

# PROFESSIONAL PROJECTS

*Diversified Projects Worldwide*

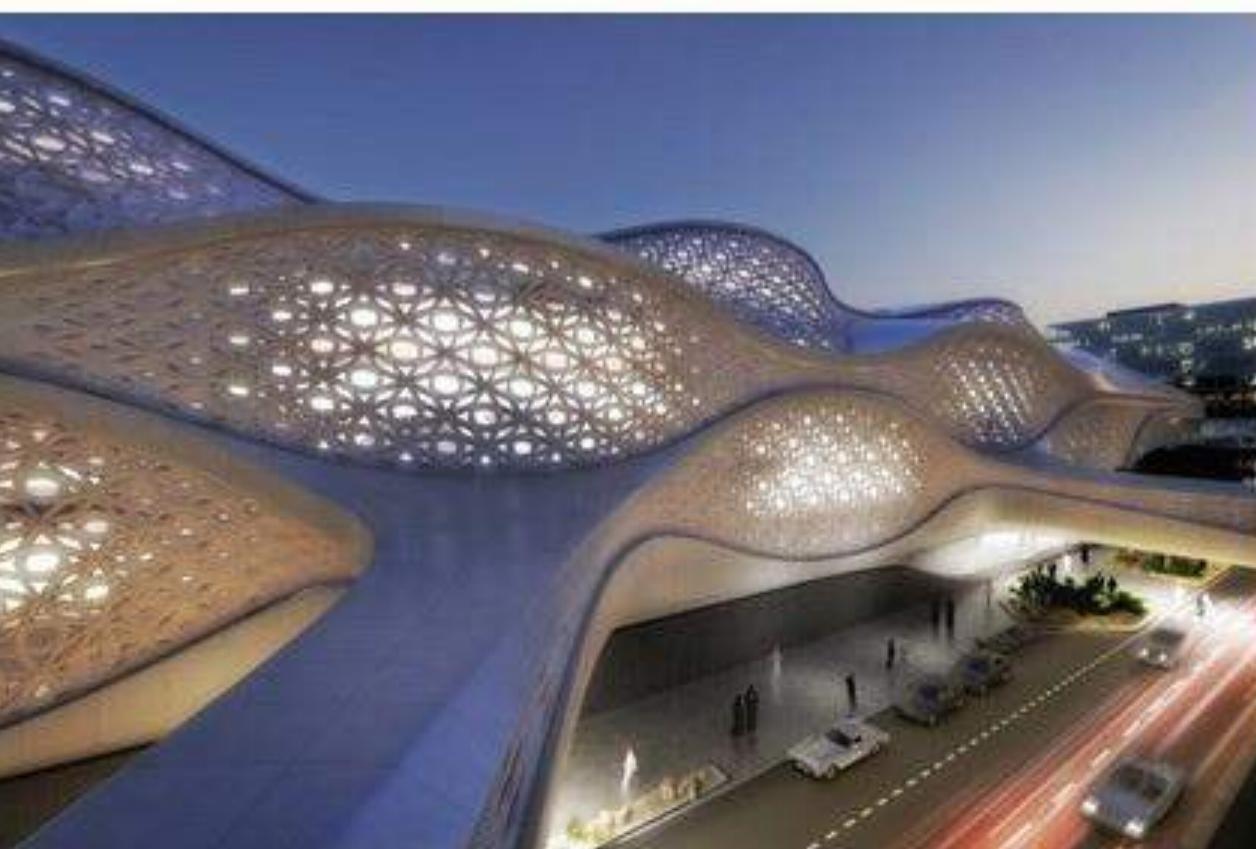
PRITHIJIT MAJUMDER

# Grand Theatre de Rabat



Stretching the  
Limits of Revit -  
*Zaha Hadid  
Project*

## TYPICAL ZAHA HADID ORGANIC DESIGNS



# PROJECT BRIEF

## Project Type

Theatre with 1800 seats, Amphitheatre for 7,000 person

Built Area : 27,000 m<sup>2</sup>

## Scope

Starting at the early Concept Stage design, spanning throughout the Design Development; finally producing a set of Construction Documents.

## Software Usage

Rhinoceros

Grasshopper (Hummingbird)

Revit and AutoCAD

Sketchup

Navisworks



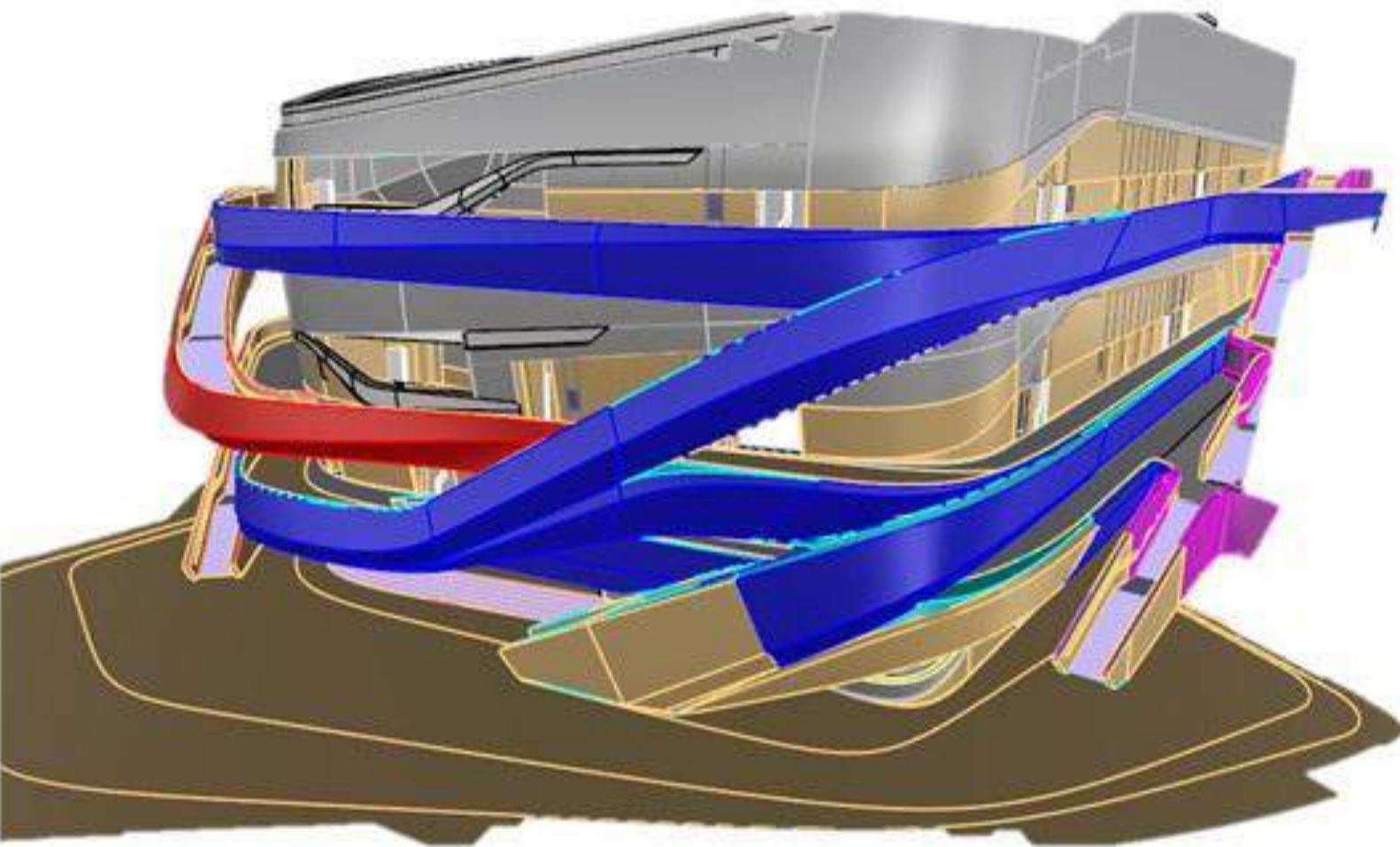
# THE VARIOUS PHASES OF BIM DEVELOPMENT

*Coordinated models across disciplines: ASMEPF –*

- Architecture Shell & Core
- Architecture Interiors
- Primary Steel Structure
- Secondary structure & concrete
- Mechanical
- Electrical
- Fire

*BIM support through project lifecycle –*

- BIM Model Authoring
- BIM integration
- Design Models Coordination
- Documentation



- Extrusion
- Sweep
- Blend
- Revolve
- Swept Blend
- Massing

Do you think these tools are enough to model these complex geometries

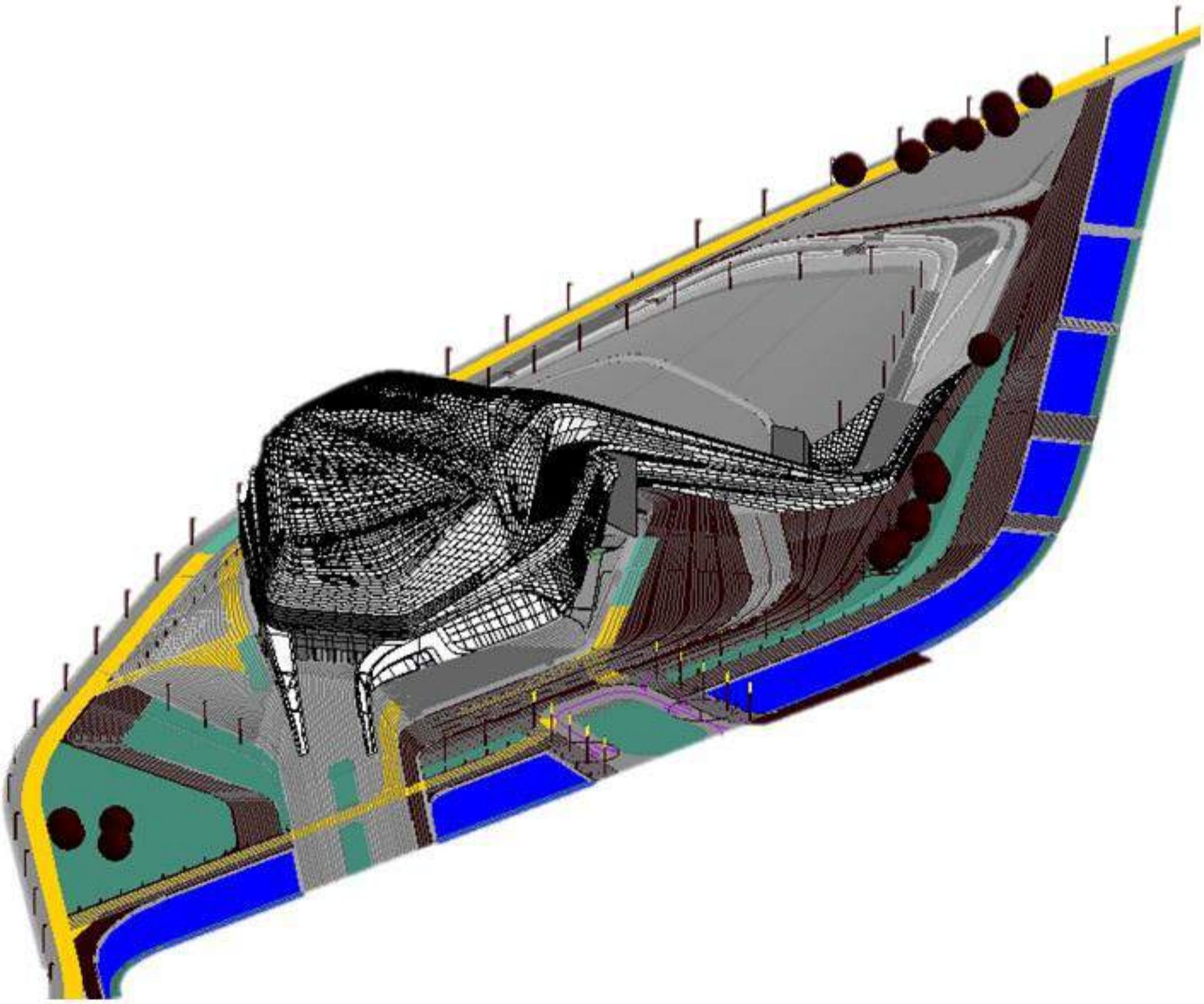


Then.....

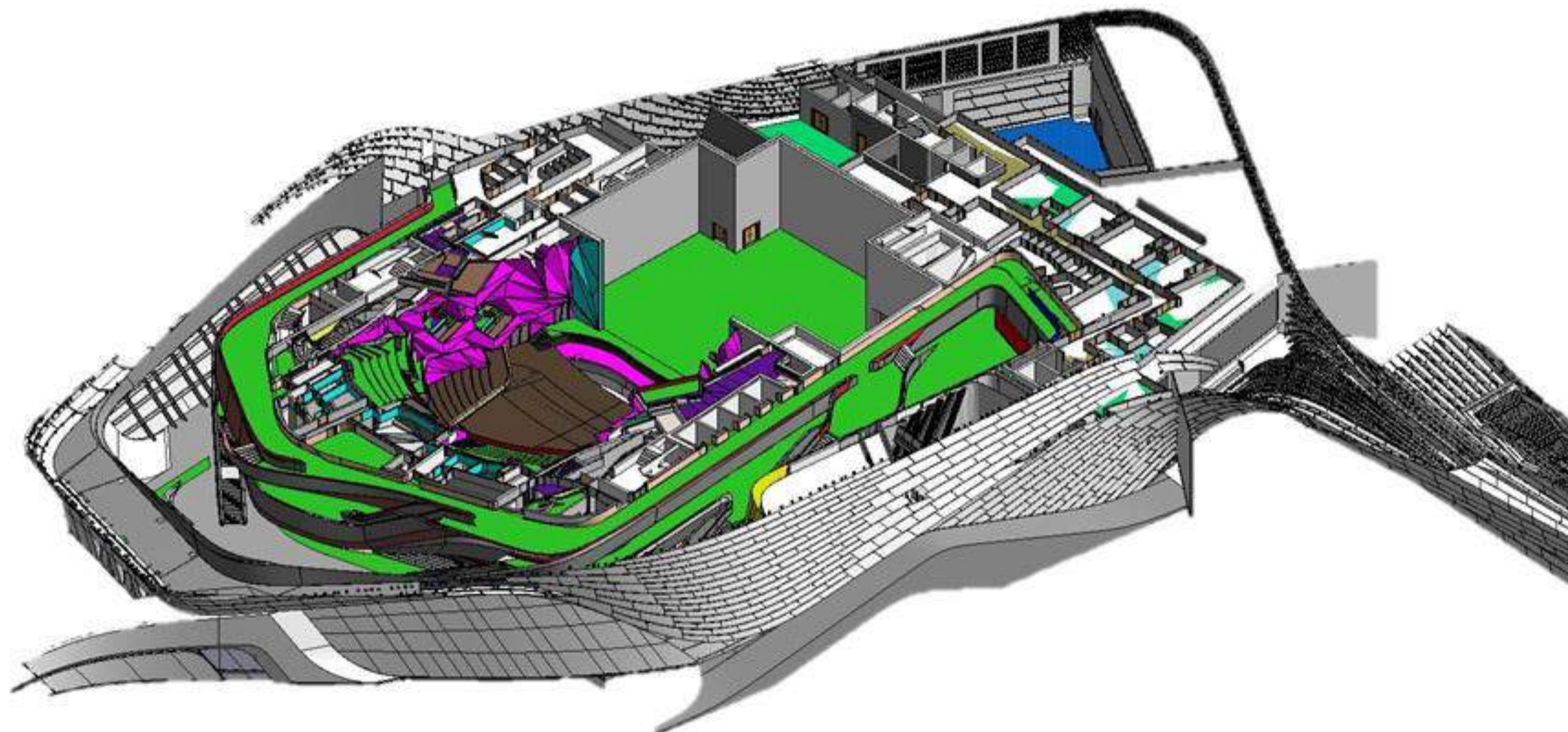
How DO we model these geometries?

Let's take a closer look at the project first...

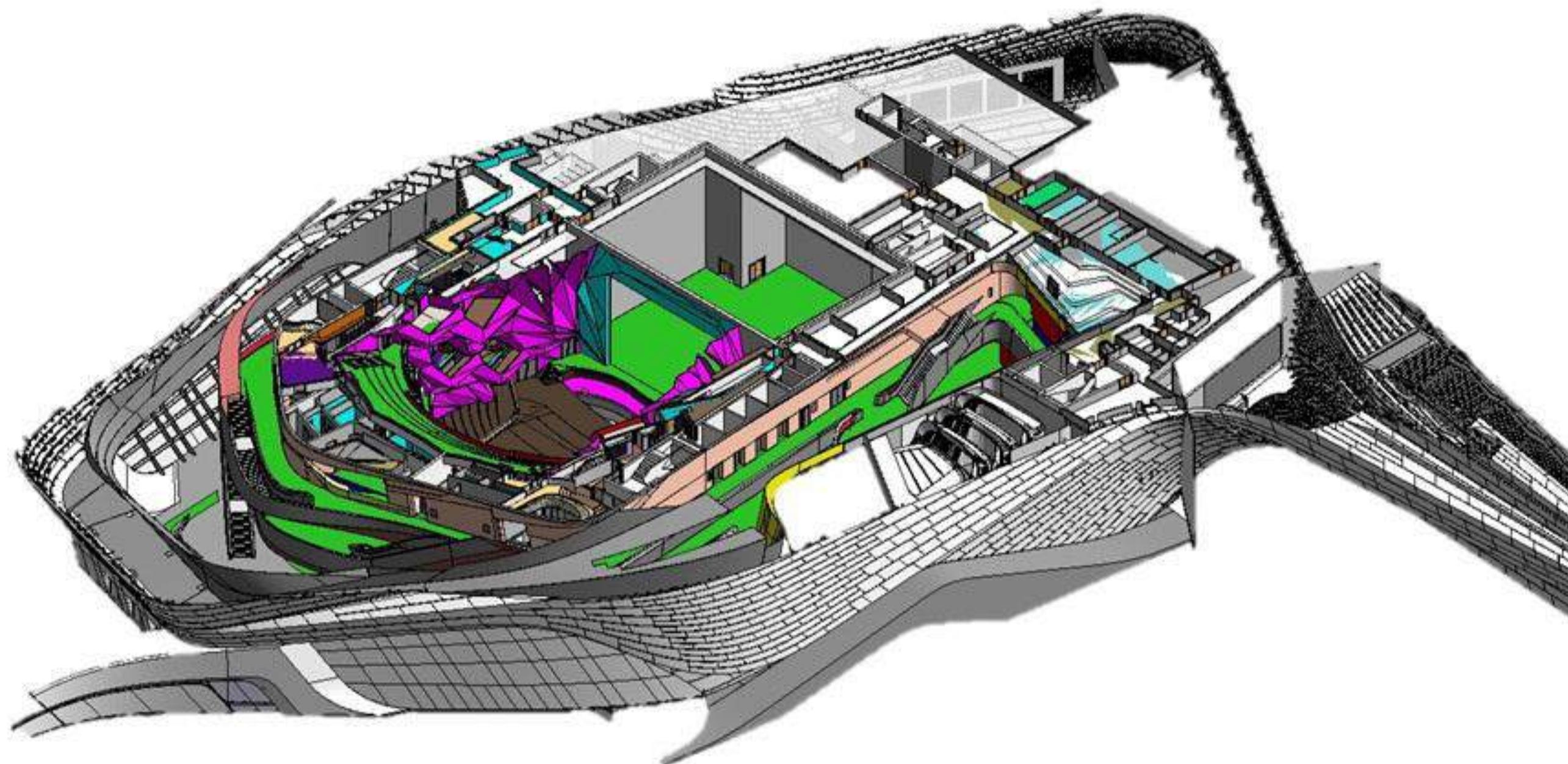
## REVIT MODEL – VIEW FROM VISITORS ENTRY SIDE



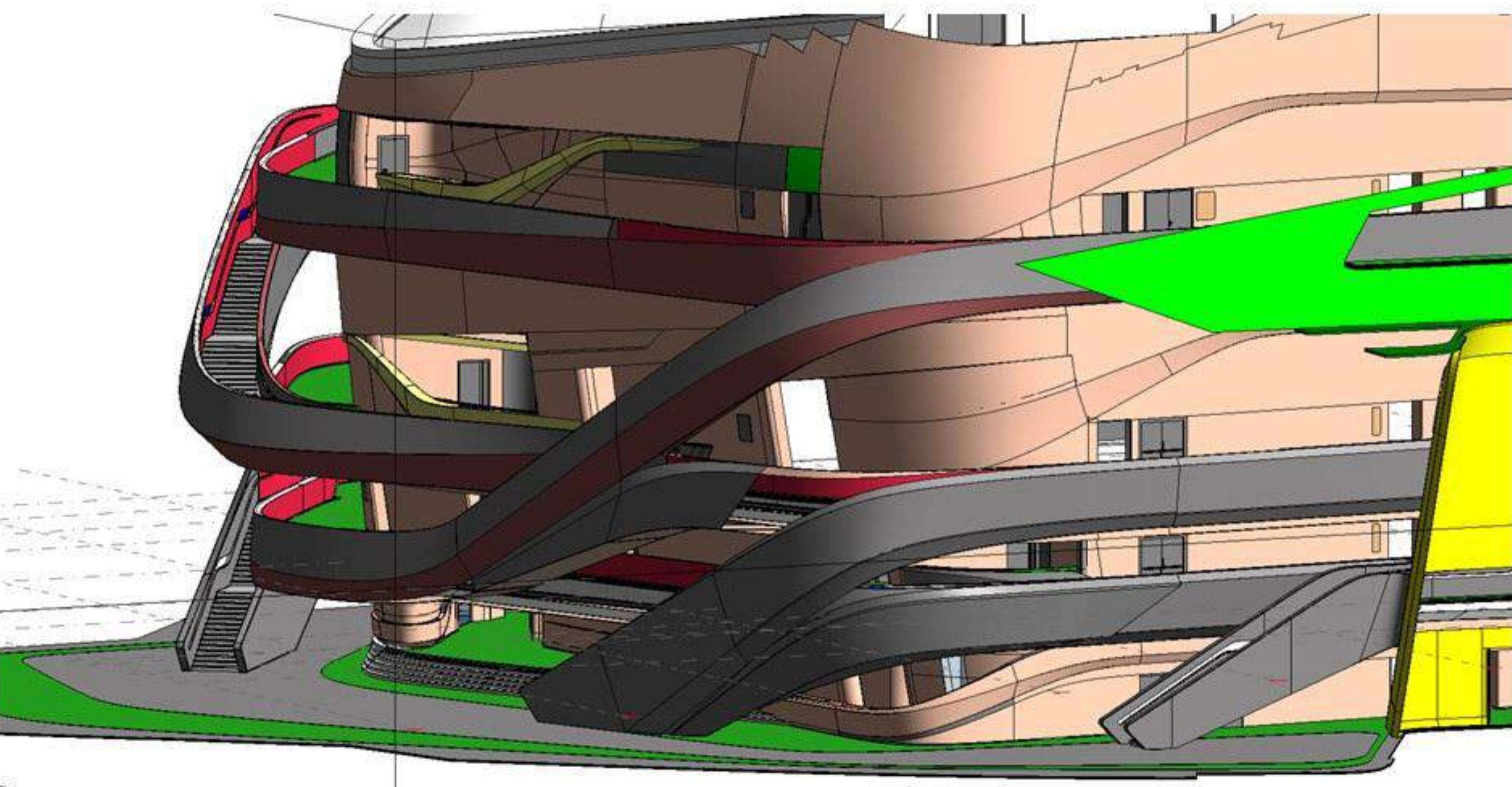
## REVIT MODEL – LEVEL 2 SECTIONAL VIEW



## REVIT MODEL – LEVEL 3 SECTIONAL VIEW



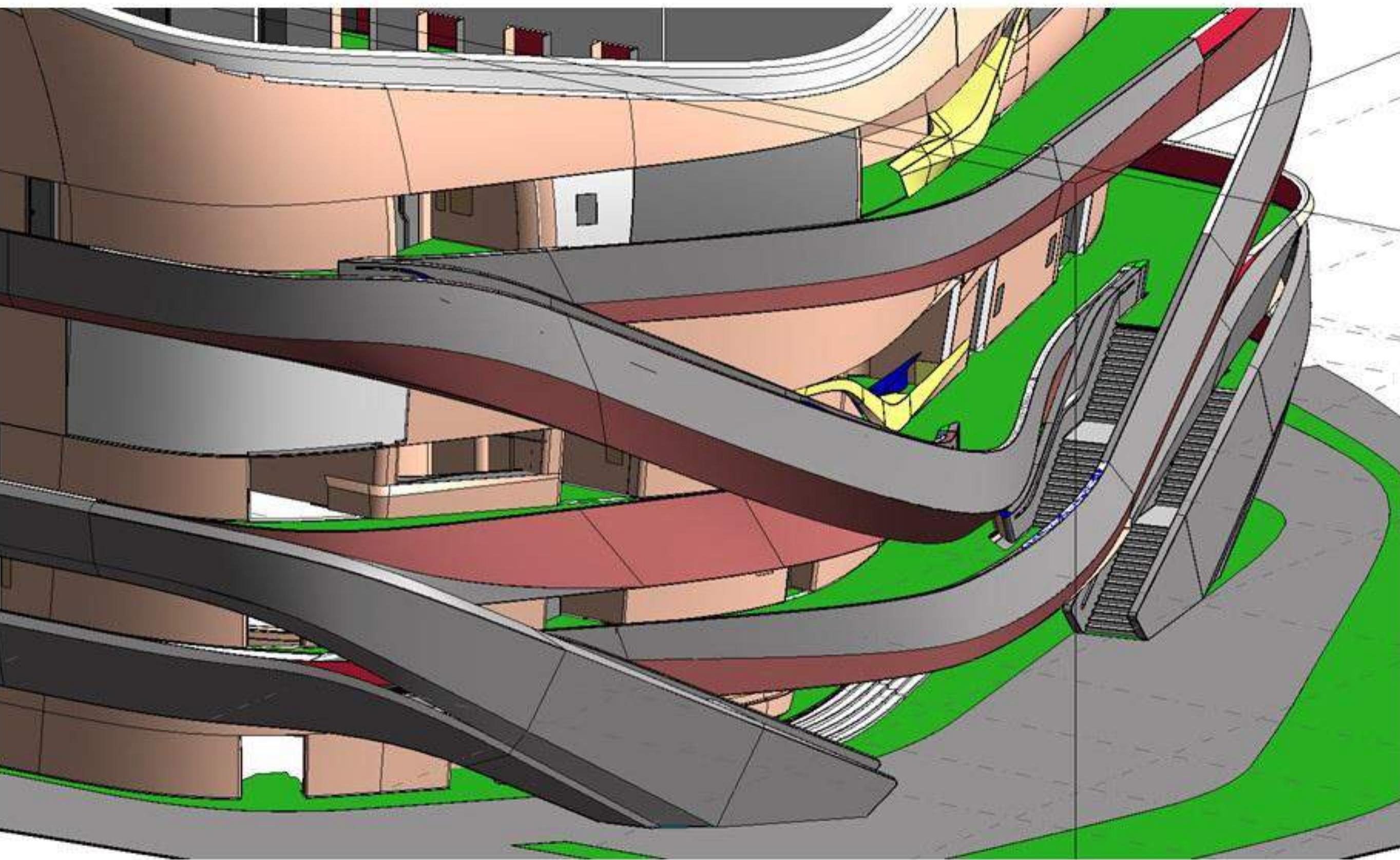
# REVIT MODEL – ORGANIC FORMS OF THE FOYER, STAIRS AND POINT CAFE



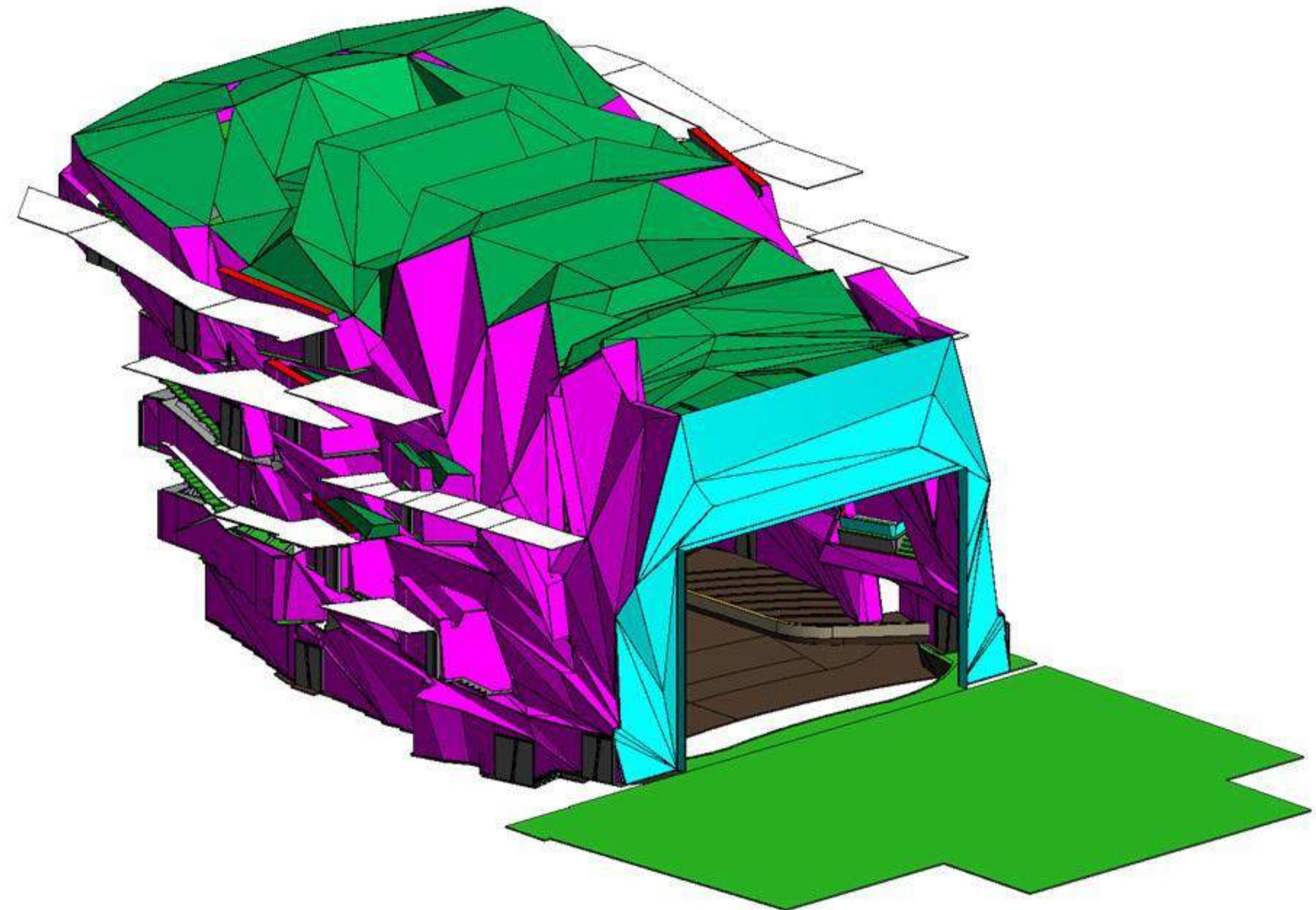
# REVIT MODEL – ORGANIC FORMS OF THE FOYER, STAIRS AND POINT CAFE



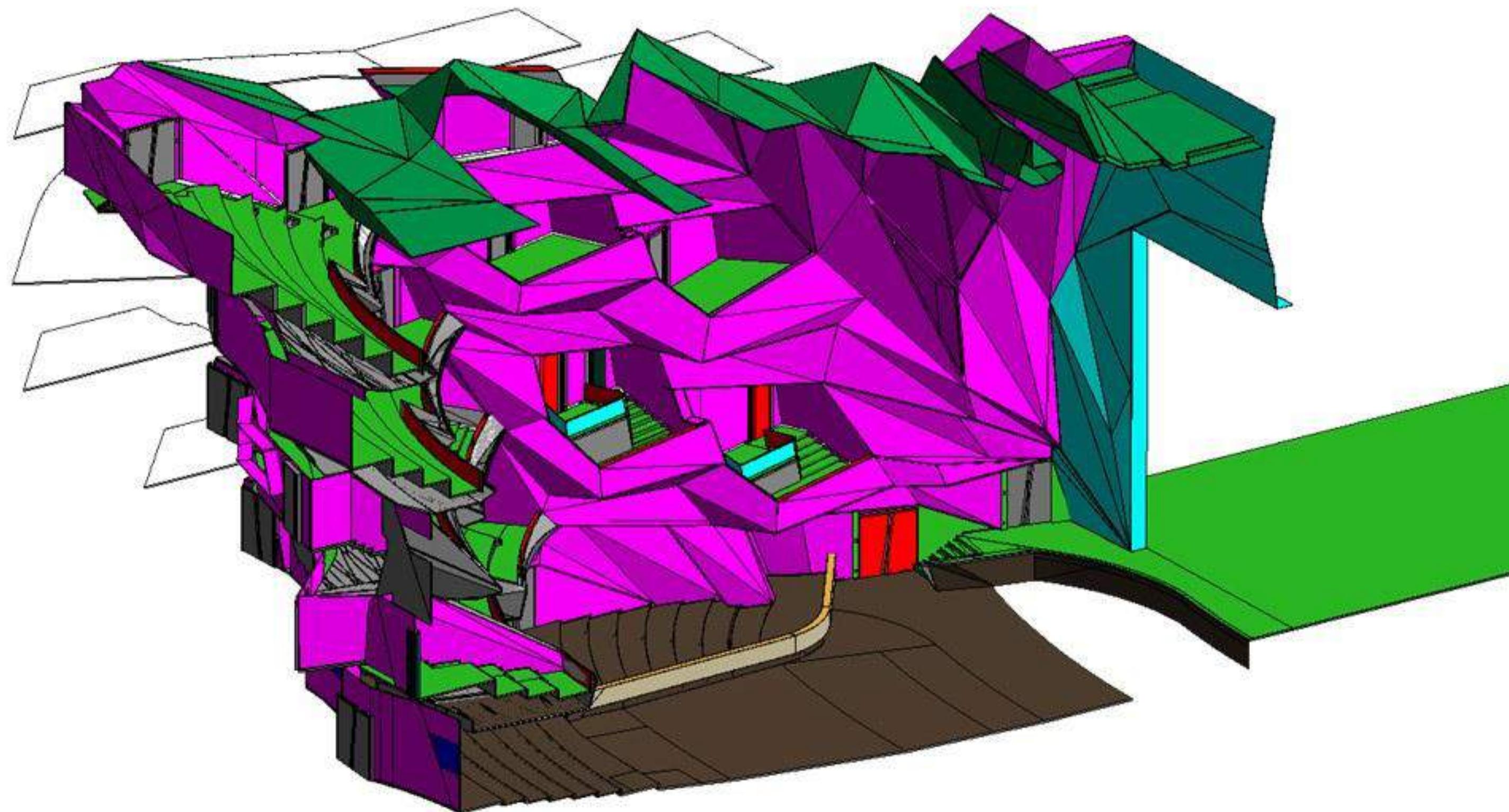
## REVIT MODEL – ORGANIC FORMS OF THE FOYER, STAIRS AND POINT CAFE



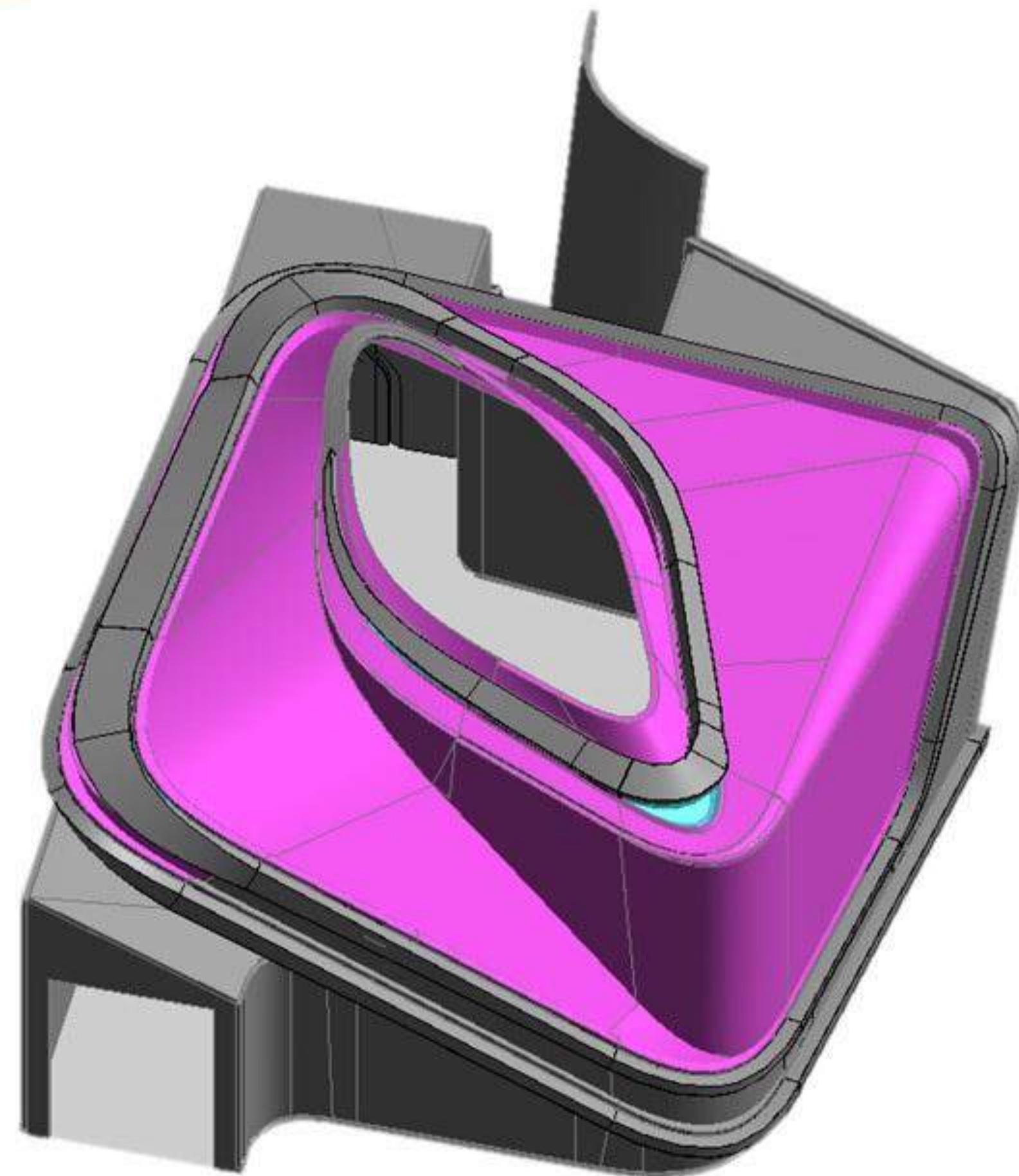
## REVIT MODEL – THE GRAND THEATER



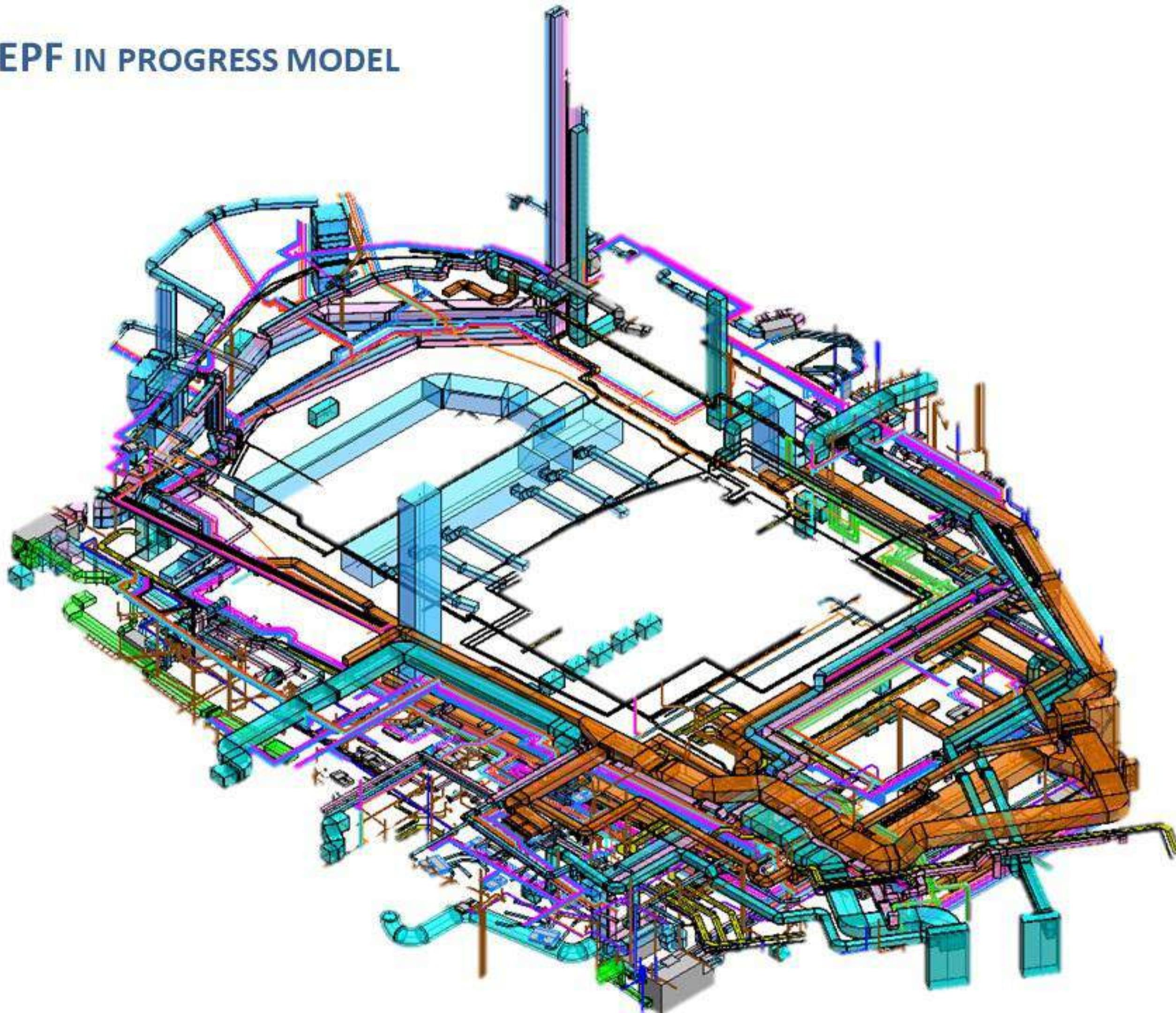
## REVIT MODEL – GTH INTERNAL VIEW



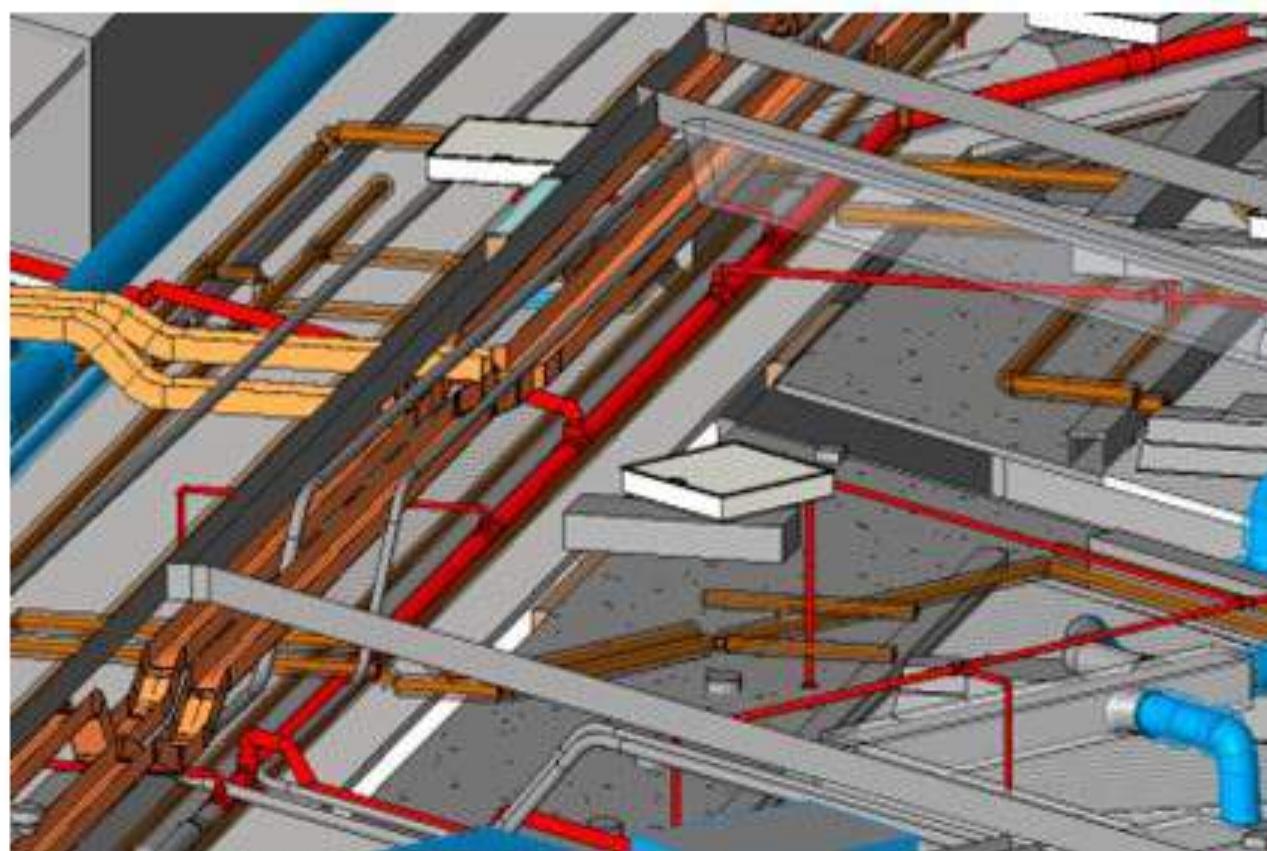
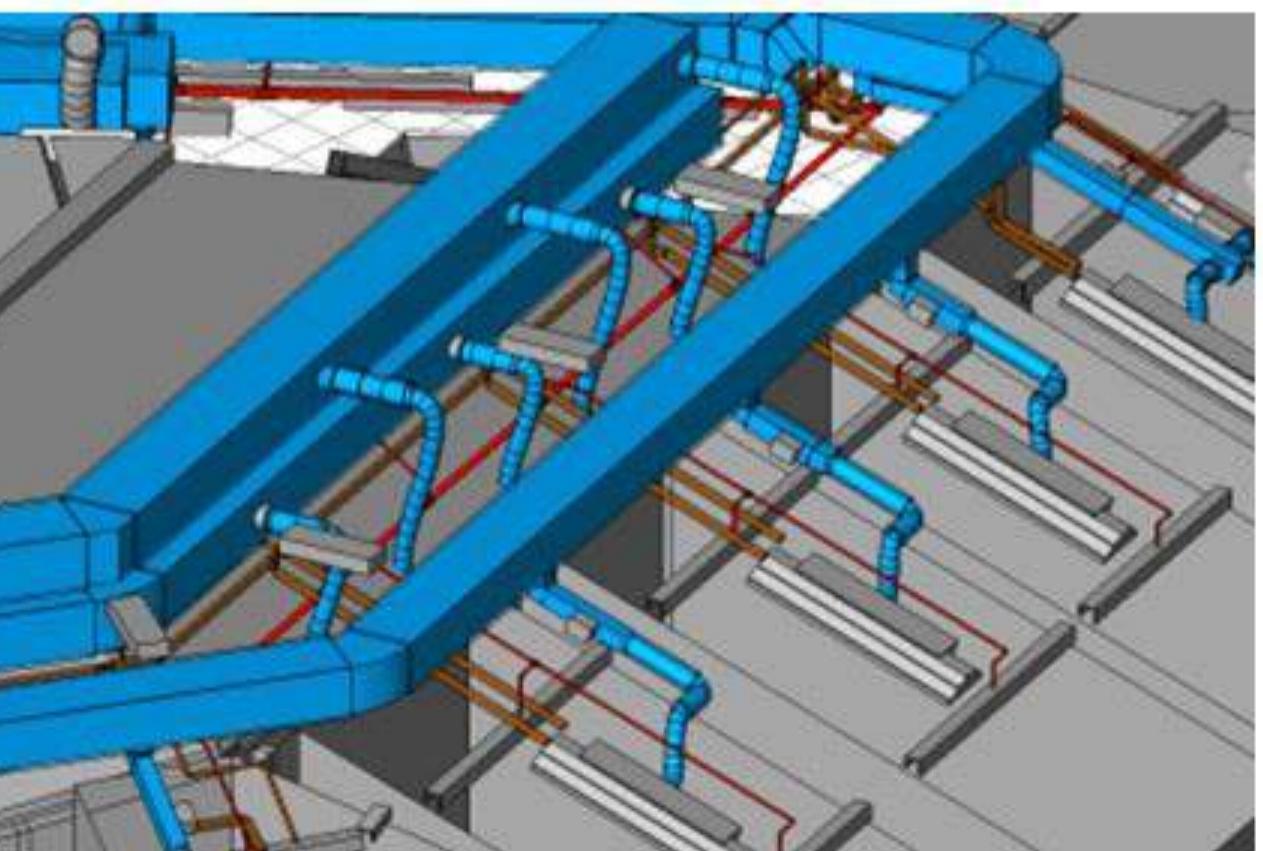
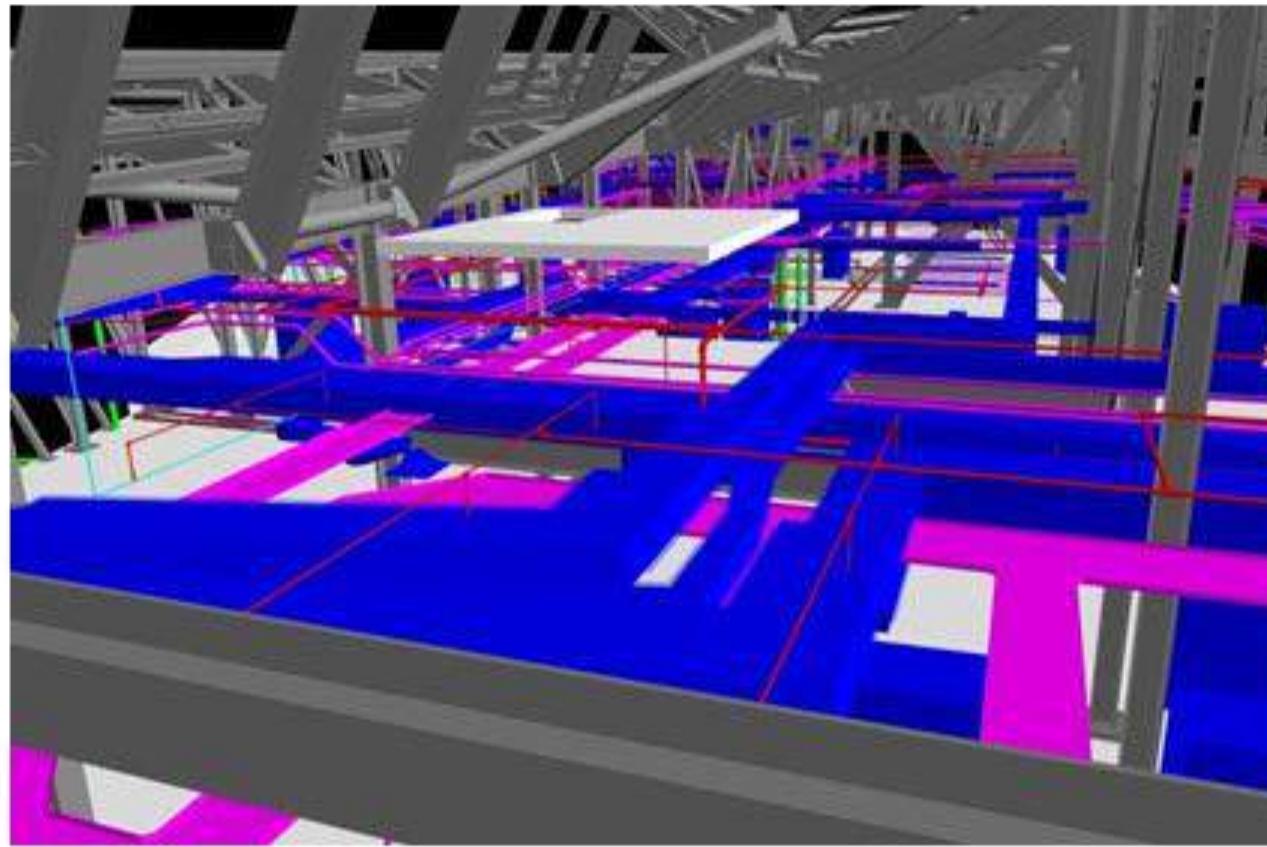
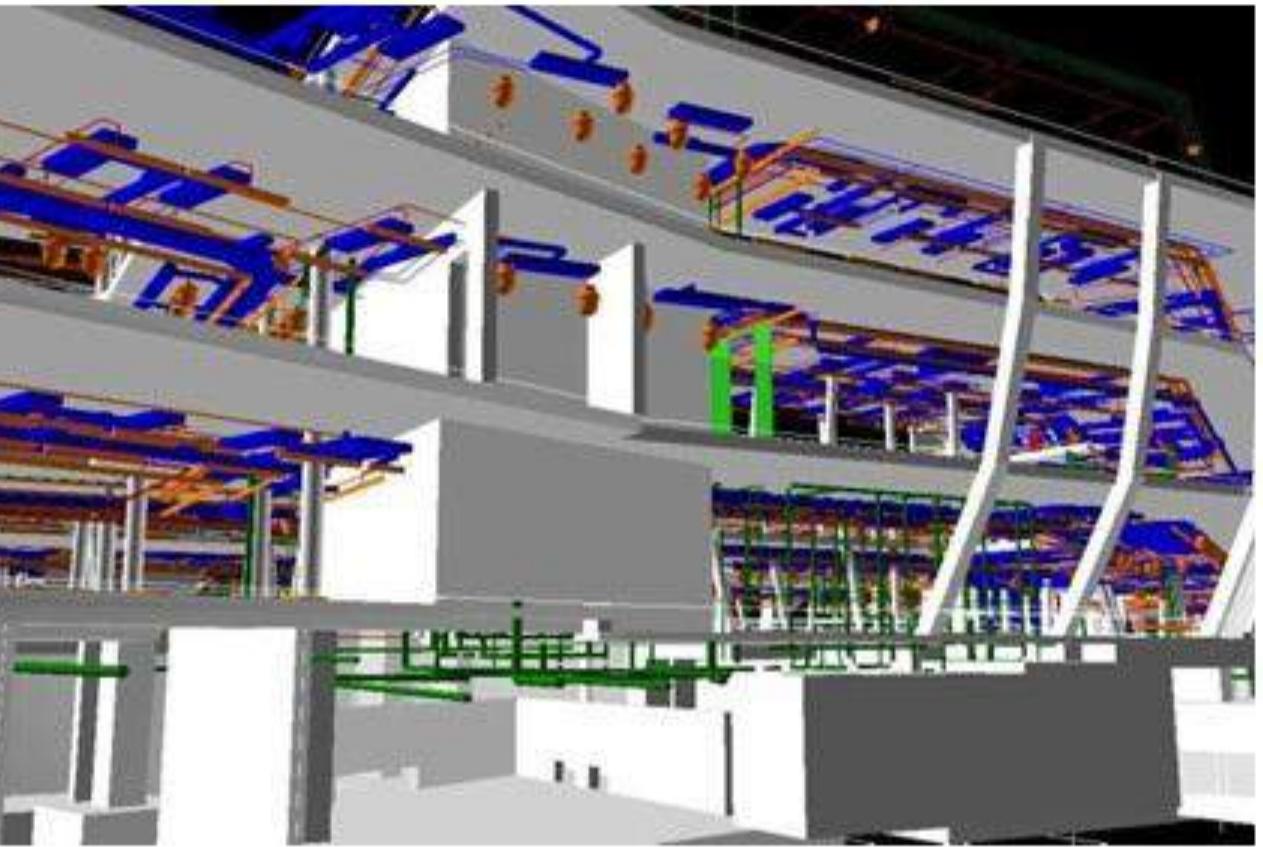
## REVIT MODEL – SHOWCASING COMPLEX PANELING WITH A LIGHTING COVE



## MEPF IN PROGRESS MODEL



## SNAPSHOTS OF THE INTEGRATED MODELS



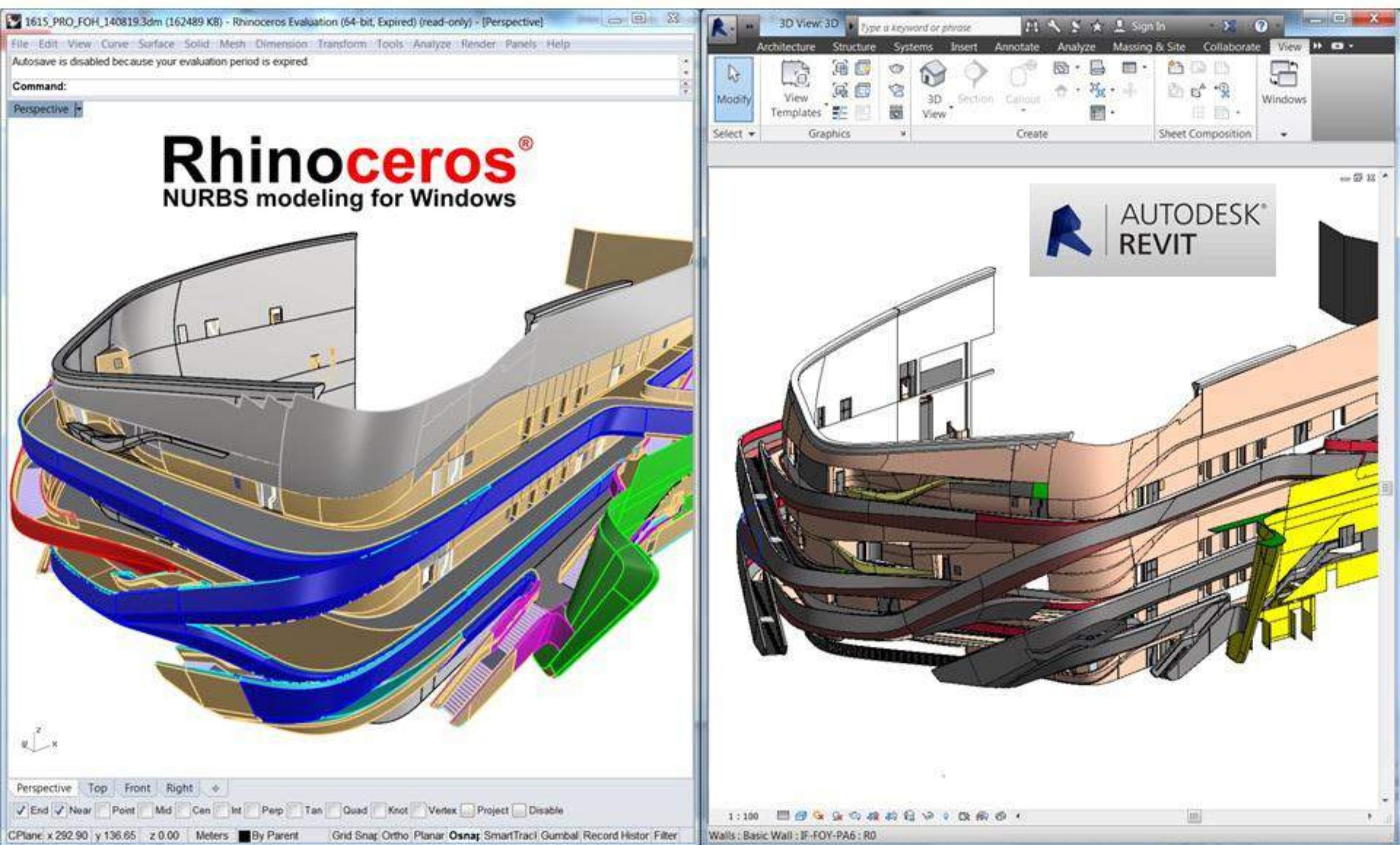
# **CHALLENGES OVERCOME BY TEAM**

**BUILDING COMPLEX GEOMETRIES  
IN REVIT**

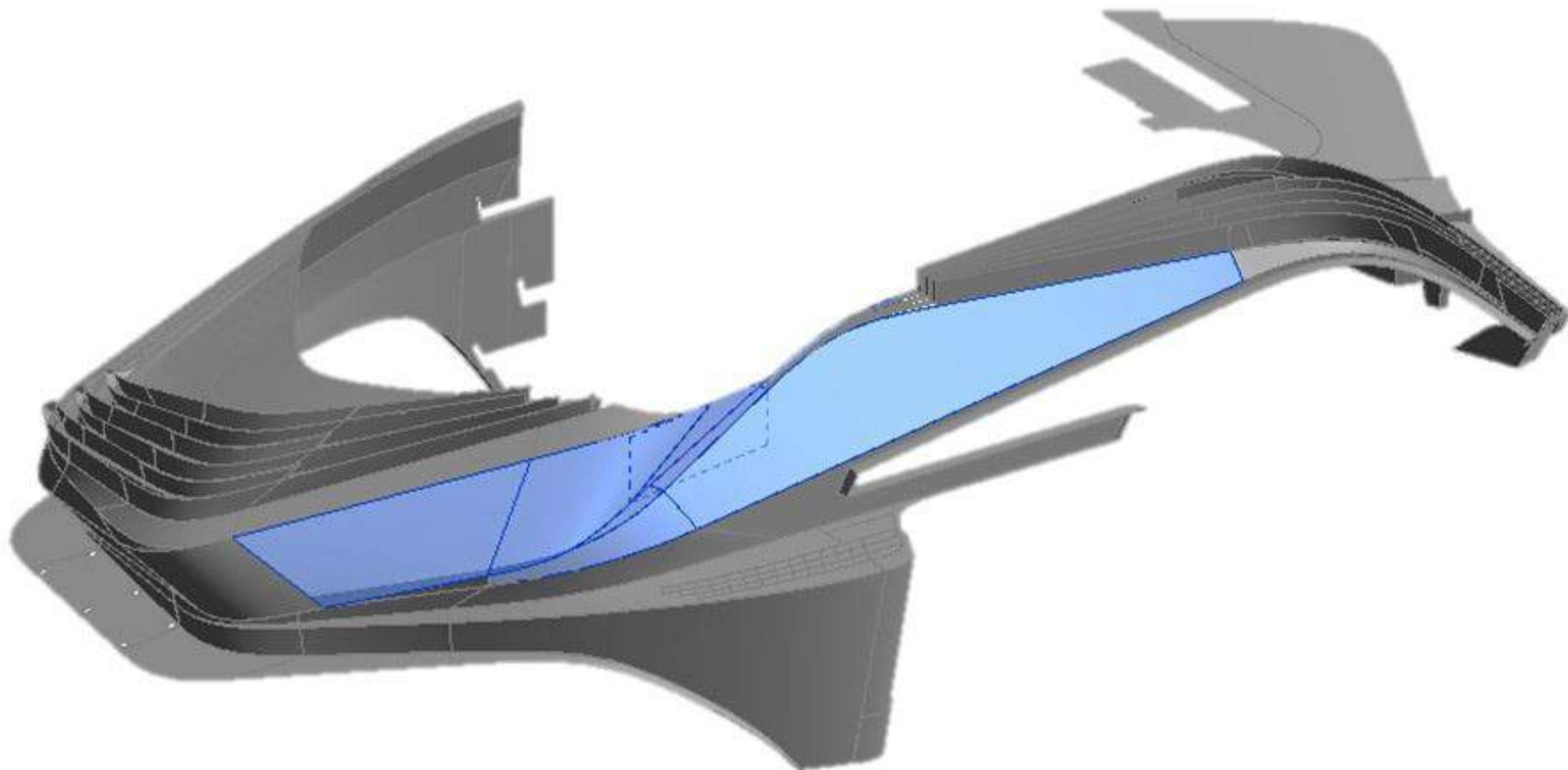
## CHALLENGES OVERCOME

Complex Geometry	<ul style="list-style-type: none"><li>• Some parts has been created by <u>Adaptive Components</u> family creation.</li><li>• Use of multiple technologies like Rhino and Grasshopper alongside Revit for building complex geometry</li></ul>
Scale – Breaking the model into manageable parts. Complexities arising out of parts.	<ul style="list-style-type: none"><li>• Revit model broken down to multiple smaller parts</li><li>• Contractors will be given models specific to their scope</li></ul>
Creation of Construction Documentation	<ul style="list-style-type: none"><li>• All documentation to be produced from a single BIM model – Done in Revit</li></ul>

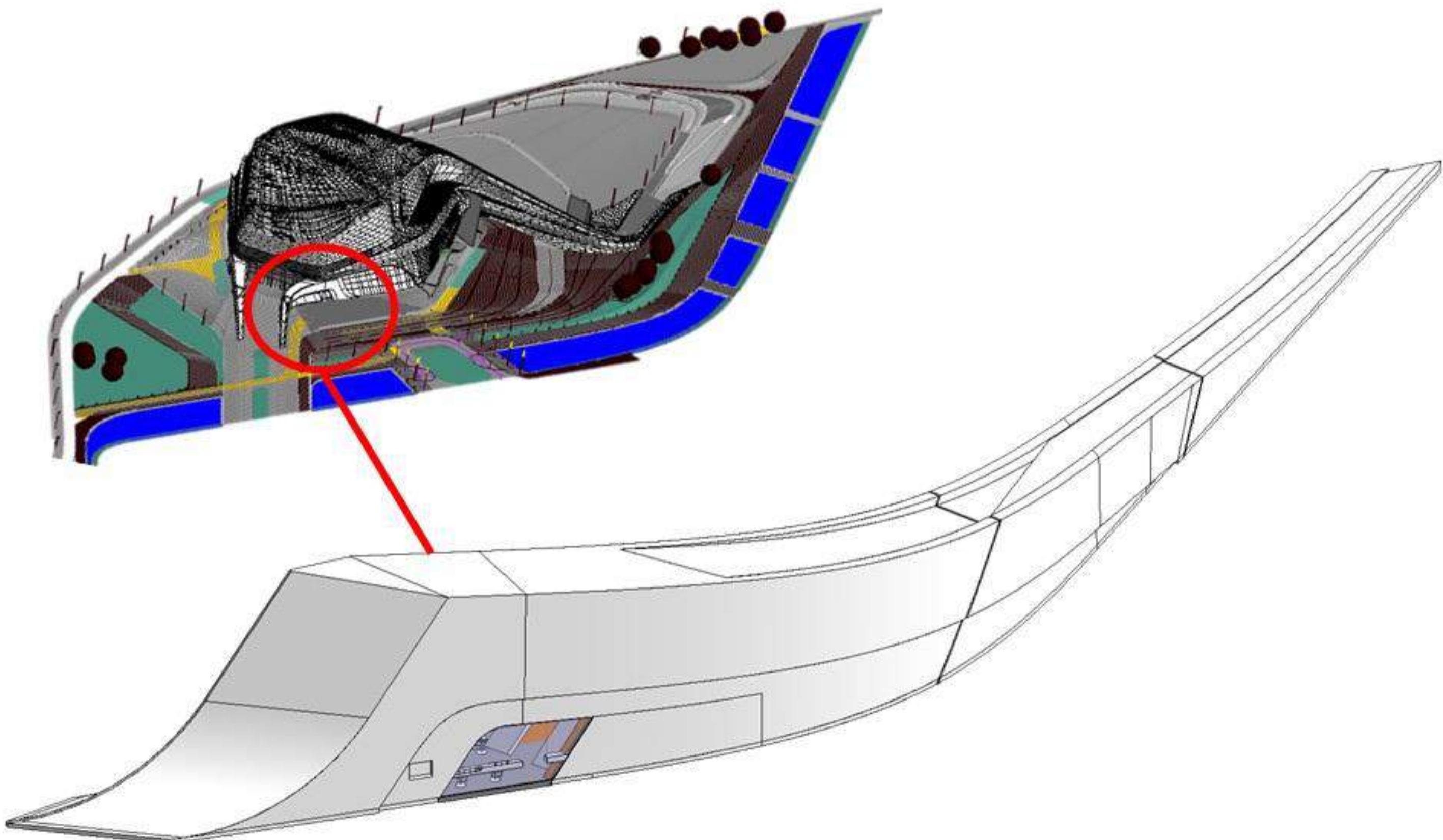
## STRATEGY ADOPTED FOR BUILDING COMPLEX GEOMETRIES



## COMPLEX PANEL MODELING

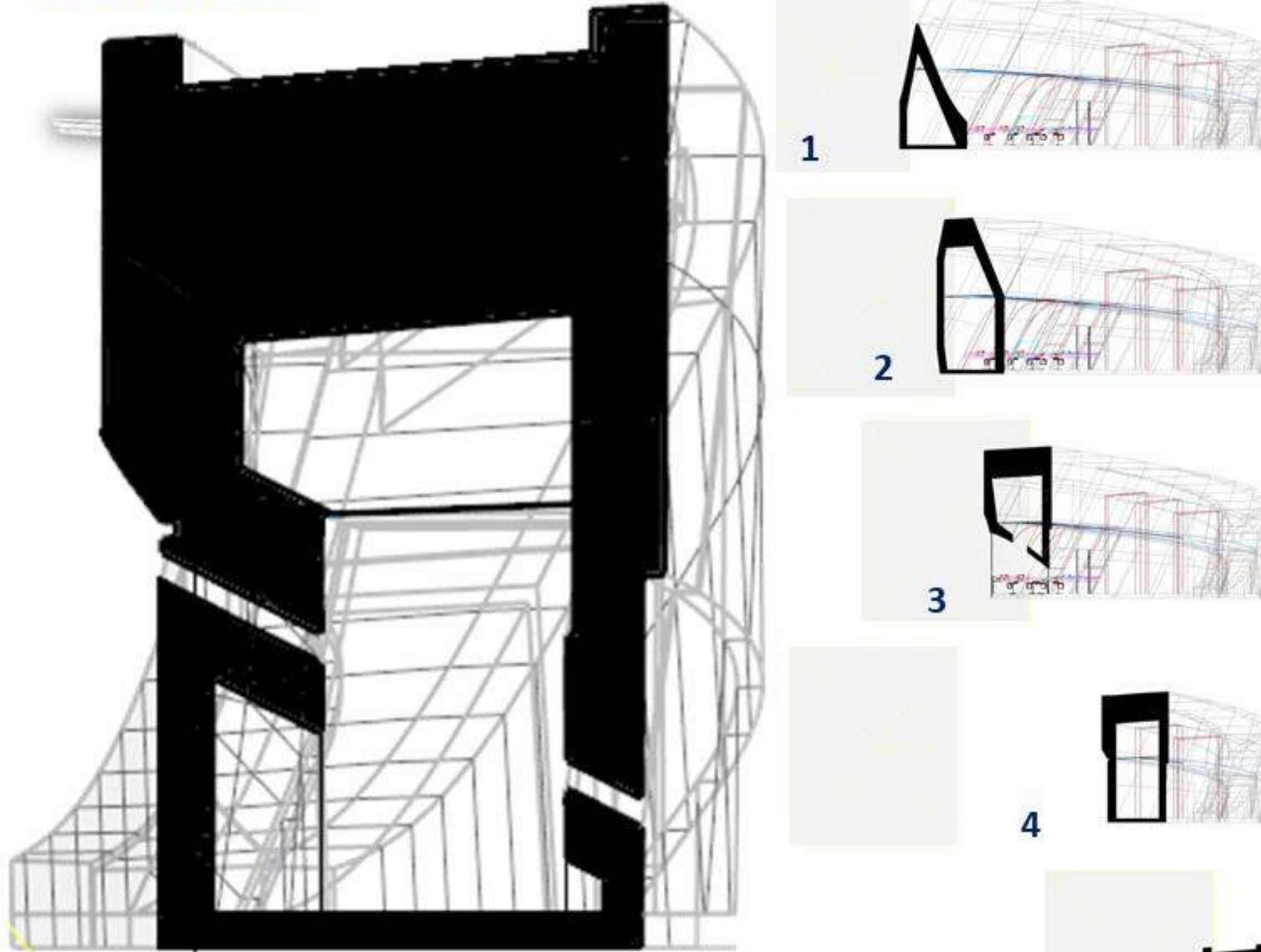


## REVIT MODEL – SOUTH BUTTRESS



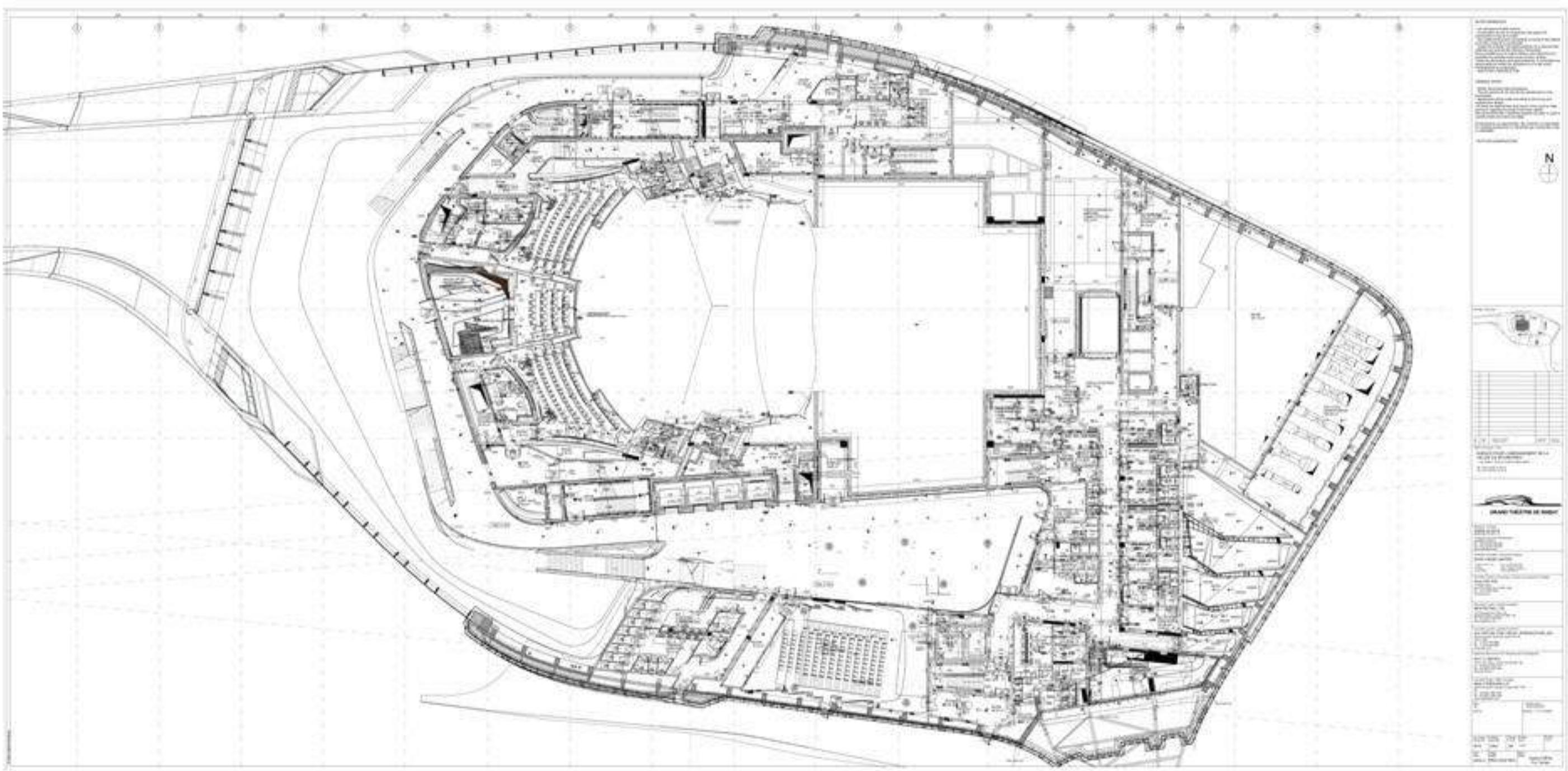
Perspective view from the Foyer

## REVIT MODEL

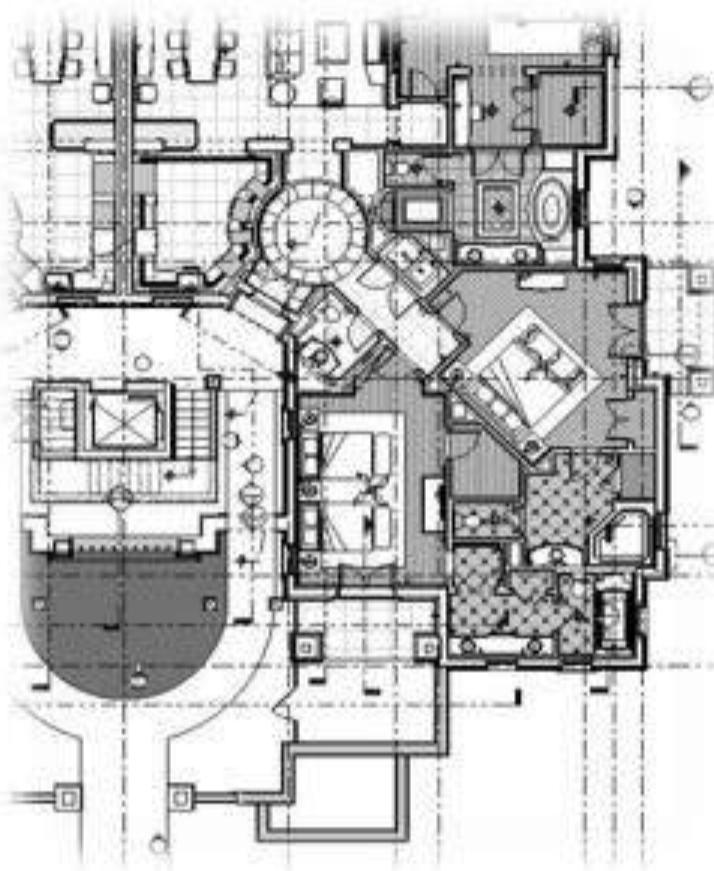


Sections showing the complex concrete profile

## **PLAN – CONSTRUCTION PACKAGE**



# CONSTRUCTION DOCUMENTATION



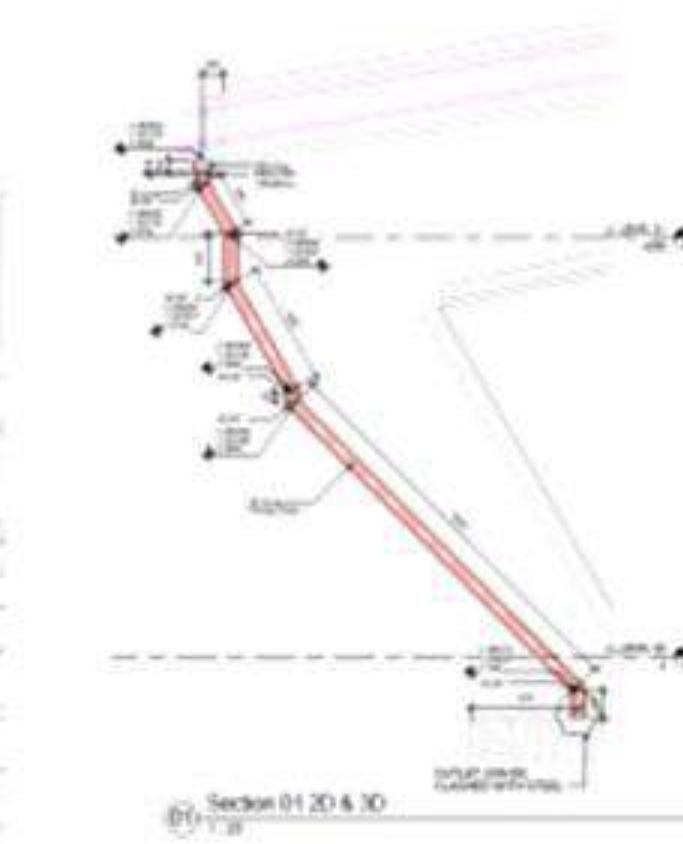
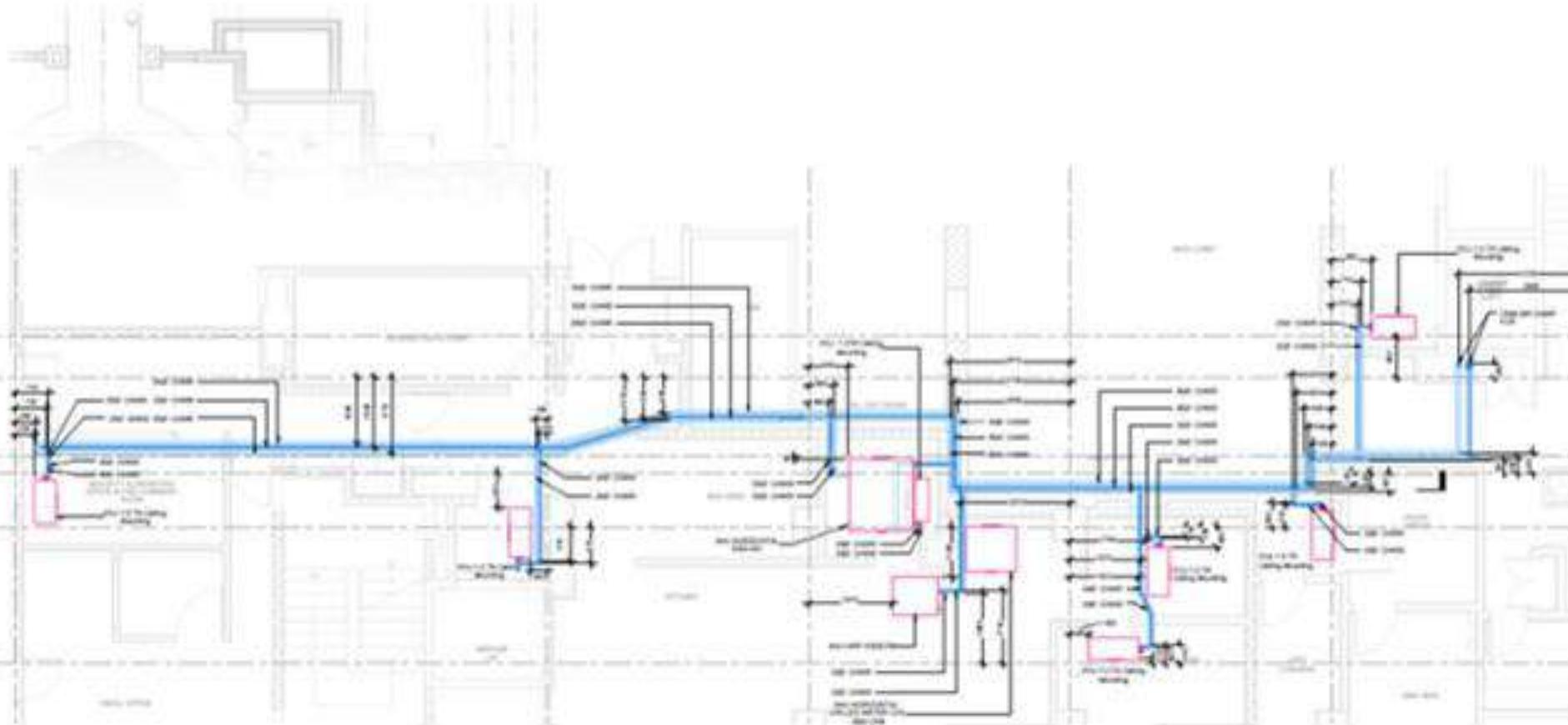
High precision Good For Construction drawing generation

100% coordinated drawing

All annotations/dimensions generated from the mode

Plans, Sections, Elevations, Details; all in sync with each other

Leverages COBie – compliant BIM data

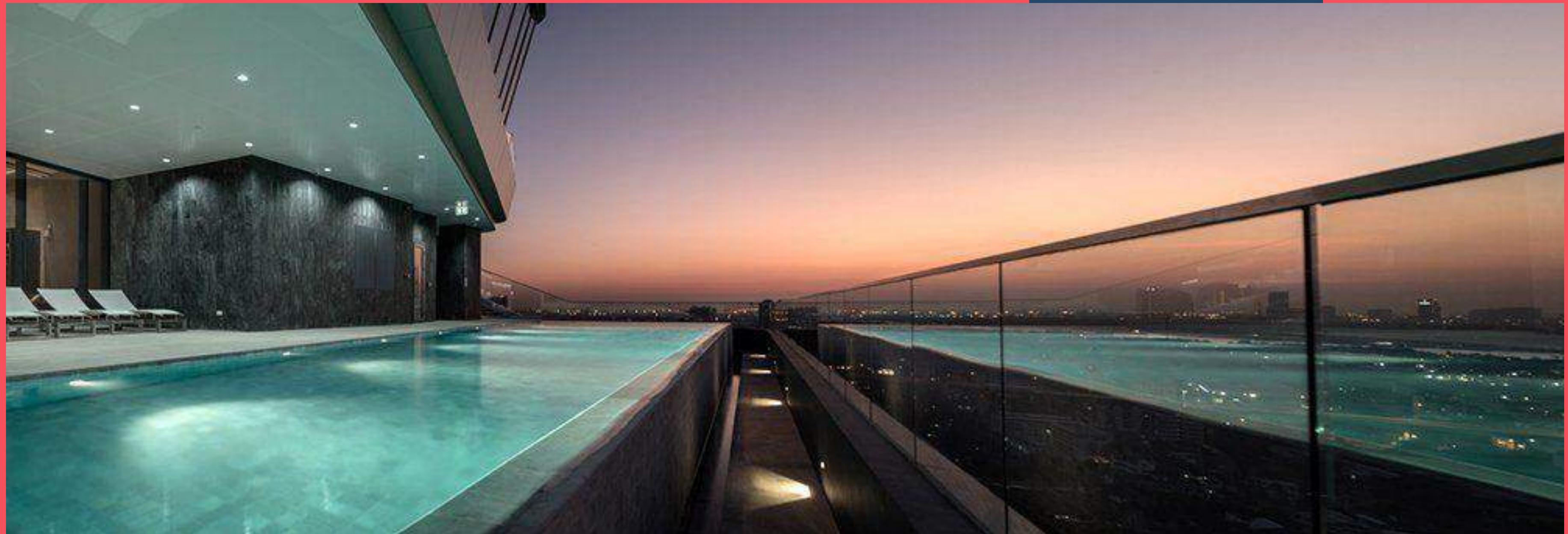


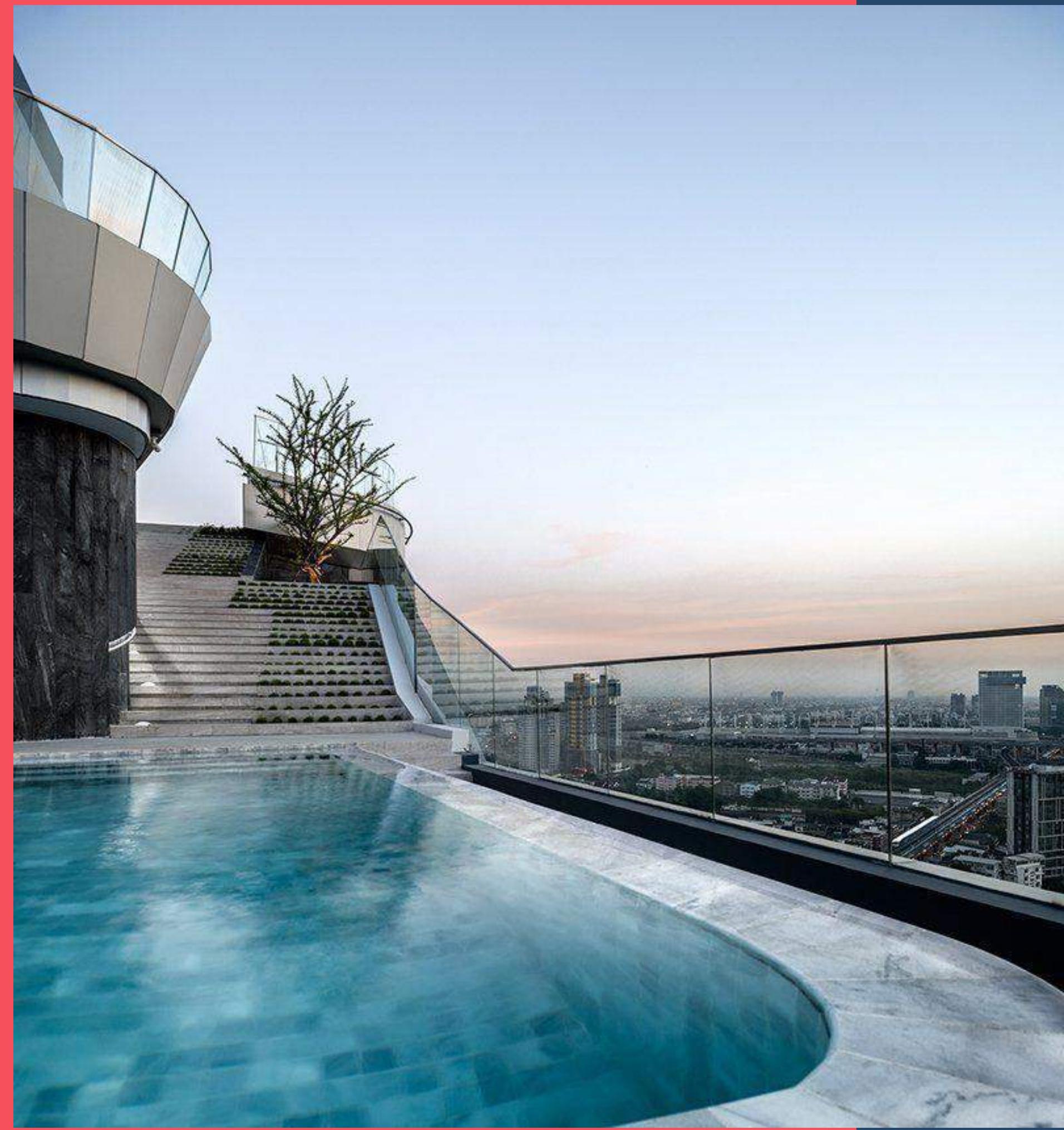
# ANANDA DEVELOPMENT PUBLIC COMPANY LIMITED

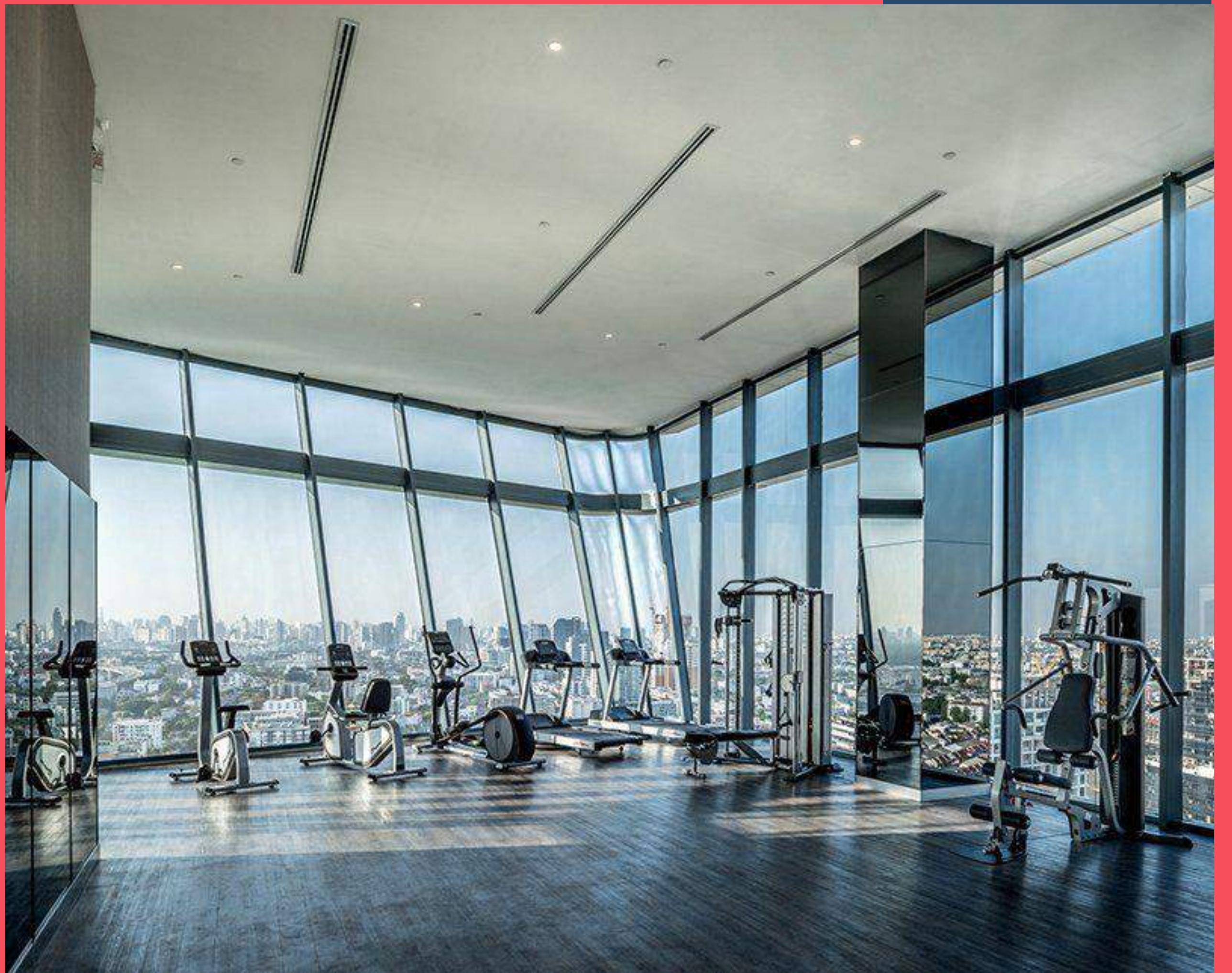
# BIM IMPLEMENTATION PROJECT

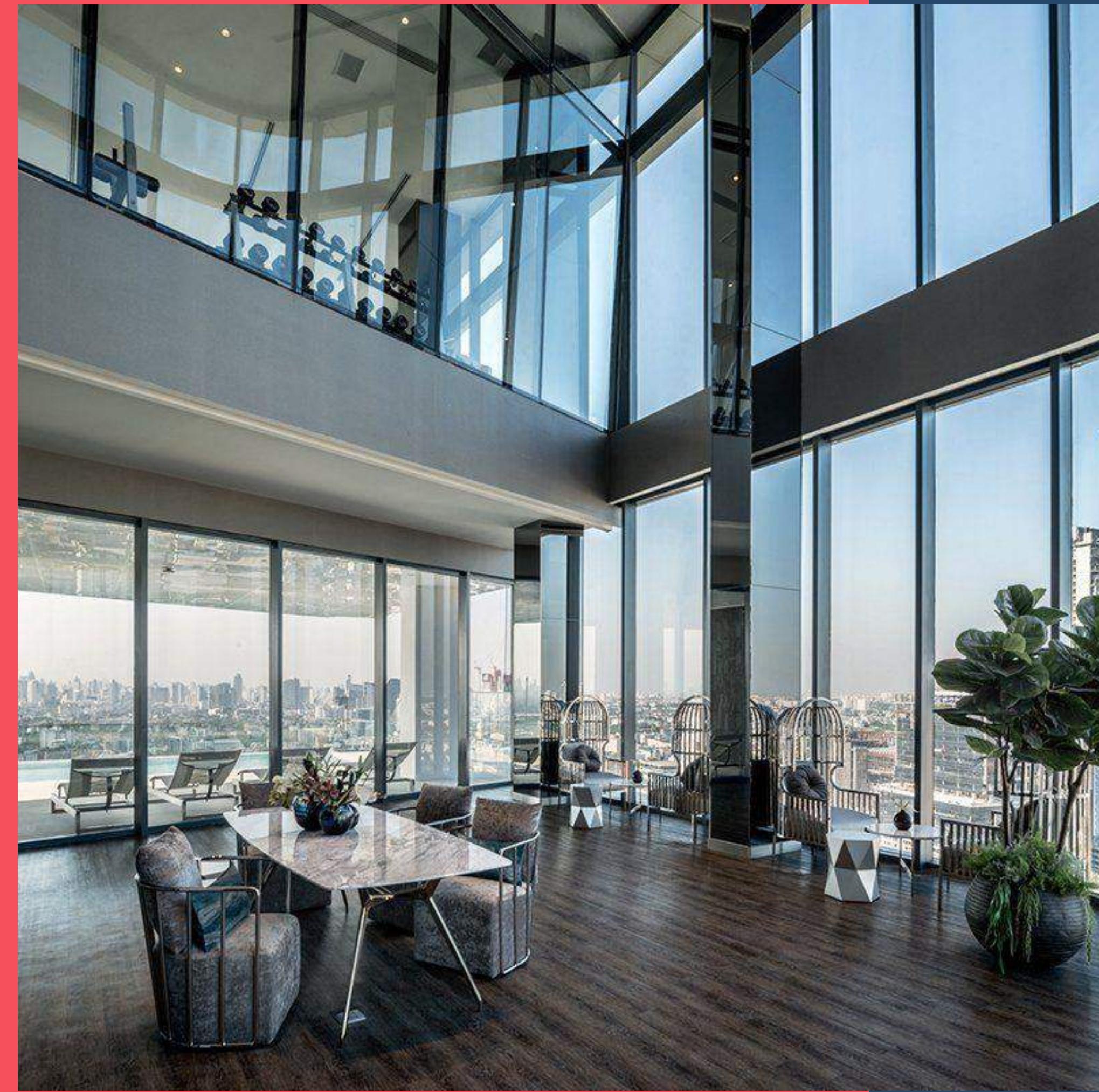
*Ideo Mobi Sukhumvit 66 - BIM Pilot Project 1*

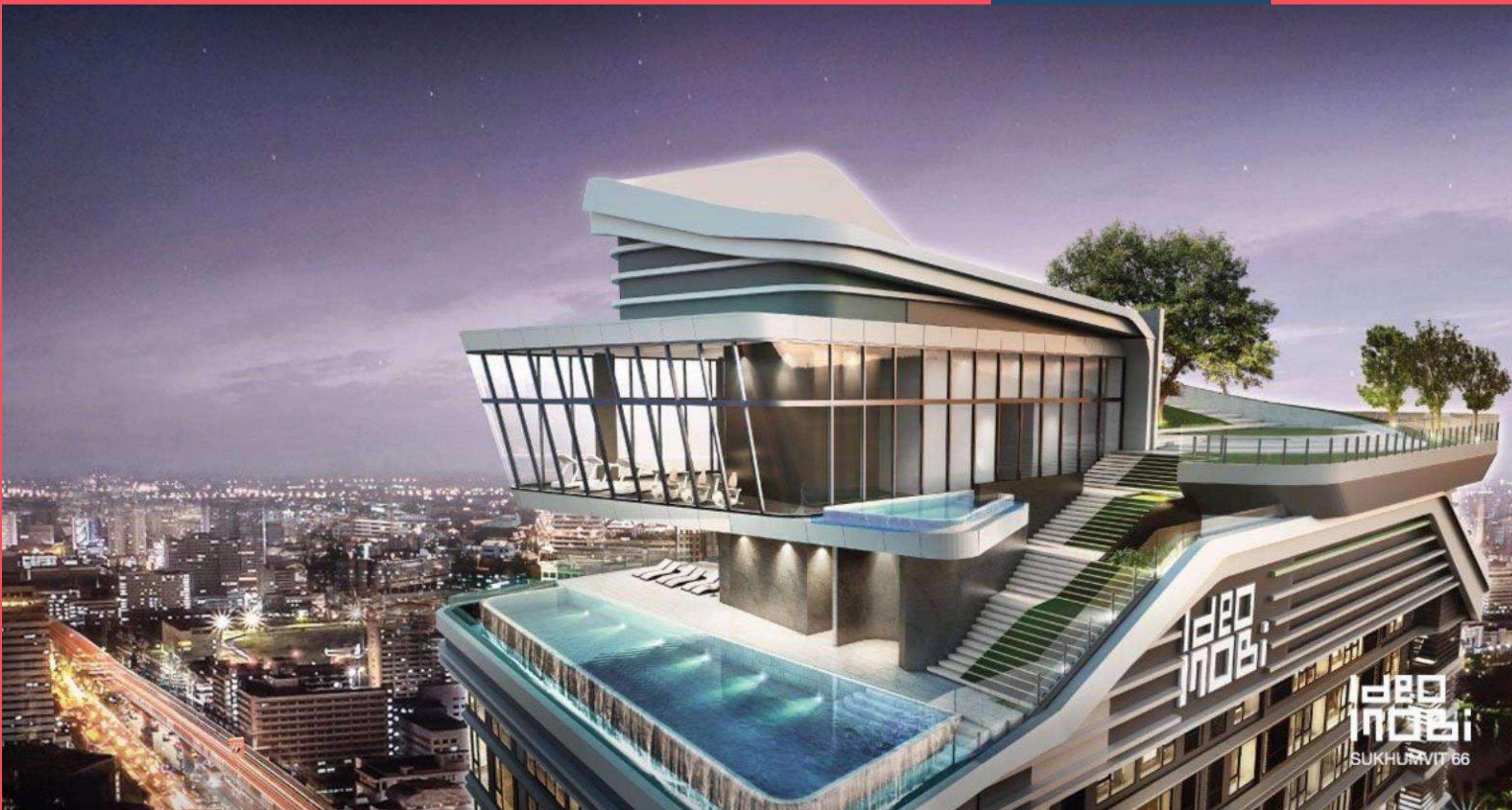




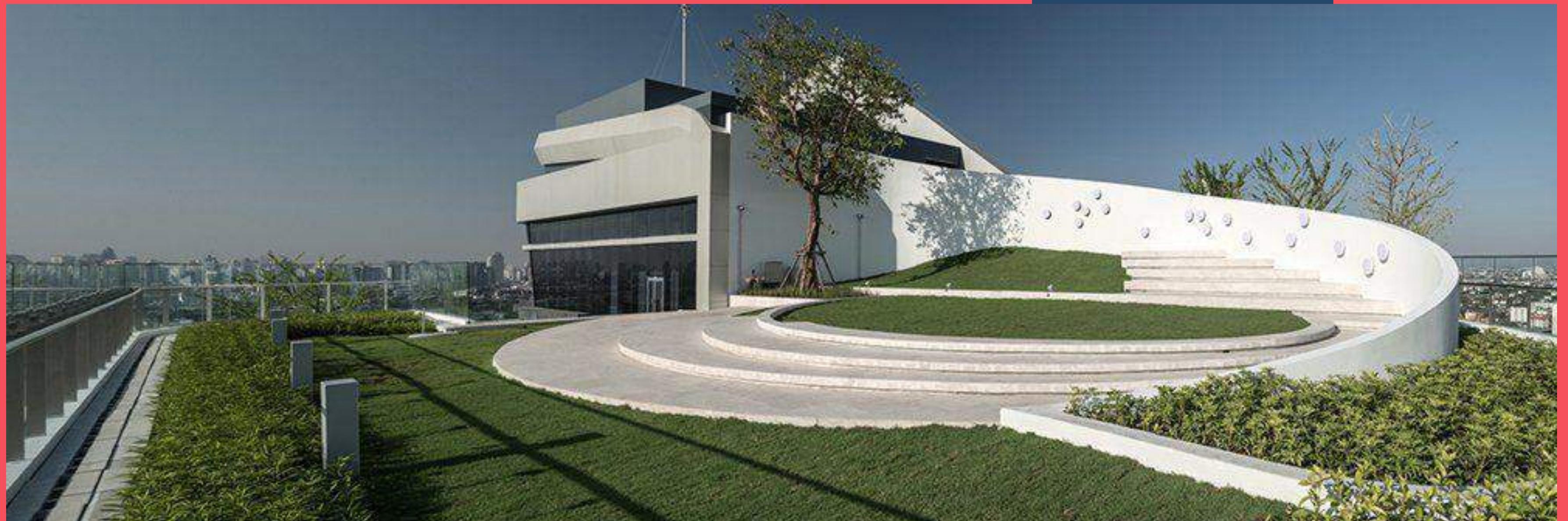


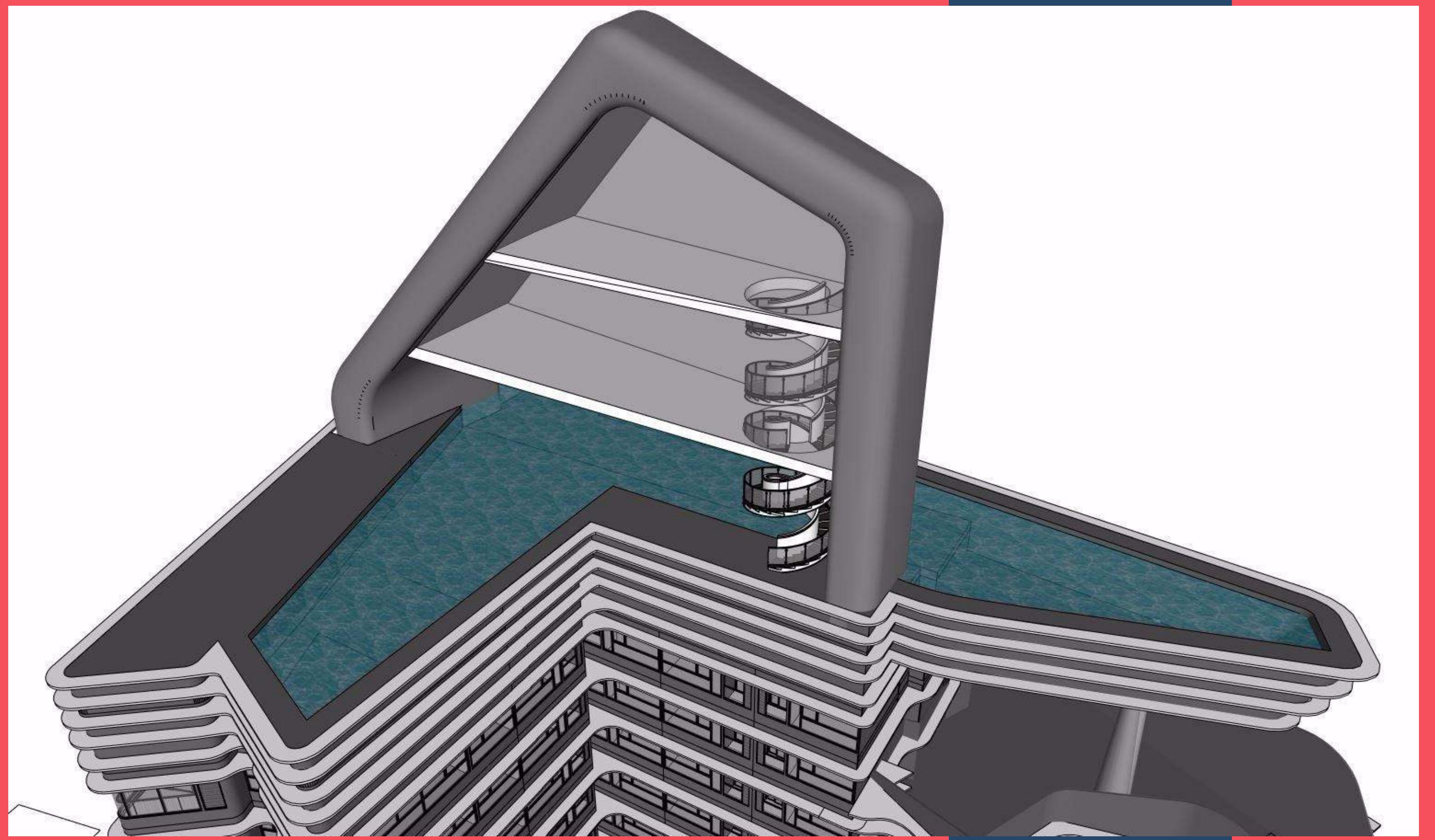






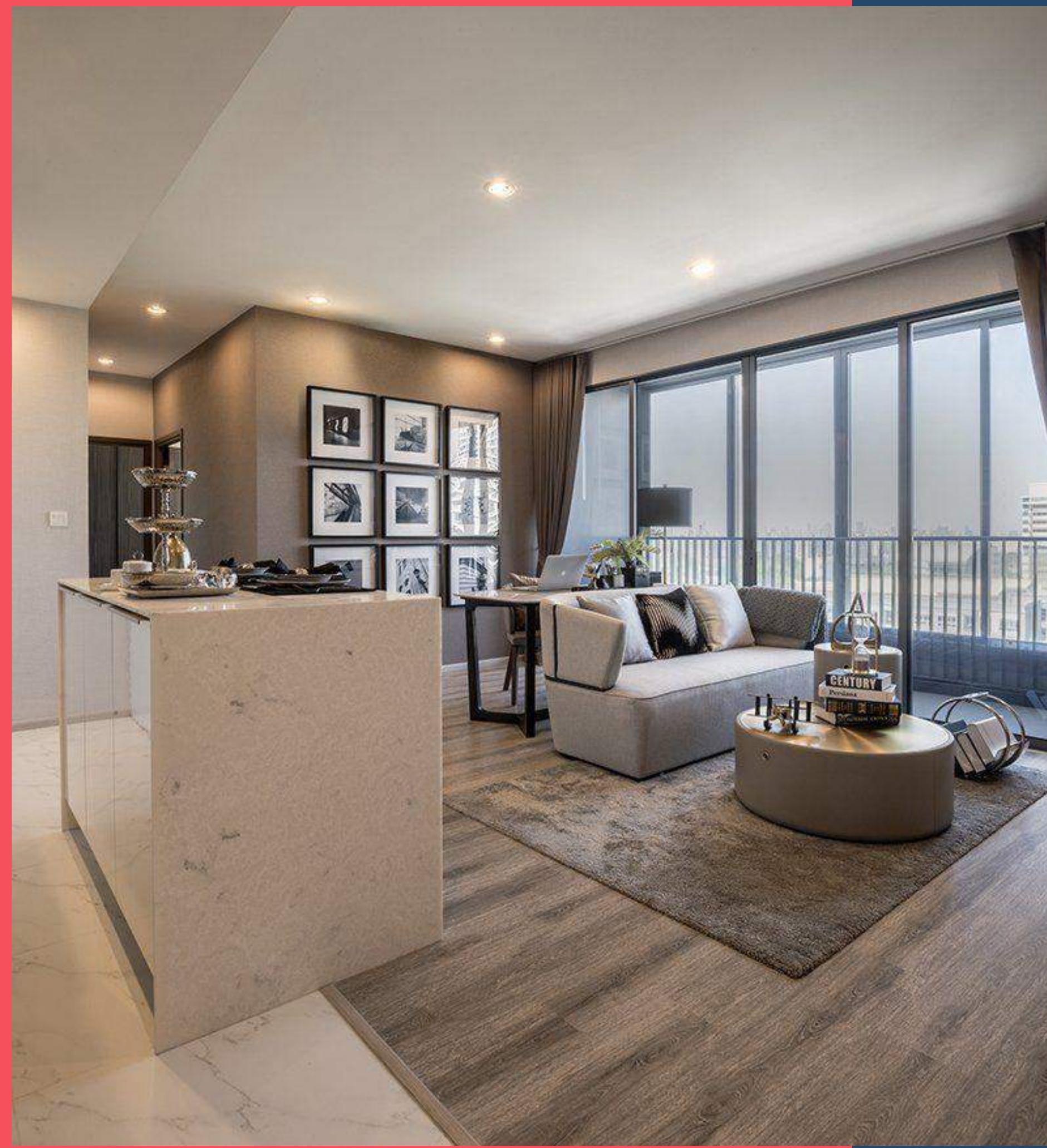
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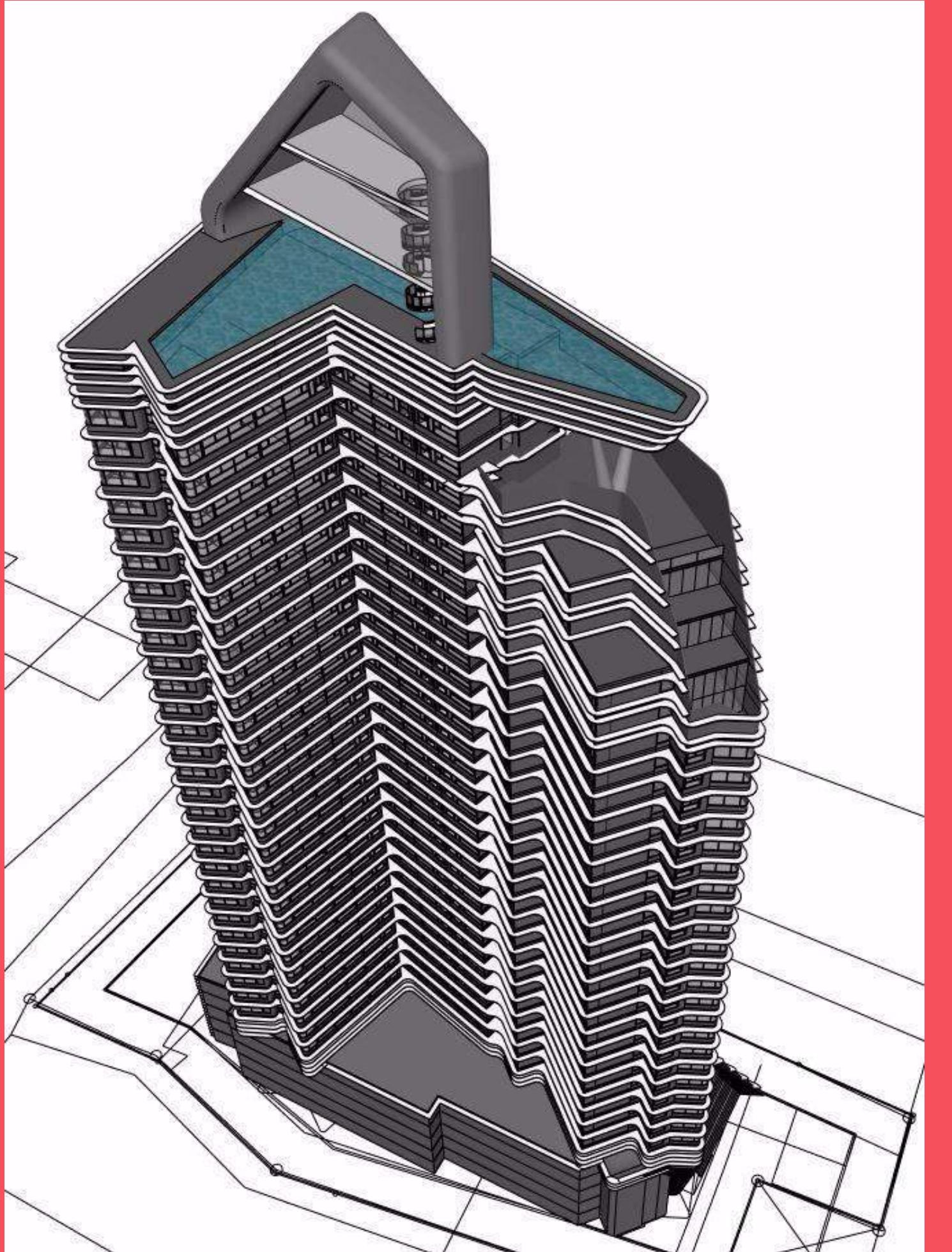


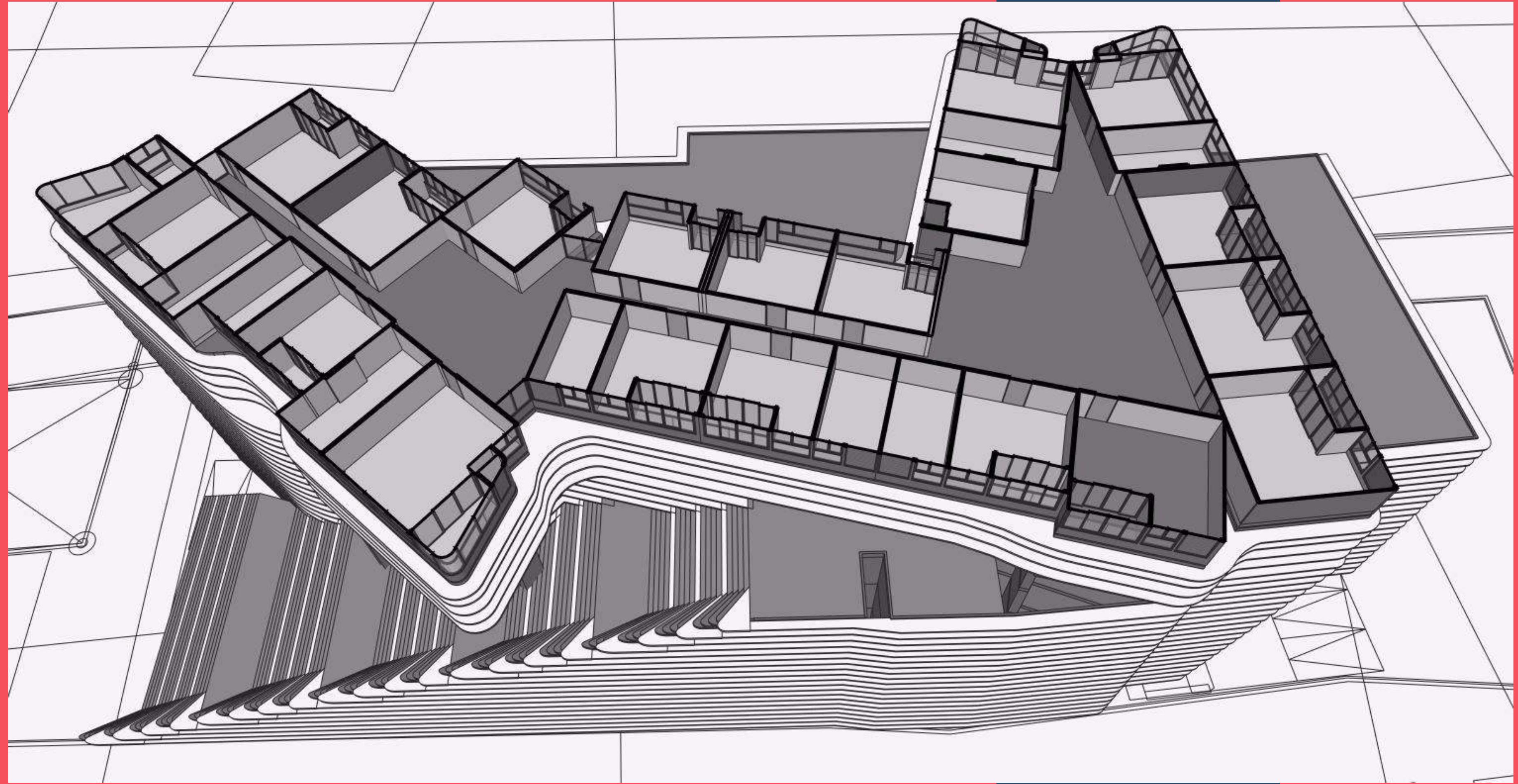


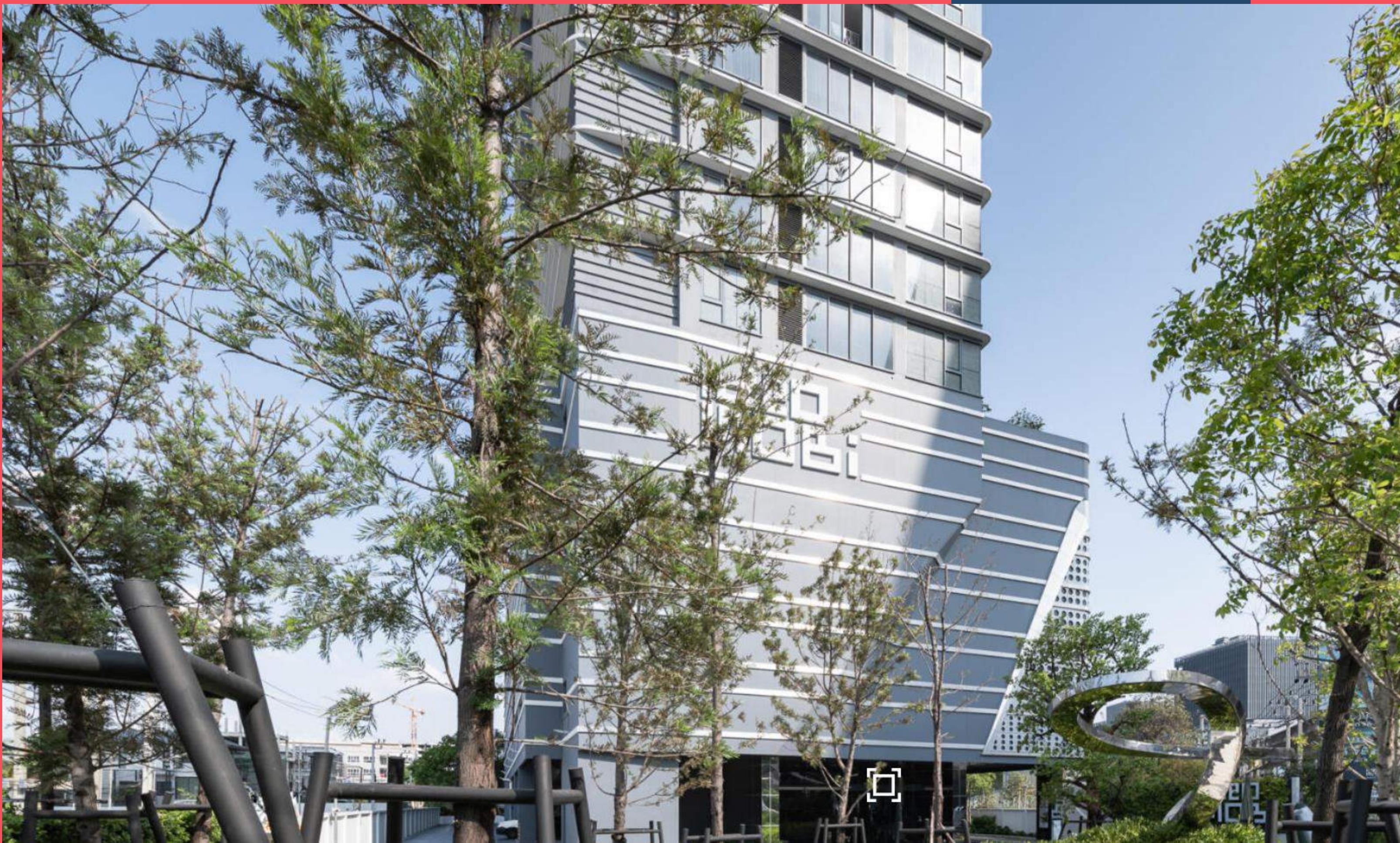








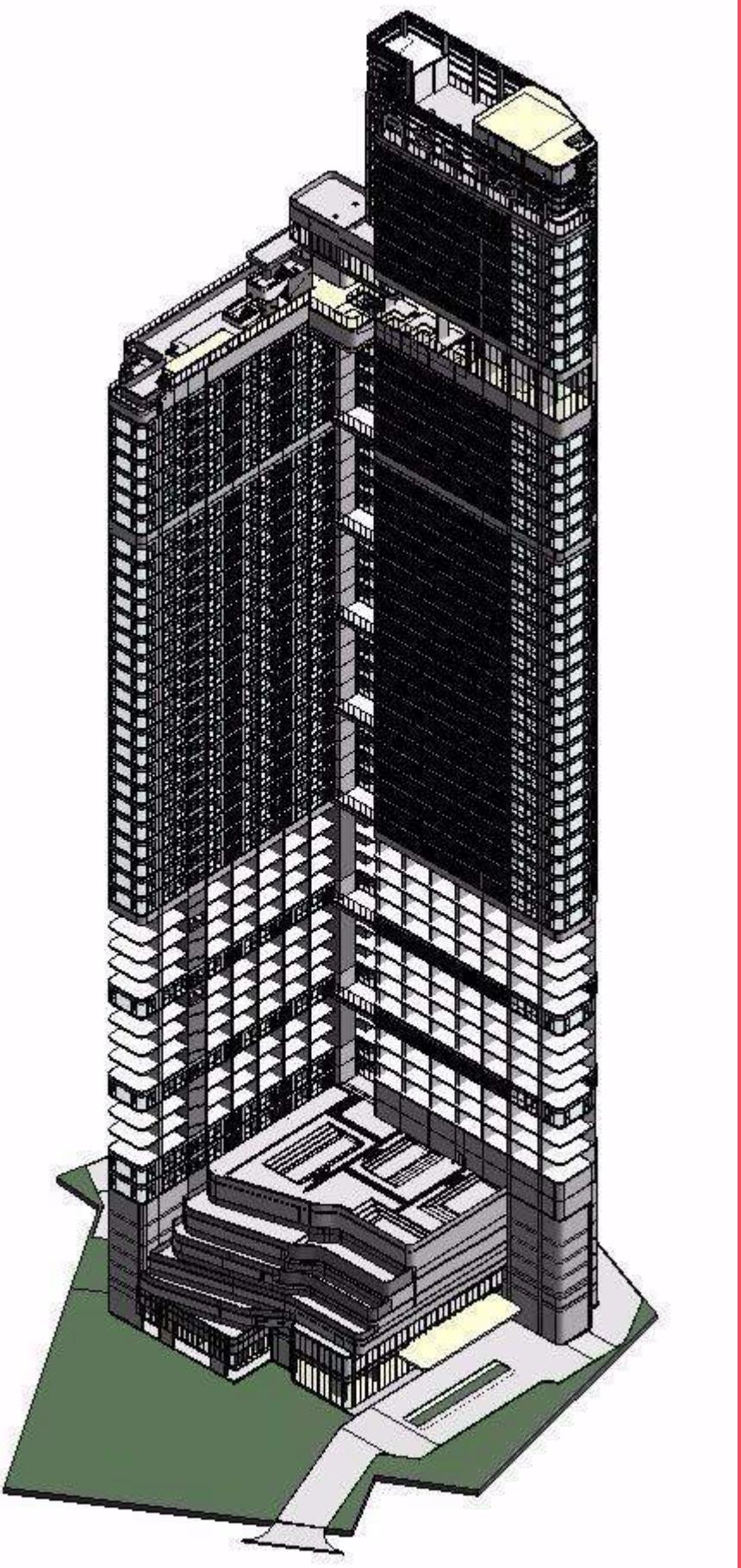




ANANDA DEVELOPMENT PUBLIC COMPANY LIMITED

# BIM IMPLEMENTATION PROJECT

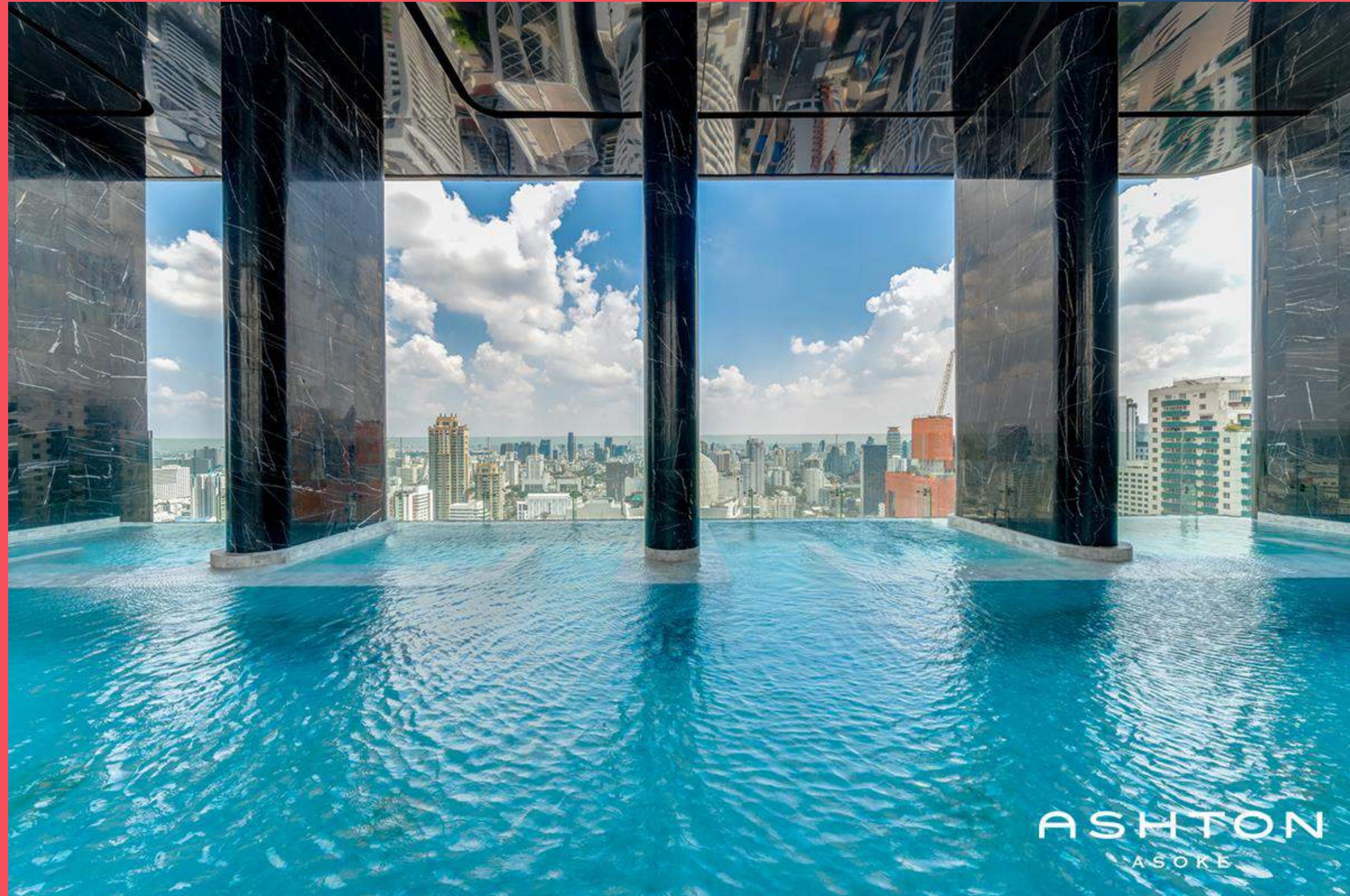
ASHTON ASOKE - *BIM Pilot Project 2*



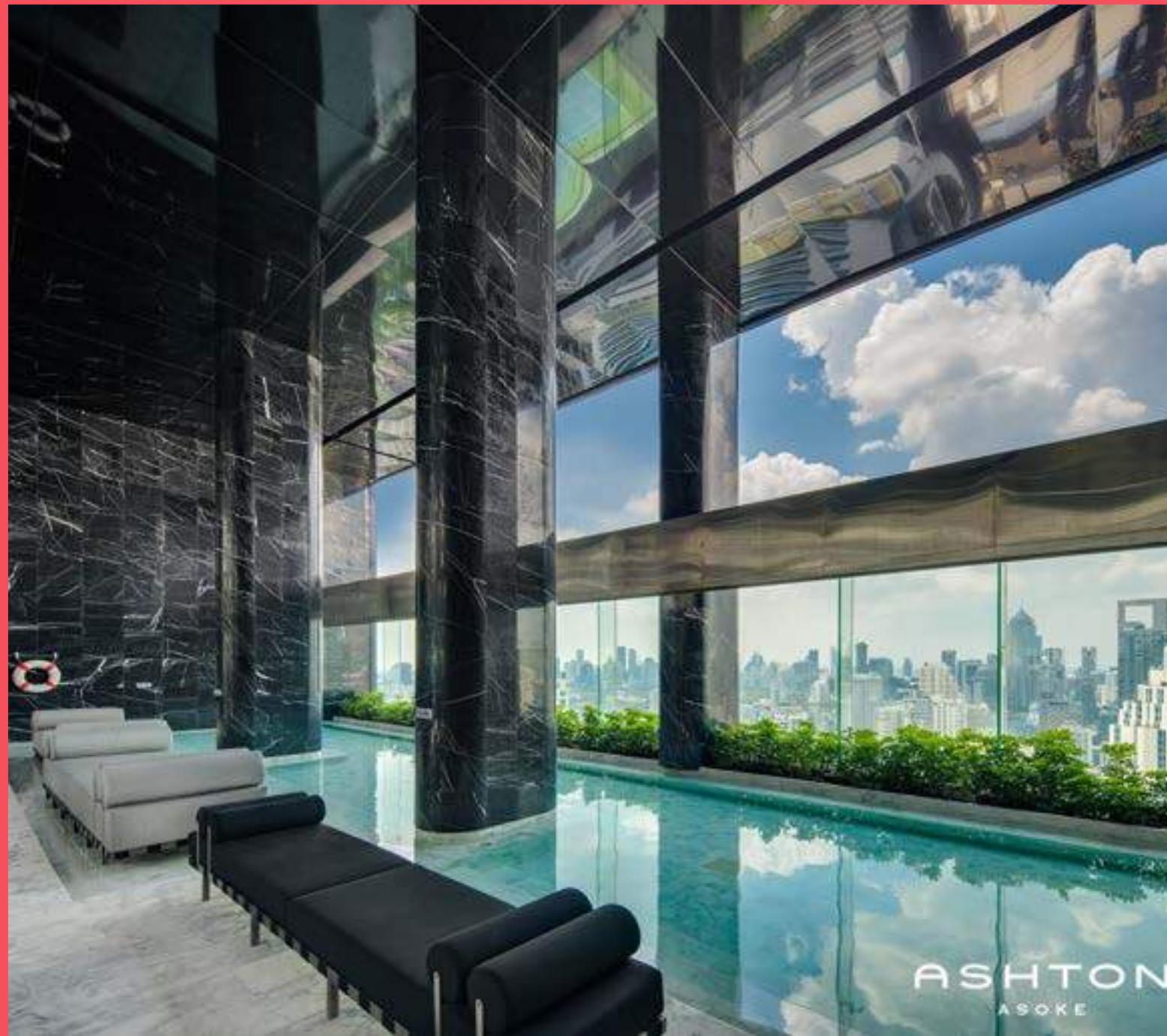


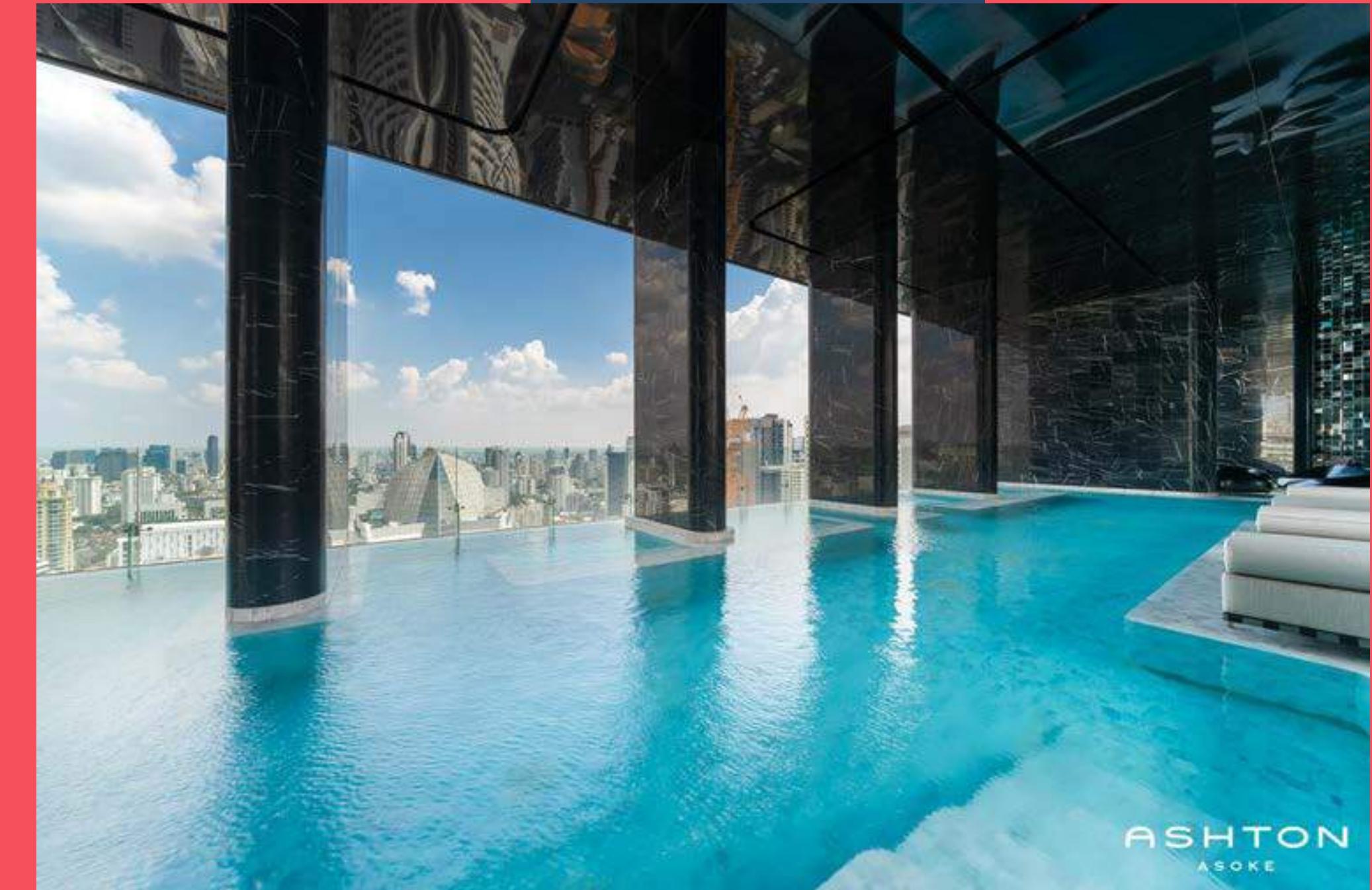


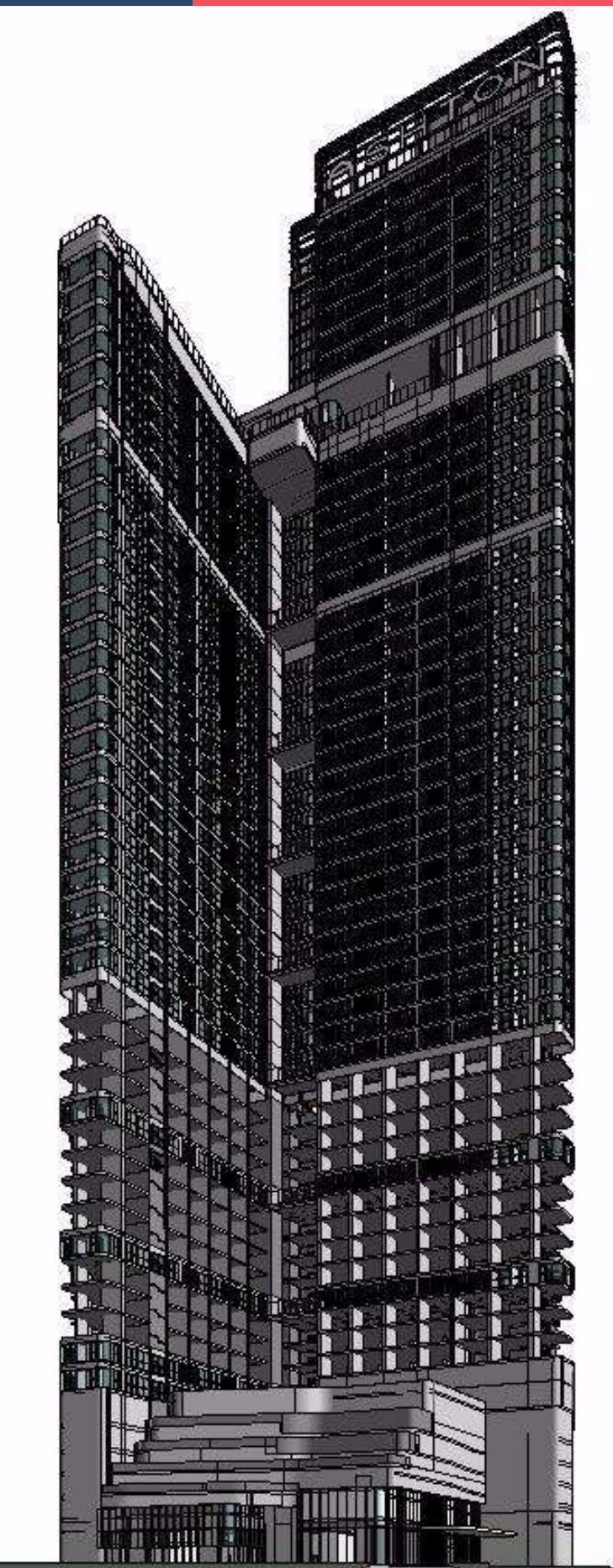
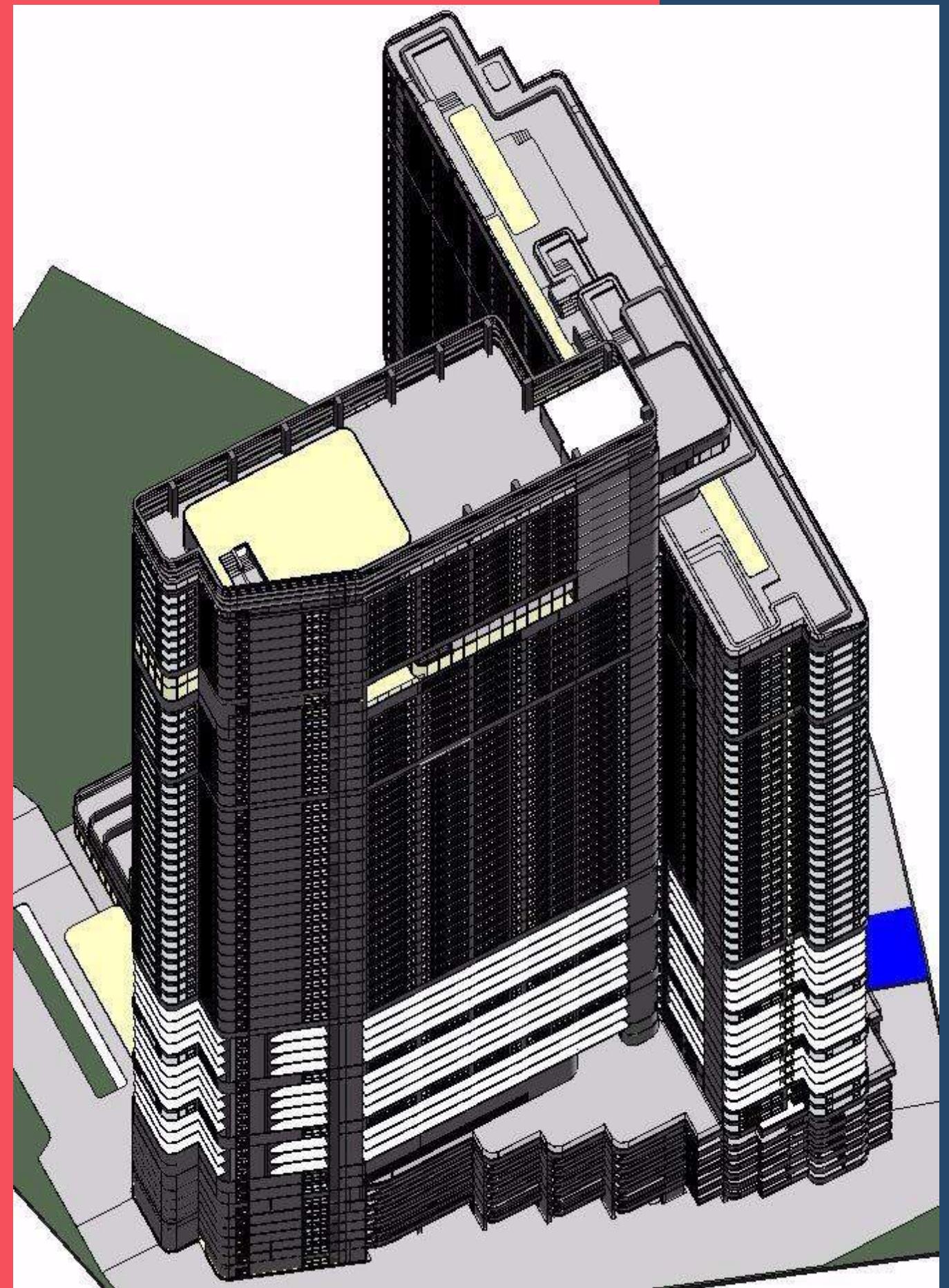
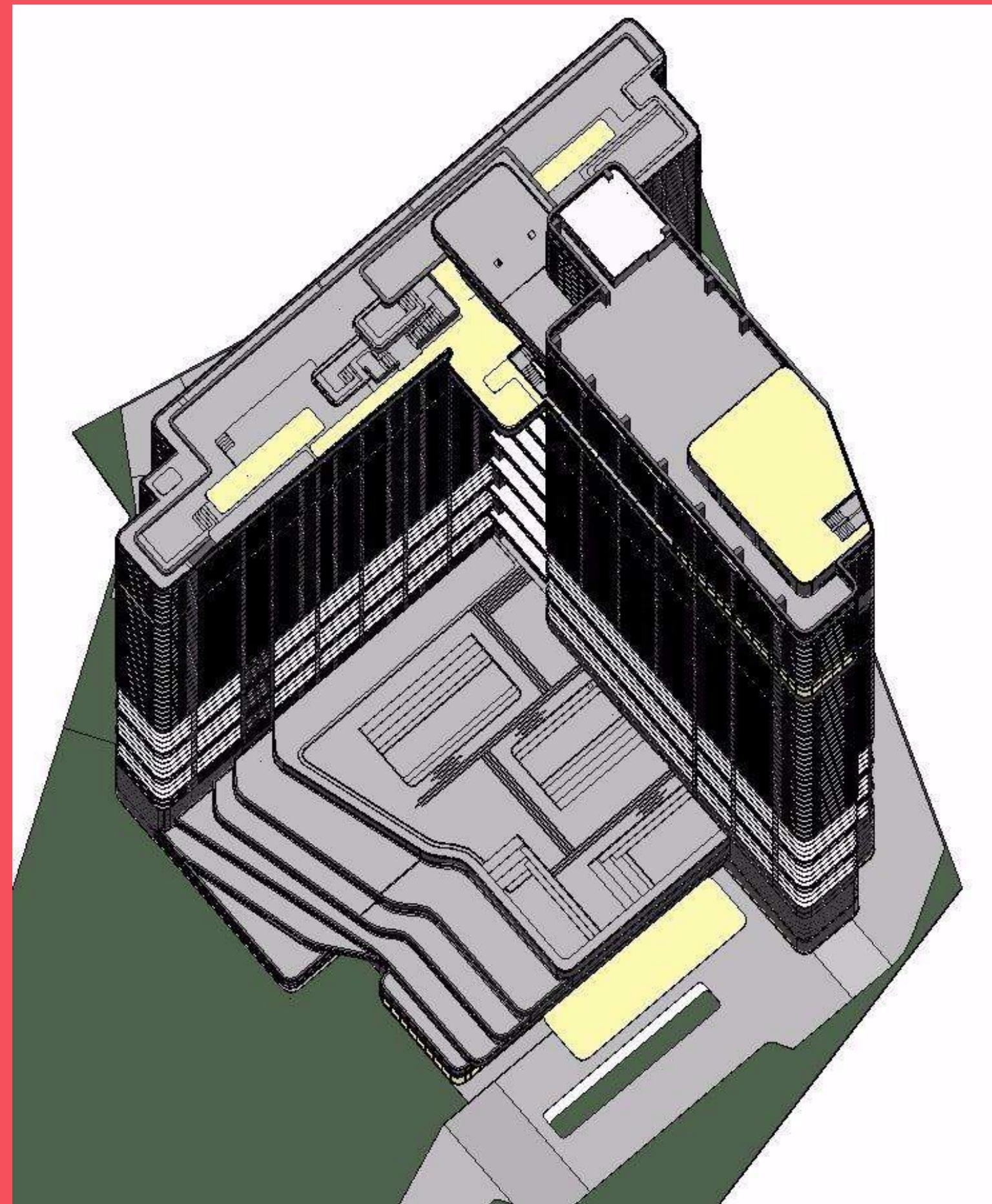


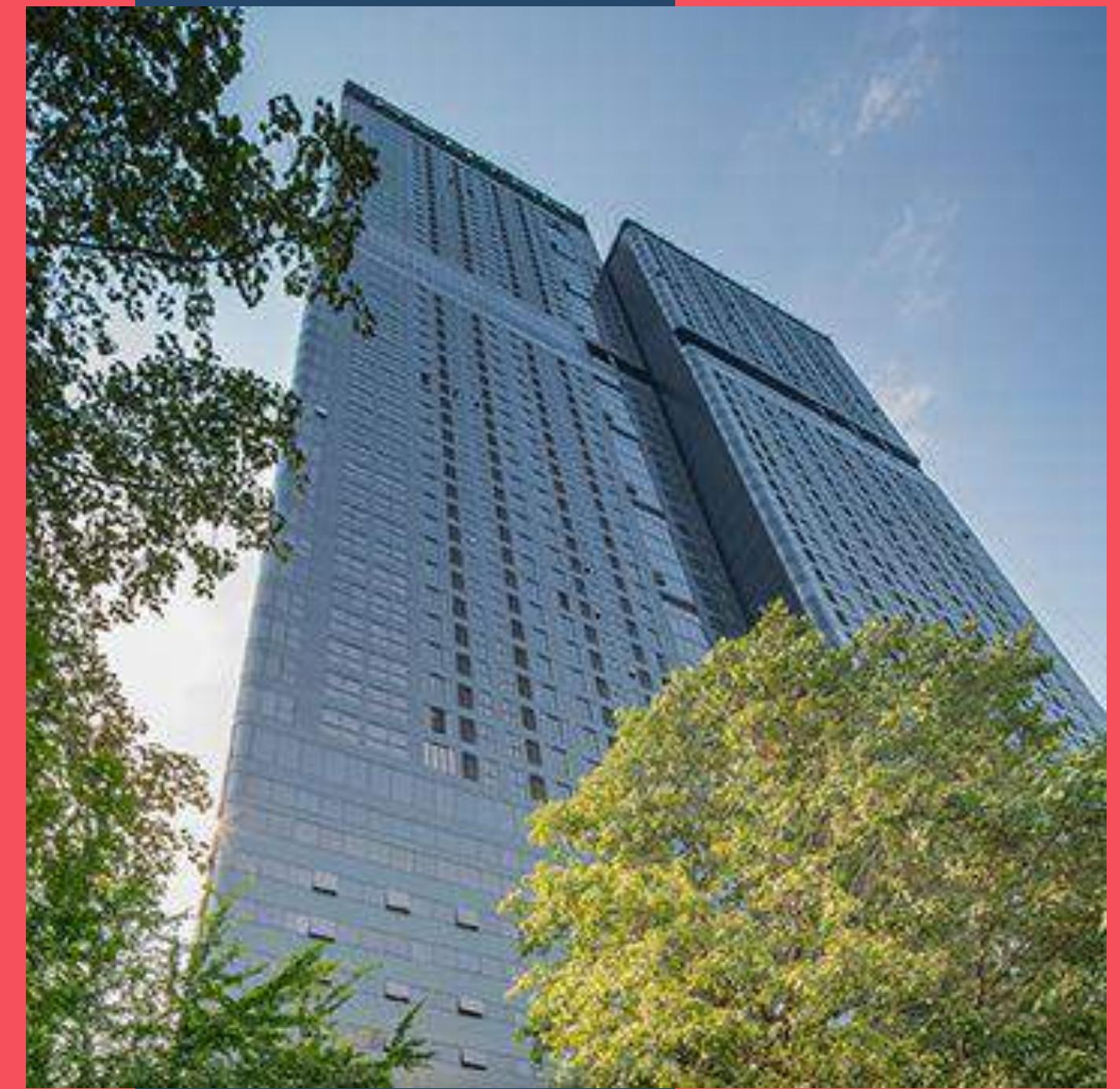


ASHTON  
ASOKE





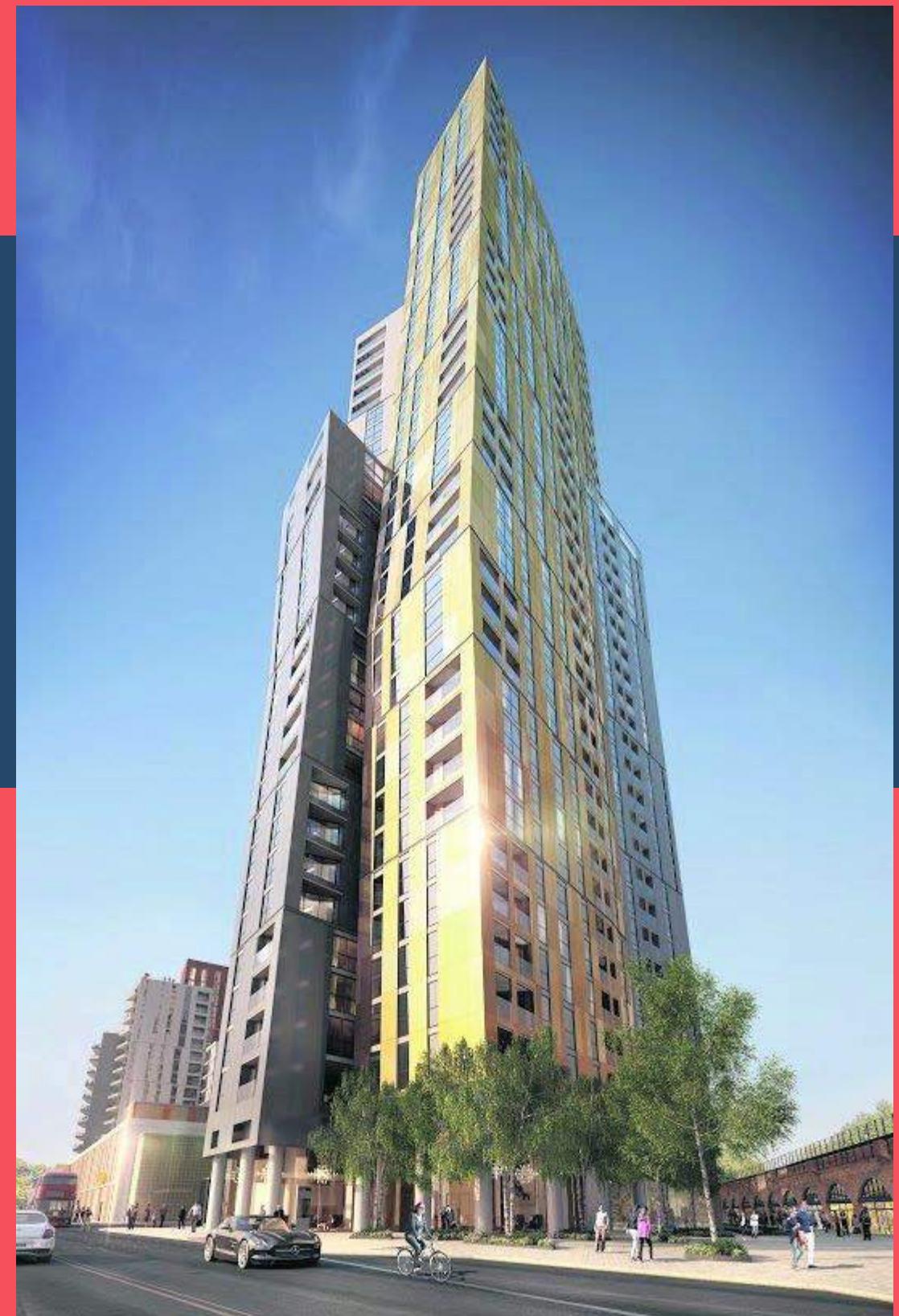




BROADWAY MALYAN

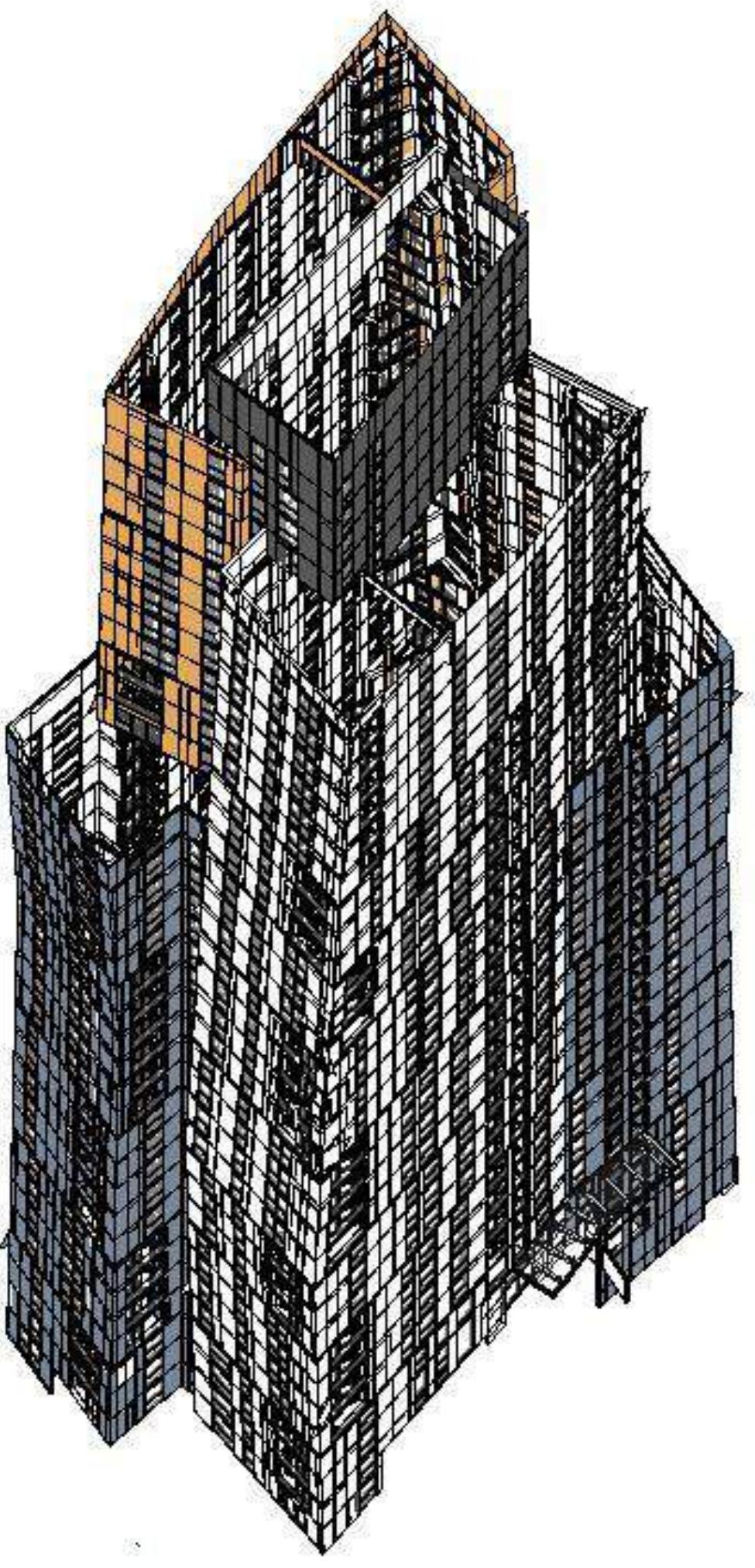
# NINE ELMS MIXED USE

*Sainsbury Regeneration Project*











Cladding Panel and Window / Door Assemblies - Elevations.

Balcony panels subject to change pending final structure.

Plan of N2 Cladding - Level 24  
1:100



Plan of N2 Cladding - Level 20 to 23  
1:100



Plan of N2 Cladding - Level 17 to 19  
1:100



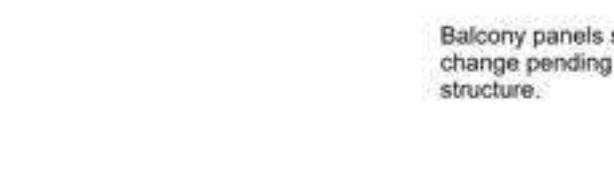
Plan of N2 Cladding - Level 14 to 16  
1:100



Plan of N2 Cladding - Level 11 to 13  
1:100



Plan of N2 Cladding - Level 07 to 10  
1:100



Balcony panels subject to change pending final structure.

Plan of N2 Cladding - Level 02 to 06  
1:100



NOTES		
1. Where cladding panels are shown with a horizontal line, the preceding reference is to panel dimensions. Any subsequent reference is to height of panel.	2. All panels are to be supplied by subcontractor.	3. All panels are to be supplied by subcontractor.
4. All panels are to be supplied by subcontractor.	5. All panels are to be supplied by subcontractor.	6. All panels are to be supplied by subcontractor.
<b>3D View of Elevation N2 (Lower)</b>		
<b>BROADWAYMAYAN™</b> Architects Urbanist Design BroadwayMalyan Ltd Broadway House, 100 London Wall, London EC2Y 5AU Tel: +44 (0)20 7231 00 00 Fax: +44 (0)20 7231 00 01 Email: <a href="mailto:info@broadwaymalyan.com">info@broadwaymalyan.com</a>		
Client Barratt London Nine Elms Sainsbury's Redevelopment Location Block G - North Elevation - N2 Cladding Panels and Window / Door Assemblies		
Tender Ref. No. 1. Ref ID 2. Ref ID 3. Ref ID 4. Ref ID 5. Ref ID 6. Ref ID 7. Ref ID 8. Ref ID 9. Ref ID 10. Ref ID 11. Ref ID 12. Ref ID 13. Ref ID 14. Ref ID 15. Ref ID 16. Ref ID 17. Ref ID 18. Ref ID 19. Ref ID 20. Ref ID 21. Ref ID 22. Ref ID 23. Ref ID 24. Ref ID 25. Ref ID 26. Ref ID 27. Ref ID 28. Ref ID 29. Ref ID 30. Ref ID 31. Ref ID 32. Ref ID 33. Ref ID 34. Ref ID 35. Ref ID 36. Ref ID 37. Ref ID 38. Ref ID 39. Ref ID 40. Ref ID 41. Ref ID 42. Ref ID 43. Ref ID 44. Ref ID 45. Ref ID 46. Ref ID 47. Ref ID 48. Ref ID 49. Ref ID 50. Ref ID 51. Ref ID 52. Ref ID 53. Ref ID 54. Ref ID 55. Ref ID 56. Ref ID 57. Ref ID 58. Ref ID 59. Ref ID 60. Ref ID 61. Ref ID 62. Ref ID 63. Ref ID 64. Ref ID 65. Ref ID 66. Ref ID 67. Ref ID 68. Ref ID 69. Ref ID 70. Ref ID 71. Ref ID 72. Ref ID 73. Ref ID 74. Ref ID 75. Ref ID 76. Ref ID 77. Ref ID 78. Ref ID 79. Ref ID 80. Ref ID 81. Ref ID 82. Ref ID 83. Ref ID 84. Ref ID 85. Ref ID 86. Ref ID 87. Ref ID 88. Ref ID 89. Ref ID 90. 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Plan of W2 Cladding - Level 21 to 25



Plan of W2 Cladding - Level 15 to 20



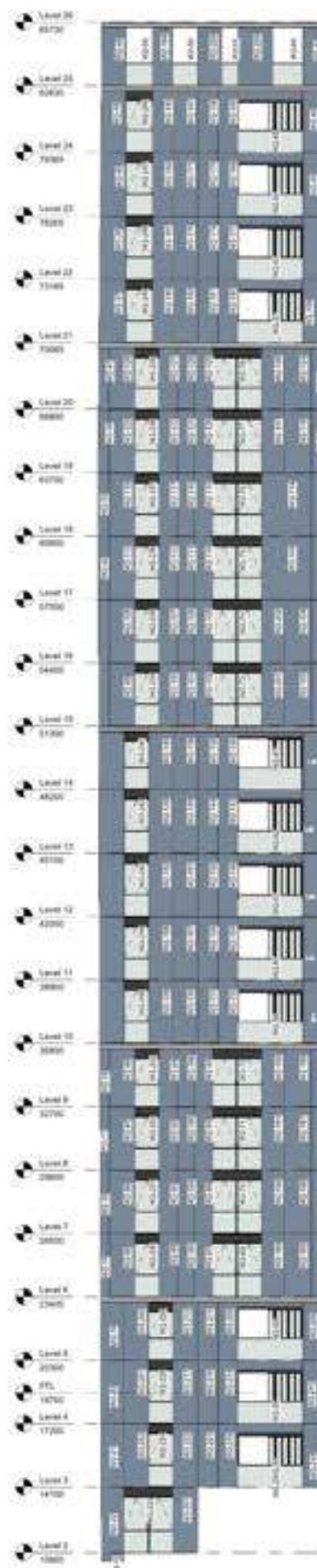
Plan of W2 Cladding - Level 10 to 14



Plan of W2 Cladding - Level 06 to 09



Plan of W2 Cladding - Level 03 to 05  
1:100



Elevation W2  
1:100

W2 - 2

Cladding Panel and Window / Door Assemblies - Elevations.

**NOTES**

1. Above drawing dimensions are approximate. Actual dimensions of the final design may differ. Contractors are to make allowances for increased dimensions and the provision for the final available vertical space.
2. All panel sizes, positions, dimensions, details and the like.

**3D View of Elevation W2**

**KEY PLAN**

No.	Description	Date
1	Architectural Drawing	2018-01-01
2	Technical Drawing	2018-01-01
3	Photograph	2018-01-01

**BroadwayMalyan™**  
Architecture Urbanism Design

Project Name: Nine Elms Sainsbury's Redevelopment  
Address: Nine Elms, London SW8  
Client: Barratt London  
Project: Nine Elms Sainsbury's Redevelopment  
Architect: BroadwayMalyan  
Block G - West Elevation - W2  
Cladding Panels and Windows / Door Assemblies

Tender  
Ref. No.: T-100-042-004  
Date Issued: 23/04/2018  
Issue Number: 20204-A-0-21-021  
Page: C  
Copyright © BroadwayMalyan Ltd 2018

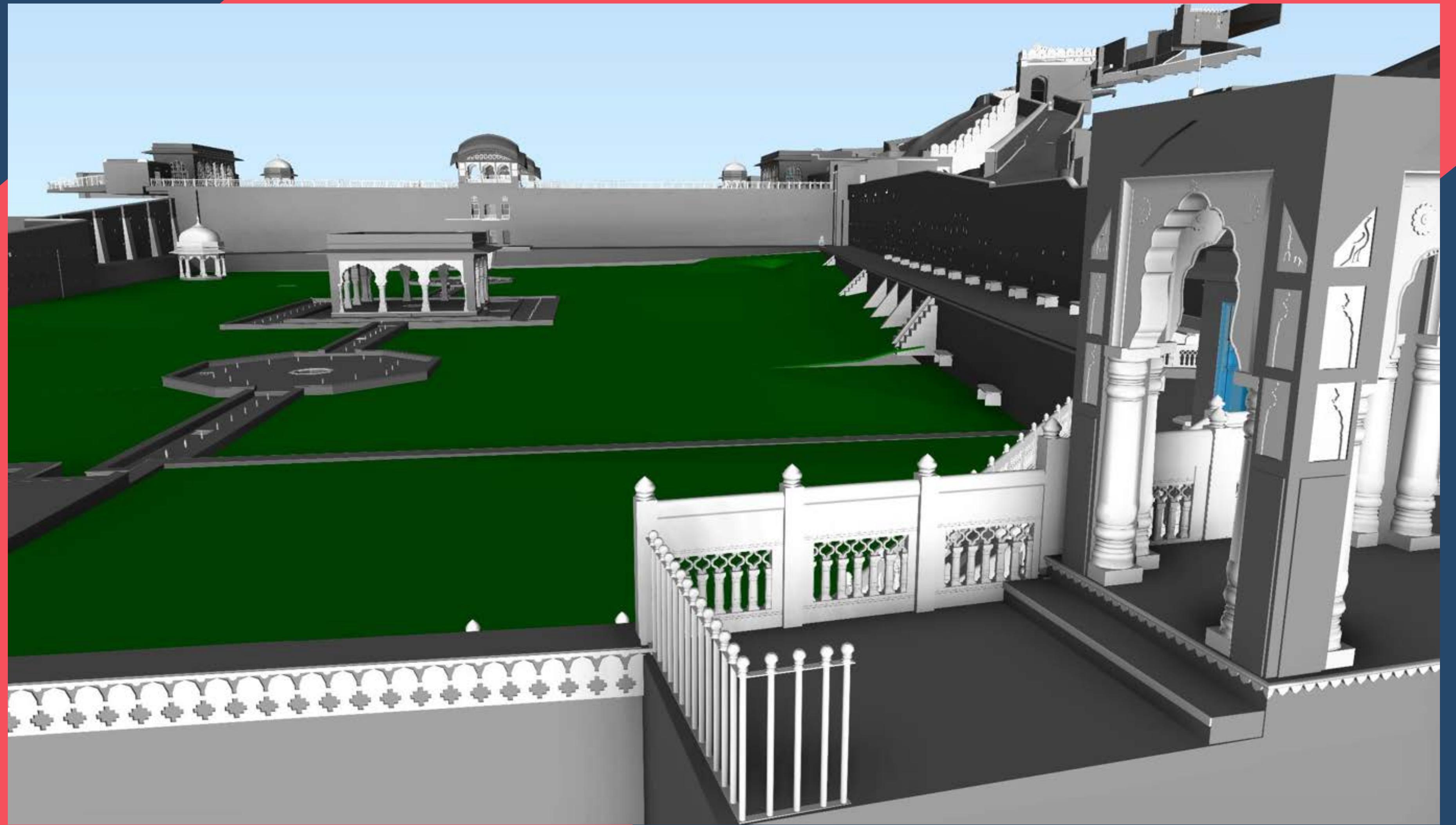
Rajasthan Government's Digital India Project

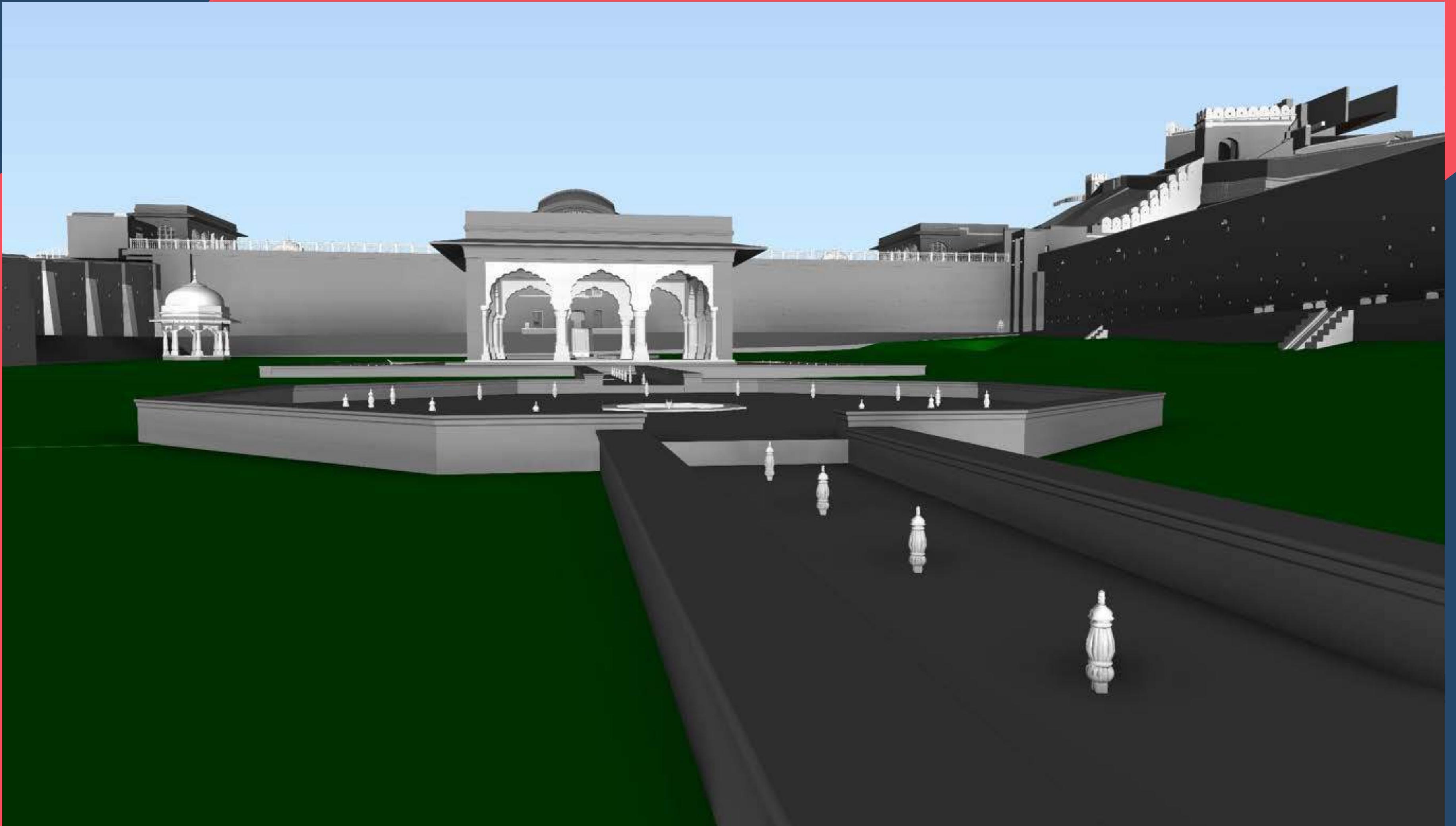
# Amber Fort, Jaipur, Rajasthan, India

*Scan to BIM for the whole Heritage Fort / Site*

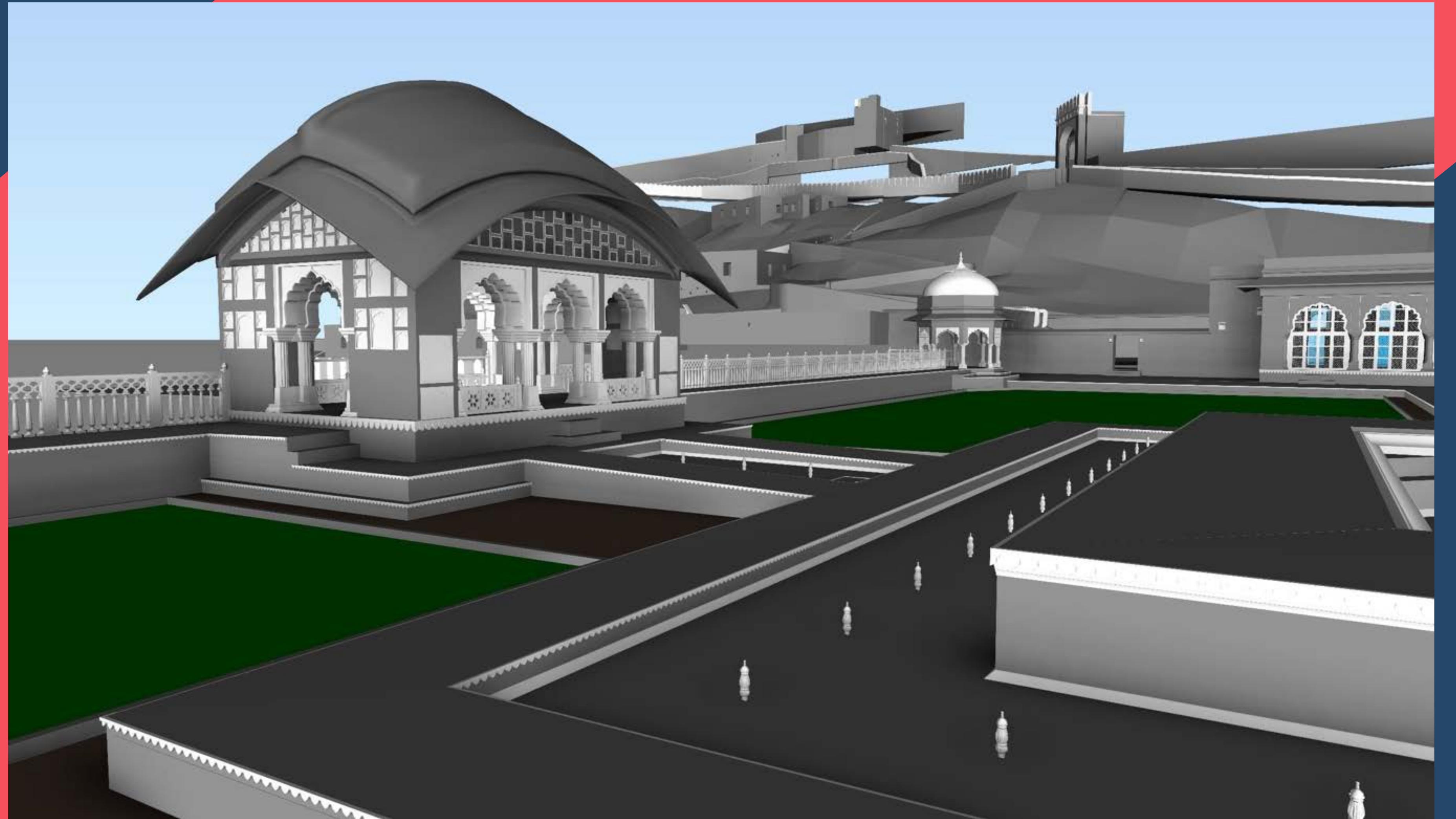




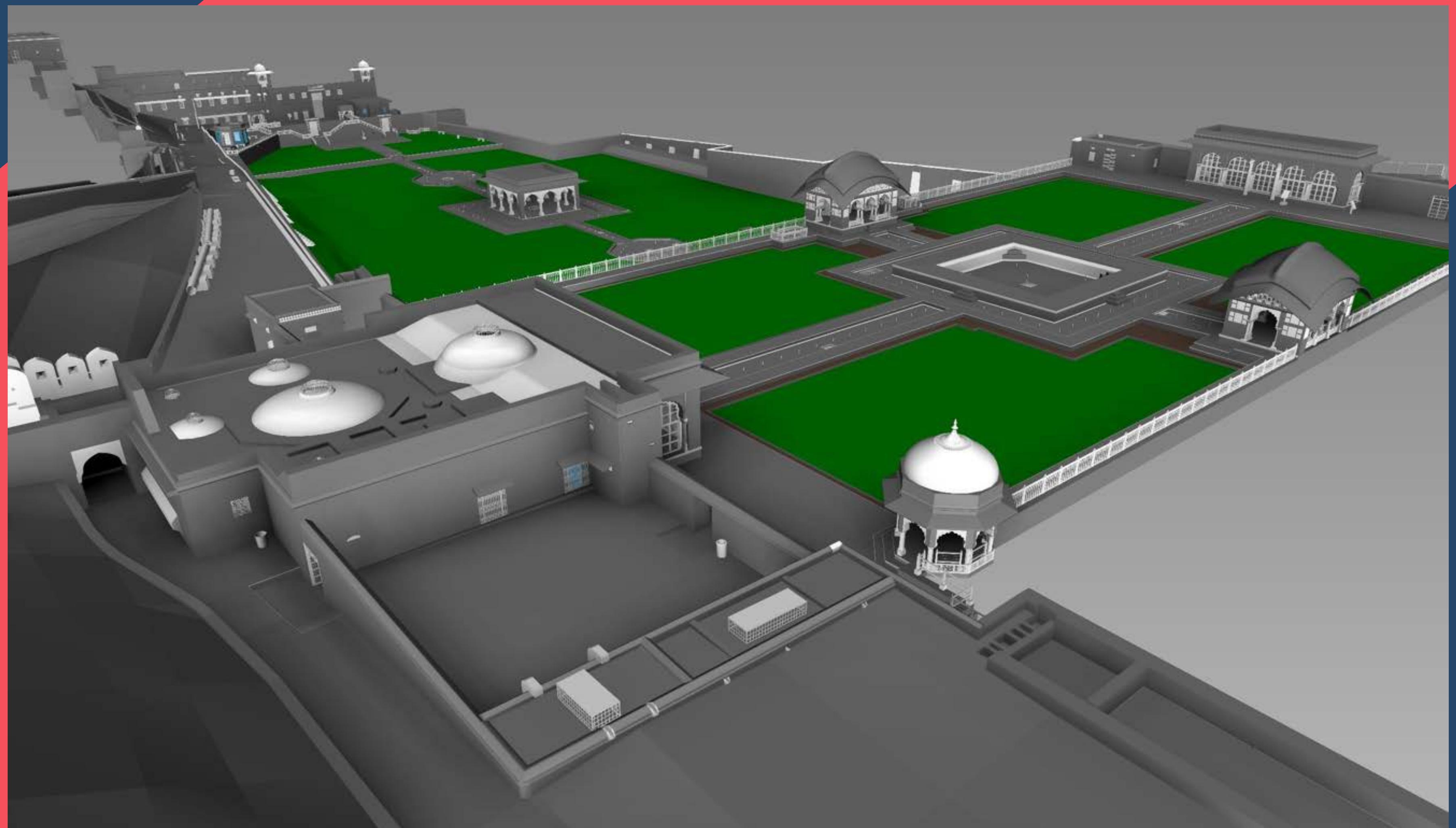






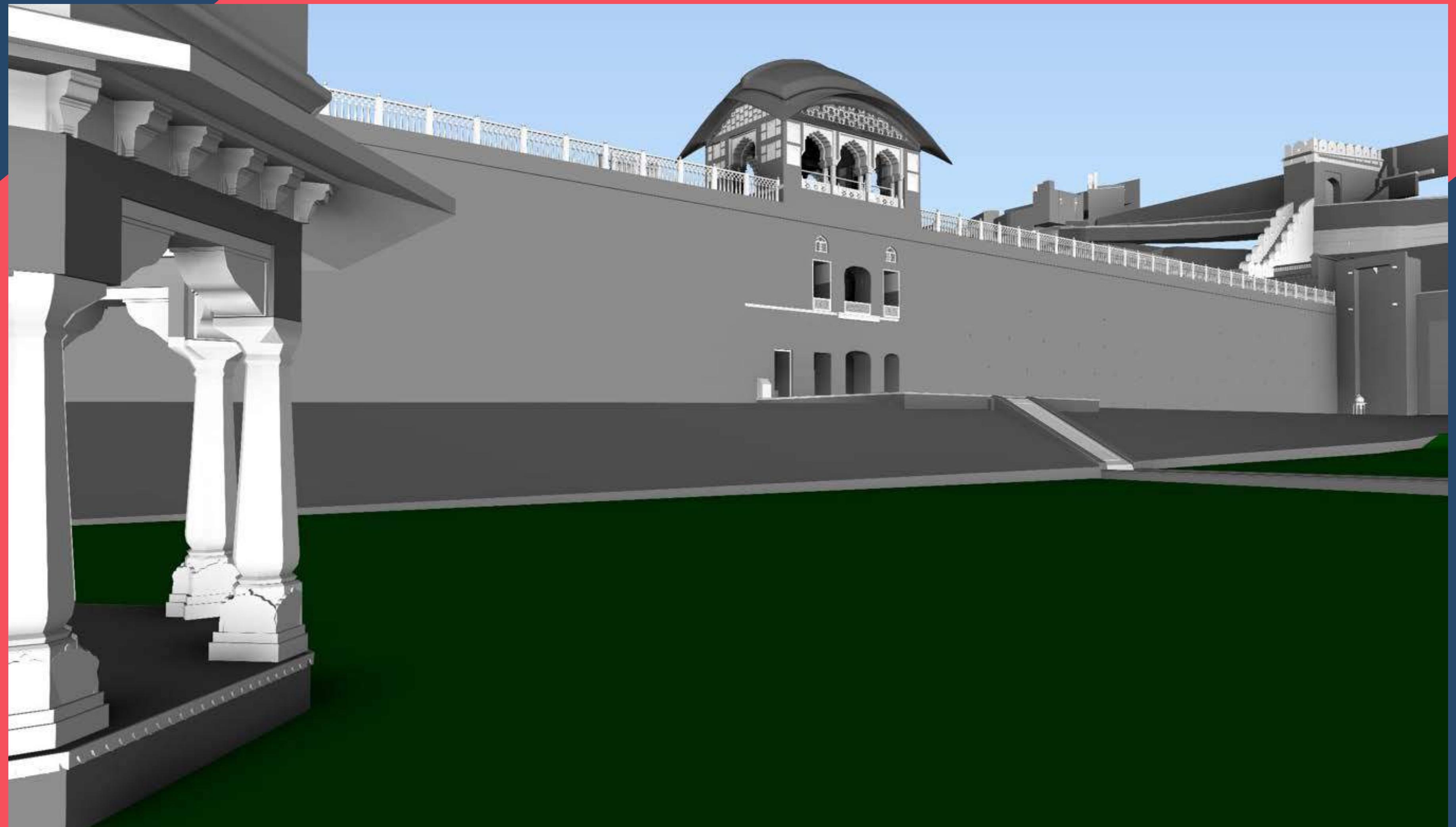




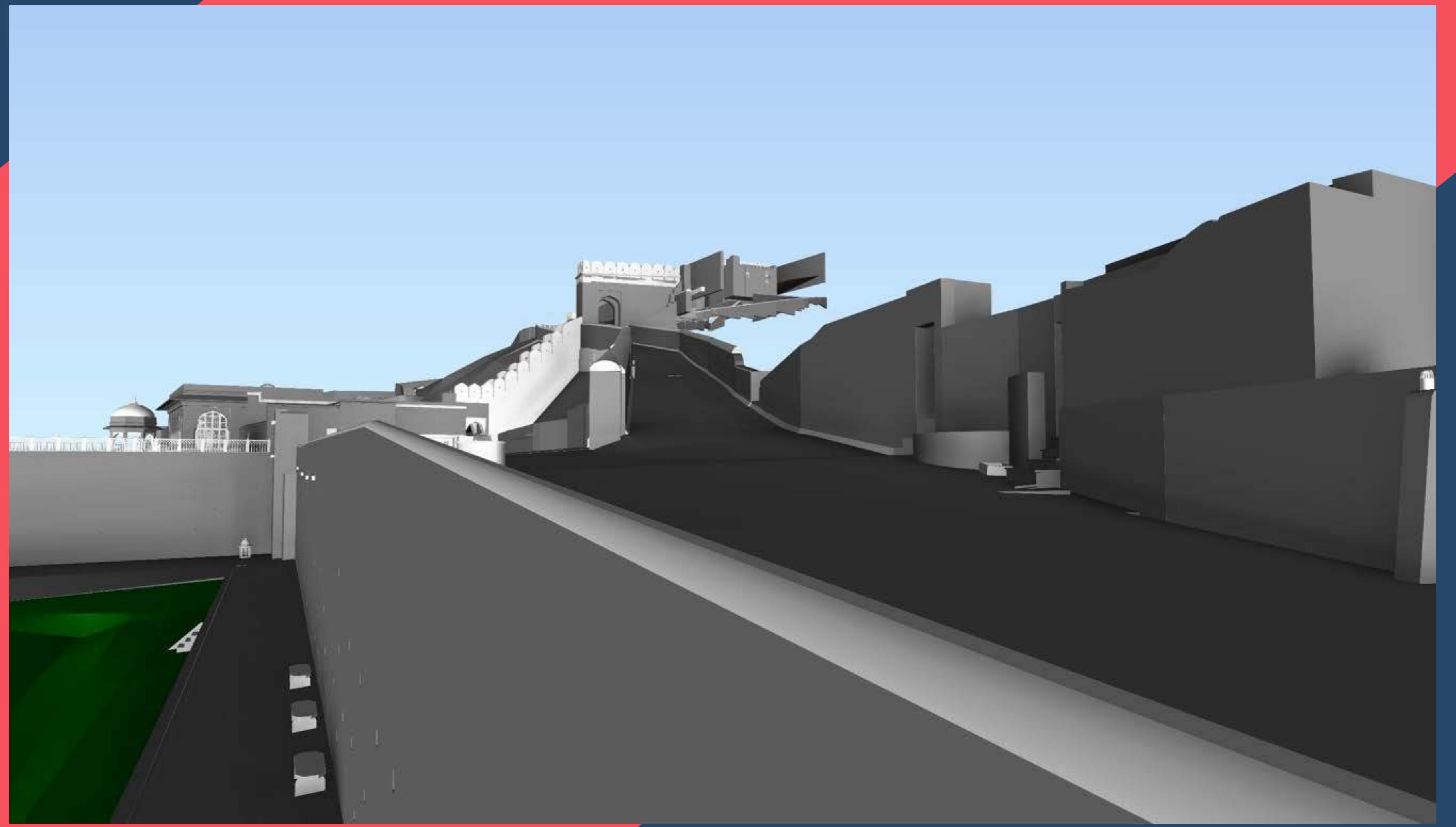


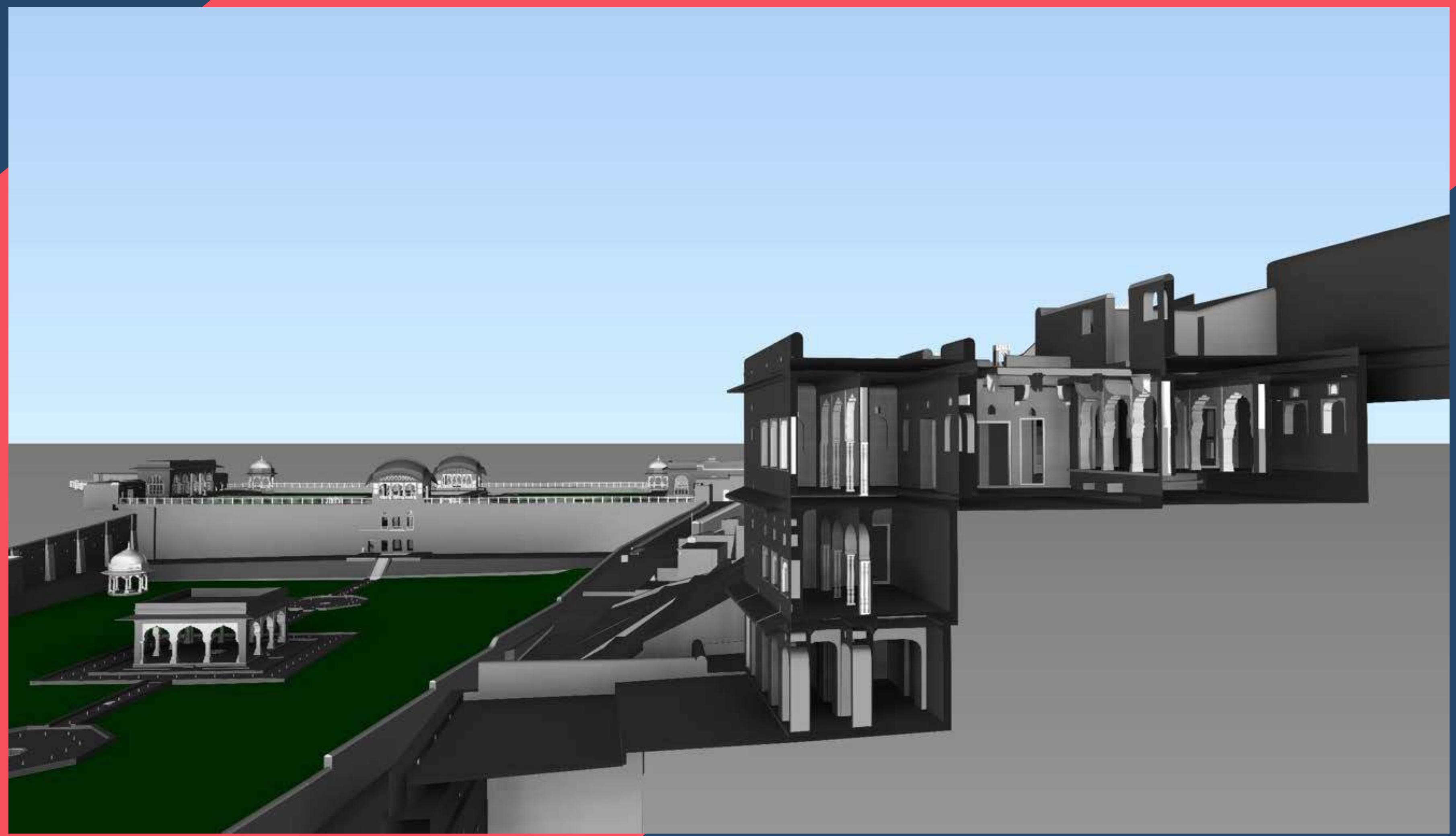












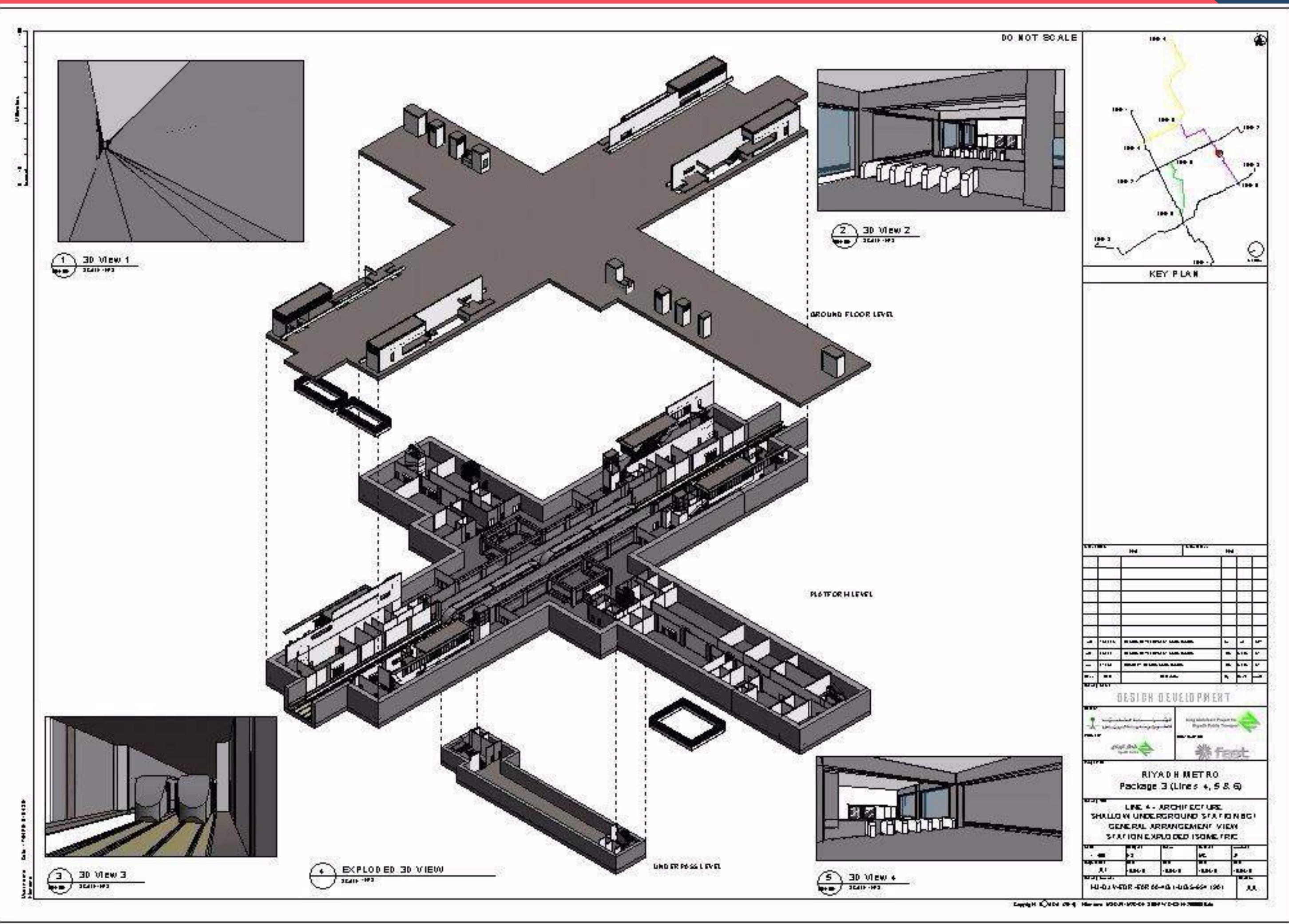


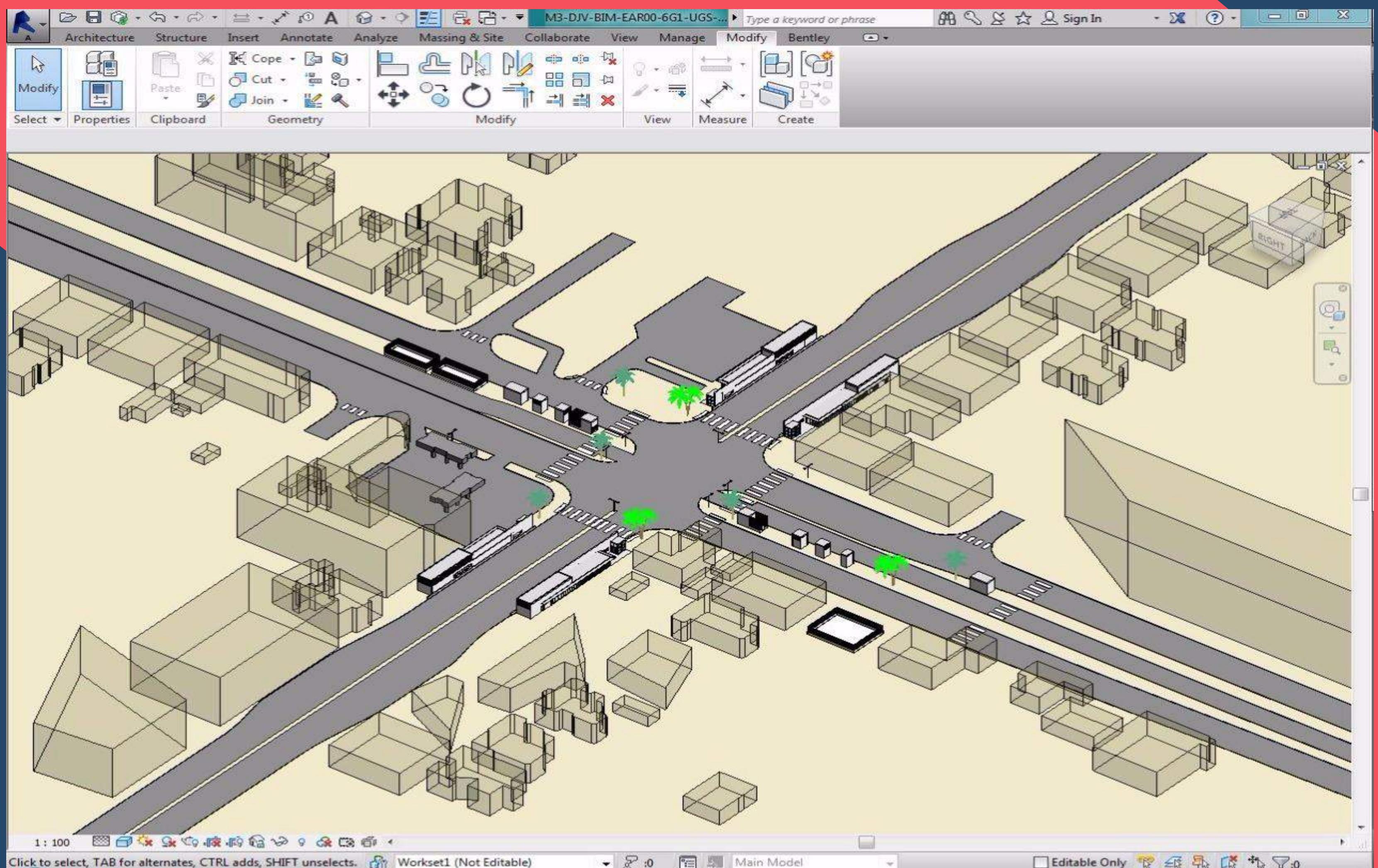
The Royal Commission for Riyadh City (RCRC)

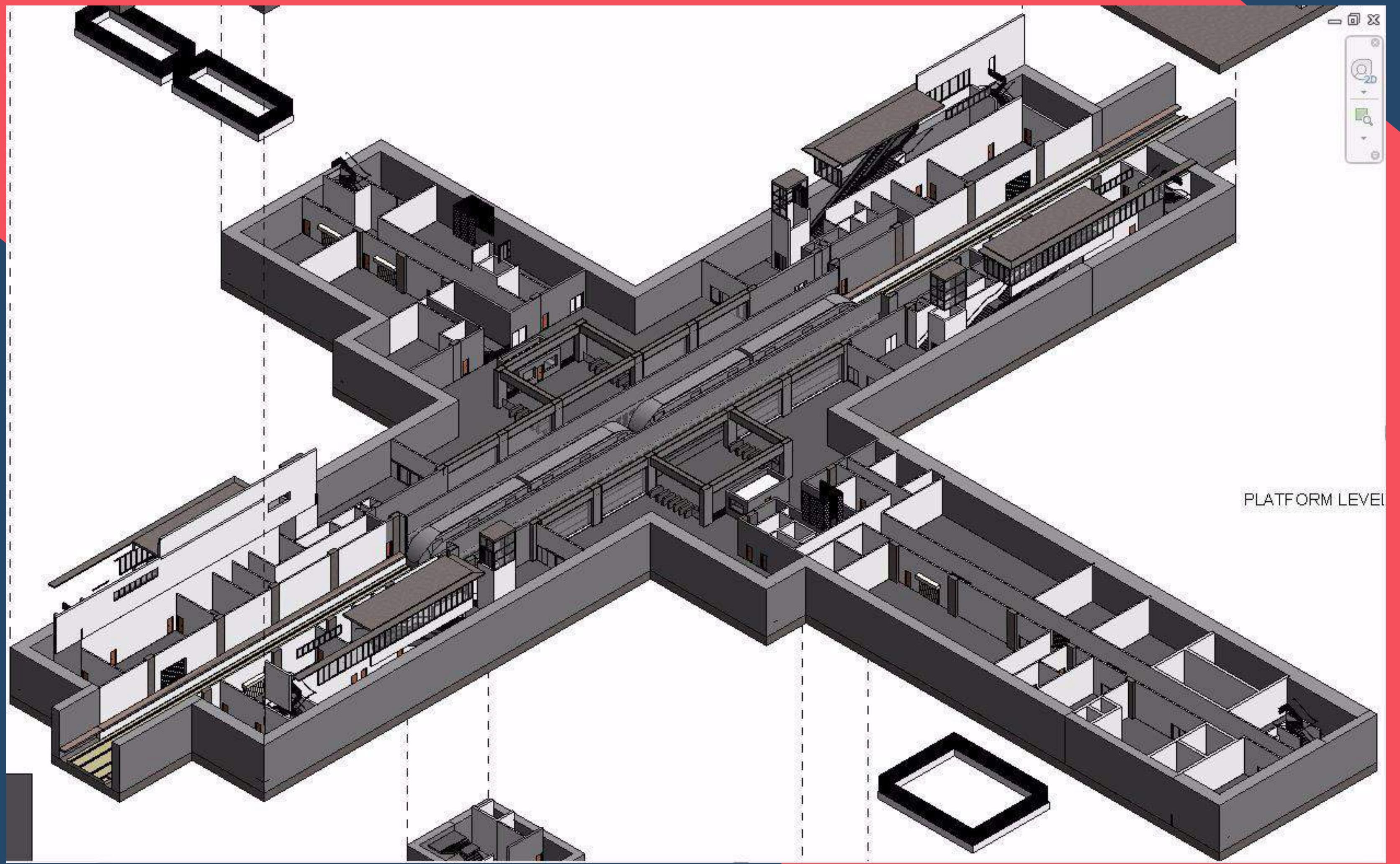
# Riyadh Metro Line 1,2,4 & 6

*Designing, BIM Modelling & GFC Documentation  
For Underground and Elevated Stations*

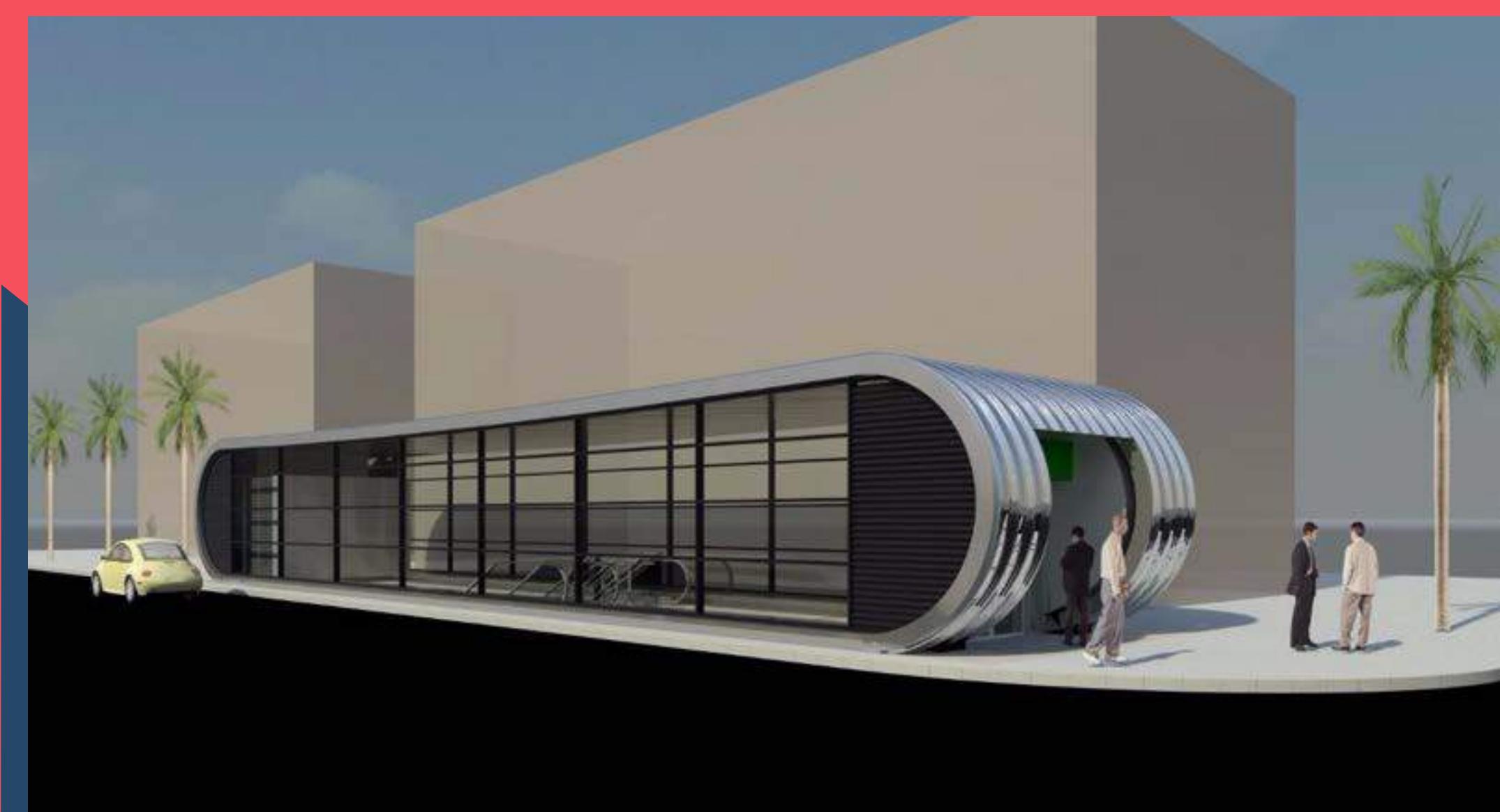






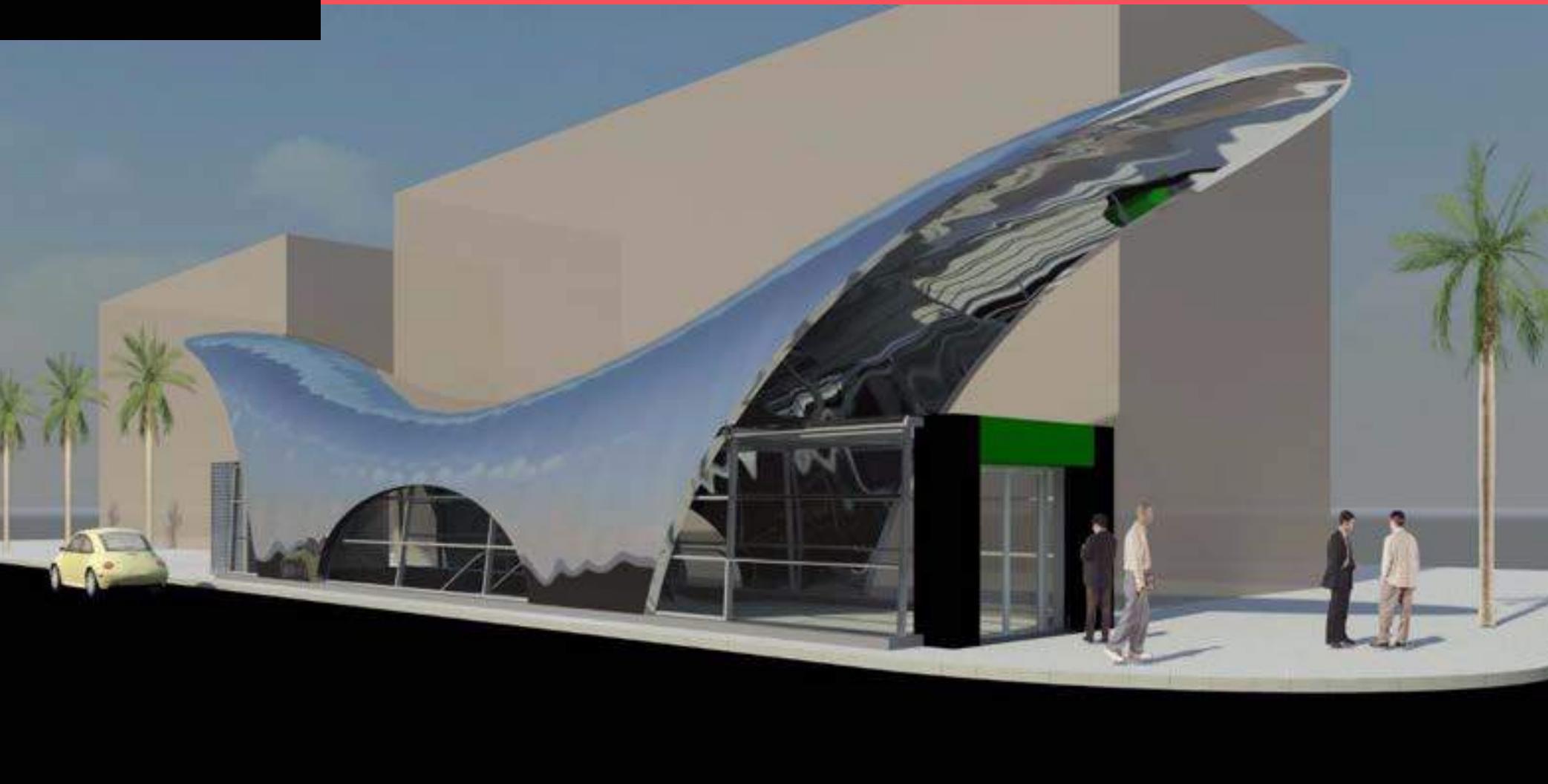
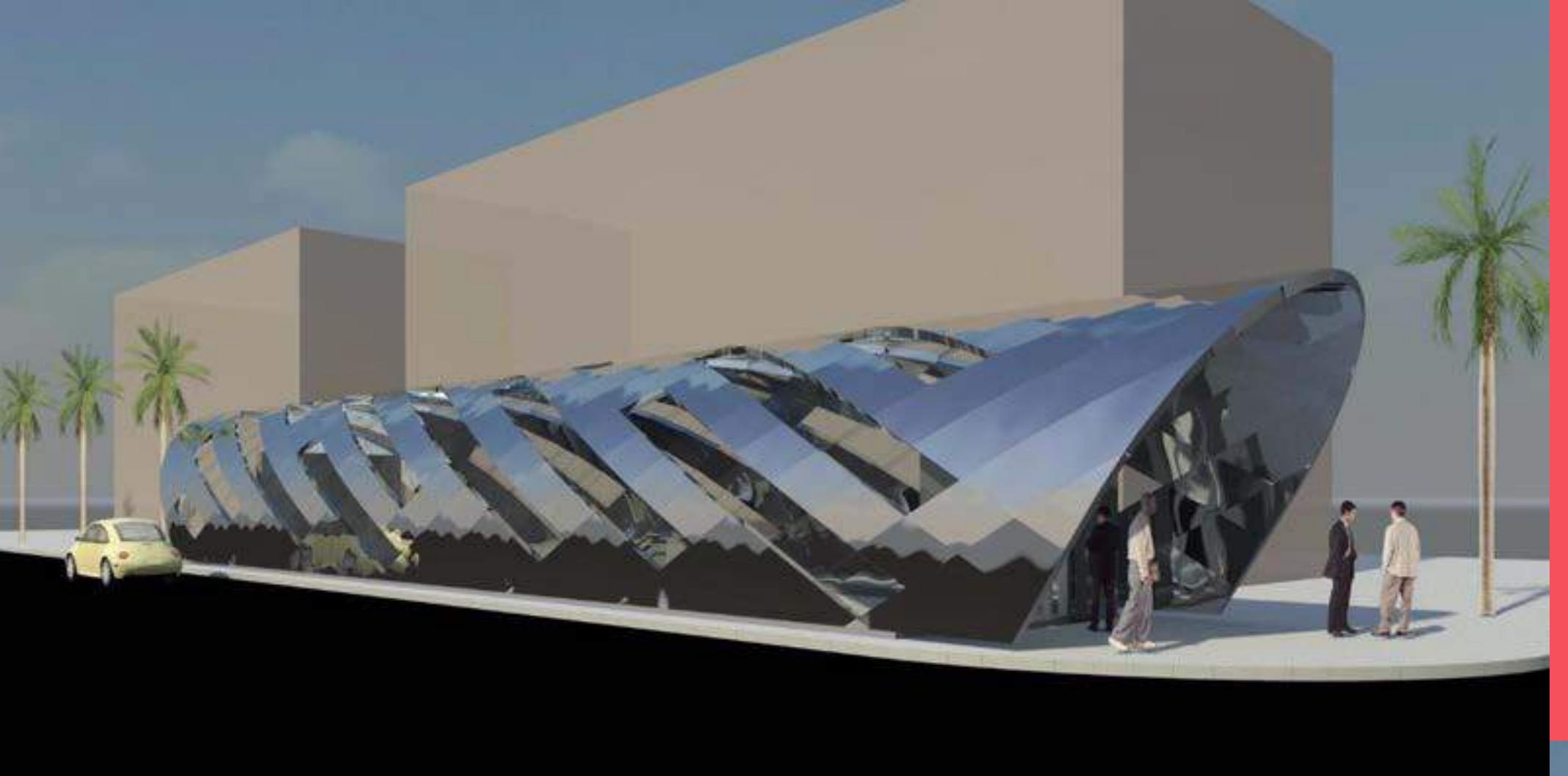


PLATFORM LEVEL



*Rendered Entry-Exit Design  
Options for Underground Stations*





*Rendered Entry-Exit Design  
Options for Underground Stations*



*Rendered Views for Underground  
and Elevated Stations*

NBK Group

# National Bank of Kuwait Headquarters

*BIM Modelling, Coordination & GFC Documentation*

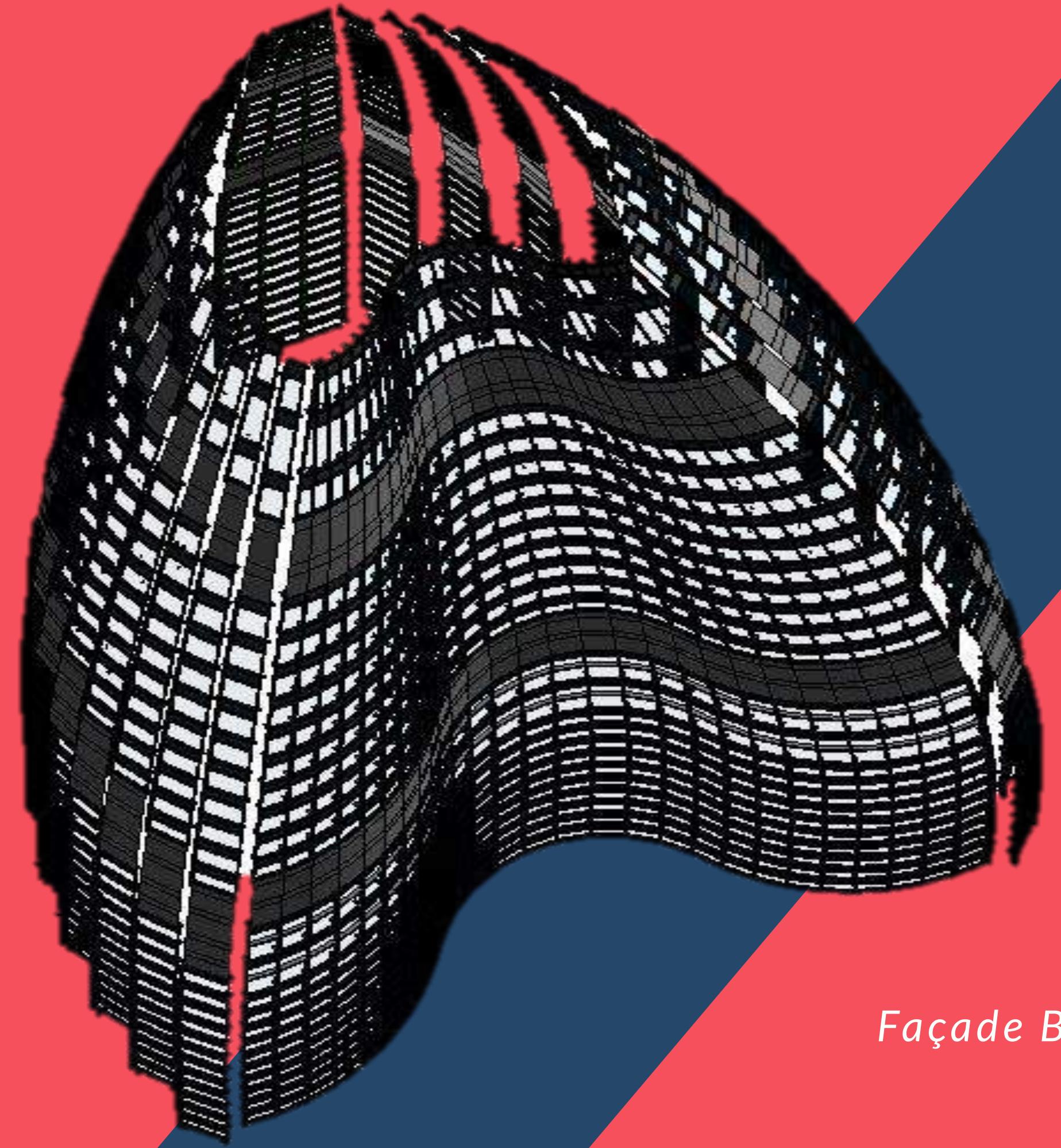


© National Bank of Kuwait via CTBUH





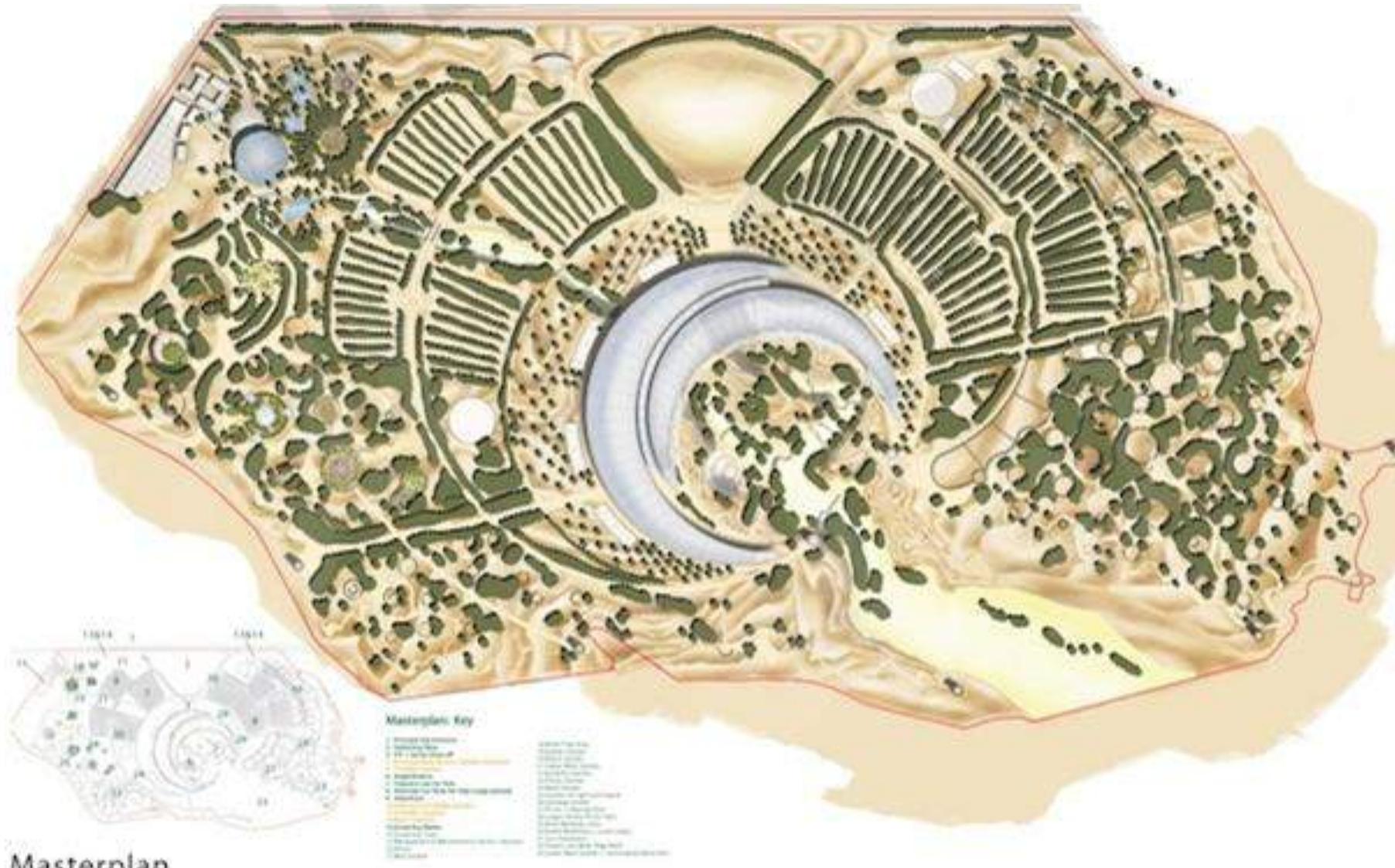




*Façade BIM Model*

# King Abdullah International Gardens

## Riyadh, Saudi Arabia



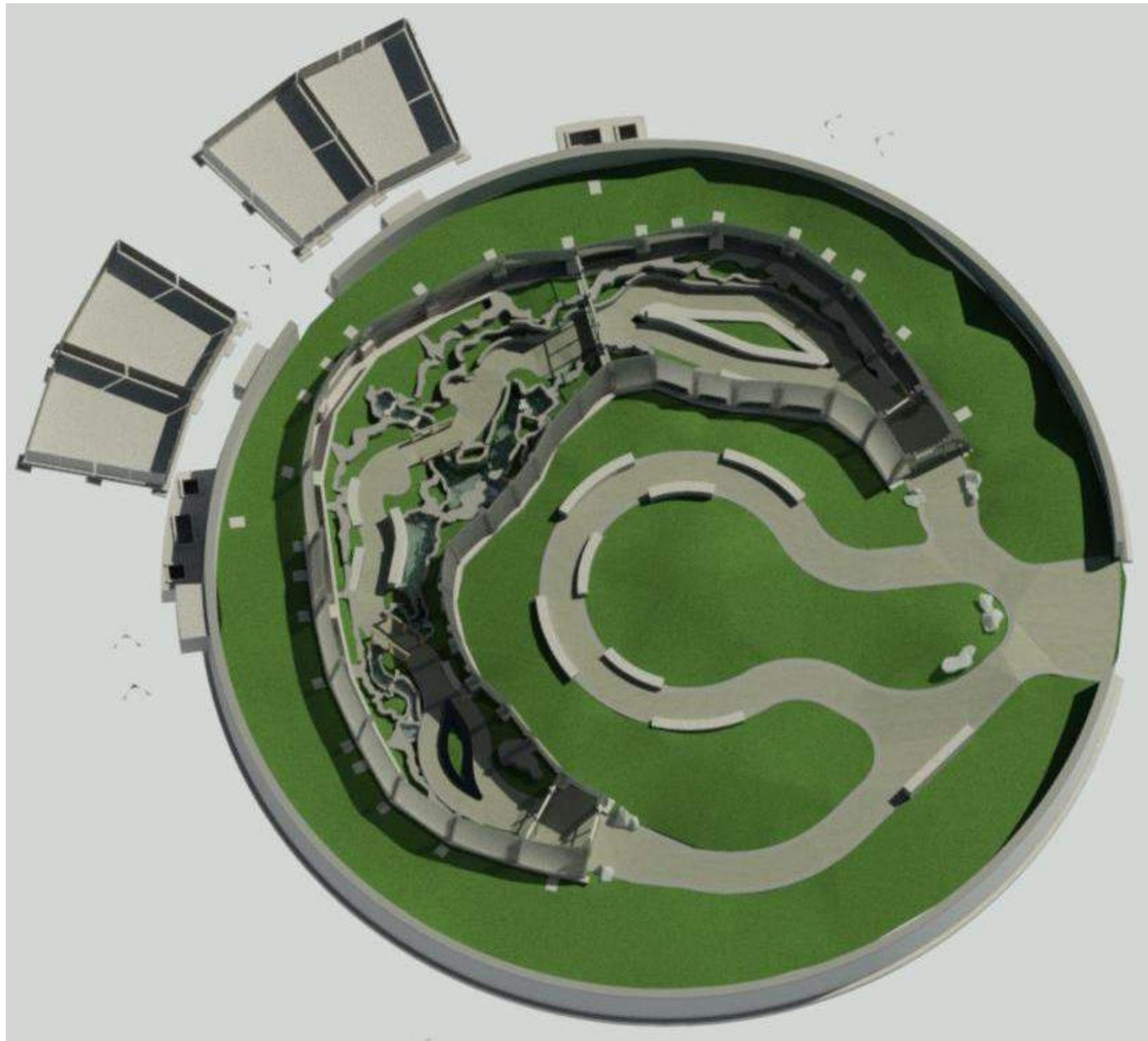
Masterplan



KAIG consists of several Botanical Gardens commissioned by the City of Riyadh as a gift to the new king, for a site to the Southwest of Riyadh. This Garden is located in the middle of an arid desert region which is intended to be a International Landmark.

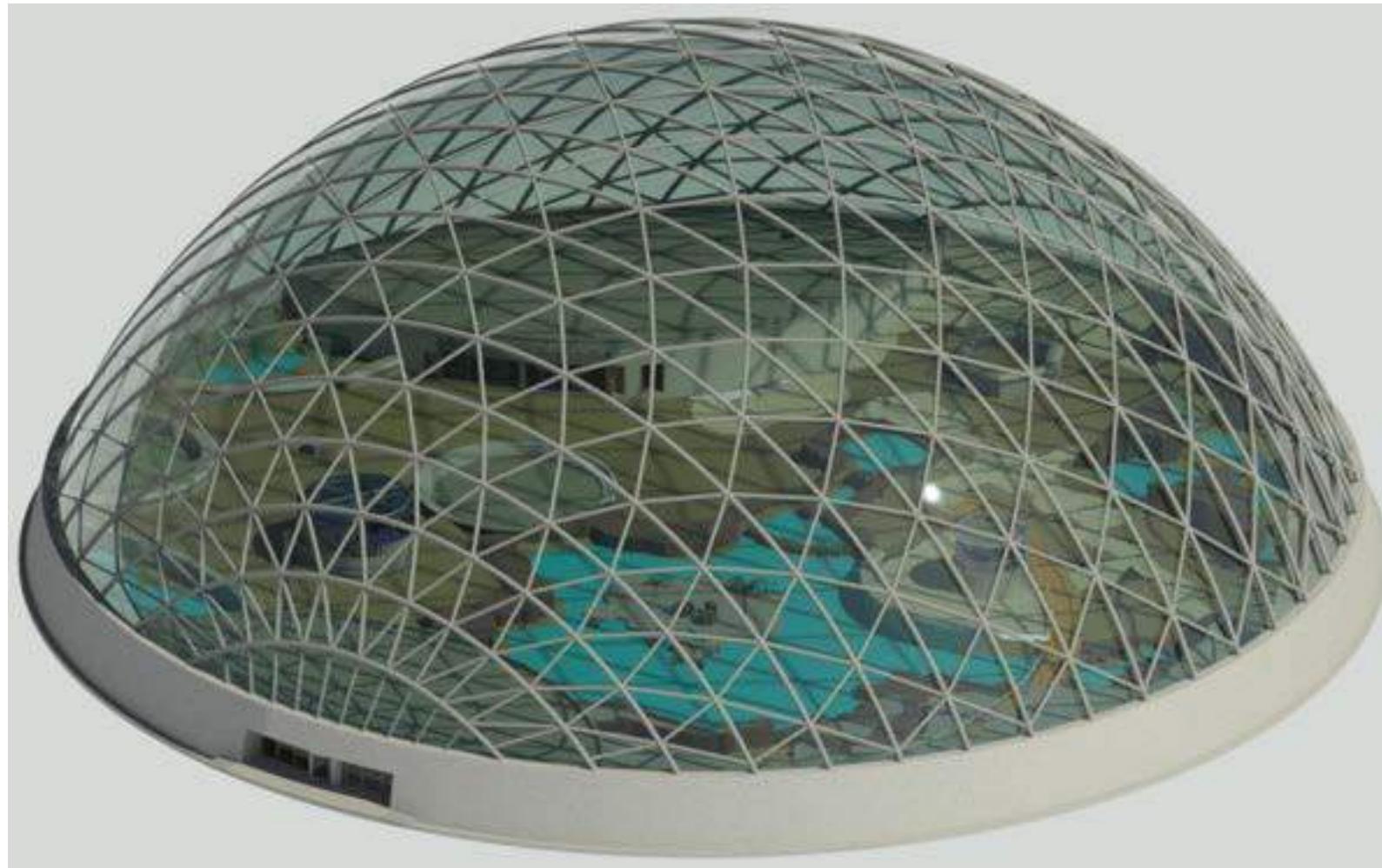
**Scope of work :** LOD 300 BIM Models from CAD of Architecture, Structure & MEPF and Clash Detection Reports between Inter-Discipline.

# Butterfly Garden

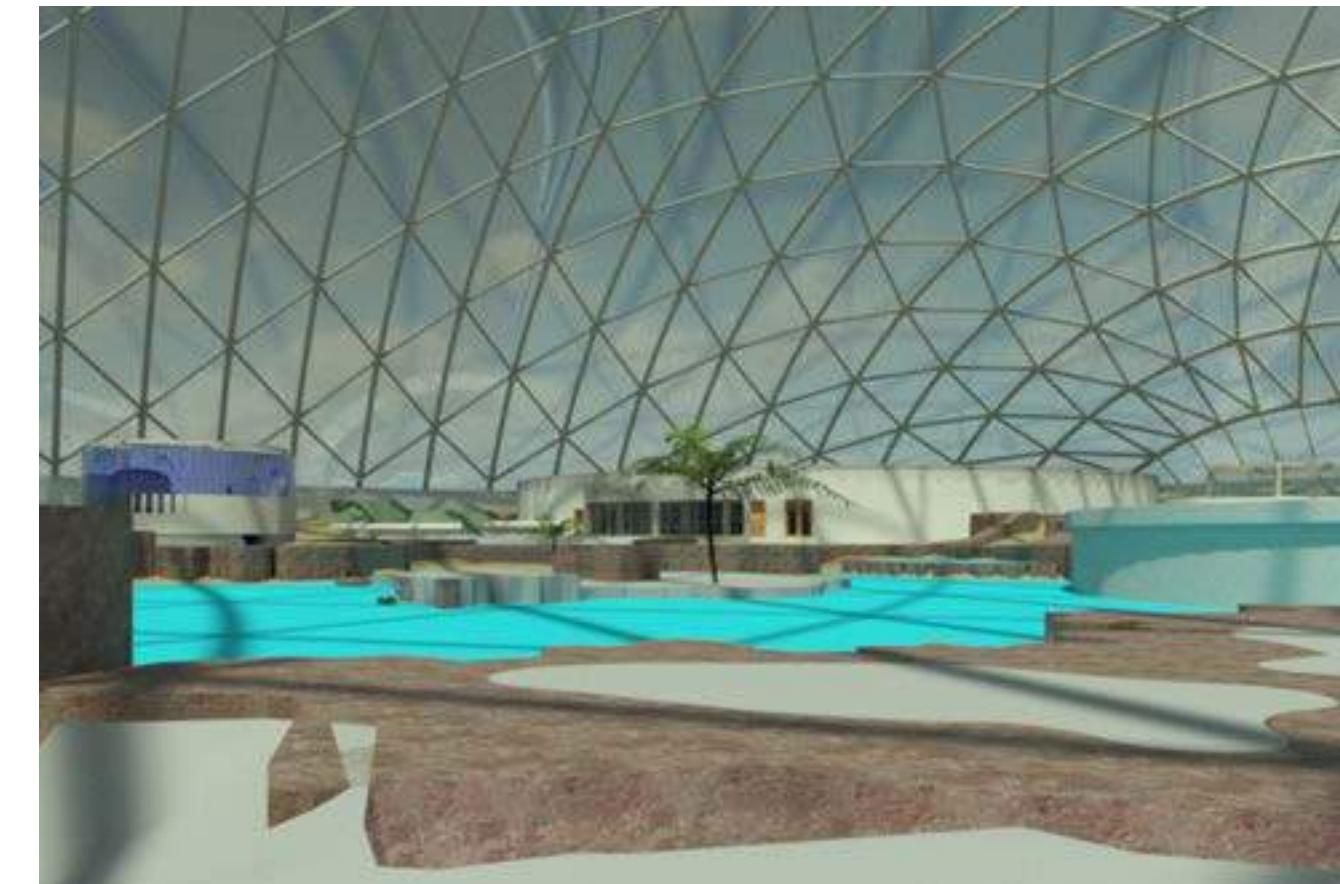
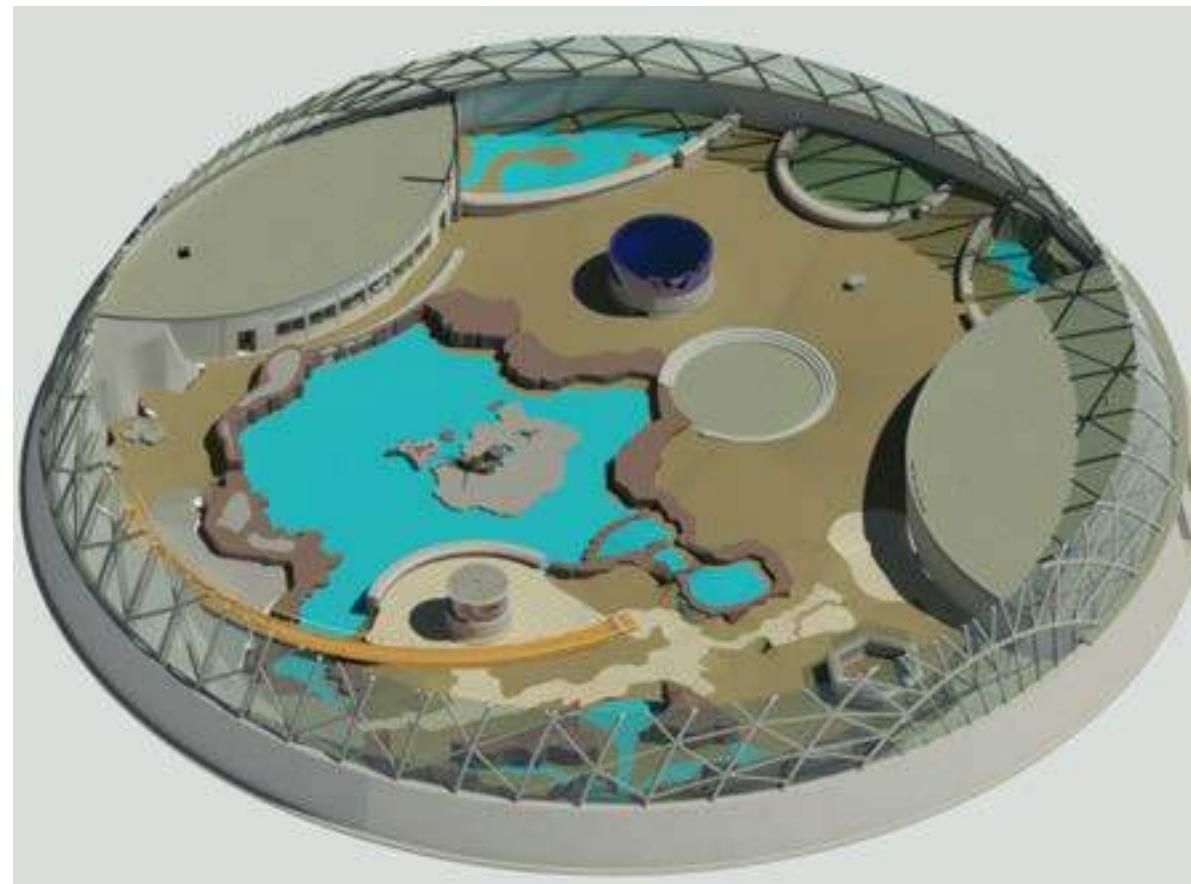
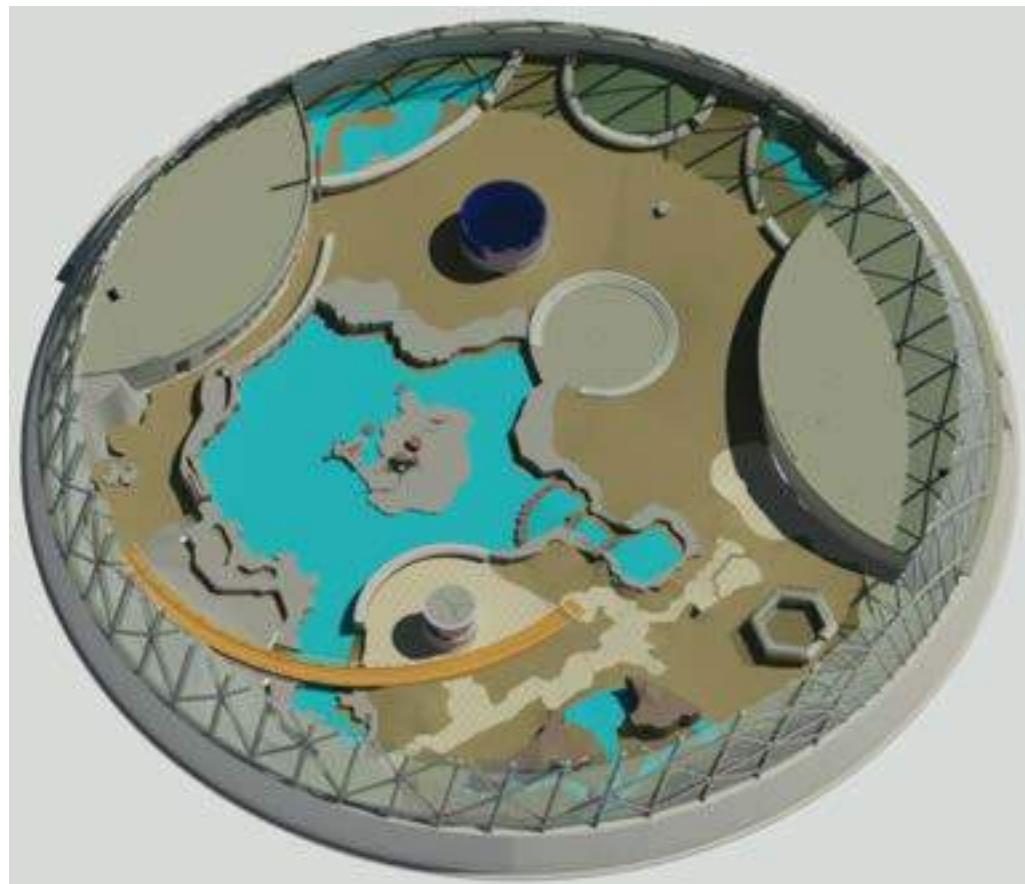


The Butterfly Garden in KAIG is the garden having Butterflies in a controlled environment so that they can live in their natural habitat.

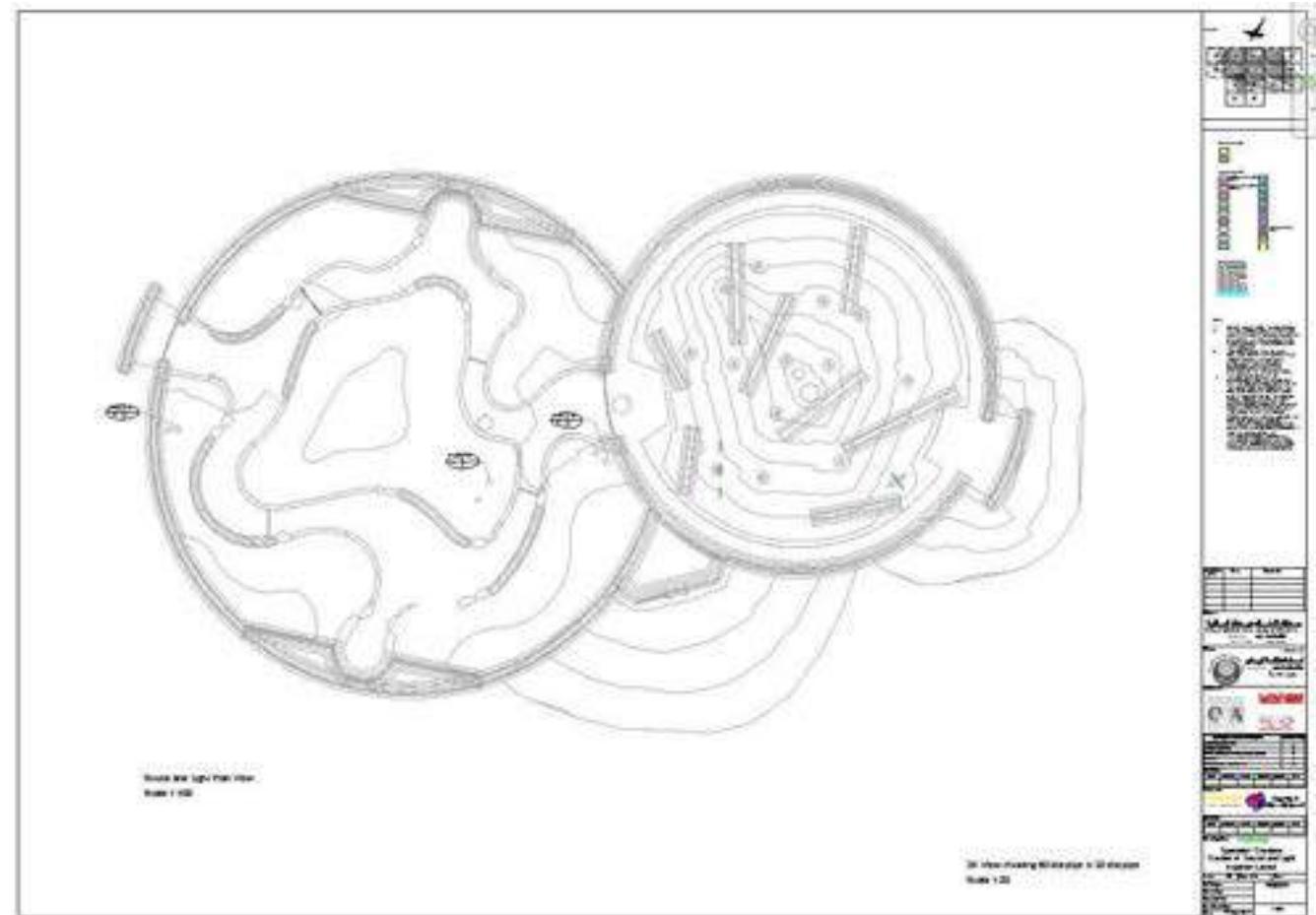
# The Aviary



The Aviary in KAIG is the facility having Birds in a controlled environment so that they can live in their natural habitat alongside with the Flora maintaining a perfectly balanced ecosystem in the middle of a Desert.



# Sound and Light Garden

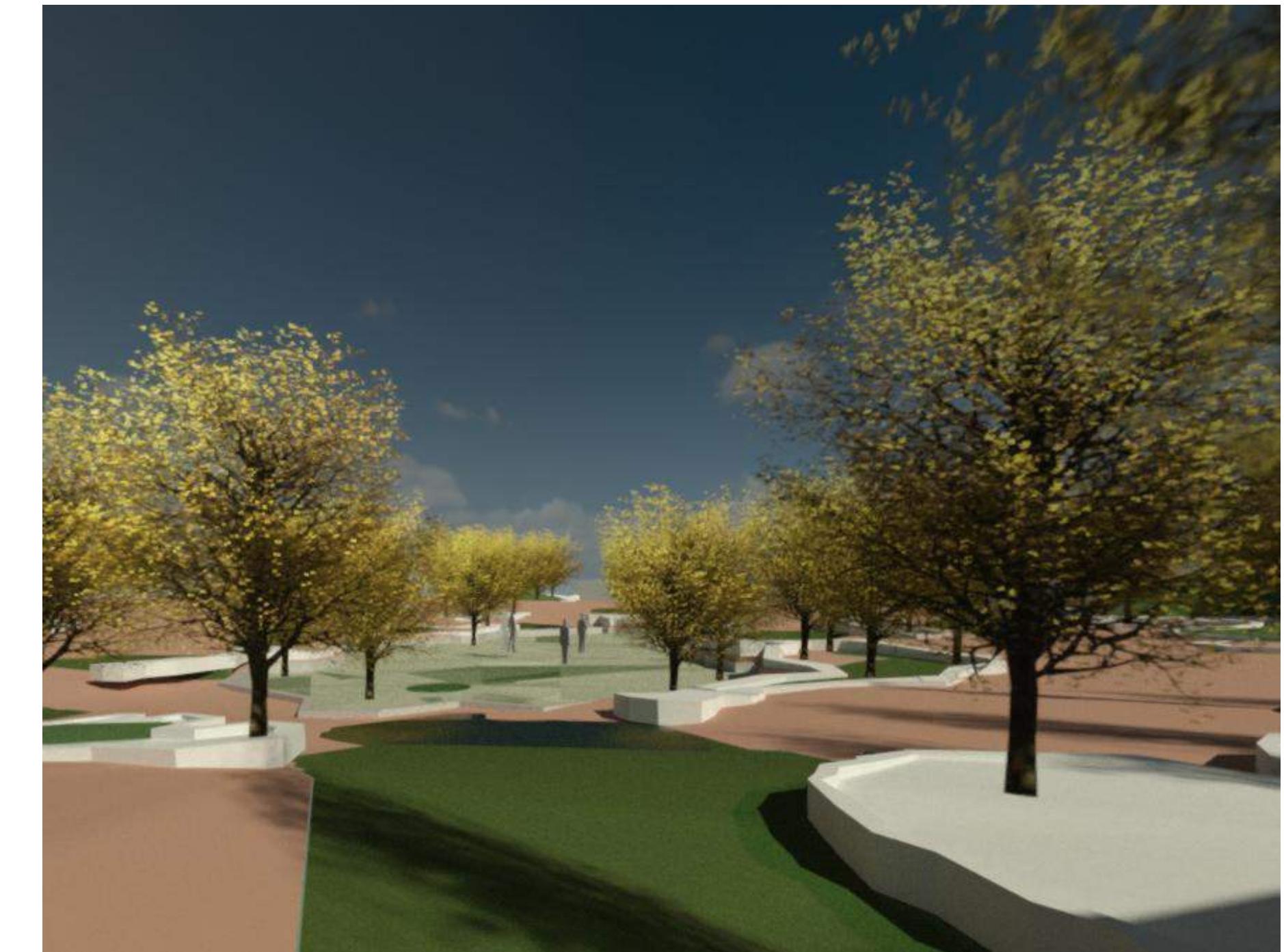


The Sound and Light Garden in KAIG is the facility having two circular enclosed areas where one has sound setup for plants known as Sound Garden and another one has colourful lights which can illuminate the area and enhance the ambient feel of the Light Garden.

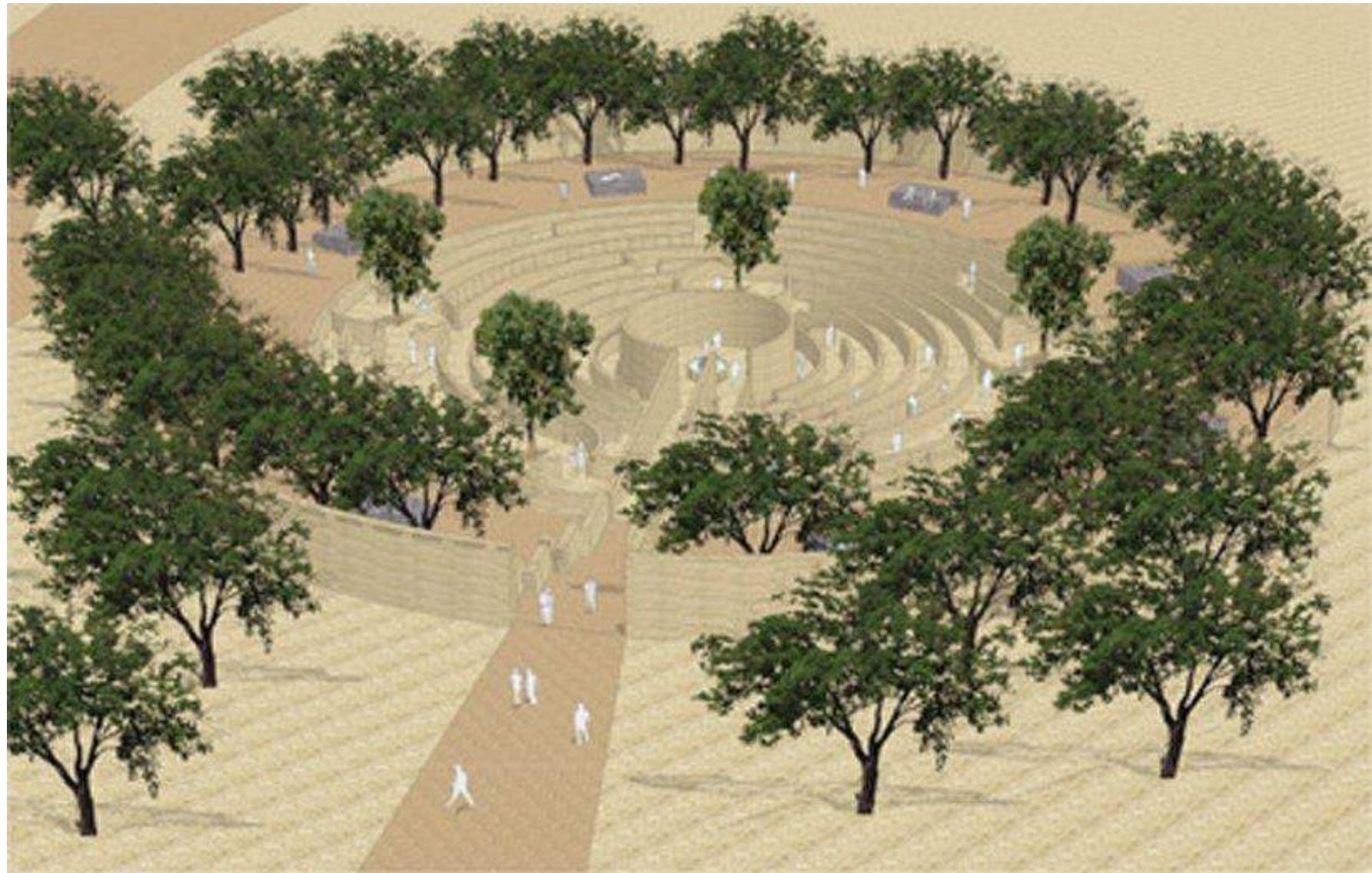
# Discovery Garden



The Discovery Garden in KAIG is the facility has lots of open spaces and lawns. This kind of places were used by the ancient Legendary Philosophers to discover new ideologies.



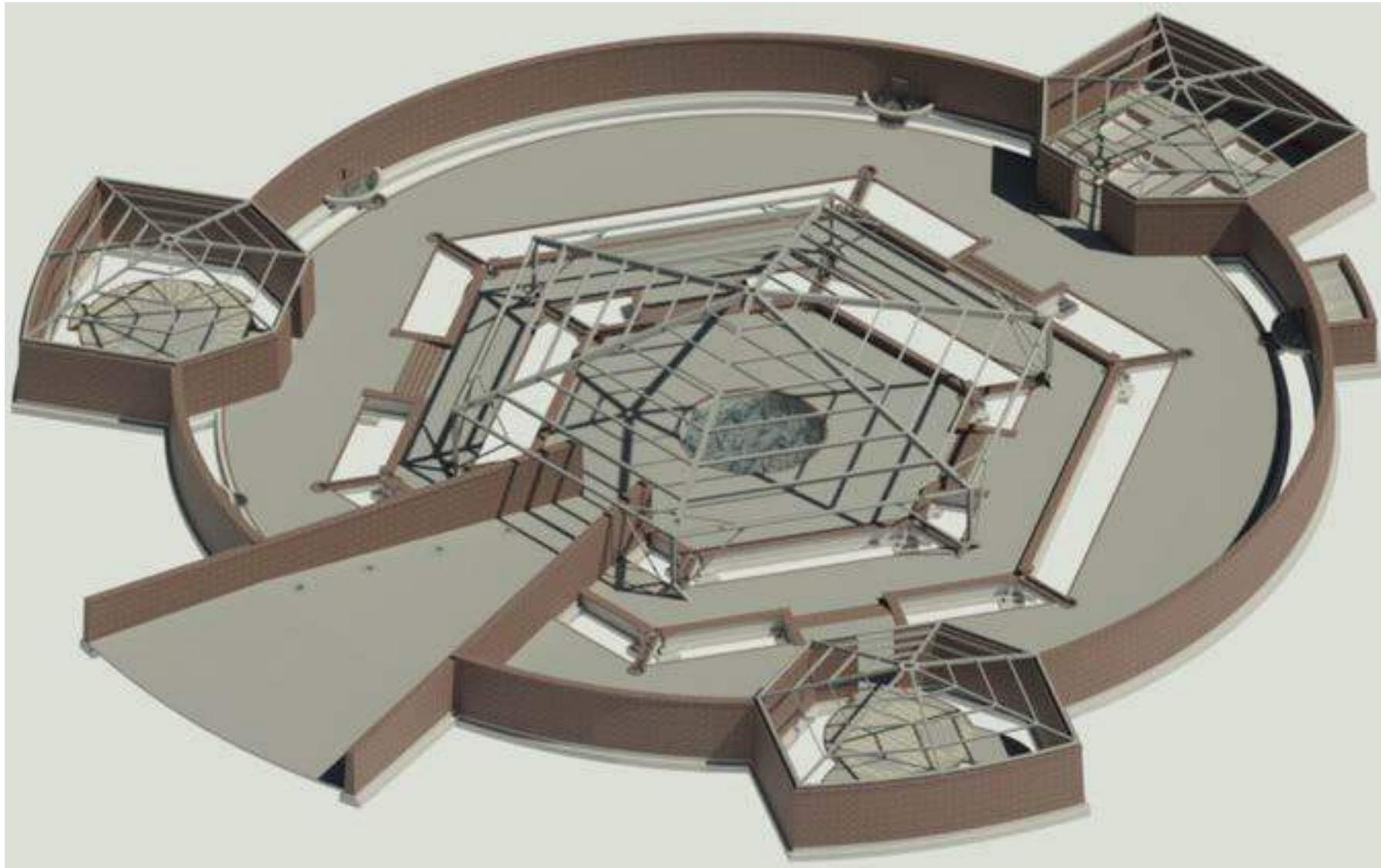
# The Maze



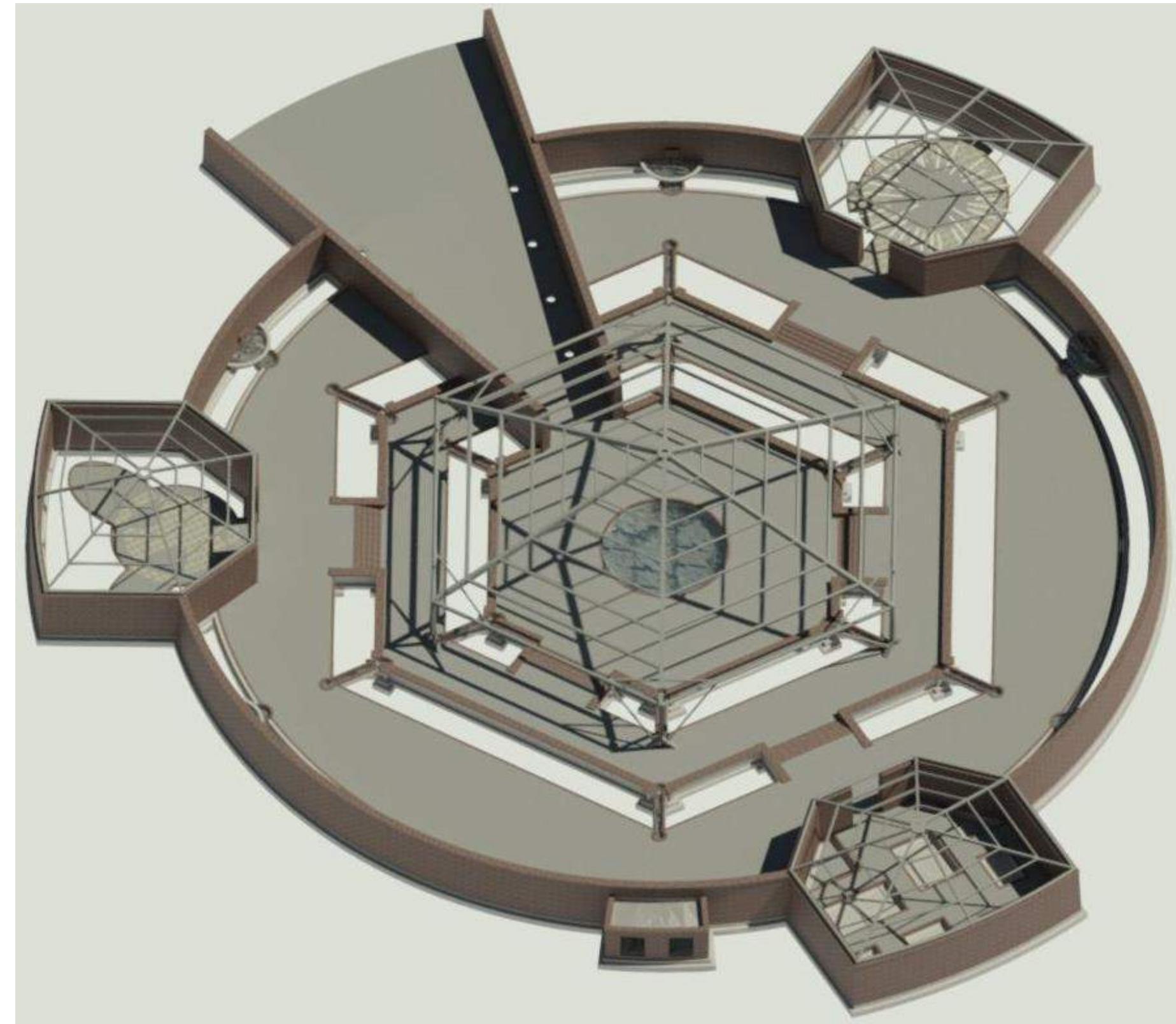
The Maze in KAIG is the facility has a Maze for creating more interest for the visitors of all age groups.



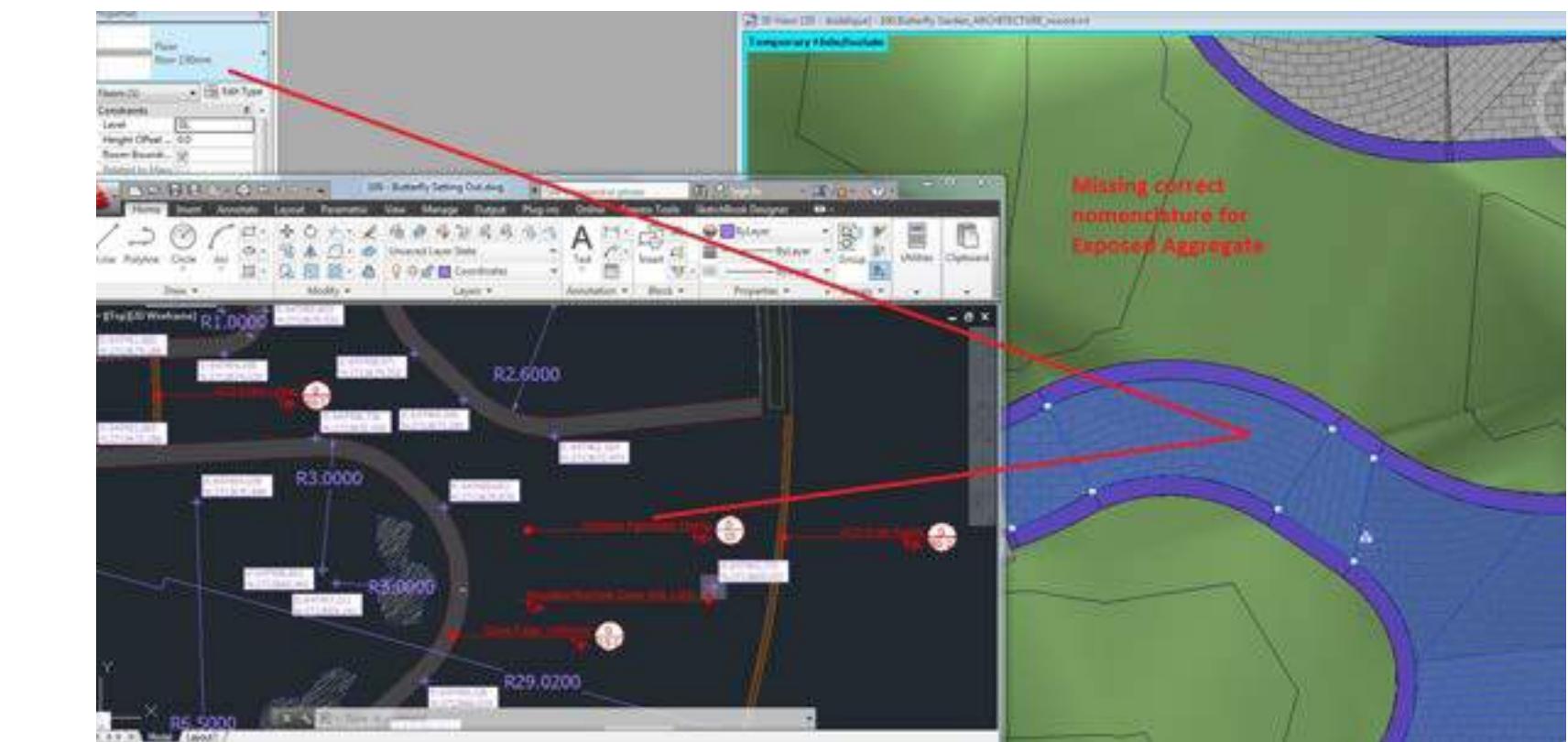
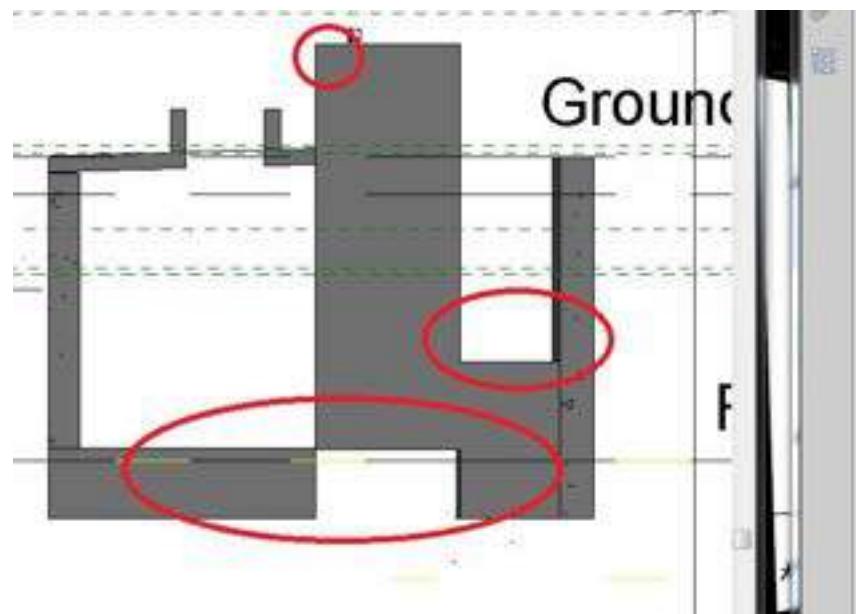
# Physic Garden



The Maze in KAIG is the facility has a Maze for creating more interest for the visitors of all age groups.

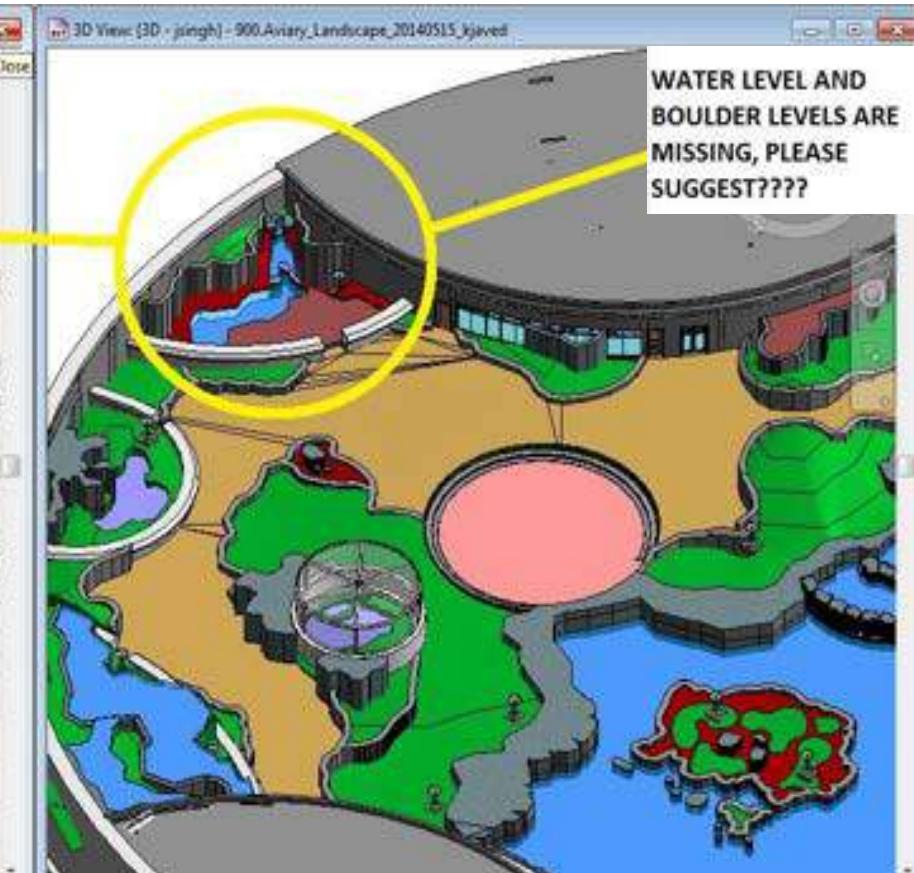
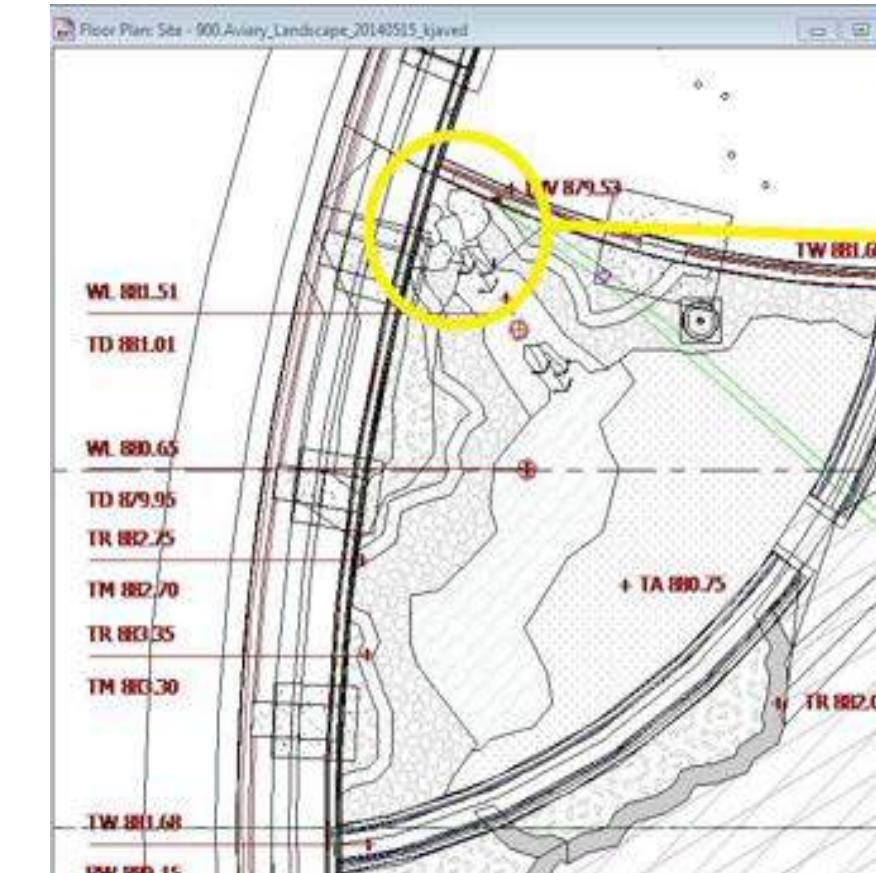
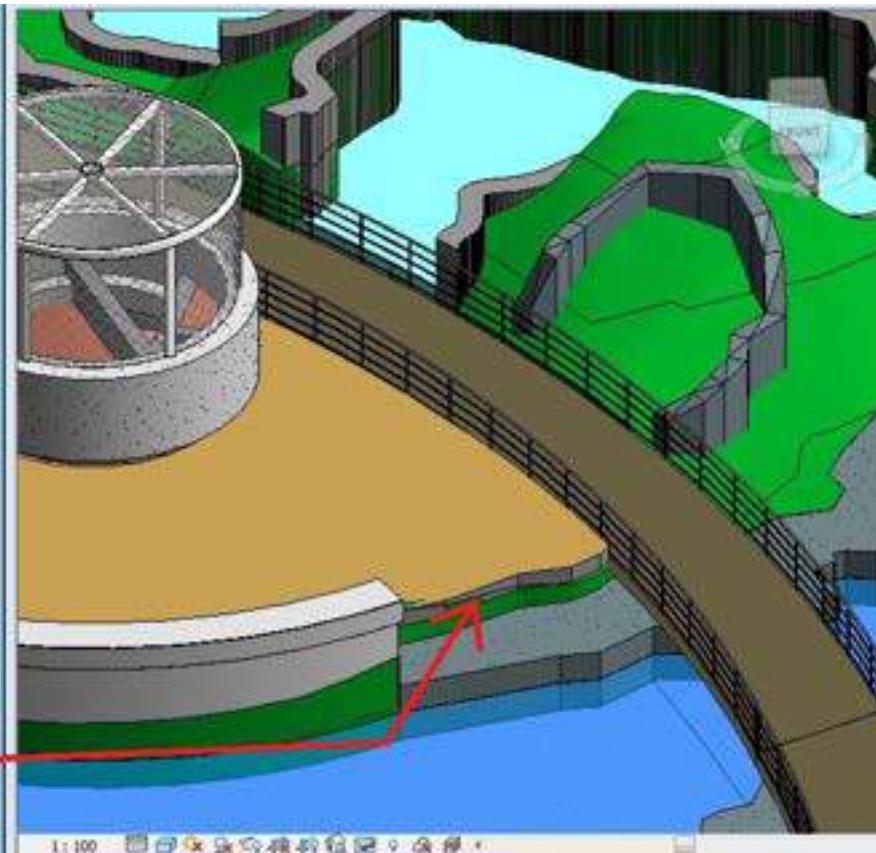
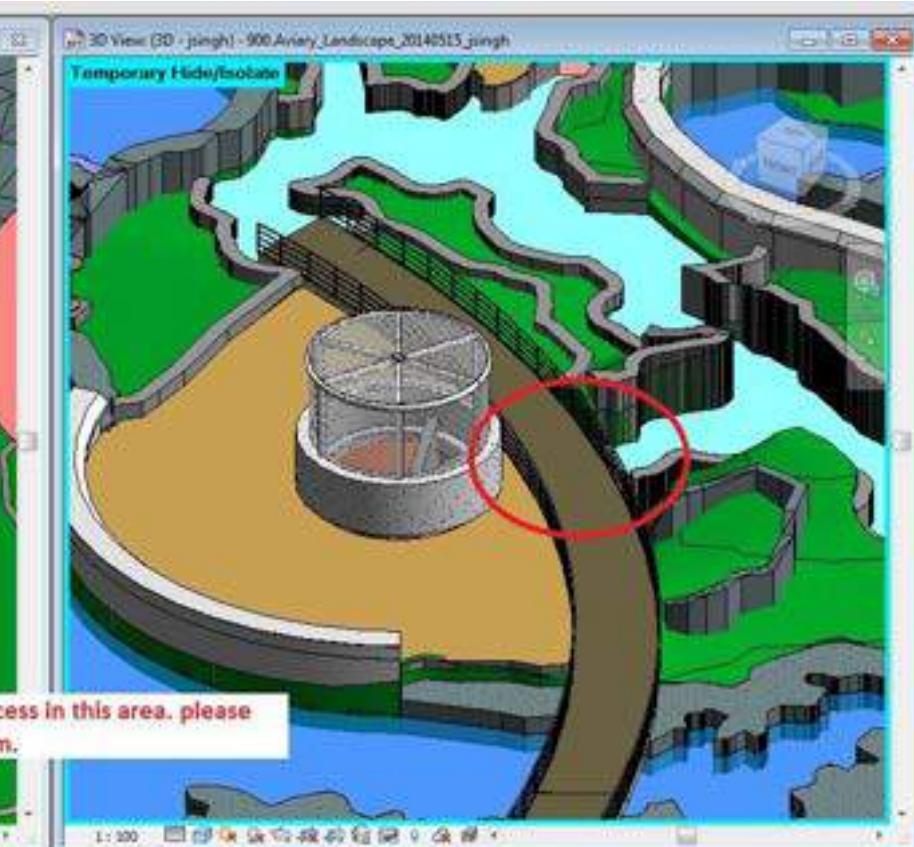
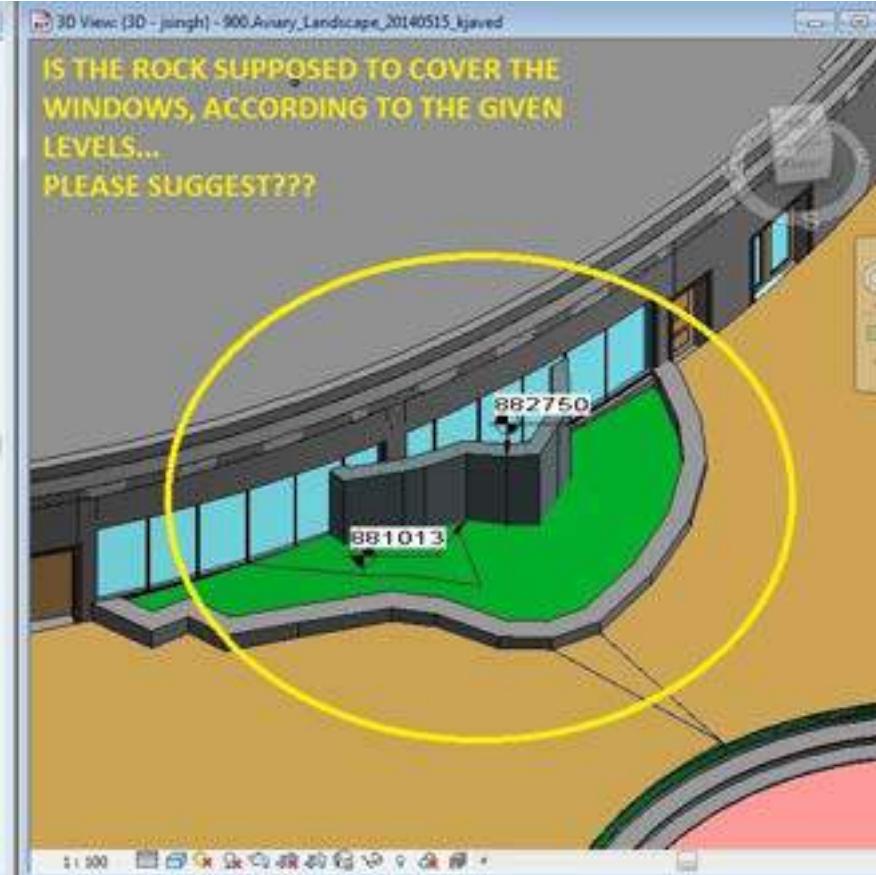
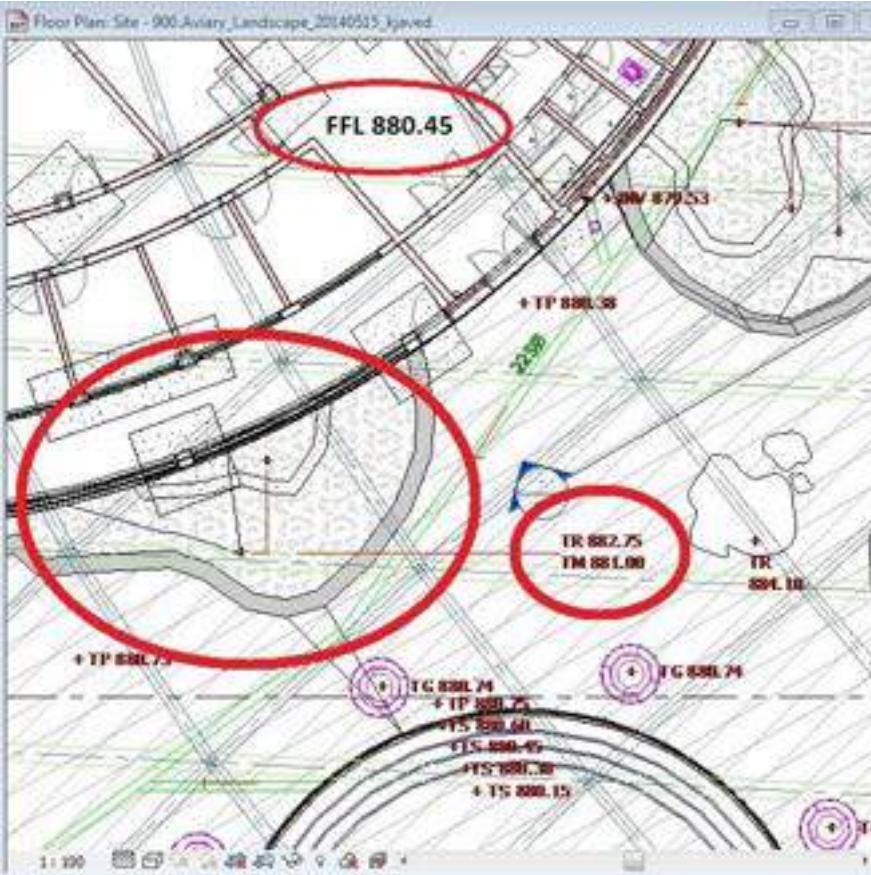


# Quality Check



A standardized QC Process was specially implemented for this Project due to the huge scale of this Project having all disciplines in our scope.

# Request For Information



RFIs were send to the Client once we had accumulated over 200+ issues where we needed further information and instructions from them.

# Victory Valley Gurgaon, India



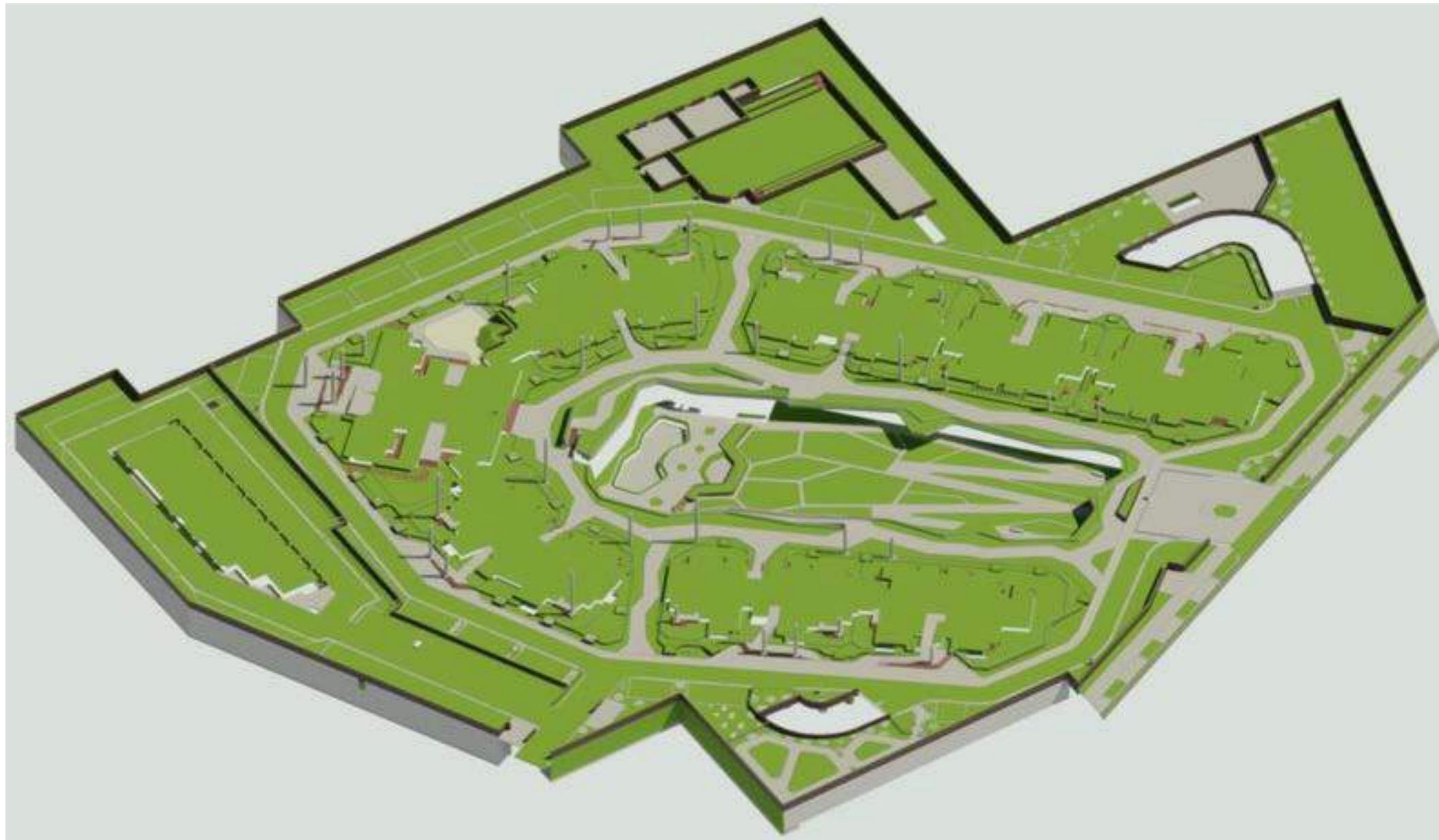
A Residential township exudes great architectural designing and indulging modern lifestyle. There is an engulfing cover of vast greenery around Ireo Victory Valley in the form of a Central Garden, and themed gardens.



# **Victory Valley P1**, Gurgaon, India



# **Victory Valley P2, Gurgaon, India**



*Please feel free to connect with me to discuss and understand possible innovations in BIM which can be used as value addition for any Institutions.*

*Thanking you*

**PRITHIJIT MAJUMDER**