Aedas

Building Information Modelling in Aedas

Agnes Ng Managing Director
David Fung Senior Associate, Head of BIM Division

Use of Building Information Modeling (BIM)

1. Visualization
2. Drawing Production
3. Co-ordination/ Collaboration
4. Quantity Taking & BQ
5. Statutory submission
6. Analysis
7. Supply Chain Integration

.....

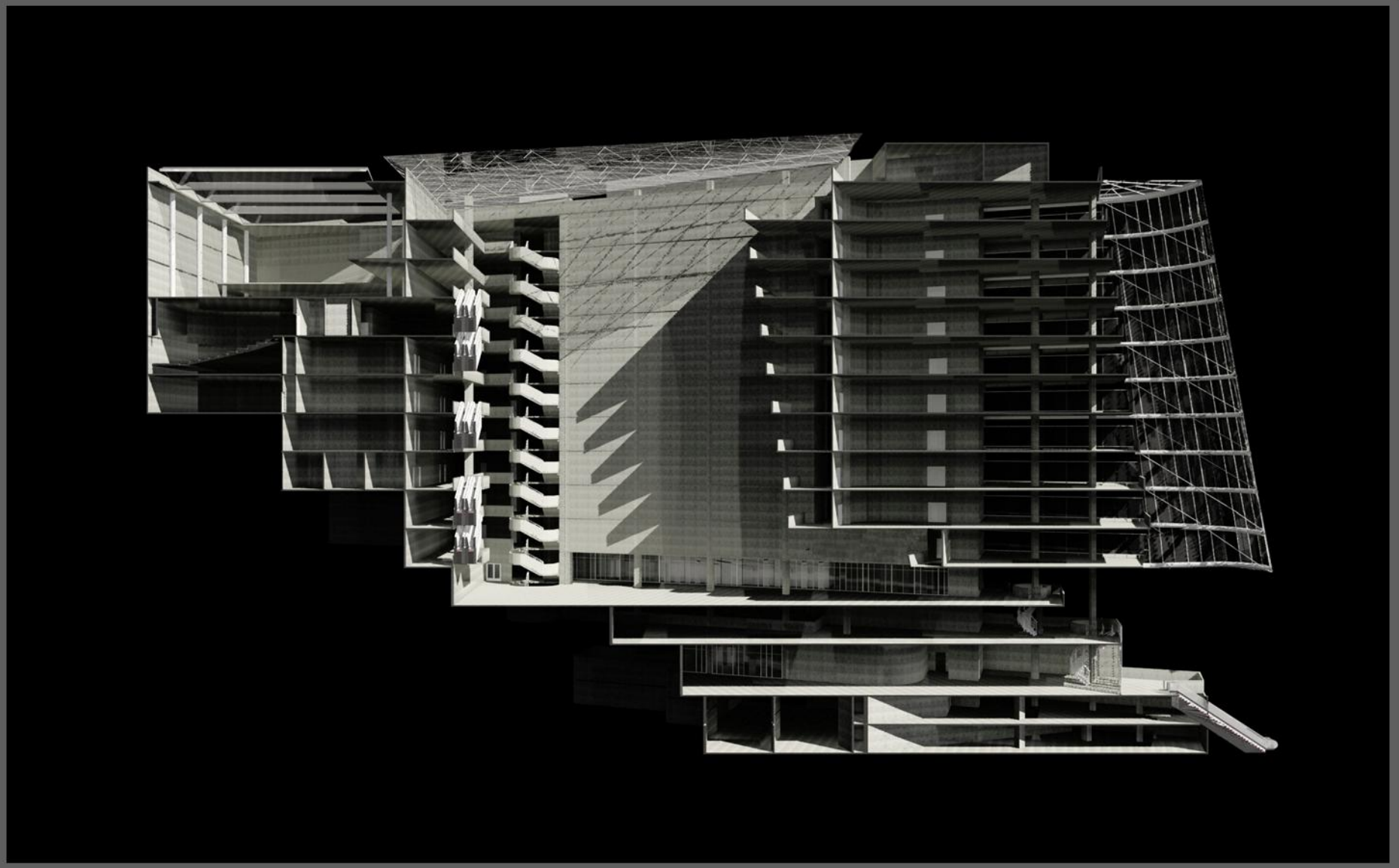
VISUALIZATION & DRAWING PRODUCTION

Aedas

VISUALIZATION & DRAWING PRODUCTION

Aedas

CUT AWAY SECTIONS



CUT AWAY PESPECTIVE

DESIGN IN PESPECTIVE

Aedas

Sociaal
Social
美学
Flitigt
Diligent
ijverig
Cordiale
Cordial
Likeurtje

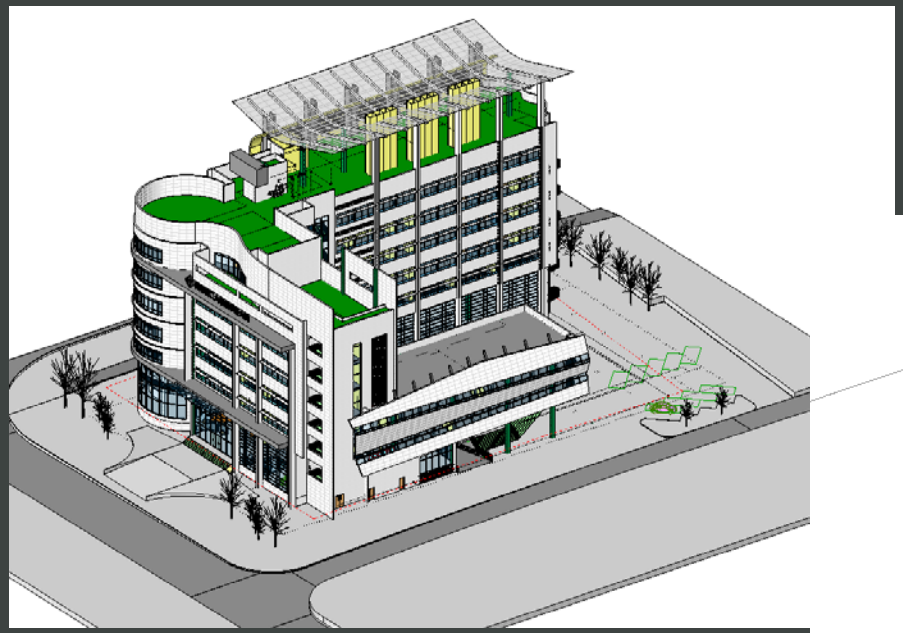

德
Moral
知
intellectual
Intellectual
體

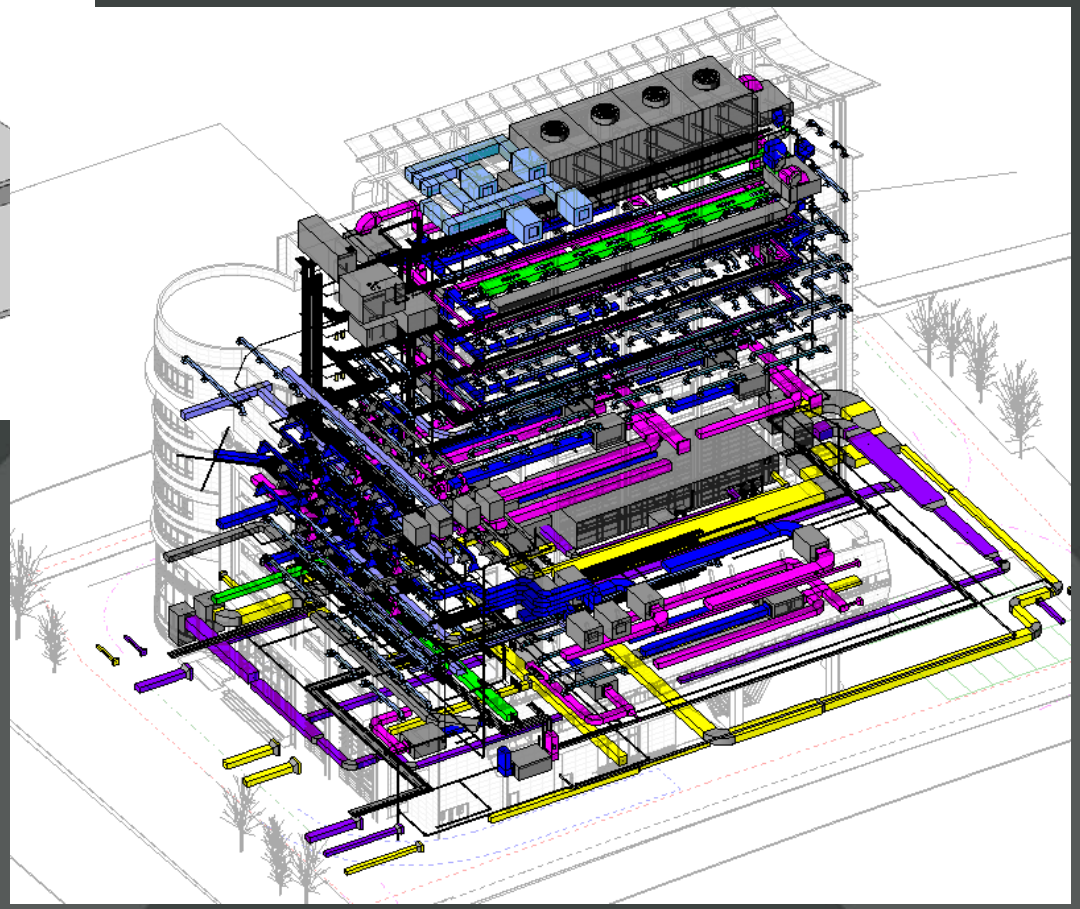
VISUALIZATION

CO-ORDINATION / COLLABORATION

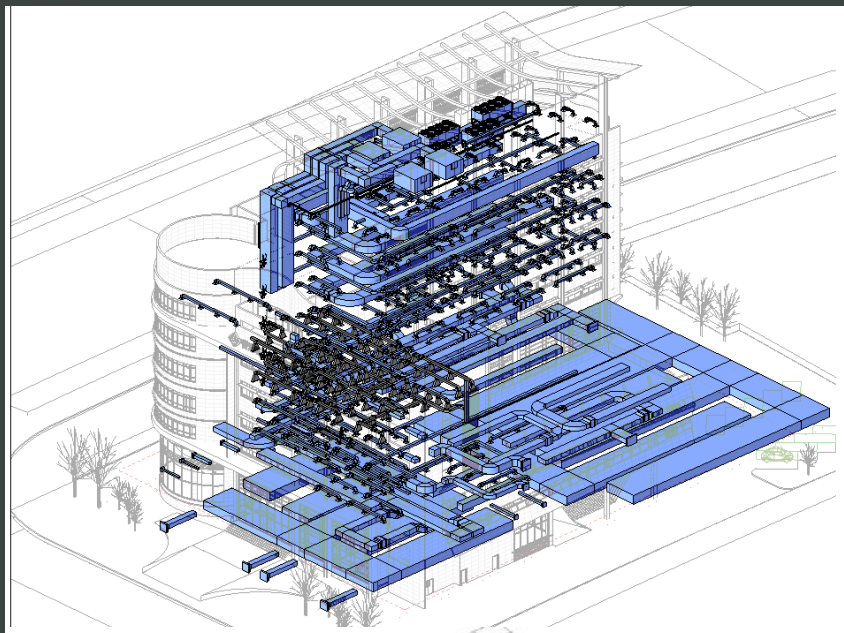
Work Flow – Establish BIM Models

Aedas

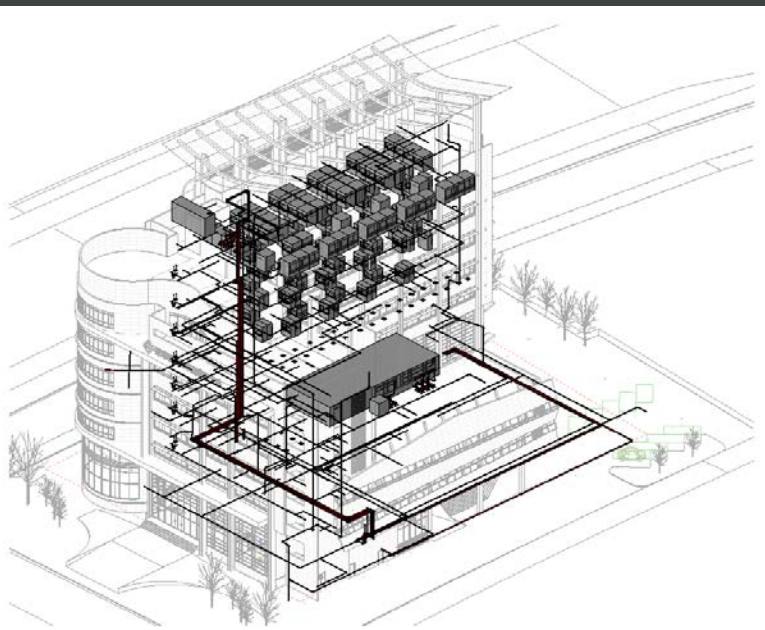


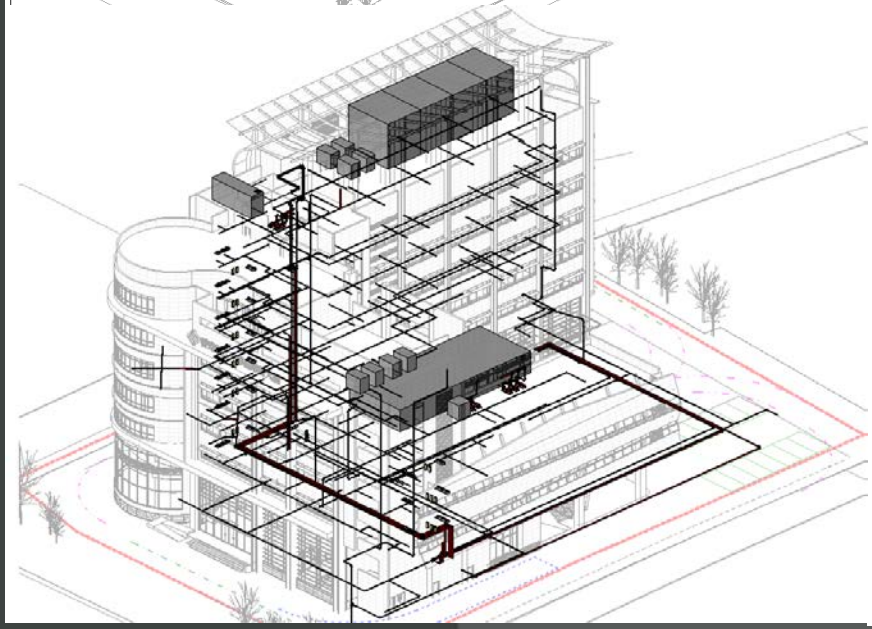


HVAC Installation

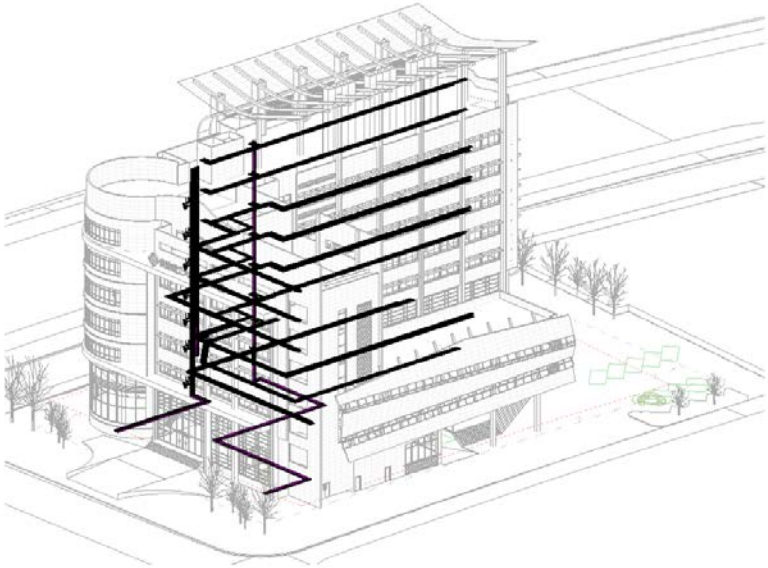


Fire Services Installation



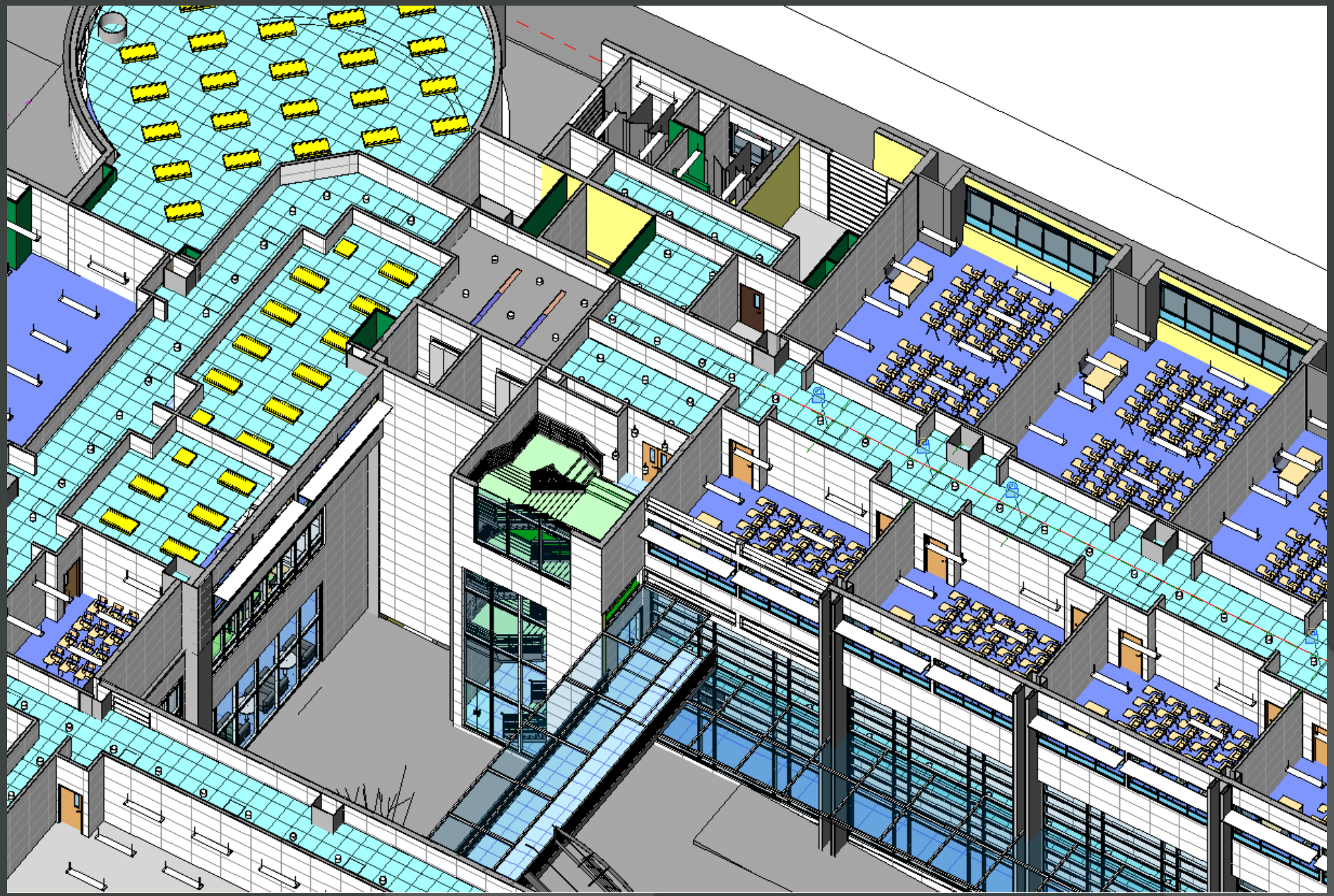


P/D Installation



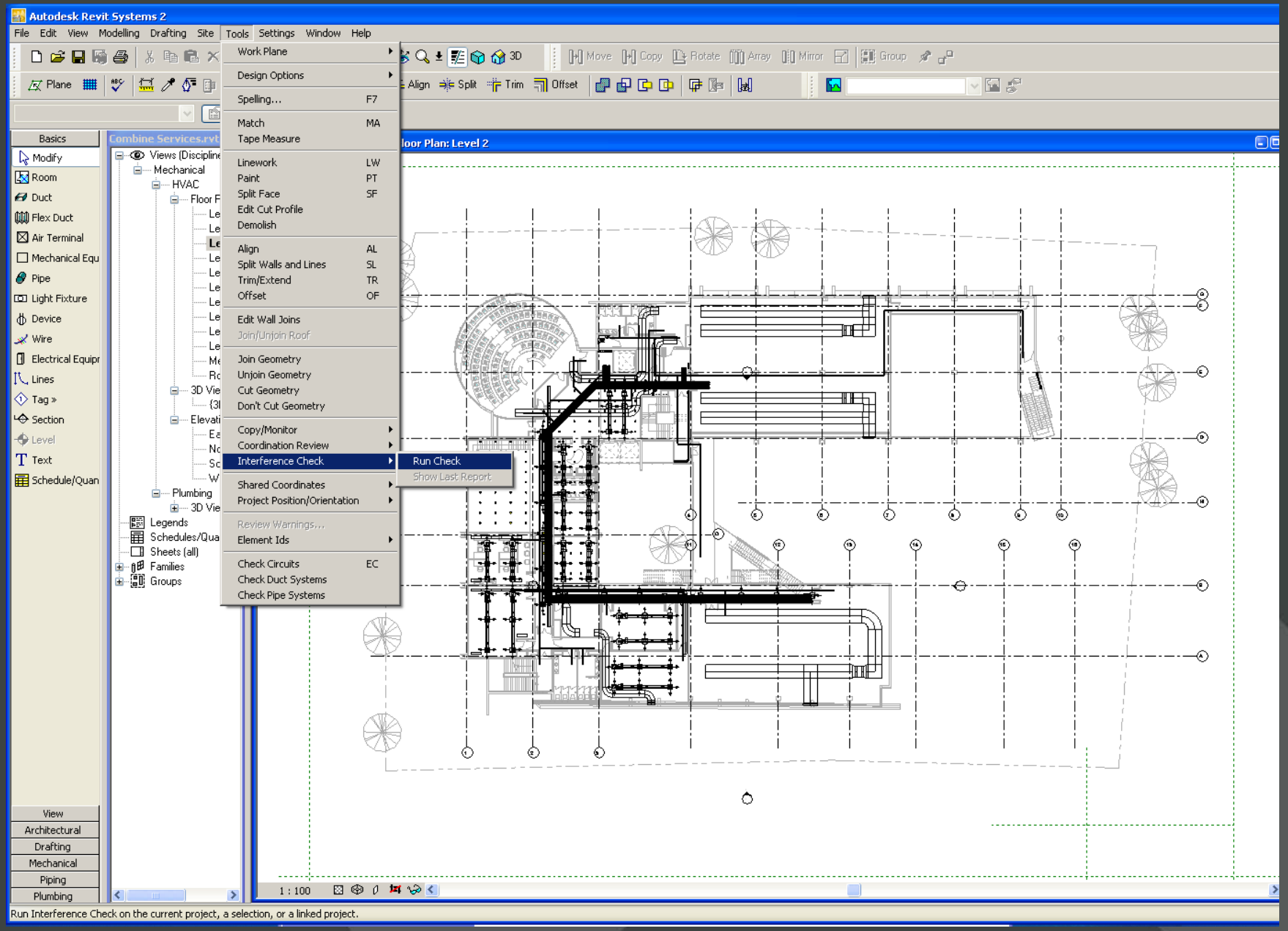
Electricity Installation

Aedas



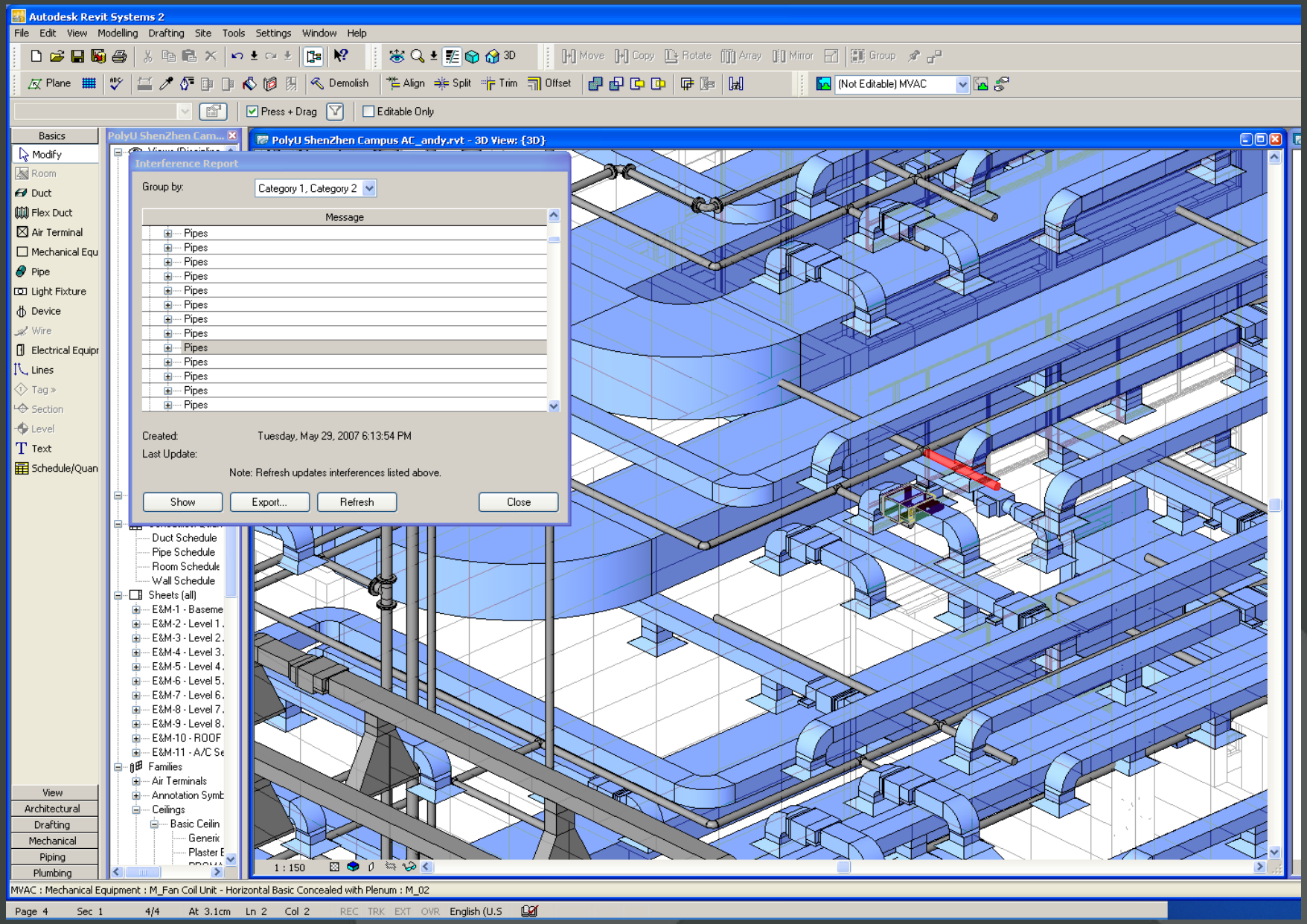
Work Flow – Clashes Report

Aedas



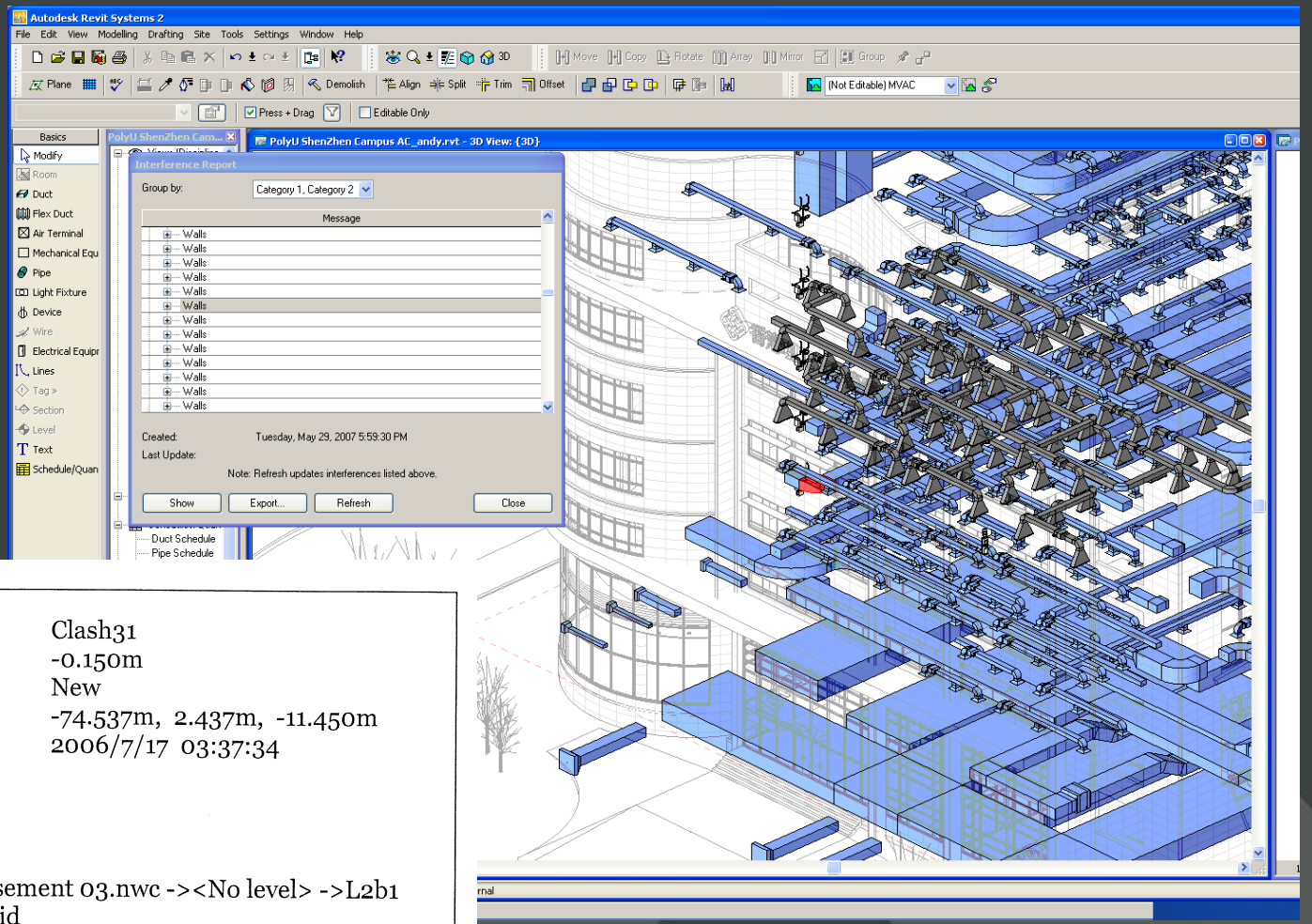
Work Flow – Clashes Report

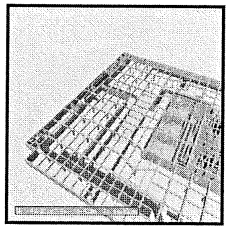
Aedas



Work Flow – Clashes Report

Aedas





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

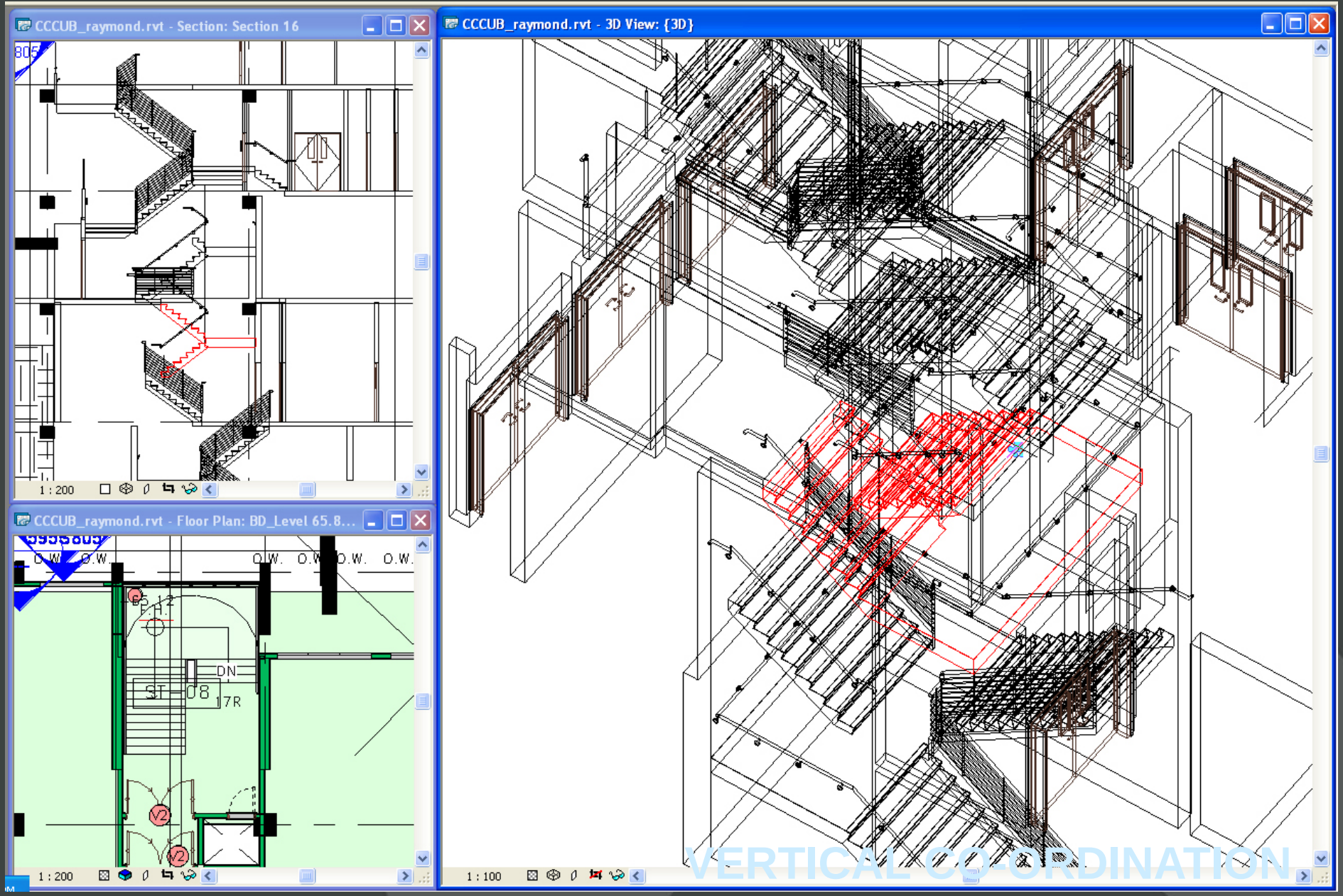
Path File ->File ->Basement 03.nwc -><No level> ->L2b1 500 x 700 ->L2b1 500 x 700 ->Solid

Item 2

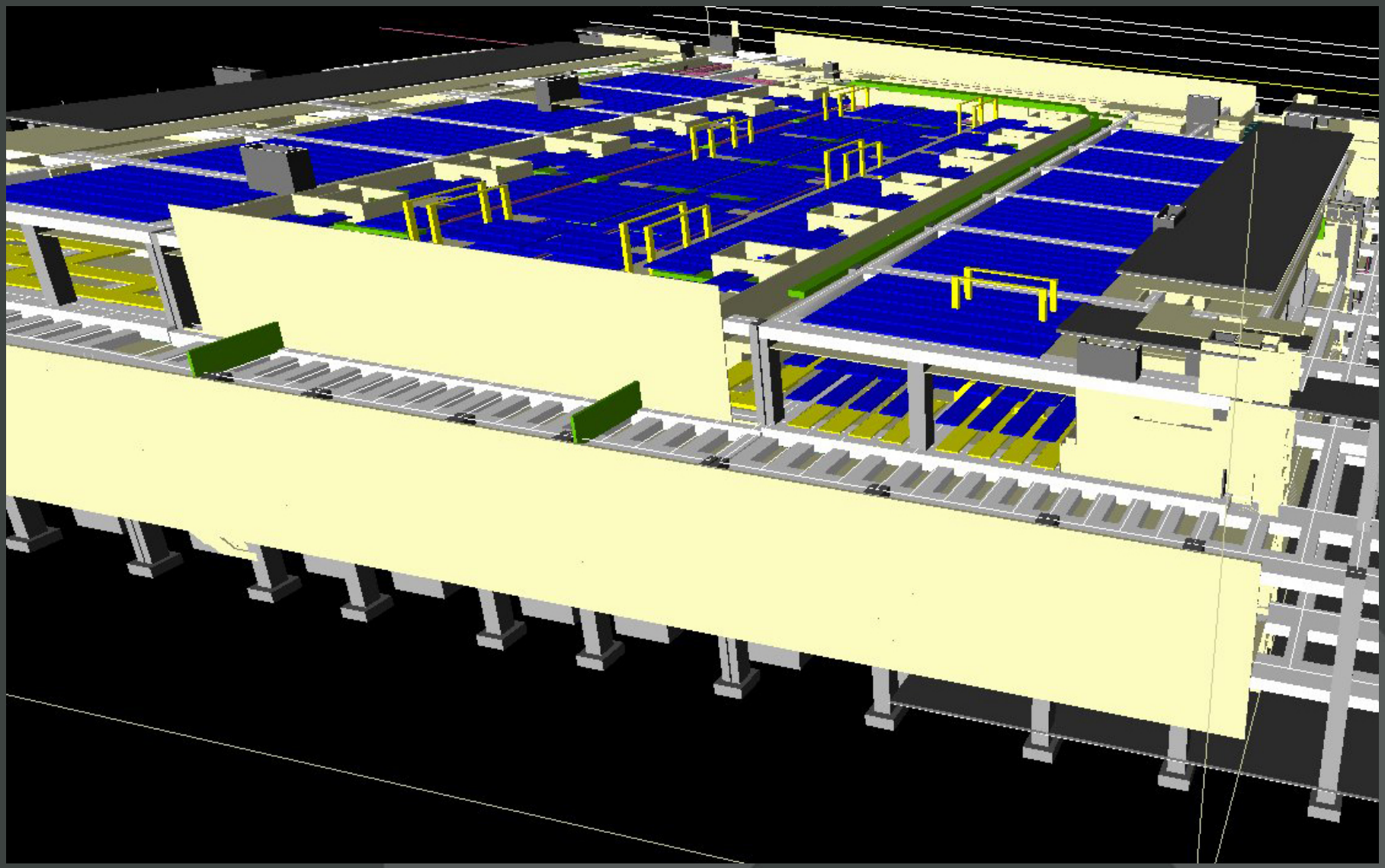
Entity Handle	2AD6
Path	File ->File ->B3HVAC_Duct.nwd ->H-Ductwork-G ->Duct

ANALYSIS

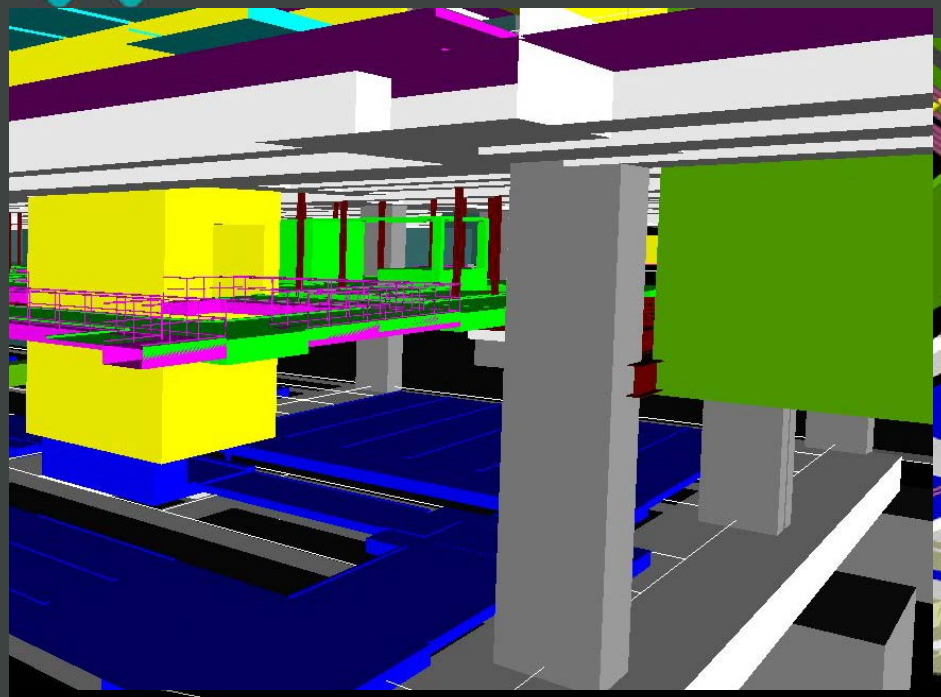
Aedas

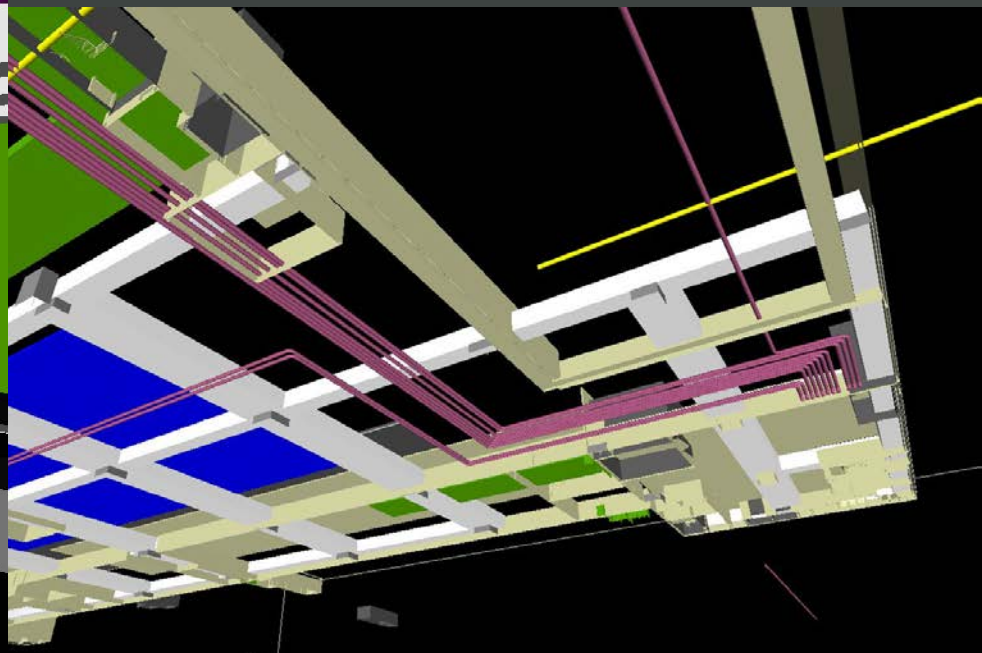


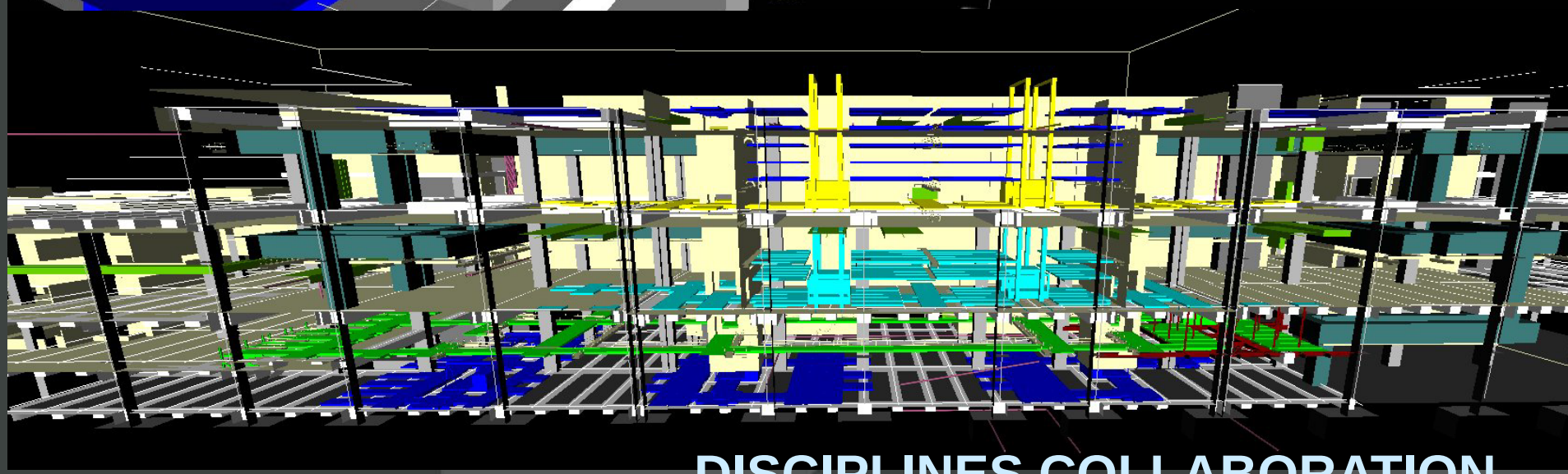
Aedas



DISCIPLINES COLLABORATION







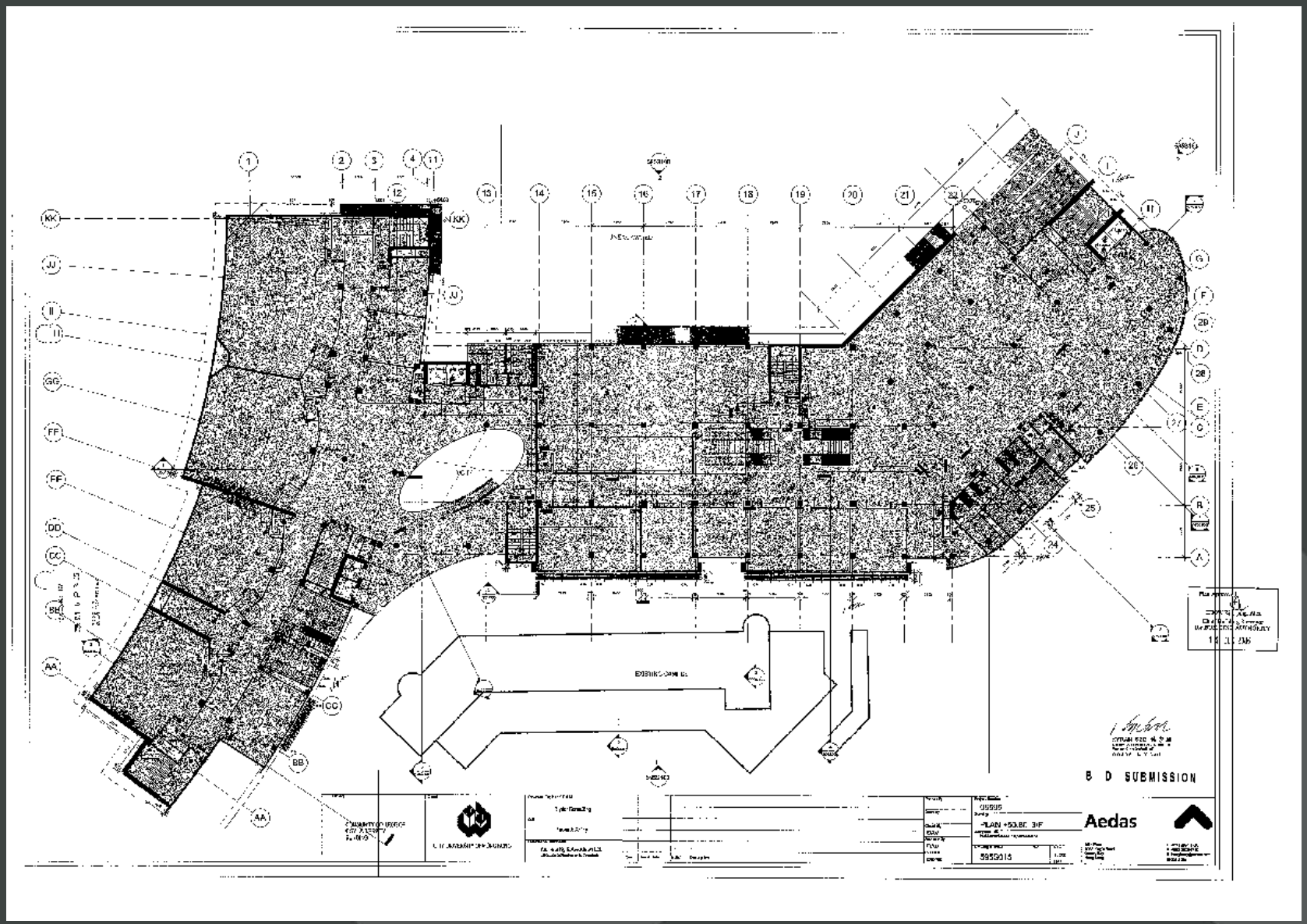
DISCIPLINES COLLABORATION

Wall Schedule							
Family	Family and Type	Length	Width	Count	Area	Volume	
Basic Wall: AED-Concrete - 50mm + Render One sides							
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.548 m2	0.027 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.548 m2	0.027 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.548 m2	0.027 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.548 m2	0.027 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.548 m2	0.027 m3	
0.548 m2: 5		1000		5	2.738 m2	0.137 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.578 m2	0.029 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.578 m2	0.029 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.578 m2	0.029 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.578 m2	0.029 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.578 m2	0.029 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.578 m2	0.029 m3	
0.578 m2: 6		1200		6	3.465 m2	0.173 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.608 m2	0.030 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.608 m2	0.030 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.608 m2	0.030 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.608 m2	0.030 m3	
0.608 m2: 4		800		4	2.430 m2	0.122 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.638 m2	0.032 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.638 m2	0.032 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	200	50	1	0.638 m2	0.032 m3	
0.638 m2: 3		600		3	1.913 m2	0.096 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	250	50	1	0.730 m2	0.037 m3	
Basic Wall	Basic Wall: AED-Concrete - 50mm + Render One sides	250	50	1	0.730 m2	0.037 m3	
0.730 m2: 2		500		2	1.460 m2	0.073 m3	

DISCIPLINES COLLABORATION

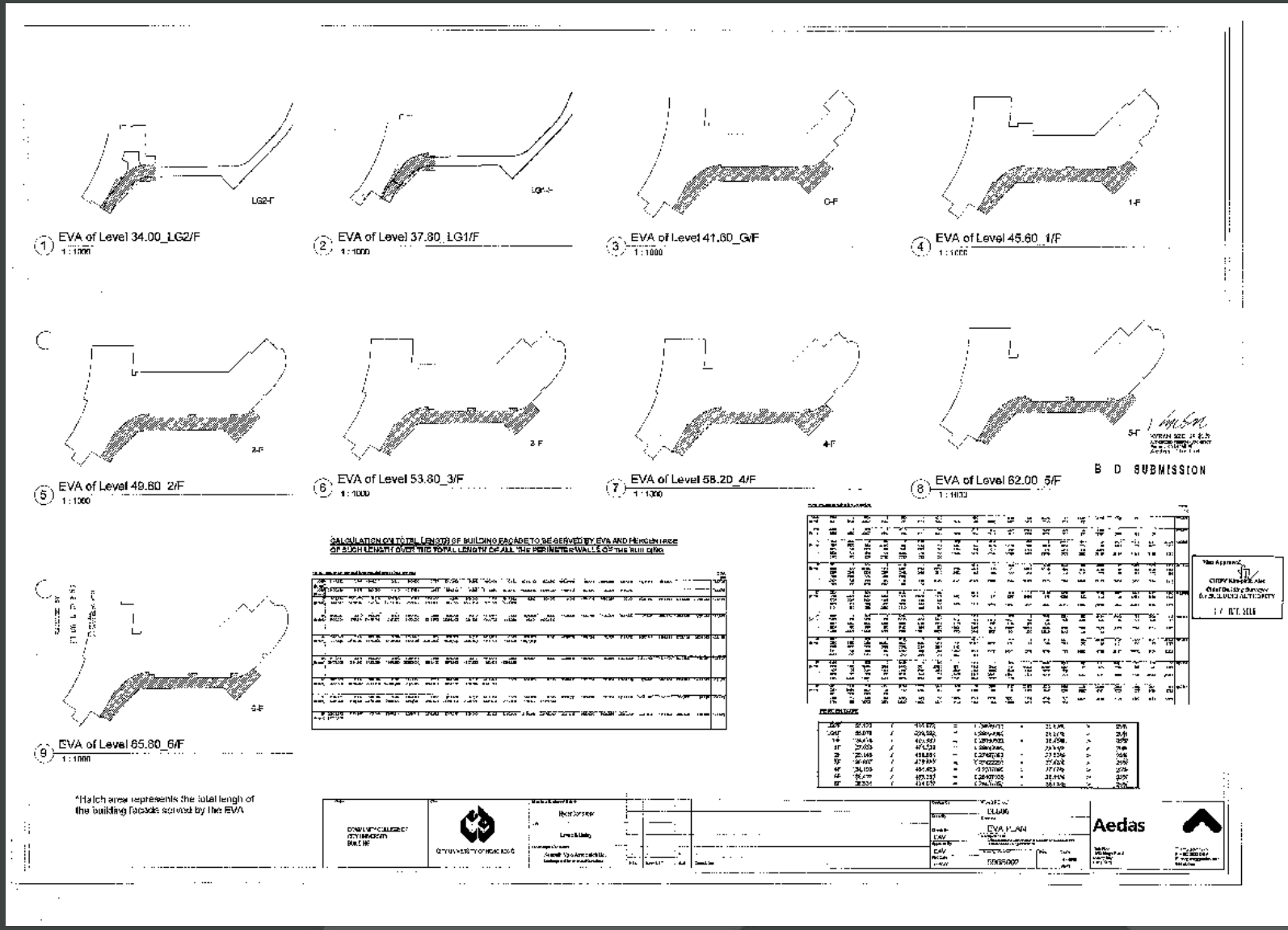
STATUTORY SUBMISSION

Aedas



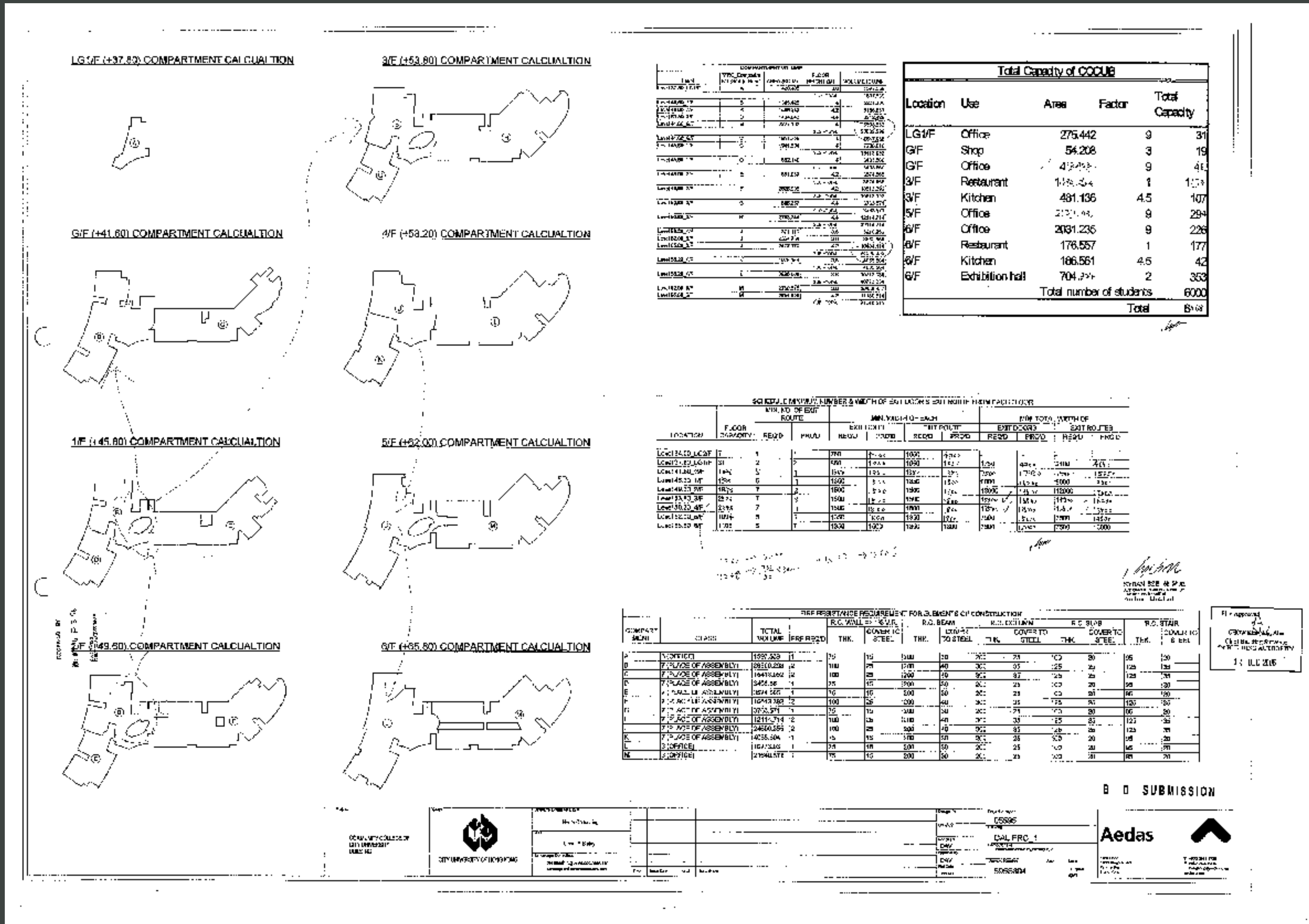
STATUTORY SUBMISSION

Aedas



STATUTORY SUBMISSION

Aedas

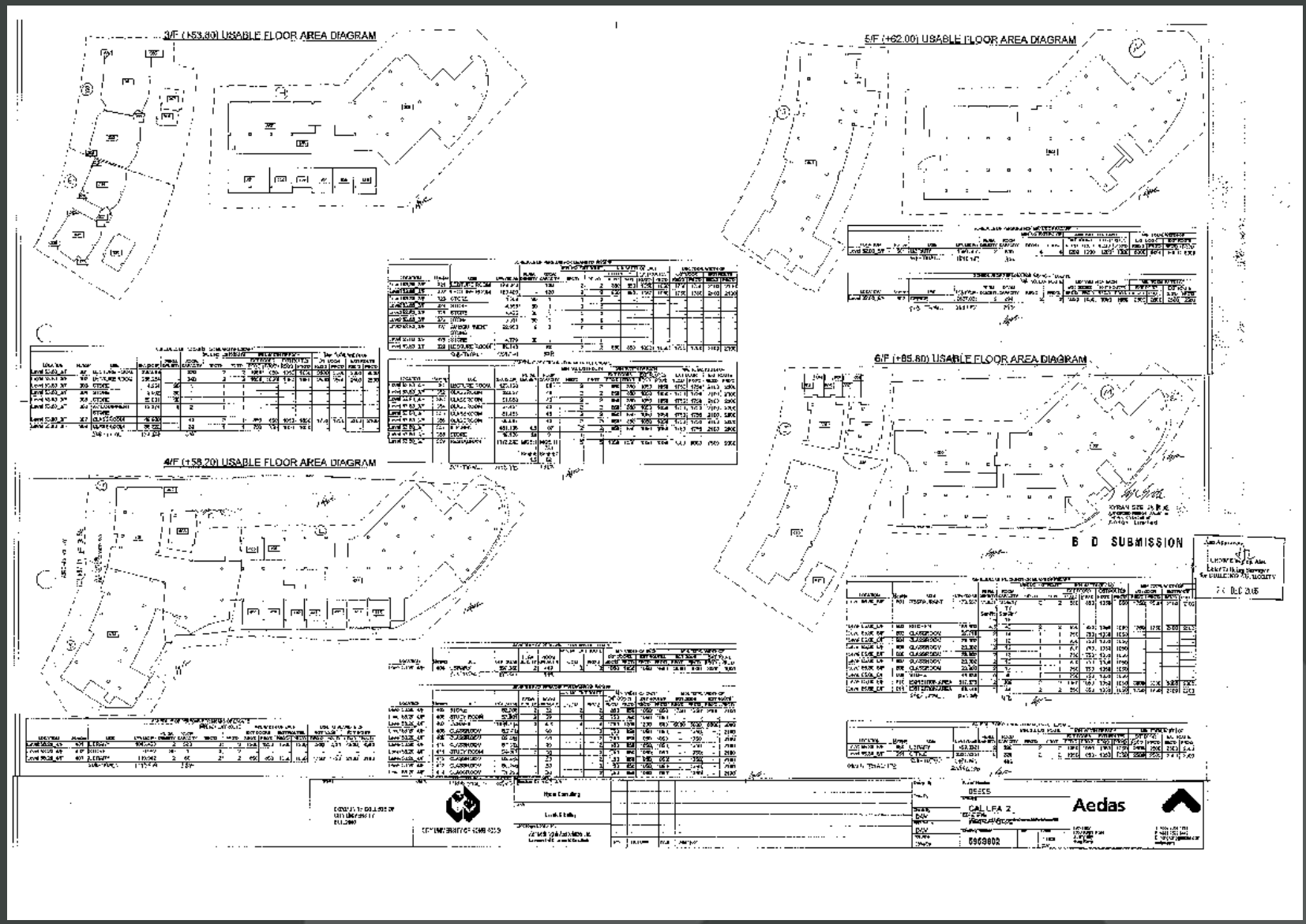


Total Capacity of CCCUB

Location	Use	Area	Factor	Total Capacity
LG1/F	Office	275.442	9	31
G/F	Shop	54.208	3	19
G/F	Office	[illegible]	9	[illegible]
3/F	Restaurant	[illegible]	1	[illegible]
3/F	Kitchen	481.136	4.5	107
5/F	Office	[illegible]	9	294
6/F	Office	2031.235	9	226
6/F	Restaurant	176.557	1	177
6/F	Kitchen	186.561	4.5	42
6/F	Exhibition hall	[illegible]	2	353
		Total number of students		6000
			Total	[illegible]

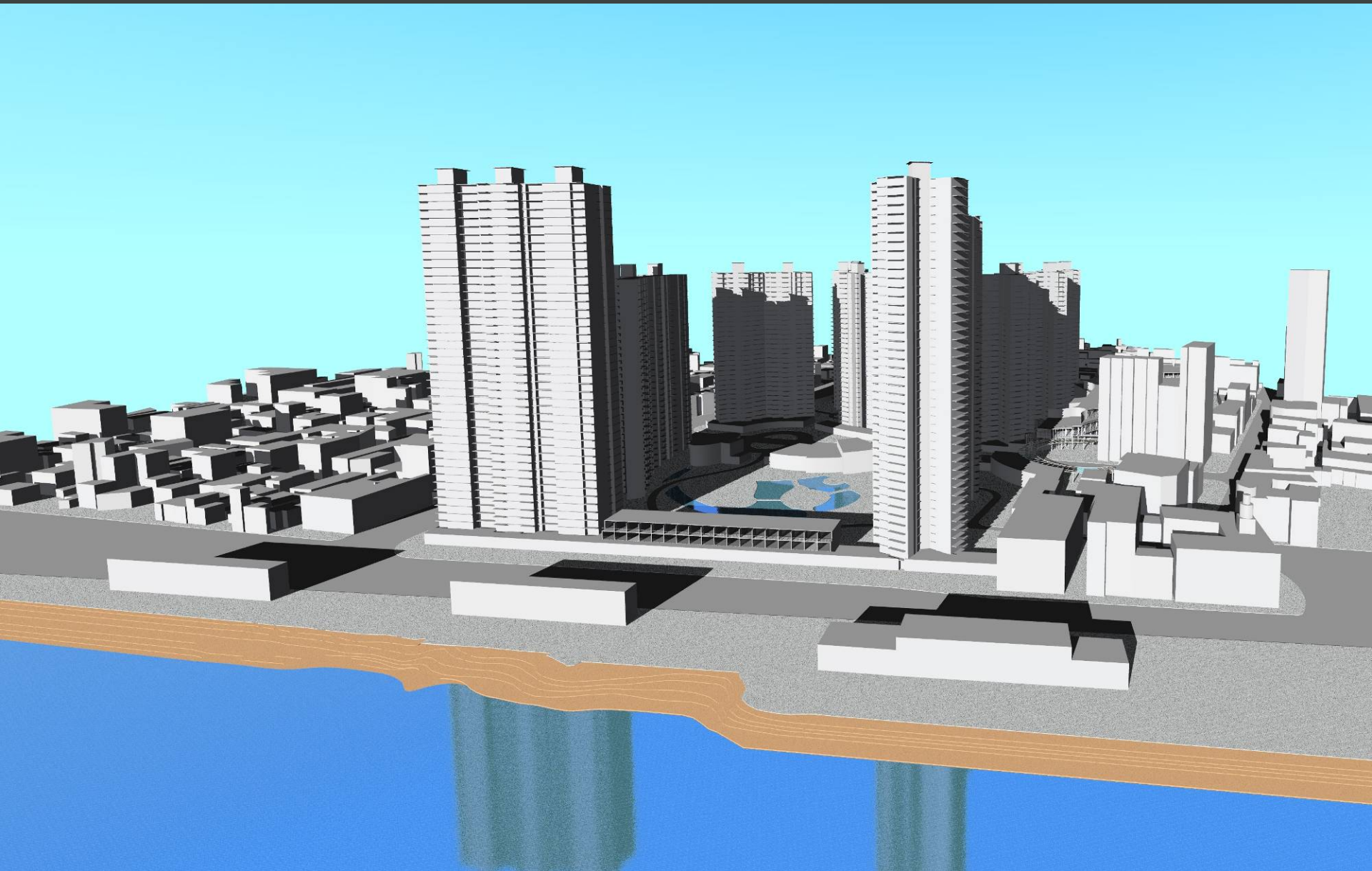
STATUTORY SUBMISSION

Aedas



BUILDING IN CONTEXT

Aedas

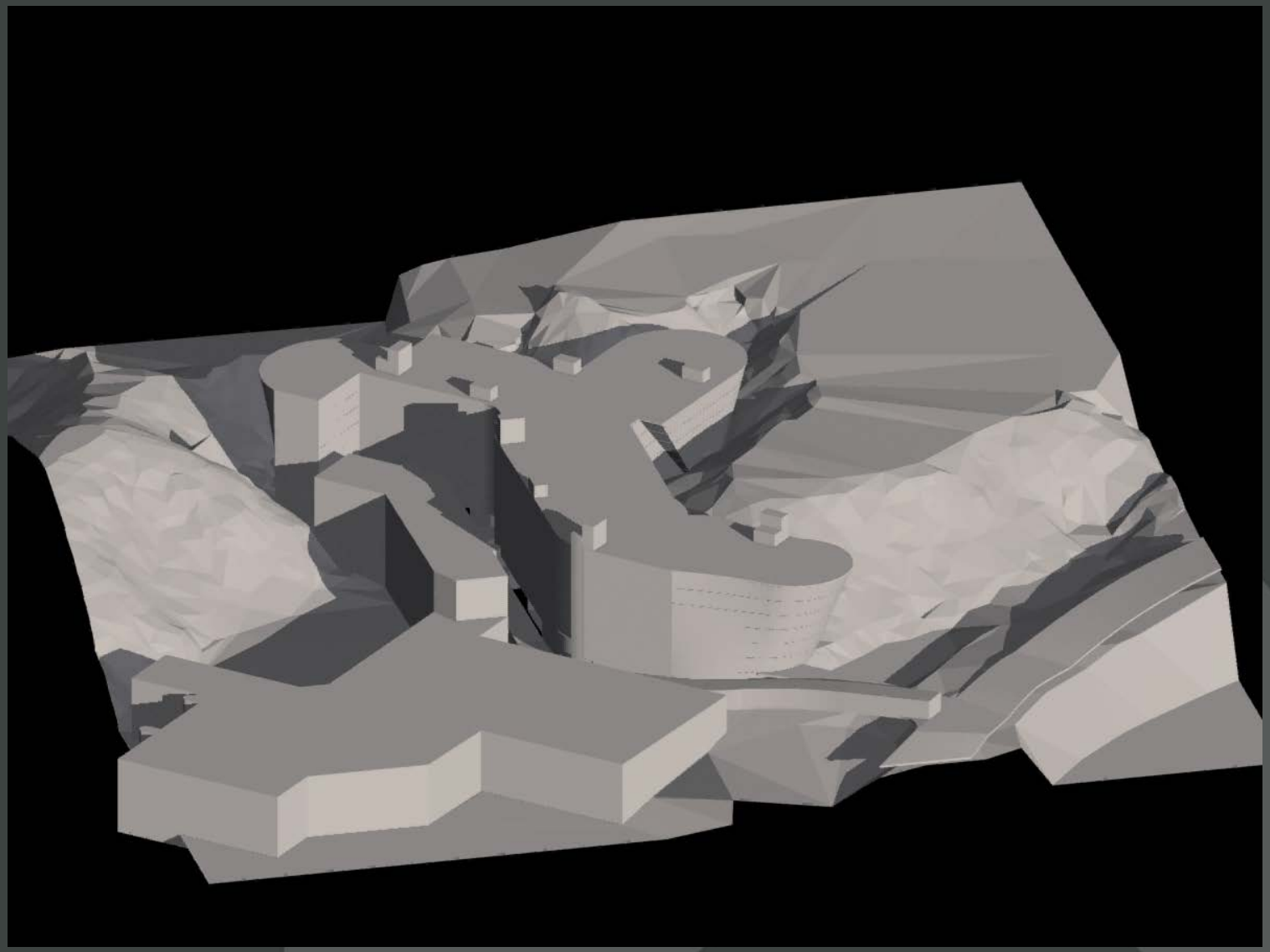


BUILDING IN GOOGLE EARTH

Aedas

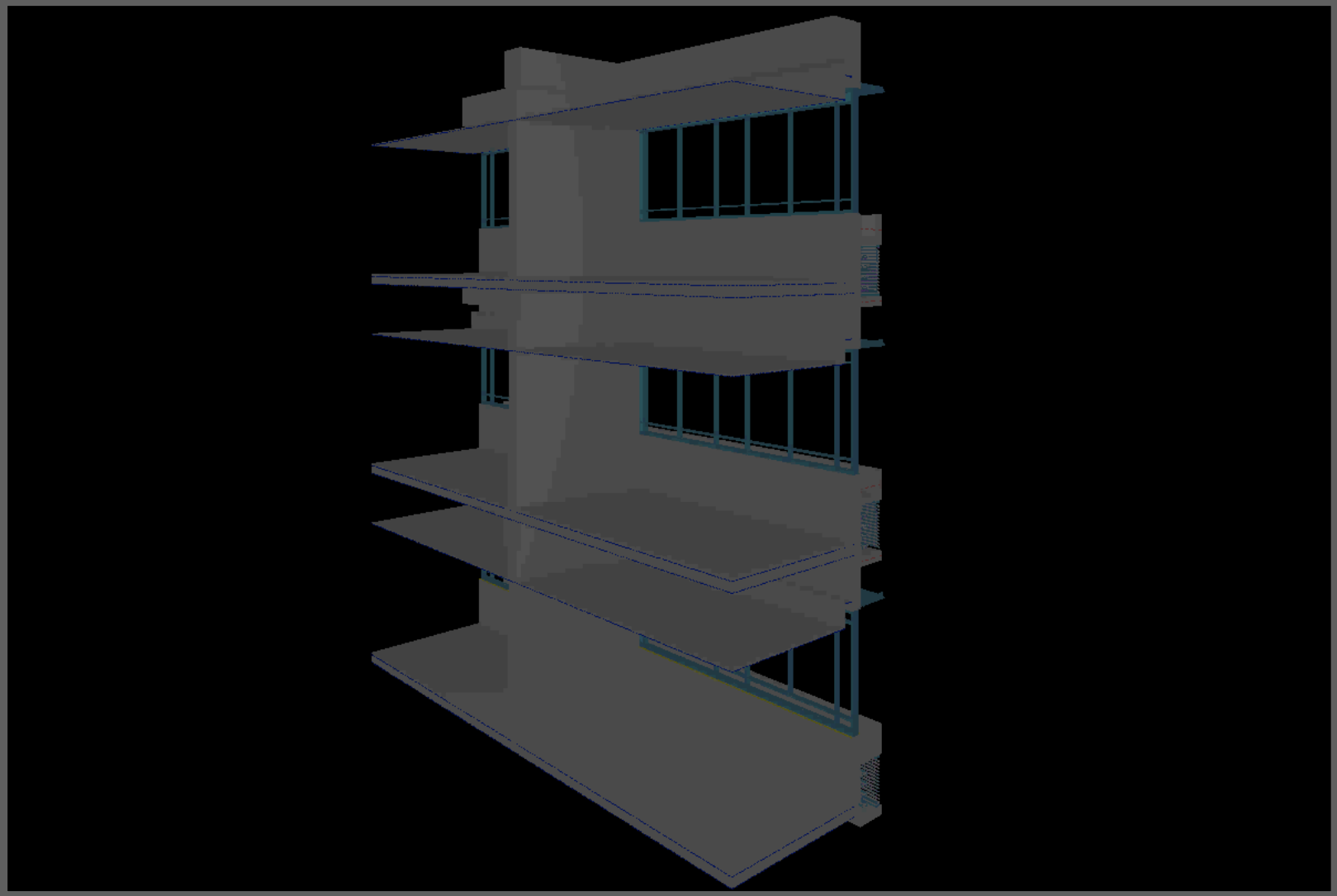
SCIENTIFIC ANALYSIS

Aedas



SUN STUDY

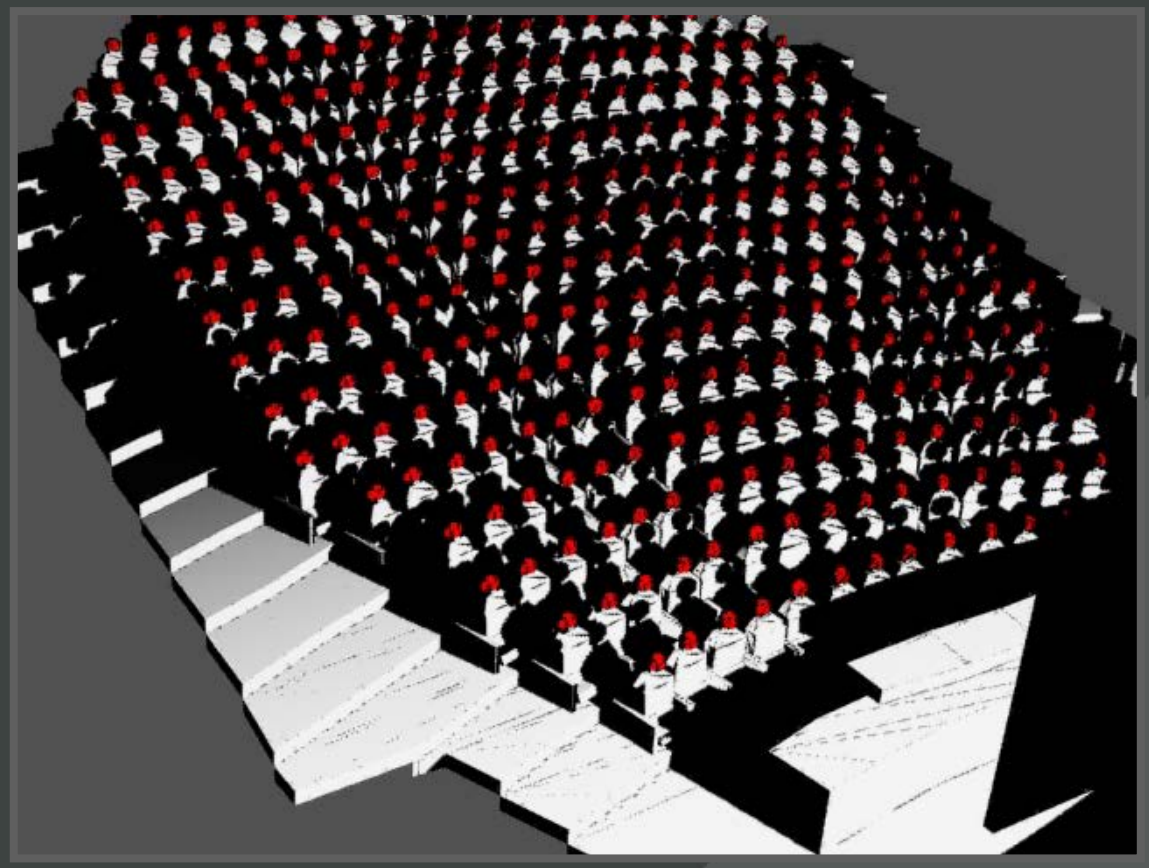
Aedas



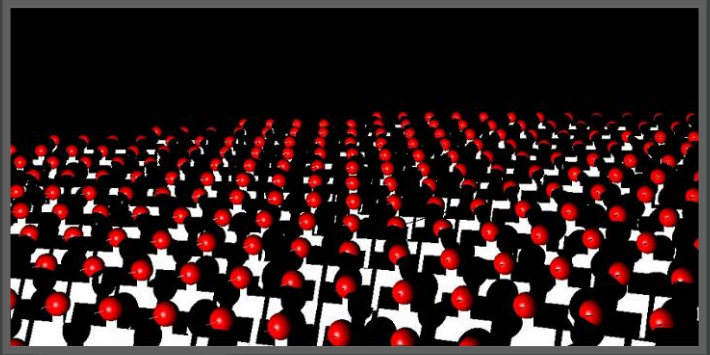
FAÇADE SOLAR STUDY

21/12/2006 7:00am – 6:00pm

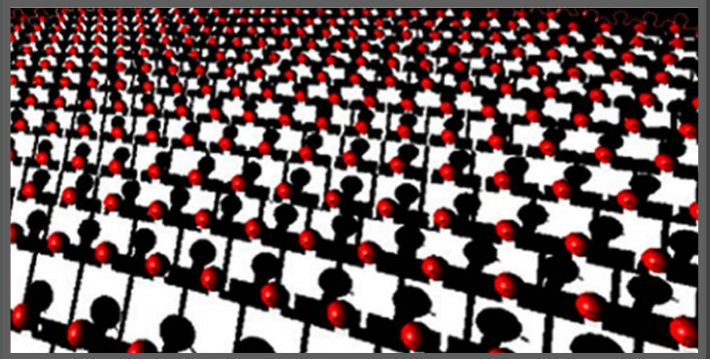
Aedas



Radiating Light Method



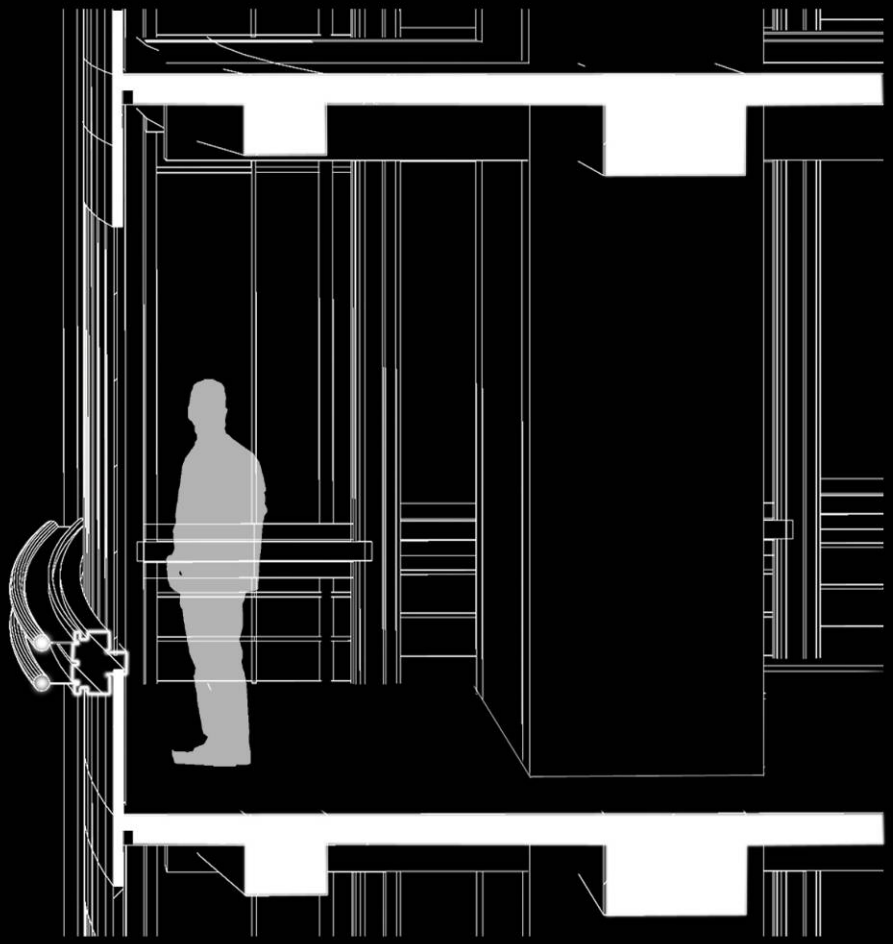
Unsatisfactory sightlines



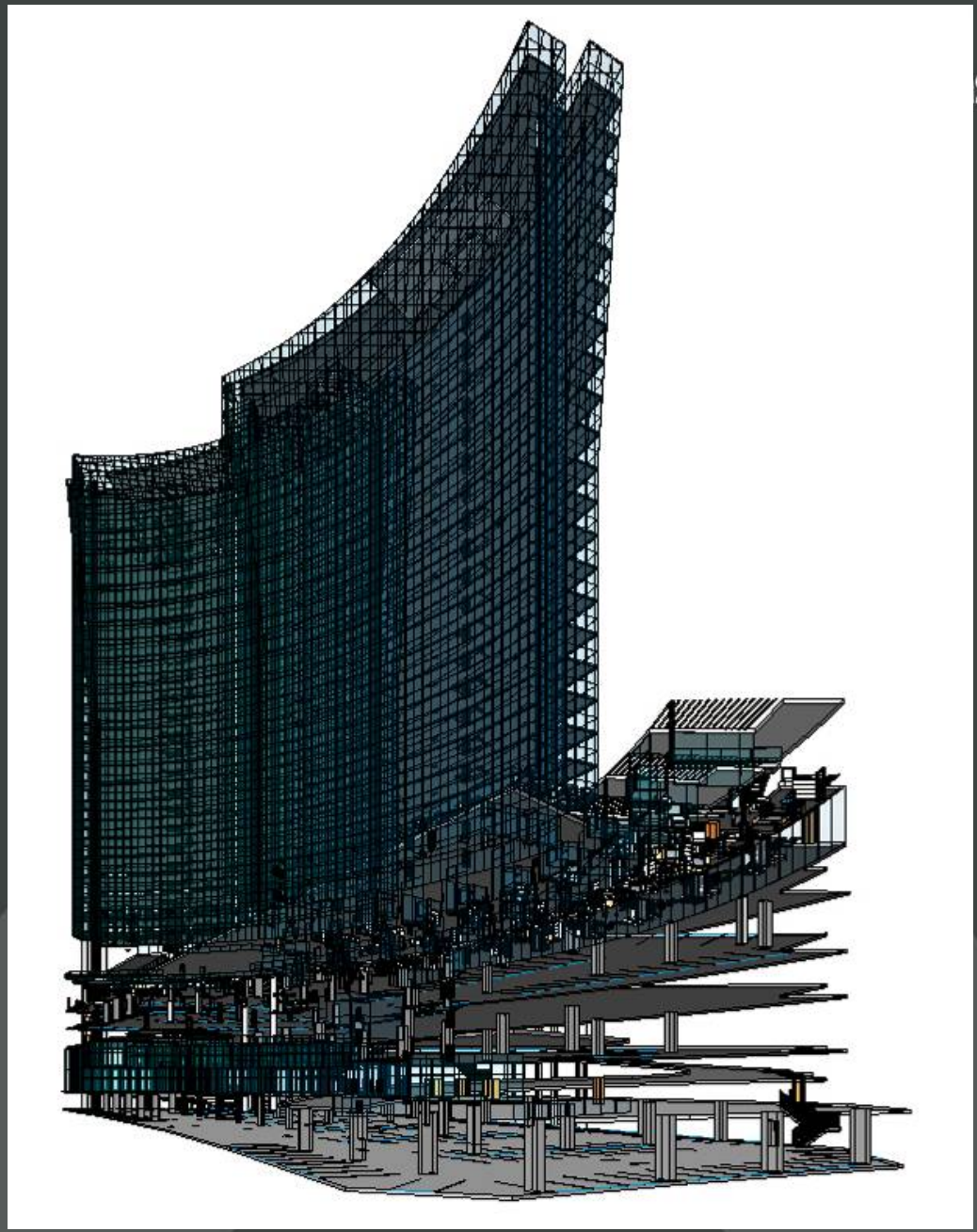
Satisfactory sightlines

SIGHTLINE STUDIES

FAÇADE DESIGN and CO-ORDINATION

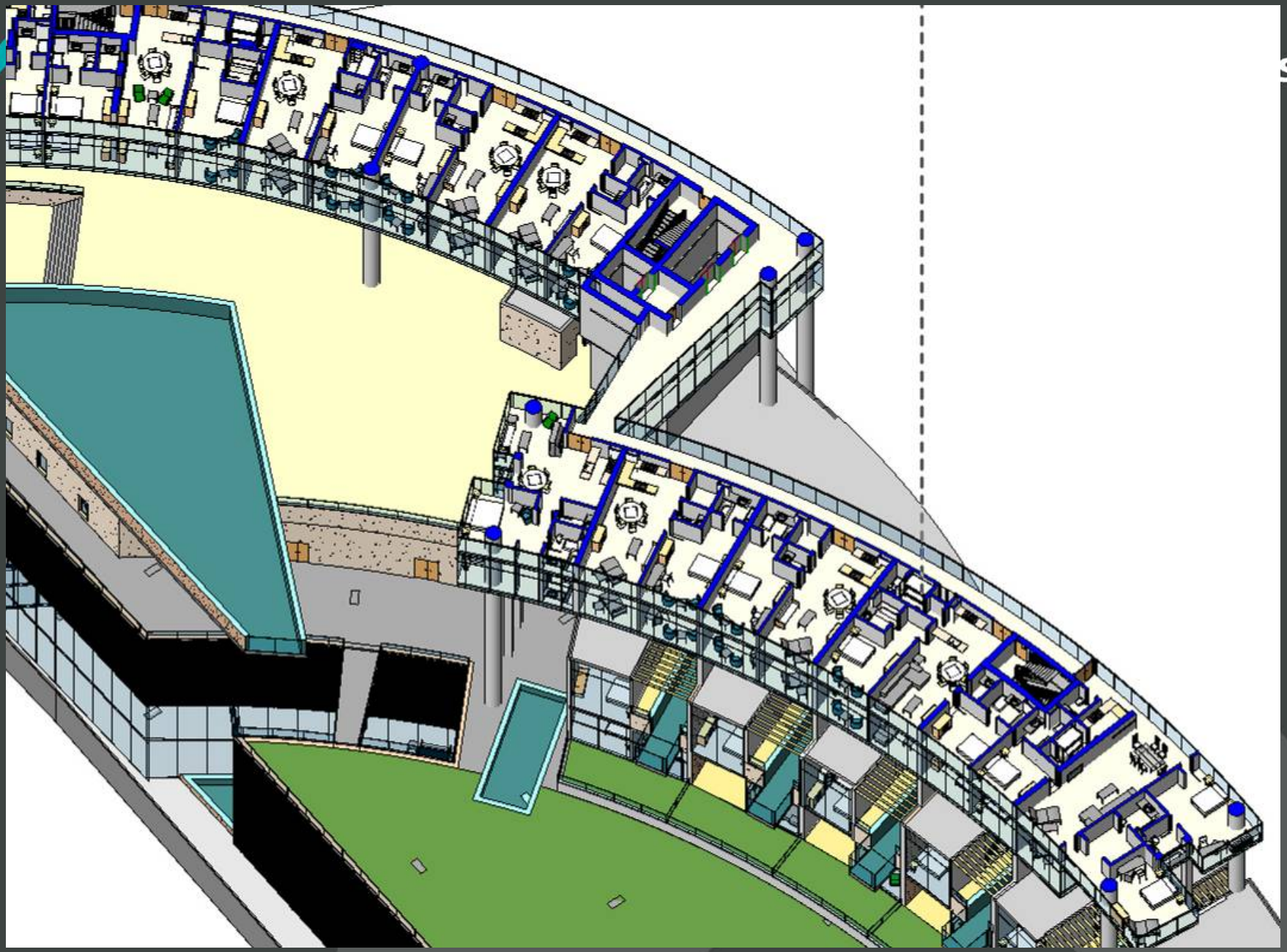


FAÇADE DESIGN and CO-ORDINATION



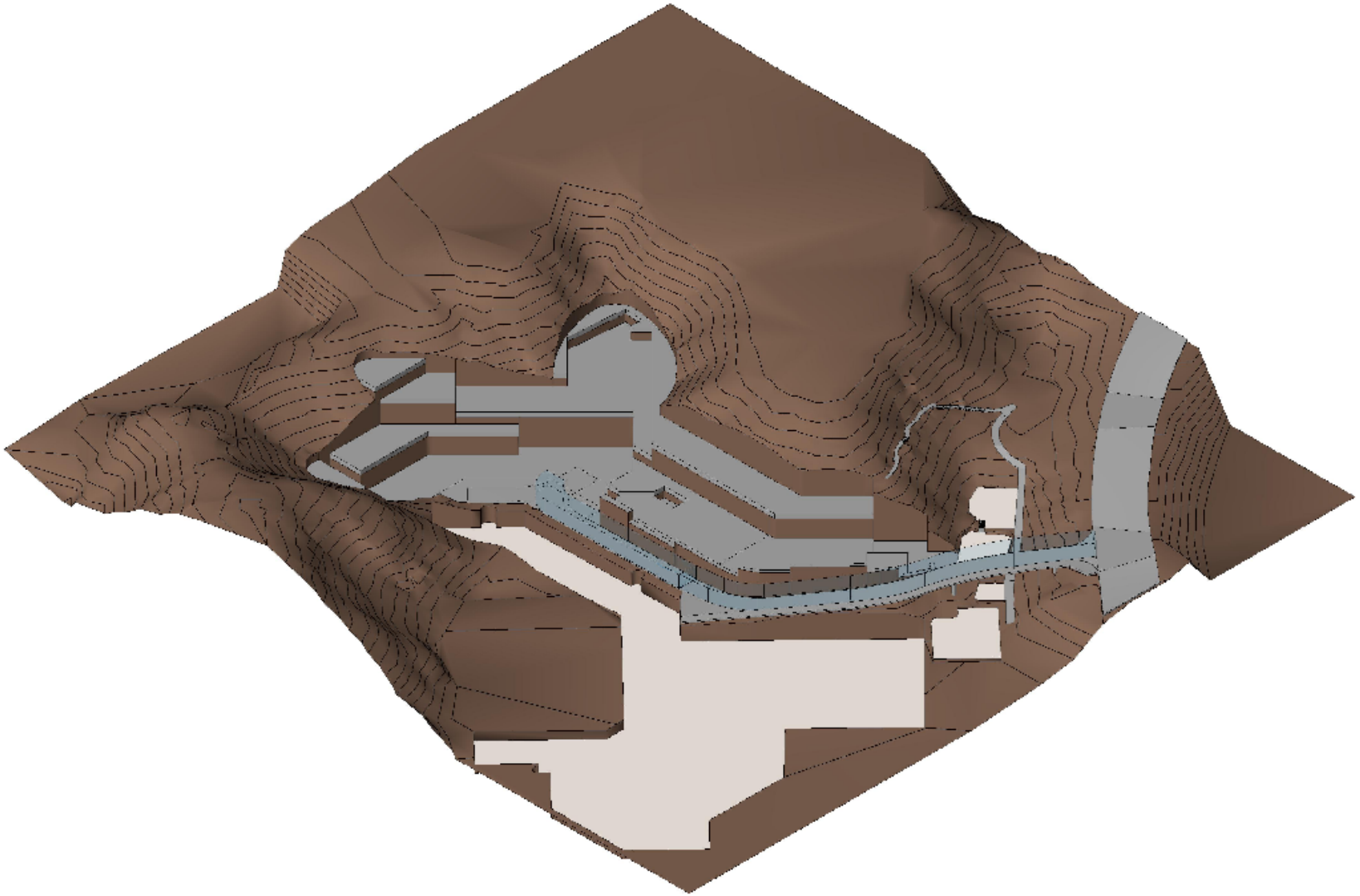
中東酒店項目

HORIZONTAL REPETITION / MODULARIZATION



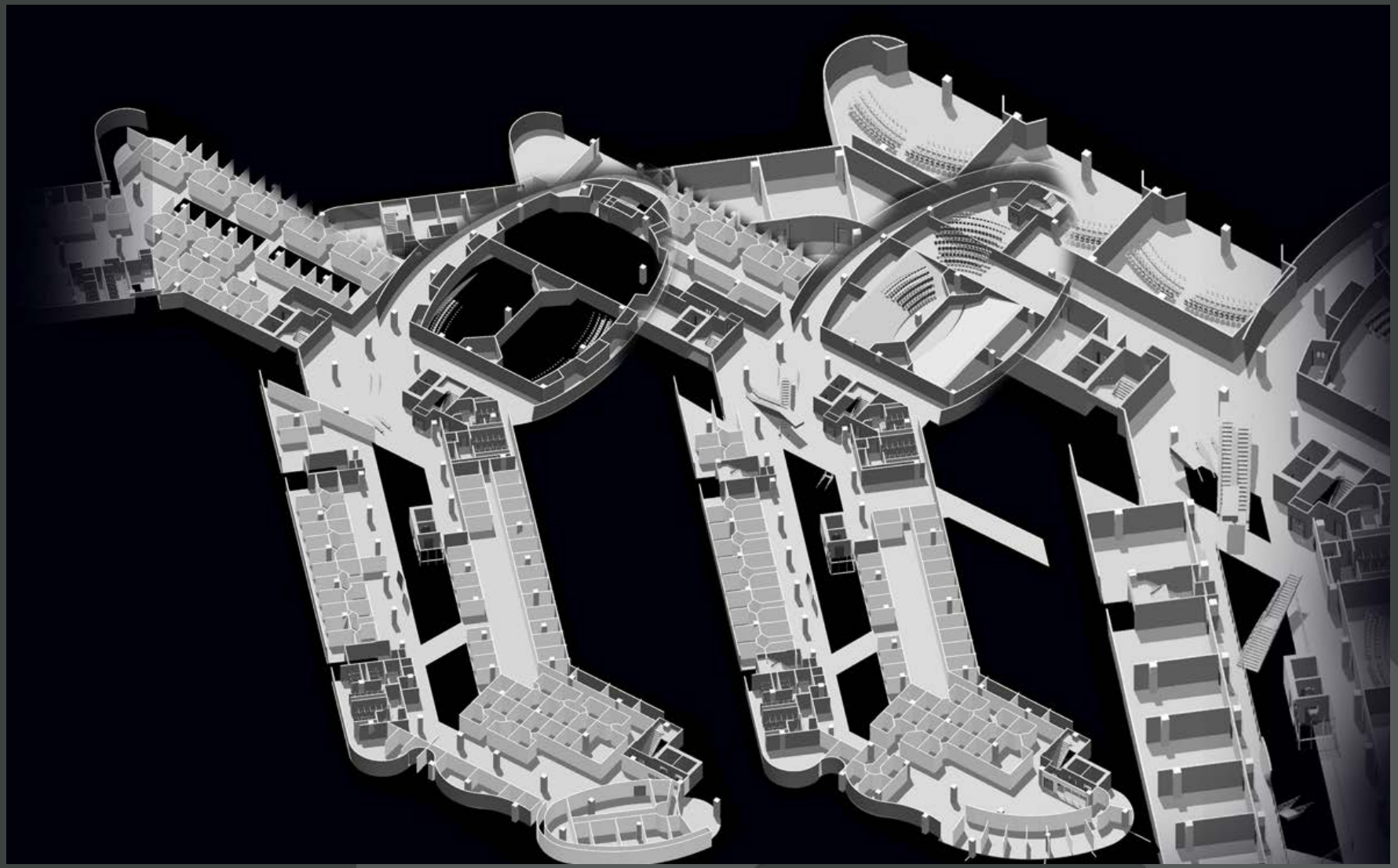
中東酒店項目

MODULAR DESIGN

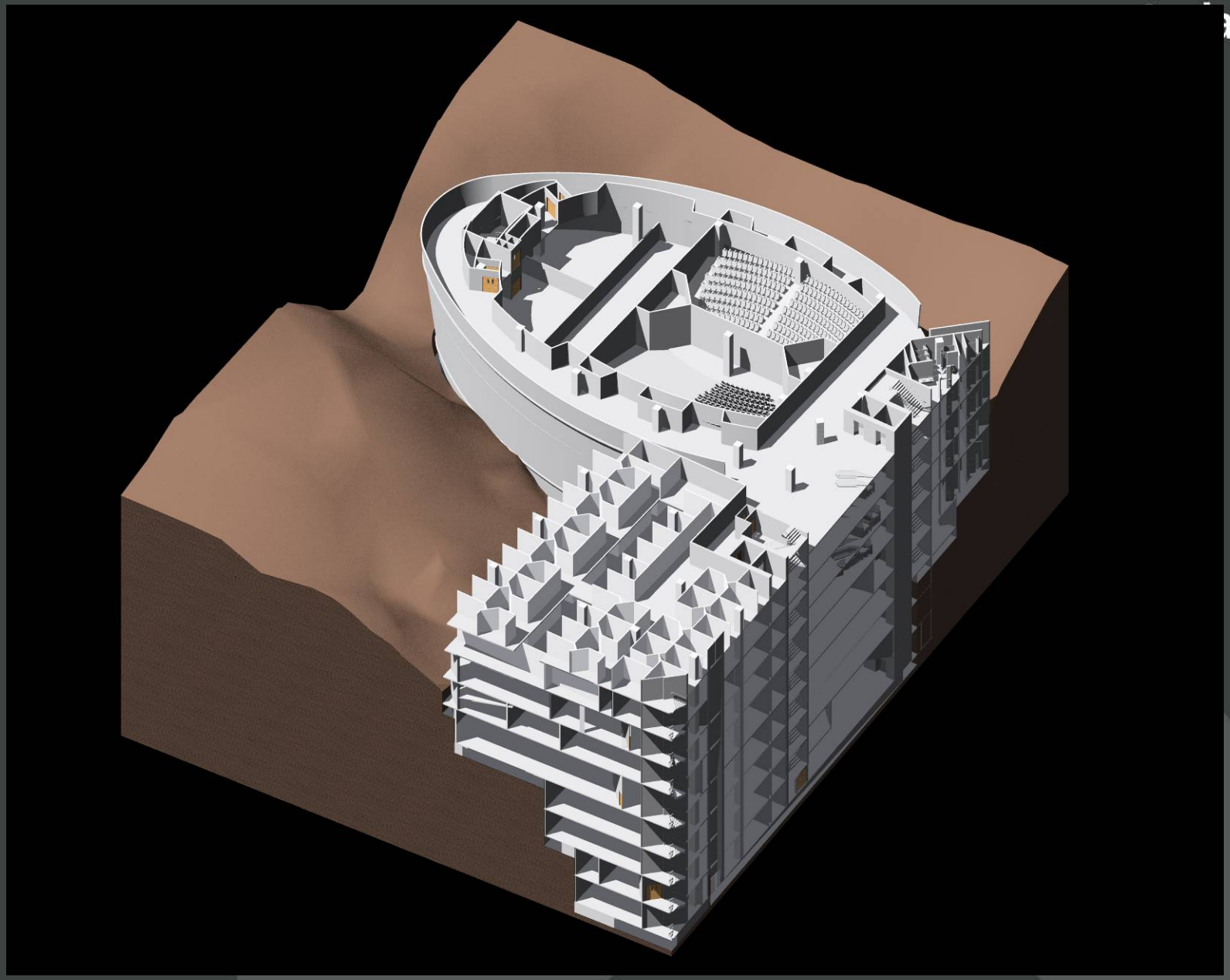


TYPOGRAPHY HANDLING

Aedas



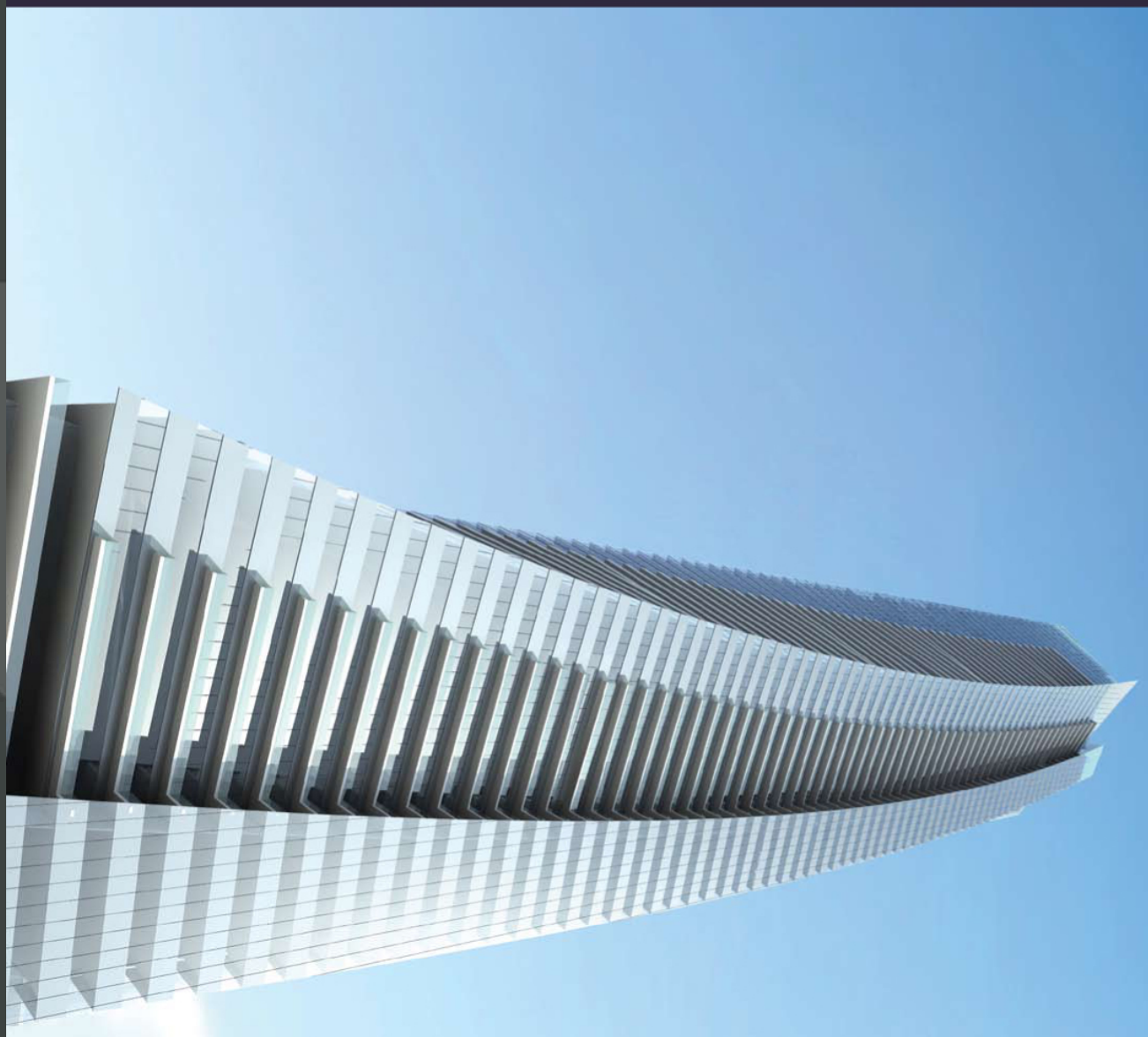
香港城市大學教學大樓項目



香港城市大學教學大樓項目

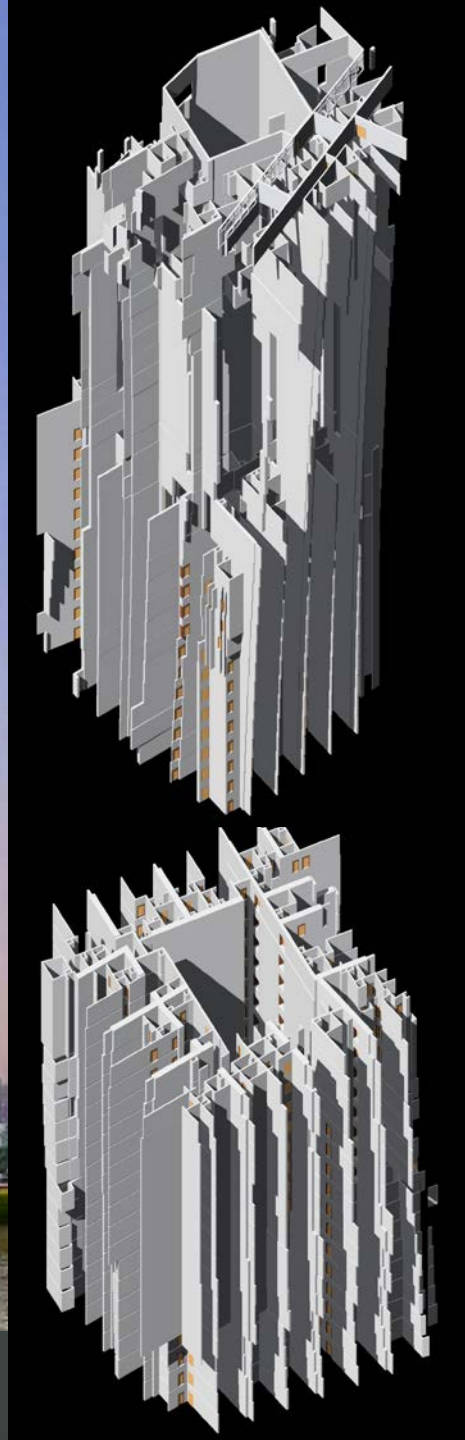
BUILDING IN SITE CONTEXT

Program **Residential** Site Area **3,746 sqm**
Floor Area 858,855 sqm Building Height **304 m**



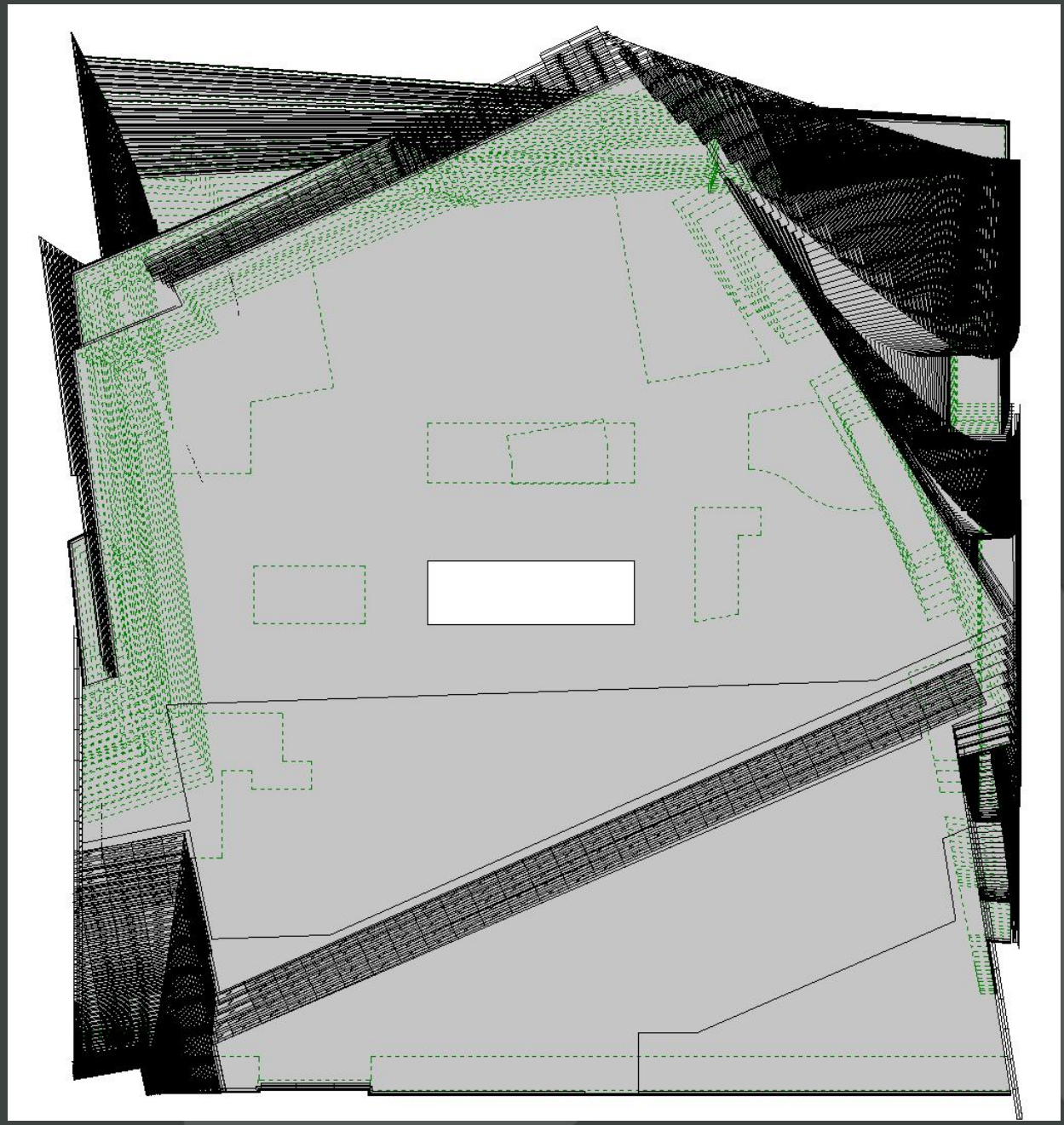
Dubai **Ocean Heights One**

Aedas

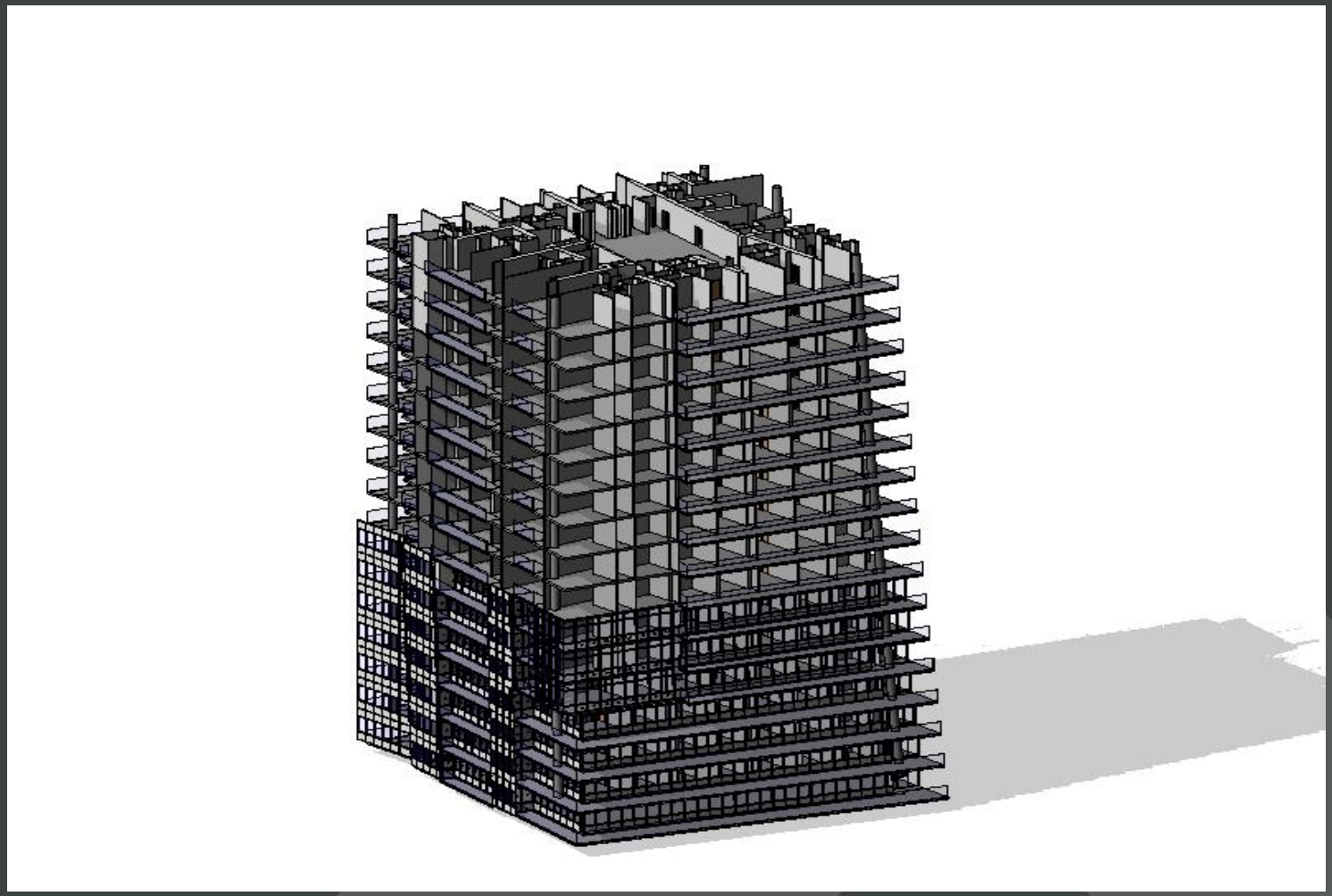


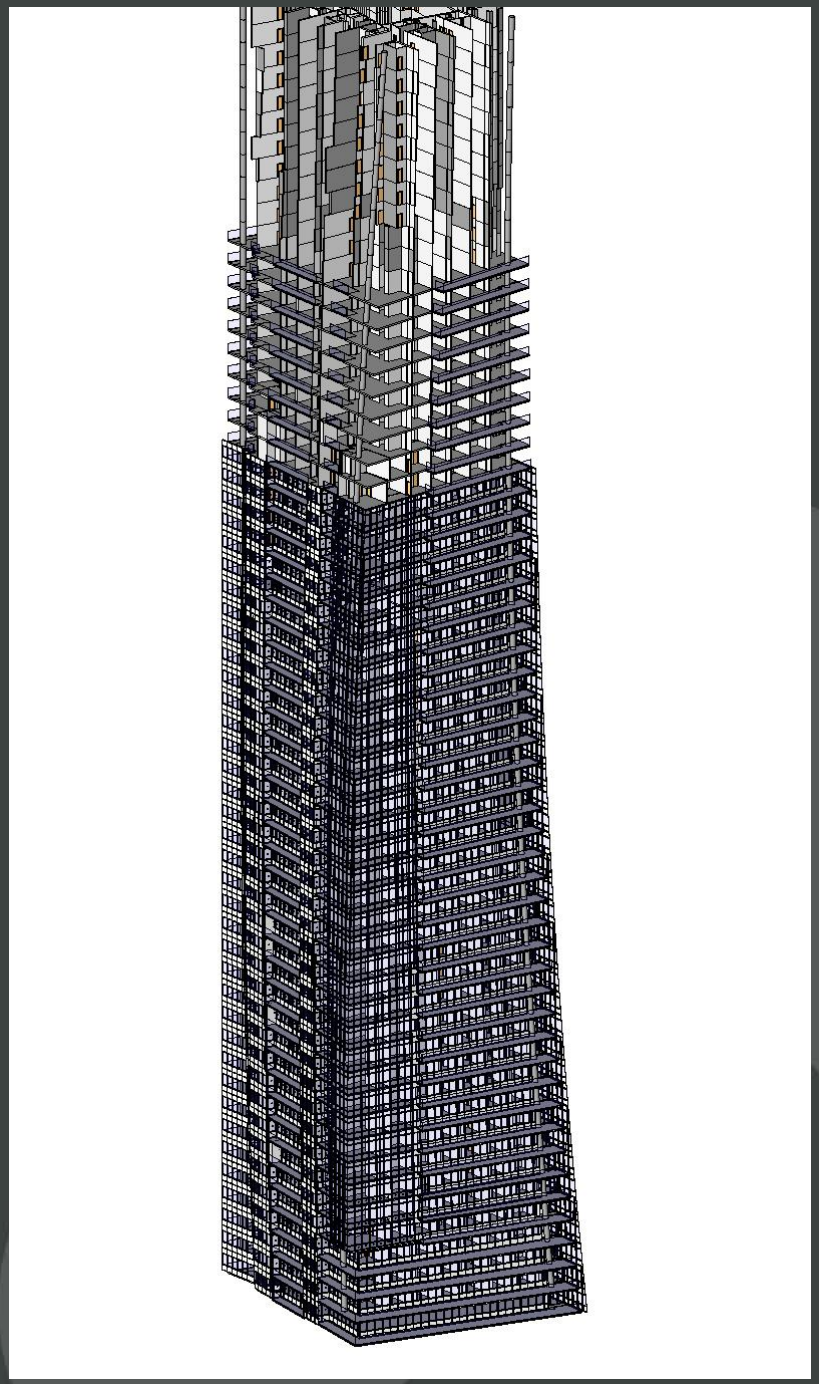
中東住宅項目

COMPLEX GEOMETRY

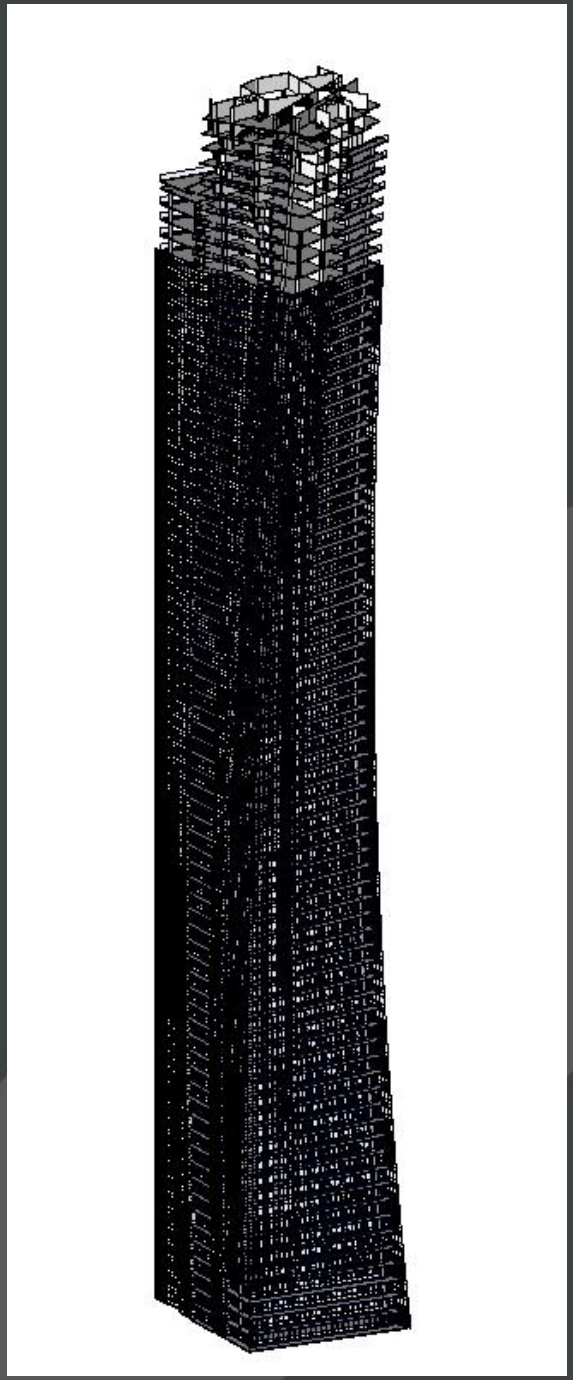


Aedas

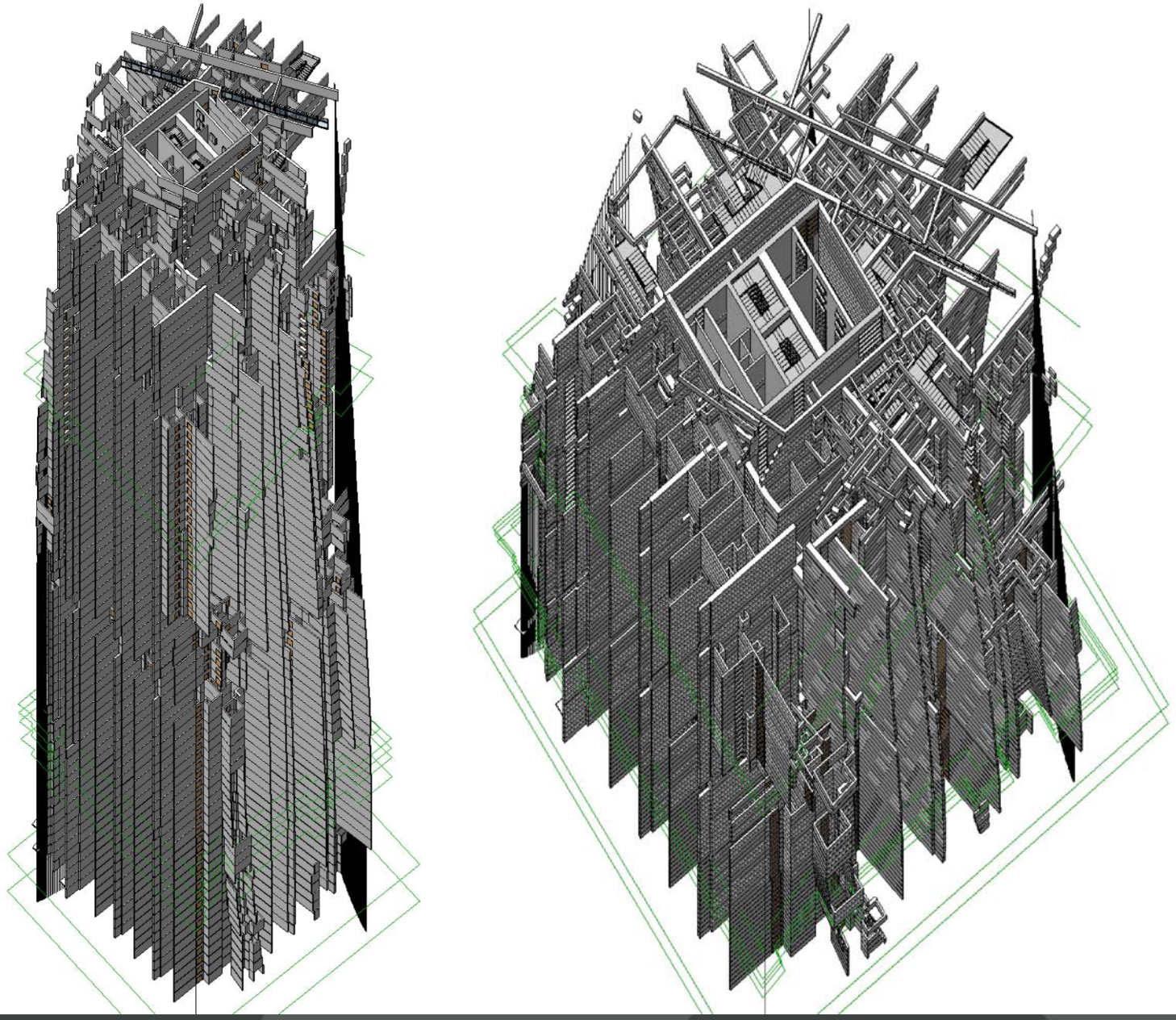




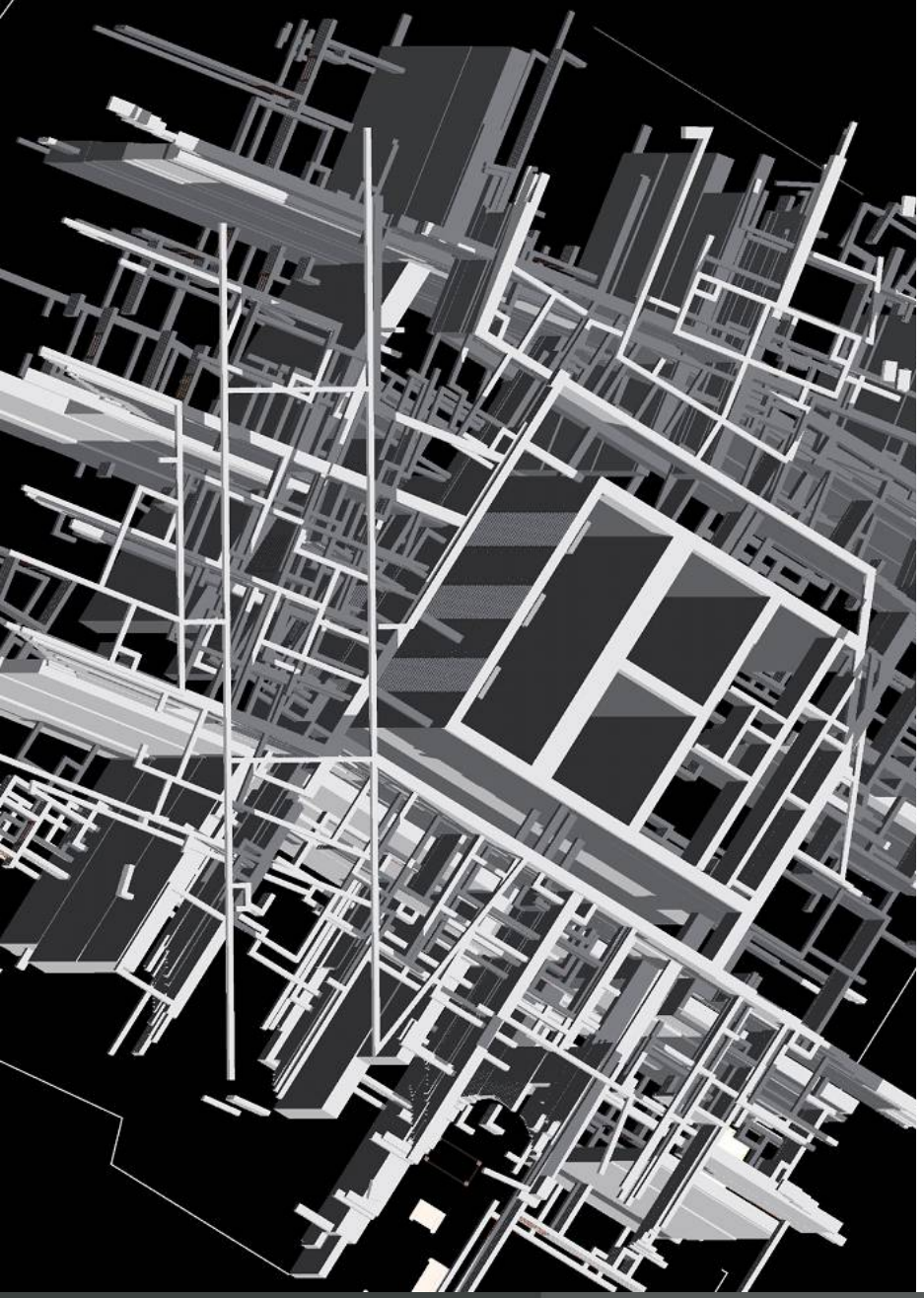
Aedas

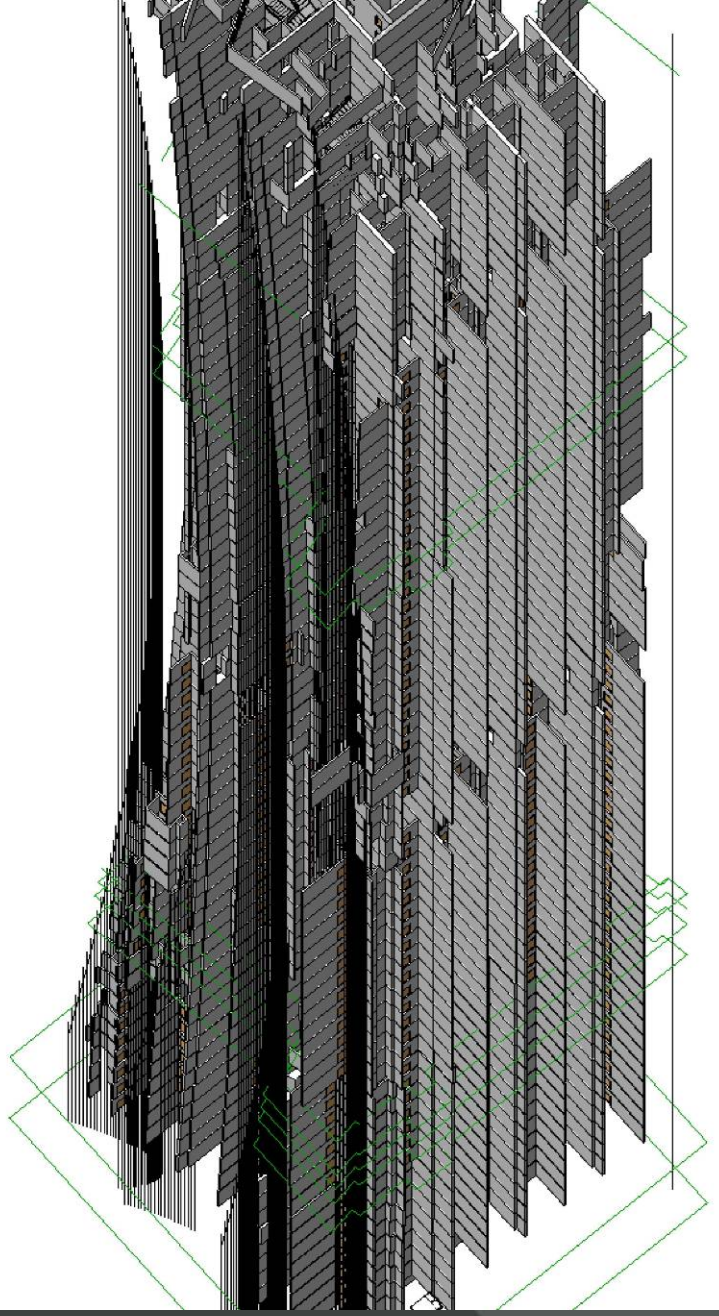


Aedas

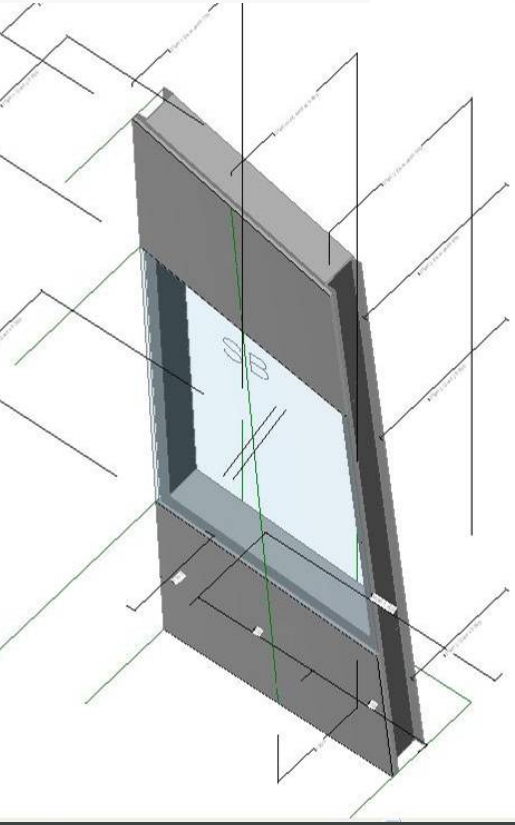


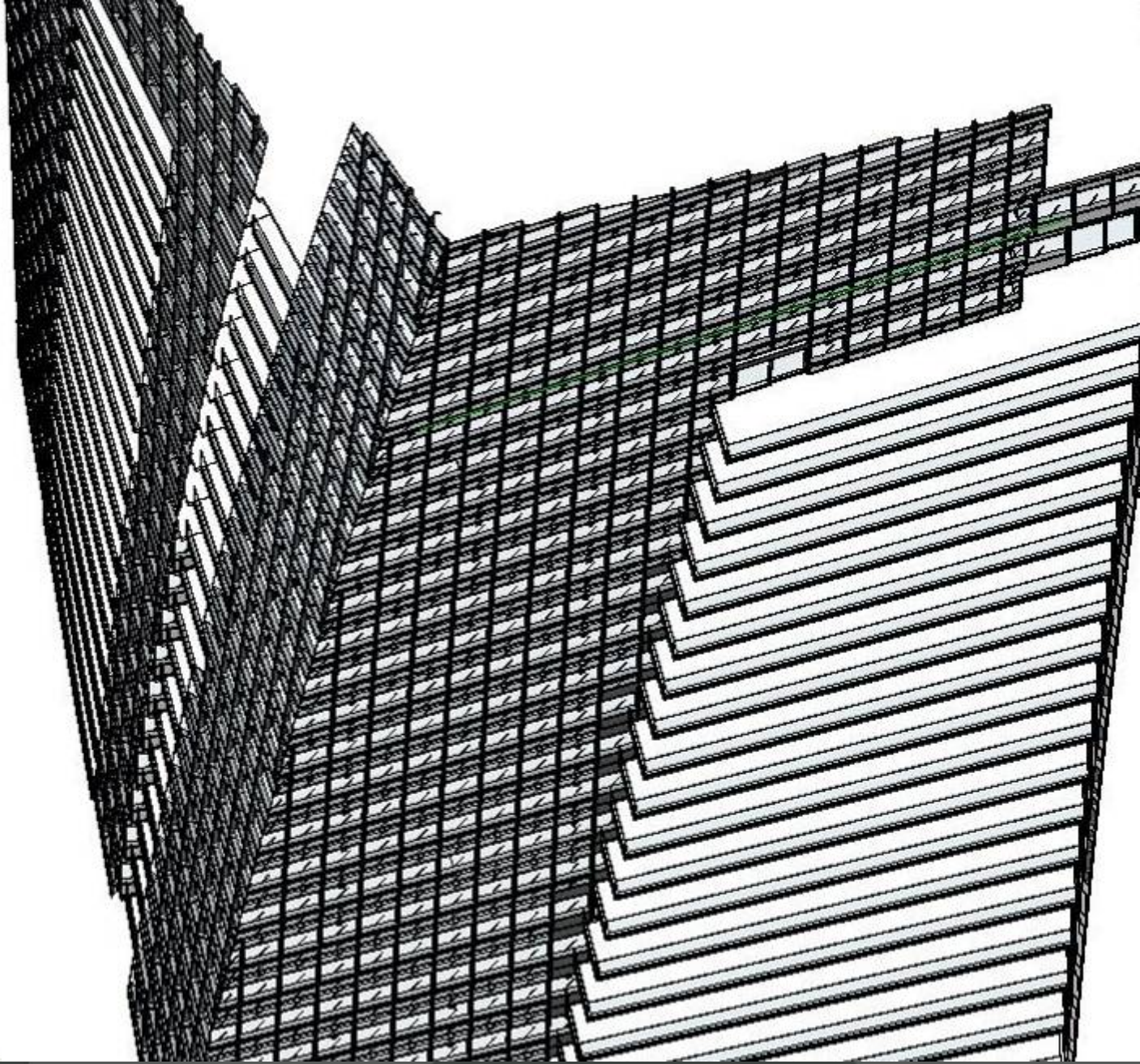
VERTICAL CO-ORDINATION





INTERNAL vs EXTERNAL





COMPLICATED CURTAIN WALL

Aedas

Abu Dhabi **Empire Tower**

Abu Dhabi **Empire Tower**

Empire Tower was challenged through a client request of not "pushing the limits" too far. The concern is that the residential project was located in the middle of a master plan filled with potential icons. The design standardizes the units to accommodate the client request but manipulates the section to develop a very dynamic solution, which holds its own amidst the visual clutter of its neighbors. This was deemed crucial to the financial viability of this project, which is dependent on pre-sales within a highly competitive market.

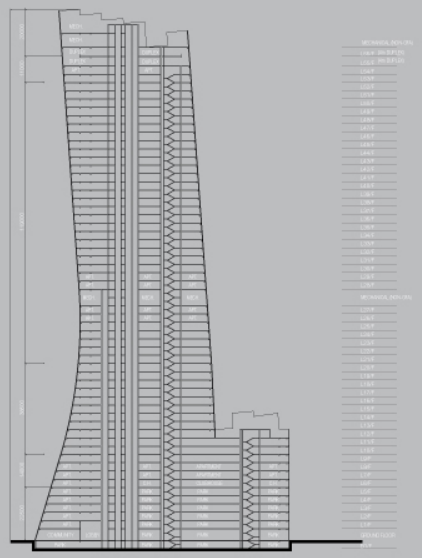
The design maximizes the tower's presence on the street, with vertical layers spreading out to the property lines. The building then bends back away from the street across from a large commercial tower, allowing for an enlarged view corridor between the central park of the community and the sea, one block away. The splayed vertical layers converge and rise up before bending forward together, as the 230-meter tower extends into the sky – maximizing its views between the park and the sea ▪

Initial Massing

Mass Divisions

Strip Shifting

Strip Bending



Program **Residential** Site Area **7,007 sqm**
Floor Area **90,206 sqm** Building Height **225 m**

Aedas

Abu Dhabi **Dancing Towers**

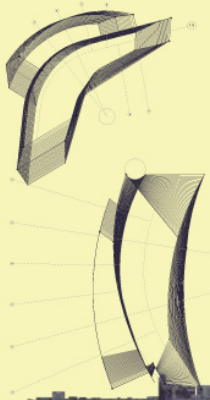
Abu Dhabi **Dancing Towers**

Located in the heart of Abu Dhabi, Dancing Towers was designed to appropriately fit its surrounding neighbors in scale.

The challenge was how to achieve this when the project was only 70,000 square meters and adjacent properties were relatively small, averaging 900 square-meter floor plates. Two slender towers as opposed to one singular tower was the first step, but the site itself was constrained, forcing a close proximity between the two buildings.

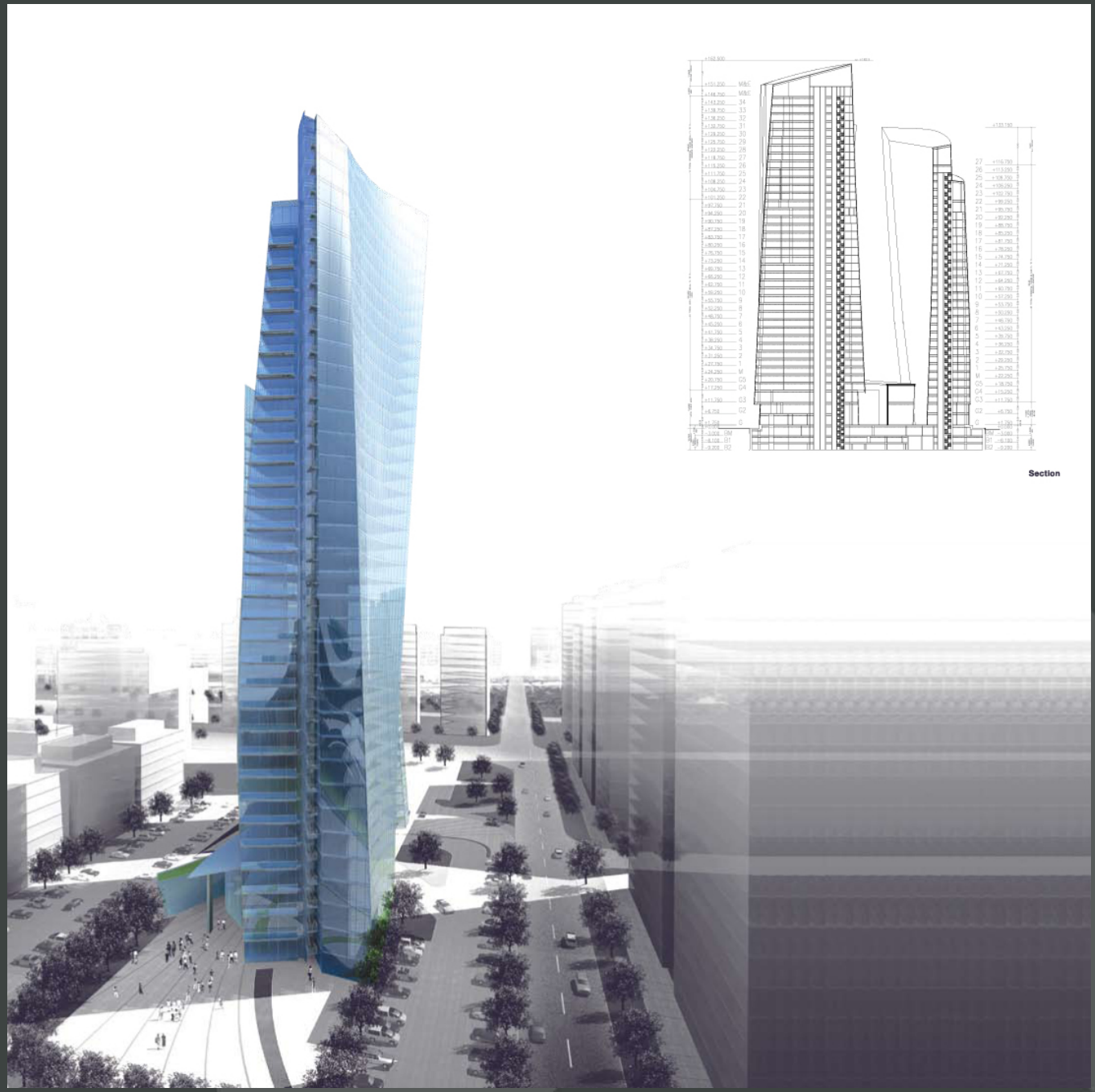
This site constraint is intensified in achieving a viable connective retail podium between the commercial and residential towers, drop-offs to the lobbies and access to supporting functions. The buildings were placed deliberately to maximize the uses down below.

However, the two towers quickly lean, rotate, bend and warp to respond to each other, the adjacent sites and ultimately the view to the ocean at their horizon. These two figures fluidly respond to each other, dynamically engaged and flowing – and ultimately tied together in a passionate dance •



Program **Mixed Use** Site Area **4,180 sqm**
Floor Area **44,235 sqm** Building Height **160 m**

Aedas



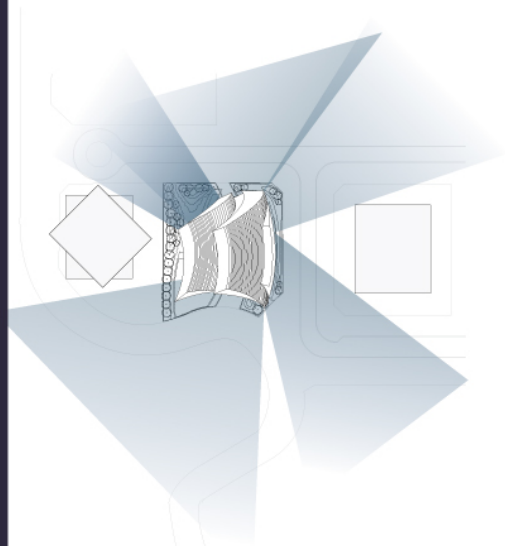
Section

Aedas

Dubai **Ocean Heights Two**

Ocean Heights Two is also located in Dubai Marina, UAE, along with its sister project, Ocean Heights One. At 460 meters in height and 105 floors, it will be the tallest tower in its vicinity. However, unlike its predecessor, the requirements for more modulated units up to the 60th floor, forced a different approach while intending to maintain the spirit of its sister.

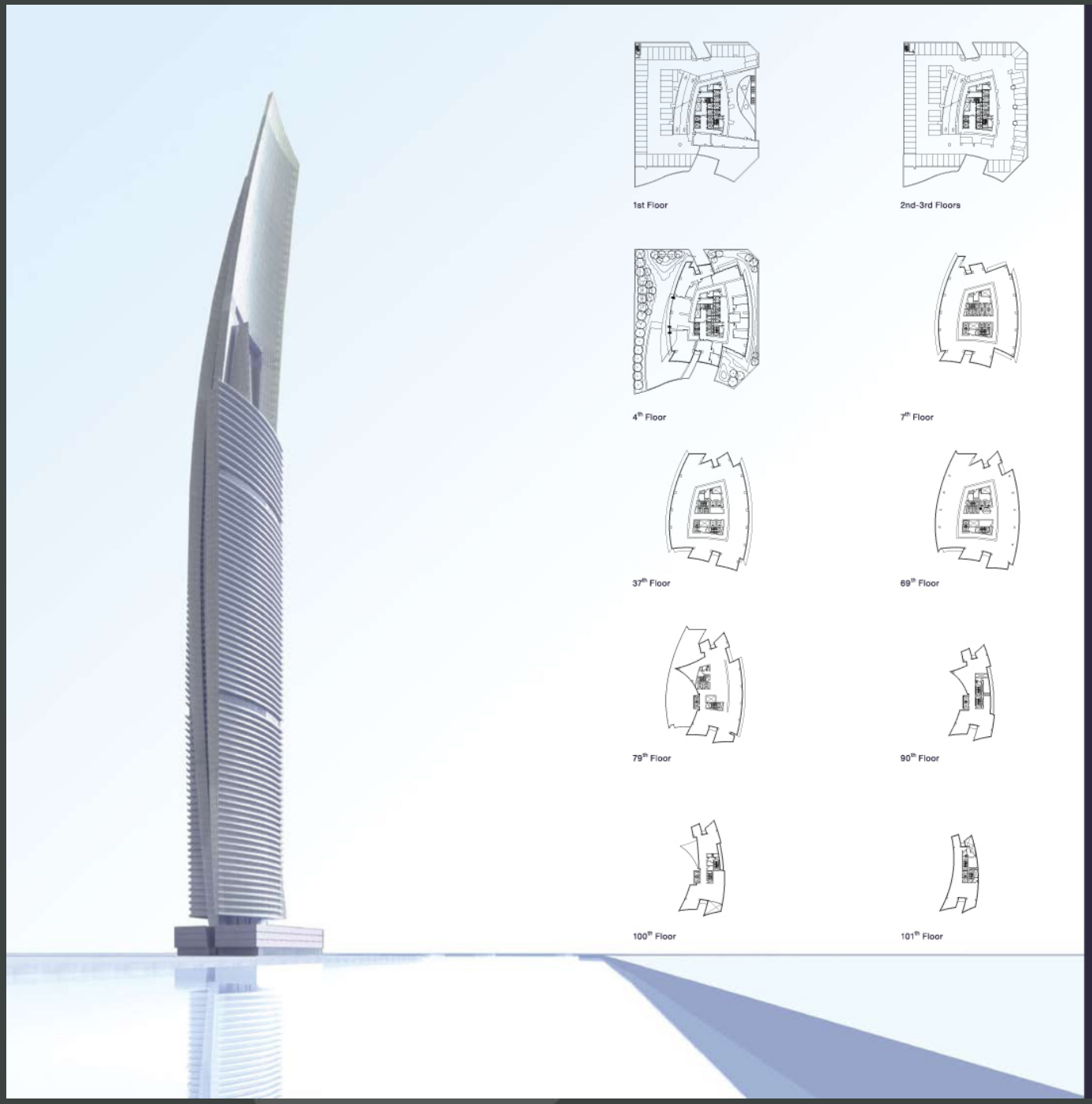
The first 60th floors of the tower are intended to be service apartments, which in order to be marketable, needed to have the majority of units standardized. The curved shape of the tower improves views past its densely located neighbors. The playfulness of this tower was concentrated into the two most visible faces, allowing units to bend up the tower in two blades. These blades were still modulized up to the 60th floor before the tight restrictions of unit area fluctuations become more relaxed. At this point, the modules drop off and the blades continue, tapering and bending into the sky ▪



View Diagram

Program **Residential** Site Area **9,453sqm**
Floor Area **197,975 sqm** Building Height **460 m**

Dubai **Ocean Heights Two**



1st Floor

2nd-3rd Floors

4th Floor

7th Floor

37th Floor

69th Floor

79th Floor

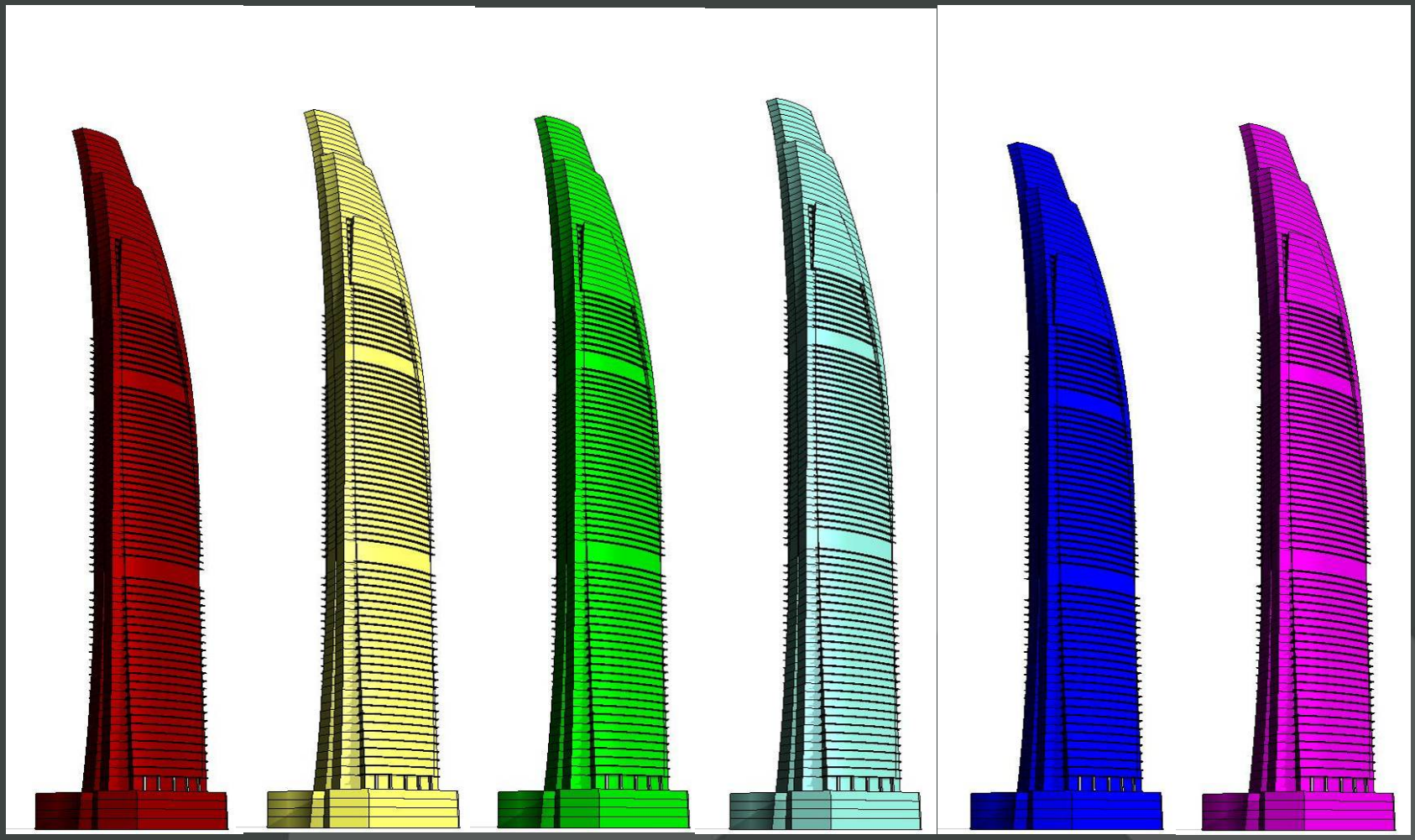
90th Floor

100th Floor

101th Floor

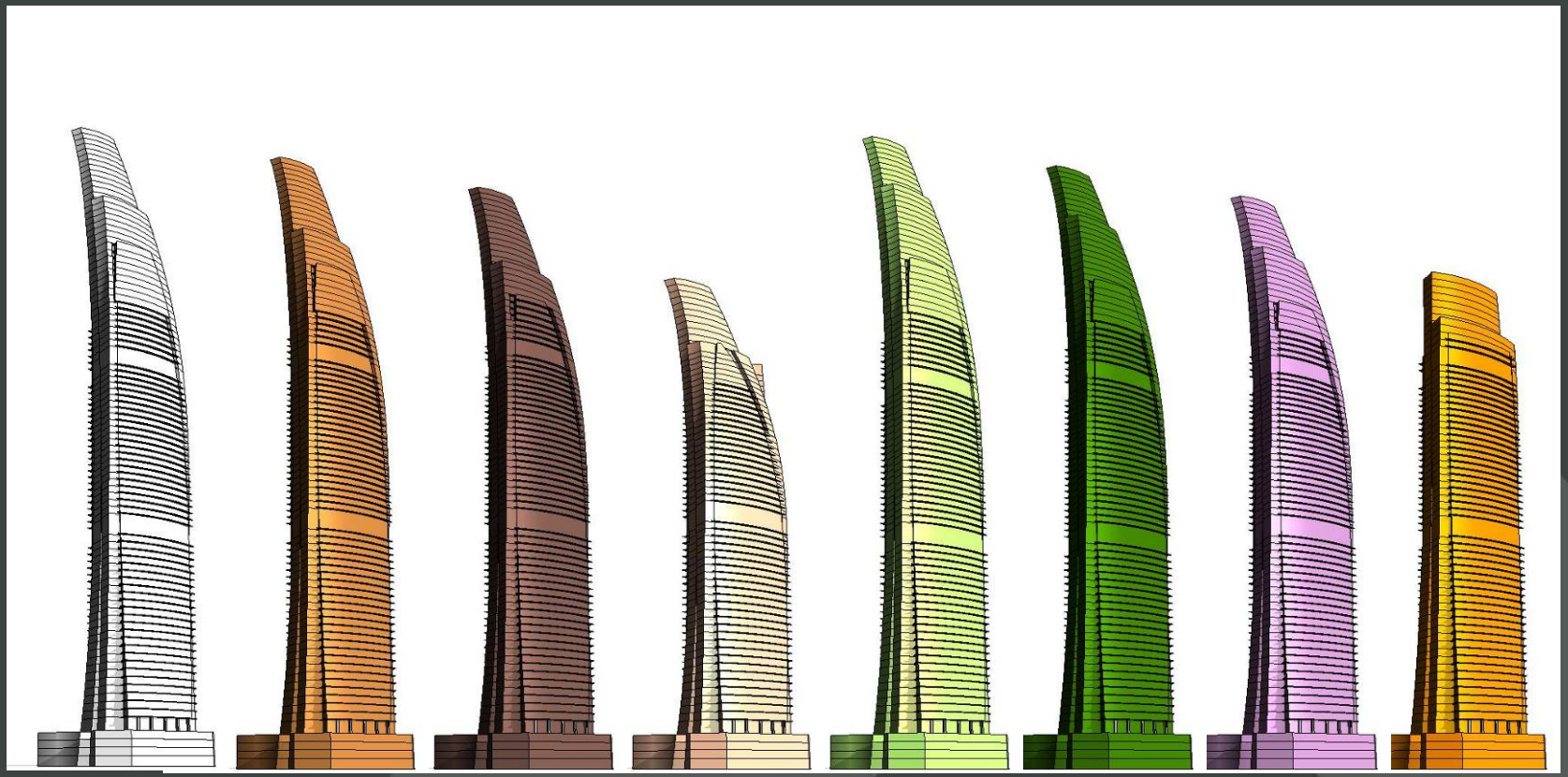
Aedas

Ocean Heights II – Options



Aedas

Ocean Heights II – Options



Aedas

Thank You...