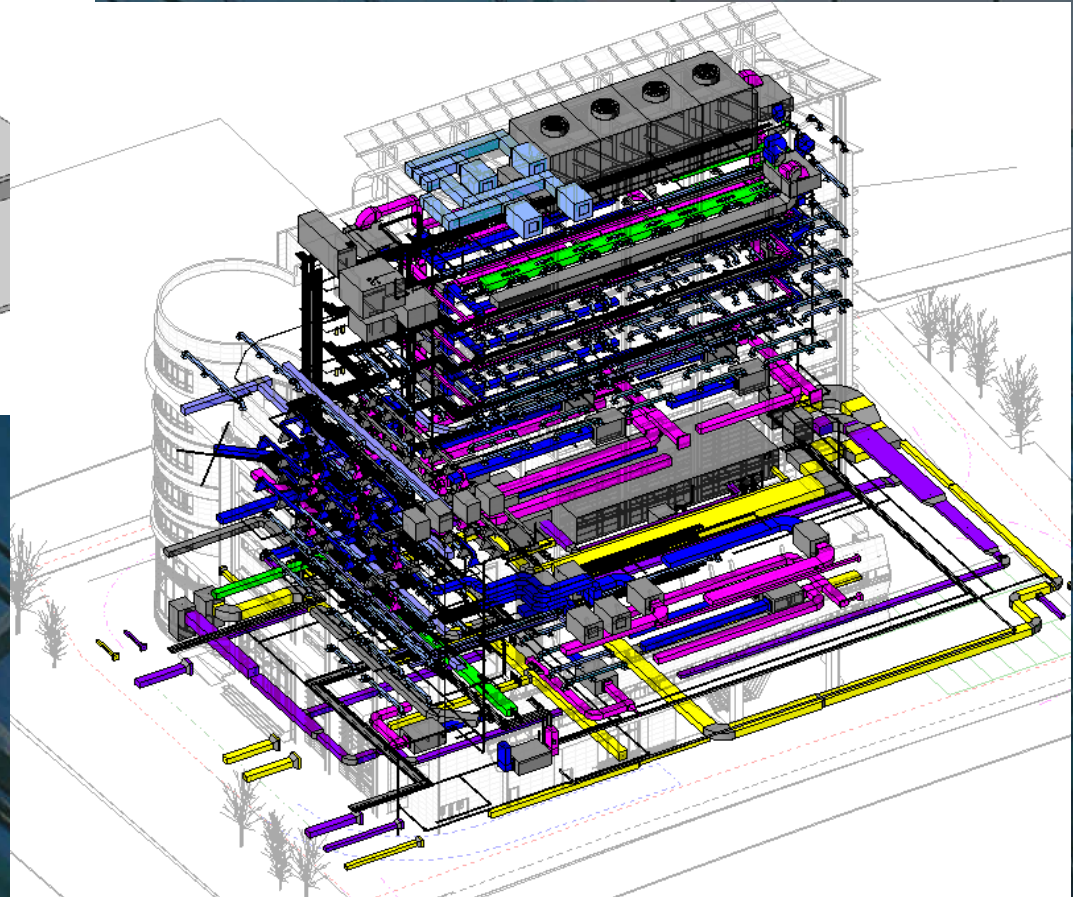
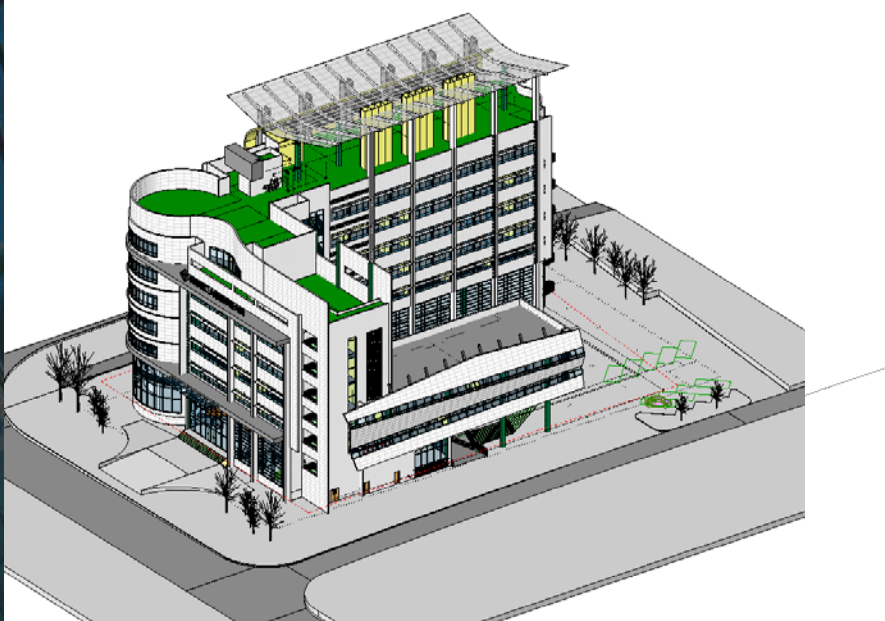
2 行政人员培训室立面图(高楼三层)6
1:50

Use of Building Information Modeling (BIM)

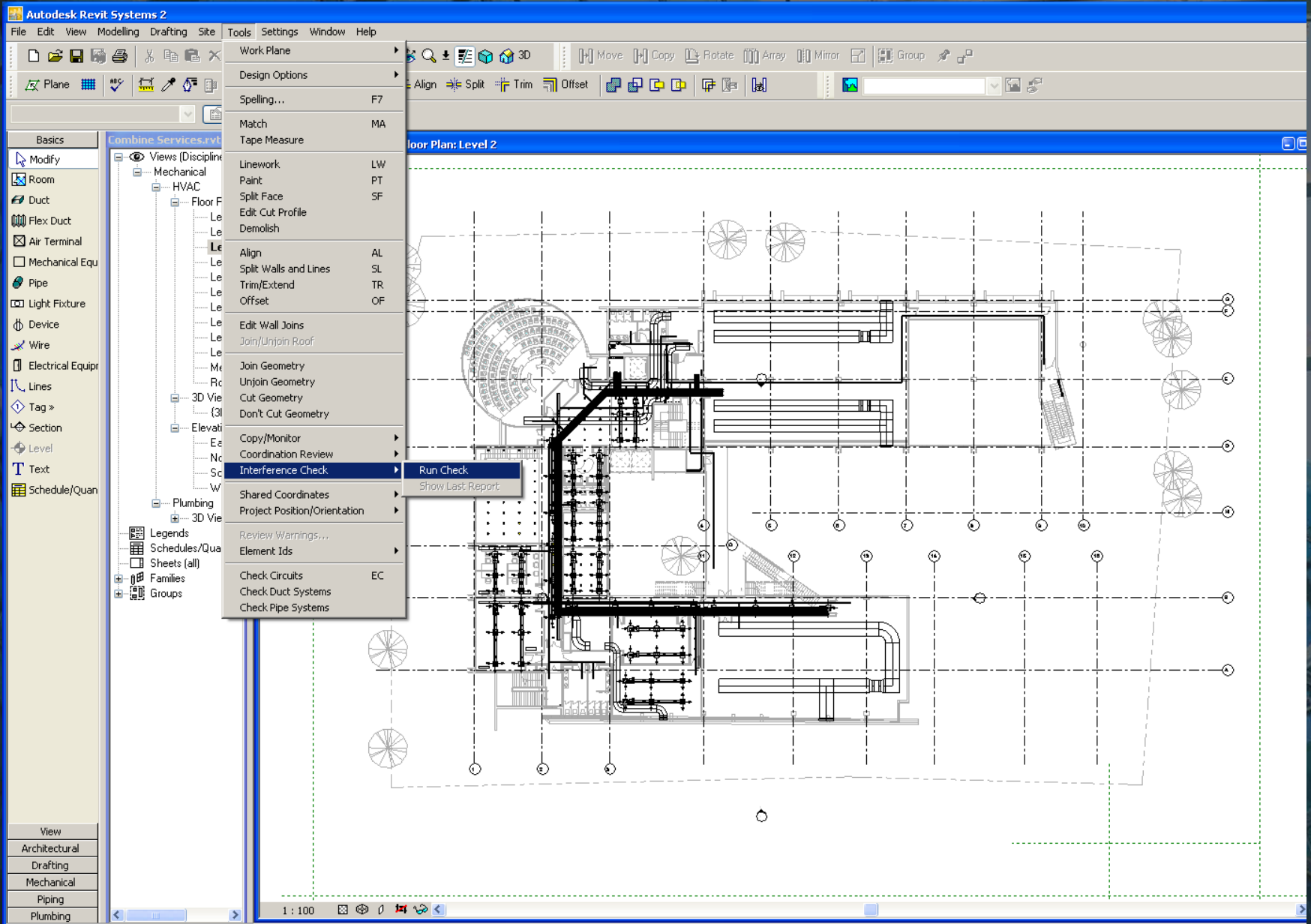
1. Design visualization
2. Drawing Productions
- 3. Services Co-ordination and Clash detection with other disciplines**
多部門との連携と干渉チェック
4. Quantity taking and preparation of Tender Document
5. Automated Statutory Submission
6. Scientific analysis of different environmental aspects
7. Supply Chain Integration with the manufacturing and production
8. Complex Geometry

CO-ORDINATION / COLLABORATION

Work Flow – Establish BIM Models

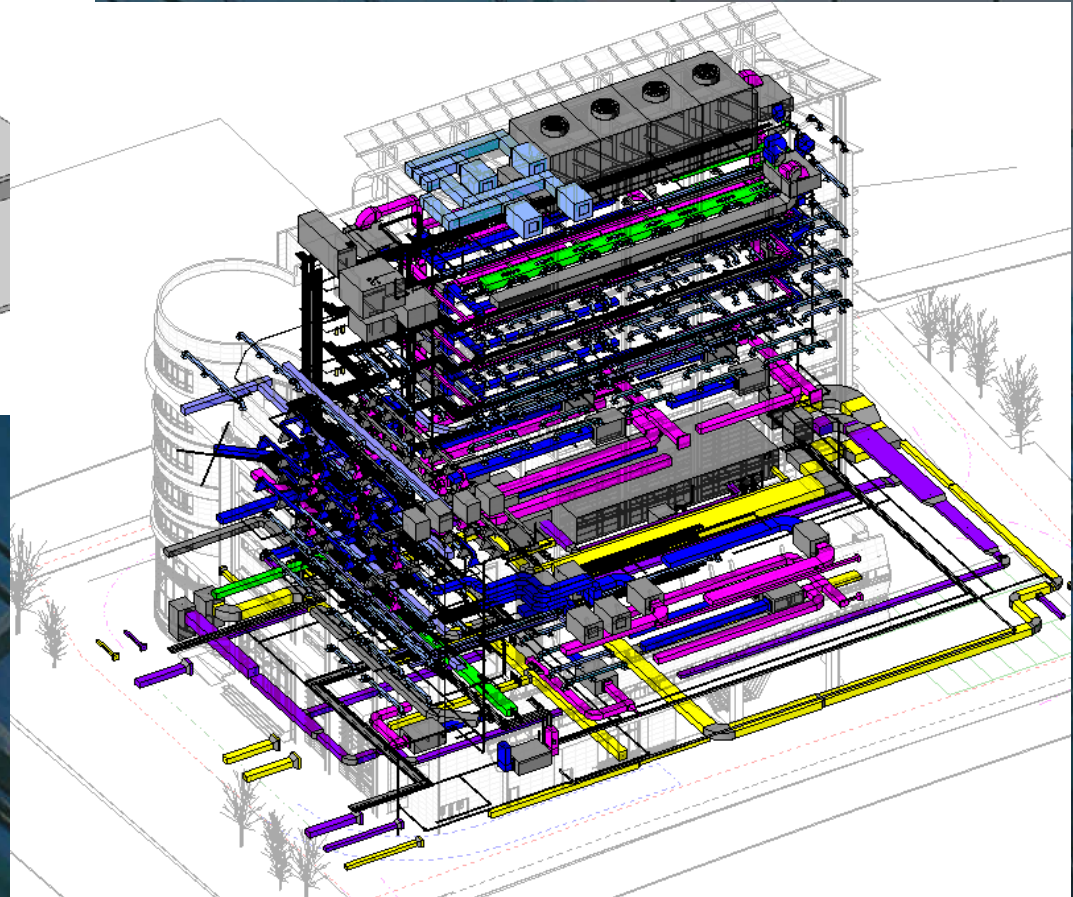
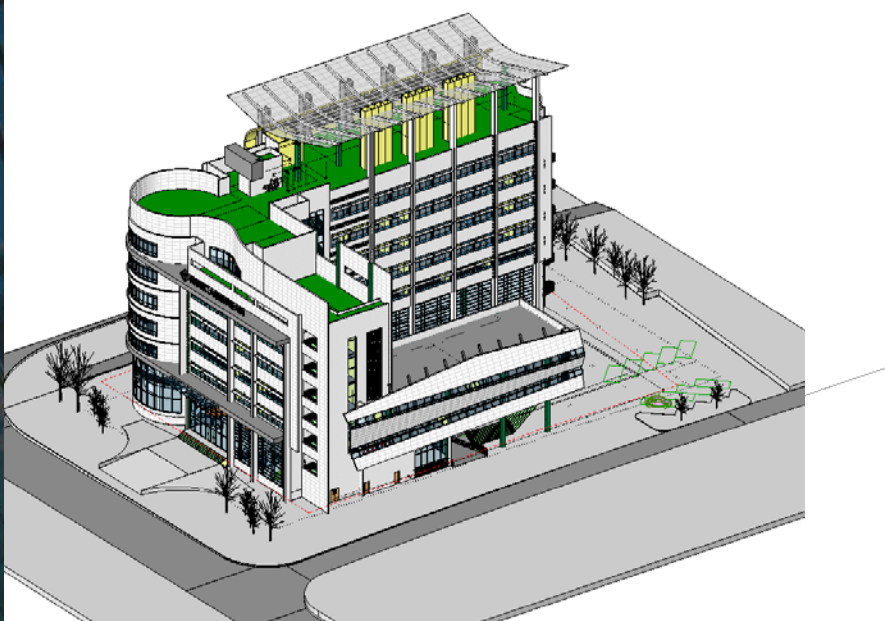


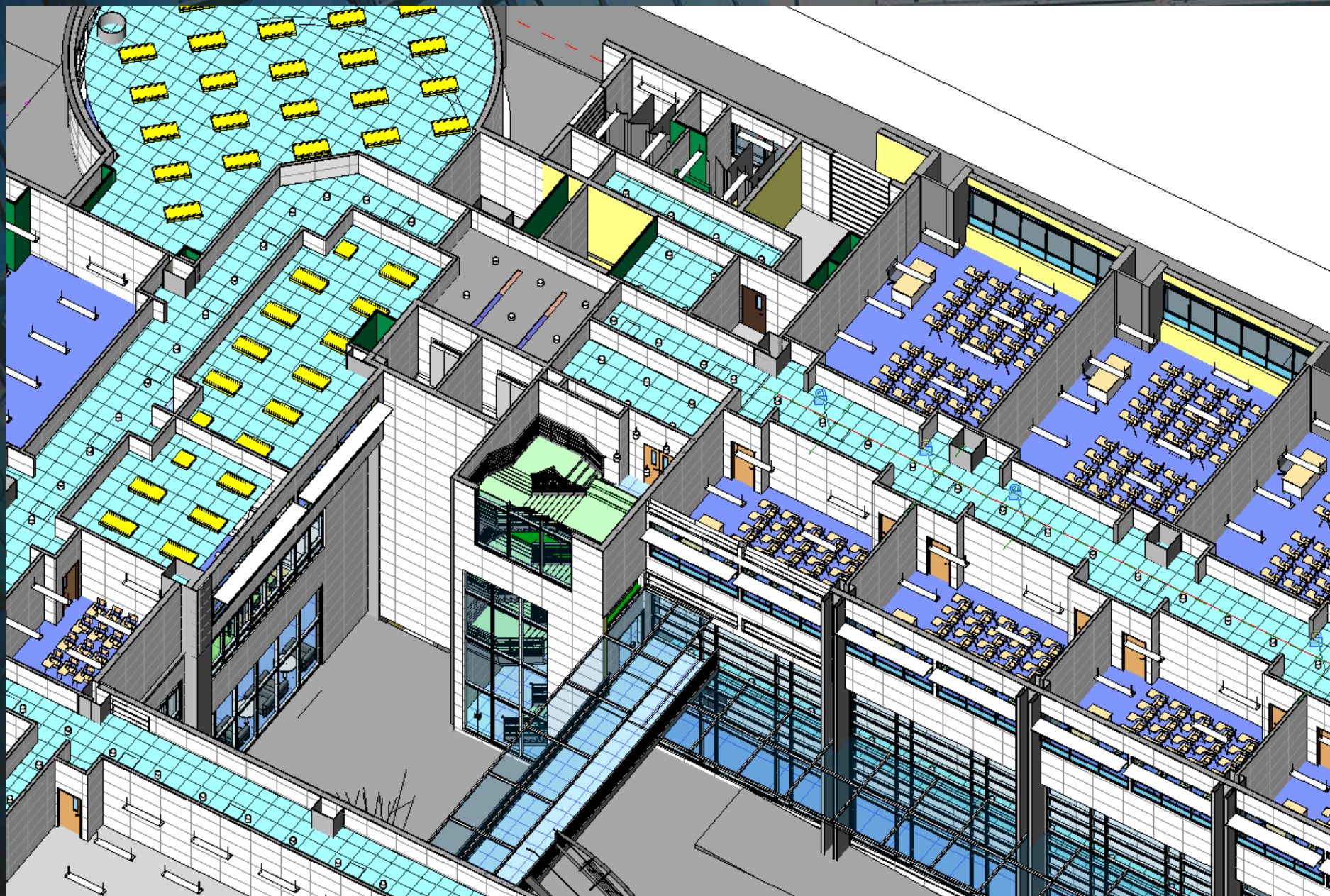




CO-ORDINATION / COLLABORATION

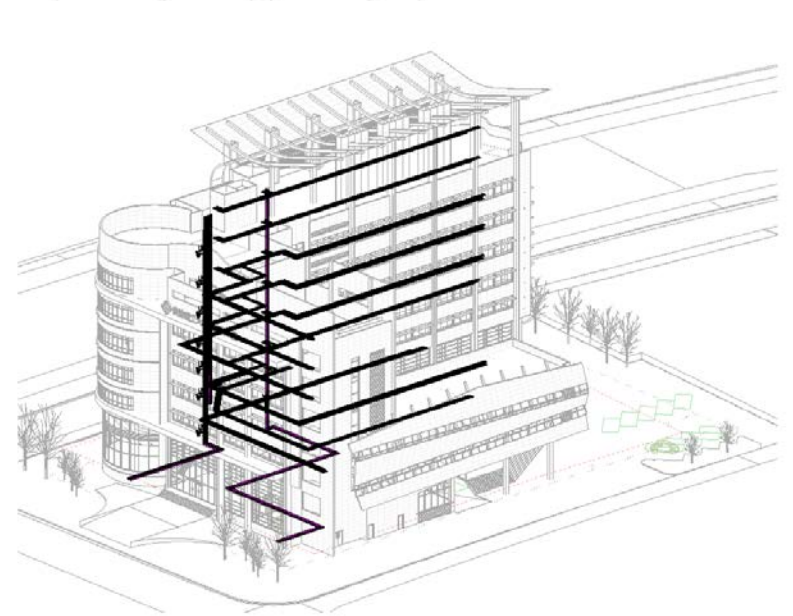
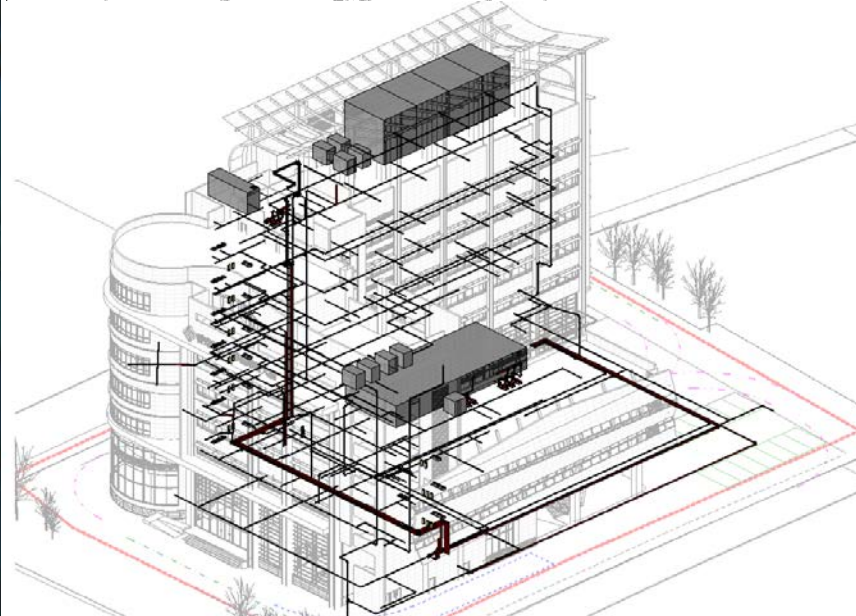
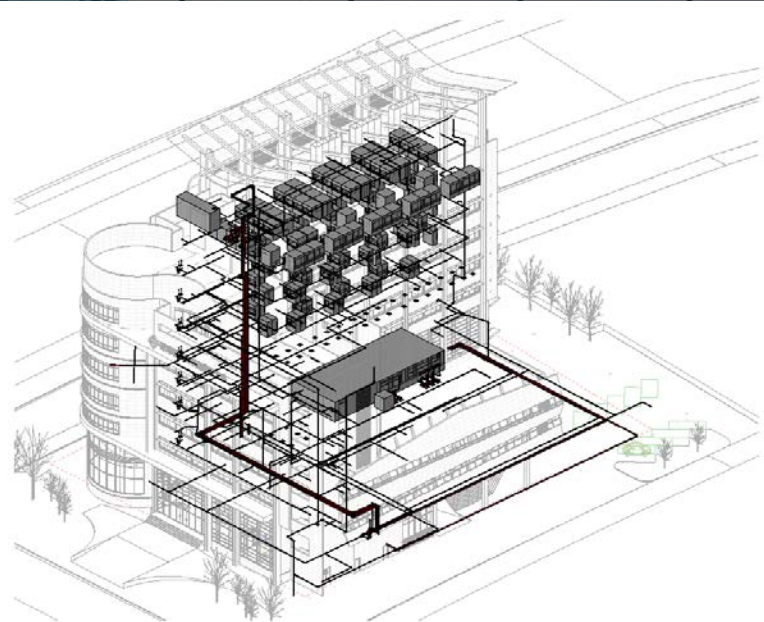
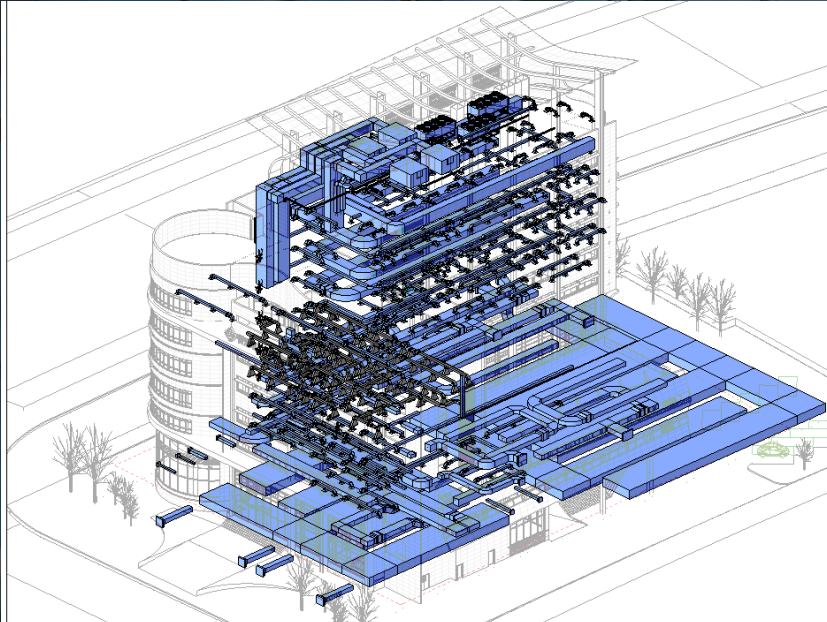
Work Flow – Establish BIM Models





HVAC Installation

Fire Services Installation



P/D Installation

Electricity Installation

Work Flow – Clashes Report

The screenshot displays the Autodesk Revit Systems 2 interface. The main window shows a 3D view of a mechanical system, specifically a fan coil unit, with various pipes and ducts. A dialog box titled "Interference Report" is open, showing a list of categories and a message column. The report is generated for Tuesday, May 29, 2007, at 6:13:54 PM. The report lists several categories, including Pipes, and indicates that there are no clashes found. The status bar at the bottom shows the current view is "3D View: {3D}" and the scale is "1:150".

Autodesk Revit Systems 2

File Edit View Modeling Drafting Site Tools Settings Window Help

Move Copy Rotate Array Mirror Group

Plane Demolish Align Split Trim Offset

(Not Editable) MVAC

Press + Drag Editable Only

PolyU Shenzhen Campus AC_andy.rvt - 3D View: {3D}

Interference Report

Group by: Category 1, Category 2

Message
Pipes
Pipes
Pipes
Pipes
Pipes
Pipes
Pipes
Pipes
Pipes
Pipes
Pipes
Pipes
Pipes
Pipes

Created: Tuesday, May 29, 2007 6:13:54 PM

Last Update:

Note: Refresh updates interferences listed above.

Show Export... Refresh Close

Duct Schedule
Pipe Schedule
Room Schedule
Wall Schedule

Sheets (all)

- E&M-1 - Baseme
- E&M-2 - Level 1.
- E&M-3 - Level 2.
- E&M-4 - Level 3.
- E&M-5 - Level 4.
- E&M-6 - Level 5.
- E&M-7 - Level 6.
- E&M-8 - Level 7.
- E&M-9 - Level 8.
- E&M-10 - ROOF
- E&M-11 - A/C Se

Families

- Air Terminals
- Annotation Symb
- Ceilings
 - Basic Ceilin
 - Generic
 - Plaster E

View

Architectural

Drafting

Mechanical

Piping

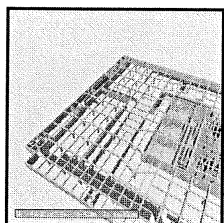
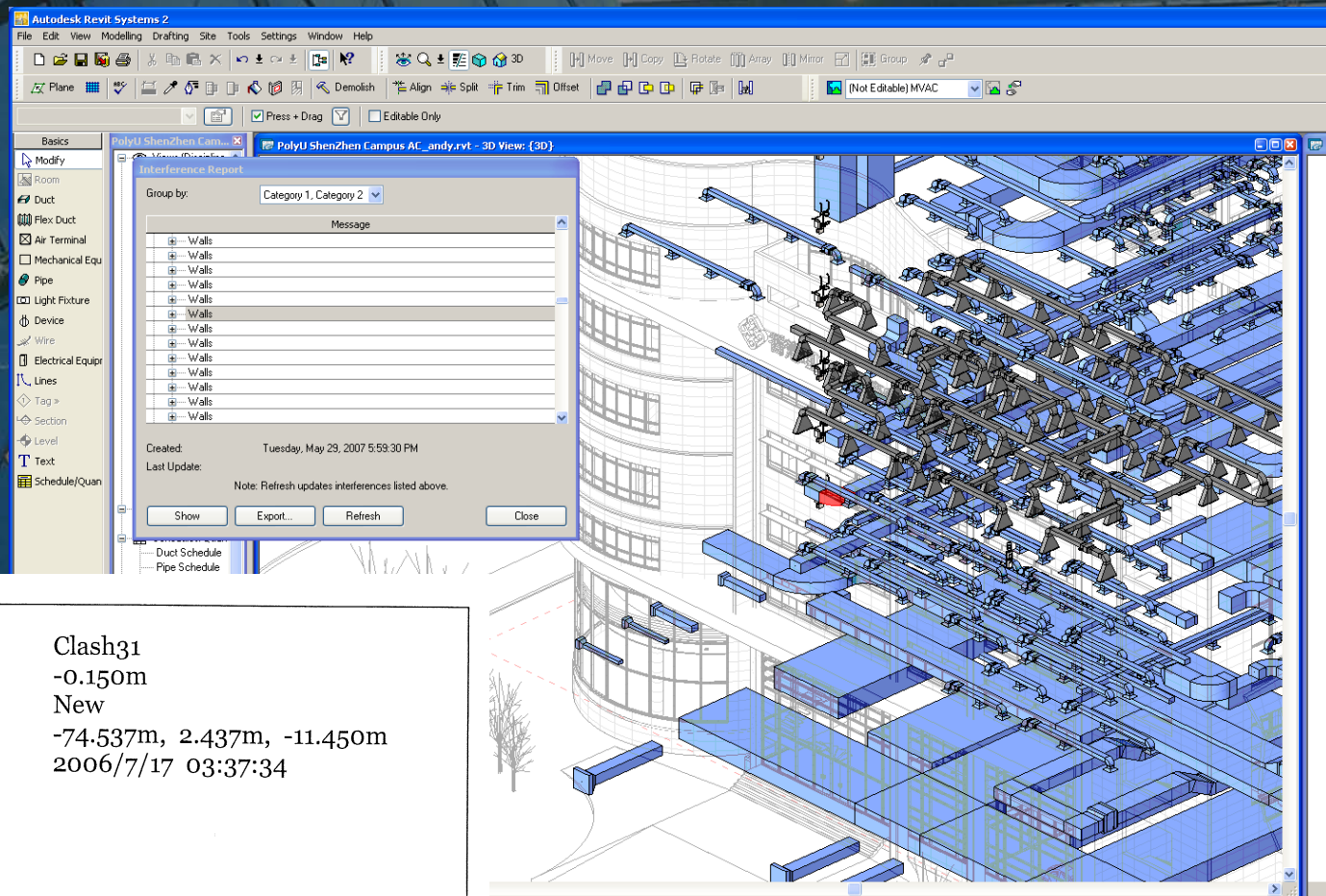
Plumbing

1:150

MVAC : Mechanical Equipment : M_Fan Coil Unit - Horizontal Basic Concealed with Plenum : M_02

Page 4 Sec 1 4/4 At 3.1cm Ln 2 Col 2 REC TRK EXT OVR English (U.S)

Work Flow – Clashes Report



Name Clash31
Distance -0.150m
Status New
Clash Point -74.537m, 2.437m, -11.450m
Date Created 2006/7/17 03:37:34
Approved By

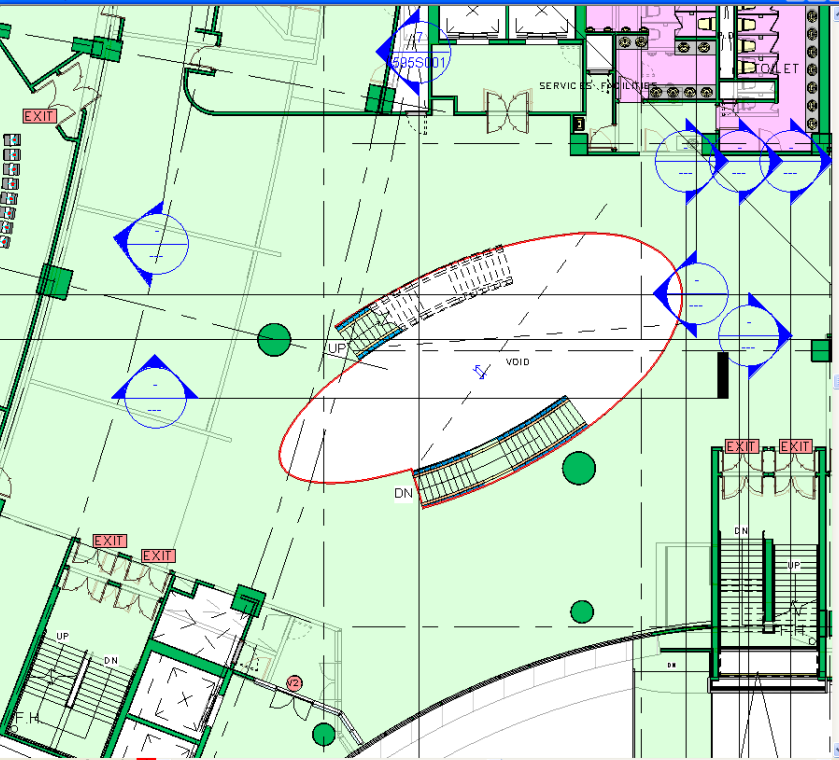
Item 1

Path File ->File ->Basement 03.nwc -><No level> ->L2b1
 500 x 700 ->L2b1 500 x 700 ->Solid

Item 2

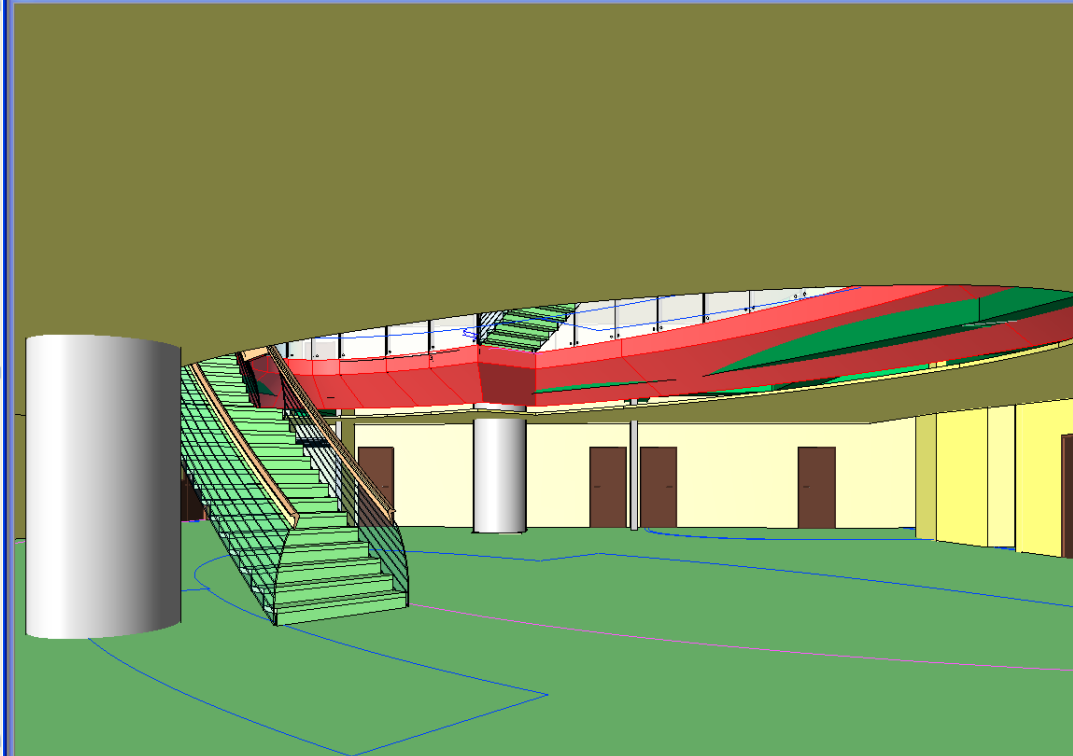
Entity Handle 2AD6
Path File ->File ->B3HVAC_Duct.nwd ->H-Ductwork-G ->Duct

CCCUB_raymond.rvt - Floor Plan: Level 45.60_1/F



1:200 0 16:22

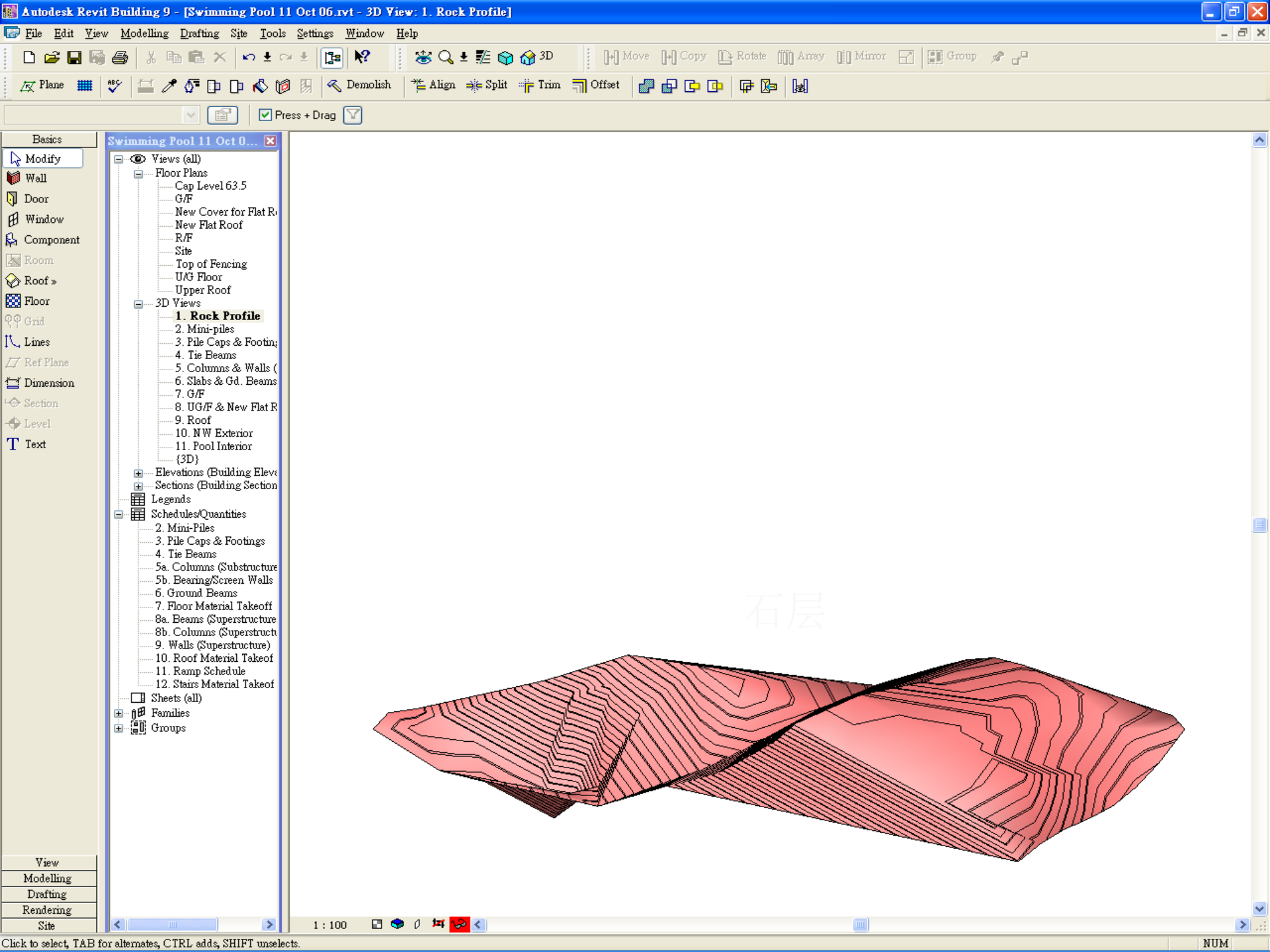
CCCUB_raymond.rvt - 3D View: Interior void area G/F

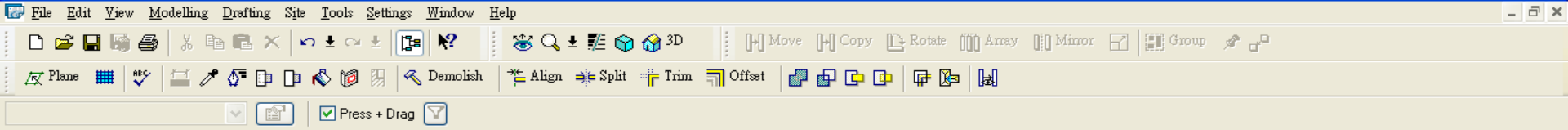


Perspective

Use of Building Information Modeling (BIM)

1. Design visualization
2. Drawing Productions
3. Services Co-ordination and Clash detection with other disciplines
- 4. Quantity taking and preparation of Tender Document** 数量拾い及び入札書類の作成
5. Automated Statutory Submission
6. Scientific analysis of different environmental aspects
7. Supply Chain Integration with the manufacturing and production
8. Complex Geometry





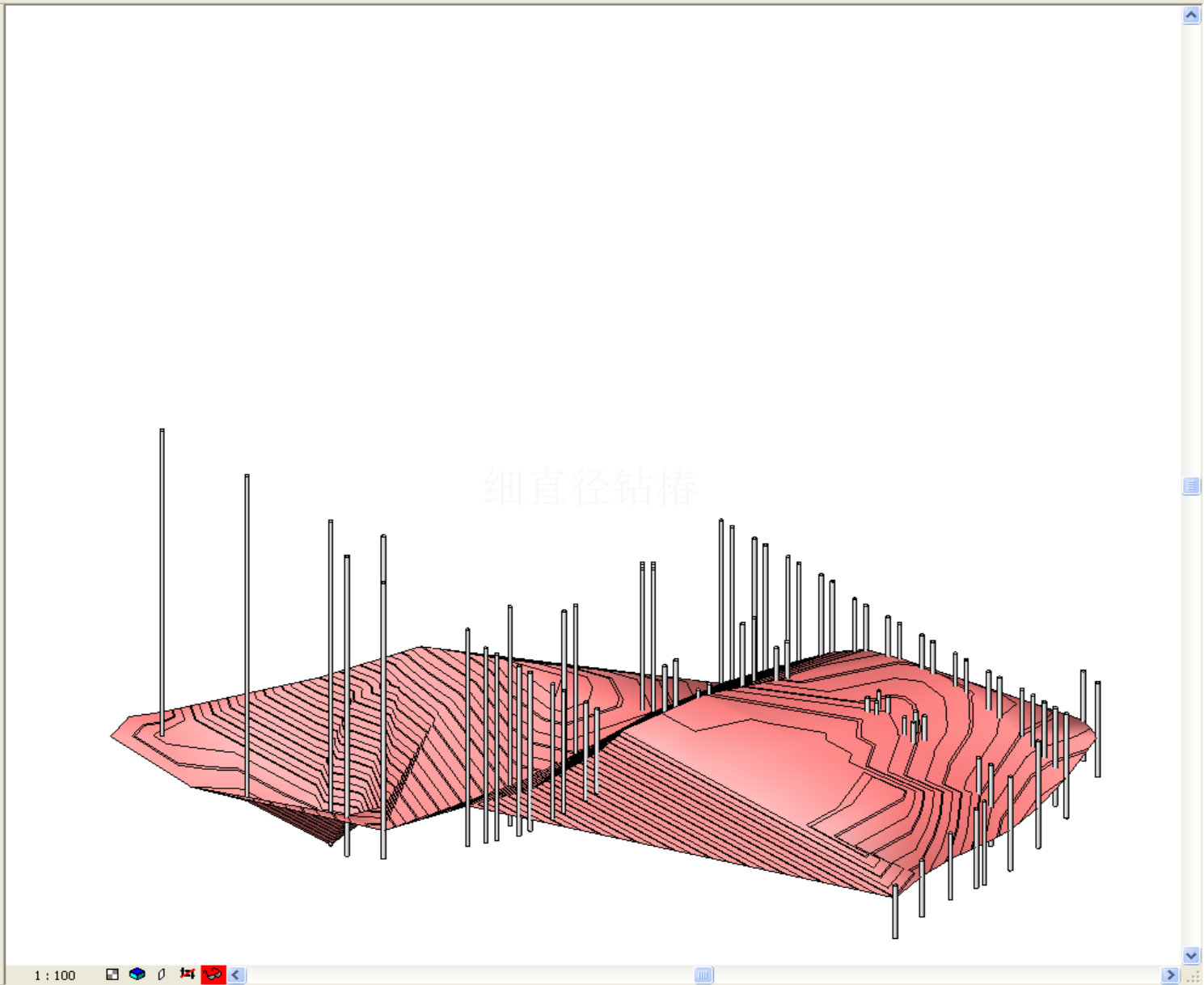
Basics

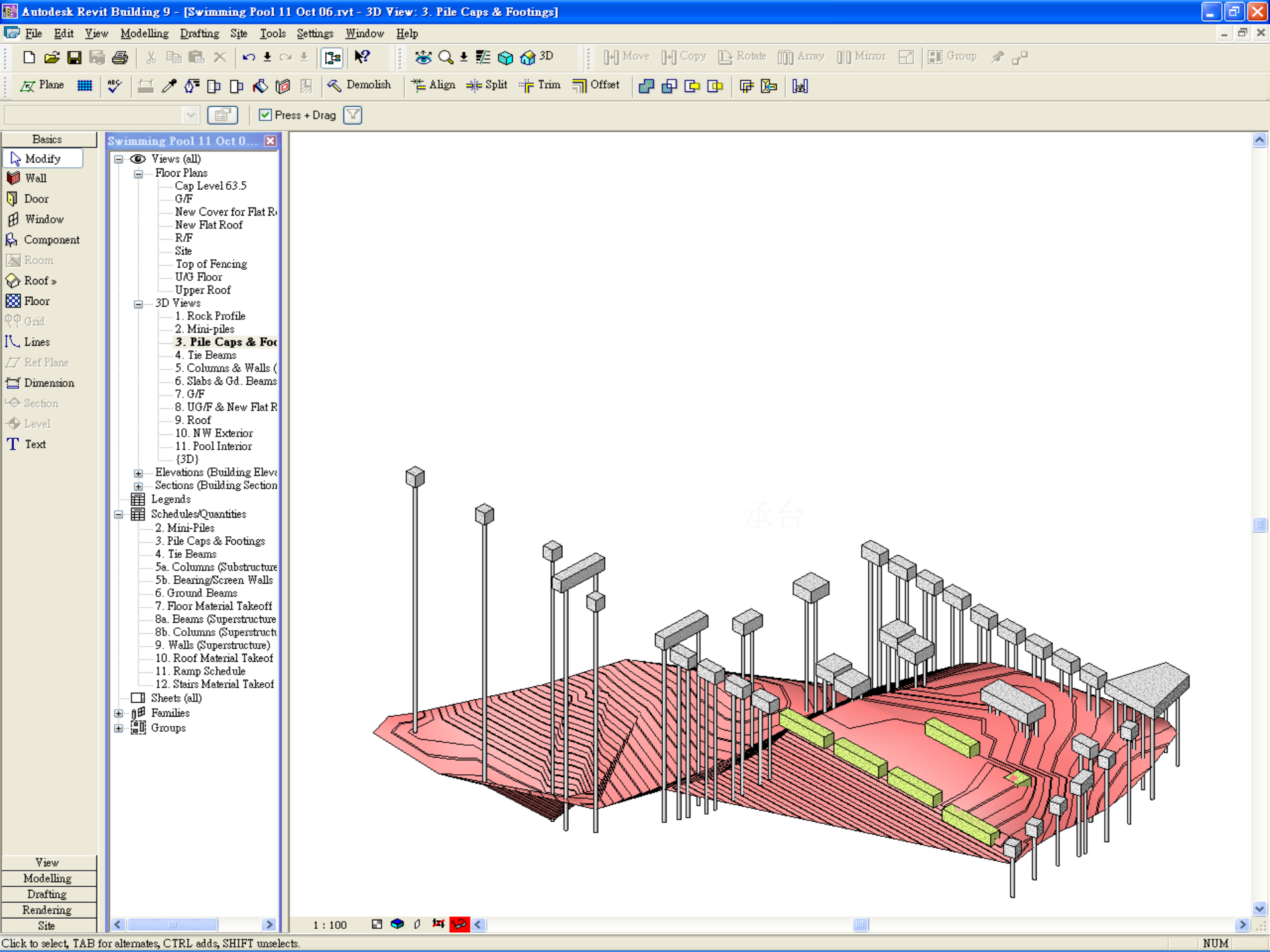
- Modify
- Wall
- Door
- Window
- Component
- Room
- Roof »
- Floor
- Grid
- Lines
- Ref Plane
- Dimension
- Section
- Level
- Text

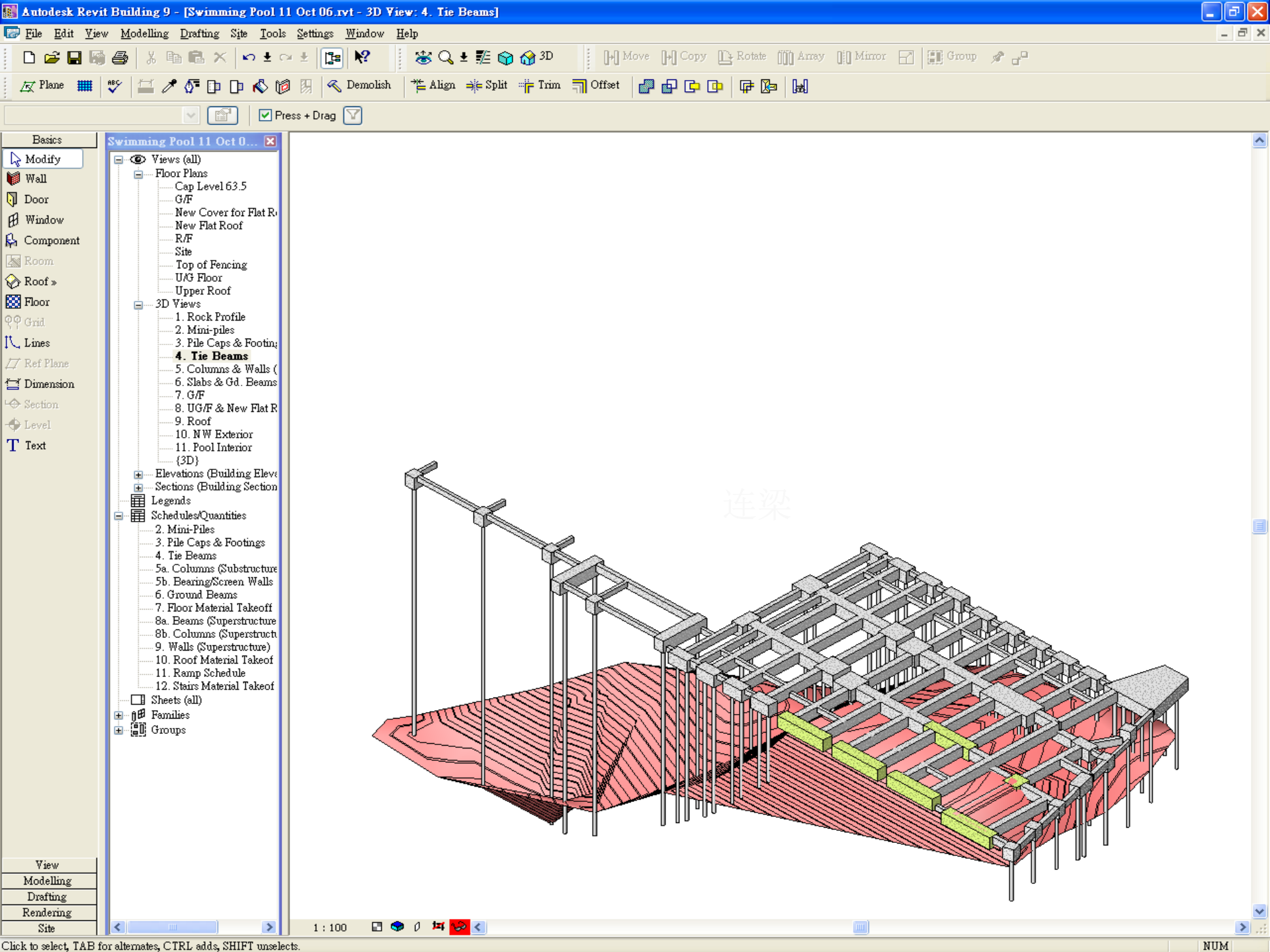
Swimming Pool 11 Oct 0...

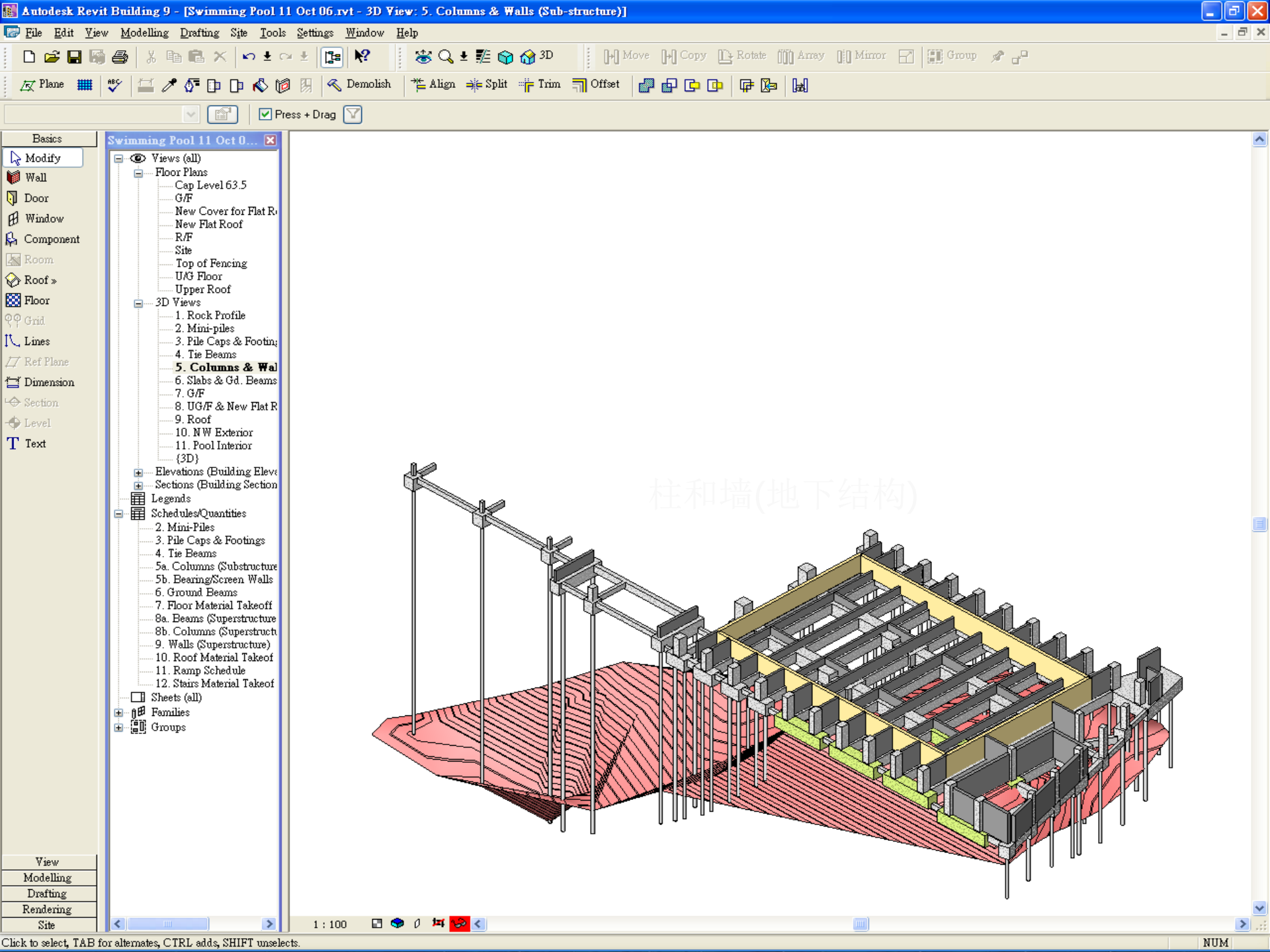
- Views (all)
 - Floor Plans
 - Cap Level 63.5
 - G/F
 - New Cover for Flat R
 - New Flat Roof
 - R/F
 - Site
 - Top of Fencing
 - UG Floor
 - Upper Roof
 - 3D Views
 - 1. Rock Profile
 - 2. Mini-piles**
 - 3. Pile Caps & Footing
 - 4. Tie Beams
 - 5. Columns & Walls (
 - 6. Slabs & Gd. Beams
 - 7. G/F
 - 8. UG/F & New Flat R
 - 9. Roof
 - 10. NW Exterior
 - 11. Pool Interior
 - (3D)
 - Elevations (Building Elev
 - Sections (Building Section
 - Legends
 - Schedules/Quantities
 - 2. Mini-Piles
 - 3. Pile Caps & Footings
 - 4. Tie Beams
 - 5a. Columns (Substructure
 - 5b. Bearing/Screen Walls
 - 6. Ground Beams
 - 7. Floor Material Takeoff
 - 8a. Beams (Superstructure
 - 8b. Columns (Superstruct
 - 9. Walls (Superstructure)
 - 10. Roof Material Takeof
 - 11. Ramp Schedule
 - 12. Stairs Material Takeof
 - Sheets (all)
 - Families
 - Groups

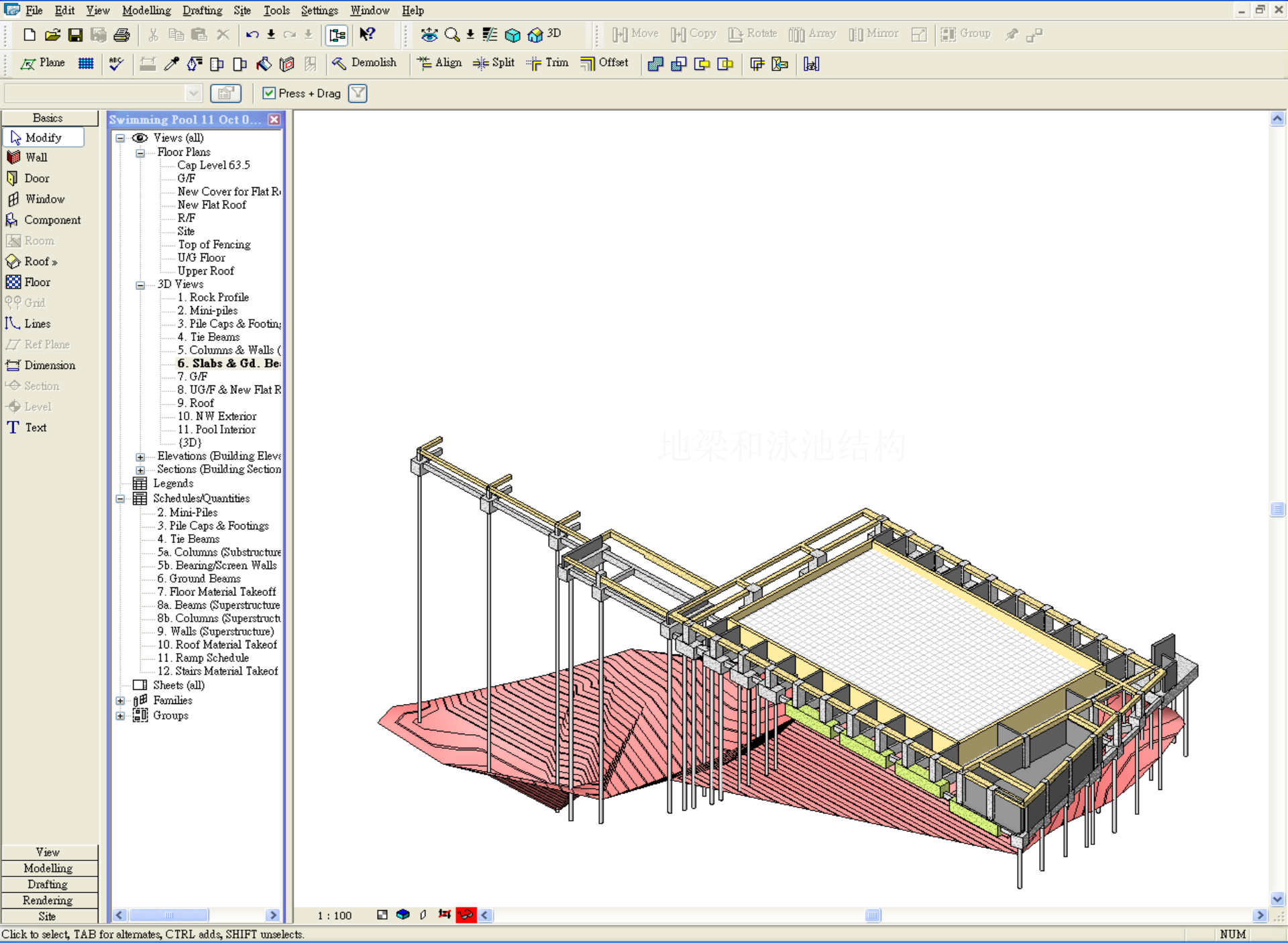
View
Modelling
Drafting
Rendering
Site

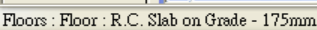




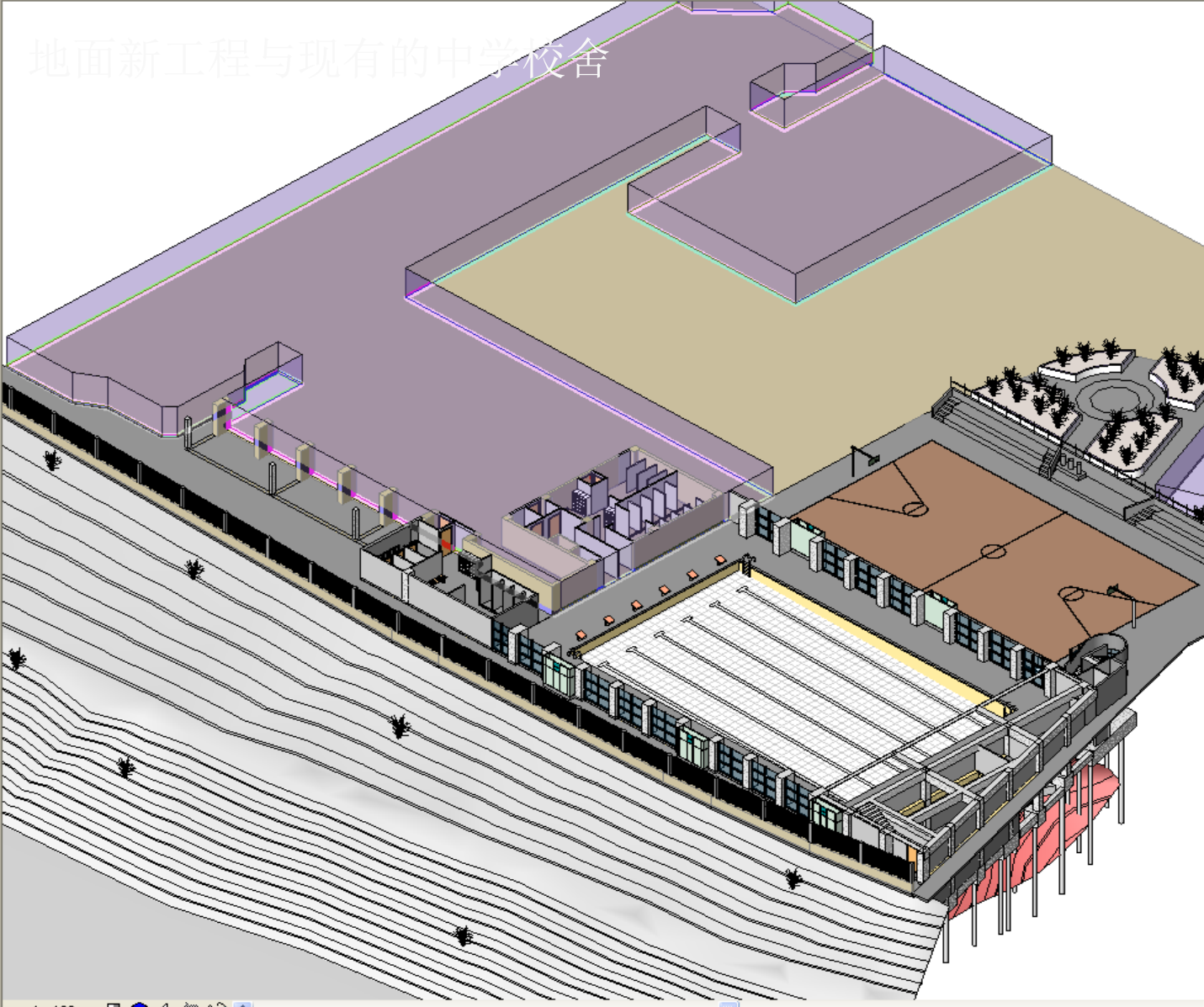




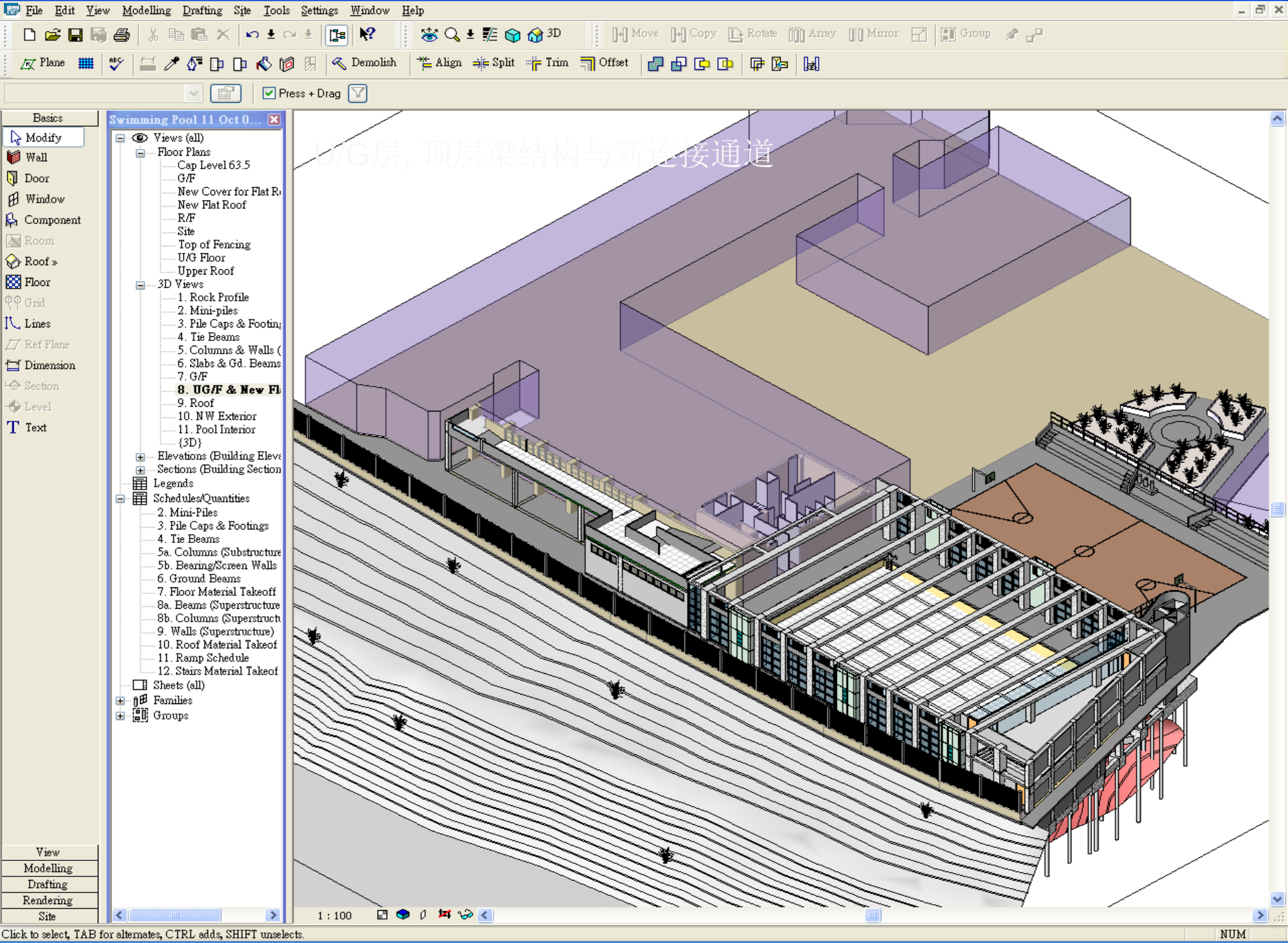


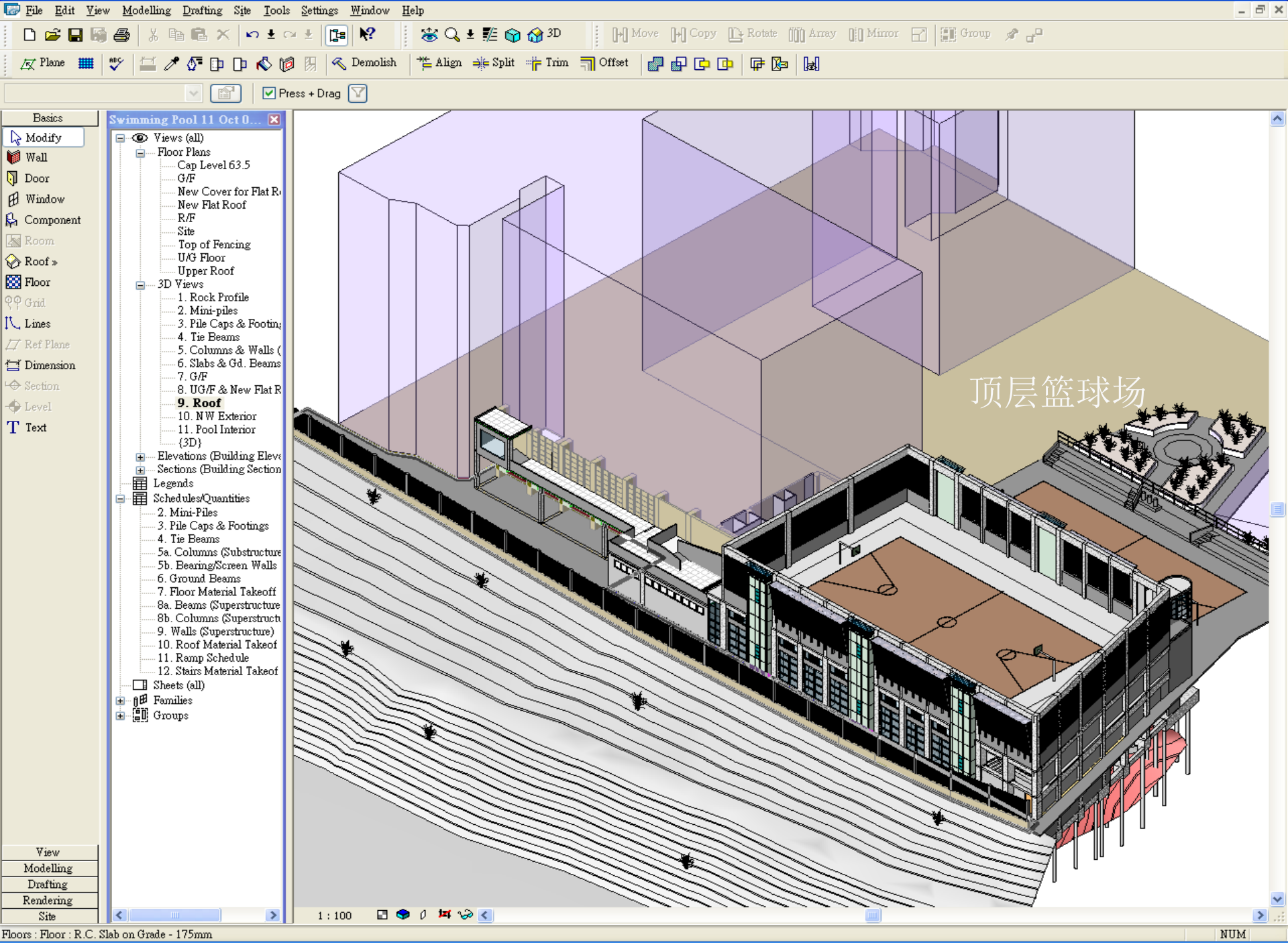


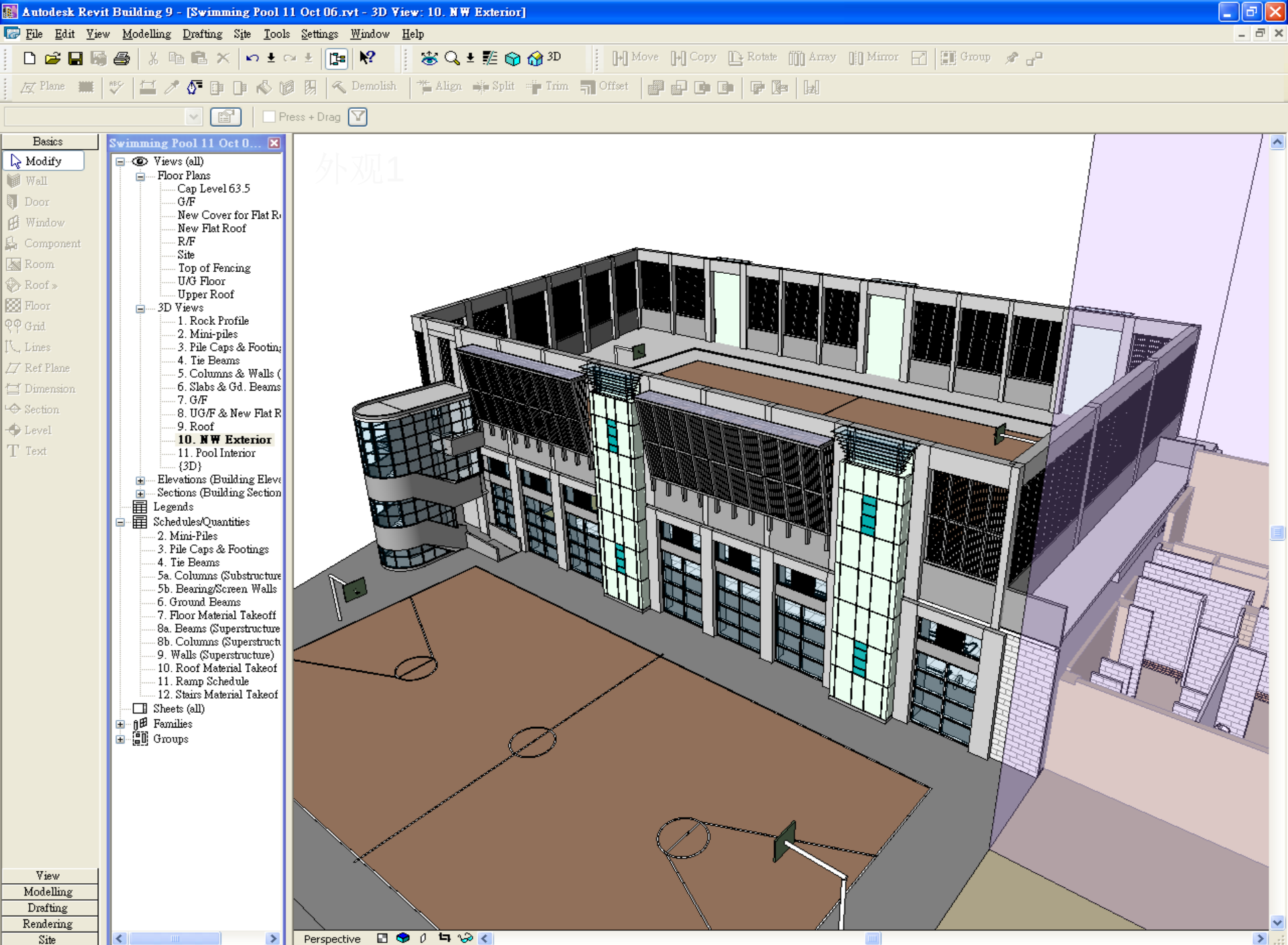
地面新工程与现有的中学校舍

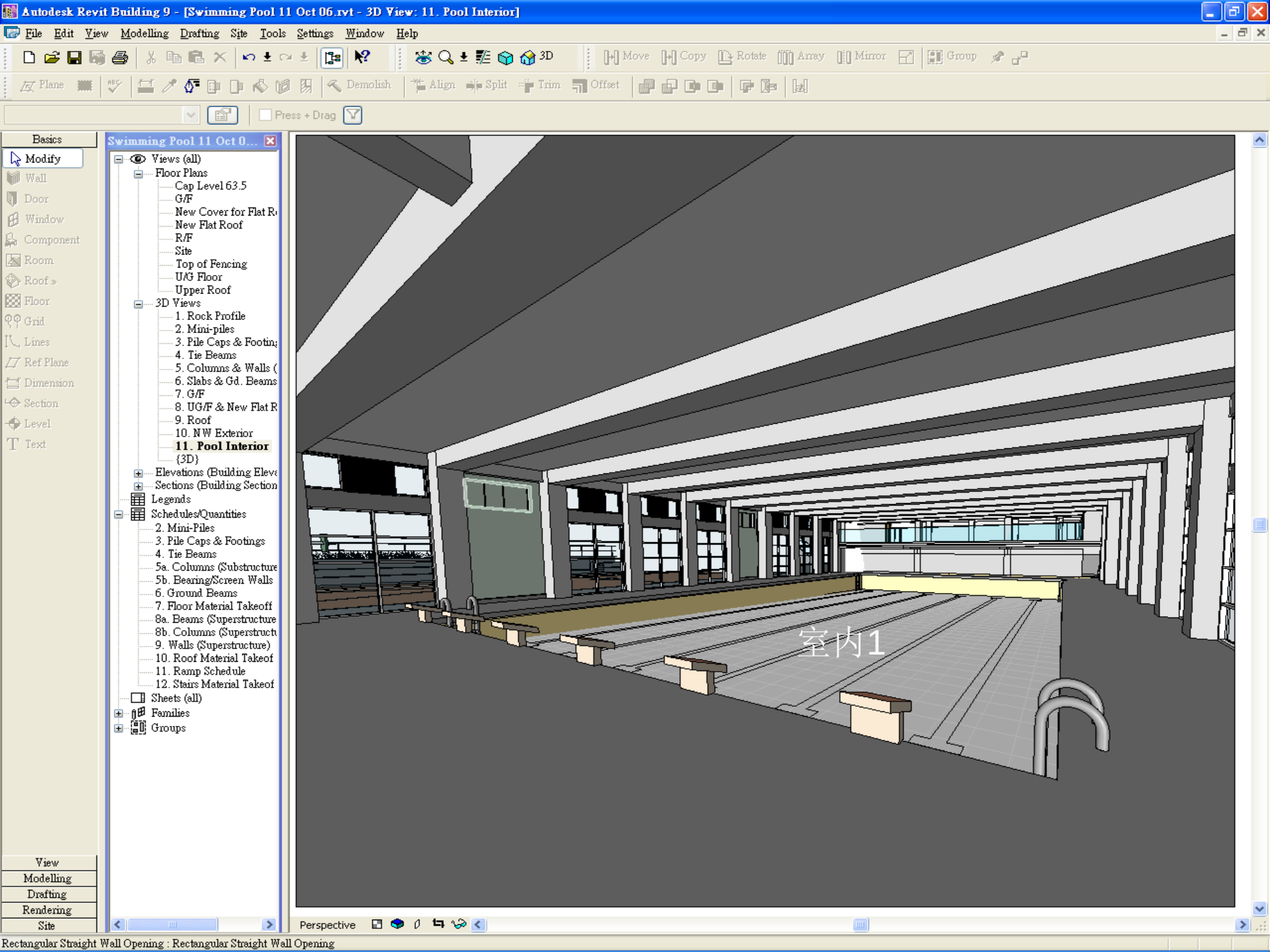


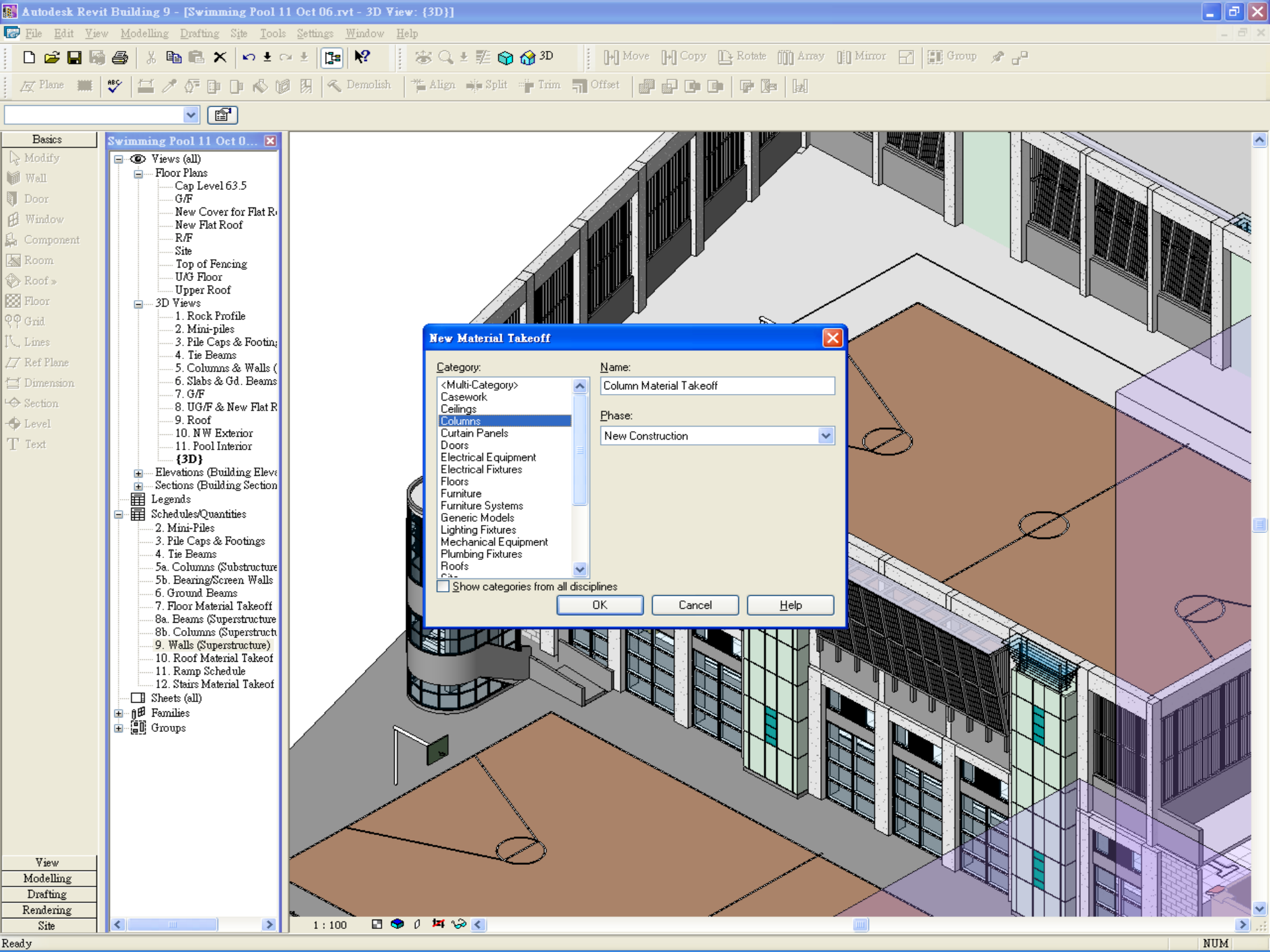
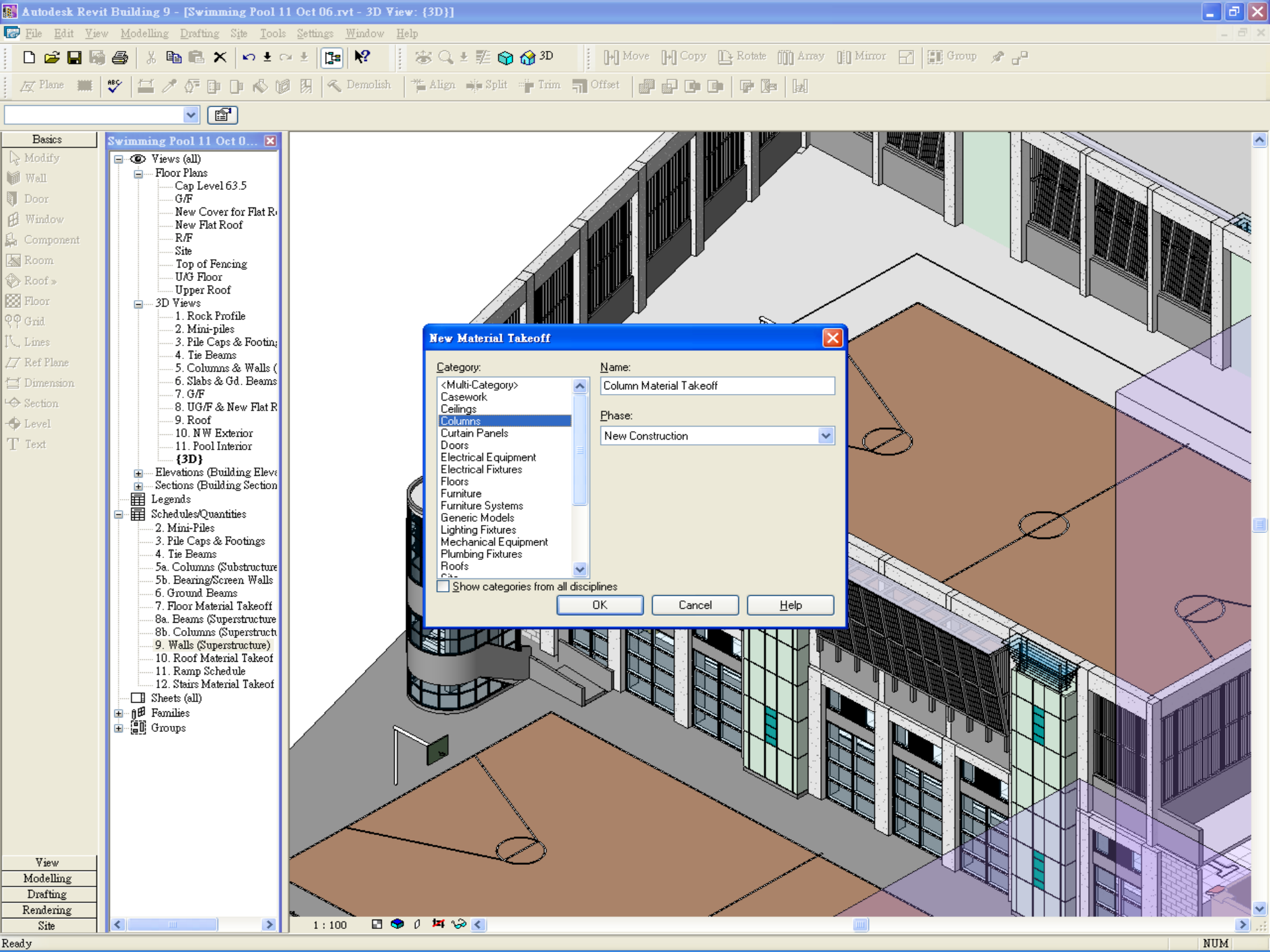
This 3D architectural rendering illustrates a proposed renovation project for a school building. The existing structure is shown in a light purple color, while the new construction is highlighted in a darker purple. The new building features a long, rectangular footprint with a central courtyard area. The existing building has a more complex, irregular shape. The rendering also shows a large, rectangular swimming pool with a diving board, situated adjacent to the new building. The pool is surrounded by a paved deck and a low wall. The surrounding landscape includes a road with a sidewalk, a parking area, and some landscaping with trees and shrubs. The rendering is presented in a perspective view, providing a clear understanding of the project's scale and context.

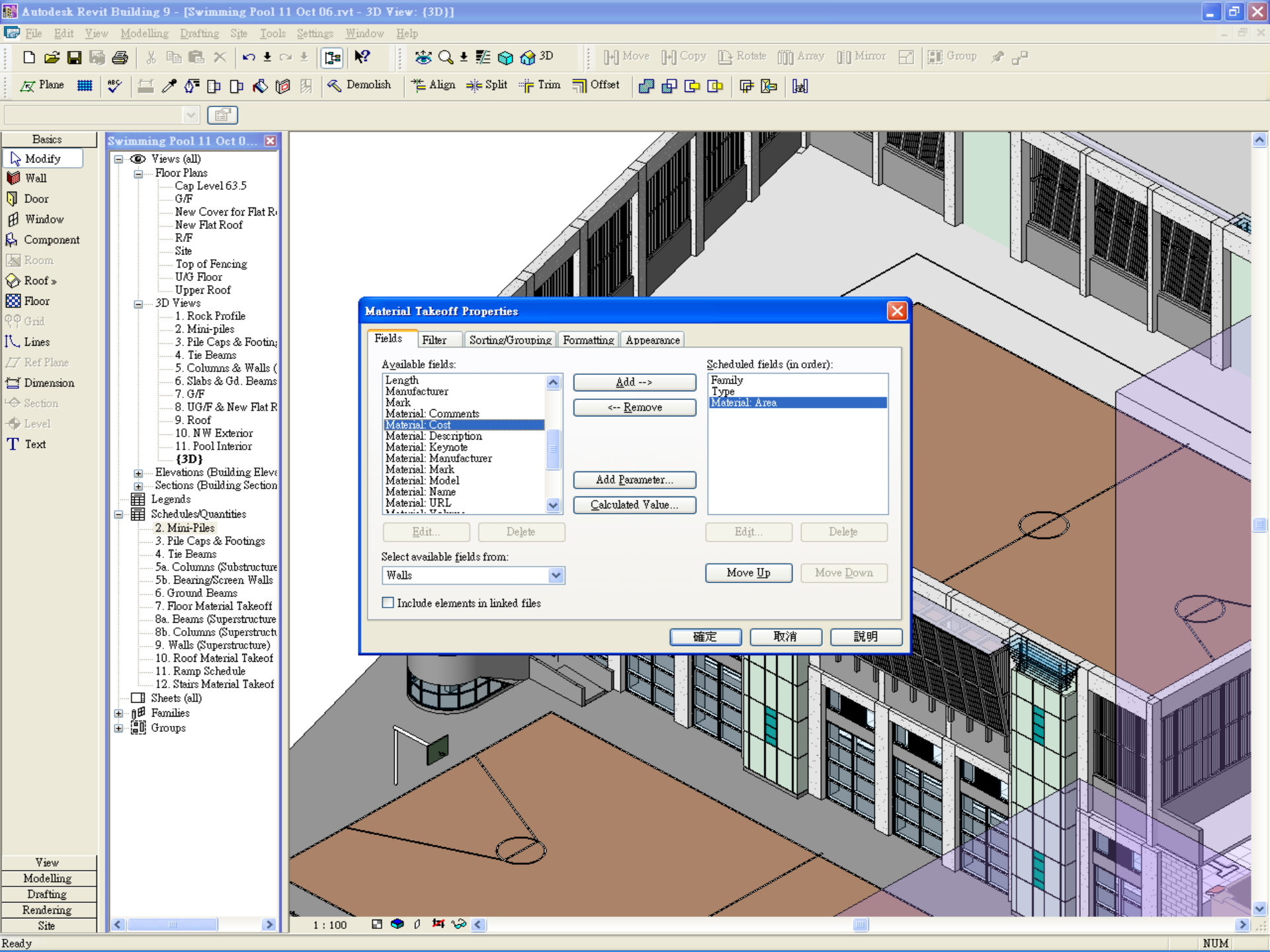












BIM DEVELOPMENTS – SPECIFICATIONS

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Use of Building Information Modeling (BIM)

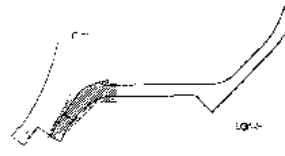
1. Design visualization
2. Drawing Productions
3. Services Co-ordination and Clash detection with other disciplines
4. Quantity taking and preparation of Tender Document
5. **Automated Statutory Submission** 確認申請図書作成の自動化
6. Scientific analysis of different environmental aspects
7. Supply Chain Integration with the manufacturing and production
8. Complex Geometry

[illegible]

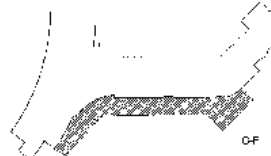
STATUTORY SUBMISSION



① EVA of Level 34.00_LG2/F
1:1000



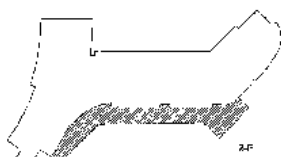
② EVA of Level 37.80 LG1/F
1:1000



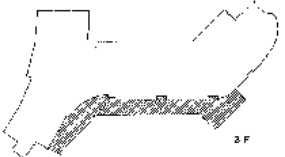
③ EVA of Level 41.60_GrF
1:1000



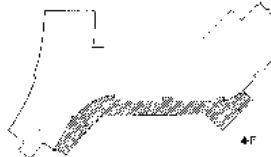
4 EVA of Level 45.60... 1/F
1:1000



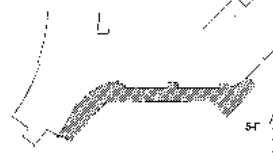
⑤ EVA of Level 49.60 2/F
1:1200



⑥ EVA of Level 53.80_3/F
1:1000

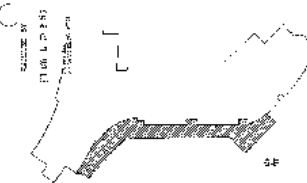


7 EVA of Level 5B.2D_4/F
1.1300



8 EVA of Level 62.00 5/F
1:1000

B D SUBMISSION



9 EVA of Level 65.80_6/F
1:1000

*Hatch area represents the total length of the building facade served by the EVA

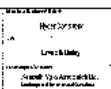
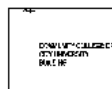
CALCULATION ON TOTAL LENGTH OF BUILDING FACADE TO BE SERVED BY EVA AND HENGCHIN 1200 OF SUCH LENGTH OVER THE TOTAL LENGTH OF ALL THE PERIMETER WALLS OF THE BUILDING

Date																						Time																						Lat																						Long																						Alt																						Speed																						Heading																						Roll																						Pitch																						Yaw																						Status																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												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姓名	性别	年龄	籍贯	民族	文化程度	职业	住址	备注
王德胜	男	45	山东	汉族	高中	教师	潍坊市潍城区	
李国强	男	38	河南	汉族	初中	工人	郑州市金水区	
张为民	男	52	江苏	汉族	大学	医生	南京市鼓楼区	
赵子龙	男	28	四川	汉族	高中	学生	成都市武侯区	
周大伟	男	41	湖北	汉族	初中	工人	武汉市江汉区	
吴小华	女	35	广东	汉族	高中	教师	广州市天河区	
陈永年	男	58	浙江	汉族	大学	教授	杭州市西湖区	
孙志远	男	32	安徽	汉族	初中	工人	合肥市庐阳区	
林晓梅	女	25	福建	汉族	高中	学生	福州市鼓楼区	
黄建刚	男	48	江西	汉族	初中	工人	南昌市东湖区	
刘玉芳	女	30	湖南	汉族	高中	教师	长沙市岳麓区	
徐长明	男	55	广西	汉族	大学	教授	南宁市青秀区	
郭为民	男	33	云南	汉族	初中	工人	昆明市五华区	
李小红	女	27	贵州	汉族	高中	学生	贵阳市南明区	
王德胜	男	45	山东	汉族	高中	教师	潍坊市潍城区	
李国强	男	38	河南	汉族	初中	工人	郑州市金水区	
张为民	男	52	江苏	汉族	大学	医生	南京市鼓楼区	
赵子龙	男	28	四川	汉族	高中	学生	成都市武侯区	
周大伟	男	41	湖北	汉族	初中	工人	武汉市江汉区	
吴小华	女	35	广东	汉族	高中	教师	广州市天河区	
陈永年	男	58	浙江	汉族	大学	教授	杭州市西湖区	
孙志远	男	32	安徽	汉族	初中	工人	合肥市庐阳区	
林晓梅	女	25	福建	汉族	高中	学生	福州市鼓楼区	
黄建刚	男	48	江西	汉族	初中	工人	南昌市东湖区	
刘玉芳	女	30	湖南	汉族	高中	教师	长沙市岳麓区	
徐长明	男	55	广西	汉族	大学	教授	南宁市青秀区	
郭为民	男	33	云南	汉族	初中	工人	昆明市五华区	
李小红	女	27	贵州	汉族	高中	学生	贵阳市南明区	

PELLEGRINI									
Year	Age	Sex	Height	Weight	Handspan	Handgrip	Vertical jump	Horizontal jump	Reaction time
2007	20:373	F	170.5 (55)	57	1.54 (56)	11	21.1 (36)	1.0	20.0
2008	20:579	F	170.5 (55)	57	1.54 (56)	11	21.1 (36)	1.0	20.0
2009	20:614	F	170.5 (55)	57	1.54 (56)	11	21.1 (36)	1.0	20.0
2010	20:603	F	170.5 (55)	57	1.54 (56)	11	21.1 (36)	1.0	20.0
2011	20:603	F	170.5 (55)	57	1.54 (56)	11	21.1 (36)	1.0	20.0
2012	20:603	F	170.5 (55)	57	1.54 (56)	11	21.1 (36)	1.0	20.0
2013	20:603	F	170.5 (55)	57	1.54 (56)	11	21.1 (36)	1.0	20.0
2014	20:603	F	170.5 (55)	57	1.54 (56)	11	21.1 (36)	1.0	20.0
2015	20:603	F	170.5 (55)	57	1.54 (56)	11	21.1 (36)	1.0	20.0
2016	20:603	F	170.5 (55)	57	1.54 (56)	11	21.1 (36)	1.0	20.0
2017	20:603	F	170.5 (55)	57	1.54 (56)	11	21.1 (36)	1.0	20.0
2018	20:603	F	170.5 (55)	57	1.54 (56)	11	21.1 (36)	1.0	20.0
2019	20:603	F	170.5 (55)	57	1.54 (56)	11	21.1 (36)	1.0	20.0
2020	20:603	F	170.5 (55)	57	1.54 (56)	11	21.1 (36)	1.0	20.0

7200 Appraisal
 CITEP King's Rd.
 Chief Building Surveyor
 for BUILDING AUTHORITY
 1 / OCT. 2016



STATUTORY SUBMISSION

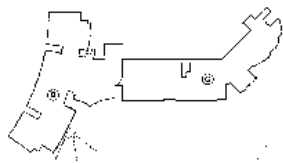
LG/F (+37.80) COMPARTMENT CALCULATION



3/F (+53.80) COMPARTMENT CALCULATION



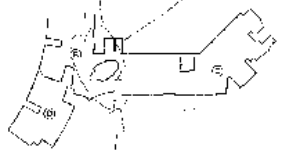
G/F (+41.80) COMPARTMENT CALCULATION



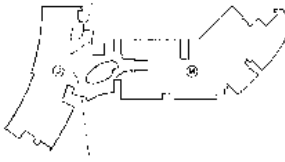
4/F (+53.20) COMPARTMENT CALCULATION



1/F (+45.80) COMPARTMENT CALCULATION



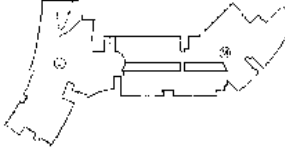
5/F (+52.00) COMPARTMENT CALCULATION



2/F (+49.80) COMPARTMENT CALCULATION



6/F (+55.50) COMPARTMENT CALCULATION



COMPARTMENT OF FLOOR				
FLOOR	AREA	PERIMETER	PERIMETER	PERIMETER
FLOOR	AREA	PERIMETER	PERIMETER	PERIMETER
LG/F	146.40	146.40	146.40	146.40
1/F	146.40	146.40	146.40	146.40
2/F	146.40	146.40	146.40	146.40
3/F	146.40	146.40	146.40	146.40
4/F	146.40	146.40	146.40	146.40
5/F	146.40	146.40	146.40	146.40
6/F	146.40	146.40	146.40	146.40
7/F	146.40	146.40	146.40	146.40
8/F	146.40	146.40	146.40	146.40
9/F	146.40	146.40	146.40	146.40
10/F	146.40	146.40	146.40	146.40
11/F	146.40	146.40	146.40	146.40
12/F	146.40	146.40	146.40	146.40
13/F	146.40	146.40	146.40	146.40
14/F	146.40	146.40	146.40	146.40
15/F	146.40	146.40	146.40	146.40
16/F	146.40	146.40	146.40	146.40
17/F	146.40	146.40	146.40	146.40
18/F	146.40	146.40	146.40	146.40
19/F	146.40	146.40	146.40	146.40
20/F	146.40	146.40	146.40	146.40
21/F	146.40	146.40	146.40	146.40
22/F	146.40	146.40	146.40	146.40
23/F	146.40	146.40	146.40	146.40
24/F	146.40	146.40	146.40	146.40
25/F	146.40	146.40	146.40	146.40
26/F	146.40	146.40	146.40	146.40
27/F	146.40	146.40	146.40	146.40
28/F	146.40	146.40	146.40	146.40
29/F	146.40	146.40	146.40	146.40
30/F	146.40	146.40	146.40	146.40
31/F	146.40	146.40	146.40	146.40
32/F	146.40	146.40	146.40	146.40
33/F	146.40	146.40	146.40	146.40
34/F	146.40	146.40	146.40	146.40
35/F	146.40	146.40	146.40	146.40
36/F	146.40	146.40	146.40	146.40
37/F	146.40	146.40	146.40	146.40
38/F	146.40	146.40	146.40	146.40
39/F	146.40	146.40	146.40	146.40
40/F	146.40	146.40	146.40	146.40
41/F	146.40	146.40	146.40	146.40
42/F	146.40	146.40	146.40	146.40
43/F	146.40	146.40	146.40	146.40
44/F	146.40	146.40	146.40	146.40
45/F	146.40	146.40	146.40	146.40
46/F	146.40	146.40	146.40	146.40
47/F	146.40	146.40	146.40	146.40
48/F	146.40	146.40	146.40	146.40
49/F	146.40	146.40	146.40	146.40
50/F	146.40	146.40	146.40	146.40
51/F	146.40	146.40	146.40	146.40
52/F	146.40	146.40	146.40	146.40
53/F	146.40	146.40	146.40	146.40
54/F	146.40	146.40	146.40	146.40
55/F	146.40	146.40	146.40	146.40
56/F	146.40	146.40	146.40	146.40
57/F	146.40	146.40	146.40	146.40
58/F	146.40	146.40	146.40	146.40
59/F	146.40	146.40	146.40	146.40
60/F	146.40	146.40	146.40	146.40
61/F	146.40	146.40	146.40	146.40
62/F	146.40	146.40	146.40	146.40
63/F	146.40	146.40	146.40	146.40
64/F	146.40	146.40	146.40	146.40
65/F	146.40	146.40	146.40	146.40
66/F	146.40	146.40	146.40	146.40
67/F	146.40	146.40	146.40	146.40
68/F	146.40	146.40	146.40	146.40
69/F	146.40	146.40	146.40	146.40
70/F	146.40	146.40	146.40	146.40
71/F	146.40	146.40	146.40	146.40
72/F	146.40	146.40	146.40	146.40
73/F	146.40	146.40	146.40	146.40
74/F	146.40	146.40	146.40	146.40
75/F	146.40	146.40	146.40	146.40
76/F	146.40	146.40	146.40	146.40
77/F	146.40	146.40	146.40	146.40
78/F	146.40	146.40	146.40	146.40
79/F	146.40	146.40	146.40	146.40
80/F	146.40	146.40	146.40	146.40
81/F	146.40	146.40	146.40	146.40
82/F	146.40	146.40	146.40	146.40
83/F	146.40	146.40	146.40	146.40
84/F	146.40	146.40	146.40	146.40
85/F	146.40	146.40	146.40	146.40
86/F	146.40	146.40	146.40	146.40
87/F	146.40	146.40	146.40	146.40
88/F	146.40	146.40	146.40	146.40
89/F	146.40	146.40	146.40	146.40
90/F	146.40	146.40	146.40	146.40
91/F	146.40	146.40	146.40	146.40
92/F	146.40	146.40	146.40	146.40
93/F	146.40	146.40	146.40	146.40
94/F	146.40	146.40	146.40	146.40
95/F	146.40	146.40	146.40	146.40
96/F	146.40	146.40	146.40	146.40
97/F	146.40	146.40	146.40	146.40
98/F	146.40	146.40	146.40	146.40
99/F	146.40	146.40	146.40	146.40
100/F	146.40	146.40	146.40	146.40

Total Capacity of COQUE				
Location	Use	Area	Factor	Total Capacity
LG/F	Office	275.442	9	31
G/F	Shop	54.208	3	19
G/F	Office	412.213	9	41
3/F	Restaurant	118.344	1	118
3/F	Kitchen	481.136	4.5	107
5/F	Office	212.144	9	294
6/F	Office	2031.235	9	226
6/F	Restaurant	178.557	1	177
6/F	Kitchen	166.561	4.5	42
6/F	Exhibition hall	704.211	2	353
Total number of students				6000
Total				814

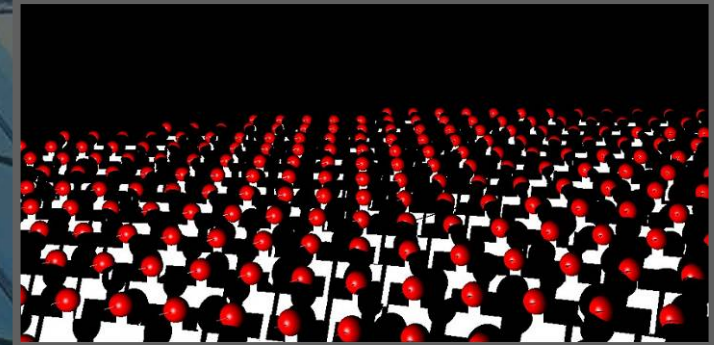
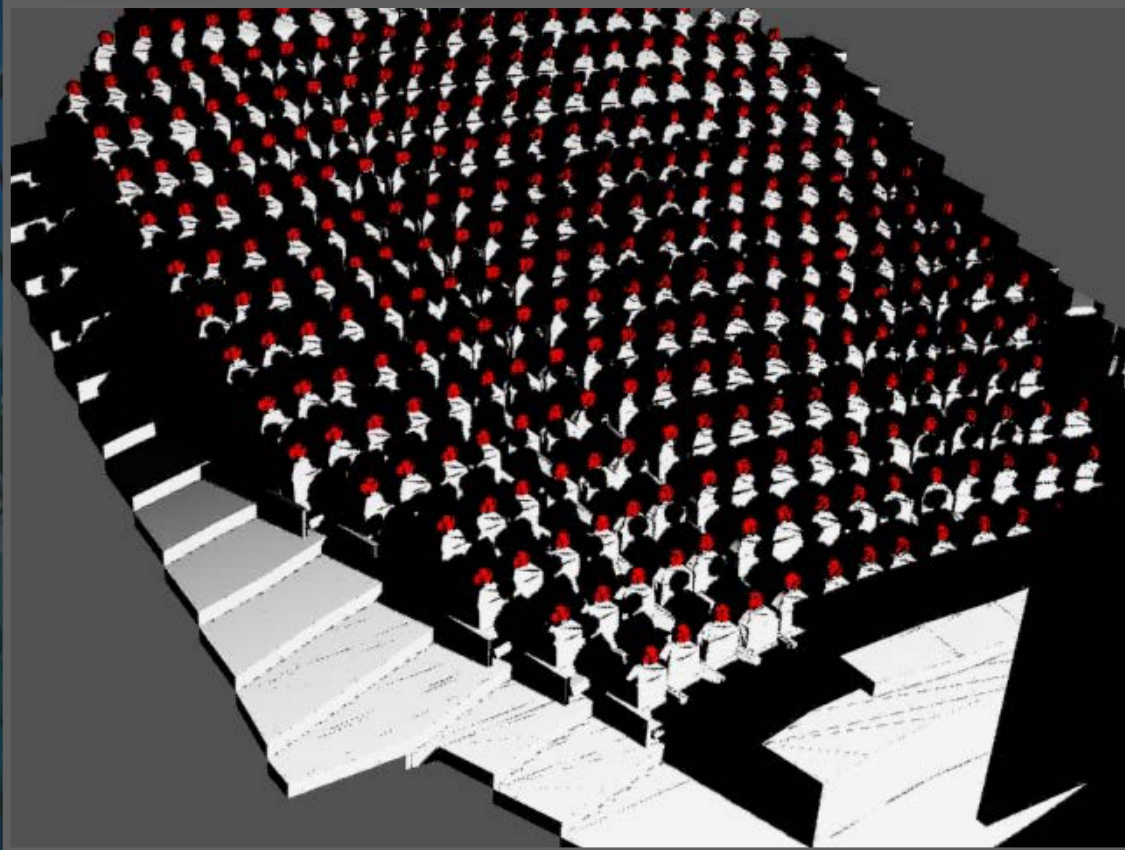
SCHEDULE 1: MINIMUM NUMBER & WIDTH OF EXIT ROUTES FOR EACH FLOOR

		MIN. NO. OF EXIT ROUTES				MIN. WIDTH OF EACH EXIT ROUTE				MIN. TOTAL WIDTH OF EXIT ROUTES			
LOCATION	FLOOR	ZONING	REQD.	PHAS.	EXIT ROUTE		EXIT POINT		EXIT CORRIDOR		EXIT DOOR		
					REQD.	PHAS.	REQD.	PHAS.	REQD.	PHAS.	REQD.	PHAS.	
LG/F	1	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	2	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	3	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	4	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	5	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	6	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	7	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	8	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	9	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	10	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	11	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	12	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	13	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	14	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	15	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	16	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	17	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	18	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	19	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	20	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	21	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	22	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	23	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	24	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	25	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	26	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	27	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	28	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	29	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	30	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	31	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	32	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	33	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	34	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	35	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	36	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	37	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	38	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	39	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	40	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	41	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	42	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	43	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	44	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	45	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	46	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	47	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	48	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	49	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	50	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	51	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	52	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	53	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	54	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	55	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	56	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	57	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	58	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	59	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	60	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	61	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	62	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	63	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	64	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	65	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	66	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	67	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	68	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	69	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	70	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	71	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	72	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	73	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	74	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	75	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	76	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	77	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	78	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	79	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	80	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	81	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	82	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	83	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	84	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	85	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	86	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	87	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	88	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	89	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	90	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	91	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	92	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	93	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	94	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	95	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	96	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	97	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	98	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	99	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
LG/F	100	1	1	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

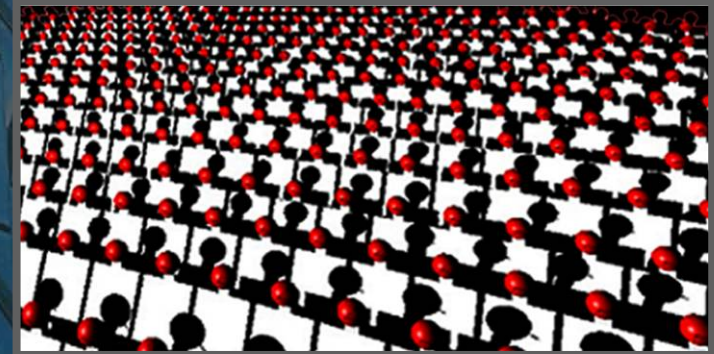
T 800-456-7890
P 944-567-890
E info@mycompany.com

Use of Building Information Modeling (BIM)

1. Design visualization
2. Drawing Productions
3. Services Co-ordination and Clash detection with other disciplines
4. Quantity taking and preparation of Tender Document
5. Automated Statutory Submission
6. **Scientific analysis of different environmental aspects** 様々な環境解析
7. Supply Chain Integration with the manufacturing and production
8. Complex Geometry



Unsatisfactory sightlines

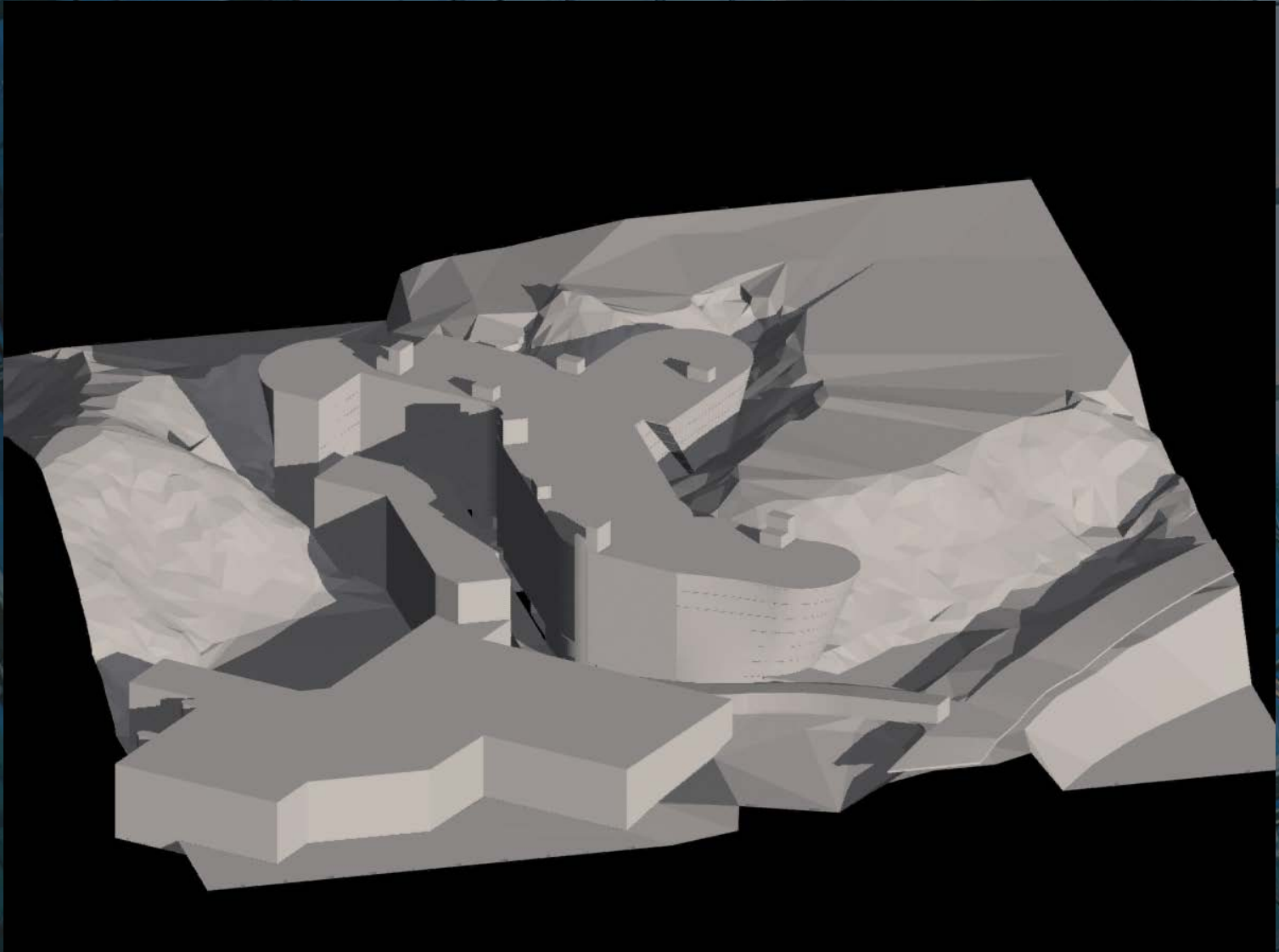


Satisfactory sightlines

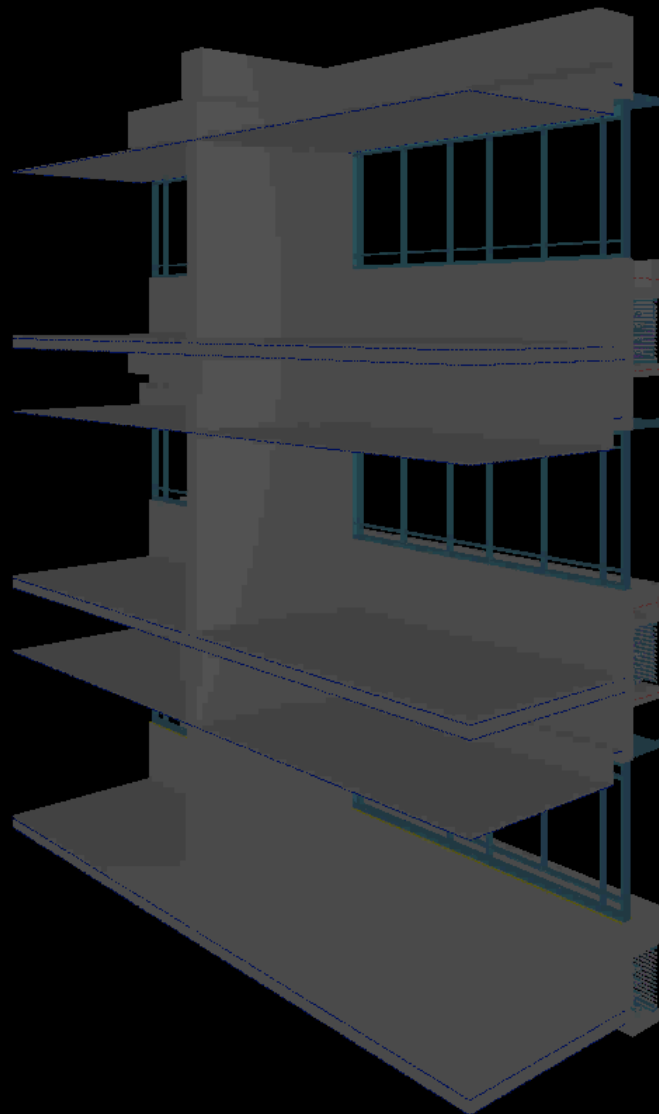
Radiating Light Method

SIGHTLINE STUDIES

ANALYSIS



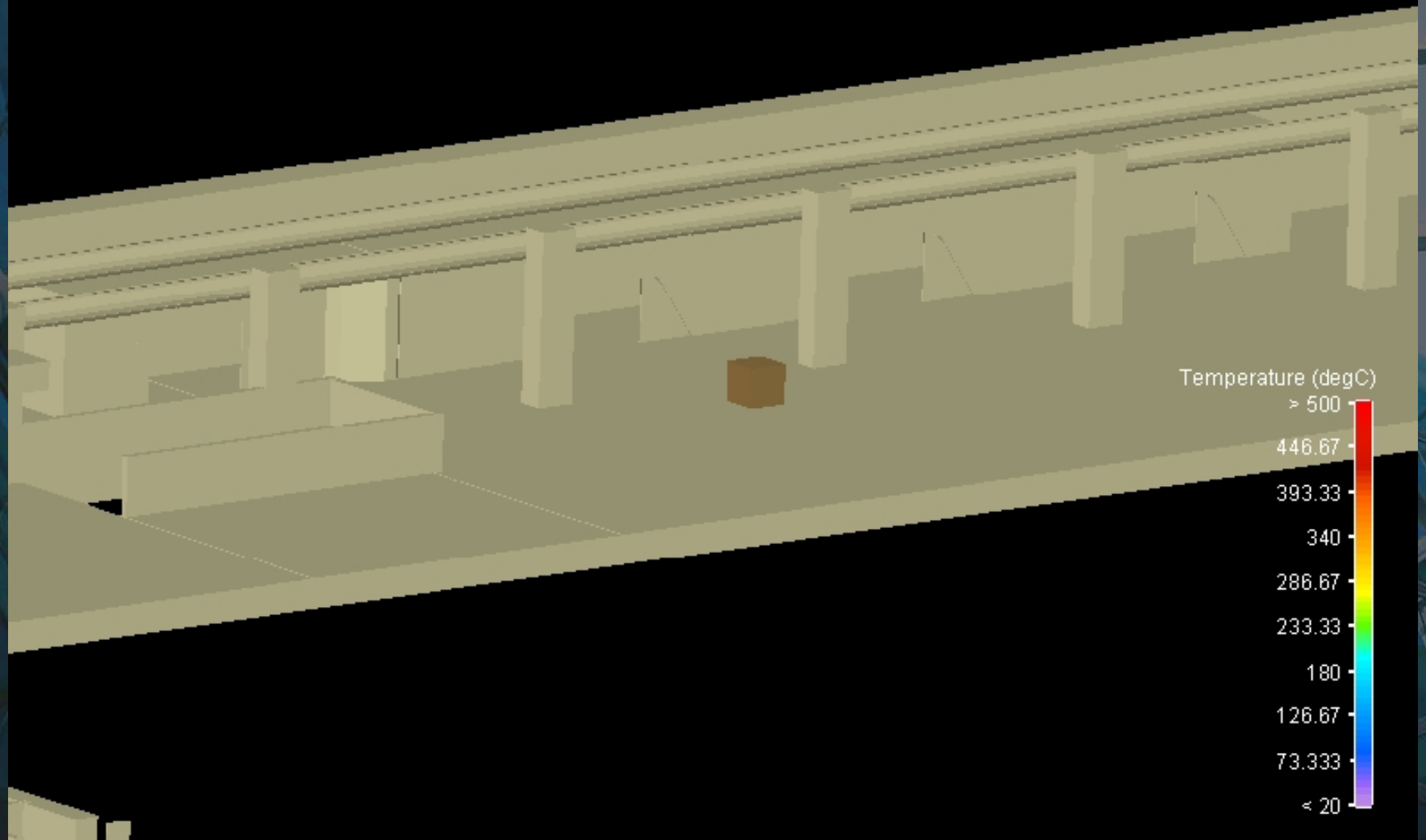
SUN STUDY



FAÇADE SOLAR STUDY
21/12/2006 7:00am – 6:00pm

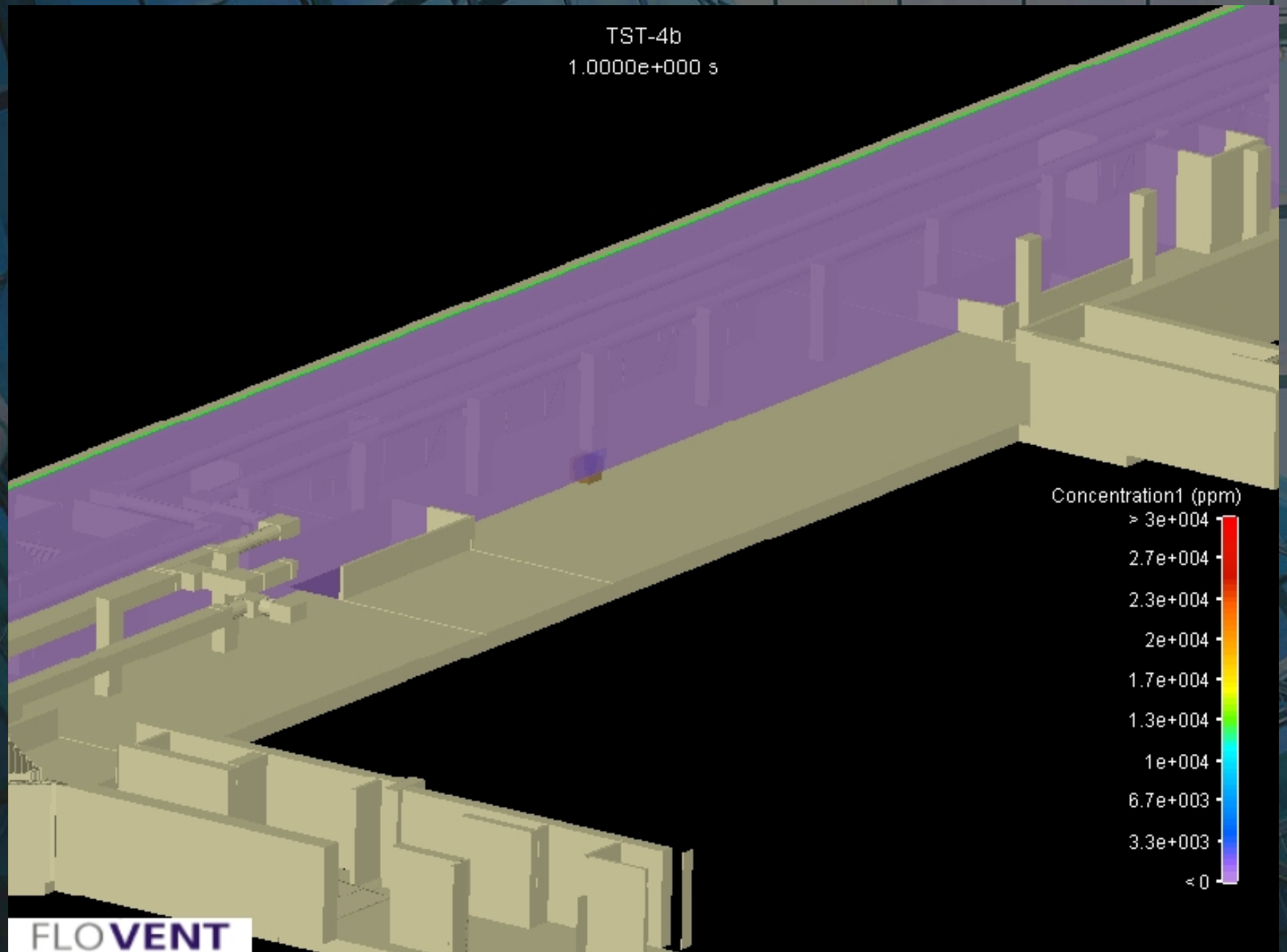
ANALYSIS

TST-4c
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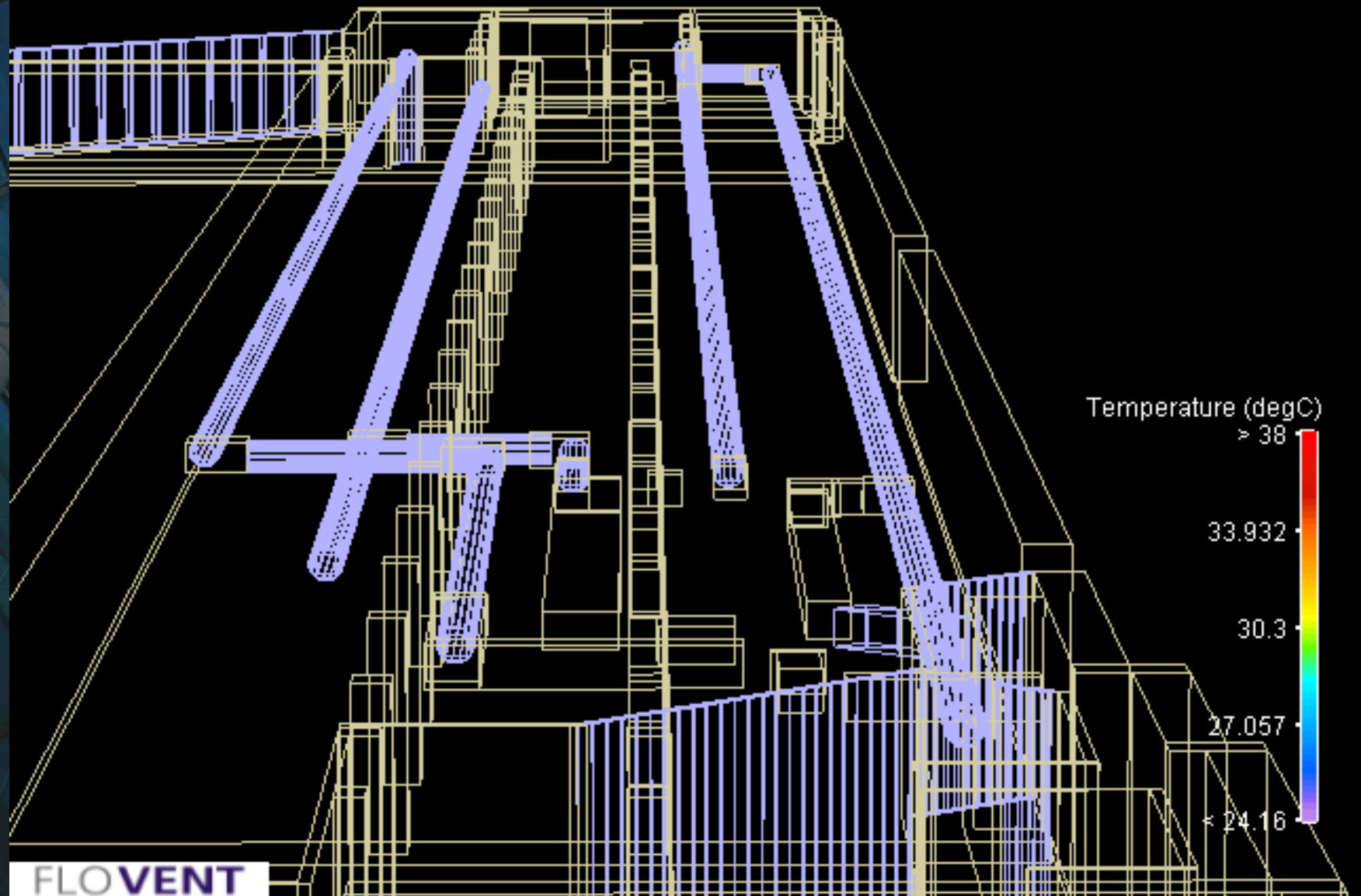


ANALYSIS

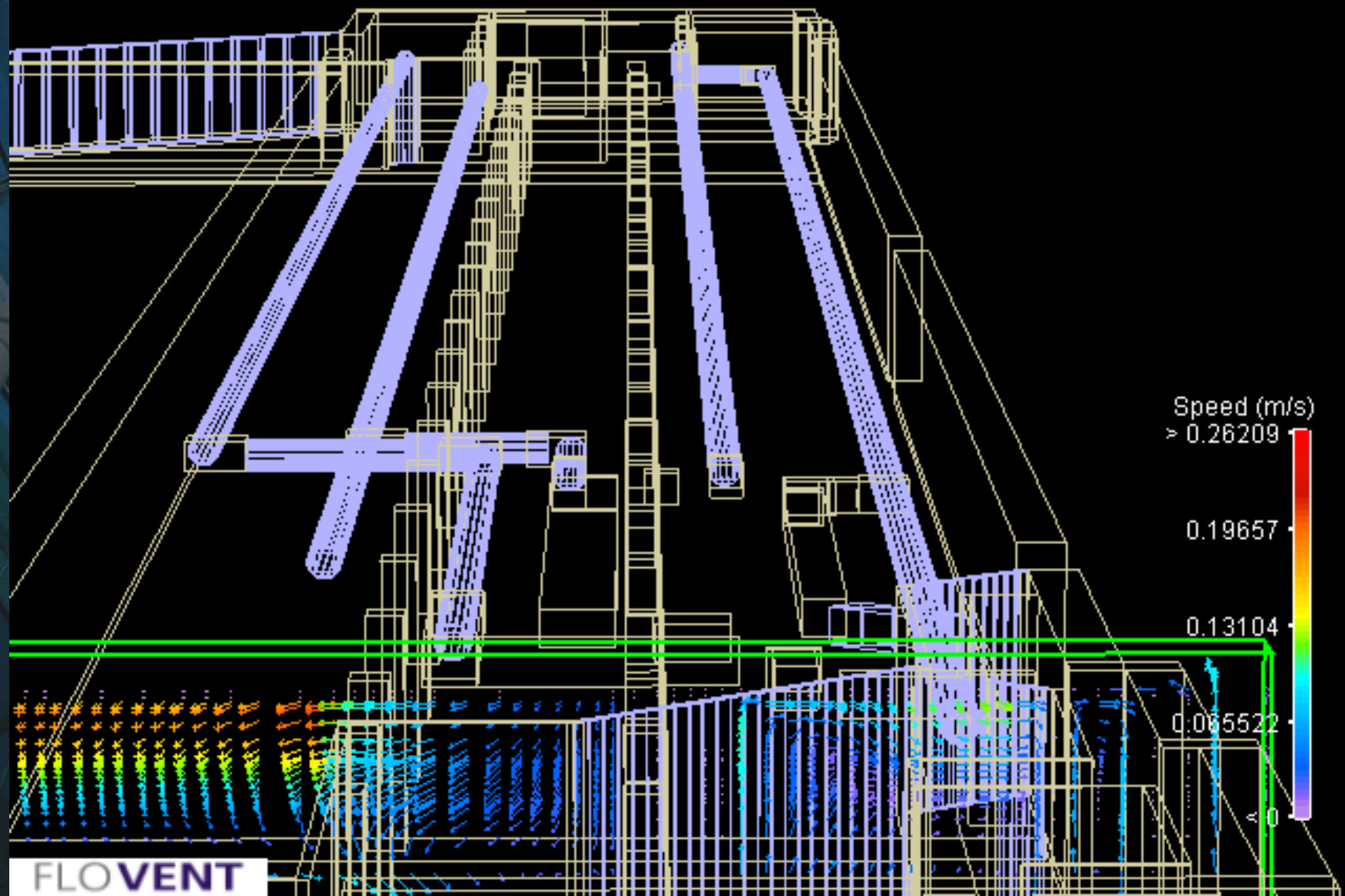
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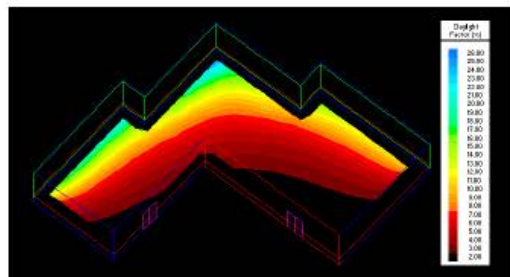


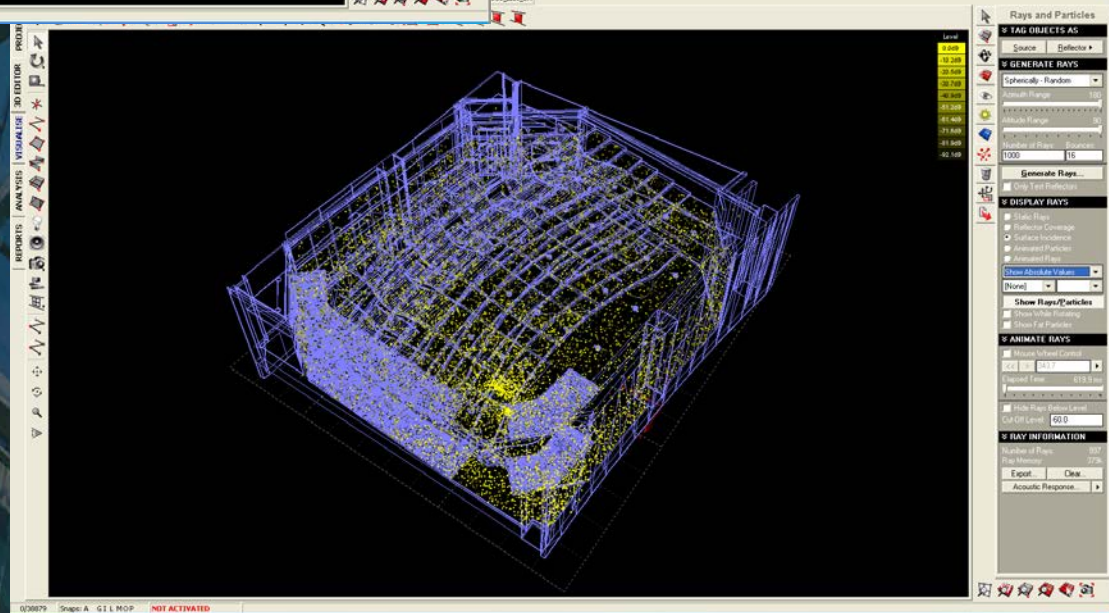
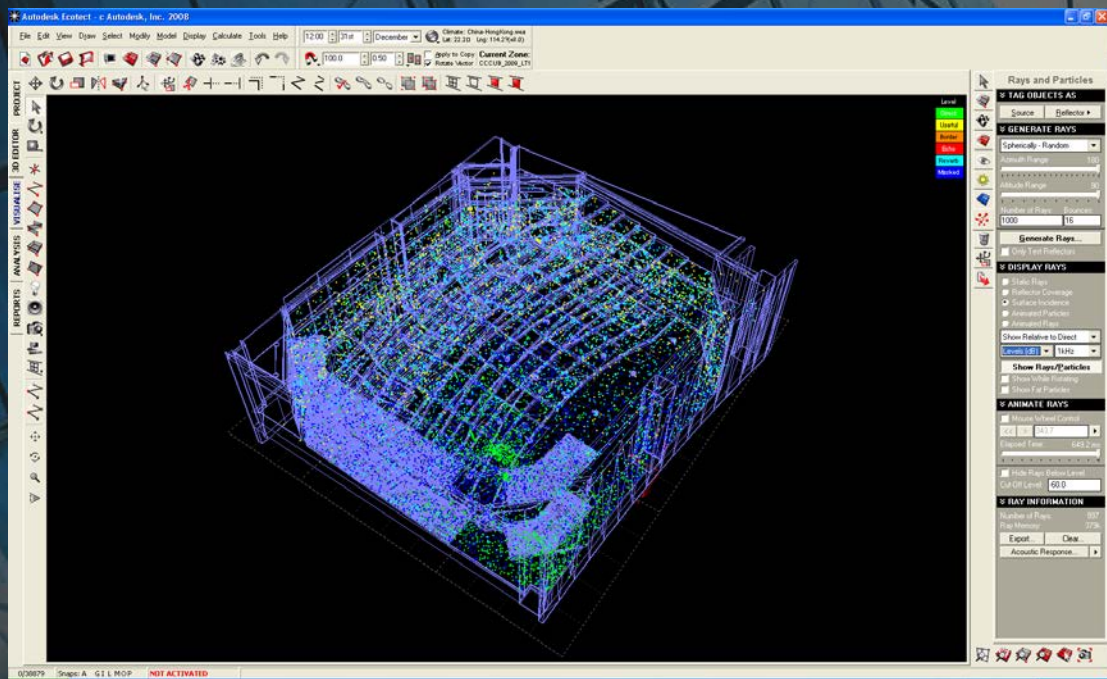
ANALYSIS



ANALYSIS





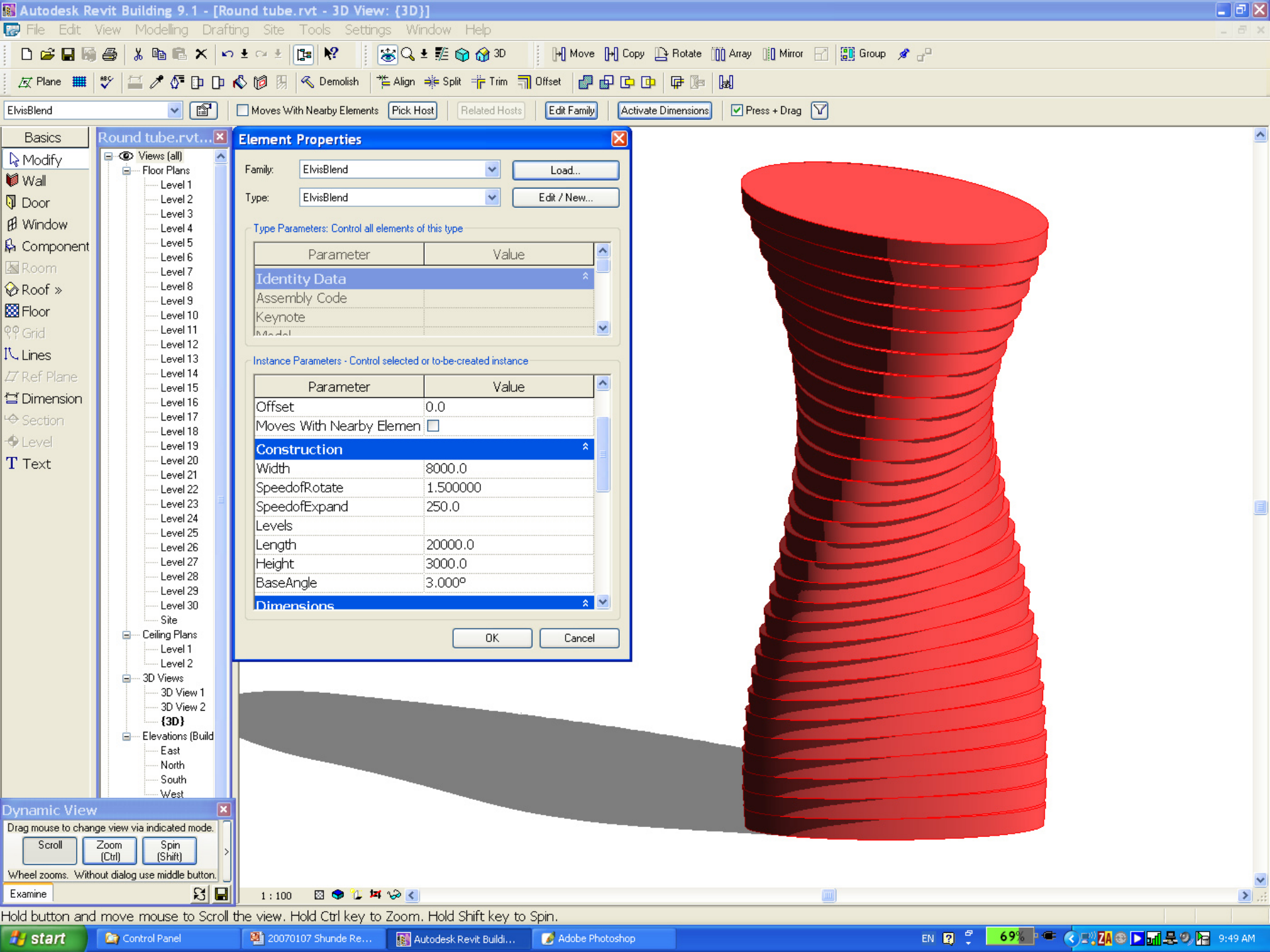


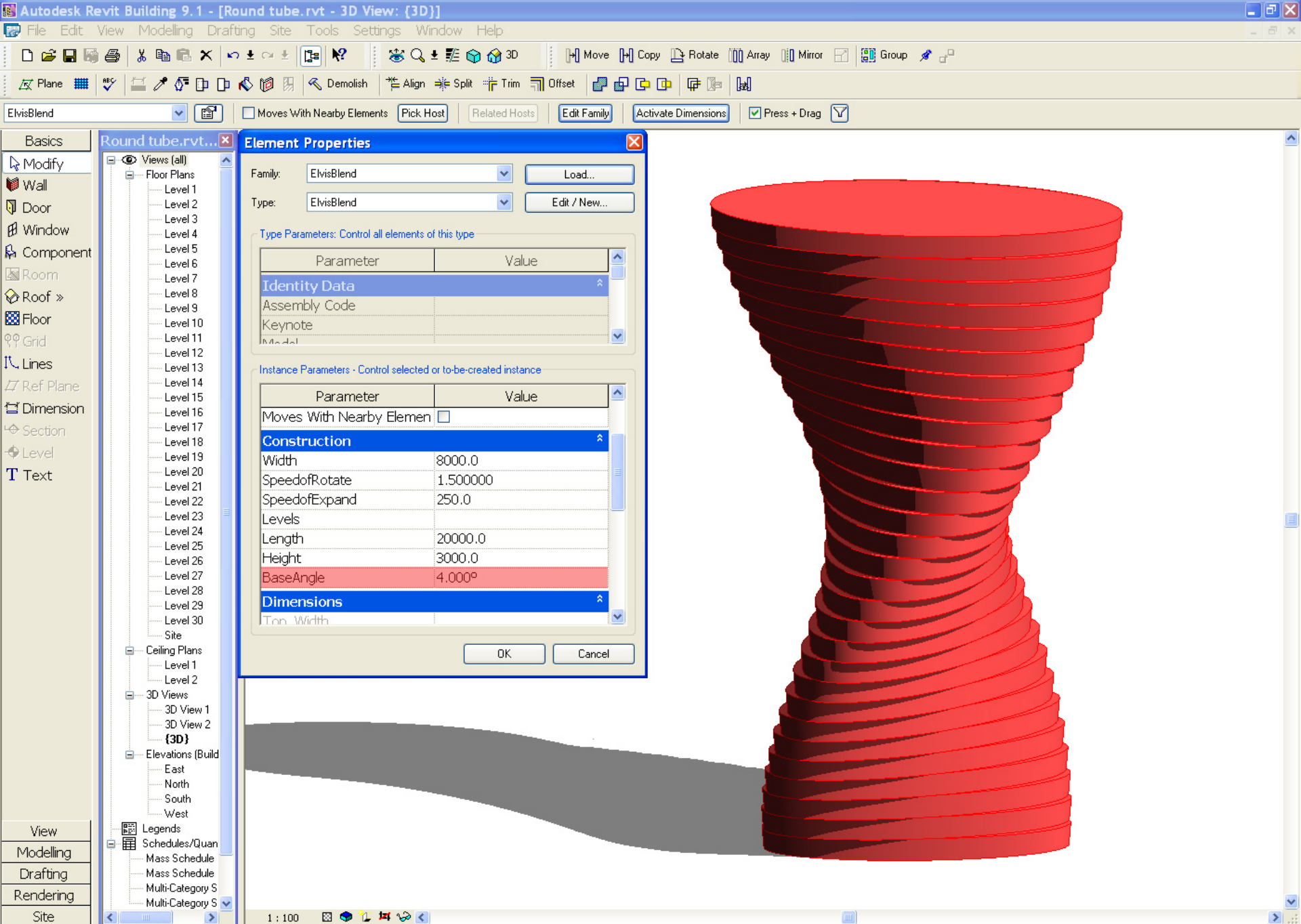
Use of Building Information Modeling (BIM)

1. Design visualization
2. Drawing Productions
3. Services Co-ordination and Clash detection with other disciplines
4. Quantity taking and preparation of Tender Document
5. Automated Statutory Submission
6. Scientific analysis of different environmental aspects
7. **Supply Chain Integration with the manufacturing and production**
サプライヤとの連携
8. Complex Geometry

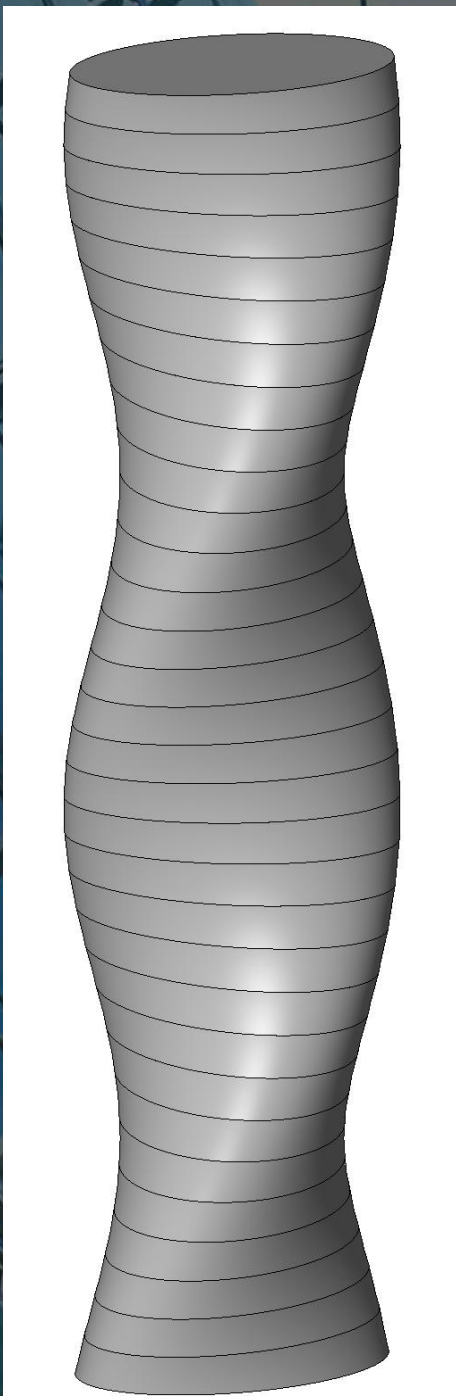
Use of Building Information Modeling (BIM)

1. Design visualization
2. Drawing Productions
3. Services Co-ordination and Clash detection with other disciplines
4. Quantity taking and preparation of Tender Document
5. Automated Statutory Submission
6. Scientific analysis of different environmental aspects
7. Supply Chain Integration with the manufacturing and production
8. **Complex Geometry** 複雑な形状を実現可能





Click to select, TAB for alternates, CTRL adds, SHIFT unselects.





absoluteworld BUILDING 2

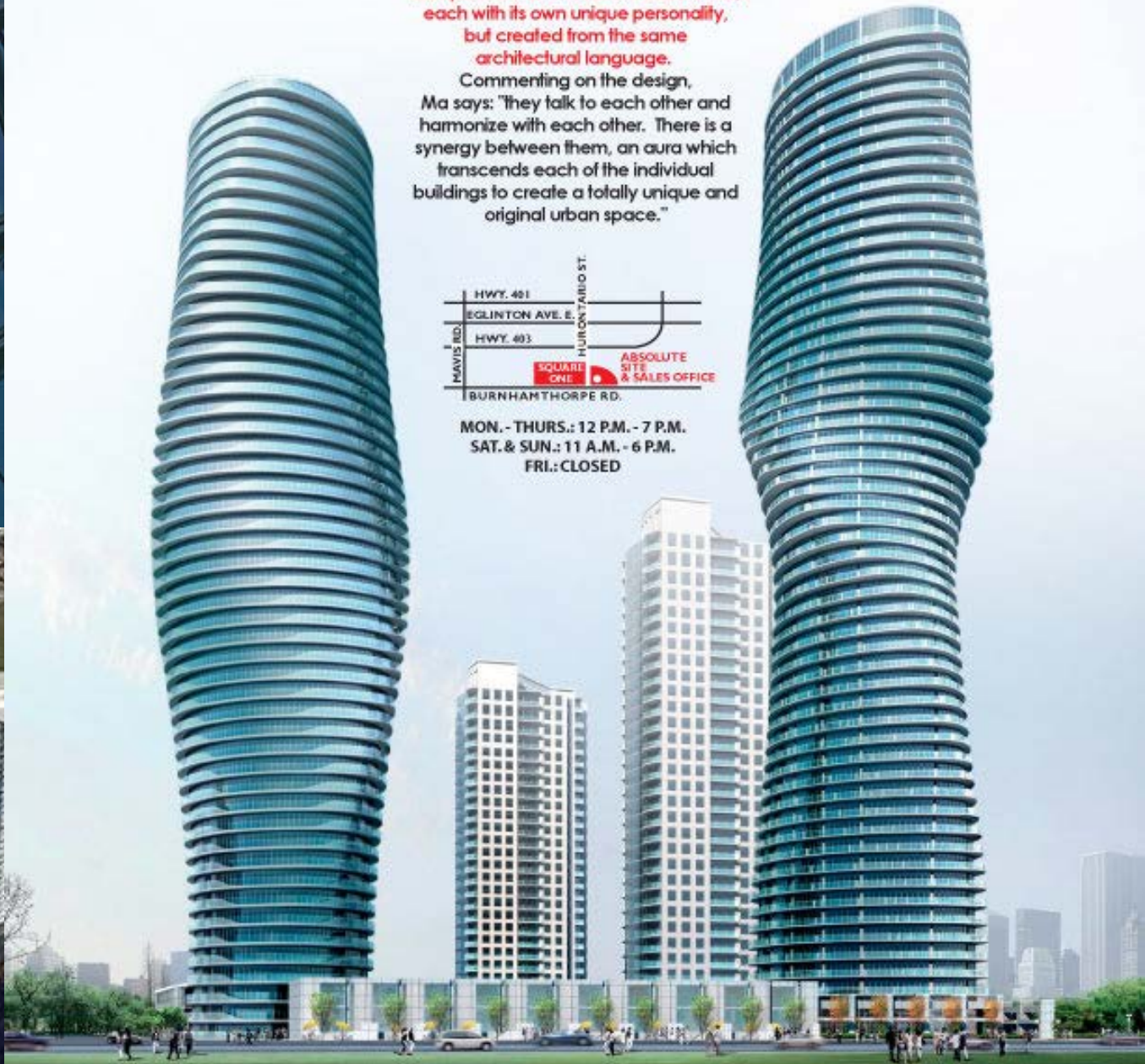
AbsoluteWorld's two buildings, as envisioned by their creator, Yansong Ma. The buildings were designed to complement and enhance each other, each with its own unique personality, but created from the same architectural language.

Commenting on the design, Ma says: "They talk to each other and harmonize with each other. There is a synergy between them, an aura which transcends each of the individual buildings to create a totally unique and original urban space."

absoluteworld BUILDING 1

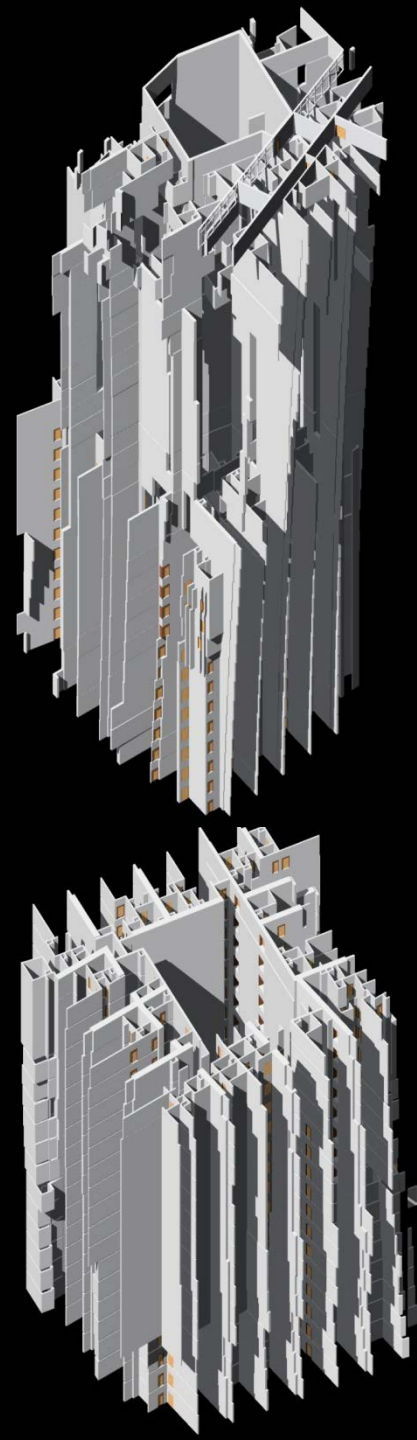


MON. - THURS.: 12 P.M. - 7 P.M.
SAT. & SUN.: 11 A.M. - 6 P.M.
FRI.: CLOSED

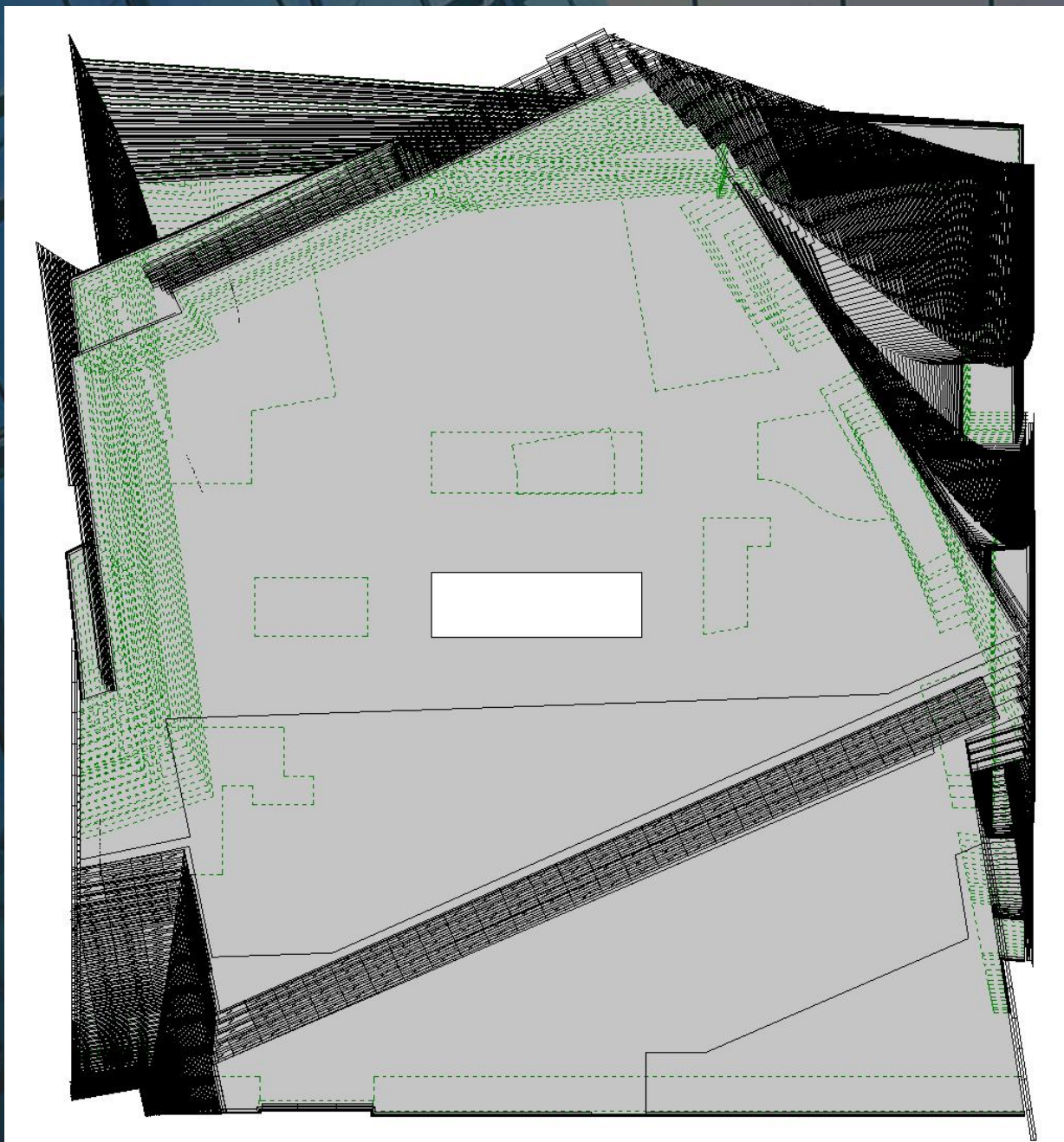


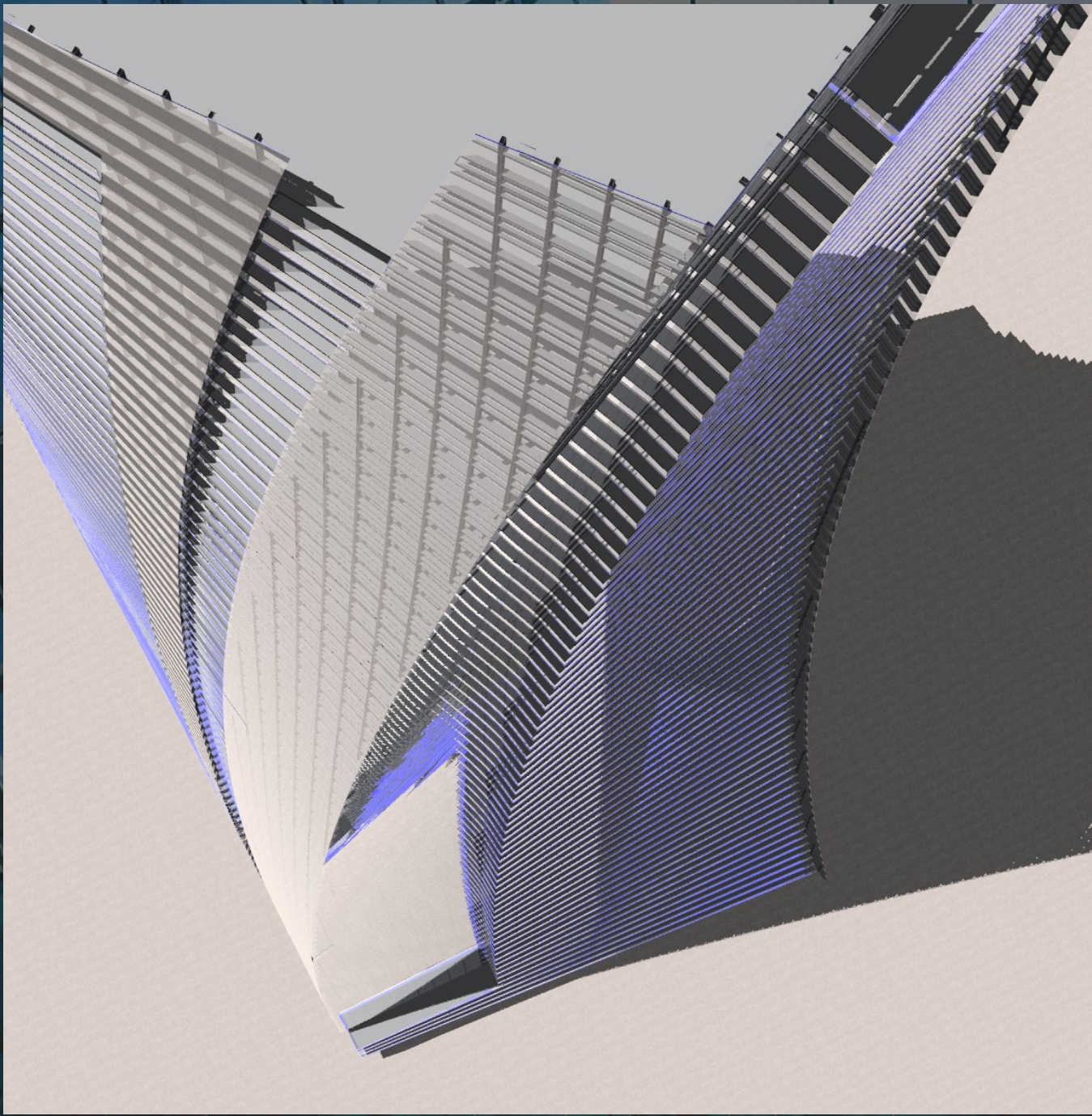
Program: Residential Site Area: 3,746 sqm
Floor Area: 659,659 sqm Building Height: 345 m

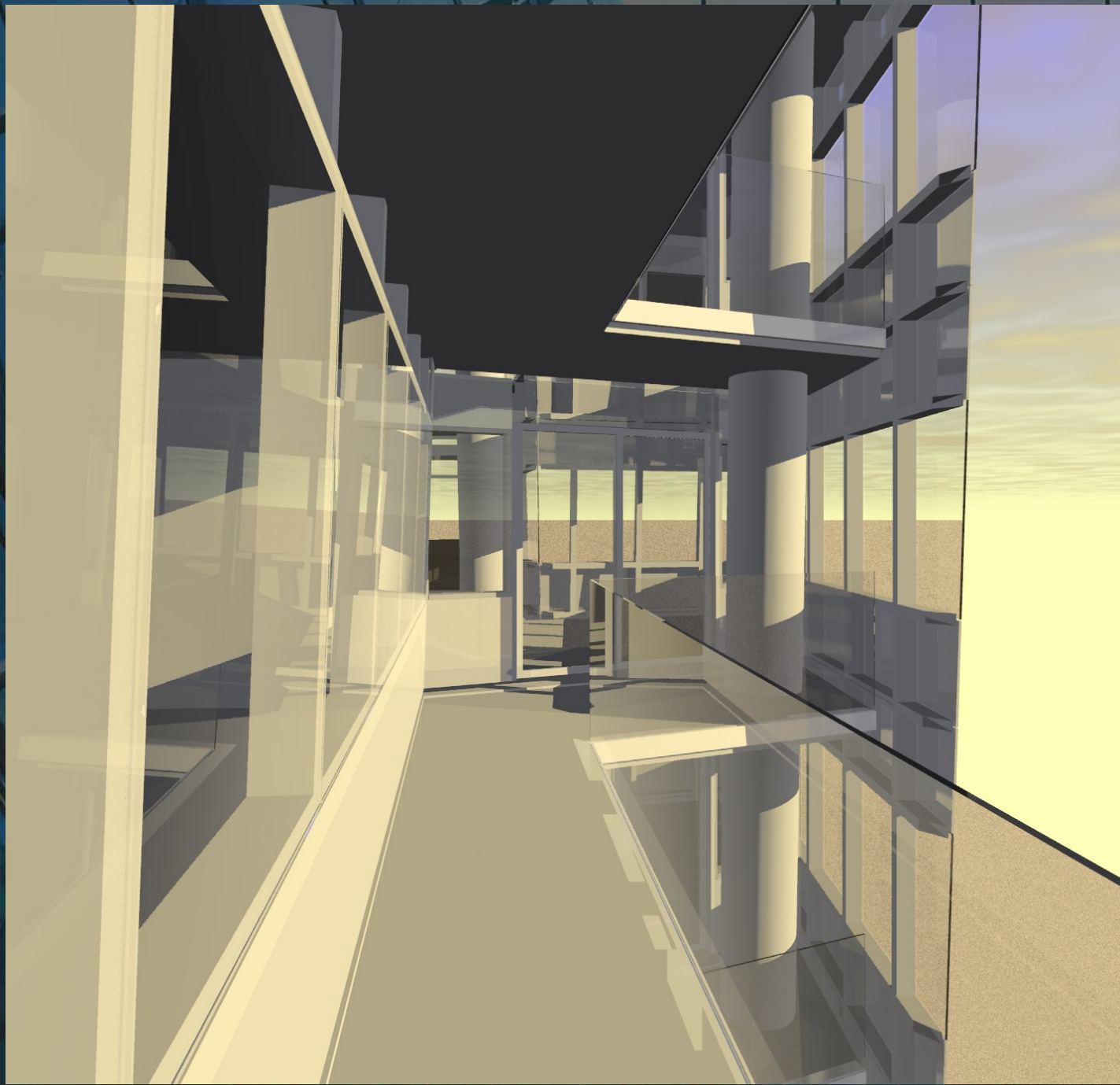
Dubai **Ocean Heights One**

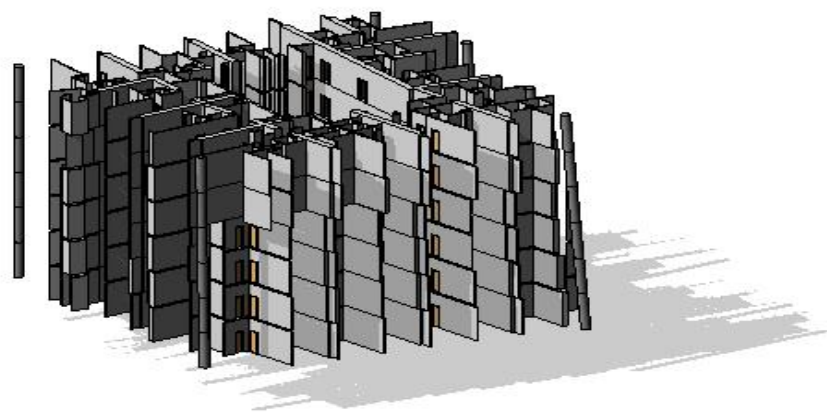


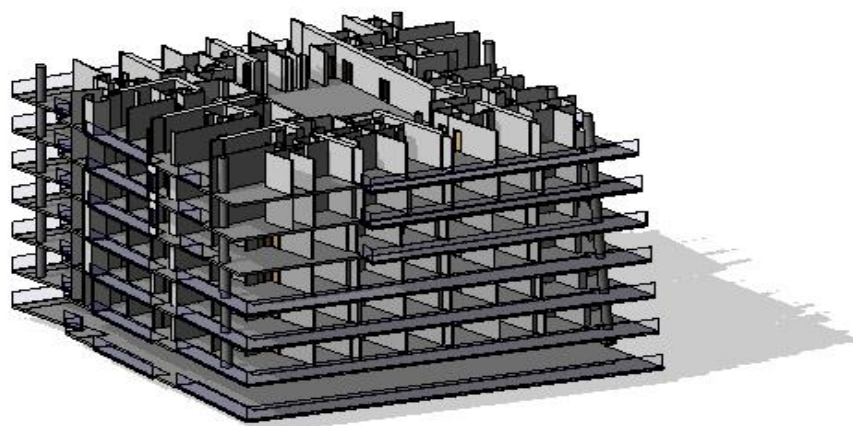
COMPLEX GEOMETRY





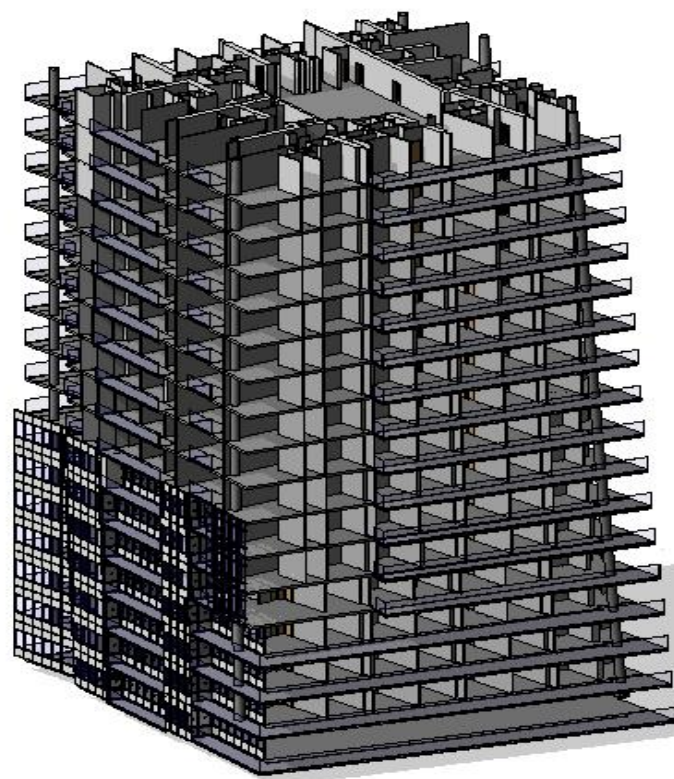




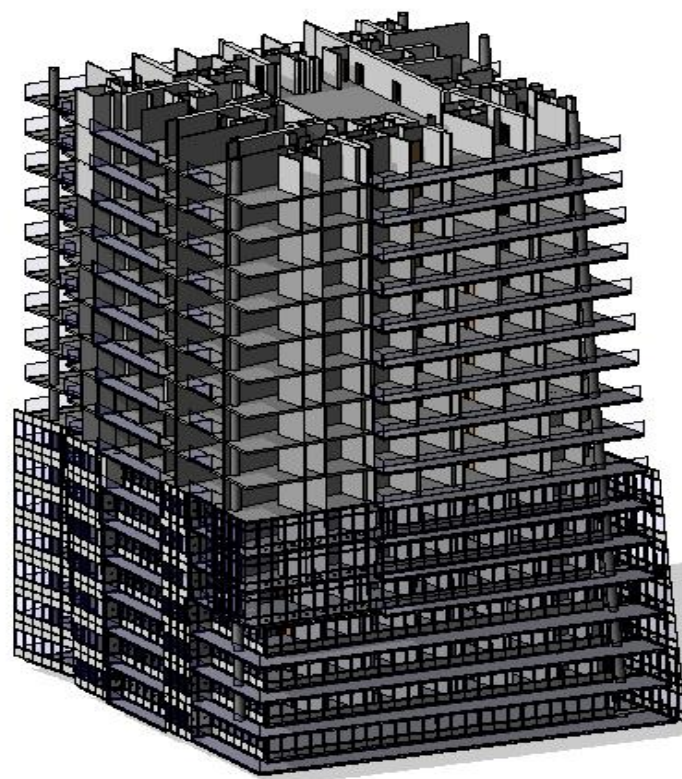






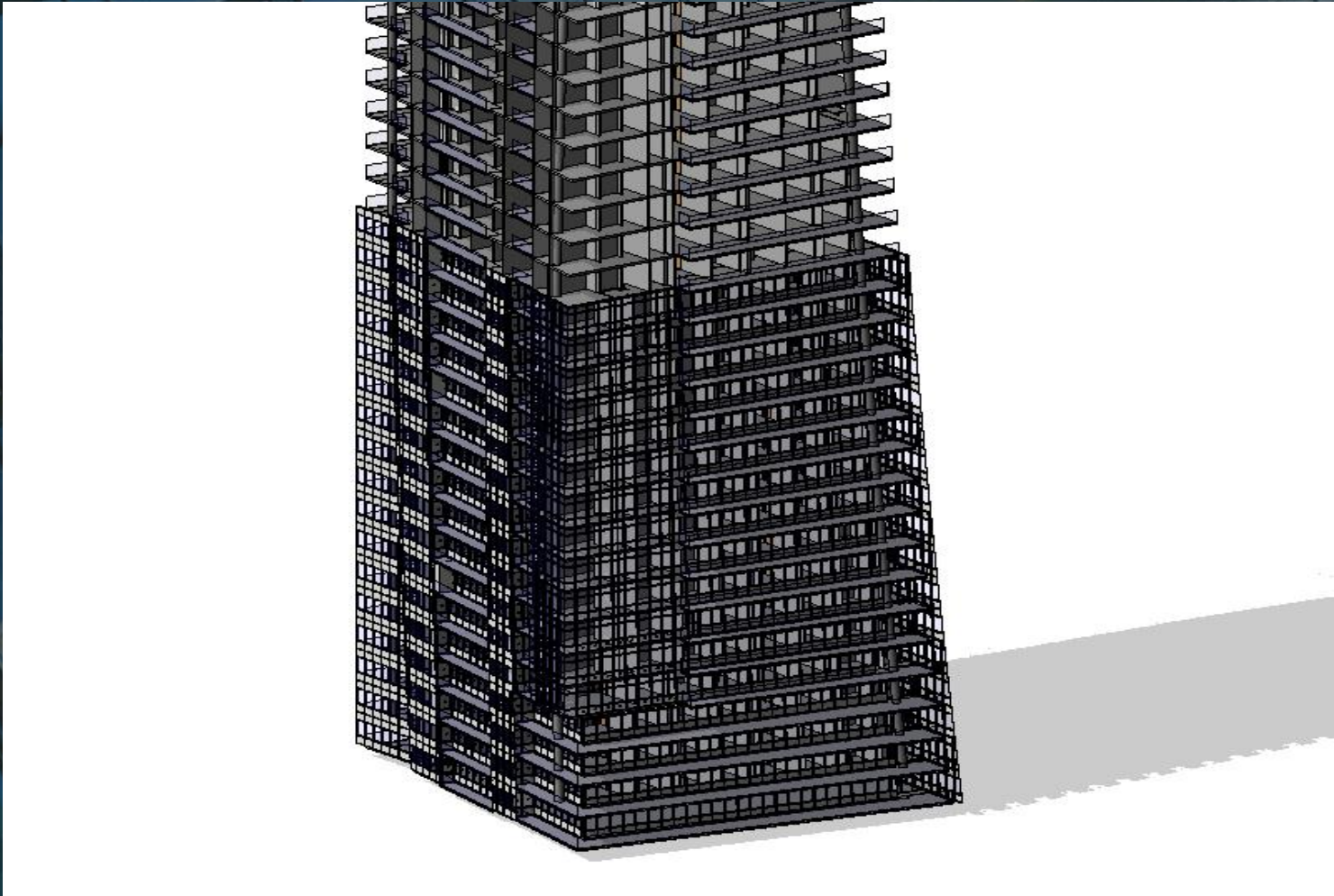




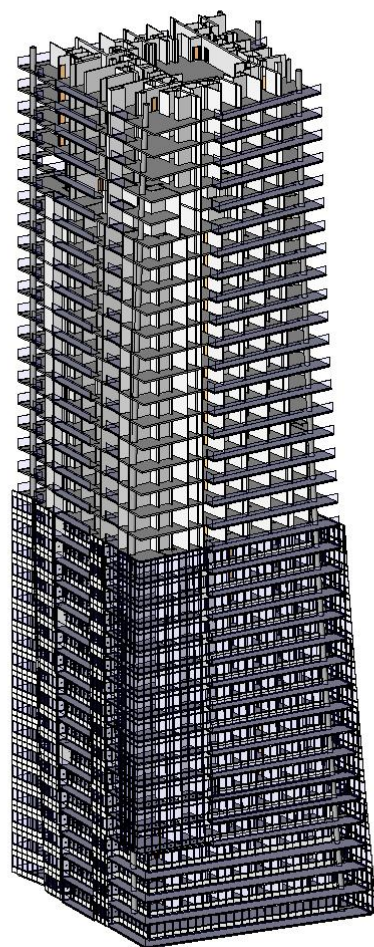


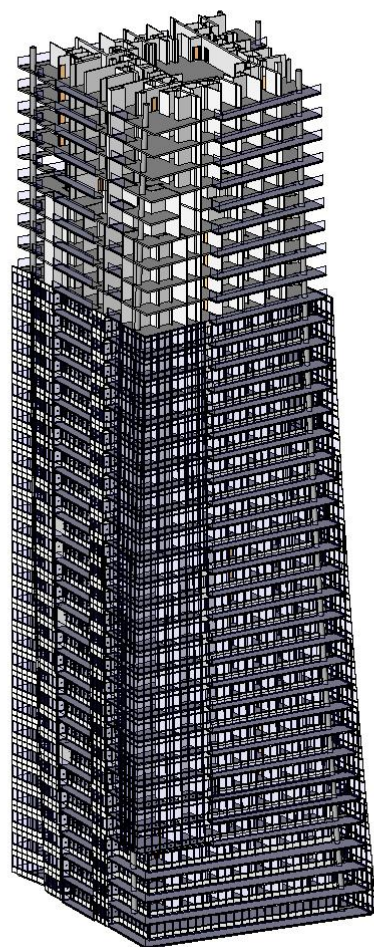


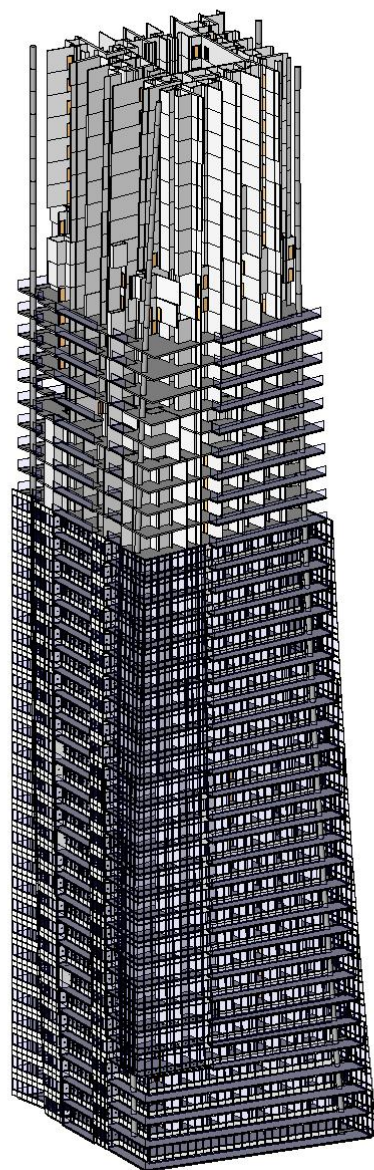


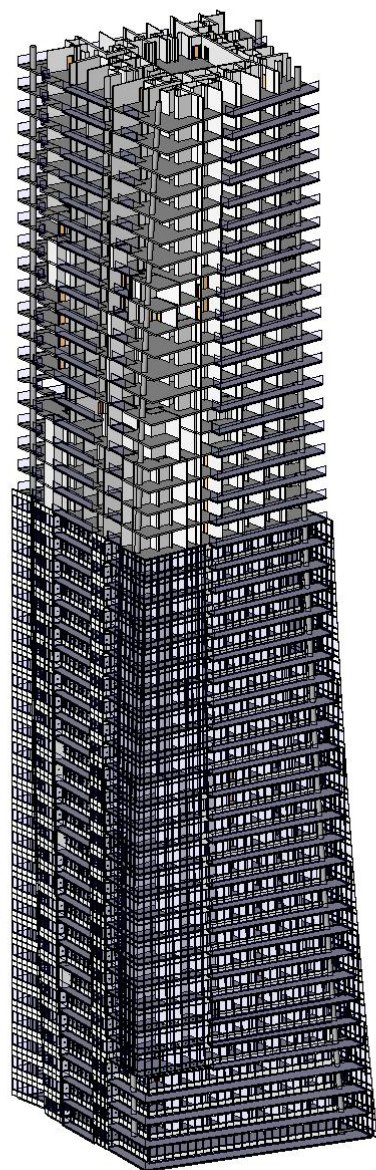


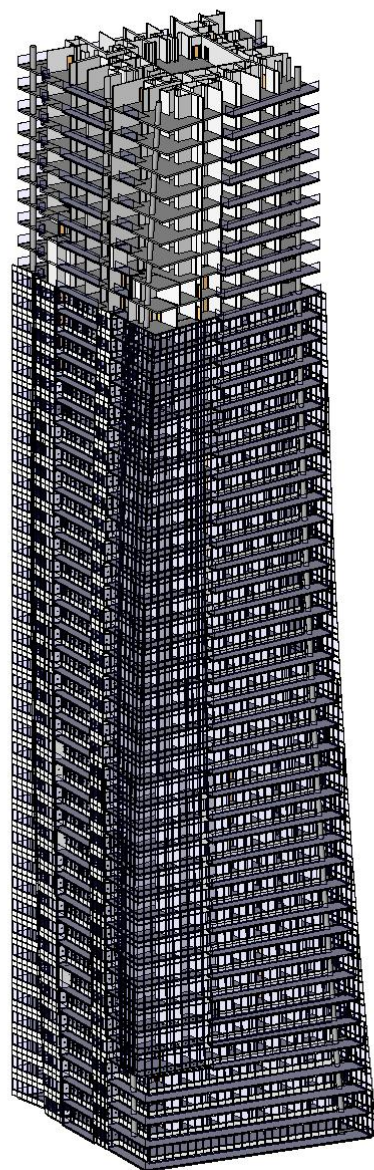


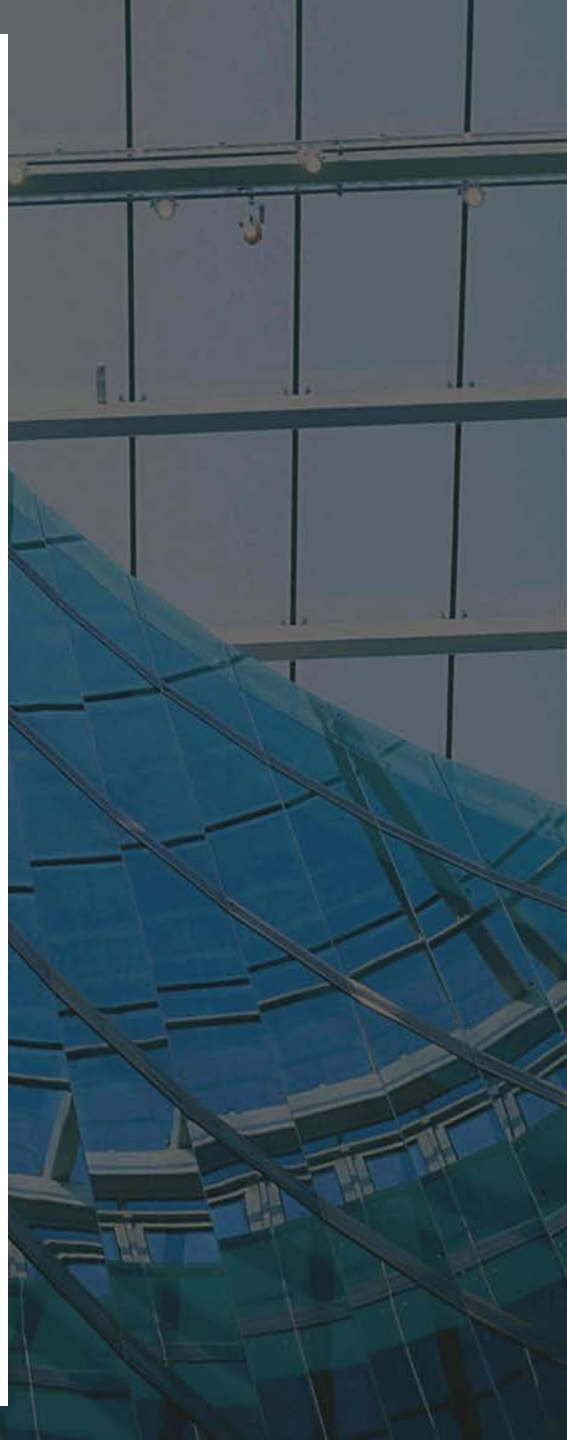
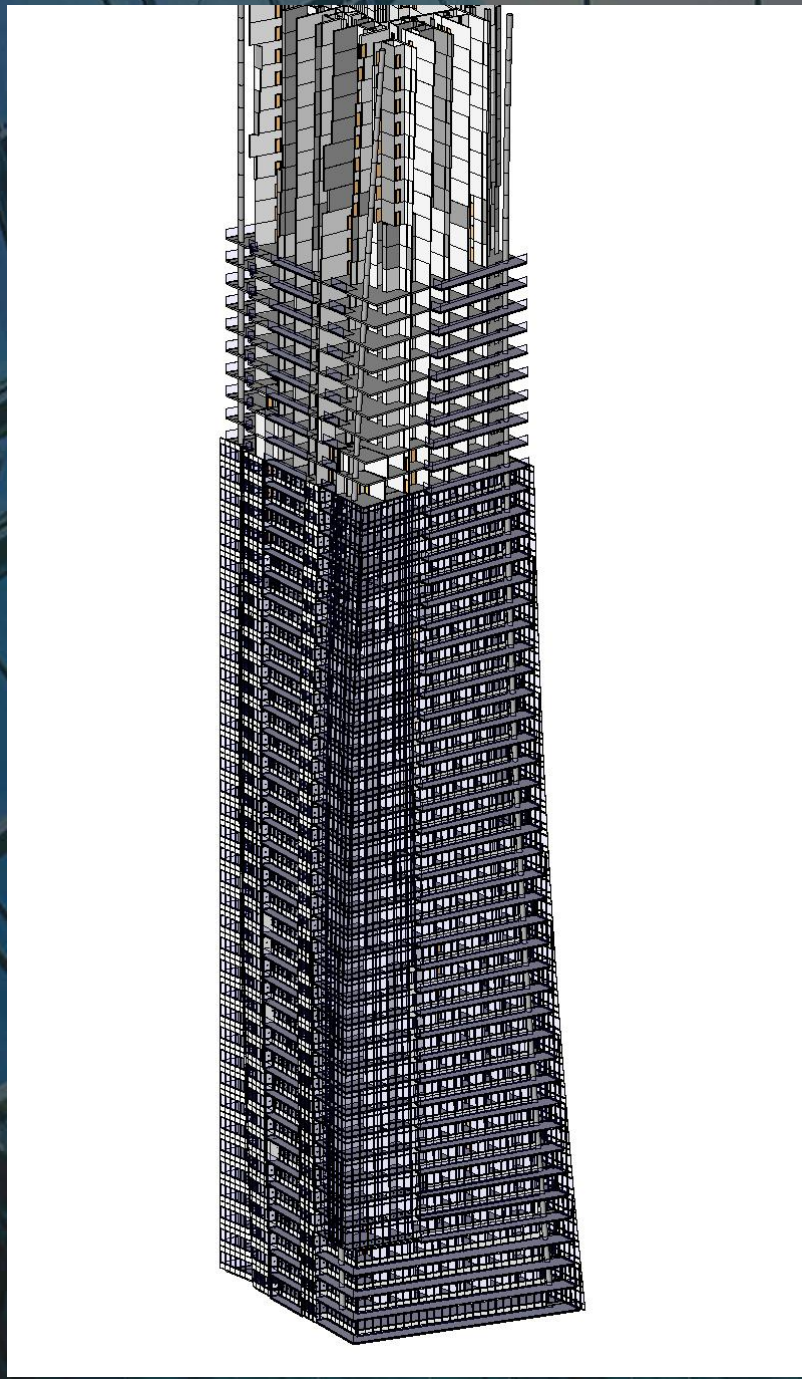


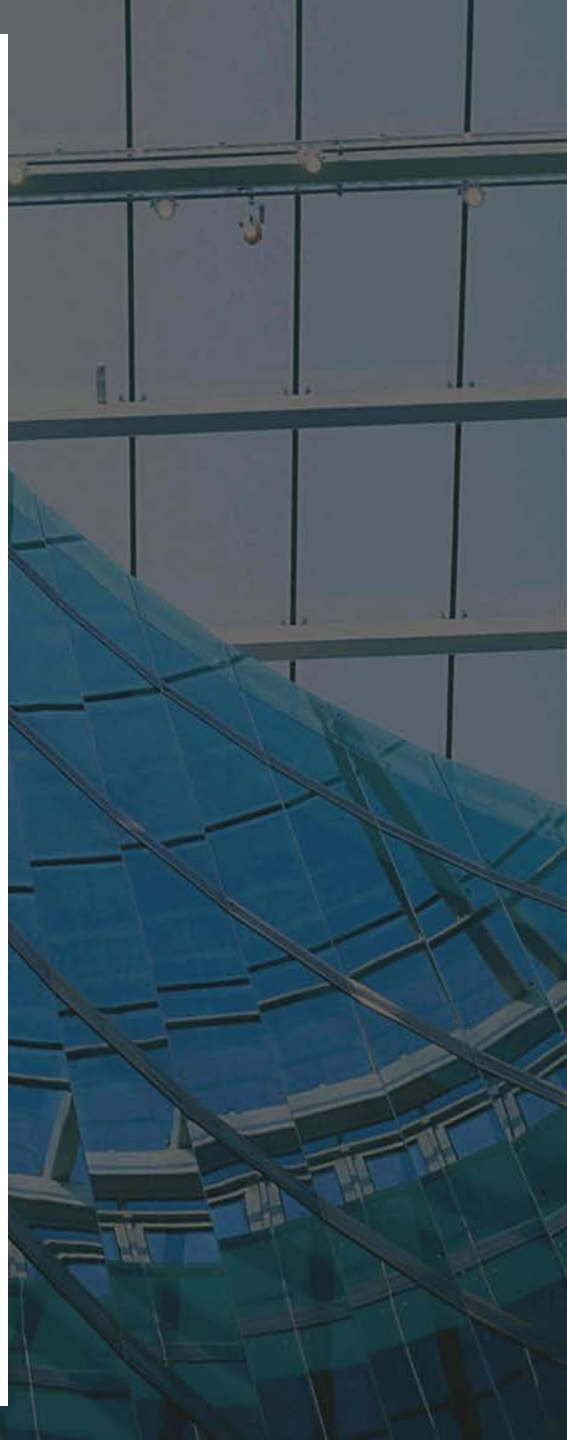
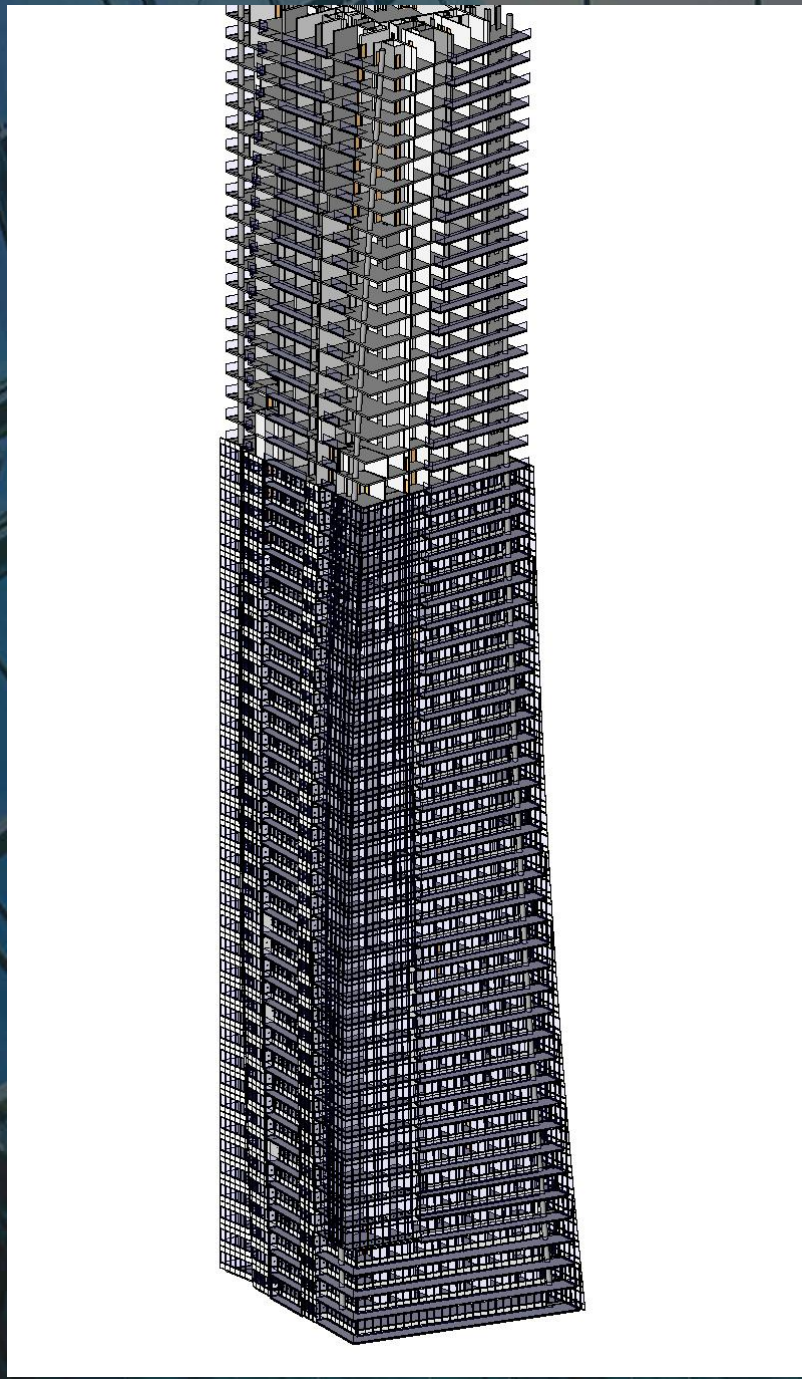


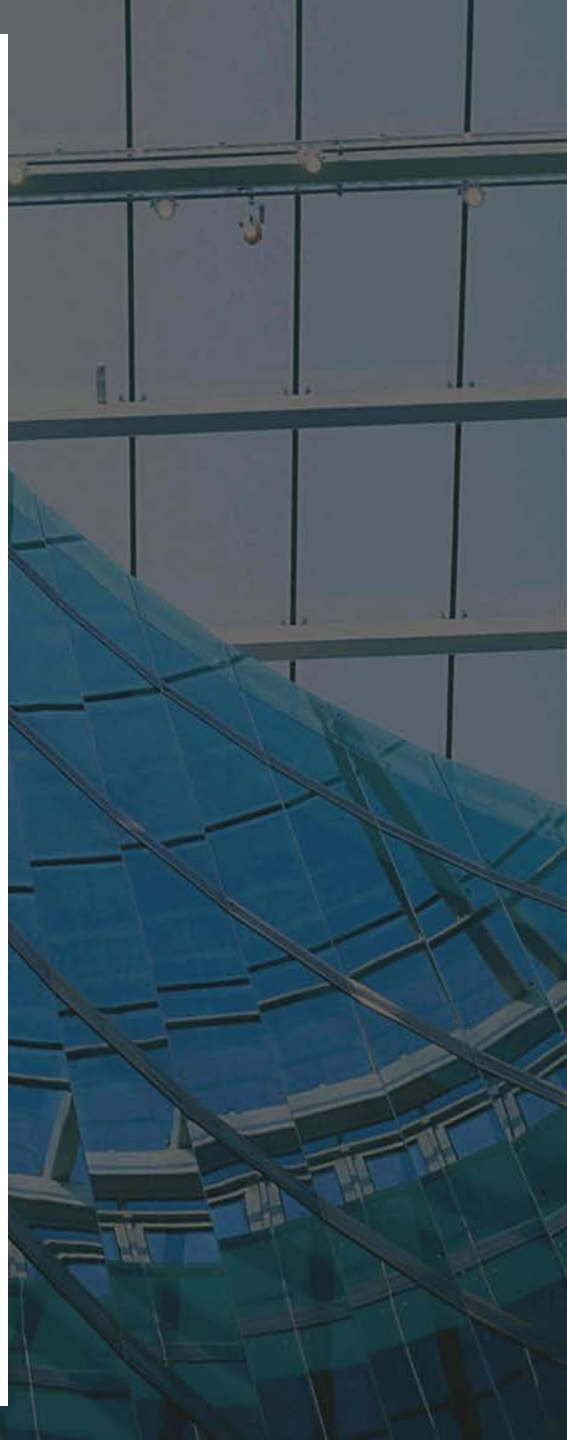
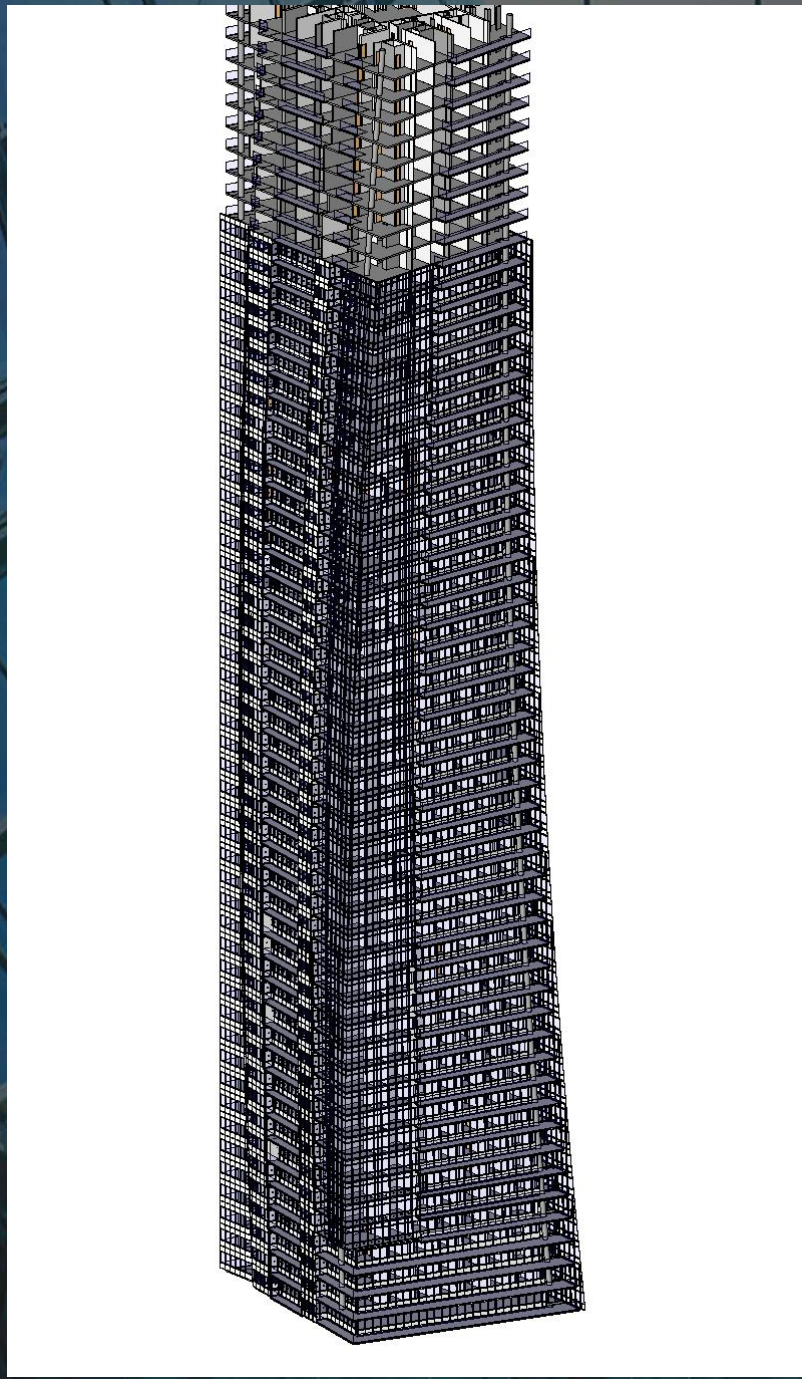






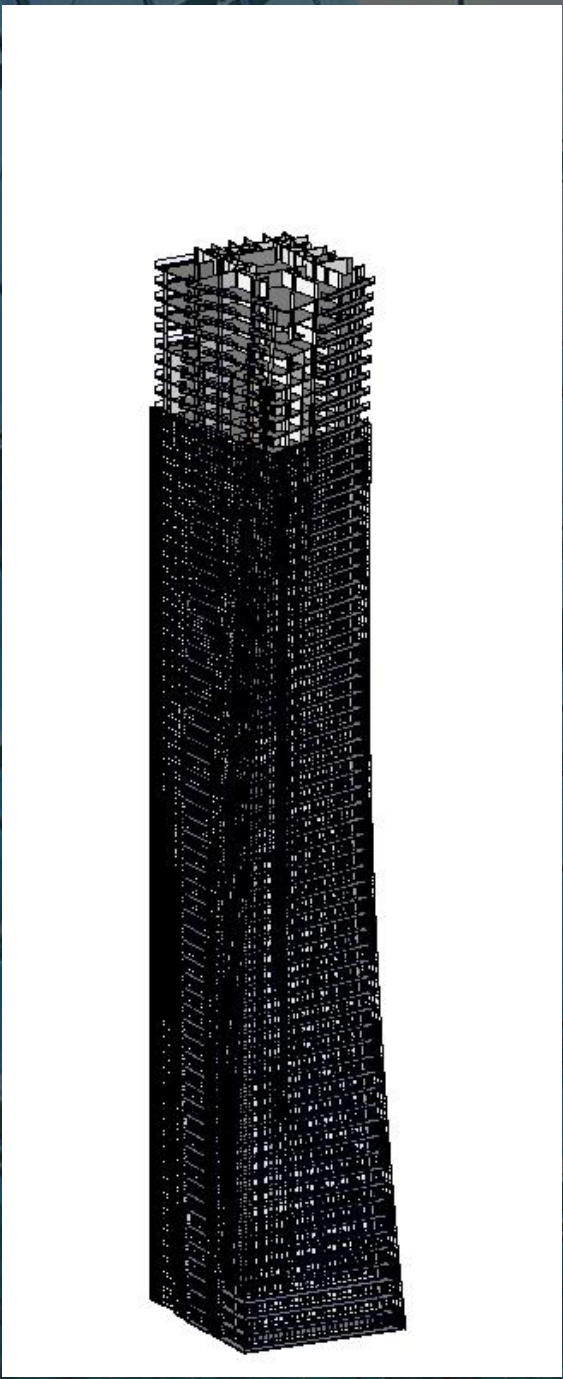




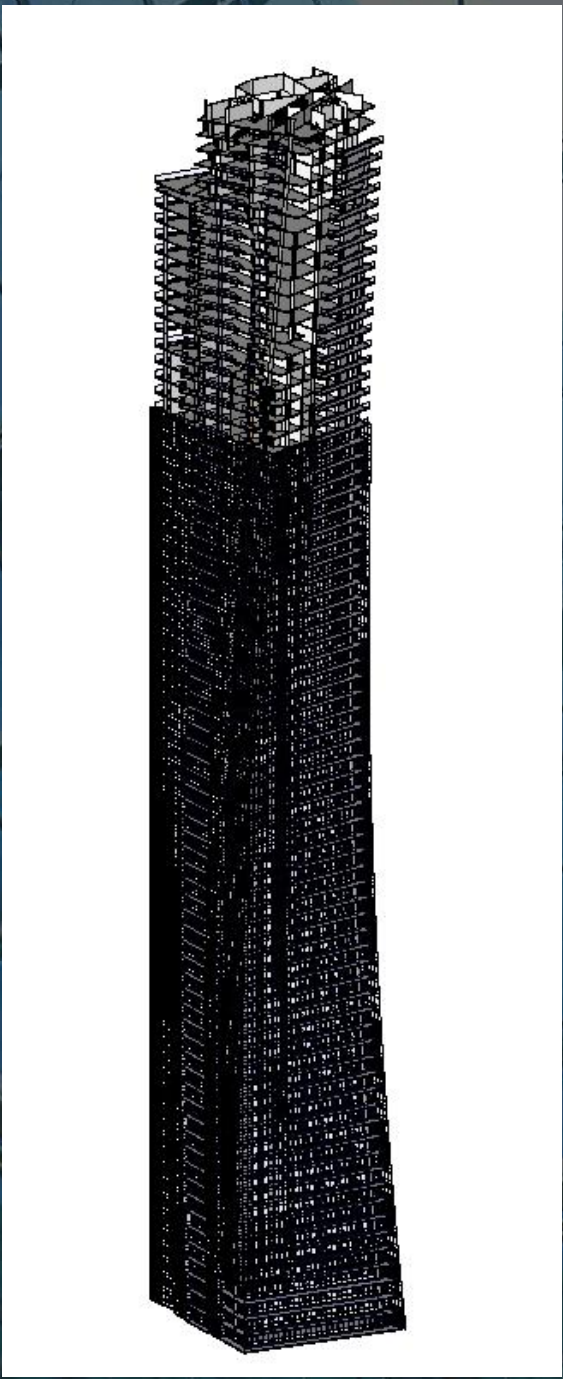






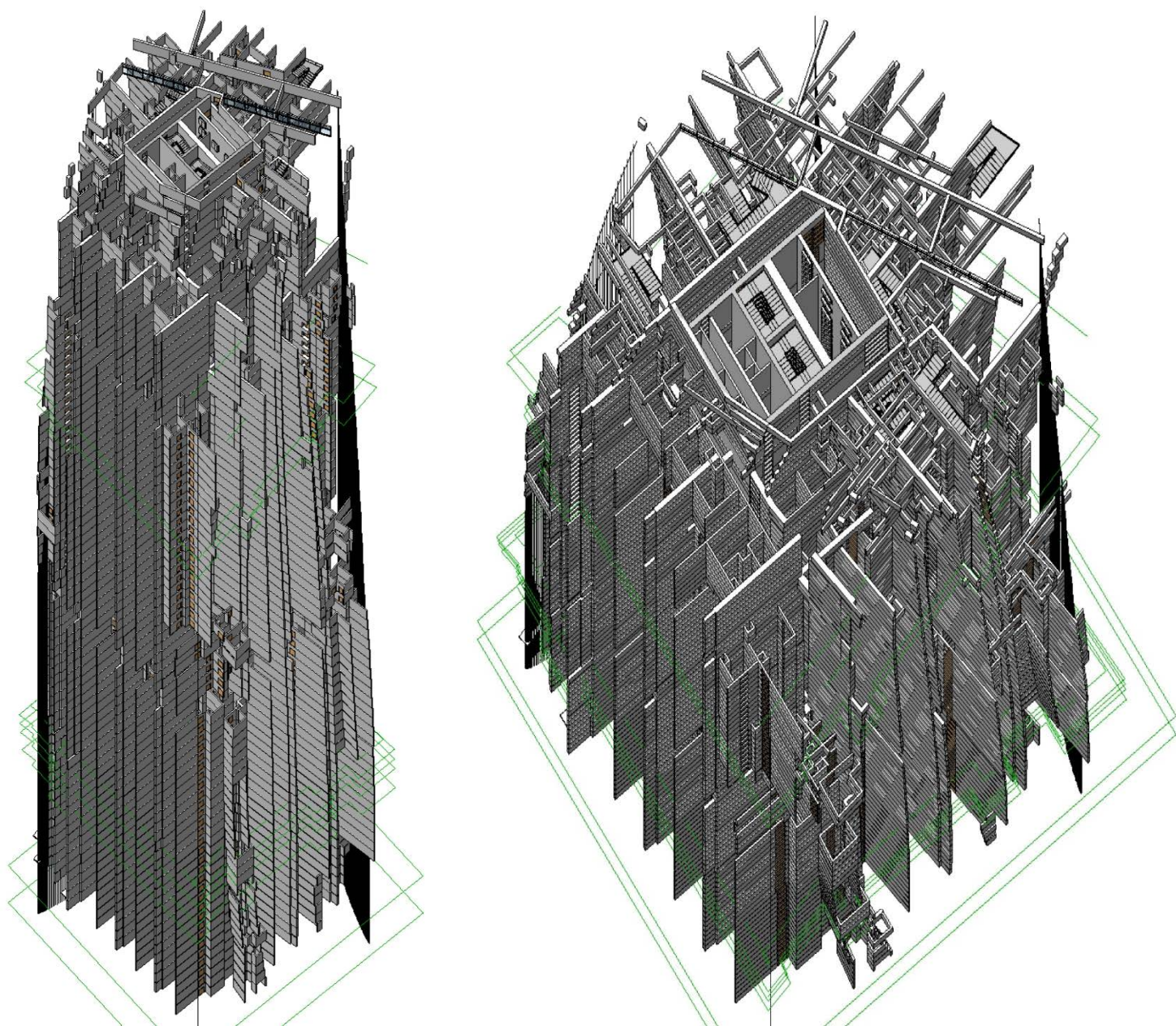




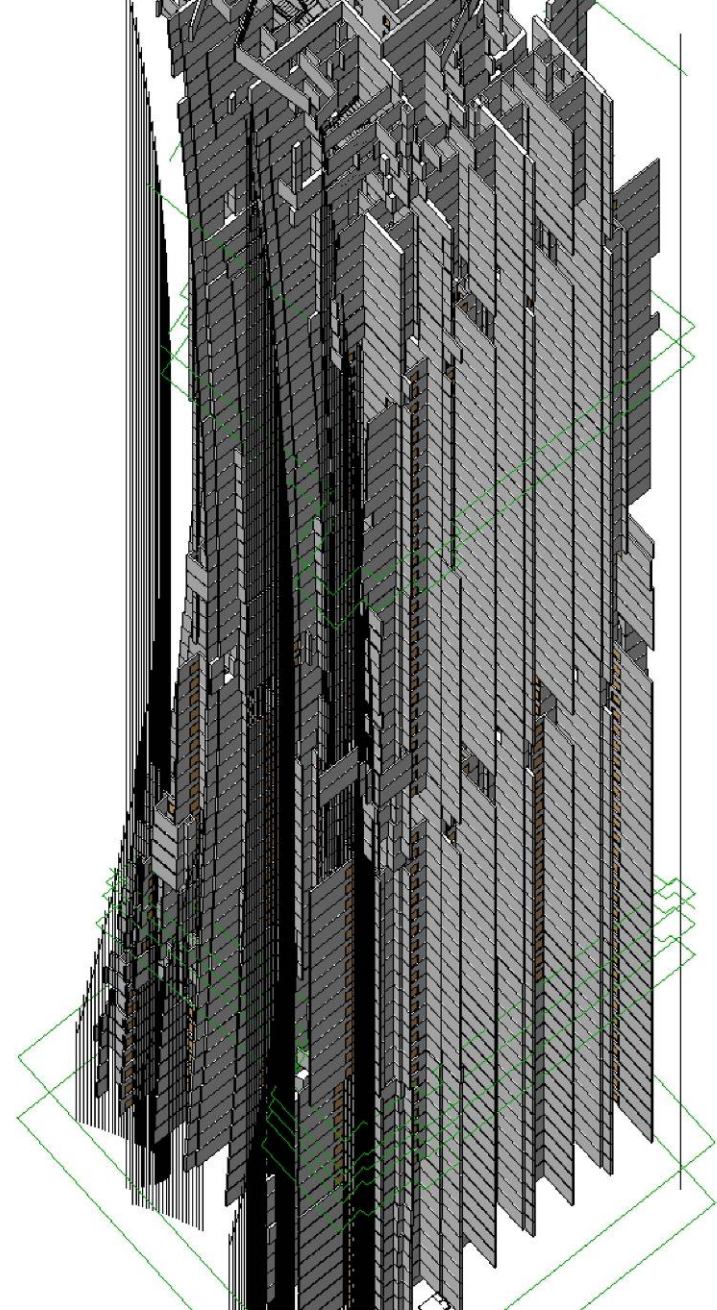
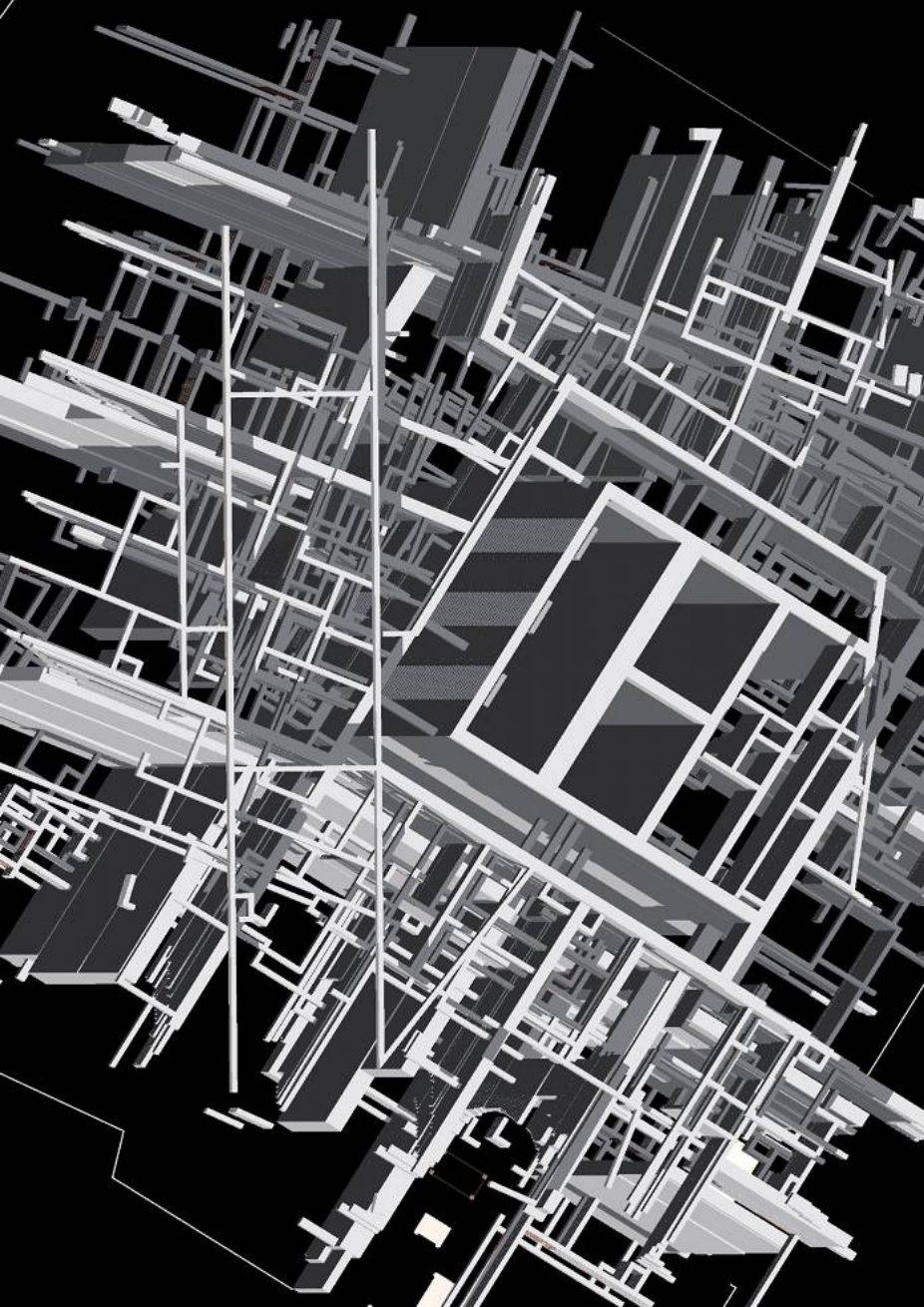




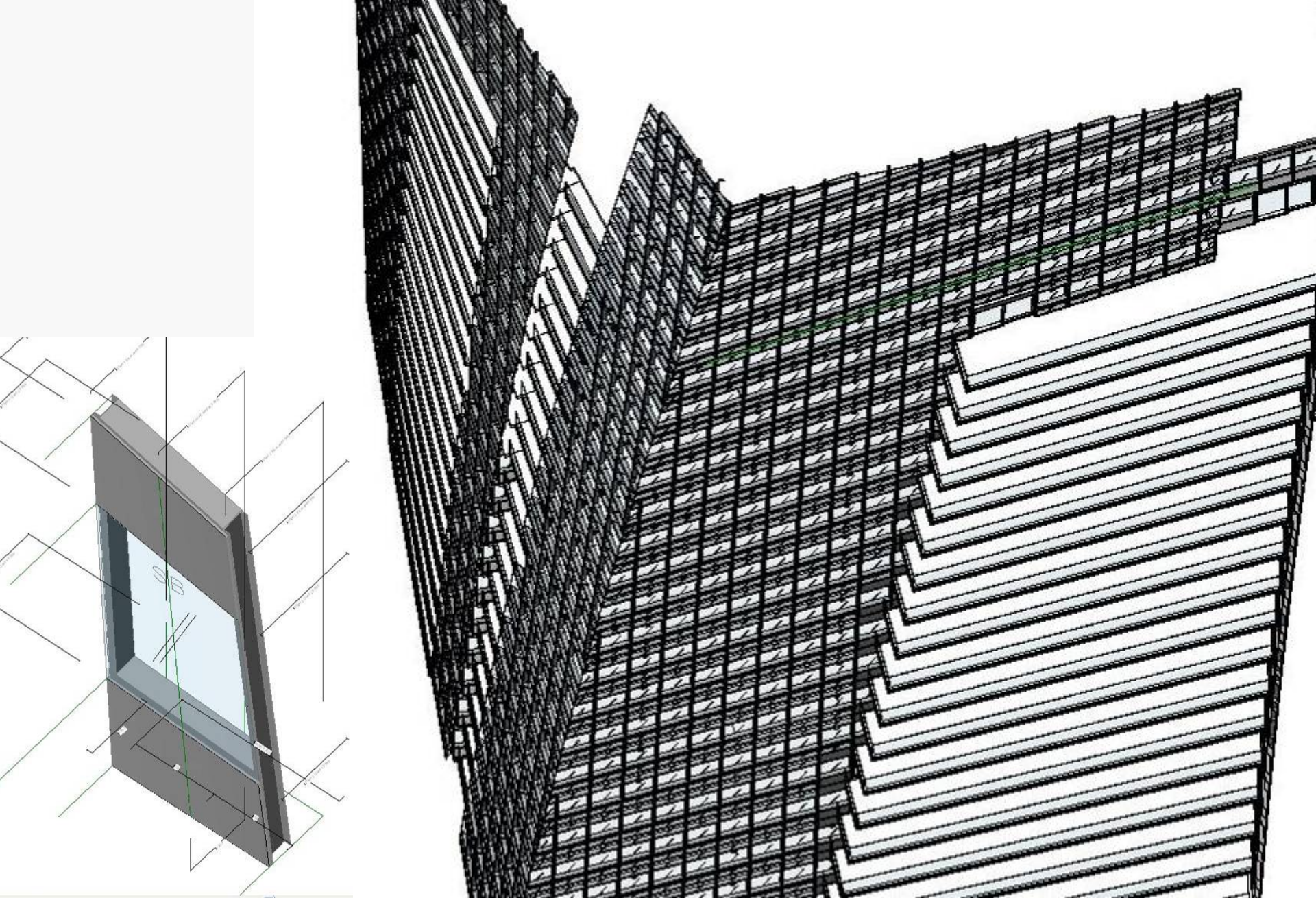




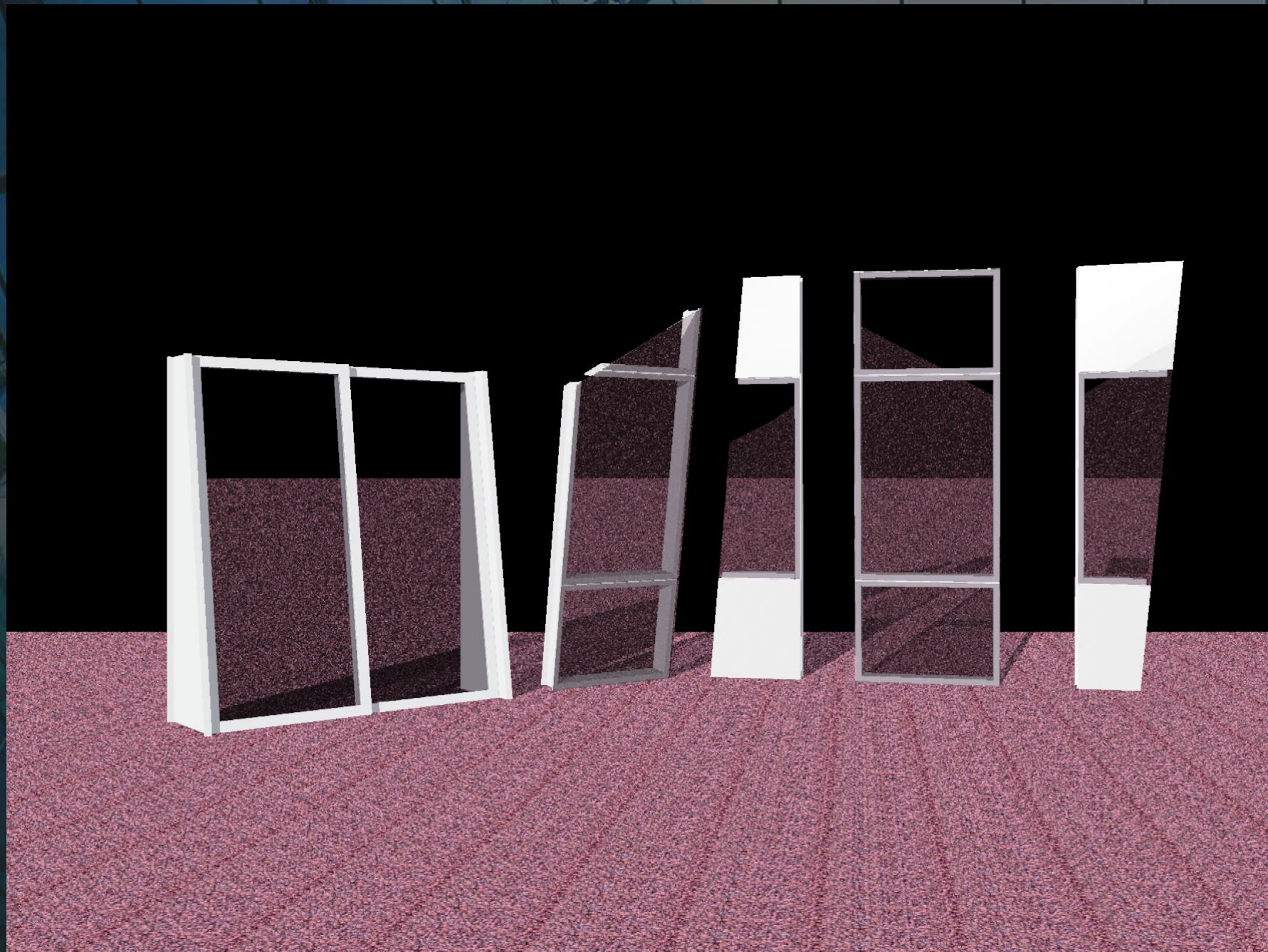
VERTICAL CO-ORDINATION



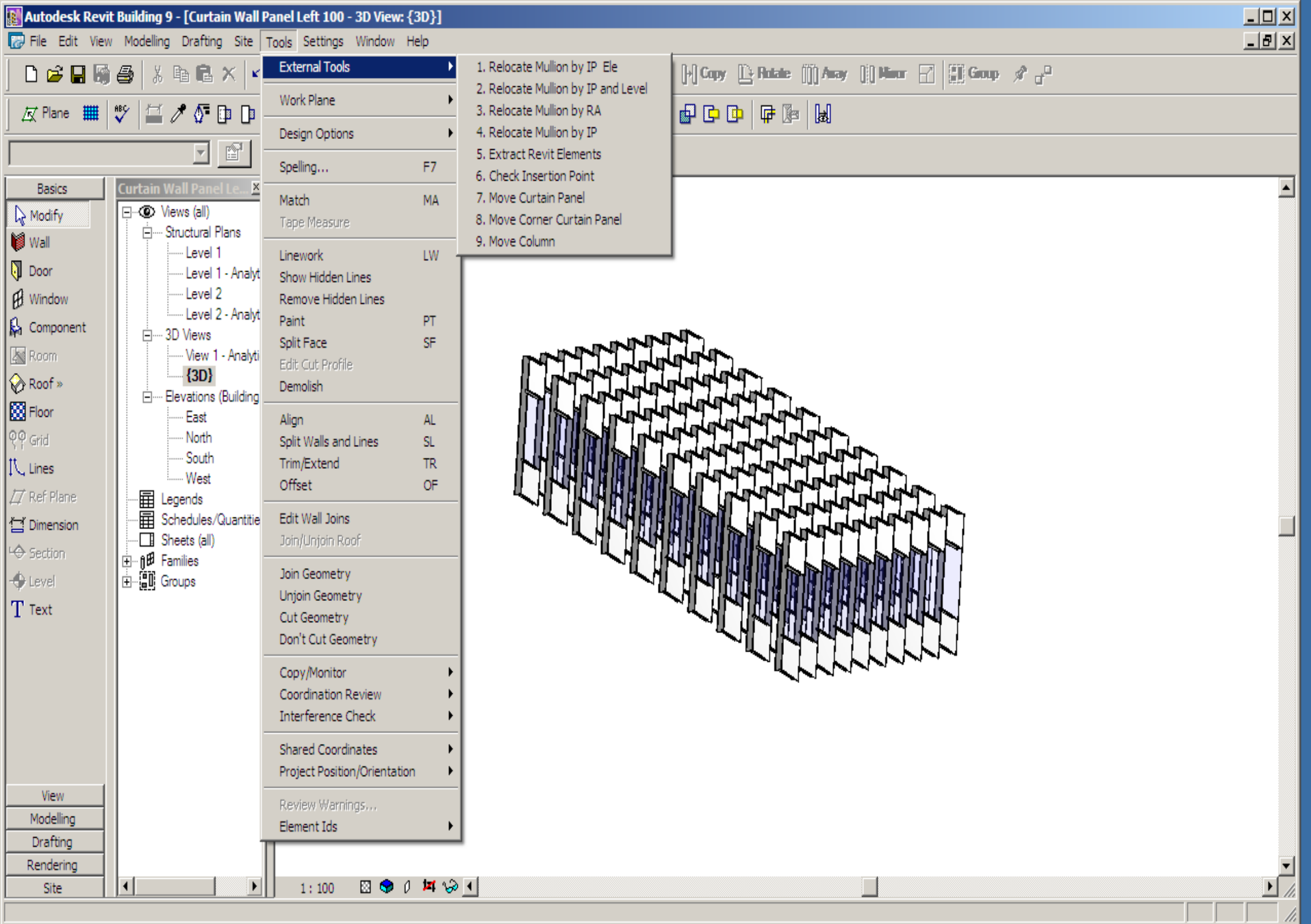
INTERNAL vs EXTERNAL

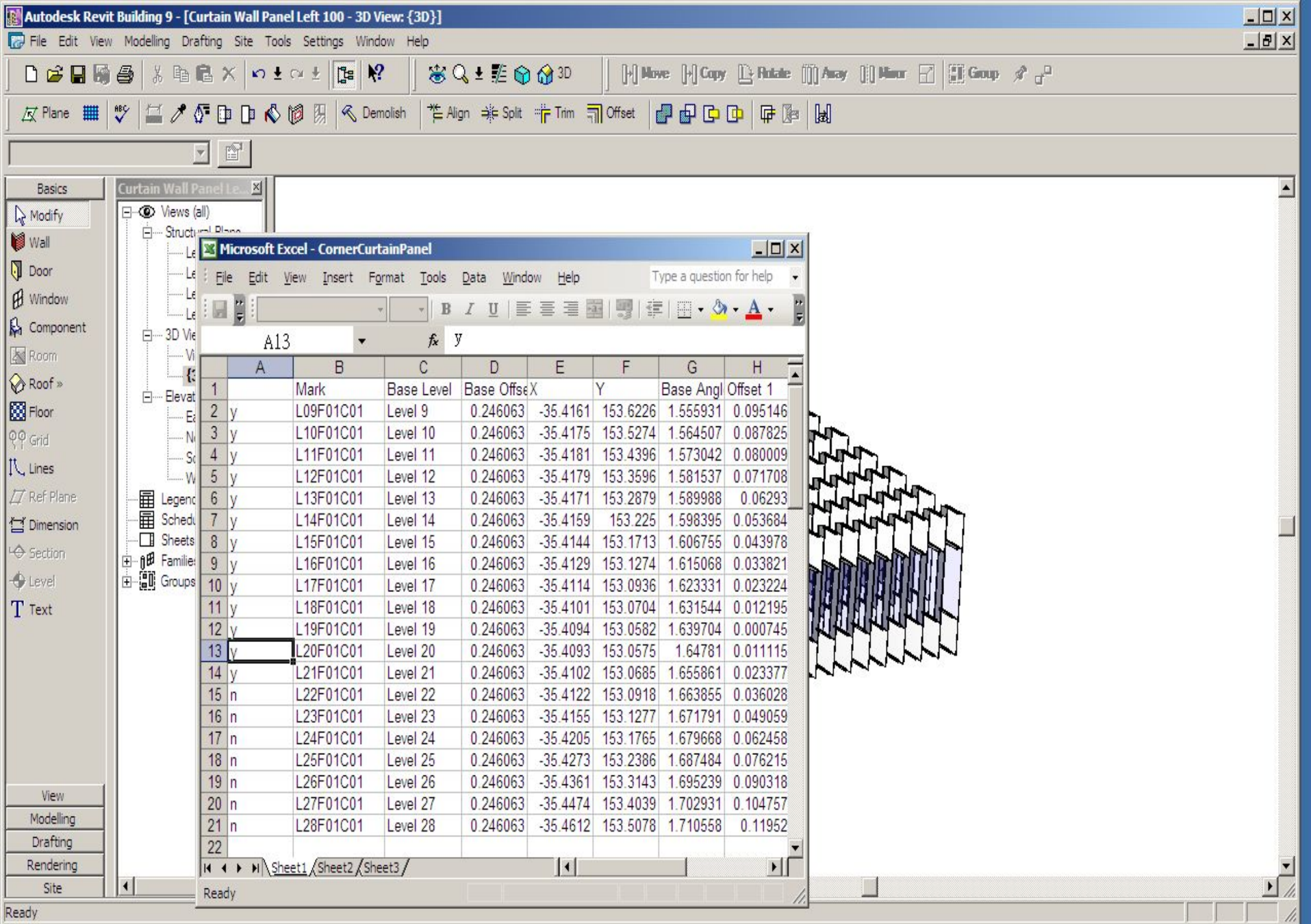


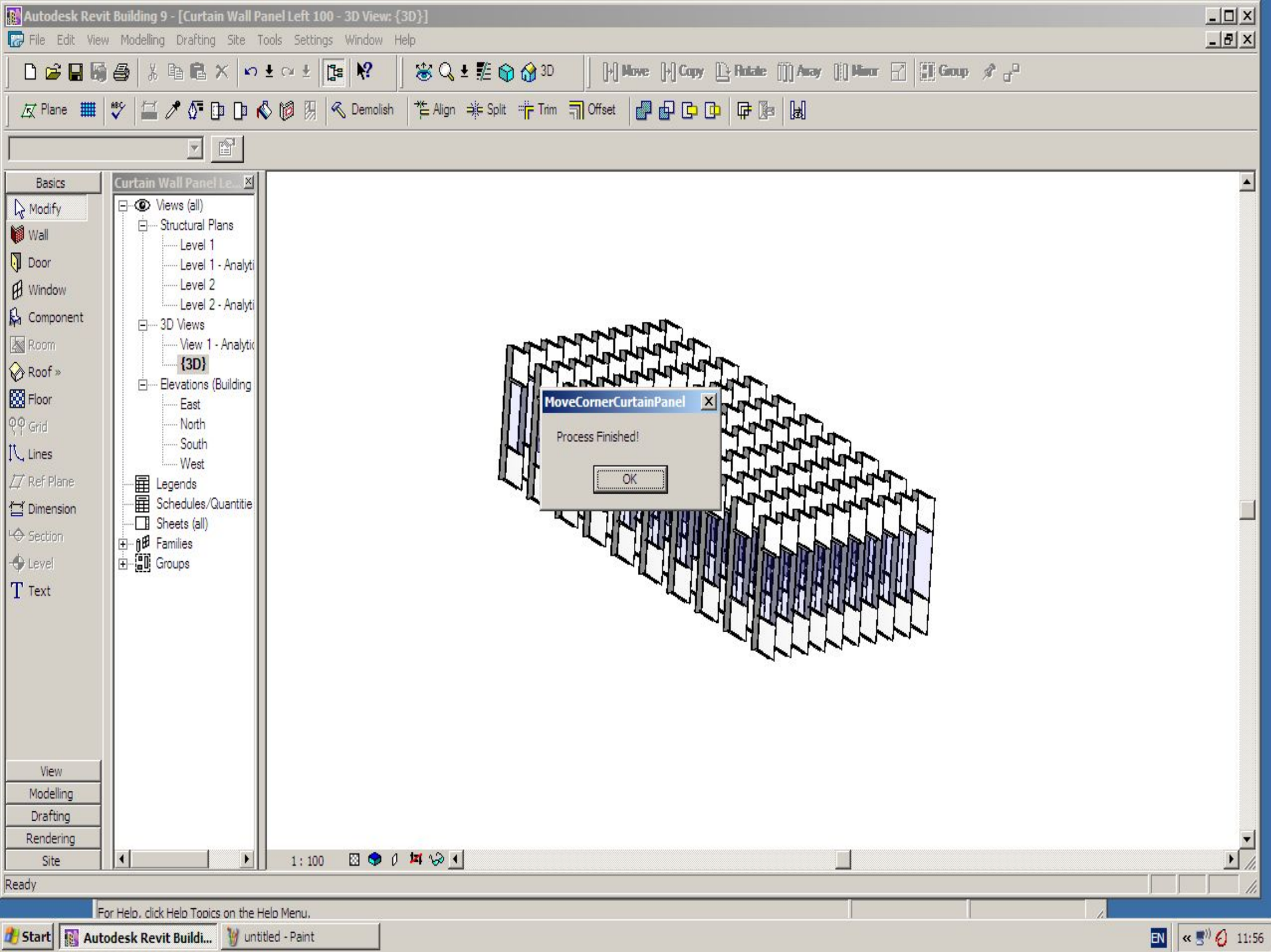
COMPLICATED CURTAIN WALL

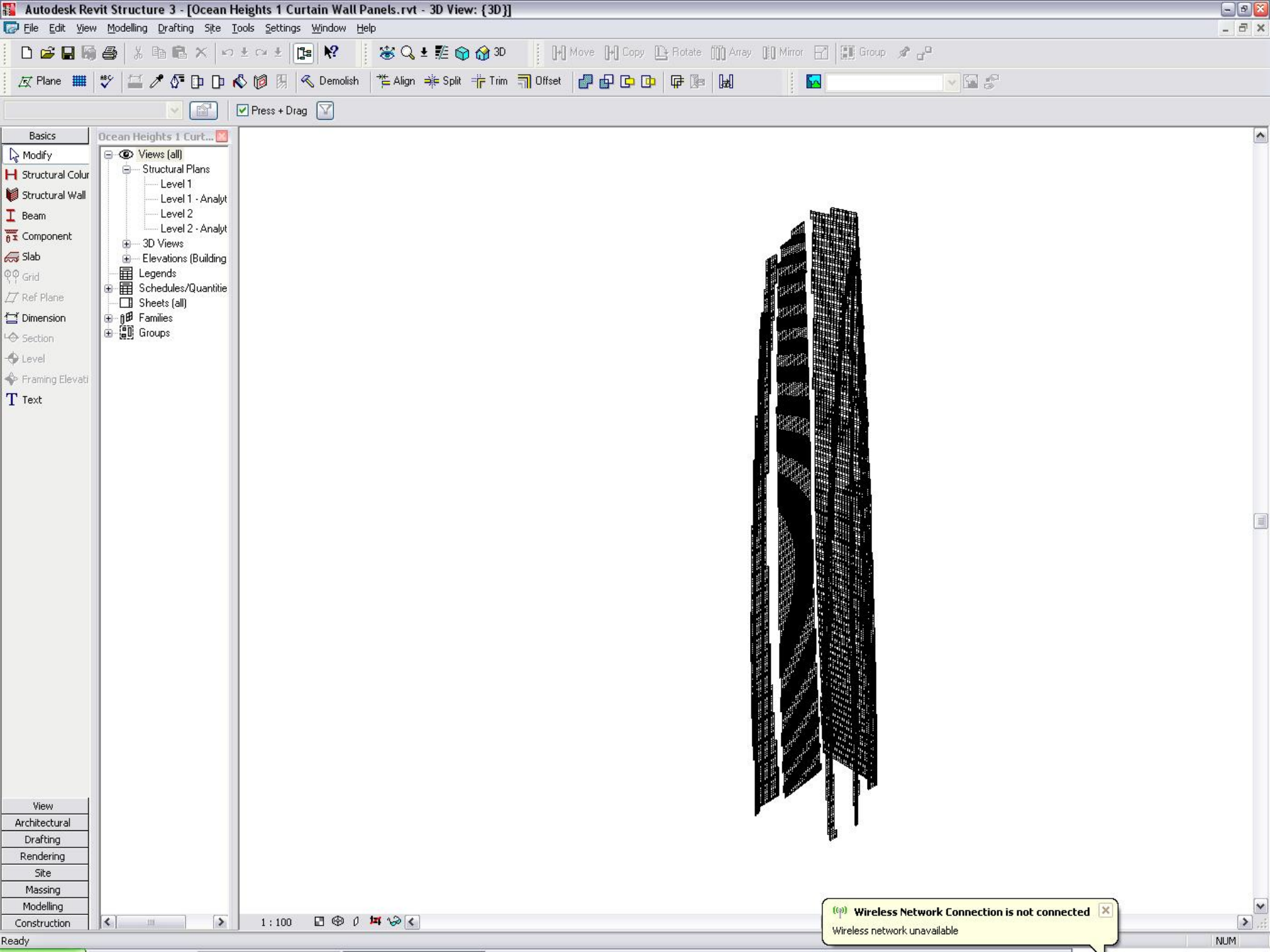


Ref Plane	Level 20	Sliding Door	L71B05D12	Level 71	2550.00		0.00
Dimension	Level 30	Sliding Door	L71B05D15	Level 71	2550.00		0.00
Section	Level 40	Sliding Door	L72B01D02	Level 72	2400.00		0.00
Level	Level 50	Sliding Door	L72B02D02	Level 72	2500.00		0.00
Framing Elevati	Level 60	Sliding Door	L72B04D01	Level 72	1800.00		0.00
Text	Level 65	Sliding Door	L72B05D03	Level 72	2550.00		0.00
	Level 70	Sliding Door	L72B05D05	Level 72	2550.00		0.00
	Level 75	Sliding Door	L72B05D08	Level 72	2550.00		0.00
	3D Views	Sliding Door	L72B05D10	Level 72	2550.00		0.00
	3D View 1	Sliding Door	L72B05D12	Level 72	2550.00		0.00
	3D View 2	Sliding Door	L72B05D15	Level 72	2550.00		0.00
	3D View 3	Sliding Door	L73B01D02	Level 73	2400.00		0.00
	3D View 4	Sliding Door	L73B02D02	Level 73	2500.00		0.00
	3D View 5	Sliding Door	L73B04D01	Level 73	1700.00		0.00
	3D View 6	Sliding Door	L73B05D03	Level 73	2550.00		0.00
	Copy of 3D V	Sliding Door	L73B05D05	Level 73	2550.00		0.00
	View 1 - Ana	Sliding Door	L73B05D08	Level 73	2550.00		0.00
	{3D}	Sliding Door	L73B05D10	Level 73	2550.00		0.00
	Elevations (Build	Sliding Door	L73B05D12	Level 73	2550.00		0.00
	East	Sliding Door	L73B05D15	Level 73	2550.00		0.00
	North	Sliding Door	L74B01D02	Level 74	2400.00		0.00
	South	Sliding Door	L74B02D02	Level 74	2500.00		0.00
	West	Sliding Door	L74B04D01	Level 74	1600.00		0.00
	Sections (Building	Sliding Door	L74B05D03	Level 74	2550.00		0.00
	Section 1	Sliding Door	L74B05D05	Level 74	2550.00		0.00
	Section 2	Sliding Door	L74B05D08	Level 74	2550.00		0.00
	Section 3	Sliding Door	L74B05D10	Level 74	2550.00		0.00
	Legends	Sliding Door	L74B05D12	Level 74	2550.00		0.00
	Schedules/Quan	Sliding Door	L74B05D15	Level 74	2550.00		0.00
	Multi-Category S	Sliding Door	L75B01D02	Level 75	2400.00		0.00
	Multi-Category S	Sliding Door	L75B02D02	Level 75	2500.00		0.00
	Sheets (all)	Sliding Door	L76B01D02	Level 76	2400.00		0.00
	Families	Sliding Door	L76B02D02	Level 76	2500.00		0.00
	Annotation Symb	Sliding Door	L77B01D02	Level 77	2400.00		0.00
	Ceilings	Sliding Door	L77B02D01	Level 77	2426.17		0.00
	Curtain Panels	Sliding Door	L78B01D02	Level 78	2400.00		0.00
	Curtain Systems	Sliding Door	L78B02D01	Level 78	2203.01		0.00
	Curtain Wall Mul	Sliding Door	L79B01D02	Level 79	2400.00		0.00
	Detail Items	Sliding Door	L79B02D01	Level 79	1974.15		0.00
	Doors	Sliding Door: 649					
	Floors	Sliding Door to Replace CW Pan	L10F01N10	Level 10	1255.77		-123.24
	Furniture	Sliding Door to Replace CW Panel: 1					
		Grand total: 9740					

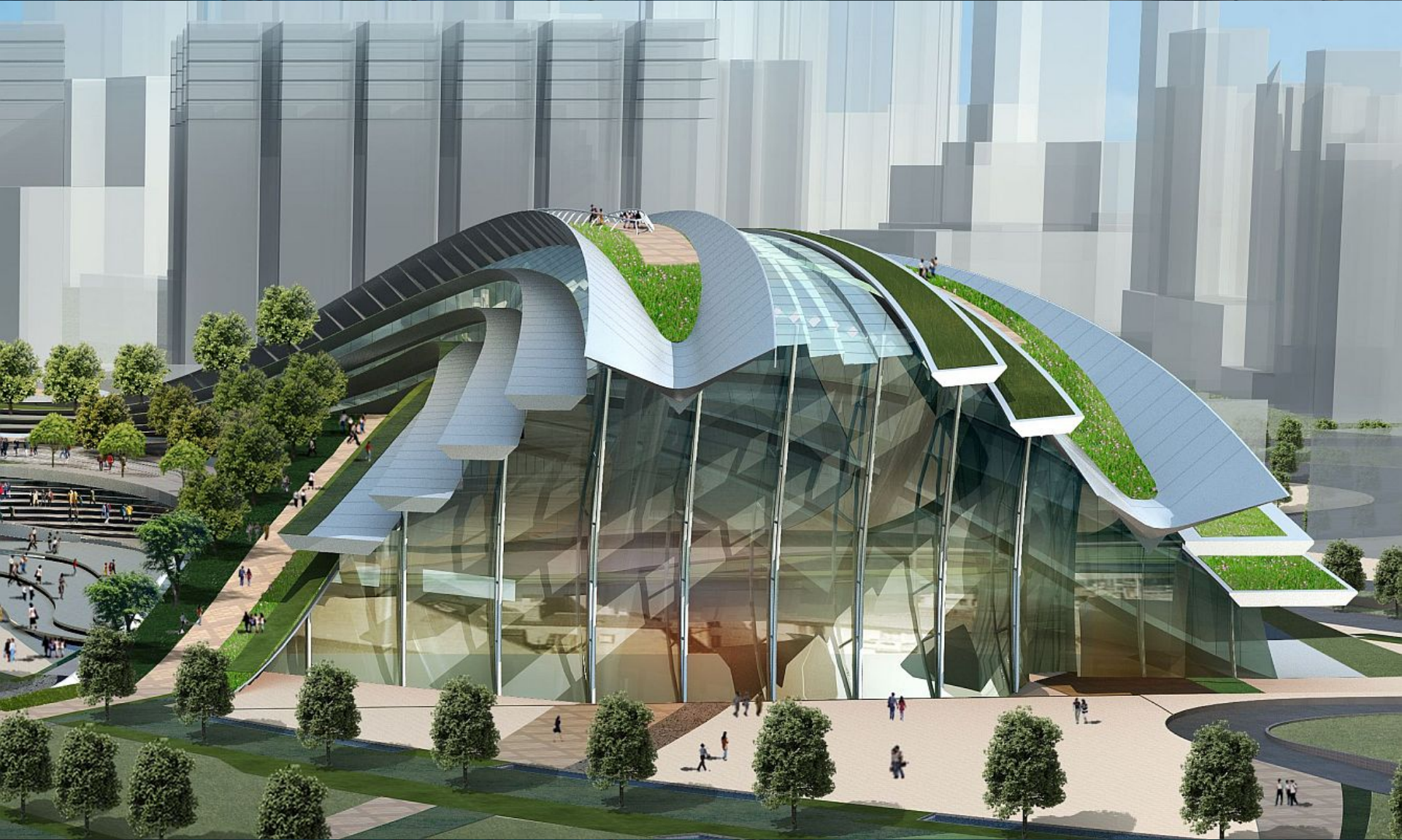


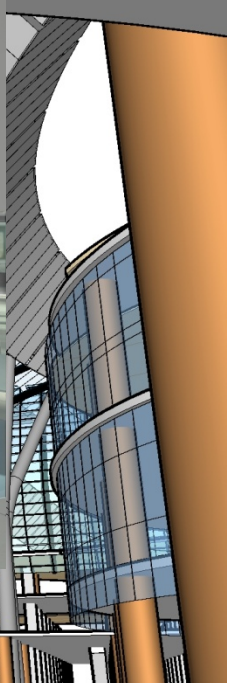
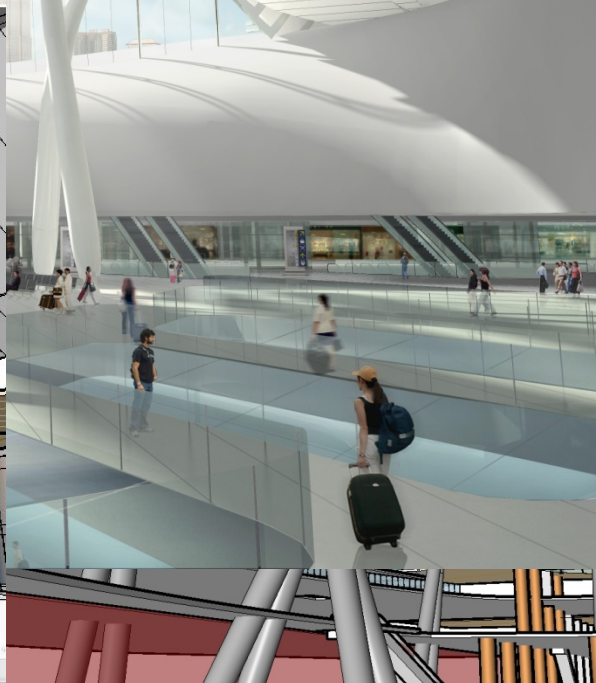
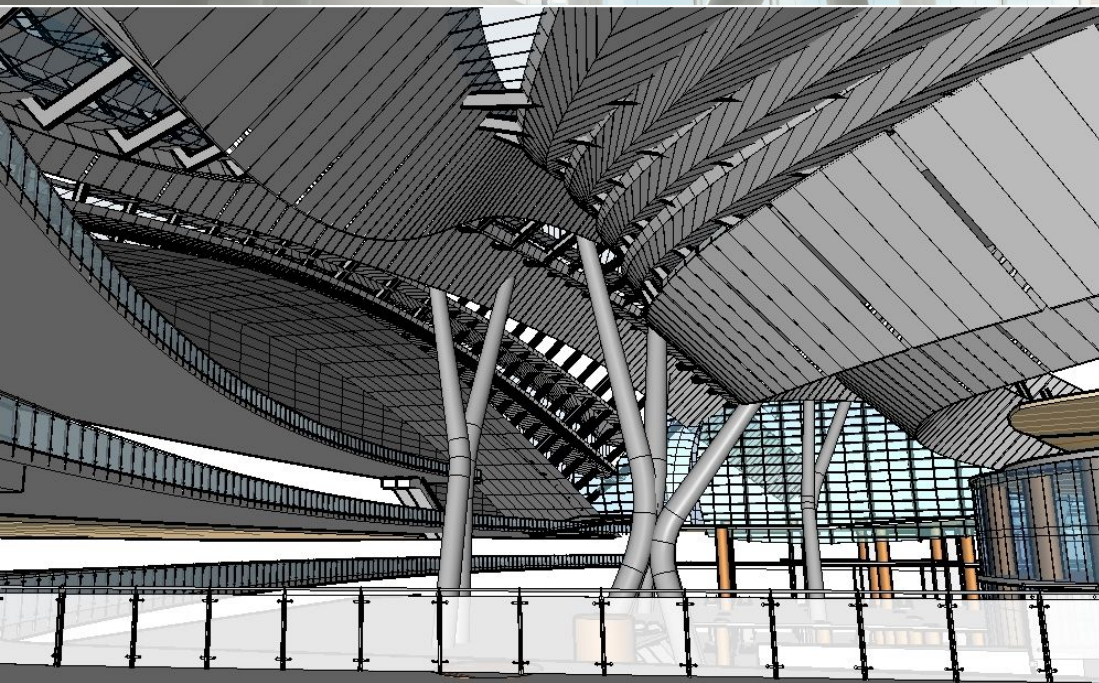
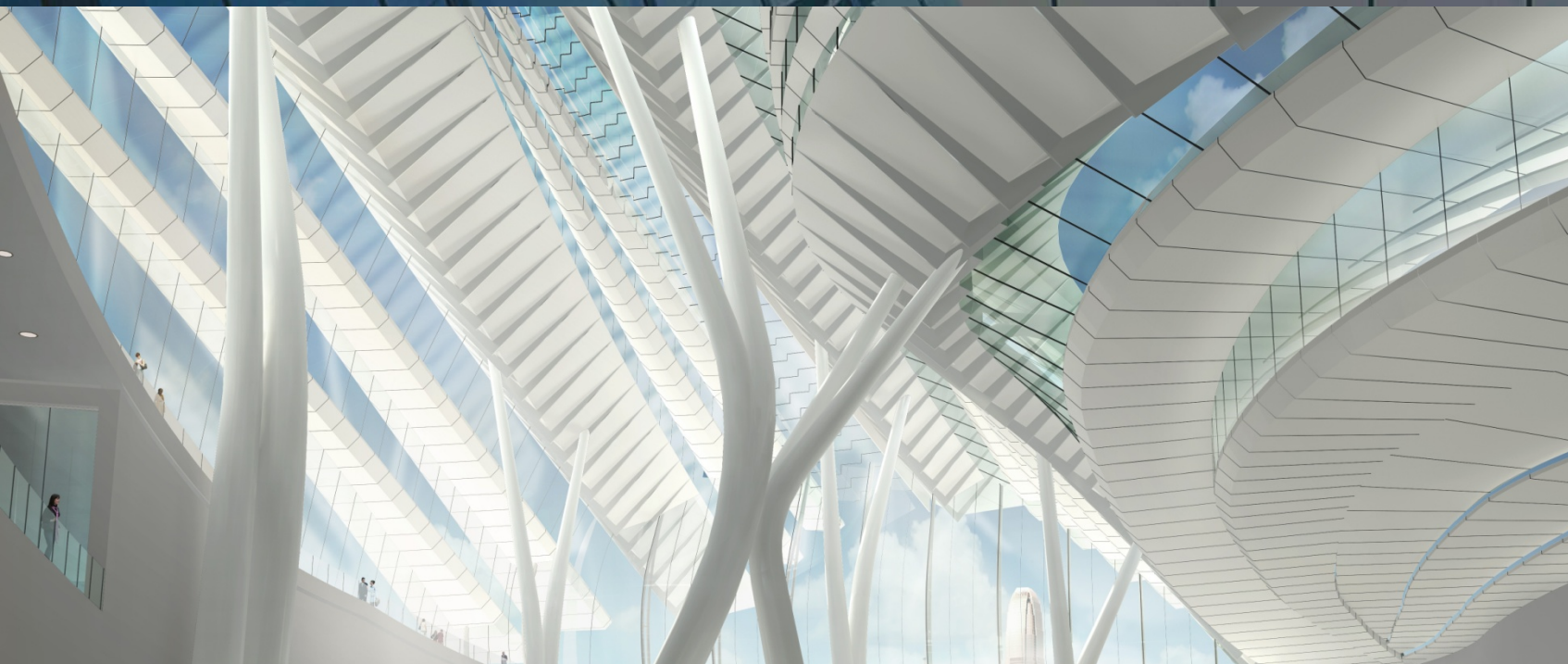


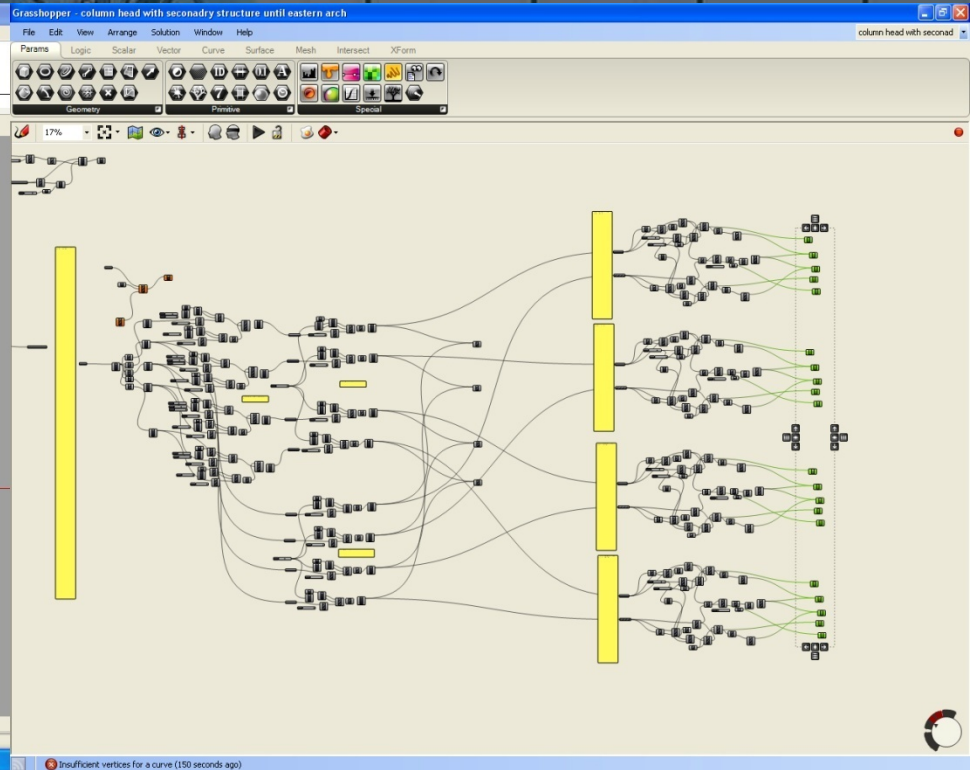
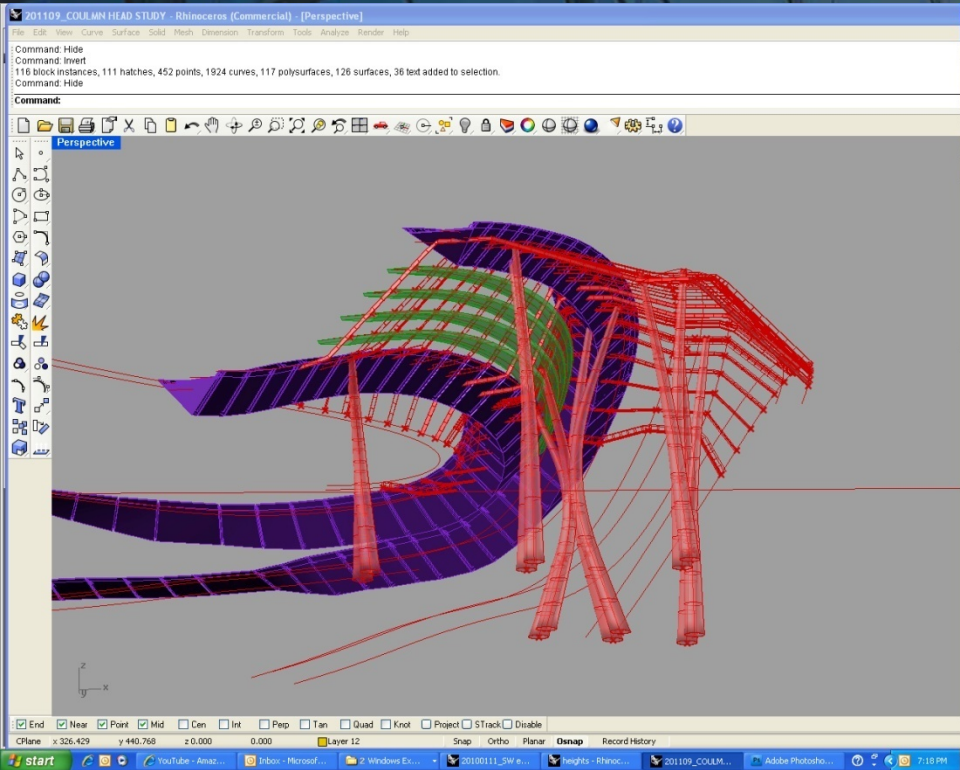


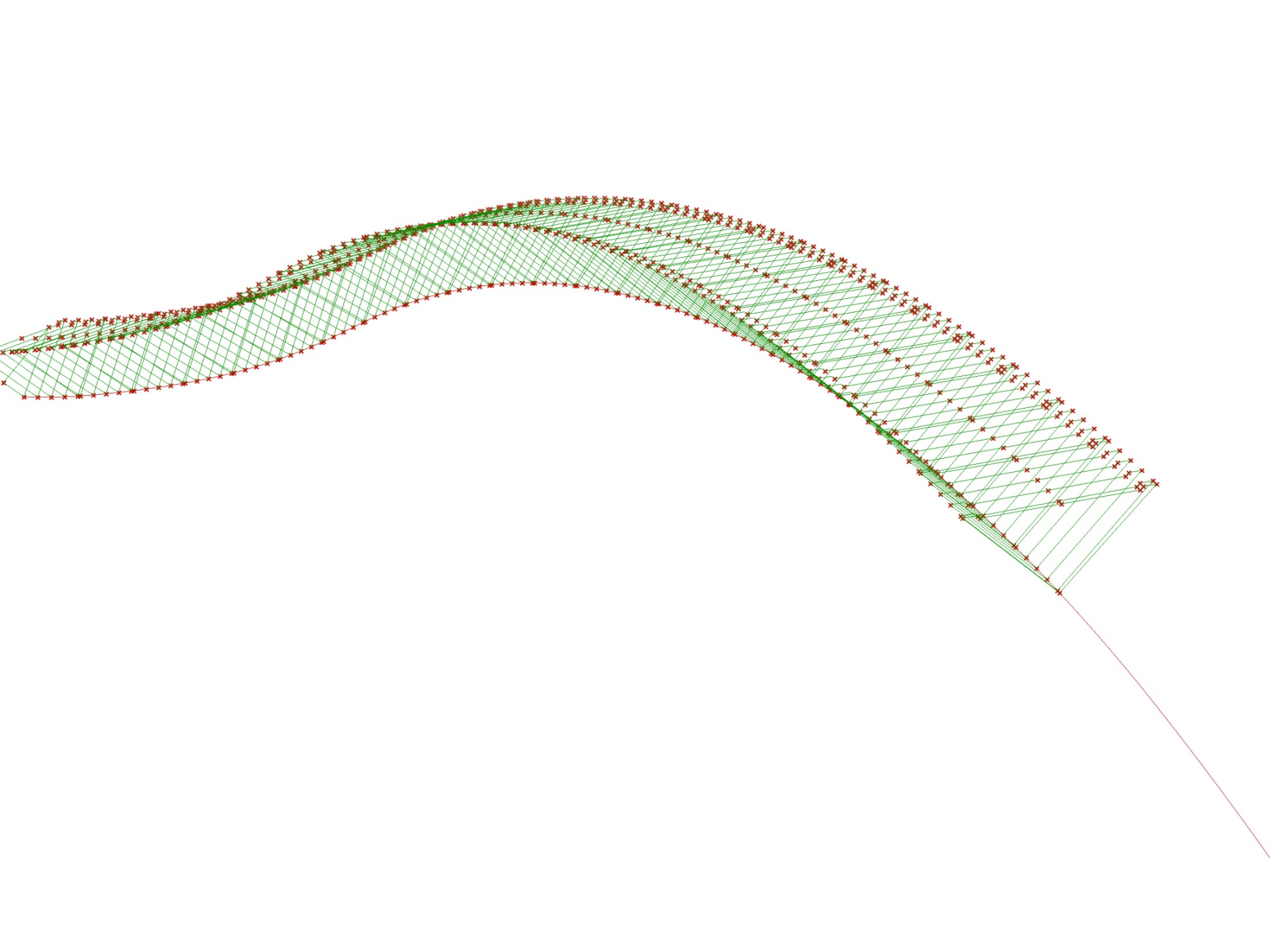


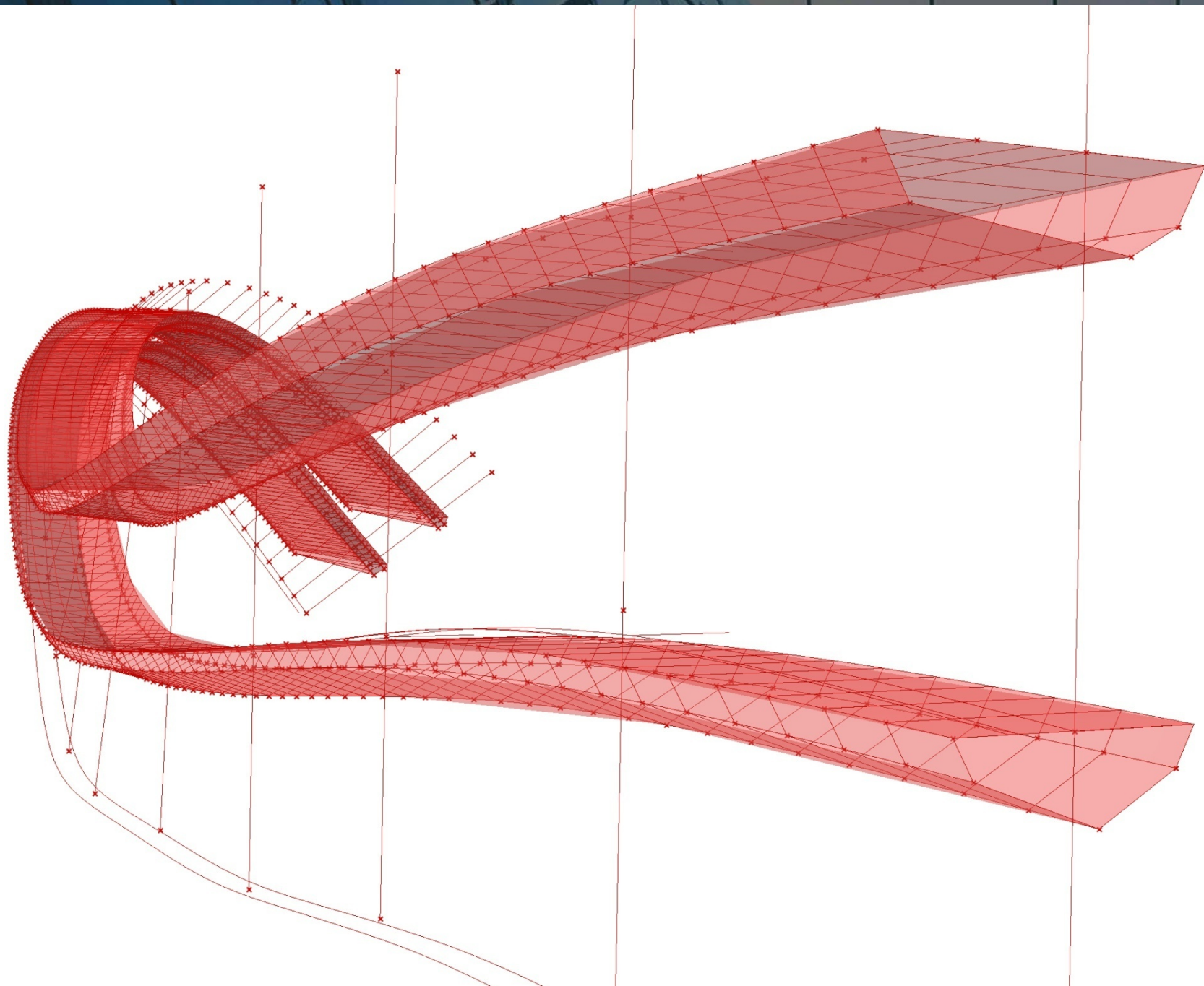













```

    {
        case 'x':
            p[index].x = System.Convert.ToDouble(para.AsValueString());
            break;
        case 'y':
            p[index].y = System.Convert.ToDouble(para.AsValueString());
            break;
        case 'z':
            p[index].z = System.Convert.ToDouble(para.AsValueString());
            break;
        default:
            MessageBox.Show("Wrong format of parameter name");
            break;
    }
}

CladdingPanel cl = new CladdingPanel(p, PanelCounter); // new panel created from list of points.
double Area_m2 = cl.PanelArea / 1000000; // division by 1000000 to get area in m2 from mm2

//current family type parameter is updated with value of Area_m2 ;
document.BeginTransaction();
if( symbol.ParametersMap["Area"].Set(Area_m2) == false )
{
    MessageBox.Show("Wrong parameter type");
}
document.EndTransaction();

ArrayOfPanels.Add(cl); // new panel inserted into the array of panels

output += cl.UniqueNumber + " " + Area_m2 + " " + cl.T_edge[0] + " " + cl.T_edge[1] + " " + cl.T_edge[2] + " " + cl.T_edge[3]

// creating panel objects in space
document.BeginTransaction();
FamilyInstance instance = document.Create.NewFamilyInstance(location, symbol, StructuralType.NonStructural);
document.EndTransaction();
}
//MessageBox.Show(output);

```

C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
## length	P01z## length	P02x## length	P02y## length	P02z## length	P03x## length	P03y## length	P03z## length	P04x## length	P04y## length	P04z## length	Panel Type	##other##		
24.1138	30997.4089	150034.096	44497.0923	31201.1007	151479.165	44220.6936	29756.4955	151017.994	42846.0425	29553.4116	P3S06P001			
97.0923	31201.1007	150490.205	45872.5015	31400.2904	151935	45597.7674	29955.086	151479.165	44220.6936	29756.4955	P3S06P002			
72.5015	31400.2904	150940.93	47250.3052	31594.9821	152385.473	46977.2334	30149.1841	151935	45597.7674	29955.086	P3S06P003			
50.3052	31594.9821	151386.267	48630.4698	31785.1616	152830.57	48359.0618	30338.7828	152385.473	46977.2334	30149.1841	P3S06P004			
30.4698	31785.1616	151474.689	48906.7825	31822.6539	152918.944	48635.7079	30376.1616	152830.57	48359.0618	30338.7828	P3S06P005			
06.7825	31822.6539	151913.575	50289.7323	32007.3872	153357.585	50020.3276	30560.3477	152918.944	48635.7079	30376.1616	P3S06P006			
89.7323	32007.3872	152347.08	51674.9657	32187.576	153790.836	51407.2369	30740.0246	153357.585	50020.3276	30560.3477	P3S06P007			
74.9657	32187.576	152775.147	53062.4739	32363.2813	154218.667	52796.4316	30915.2314	153790.836	51407.2369	30740.0246	P3S06P008			
62.4739	32363.2813	153197.744	54452.3272	32534.6167	154641.09	54188.0429	31086.0665	154218.667	52796.4316	30915.2314	P3S06P009			
52.3272	32534.6167	153281.603	54730.5766	32568.3694	154724.924	54466.654	31119.7184	154641.09	54188.0429	31086.0665	P3S06P010			
30.5766	32568.3694	153697.624	56123.188	32734.5715	155140.841	55861.1282	31285.4274	154724.924	54466.654	31119.7184	P3S06P011			
123.188	32734.5715	154108.128	57517.7498	32896.4211	155551.199	57257.4509	31446.8027	155140.841	55861.1282	31285.4274	P3S06P012			
17.7498	32896.4211	154513.02	58914.0007	33053.6684	155955.863	58655.1793	31603.5689	155551.199	57257.4509	31446.8027	P3S06P013			
14.0007	33053.6684	154912.275	60311.9726	33206.0604	156354.833	60054.3601	31755.4605	155955.863	58655.1793	31603.5689	P3S06P014			
11.9726	33206.0604	154991.455	60591.8003	33235.9403	156433.956	60334.4167	31785.2395	156354.833	60054.3601	31755.4605	P3S06P015			
91.8003	33235.9403	155384.039	61992.164	33382.3144	156826.258	61735.9125	31931.1206	156433.956	60334.4167	31785.2395	P3S06P016			
992.164	33382.3144	155771.104	63394.5402	33523.6095	157213.036	63139.4019	32071.9532	156826.258	61735.9125	31931.1206	P3S06P017			
94.5402	33523.6095	156152.641	64799.0536	33659.8994	157594.329	64545.1147	32207.8035	157213.036	63139.4019	32071.9532	P3S06P018			
99.0536	33659.8994	156528.665	66205.8406	33791.3989	157970.193	65953.318	32338.8909	157594.329	64545.1147	32207.8035	P3S06P019			
05.8406	33791.3989	156603.207	66487.4657	33817.1437	158044.711	66235.2527	32364.5566	157970.193	65953.318	32338.8909	P3S06P020			
87.4657	33817.1437	156972.591	67896.8372	33943.1573	158414.002	67646.2548	32490.1972	158044.711	66235.2527	32364.5566	P3S06P021			
96.8372	33943.1573	157336.329	69307.9002	34064.607	158777.619	69058.83	32611.2857	158414.002	67646.2548	32490.1972	P3S06P022			
07.9002	34064.607	157694.338	70720.5482	34181.3772	159135.5	70472.822	32727.6793	158777.619	69058.83	32611.2857	P3S06P023			
20.5482	34181.3772	158046.558	72134.4265	34293.1711	159487.514	71887.6646	32839.0806	159135.5	70472.822	32727.6793	P3S06P024			
34.4265	34293.1711	158116.297	72417.2914	34314.8748	159557.191	72170.6364	32860.703	159487.514	71887.6646	32839.0806	P3S06P025			
17.2914	34314.8748	158461.474	73832.0687	34419.7934	159901.955	73585.5129	32965.2043	159557.191	72170.6364	32860.703	P3S06P026			
32.0687	34419.7934	158800.798	75247.6674	34518.1928	160240.723	75000.5299	33063.172	159901.955	73585.5129	32965.2043	P3S06P027			
47.6674	34518.1928	159134.34	76664.522	34609.6099	160573.676	76416.4942	33154.1589	160240.723	75000.5299	33063.172	P3S06P028			
664.522	34609.6099	159462.105	78082.6818	34693.7628	160900.837	77833.534	33237.8995	160573.676	76416.4942	33154.1589	P3S06P029			
82.6818	34693.7628	159526.964	78366.4655	34709.6976	160965.574	78117.0662	33253.7554	160900.837	77833.534	33237.8995	P3S06P030			
66.4655	34709.6976	159847.917	79786.6698	34784.8936	161285.941	79536.0393	33328.5833	160965.574	78117.0662	33253.7554	P3S06P031			
86.6698	34784.8936	160163.369	81209.1412	34852.7734	161600.864	80957.3769	33396.1369	161285.941	79536.0393	33328.5833	P3S06P032			
99.1412	34852.7734	160473.329	82633.6703	34913.5237	161910.348	82380.8678	33456.9588	161600.864	80957.3769	33396.1369	P3S06P033			


```

public bool CompareEdgesWith(EdgeGroup otherPanel, double tolerance)
{
    if
    (
        Math.Abs(nextPanel.G_edge[0] - G_edge[0]) <= tolerance
        &&
        Math.Abs(nextPanel.G_edge[1] - G_edge[1]) <= tolerance
        &&
        Math.Abs(nextPanel.G_edge[2] - G_edge[2]) <= tolerance
        &&
        Math.Abs(nextPanel.G_edge[3] - G_edge[3]) <= tolerance
        &&
        Math.Abs(nextPanel.G_diagonal_1 - G_diagonal_1) <= tolerance * Math.Sqrt(2)
    )
    { return true; }
    else
    { return false; }

}

}

#endregion

public class Group
{
    public int GroupNumber;
    public double[] Edge; //array of lengths of groups's edges.
    public double Diagonal; //length of group's diagonal.
    public double Area; //area of a grouped panel;
}

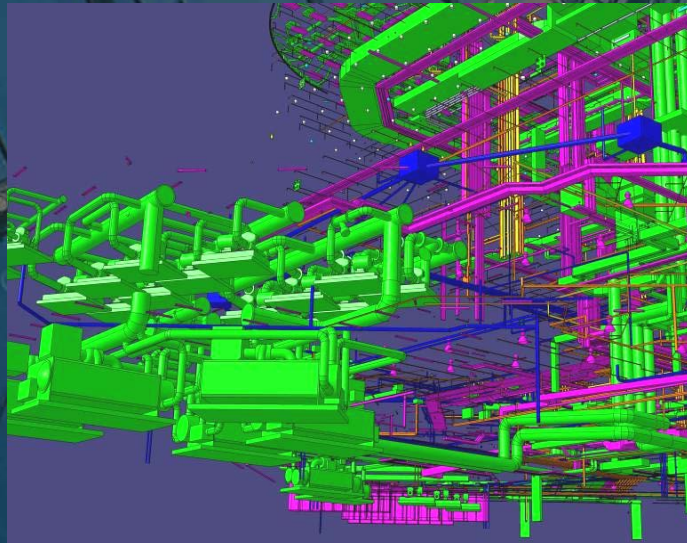
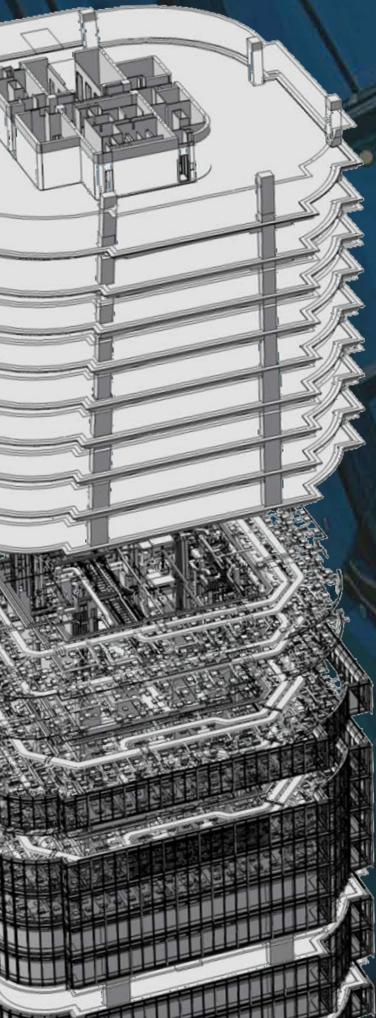
double toFeet(double value) //conversion of linear sizes for family instances
{
    return value * FACTOR_MMtoFT;
}

double toSqFeet(double value) //conversion of areal sizes for family instances
{

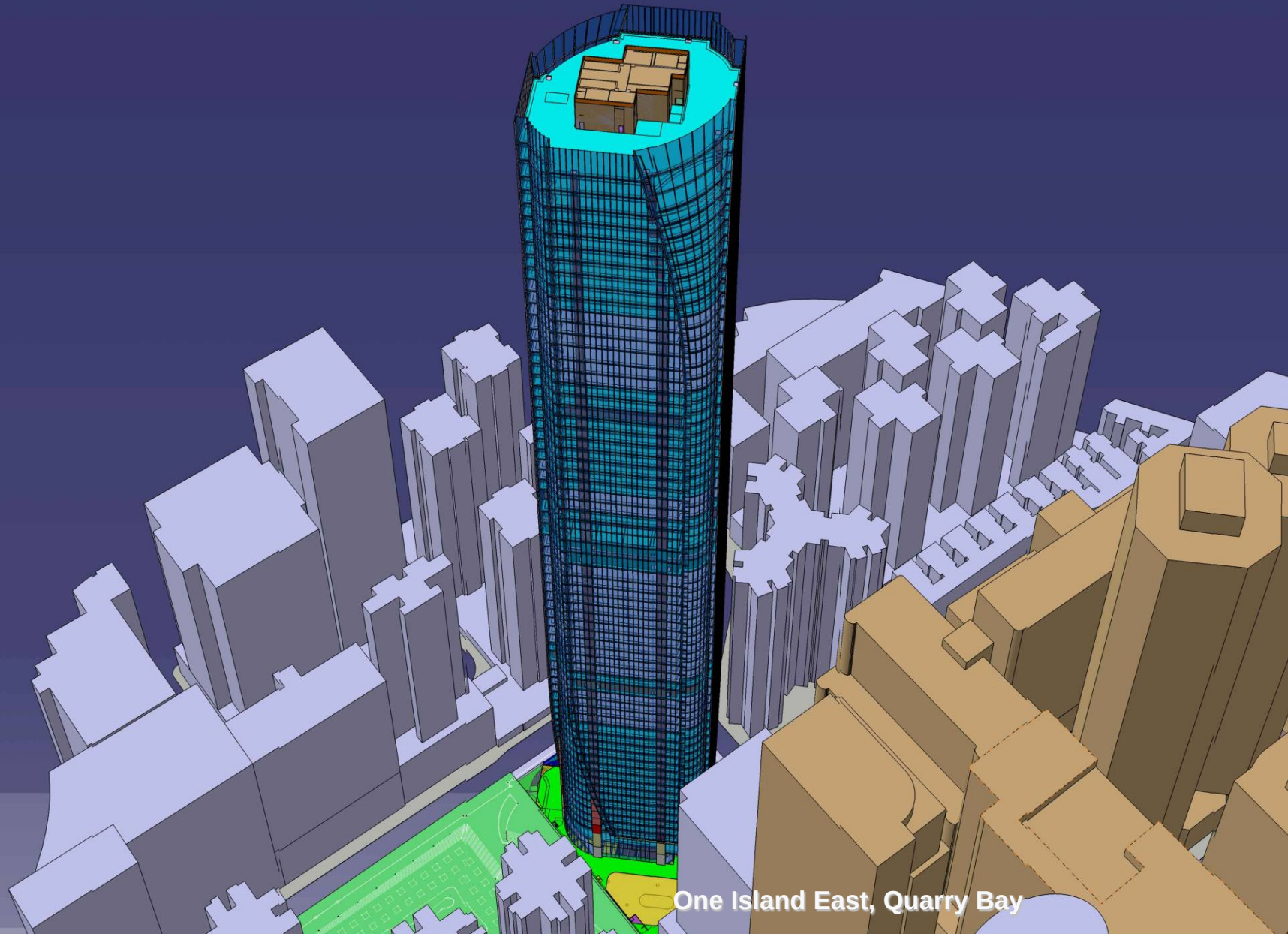
```

Construction

- One Island East

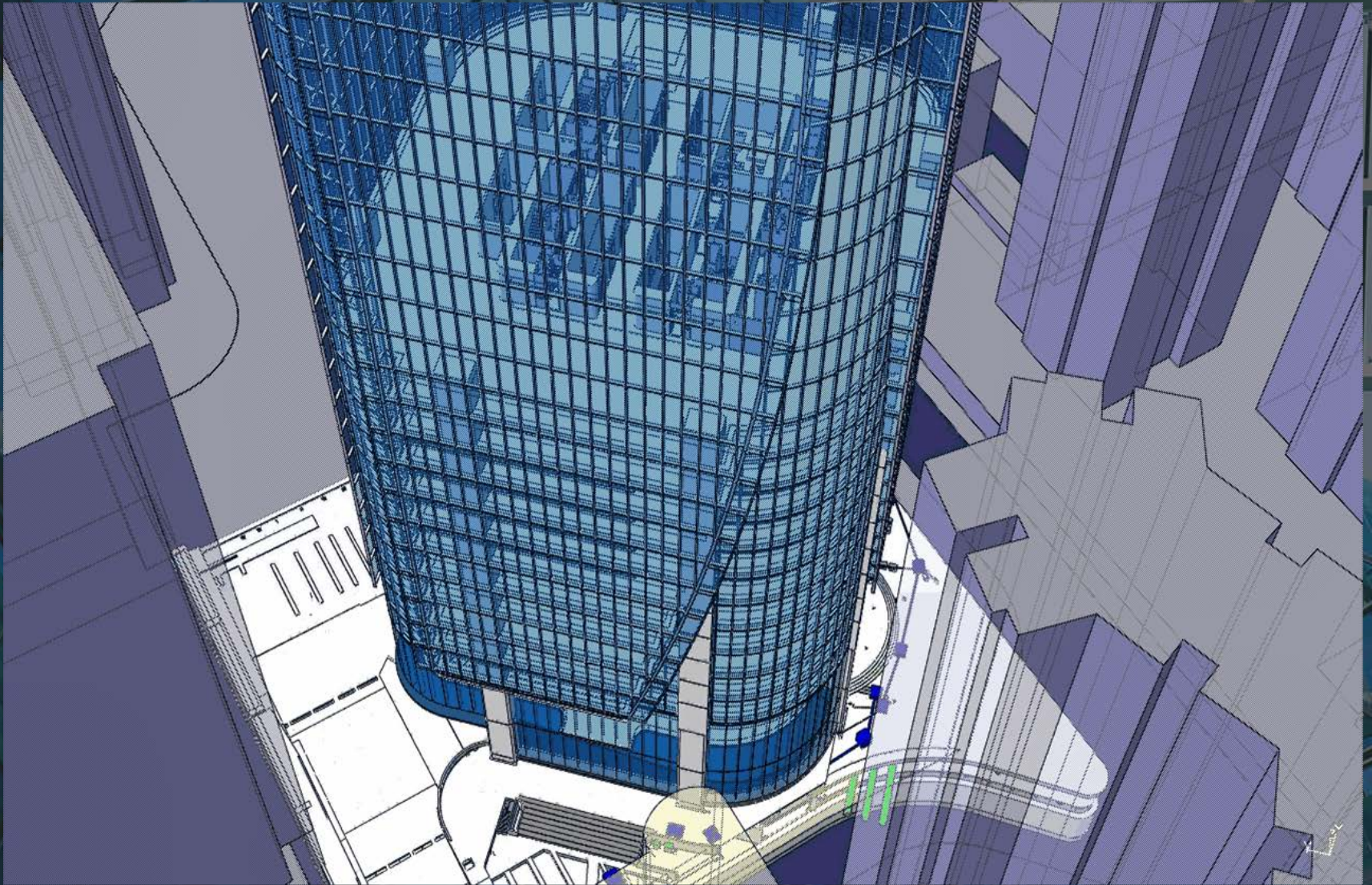


Tender Model by Consultants



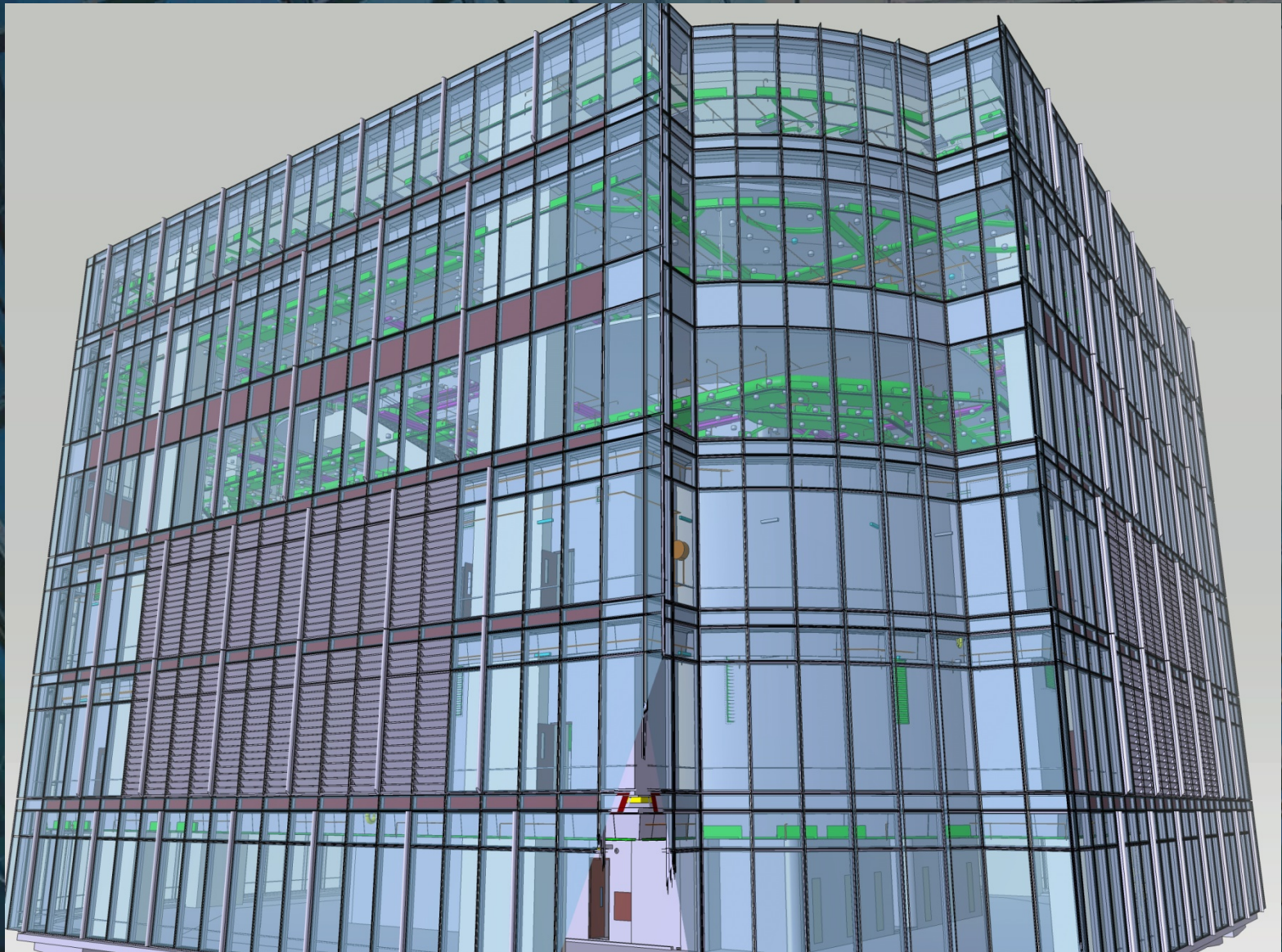
One Island East, Quarry Bay

One Island East

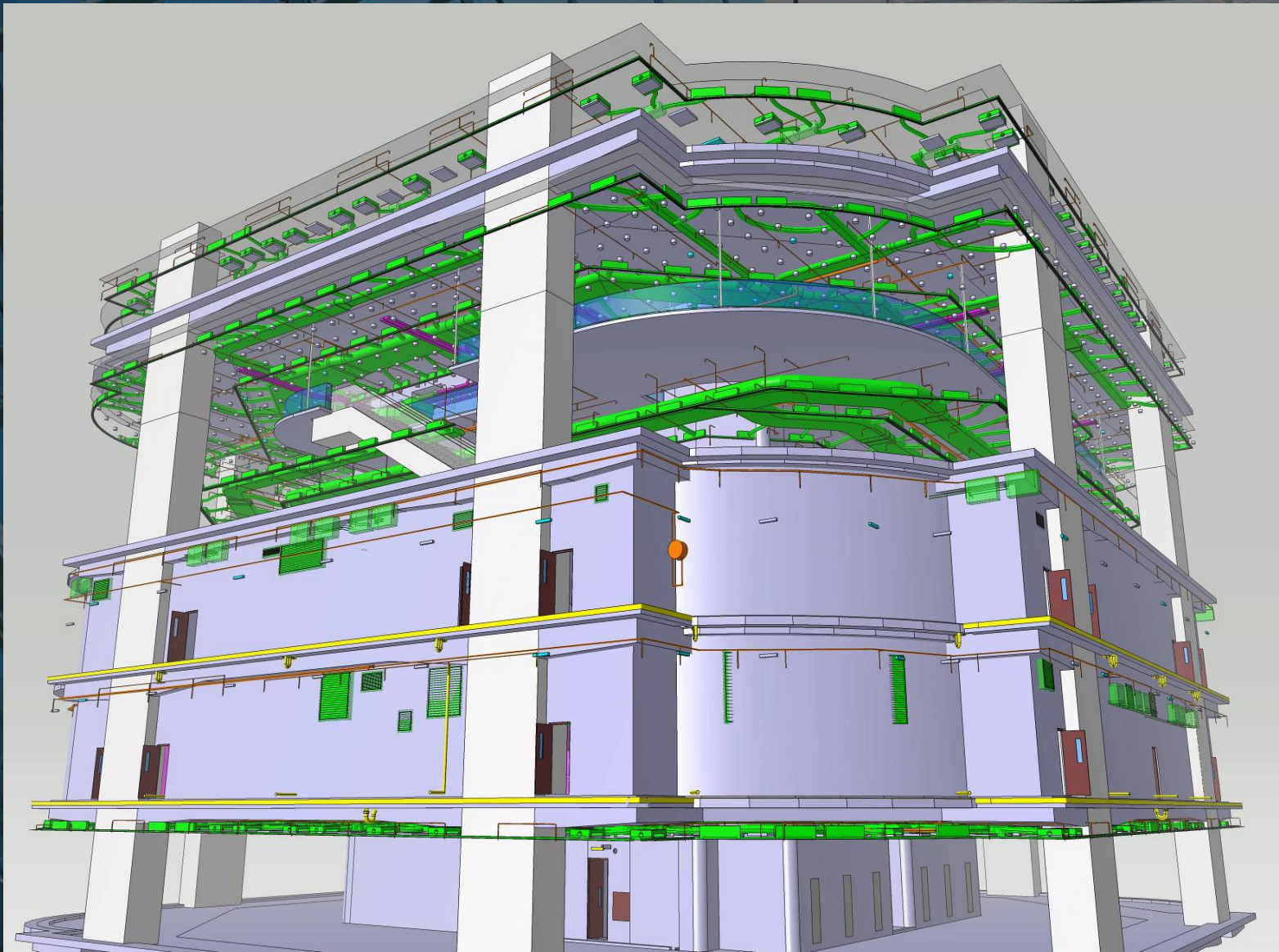


BIM Architectural Configuration

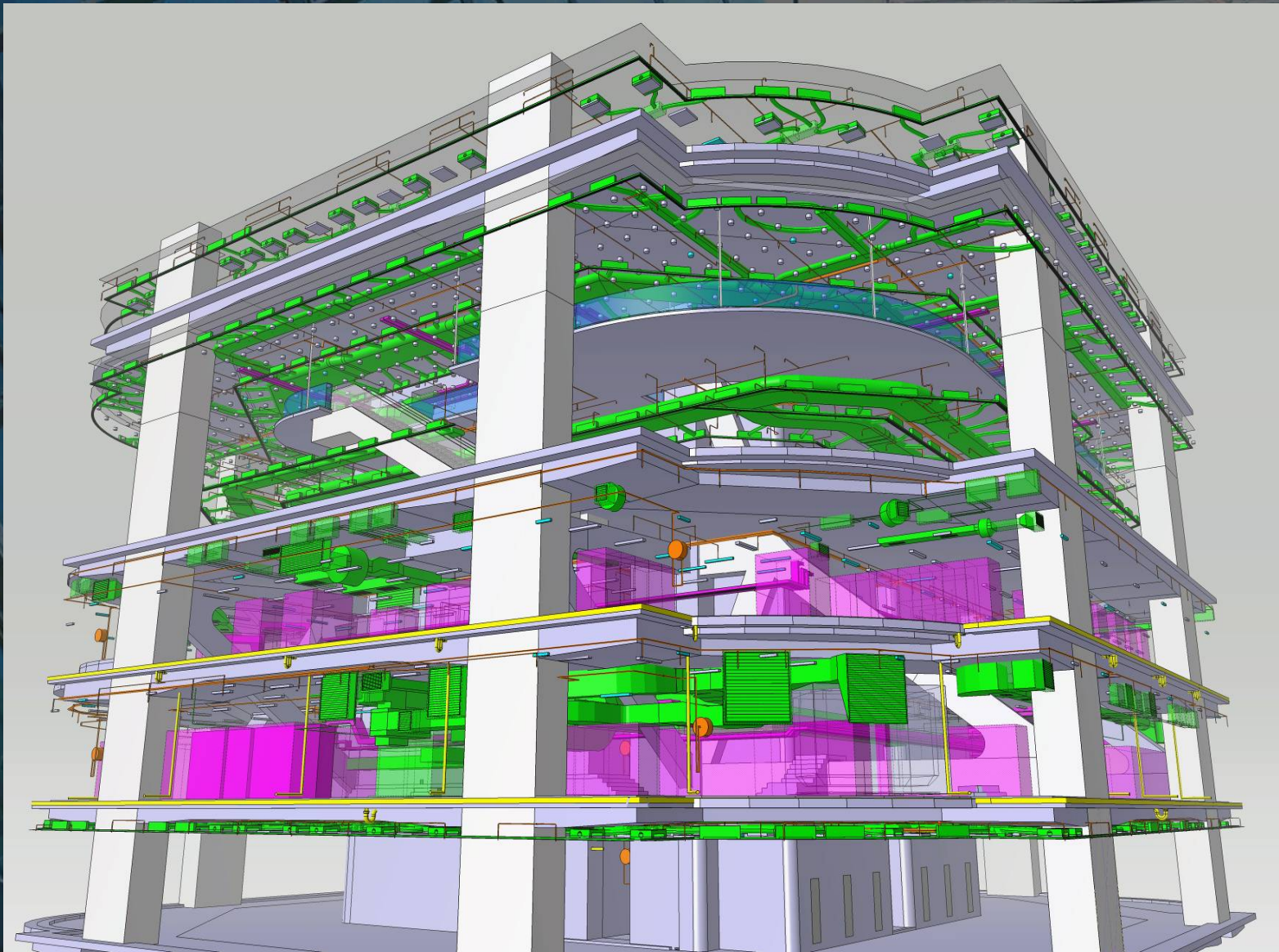
One Island East



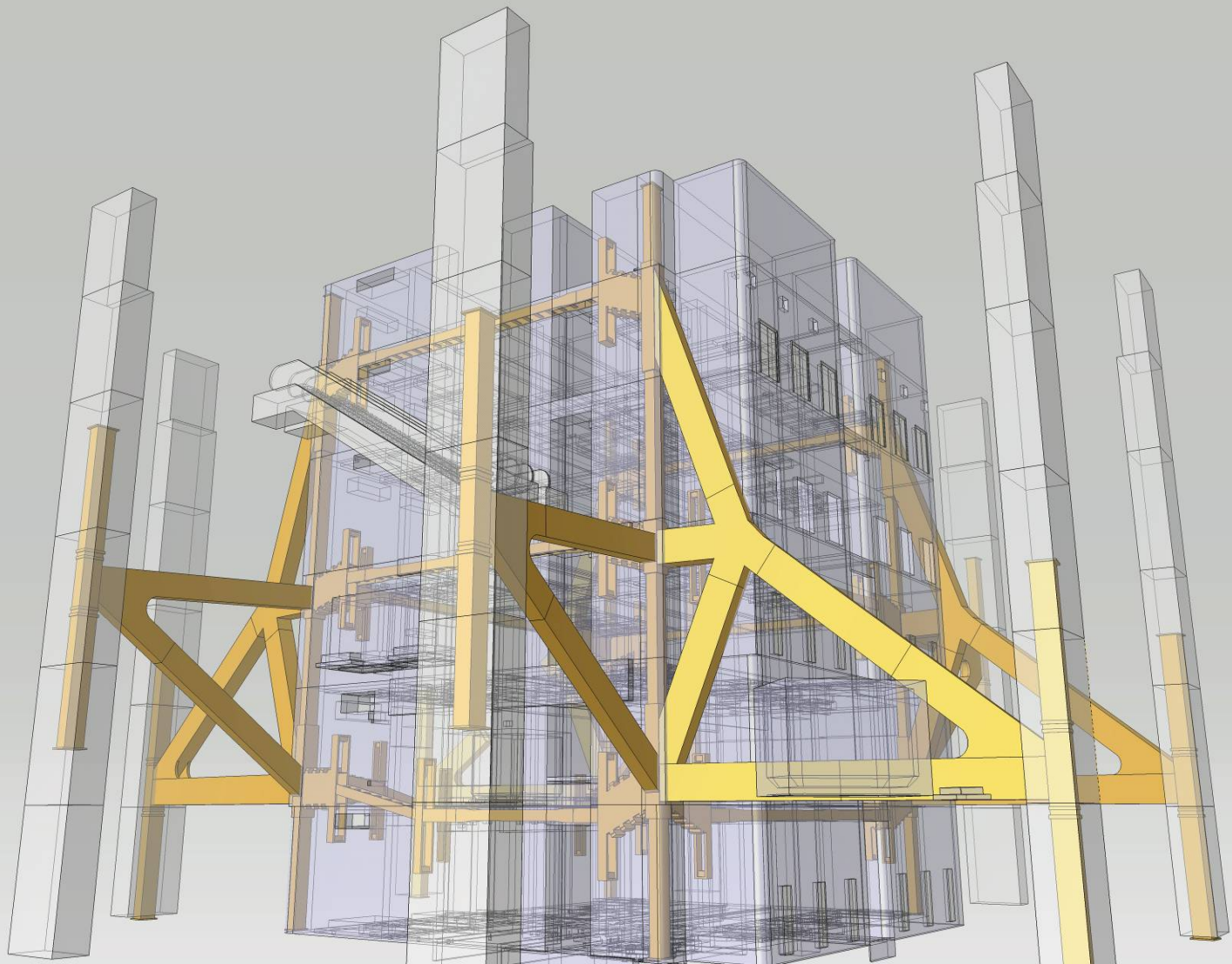
One Island East



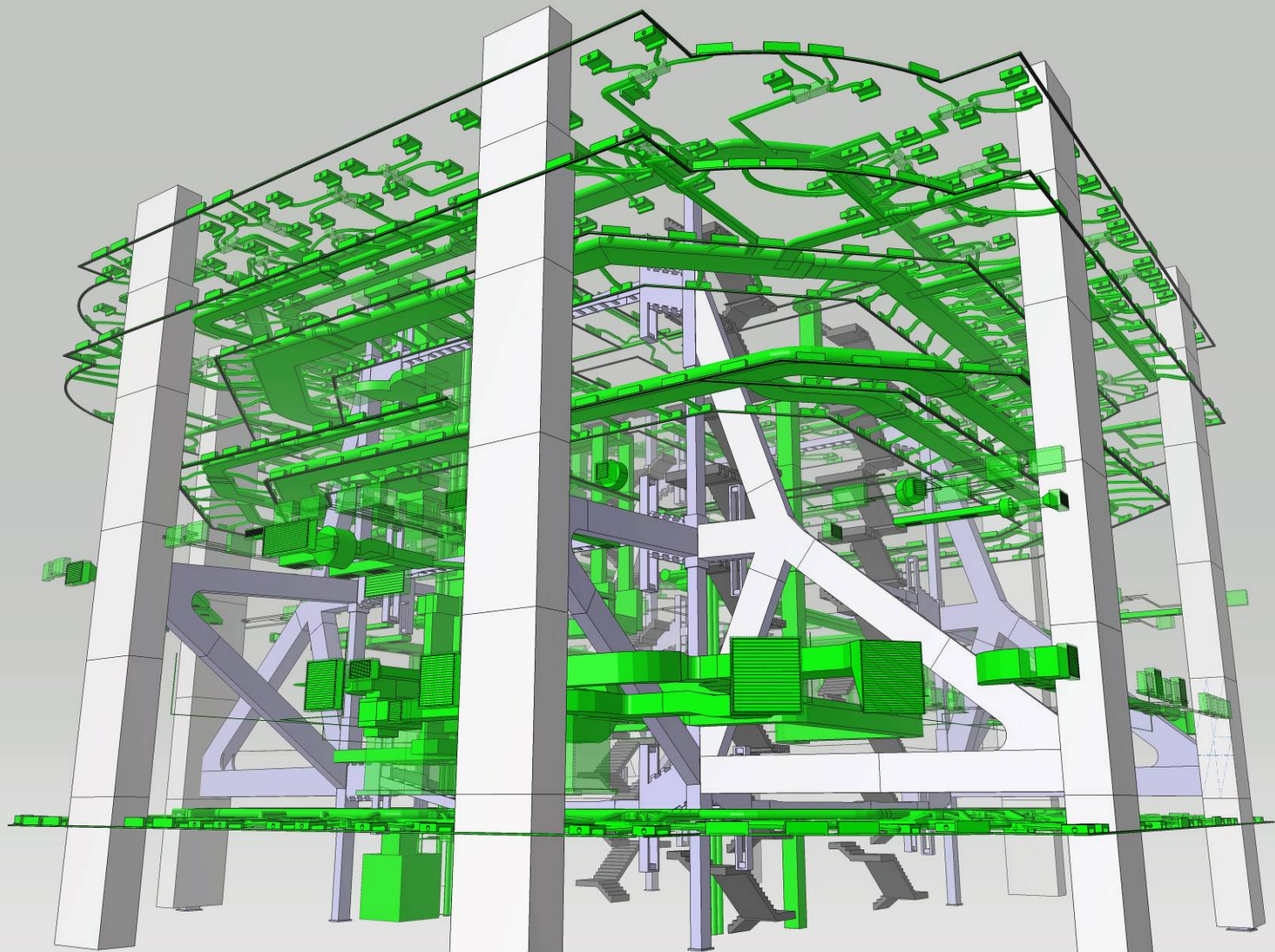
One Island East



One Island East

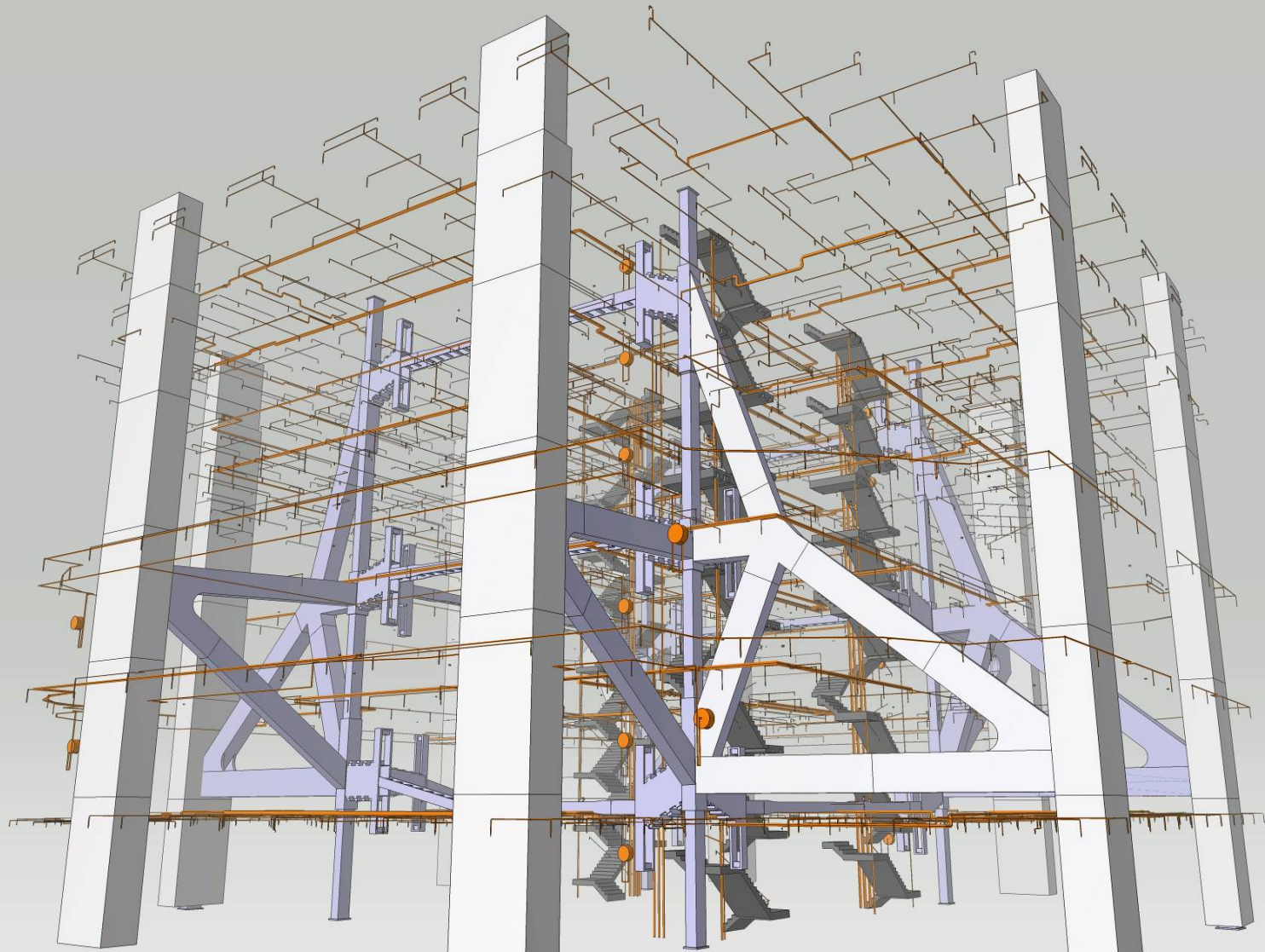


One Island East



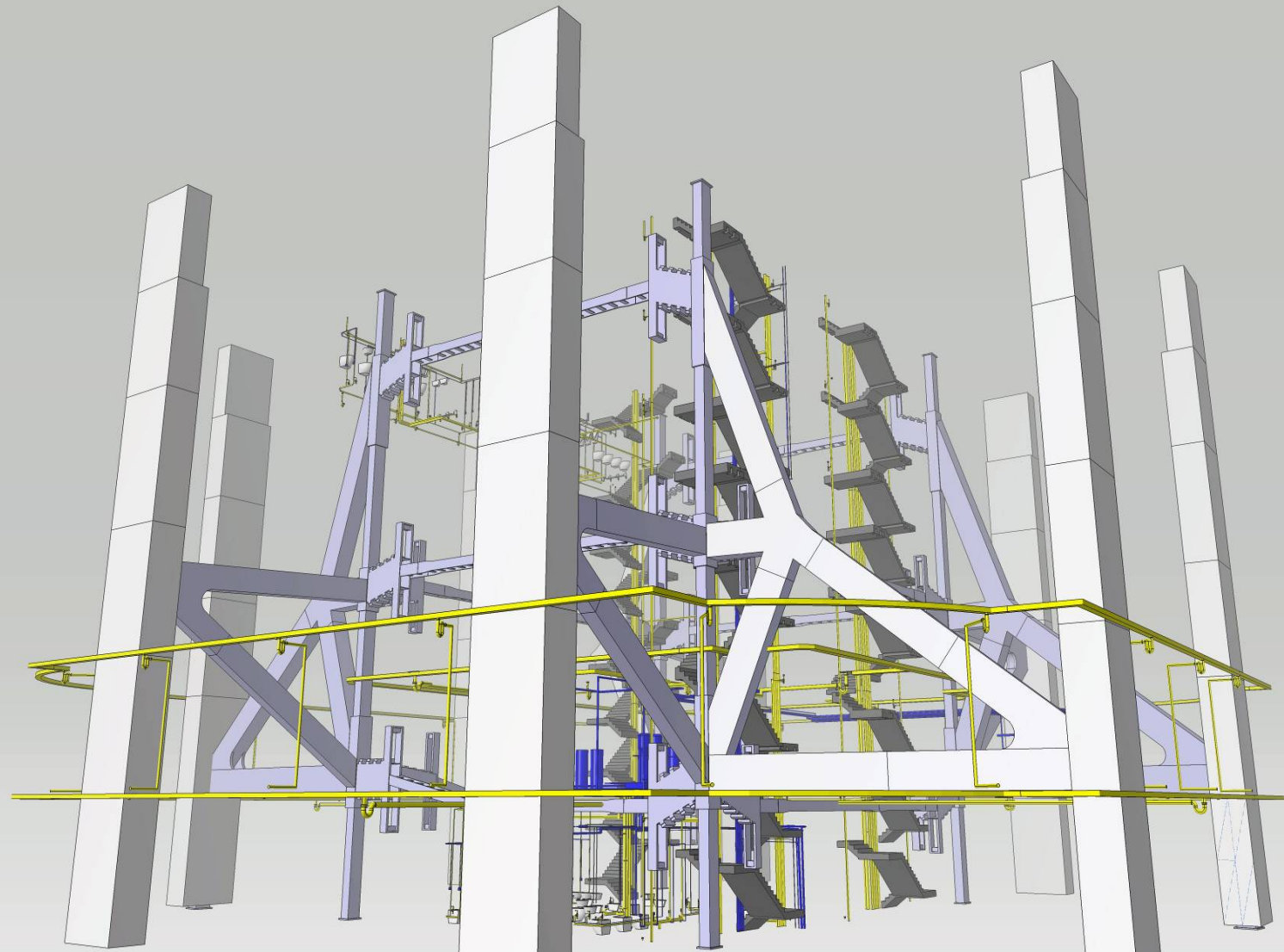
BIM HVAC Configuration

One Island East



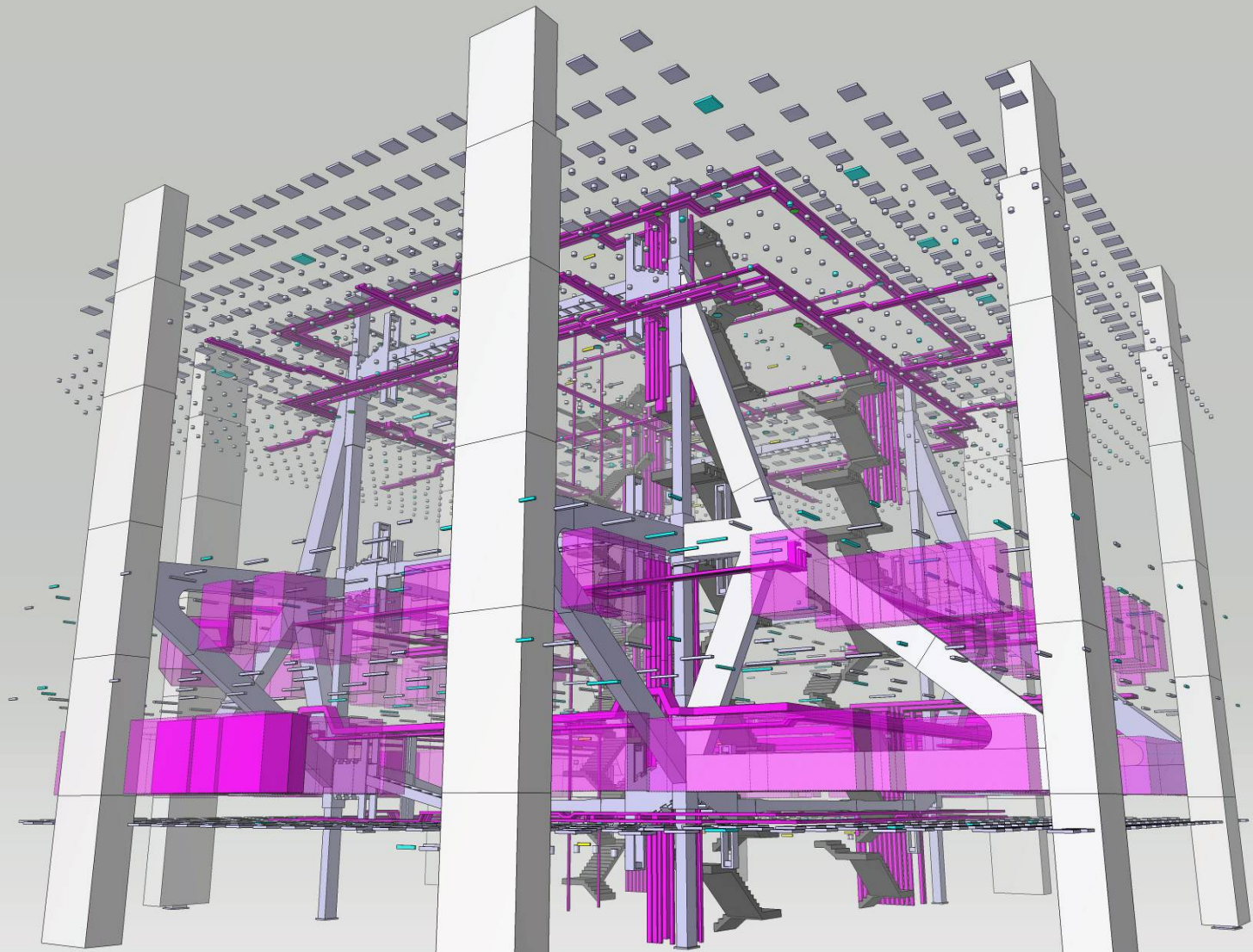
BIM FS Configuration

One Island East



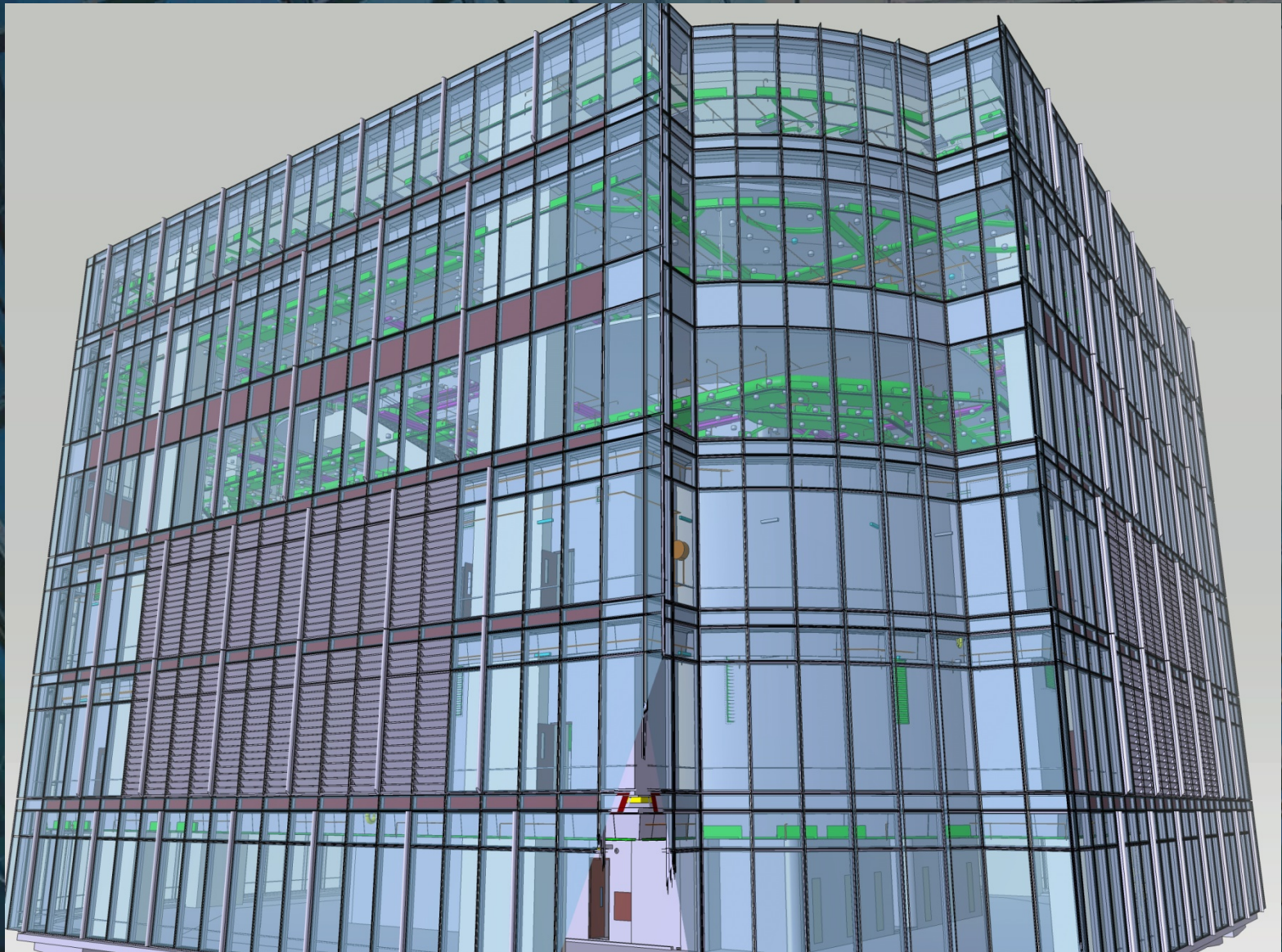
BIM Plumb & Drainage Configuration

One Island East

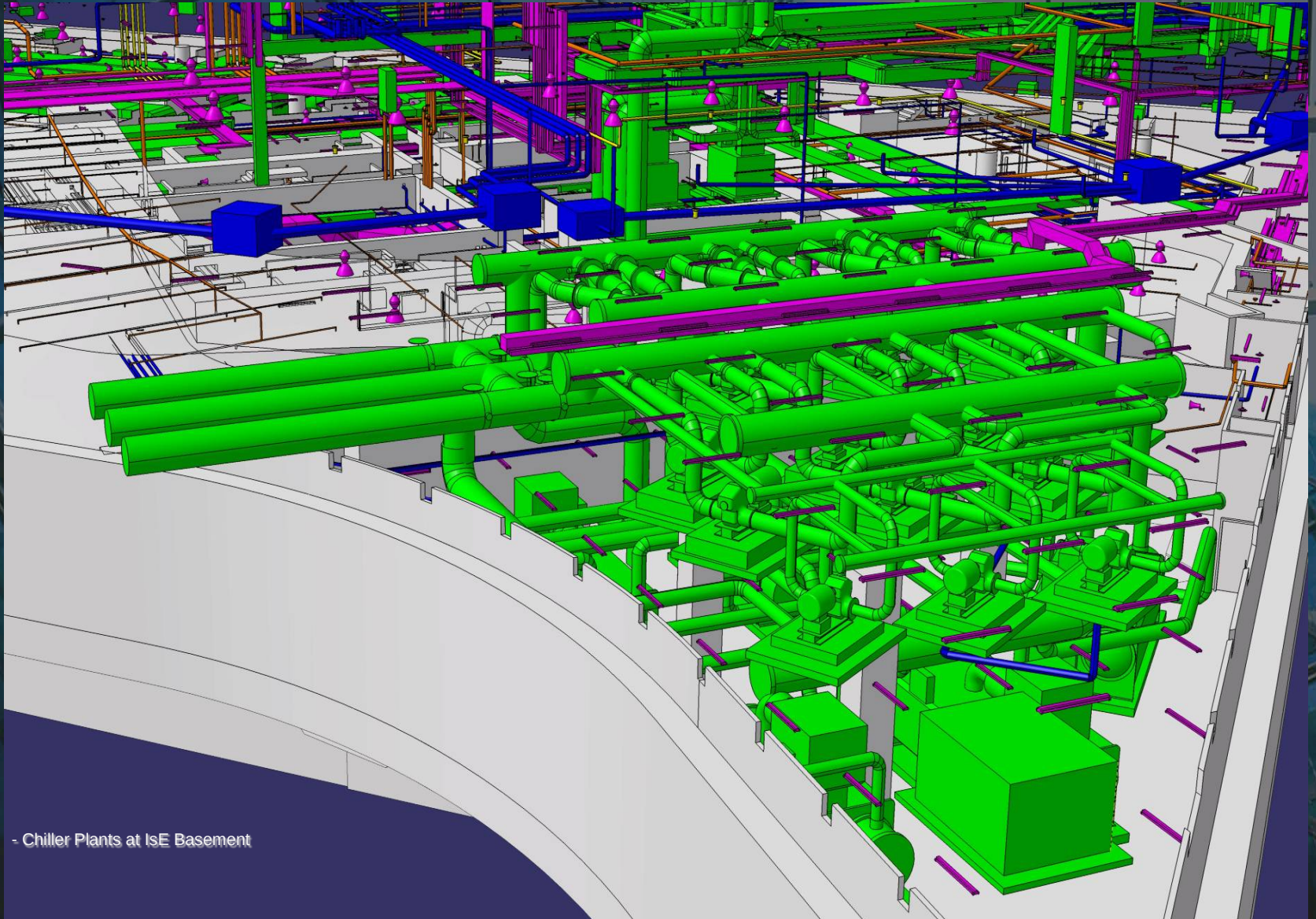


BIM ELEC Configuration

One Island East

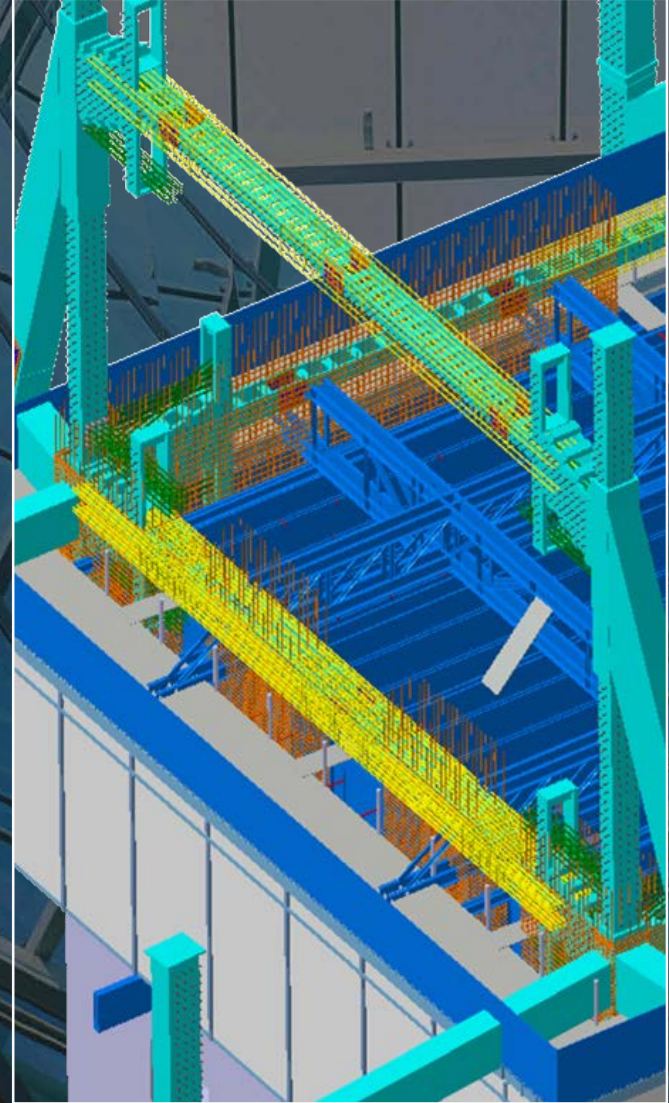
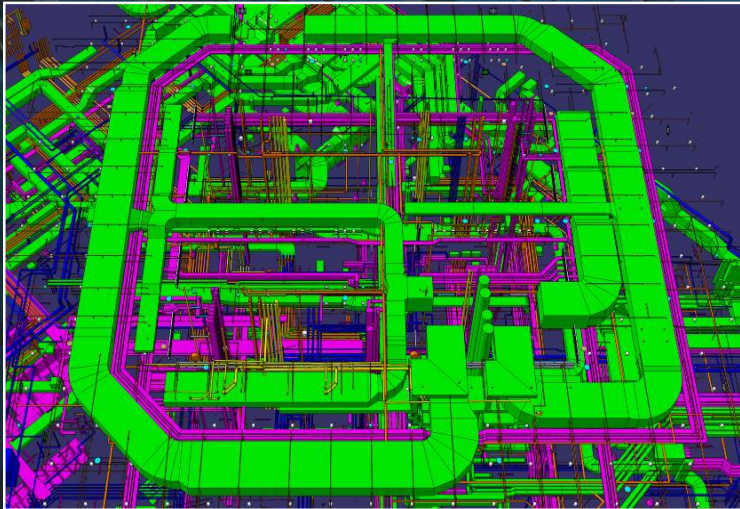
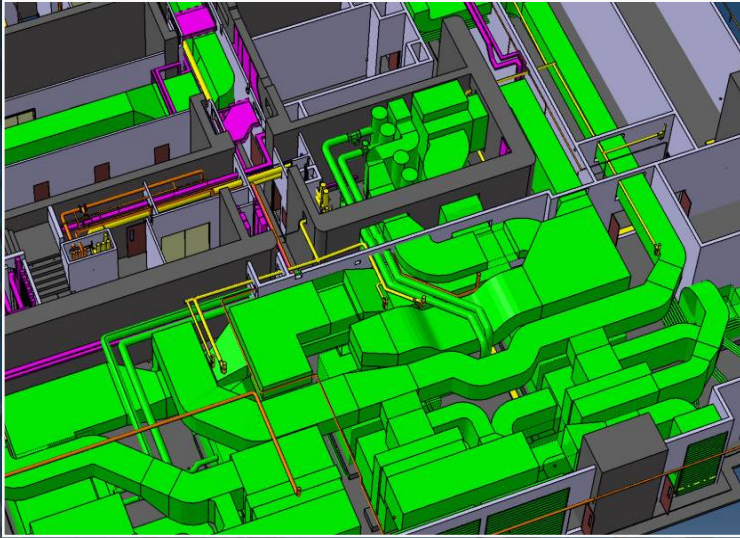


Detail Design and Coordination



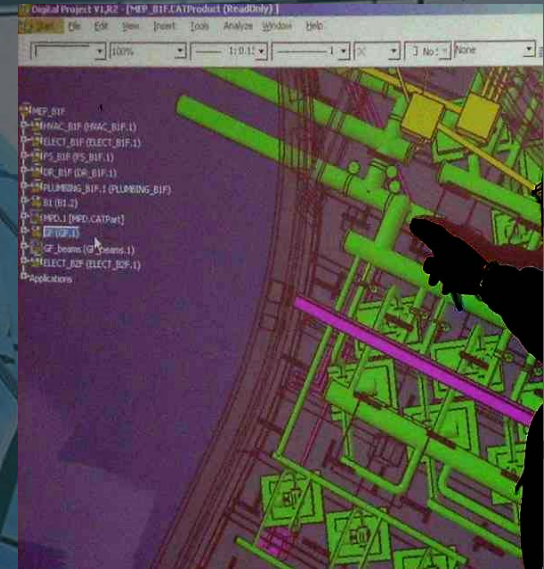
- Chiller Plants at IsE Basement

Detail Design and Coordination



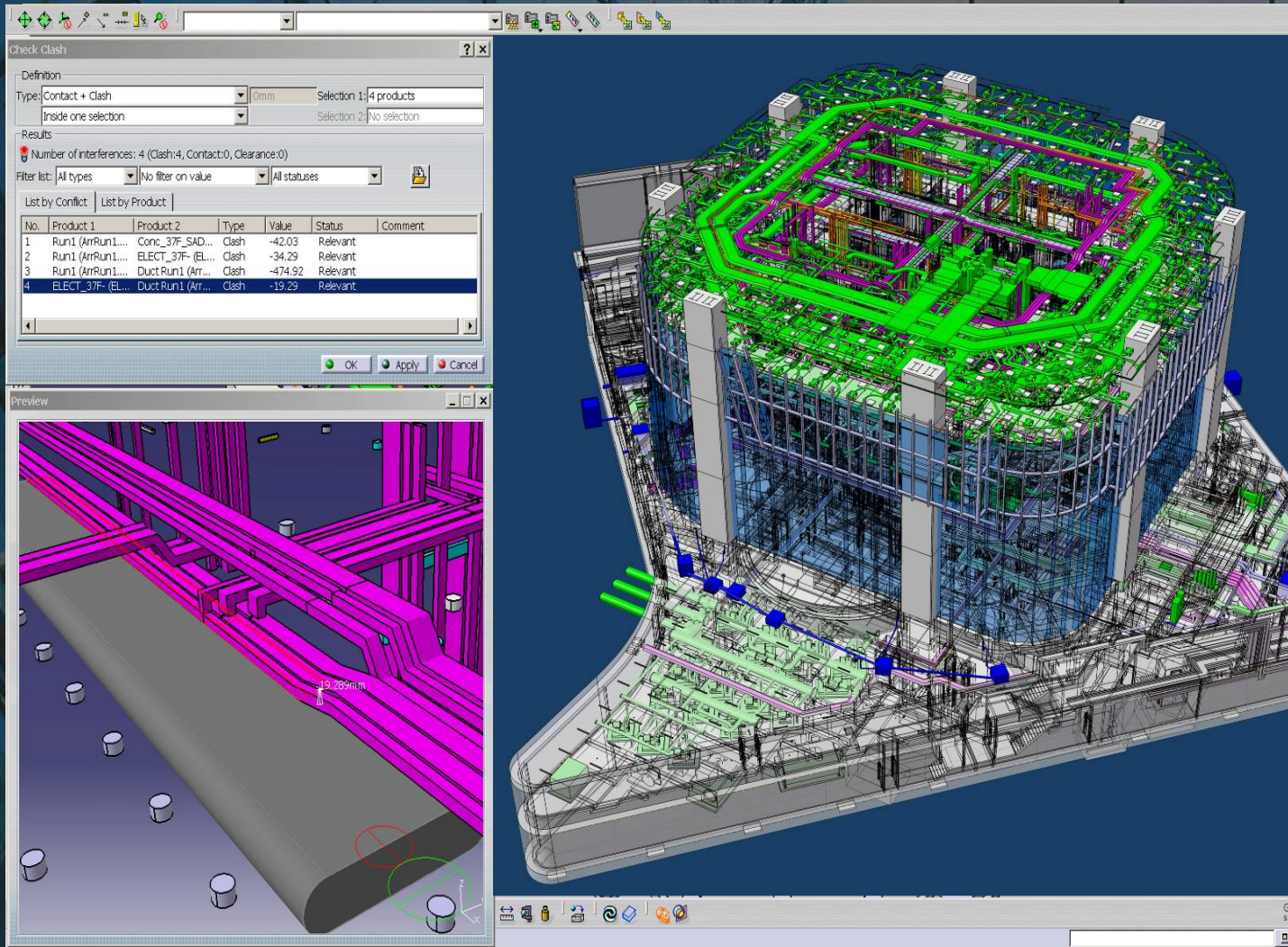
Project-wide multi-discipline design coordination

Detail Design and Coordination



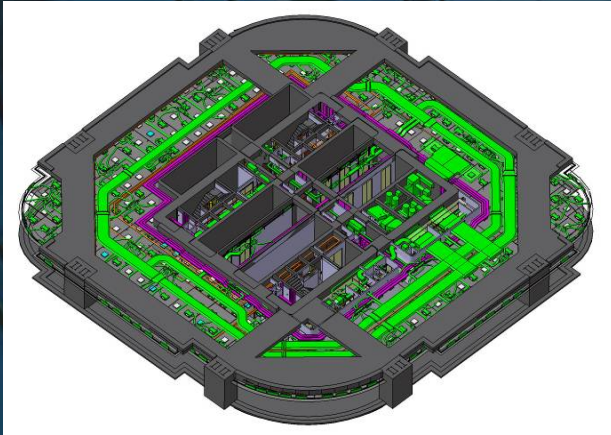
Owner, Architect, Structural, MEP, QS working in the same room on the same Contract 3D Building Information Model

Detail Design and Coordination

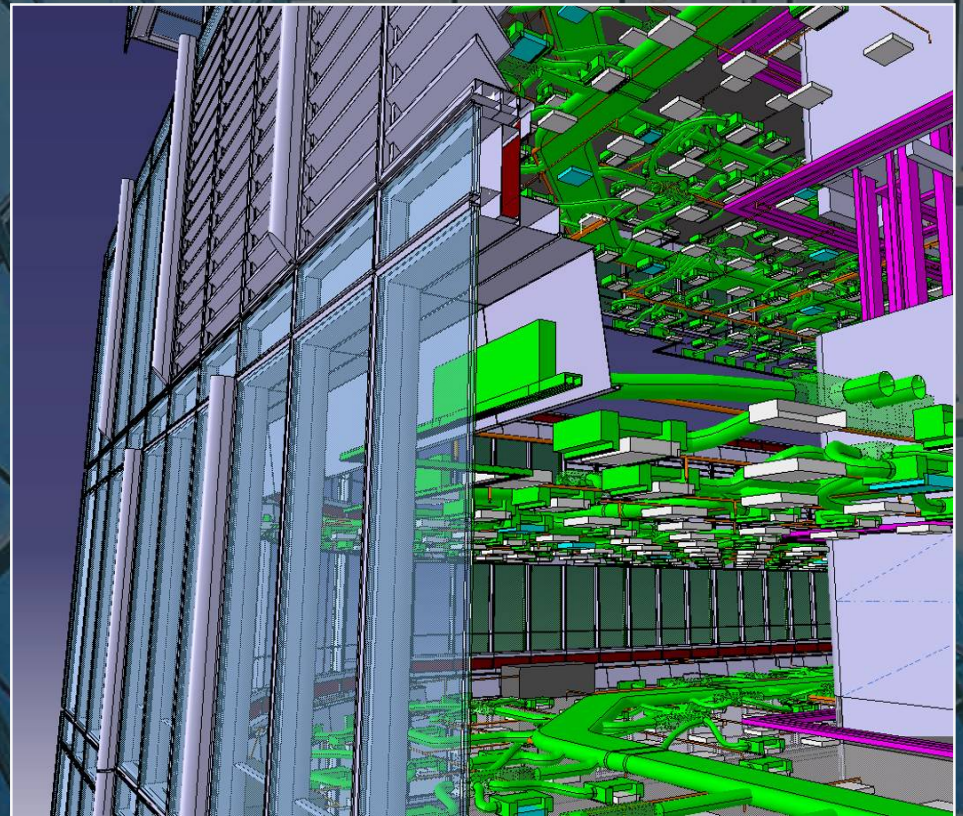
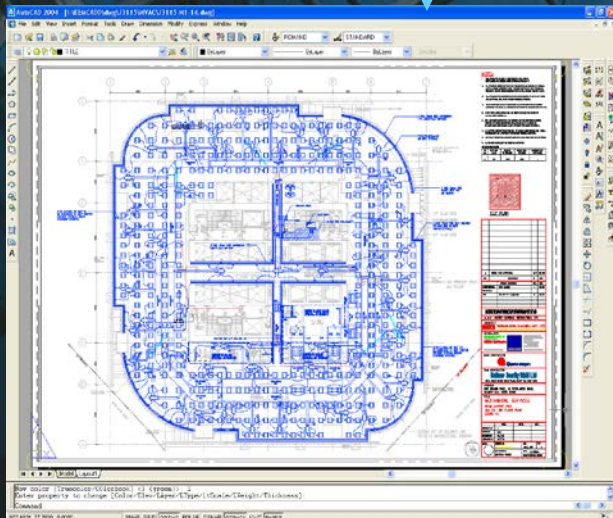


Automatic Clash Identification and Management

Work Document Coordination



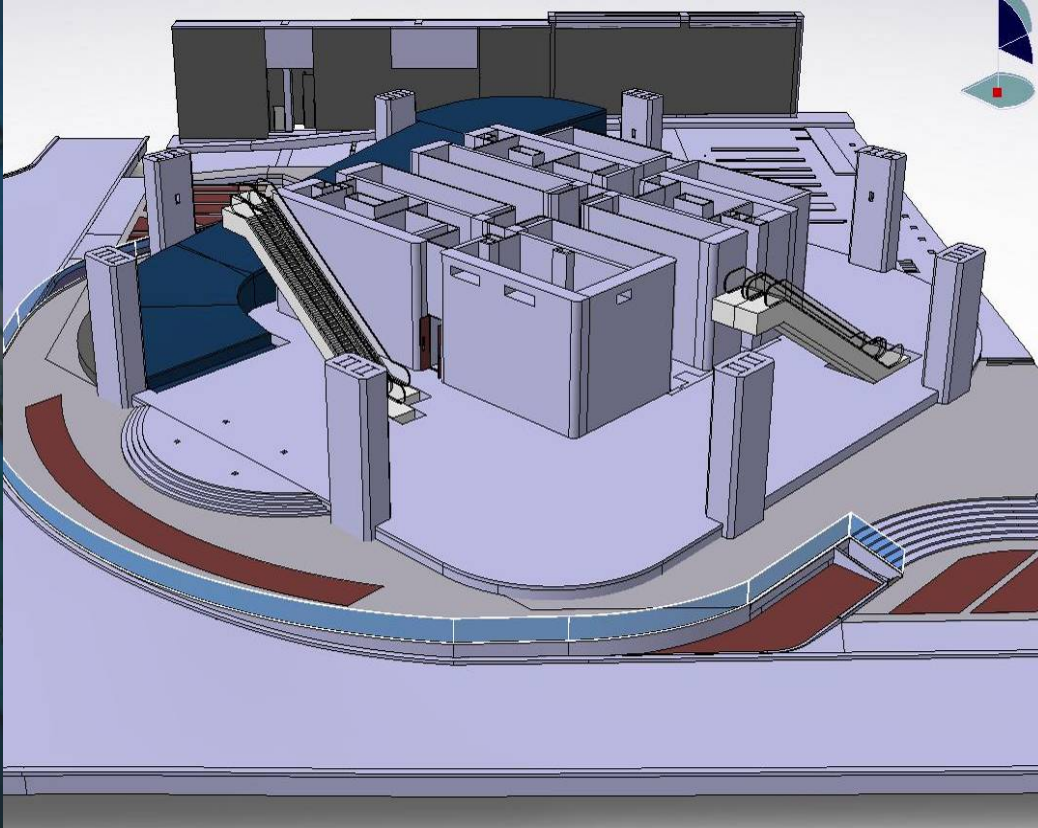
Coordinated 3D geometries



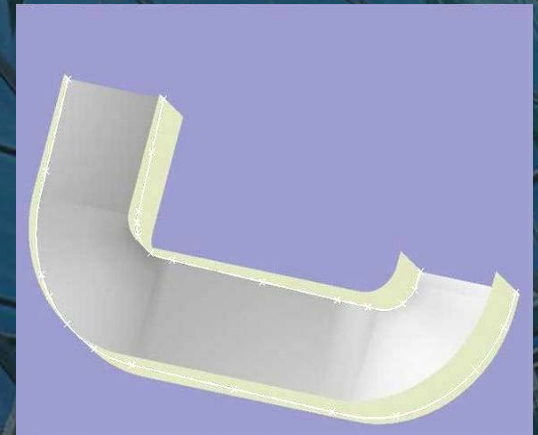
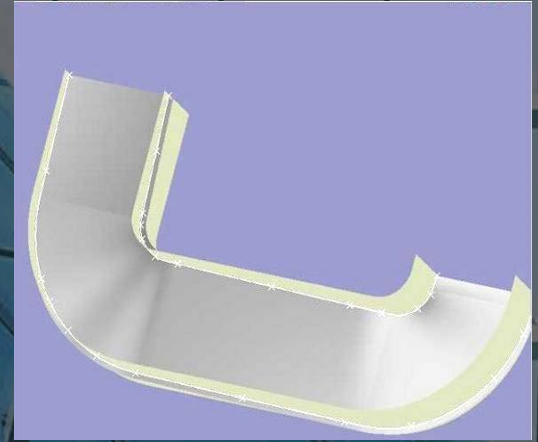
Live Sectioning

2D geometries output to ACAD for further coordination

Facilitate Design Development

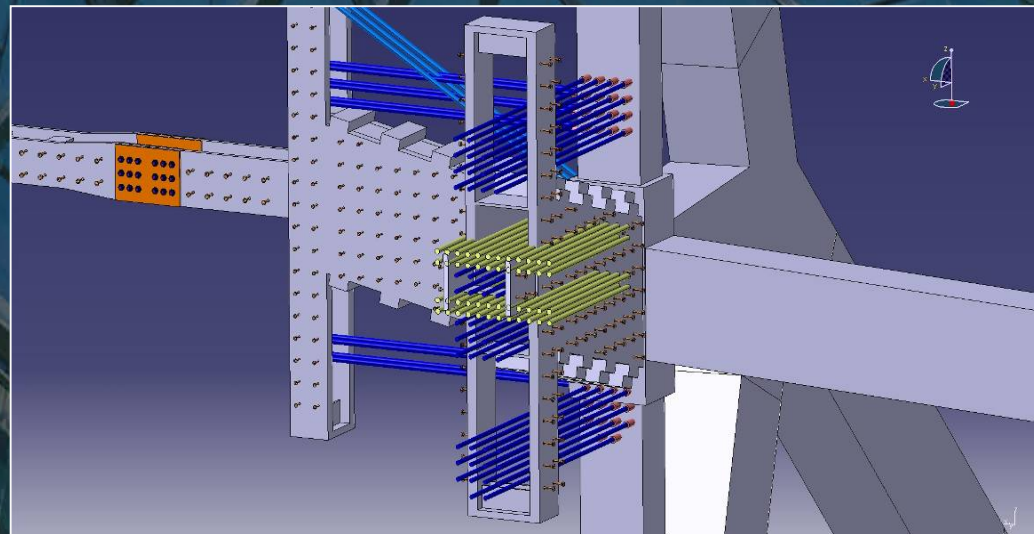
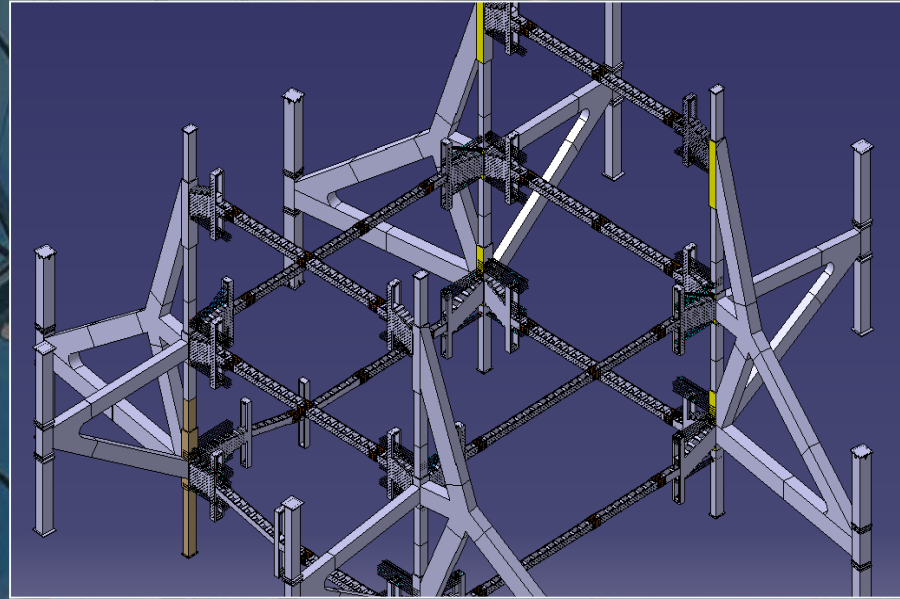


Road Curb Design Review



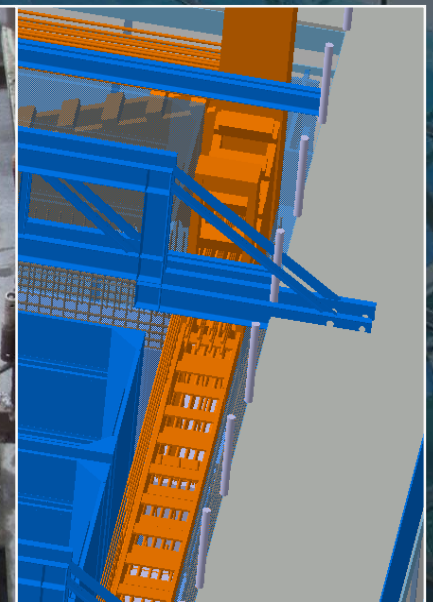
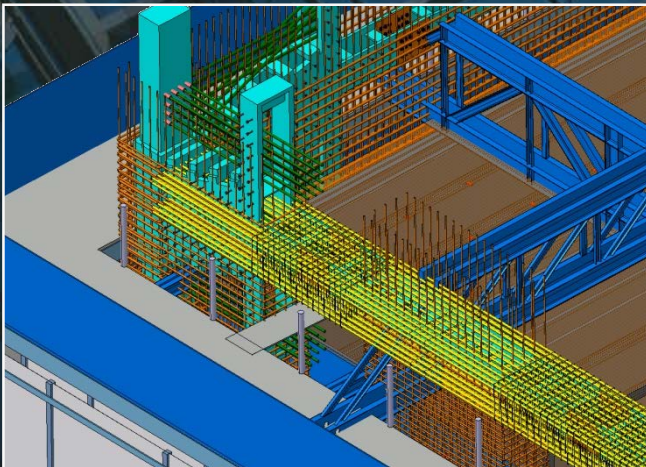
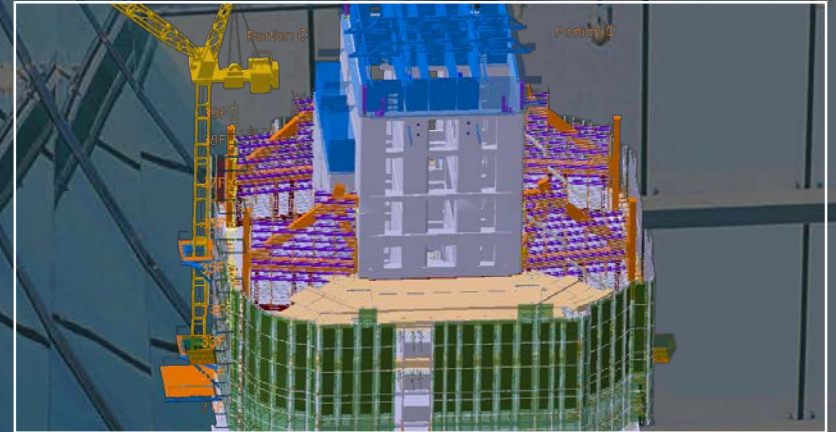
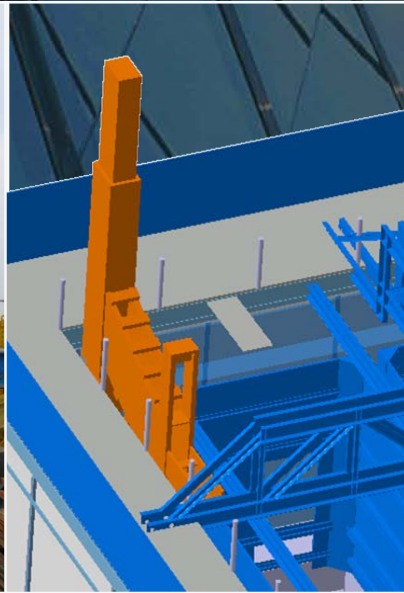
Car-ramp Design Review

Critical Structural Detail Checking



Steel Outrigger and Rebars

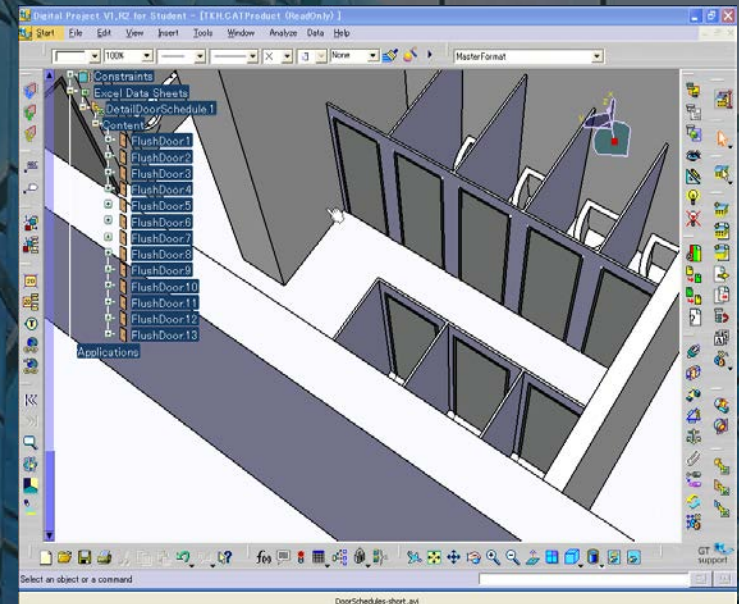
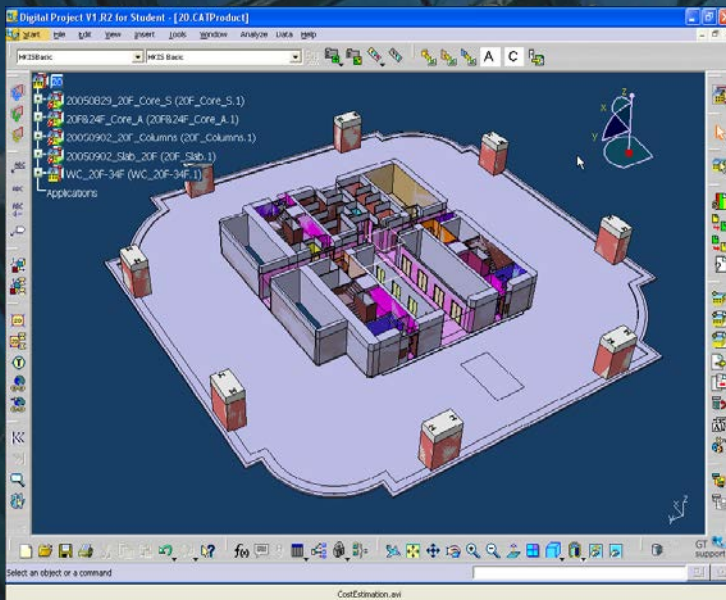
Critical Structural Detail Checking



Steel Outrigger

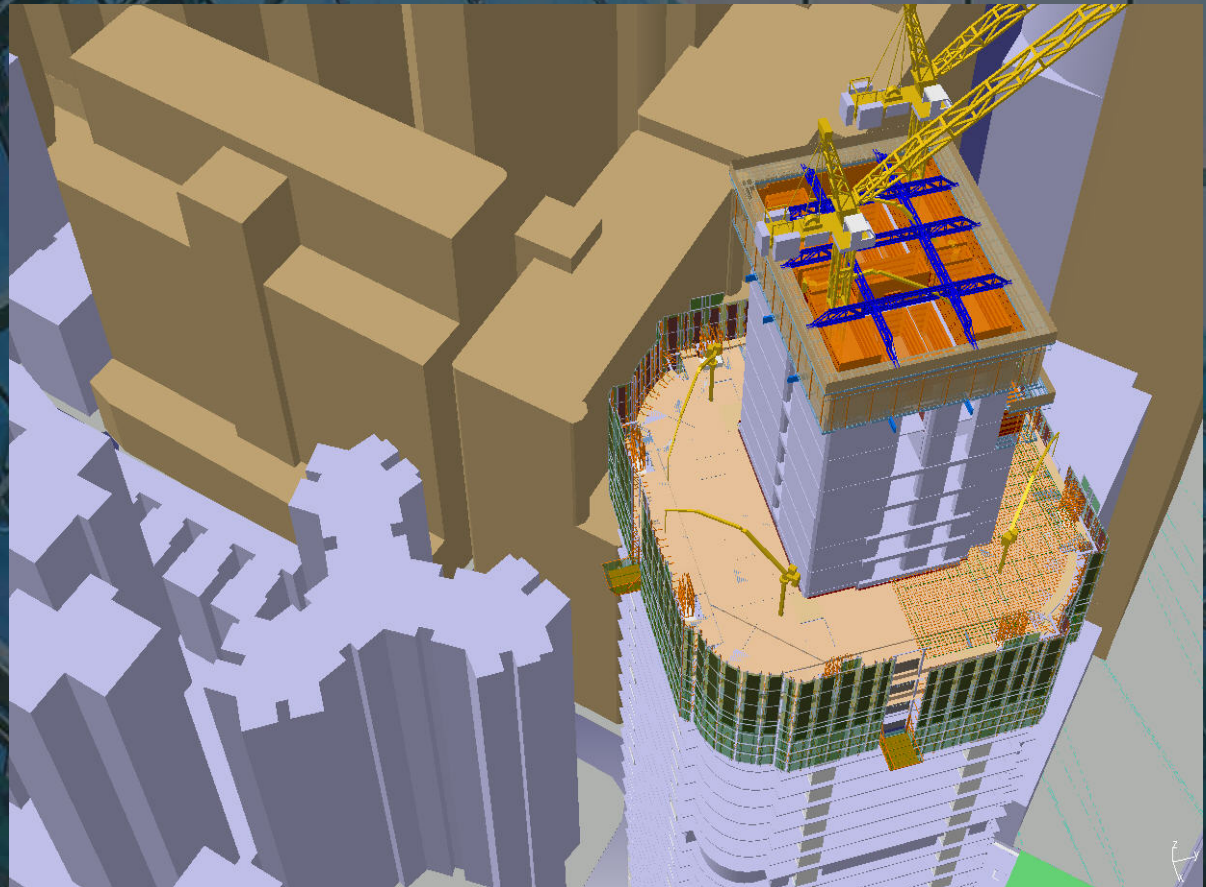
Scheduling and Data Extraction

- Quantity Extraction from BIM
- Work Scheduling utilizing BIM



Virtual Prototyping (4D Model)

- Detail study on the critical process
 - 4-day floor cycle



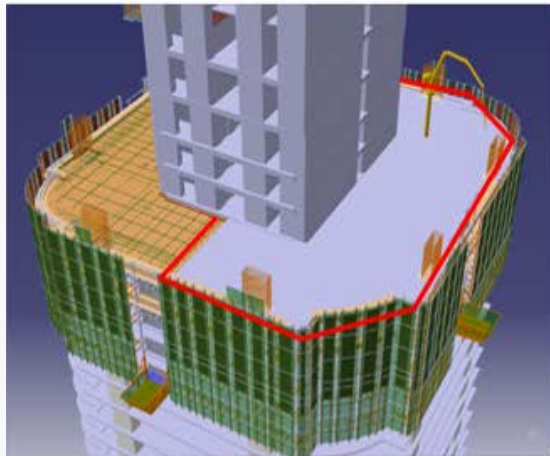
Morning



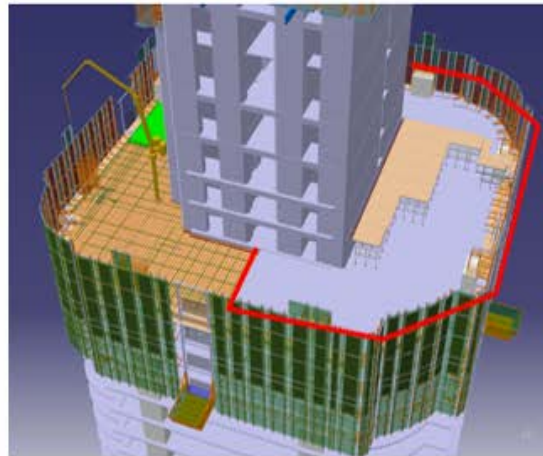
Afternoon



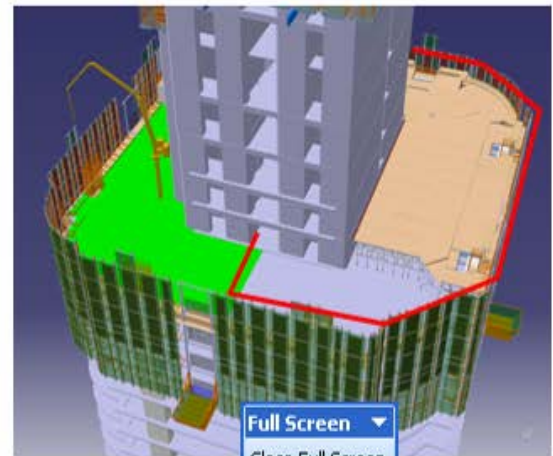
Evening



1. Set Up Table Form
2. Lift Safety Screen
3. Fixing Column Form



1. Set Up Table Form
2. Lift Safety Screen
3. Fixing Column Form

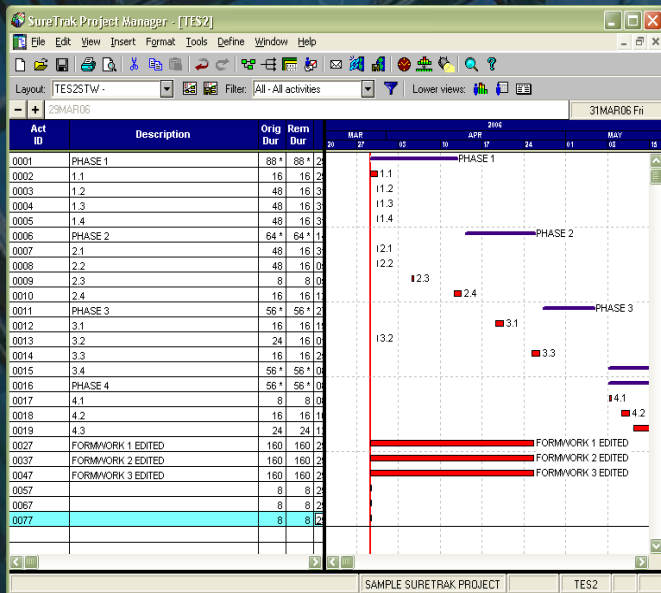


1. Set Up Table

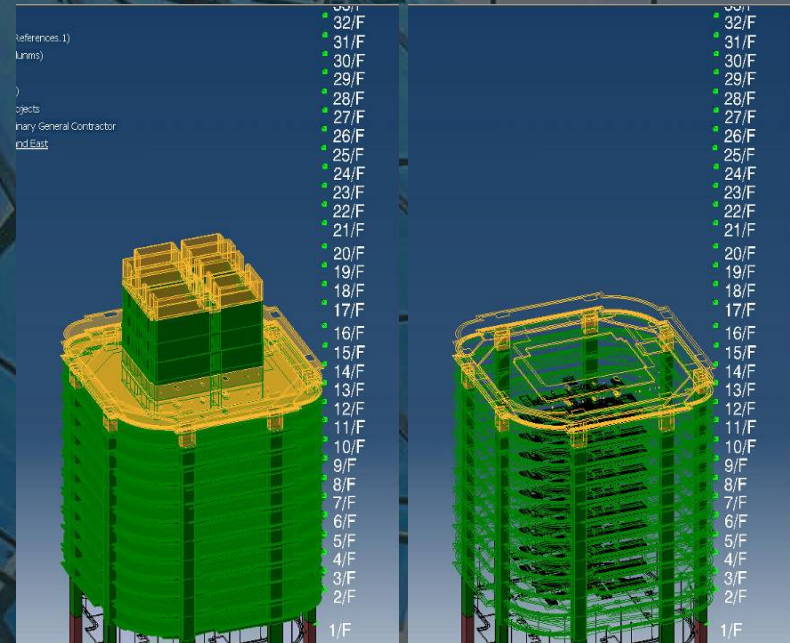
Full Screen
Close Full Screen

Visualize Master Progress with 4D Model

Data exchanging between Primavera and Digital Project



Primavera



Digital Project

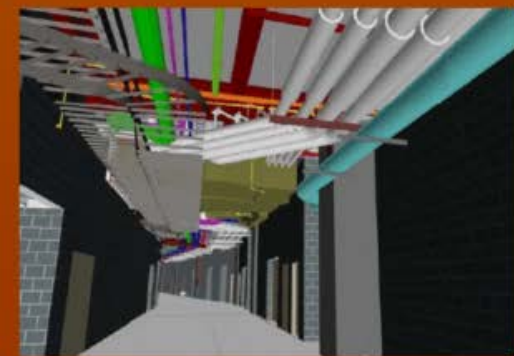
Erweiterte Realität
zur Visualisierung
von Planungsdaten
vor Ort

The Real Estate Cash Flow-25 years



**Building Entire Life-Cycle Management
(3D Information Technology and Platform)**

❑ Setting realistic expectations of BIM from the facility maintenance operation team's perspectives.



Virtual Asset



Physical Asset



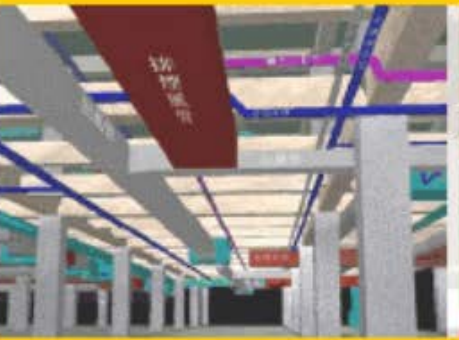
Physical Asset



Virtual Asset



As-built BIM Field Checking



As-Built Data



Inspection Data



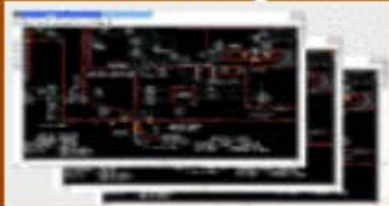
Operation
(DCS/PI)



Virtual Asset
Portal



Engineering
Drawings



Intelligent P&ID



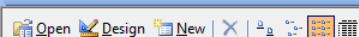
Operation Safety
Procedures



FI HR CRM KM

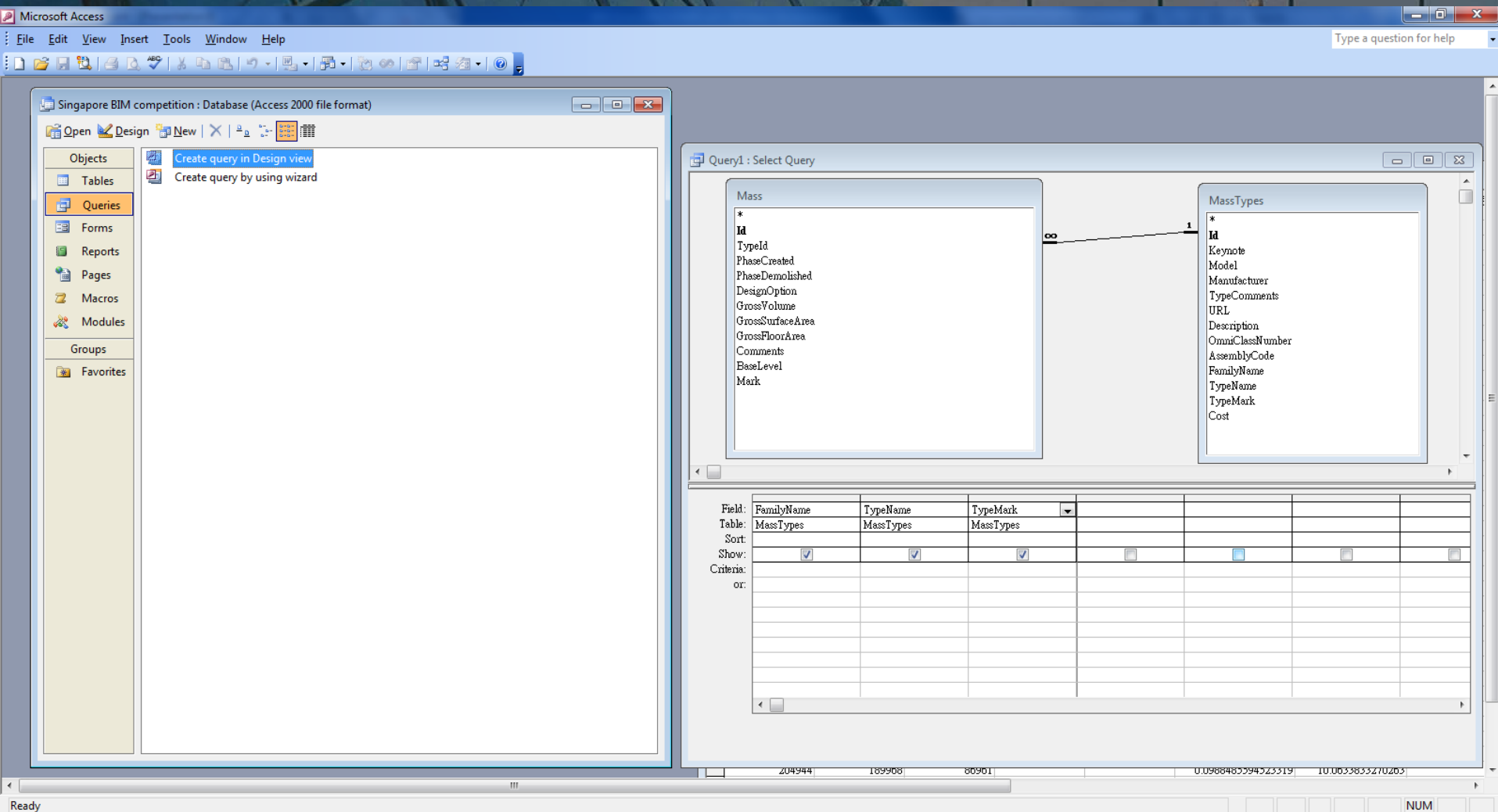
Maintenance





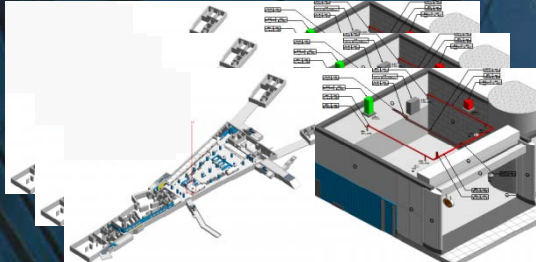
- Objects
- Tables**
- Queries
- Forms
- Reports
- Pages
- Macros
- Modules
- Groups
- Favorites

Create table in Design view	CurtainWallMullionTypes	FlexPipes	MaterialQuantities	ProjectInformation	Stru
Create table by using wizard	DataDevices	FlexPipeTypes	Materials	PropertyLines	Stru
Create table by entering data	DataDeviceTypes	Floors	MechanicalEquipment	PropertyLineTypes	Stru
AirTerminals	DemandFactors	FloorTypes	MechanicalEquipmentTypes	Railings	Swit
AirTerminalTypes	DemandFactorTypes	Fluids	NurseCallDevices	RailingTypes	Tele
AreaLoads	DesignOptions	FluidTypes	NurseCallDeviceTypes	Ramps	Tele
Areas	DesignOptionSets	Furniture	OmniClassNumbers	RampTypes	Top
AreaSchemes	DistributionSystem	FurnitureSystems	PanelScheduleTemplates-BranchPanel	Roofs	Top
Assemblies	DistributionSystems	FurnitureSystemTypes	PanelScheduleTemplates-DataPanel	RoofTypes	Volt
AssemblyCodes	Doors	FurnitureTypes	PanelScheduleTemplates-Switchboard	RoomAssociations	Volt
AssemblyTypes	DoorTypes	GenericModels	Parking	RoomFromToAssociations	Wall
BuildingTypeSettings	DuctAccessories	GenericModelTypes	ParkingTypes	Rooms	Wall
CableTrayFittings	DuctAccessoryTypes	Gutters	Phases	SecurityDevices	Wall
CableTrayFittingType	DuctFittings	GutterTypes	PipeAccessories	SecurityDeviceTypes	Wall
CableTrays	DuctFittingTypes	HVACLoadSchedules	PipeAccessoryTypes	Site	Win
CableTrayTypes	DuctPlaceholders	HVACZones	PipeConnections	SiteTypes	Win
Casework	Ducts	InternalAreaLoads	PipeConnectionTypes	SlabEdges	Wire
CaseworkTypes	DuctSystems	InternalLineLoads	PipeFittings	SlabEdgeTypes	Wire
Ceilings	DuctSystemTypes	InternalPointLoads	PipeFittingTypes	Spaces	Wire
CeilingTypes	DuctTypes	Levels	PipeMaterials	SpaceTypeSettings	Wire
Columns	DuctTypes1	LevelTypes	PipeMaterialTypes	SpecialtyEquipment	Wire
ColumnTypes	ElectricalCircuits	LightingDevices	PipePlaceholders	SpecialtyEquipmentTypes	Wire
CommunicationDevices	ElectricalDemandFactorDefinitions	LightingDeviceTypes	Pipes	Sprinklers	Wire
CommunicationDeviceTypes	ElectricalEquipment	LightingFixtures	PipeSchedules	SprinklerTypes	Wire
ConduitFittings	ElectricalEquipmentTypes	LightingFixtureTypes	PipeScheduleTypes	Stairs	
ConduitFittingType	ElectricalFixtures	LineLoads	PipeTypes	StairTypes	
Conduits	ElectricalFixtureTypes	Mass	PipeTypes1	StructuralColumns	
ConduitTypes	ElectricalLoadClassificationParameterElement	MassExteriorWall	PipingSystems	StructuralColumnTypes	
Constructions	ElectricalLoadClassifications	MassFloor	PipingSystemTypes	StructuralFoundations	
ConstructionTypes	Fascias	MassGlazing	Planting	StructuralFoundationTypes	
CurtainPanels	FasciaTypes	MassInteriorWall	PlantingTypes	StructuralFraming	
CurtainPanelTypes	FireAlarmDevices	MassOpening	PlumbingFixtures	StructuralFramingTypes	
CurtainSystems	FireAlarmDeviceTypes	MassRoof	PlumbingFixtureTypes	StructuralRebar	
CurtainSystemTypes	FlexDucts	MassSkylight	PointLoads	StructuralRebarTypes	
CurtainWallMullions	FlexDuctTypes	MassTypes	Profiles	StructuralStiffeners	

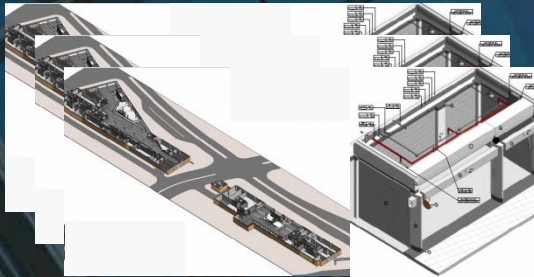


MODELLING + INDIVIDUAL DATABASE

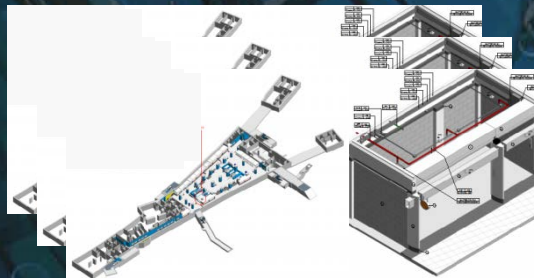
S1



S2



S3



⋮

FLEET WIDE DATABASE

**MEGA
DATABASE**

**OTHER
DATABASES**

APPLICATIONS

APP 1

E.G. CCTV
MONITORING

APP 2

E.G. RETAIL

APP 3

⋮

Query1 : Select Query

	FamilyName	TypeName
▶	SAT Tower Mullion	SAT Tower Mullion
	SAT Tower Surface Ref	SAT Tower Surface Ref
	Tower Panel	S01-P001
	Tower Panel	S01-P002
	Tower Panel	S01-P003
	Tower Panel	S01-P004
	Tower Panel	S01-P005
	Tower Panel	S01-P006
	Tower Panel	S01-P007
	Tower Panel	S01-P008
	Tower Panel	S01-P009
	Tower Panel	S01-P010
	Tower Panel	S01-P011
	Tower Panel	S01-P012
	Tower Panel	S01-P013
	Tower Panel	S01-P014
	Tower Panel	S01-P015
	Tower Panel	S01-P016
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	Tower Panel	S01-P035
	Tower Panel	S01-P036
	Tower Panel	S01-P037
	Tower Panel	S01-P038
	Tower Panel	S01-P039
	Tower Panel	S01-P040



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

HKIBIM Launch on 8th Jan 2010

Hong Kong Institute of Building Information Modelling (HKIBIM) was established in Jan 2009. After one year's preparation, it is proud to announce the launch of HKIBIM. On 8 Jan, 2010, the Launch was successfully held at the Hong Kong Club Building.

After opening speech by Ir Francis Leung, the Chairman of HKIBIM, the first fellow member of HKIBIM, Ms Ada Fung, made her speech followed by Architect Mr David Fung, Vice Chairman, sharing the membership application method and further direction of HKIBIM.

The launch ended with cocktail and networking until late night.



[Click here to view the event photos.](#)

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Official Launch of The Hong Kong Institute of Building Information Modelling (HKIBIM)

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Membership Application Form:



PDF format

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Knowledge Exchange



HKUSPACE *Community*
College 香港大學附屬學院



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CUSCS

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珠海學院
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THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

School of Professional Education
and Executive Development
專業進修學院

SPEED 

HK BIM Awards

AECOM

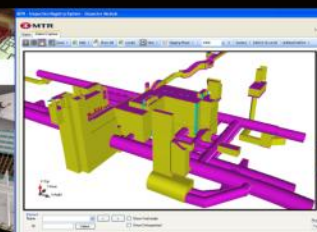
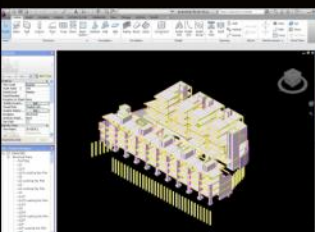
恒基兆業地產有限公司
HENDERSON LAND DEVELOPMENT COMPANY LIMITED

HOK

Hong Kong Housing Authority

MTR

瑞安建築有限公司
SHUI ON CONSTRUCTION COMPANY LIMITED



AECOM

Projects:

- Proposed Commercial Development at No. 123-125, Hoi Bun Road
- Proposed Residential Development at 55-57 Binney Road, Pokfulam

Location:

- Kwai Tong
- Pokfulam

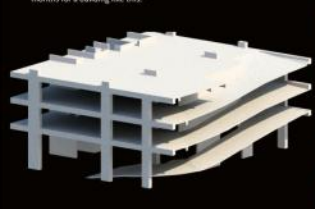
Types:

- Commercial Development
- Residential Redevelopment

Scheduled Time of Completion:

- Hoi Bun Road - March 2013
- Binney Road - September 2013

"The concept took around two months to develop, compared to perhaps three to six months with the traditional approach," says Ir. Alan Yuen, Principal Engineer, Building Engineering (Structural), AECOM. "And we completed the structural design in under two months - when we would usually expect this to take three to four months for a building like this."



Henderson Land Development Co Ltd.

Projects:

- The Gloucester
- A Luxurious Boutique Hotel at 188 jaffe Road

Location:

- 182 Gloucester Road, Wanchai
- 188 jaffe Road, Wanchai

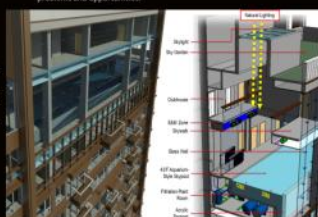
Types:

- Residential Development
- Hotel

Scheduled Time of Completion:

- 2012

"BIM is a catalyst for project innovation and a tool for speedier design development," says Kevin Ng, Deputy General Manager, Project Management (2) Department, Henderson Land. "We couldn't effectively and efficiently visualize 2D combined services drawings, for complicated projects, but with BIM we can realistically appraise problems and opportunities."



HOK International (Asia/Pacific) Ltd.

Project: Bengaluru International Airport Terminal 2 Expansion

Location: Bangalore, India

Type: Airport

Scheduled Time of Completion: 2013 & 2015

"The client can get a better understanding of the design via Revit's inherent 3D environment, and therefore become more engaged with the design process," says Mr. Benjamin Thomas, Senior Design Architect, Associate with HOK.

"The BIM model was a massive help in the design process," says Ir. Andrew Mole, Associate Director of Arup. "There is only so much information you can show in 2D drawings, since they must be interpreted to understand the full spatial information. 3D models communicate better. The BIM model allowed creation of multiple views of the airport design, with minimum additional effort."



Hong Kong Housing Authority

Projects:

- Tai Pak Tin Street Public Housing Development
- Redevelopment of Lower Agau Tau Kok Estate
- Redevelopment of So Uk Estate

Location:

- Tai Pak Tin Street
- Lower Agau Tau Kok Estate
- So Uk Estate

Type:

- Public Housing

Having worked on projects with BIM in standard ways - such as reducing clashes during construction, Hong Kong Housing Authority has recently progressed to helping accelerate a construction project in Tai Pak Tin Street, and even demolished old buildings using BIM in Lower Agau Tau Kok and So Uk.



MTR Corporation Limited

Project: Re-Development of Inspection Registry System

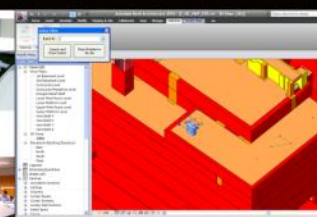
Location: Hong Kong

Type: System Development

Scheduled Time of Completion: 2011

"One BIM model is for all, so inspectors can work efficiently," notes Mr. Dorian Leung, Structural Inspection and Investigation Manager, MTR Corporation.

"I think BIM will become more popular in the long term," says Mr. Dickson Luk, System Analyst, MTR Corporation. "Now, it is mainly used by BIM professionals. In future, inspectors, engineers and managers will gain more and more access to BIM models - which will enhance our expertise in managing the Corporation's railway assets."



Shui On Construction Co. Ltd.

Project: The Innovation Tower, The School of Design

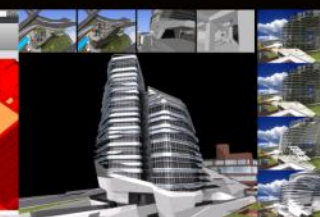
Location: The Hong Kong Polytechnic University, Hung Hom

Type: Academic Building

Scheduled Time of Completion: 2012

With BIM, correlations between various disciplines would be far clearer than with 2D drawings and sections, and Shui On could construct Innovation Tower as envisaged by the architect.

Mr. Chan Tsang Shing, Senior Engineer of Shui On Construction Co. Ltd, says Shui On is now training staff to use BIM, and they find that Revit helps them easily visualize construction projects in 3D. "Most colleagues find it very useful, and know there's a trend to use BIM," he adds.



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Written by admin
June 1st, 2009

AIAB (Autodesk Industry Advisory Board) is formed by a group of expertise who are willing to share their valuable experience in BIM (Building Information Modeling) to the public. We currently have members from Hong Kong and Macau region.

Chairman's Message | Comments Off

SING TAO DAILY ARTICLES – 綠色建築新思路 – 23 JUN 2010

Written by admin
June 24th, 2010



綠色建築新思路

(逢星期三刊登)

李煥明

- Autodesk香港及澳門區域總監
- 香港建築信息模擬學會義務秘書
- 英國電腦學會(香港分會)義務秘書
- 電郵: wendy.lee@autodesk.com

Link: www.aiab.org



BIM RESOURCES

RevitCity.com - Windows Internet Explorer

http://www.revitcity.com/index.php

File Edit View Favorites Tools Help

★ Favorites RevitCity.com





Revit Radio

A light-hearted way to get your Revit questions answered and learn new techniques from award-winning instructors!

Free!

XCAD-1

Info & Sign Up

Home | Forums | Downloads | Gallery | News & Articles | Resources | Jobs | FAQ | Search | Join | Login

Welcome!

55 Users Online (26 Members): Show Users Online - Most ever was 428 - Mon, Nov 12, 2007 at 5:48:43 PM





[Commercial Design Using Revit Architecture 2010](#)

Daniel John Stine

[Best Price \\$37.80](#)
or Buy New \$53.95

RevitCity.com News

2010-03-02 **Sorry to the Users**
I, Jeremy Jacobs apologize to all the users of RevitCity.com I made a mistake with the server on Monday morning, knocking out the server for about 34 hours. Everything should be back up and running . . .

2009-07-08 **Upgrade Complete**
We've moved the site over to newer hardware. In case you're curious about the new hardware, here it is:
2 - 2.53 Ghz Quad Core Nehalem Xeon processors
8 GB of RAM
4 - Intel X25-E . . .

2009-07-02 **Coming Upgrades**
We're in the process of setting up a new server over the next couple of days. Please bear with us if you notice glitches as we make the transition over to some faster hardware.

2009-02-24 **PLEASE READ: Note To Members About RevitCity**
Hi Everybody,
Thank you all for making RevitCity what it is. For those of you who don't know RevitCity is a part-time volunteer effort by my brother, me, and our fantastic moderators (c . . .

Industry News

2009-11-09 Latest AUGI Edge is now available.

2009-07-07 Update 1 for Autodesk Revit Architecture 2010 is now available

2009-04-07 Revit Technology Conference 2009

2009-03-13 Autodesk publishes Revit 2010 User Interface Tour to YouTube

2007-05-24 Revit, AutoCAD Architecture Get Full IFC 2x3 Certification

Site Stats

Members: 155306

Objects: 9799

Forum Posts: 78343

Job Listings: 3

Revit® Content

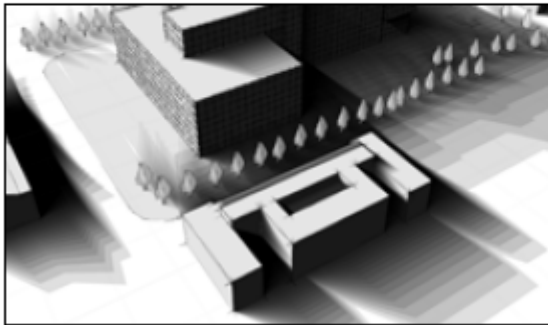


Link: www.revitcity.com

BIM DEVELOPMENTS – SUSTAINABILITY DESIGN

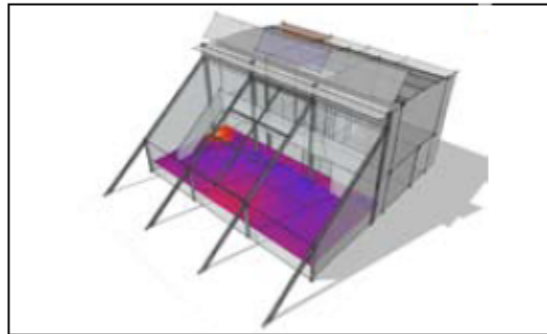
Shadows and Reflections

Display the sun's position and path relative to the model at any date, time, and location using this simulation tool. View how sunlight enters through windows and moves around within a space.



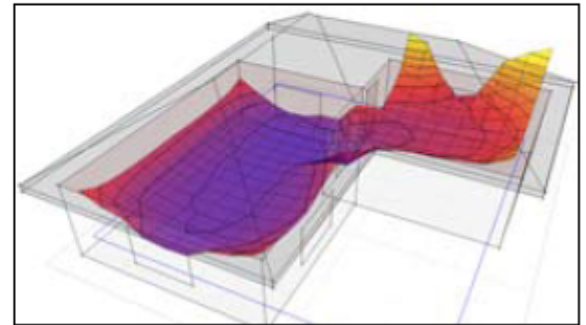
Daylighting

Calculate daylight factors and illuminance levels at any point in the model or over the analysis grid. This tool helps determine potential savings due to daylight-linked lighting design.



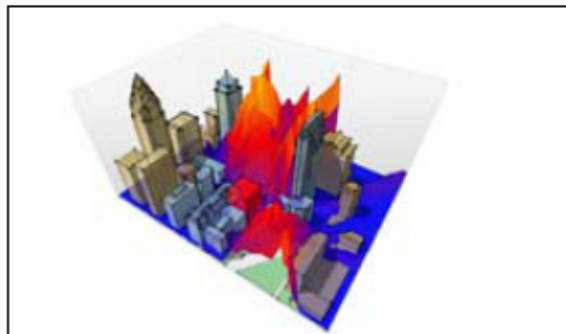
Thermal Performance

Calculate heating and sensible cooling loads for models with any number of zones or types of geometry. Analyze effects of occupancy, internal gains, infiltration, and equipment items.



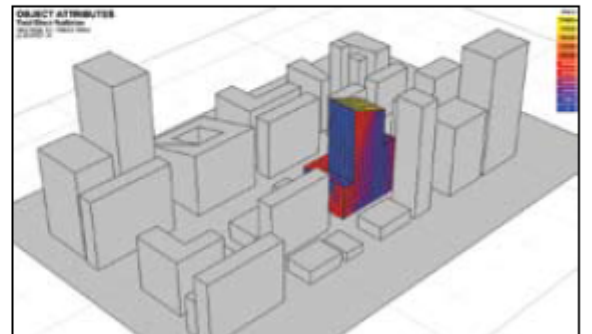
Visual Impact

Analyze site projection angles, assess obstructions, calculate vertical sky components for any point or surface, and visualize the no-sky line in any space.

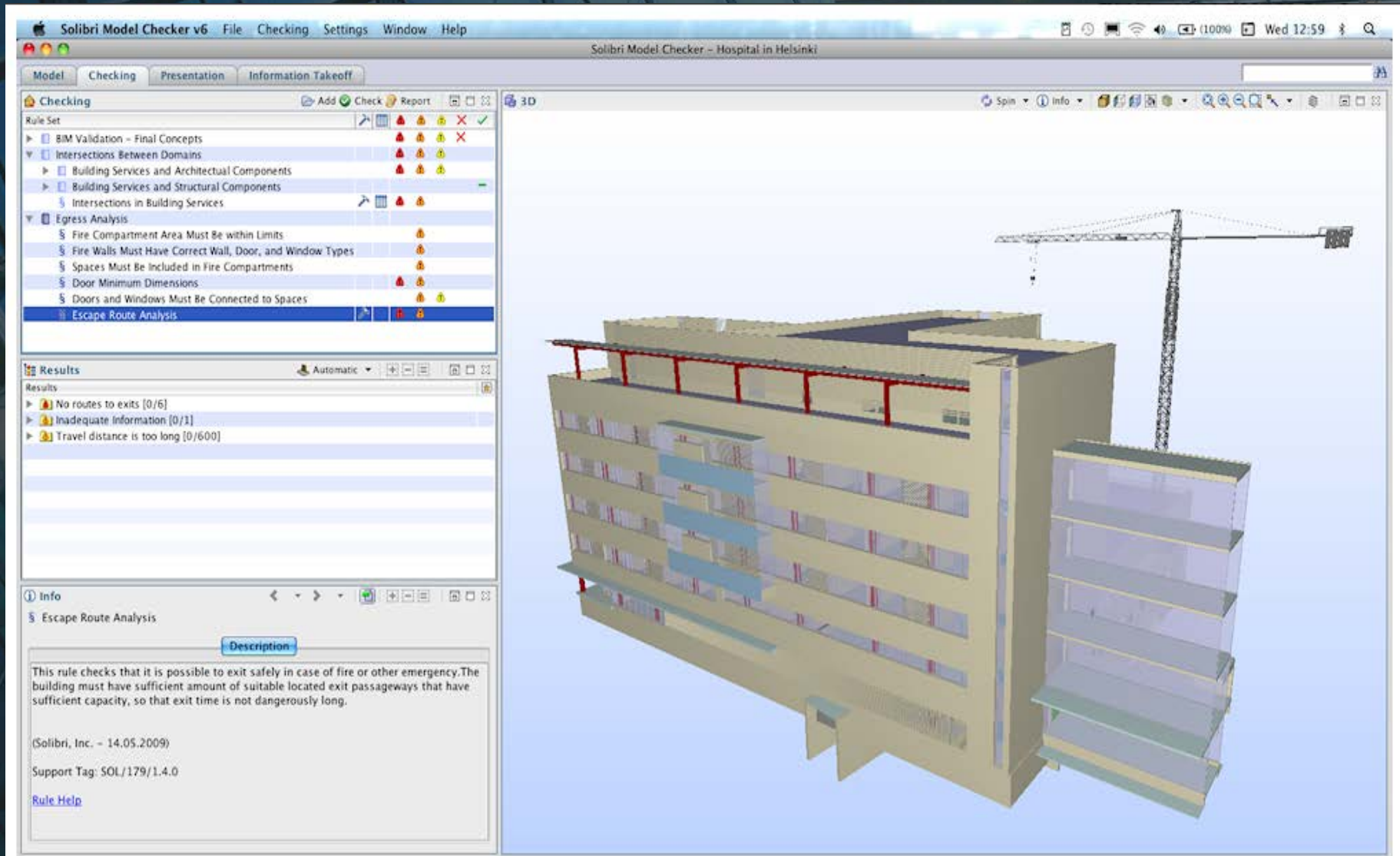


Solar Radiation

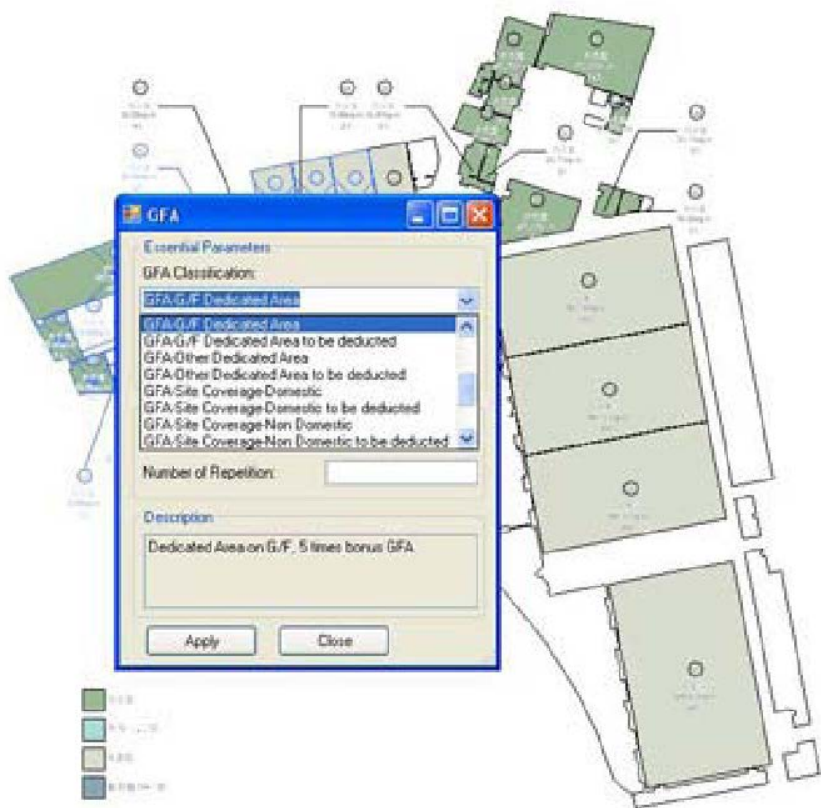
Visualize incident solar radiation on windows and surfaces, showing differential incident solar radiation calculated over any period.



BIM DEVELOPMENTS – STATUTORY CHECKING



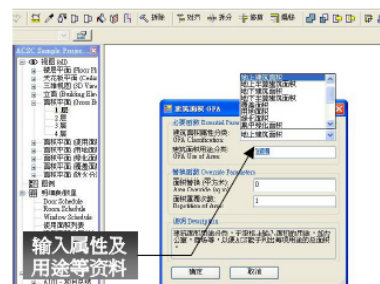
BIM DEVELOPMENTS STATUTORY SUBMISSIONS



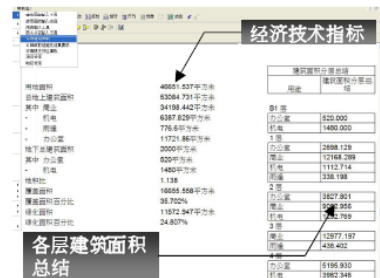
Link: www.bit-world.com

ACS · C@REVIT 产品说明

ACS · C@REVIT 是为中国建筑设计而开发的一套自动规范检算系统，系统专门为 Autodesk Revit 而设。只要简单勾出各类面积，输入属性及用途等资料，程式便能自动完成规范检算。相比传统做法能大幅提升其效率达数倍以上。



支援各类建筑面积运算、经济技术指标、使用面积人数换算、疏散走道要求、洁具要求、及防火分区面积结算。

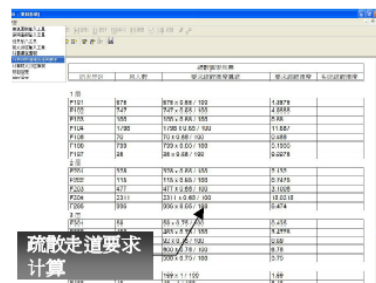


1. 经济技术指标运算包括：
 - 用地面积
 - 地上、地下及不同功能性质的建筑面积结算及容积率
 - 绿地总面积及绿地率
 - 建筑密度

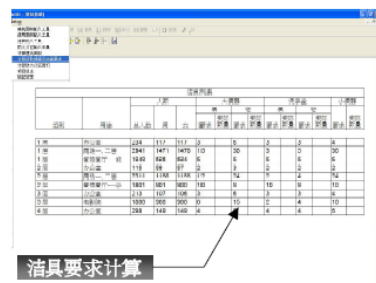
2. 使用面积运算包括：



- 根据使用面积用途计算人数



- 根据不同楼层或防火分区的总人数及其建筑物功能性质计算疏散走道要求



- 根据不同楼层或区域的总人数及其用途，计算男女人数分布，及

United States

NATIONAL BUILDING INFORMATION MODELING STANDARD

Version 1 - Part 1:
Overview, Principles, and Methodologies

Transforming the Building Supply Chain
Through Open and Interoperable Information Exchanges



National Institute of
BUILDING SCIENCES

Facilities Information Council
National BIM Standard



GSA

BIM Guide For Spatial Program Validation

GSA BIM Guide Series 02

www.gsa.gov/bim



AEC (UK) BIM Standard

A practical & pragmatic BIM standard for the Architectural, Engineering and Construction industry in the UK.

Version 1.0

November 2009

First release



AEC (UK) BIM Standard for Autodesk Revit

A workable implementation of the AEC (UK) BIM Standard for the Architectural, Engineering and Construction industry in the UK.

Version 1.0

April 2010

First Issue

Hong Kong Institute of
Building Information Modelling

BIM Project Specification



MTR
**Building Information Modelling
(BIM) Standard**

Autodesk Revit

Version 1.0 09/2010

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



(Version 1.0)
November 2009

Prepared by Business Information Technology Unit
Development & Construction Division
Housing Department

©Hong Kong Housing Authority
The Government of the Hong Kong Special Administrative Region

Singapore BCA visit to HK



TARGET



**Singapore Construction
Industry to Use BIM
Widely by 2015**

PHASED MANDATORY BIM E-SUBMISSION

2013

Mandatory Architecture BIM e-Submissions for all new building projects > 20,000 m²

2014

Mandatory Engineering BIM e-Submissions for all new building projects > 20,000 m²

2015

Mandatory Architecture & Engineering BIM e-Submissions for all new building projects > 5,000 m²

**** will be calibrated in a gradual manner by taking into consideration the readiness of the industry practitioners and technology**

“十二五”建筑业信息化发展纲要

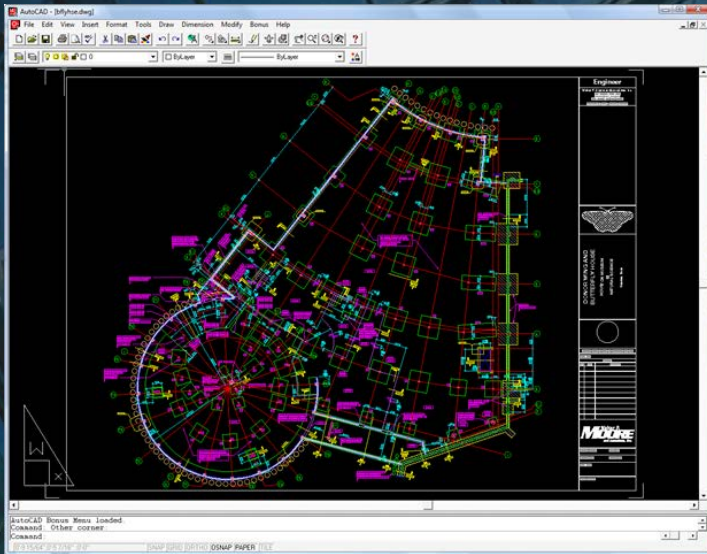
（一）总体目标

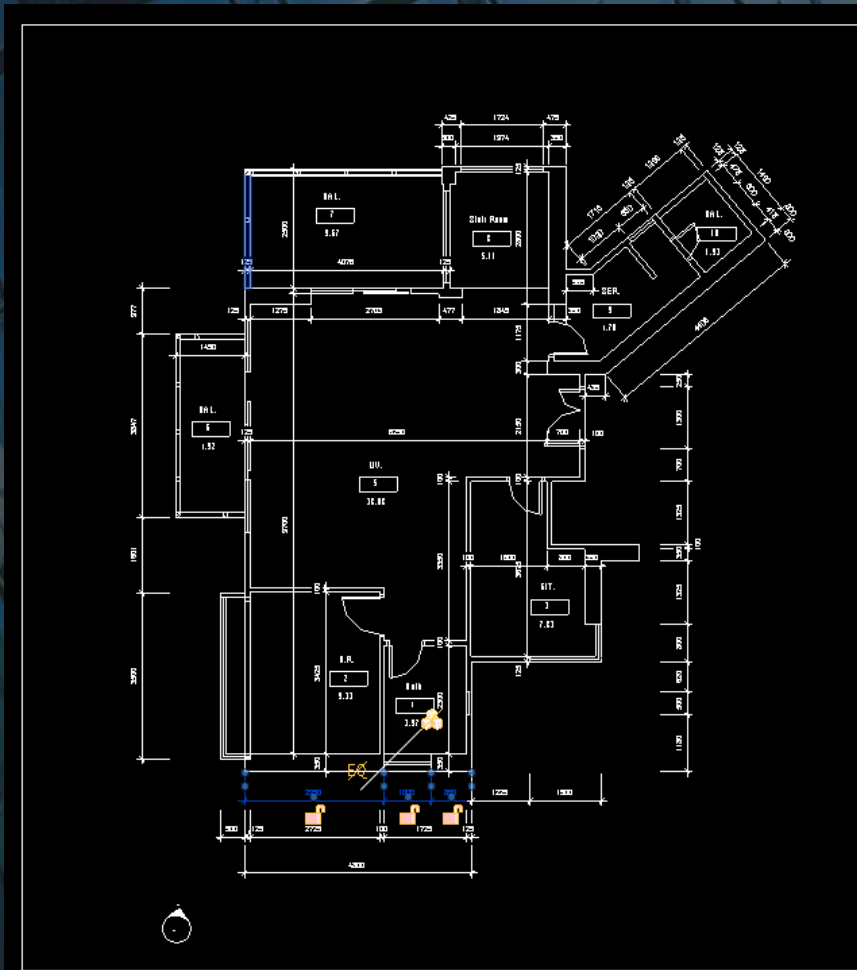
“十二五”期间，基本实现建筑企业信息系统的普及应用，加快建筑信息模型（**BIM**）、基于网络的协同工作等新技术在工程中的应用，推动信息化标准建设，促进具有自主知识产权软件的产业化，形成一批信息技术应用达到国际先进水平的建筑企业。

住房和城乡建设部 10/5/2011

<http://www.c-bm.com/news/2011/5-19/B16543600.shtml>

Design / Approved Information = As built Information?





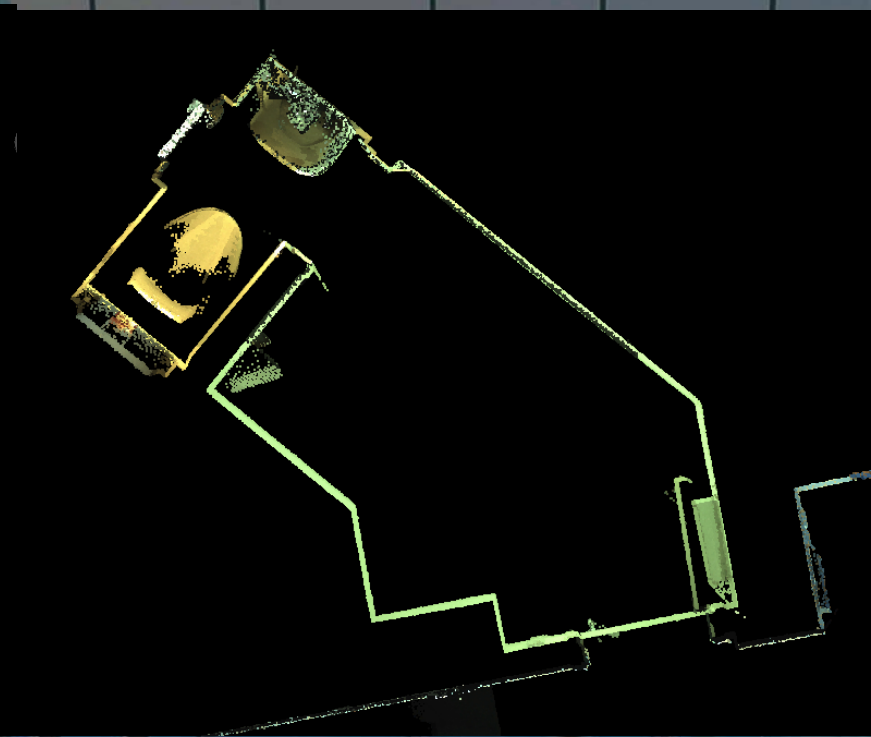
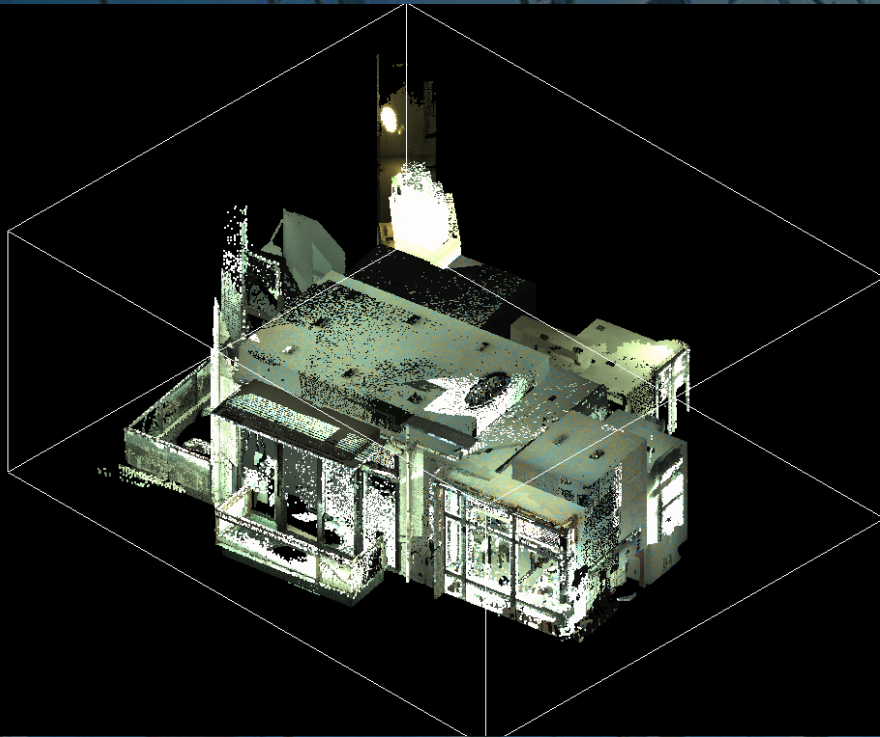
Design / Approved drawing information



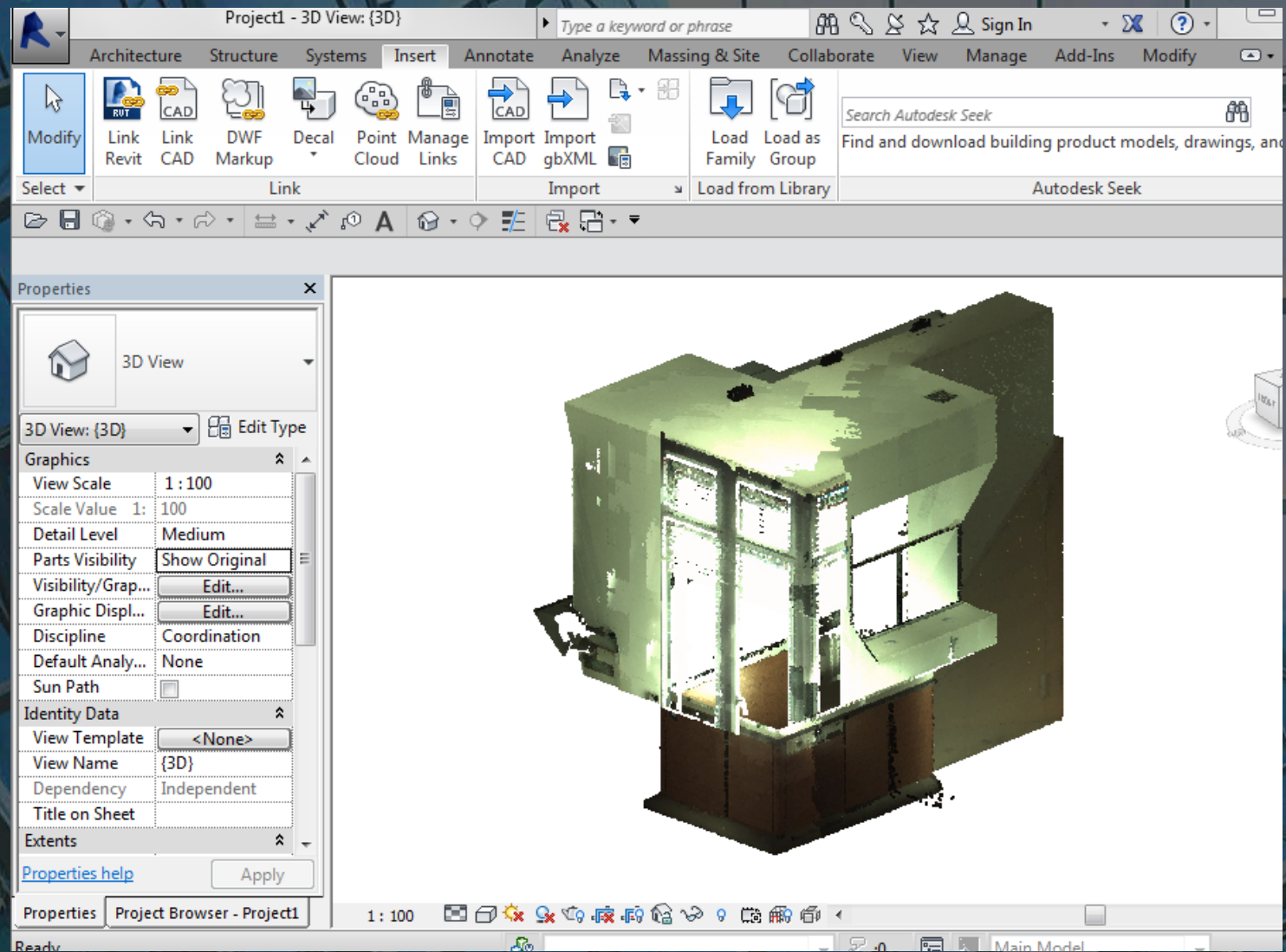
Laser Scanner - 50,000 pts /s; Range: 300m; Accuracy 6mm



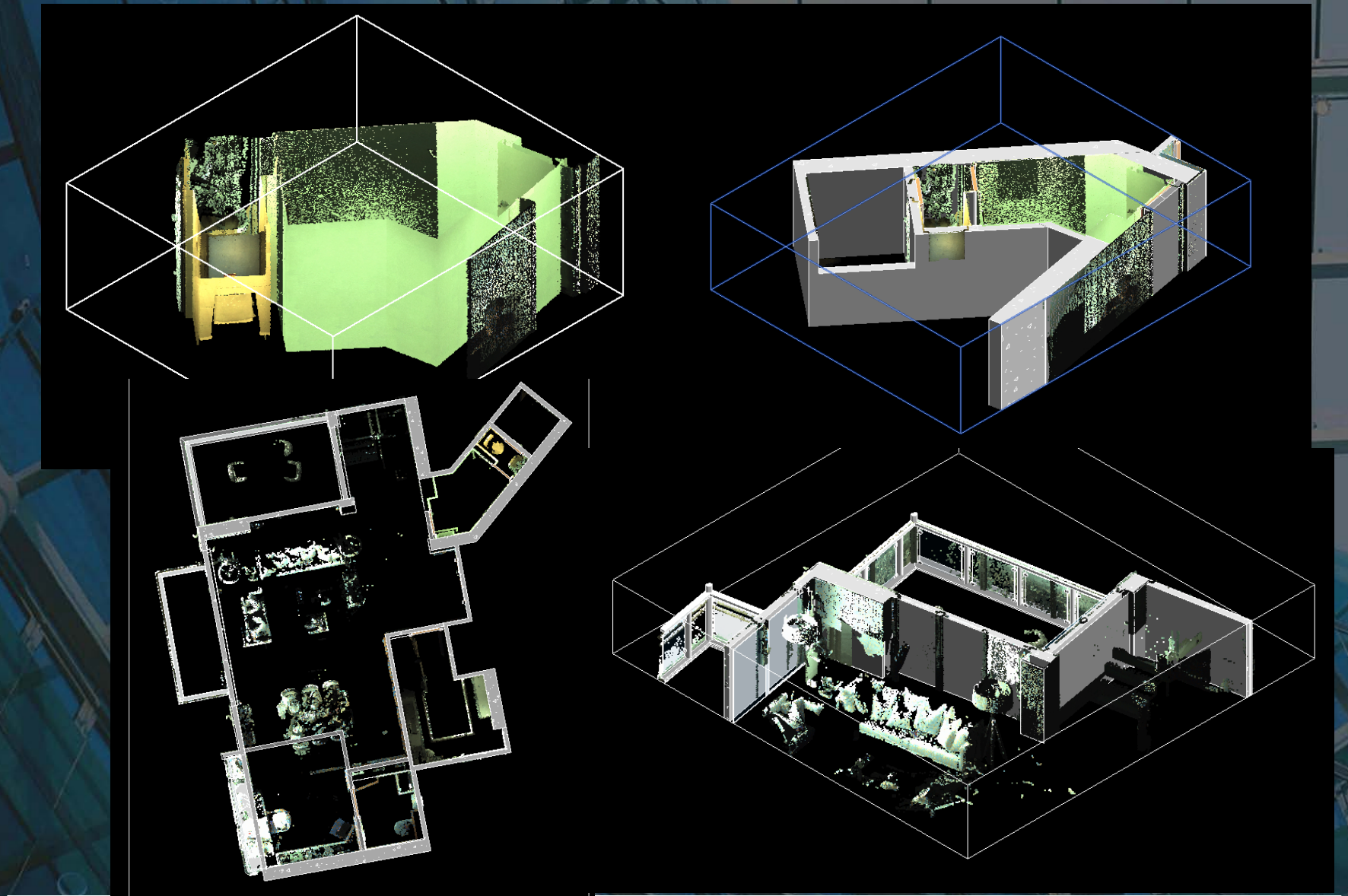
Point



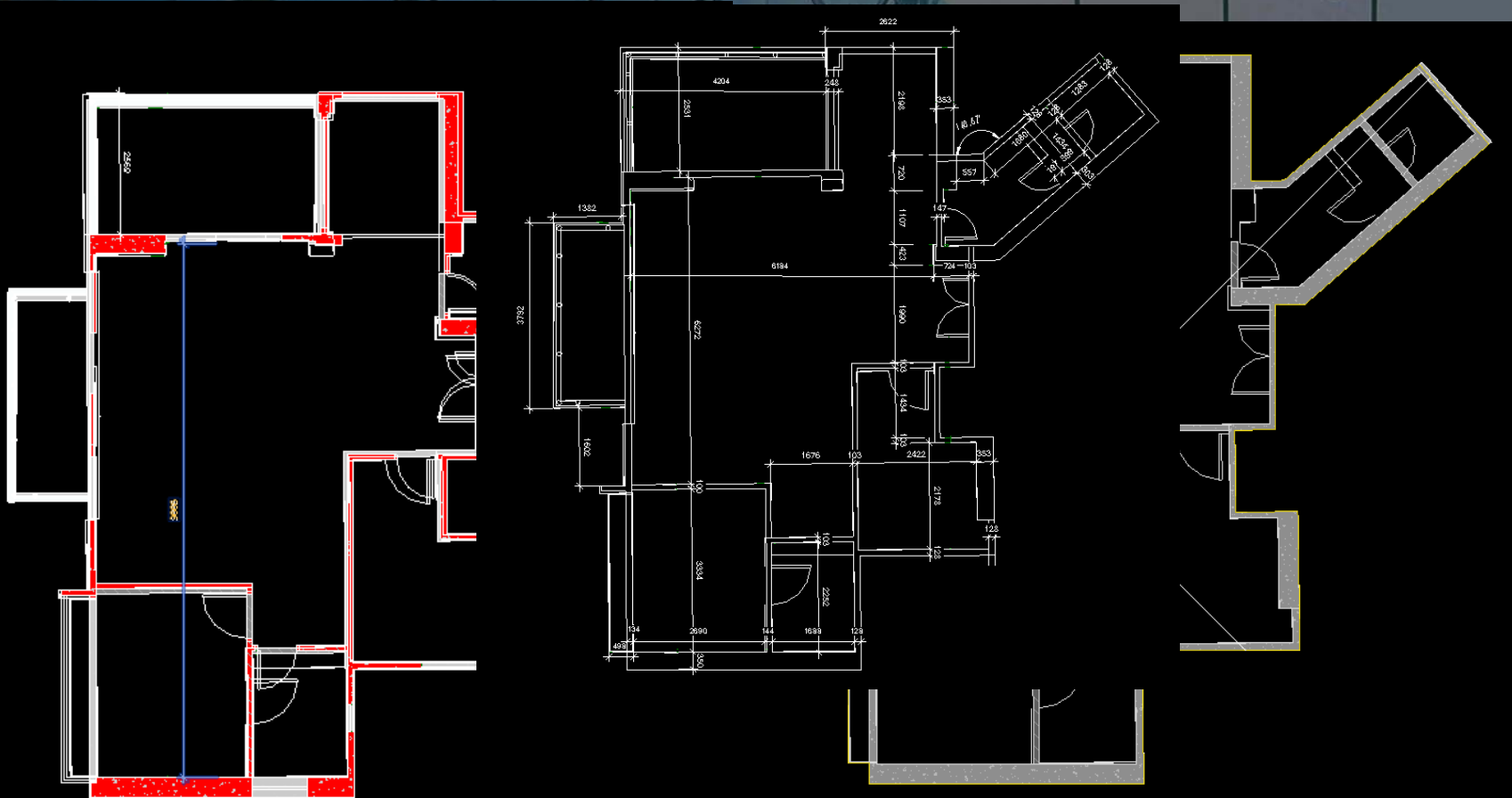
Point Cloud Data



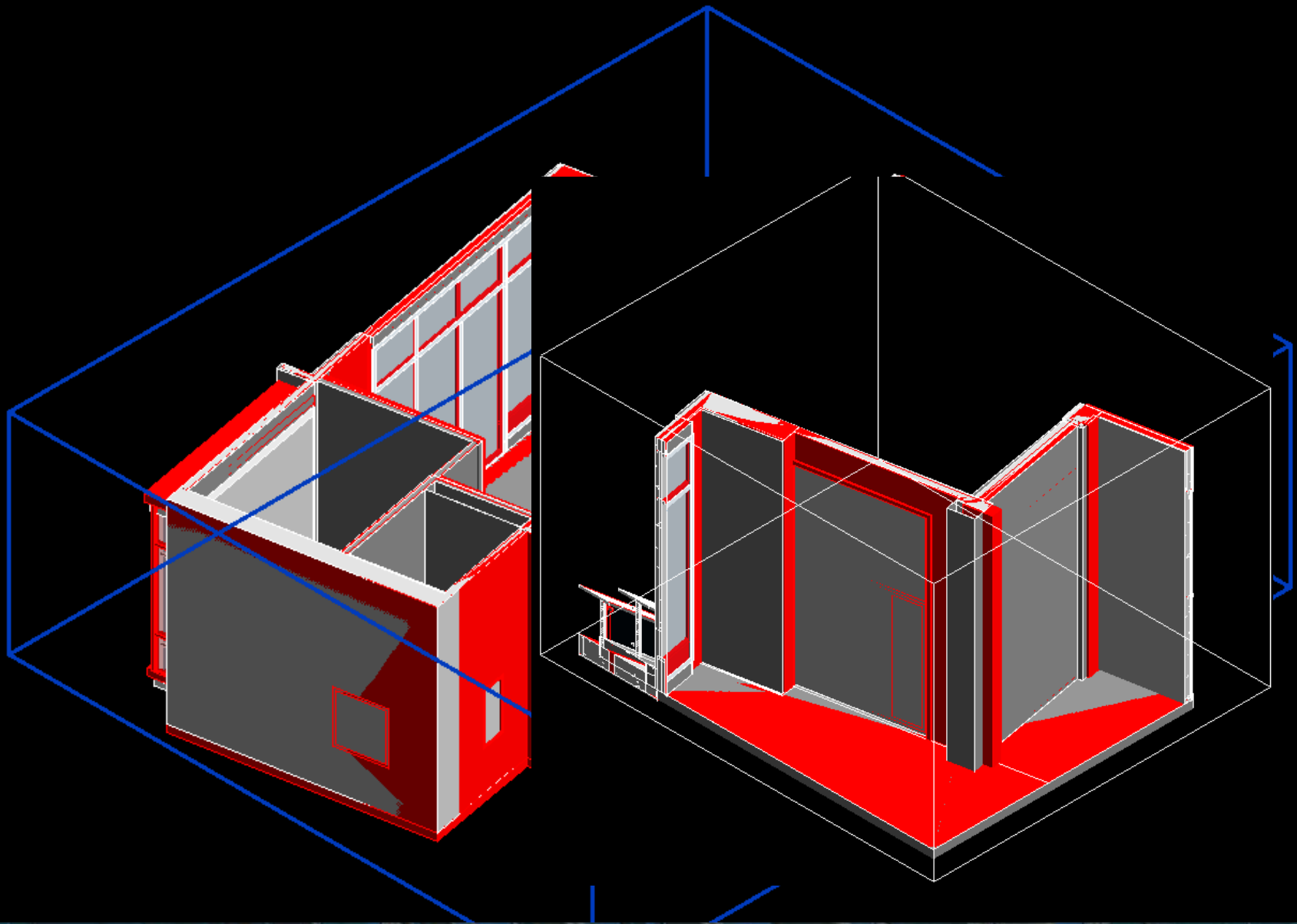
Point Cloud to BIM Model



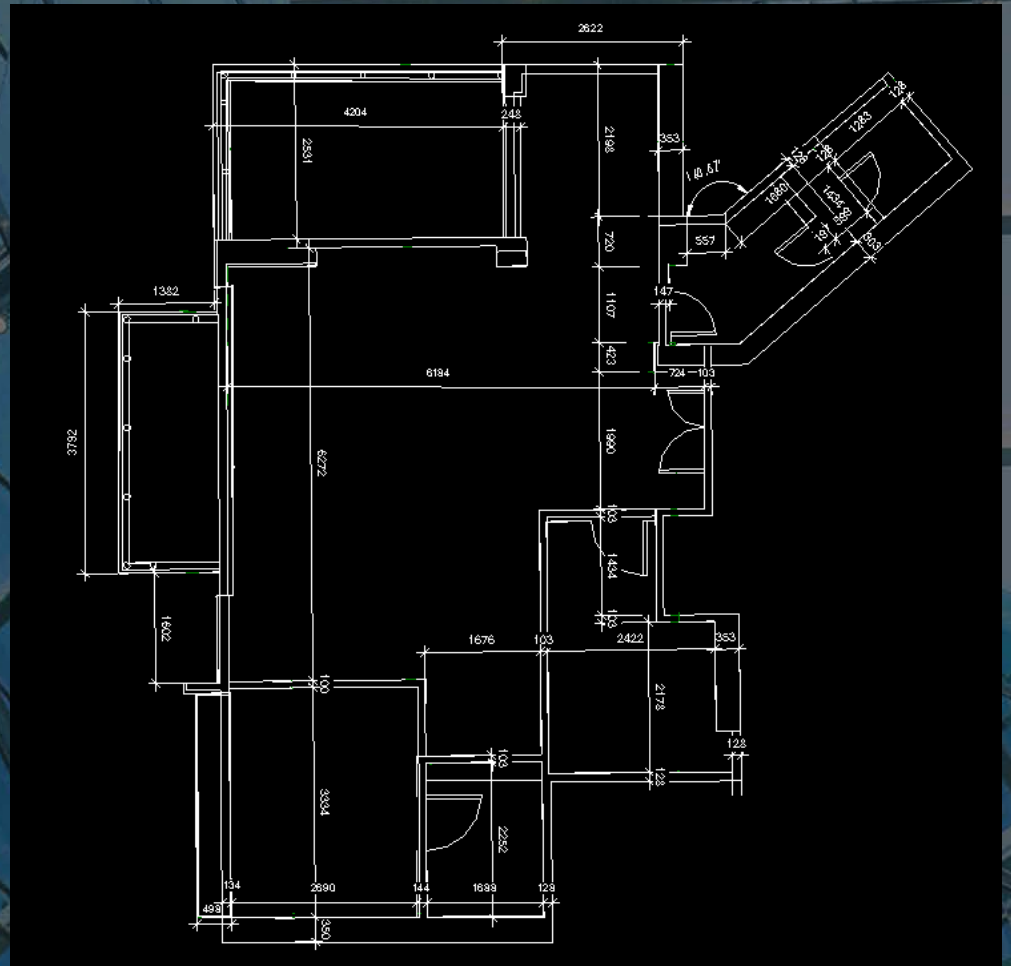
Point Cloud to BIM Model



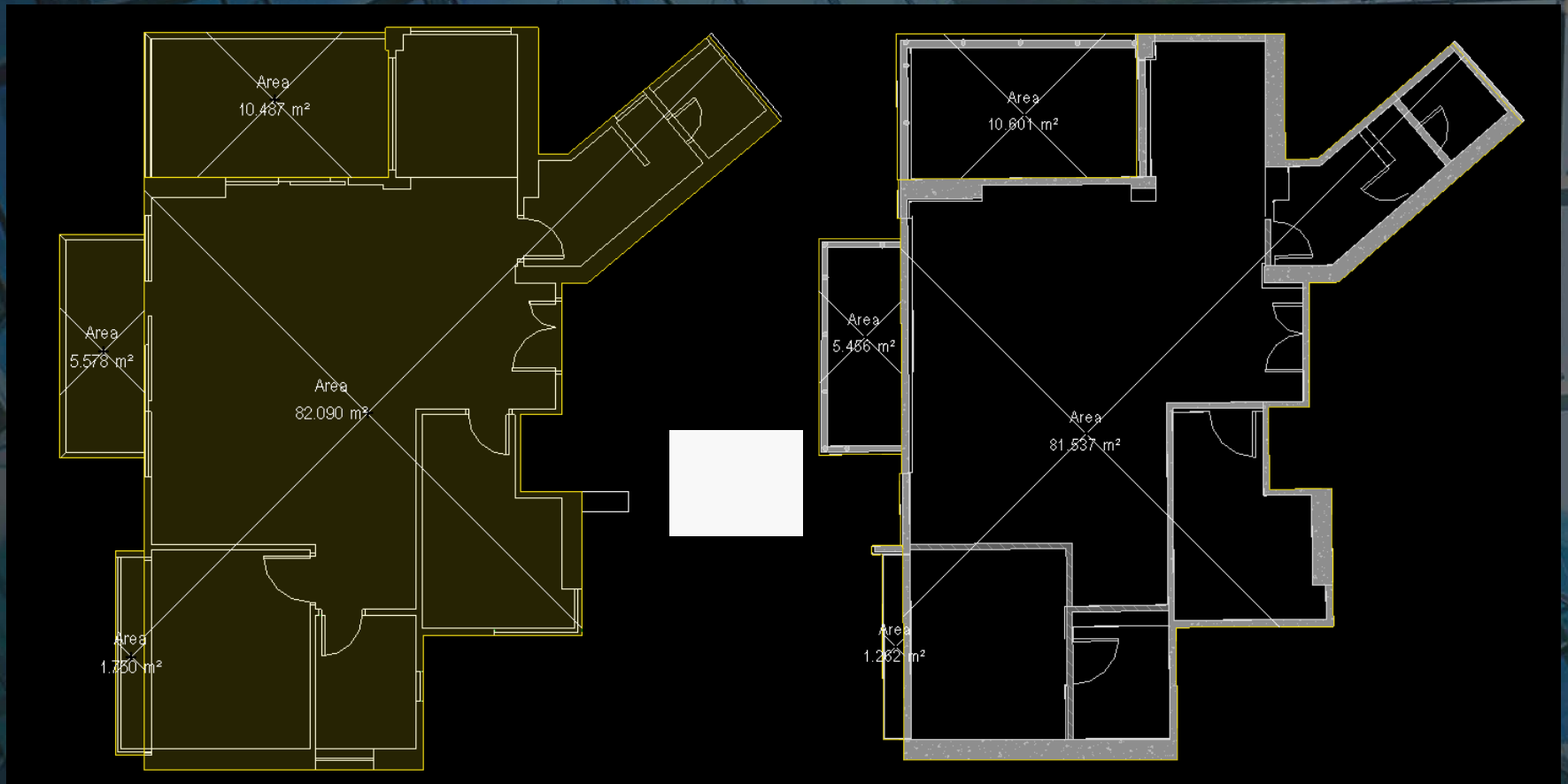
Design / Approved Model + As-built Model



Building Information Modelling



As-built Model > As-built Plan



Area Comparison As-built Model > As-built Plan

Design CAD



**Design
BIM
Model**

Comparison
(GFA, Salable Area)



**Sales
Informat
ion**

As built



Point Cloud



**As Built
BIM
Model**



Difference is -0.9 % (As-Built is less than Approved Information)

Assuming an average unit in HK is 700 sq.ft, and say \$8000/ sq ft

Less 0.9% = $700 \times \$8000 \times 0.9 = \$50,400$

Assuming HK has 45,000 new units/ year

Then $\$50,400 \times 45,000 = \text{HK\$}2.3 \text{ Billion}$ (23億)

Design / Approved Information <> As built Information?

Unknown



Known

Implications

As owner – sales information vs actual as-built, legal liability?

As buyer – has ability to tell the actual area, any legal implications?

“rescission of agreement” 踢契 during down times?

As A.P., rethink about the certified area?

As Contractor, any process to arrive better precision?

As legislative body, is there a benchmark for tolerance? 0.4%, 0.5%, 0.6%....?

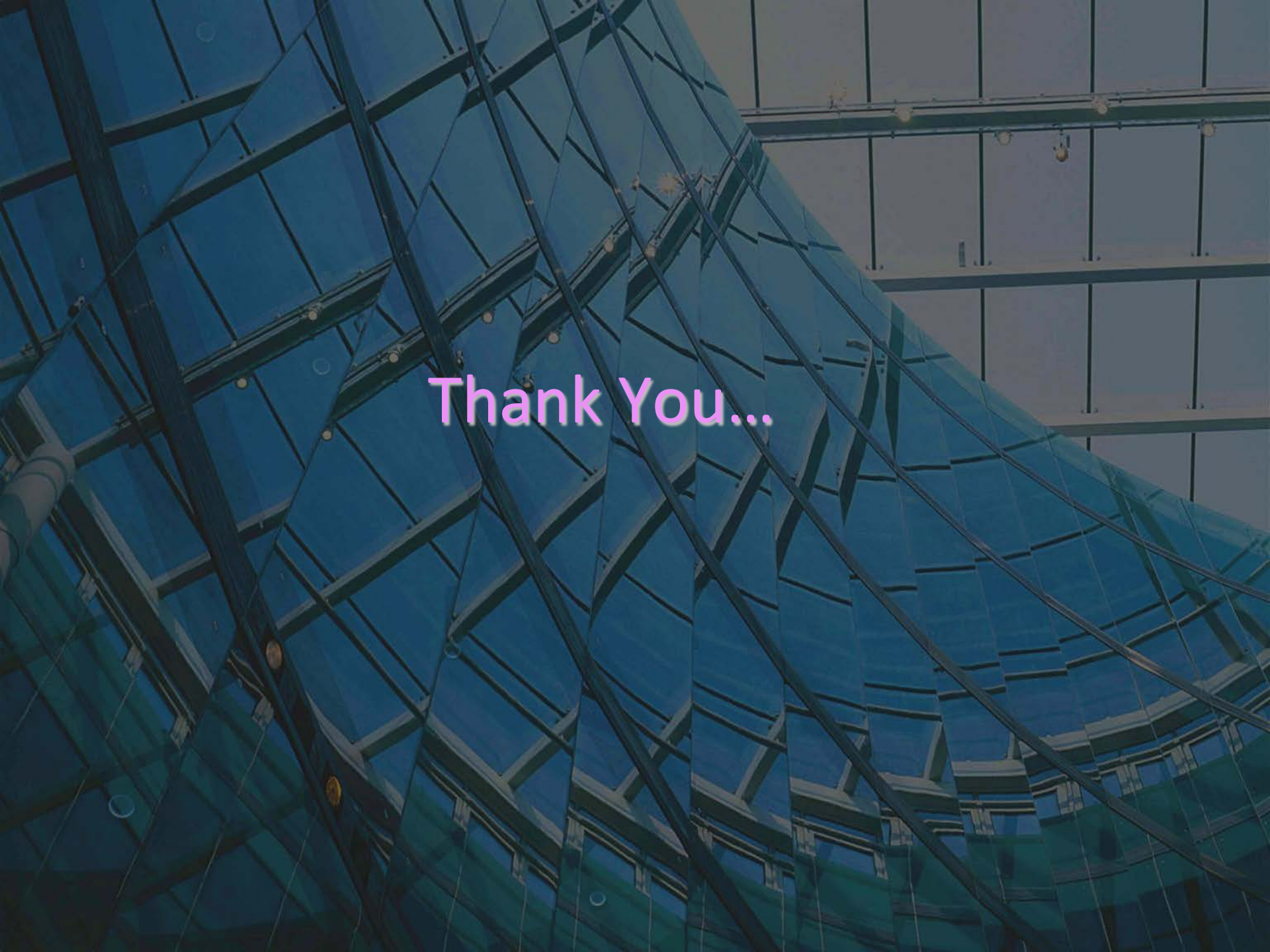
As Inspection Authority, is the current practice sufficient to safeguard deviation?

As professionals... New opportunities... Point Cloud scanning, BIM Process?

BIM Technology



Change in Practices



Thank You...