aidea

Future Proofing the Designer
Transitioning to an Integrated BIM Practice

Introduction to Aidea
Our Profile

Established in 1995

One of the leading design practices in the Philippines

500

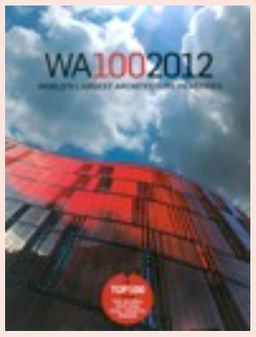
Projects to date ranging from corporate offices to commercial centers, industrial complexes, residential buildings and leisure facilities

170

Architects
Interior Designers
Planners
Graphic Designers

4

Integrated Services:
Architecture
Planning
Interior Design
Graphic Environments



Among the Top **100** Biggest Practices World-wide

The only Philippine firm on the list Ranked no. **86**

build londonlive 2012 OPEN BIM an OpenBIM event

The OpenBIM London Live 2012 Award

BIMBuzz@Singapore 2011

2011 Best use of BIM for
Sustainability, Buildability, Constructability
Professional Category

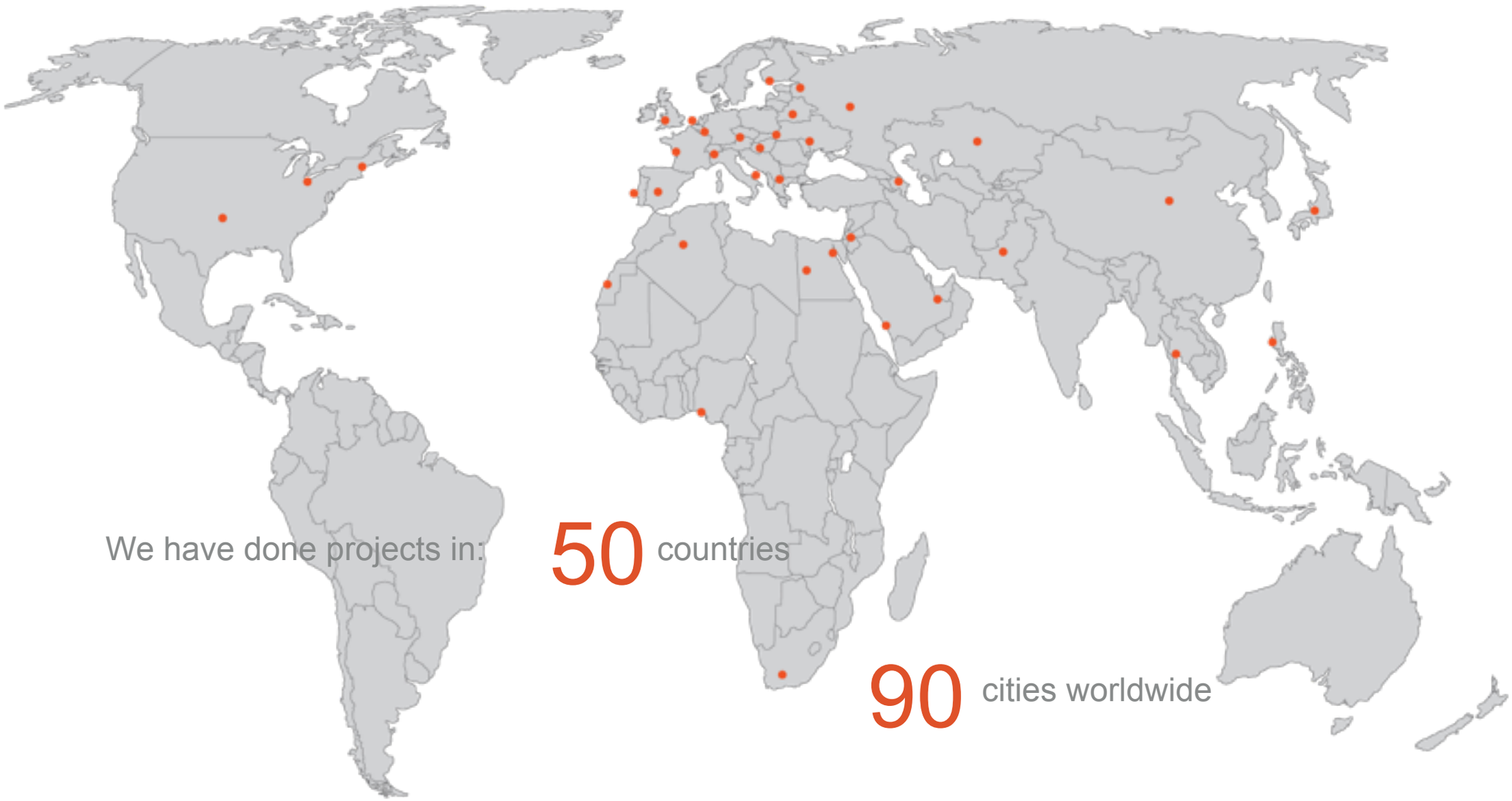
Introduction to Aidea

Our Profile

Architecture • Interior Design • Planning • Graphic Environments

Introduction to Aidea

Our Profile



We have done projects in: **50** countries

90 cities worldwide

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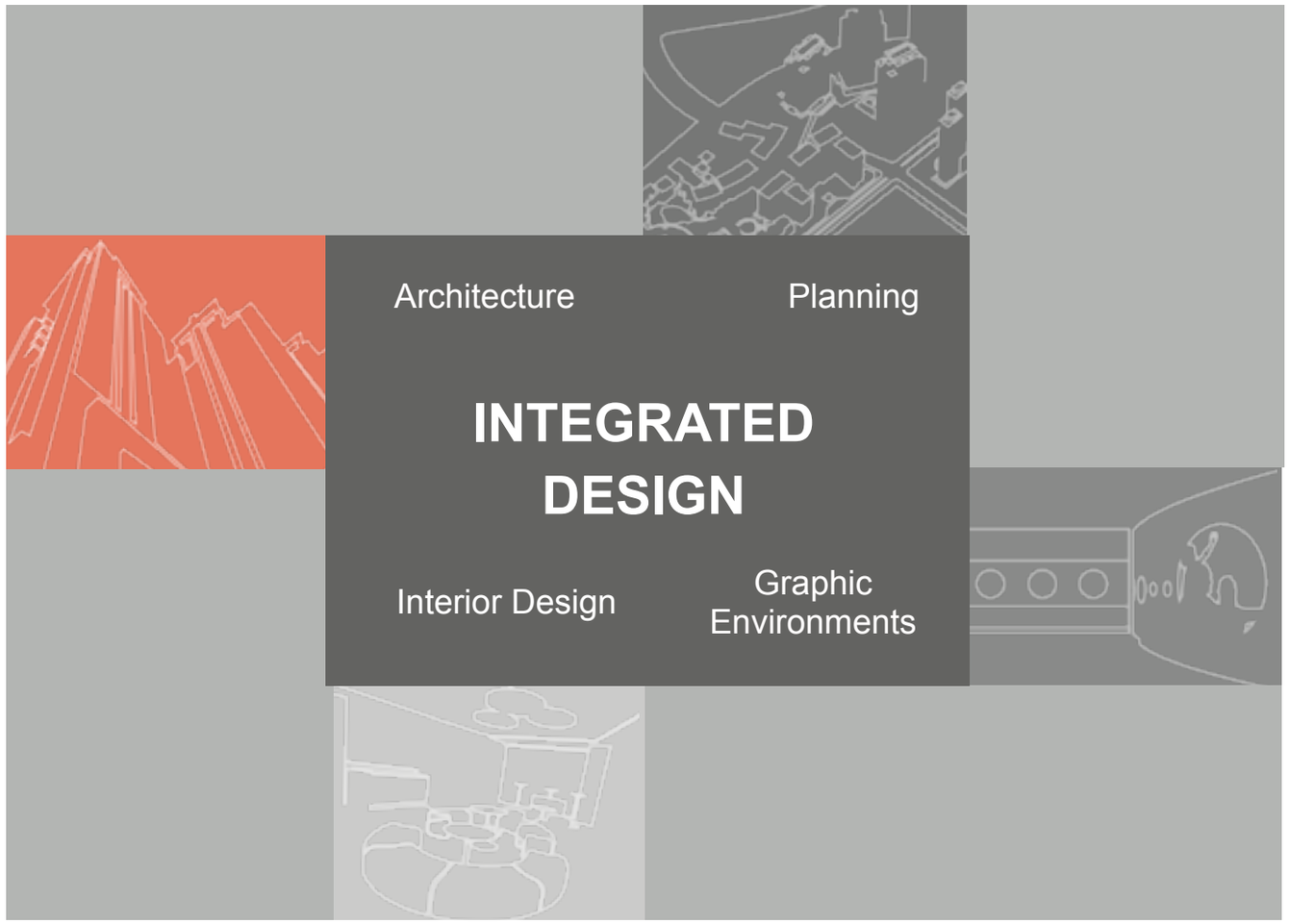
Introduction to Aidea

Our Profile



Introduction to Aidea

Our Profile

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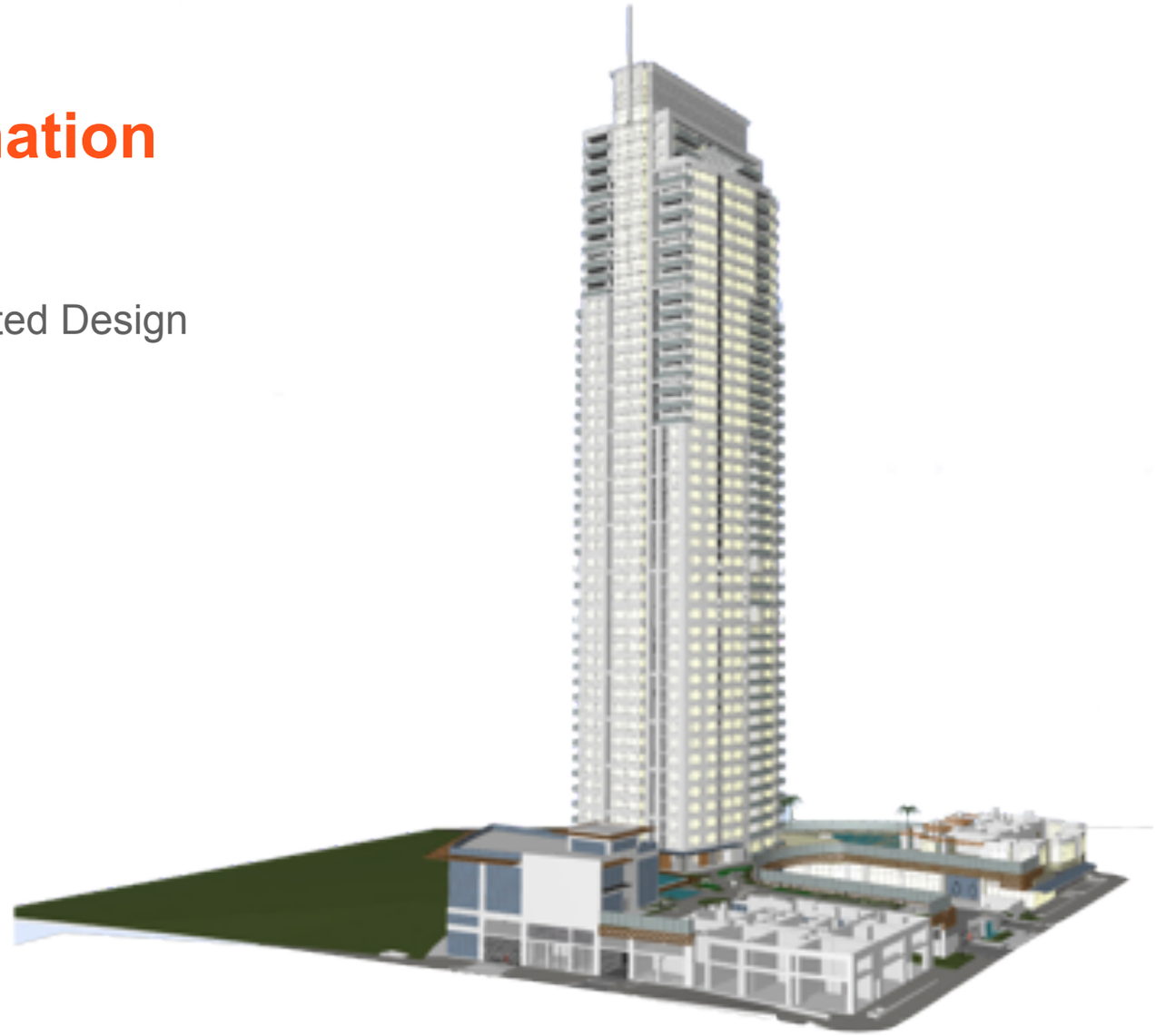
Introduction to Aidea
Our Profile

Building Information Modeling (BIM)

is our platform for Integrated Design



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Before BIM
Drivers of Change

- **Manpower**

  Lesser effort hours in doing projects

- **Collaboration**

  Better platform for collaboration than the usual face to face, email & telecons

- **Quality**

  Design, Coordination & Site Execution

- **Accuracy**

  Coordination of various design disciplines & revision management

- **Cost Efficiency**

  Doing more work with less overhead

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The Big Shift to **BIM**

3D technology

- Continuous **Innovation**
- Leverage **Technology**
- Competitive **Advantage**
- Lean **Organization**
- **Expand** services from traditional architectural scope

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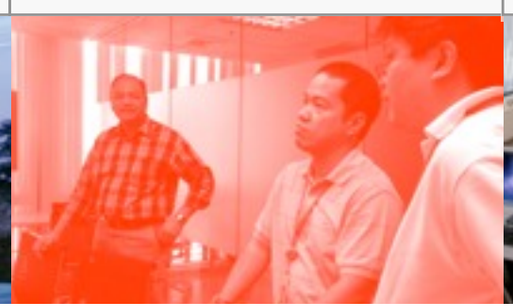
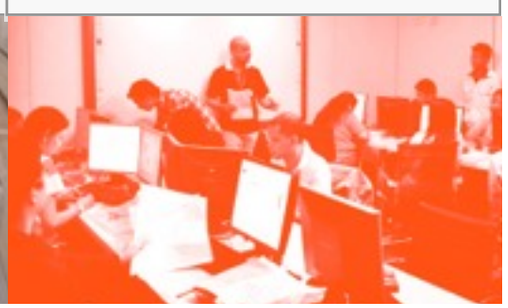
Preparation to BIM

Phase 1	Phase 2	Phase 3	Phase 4
Evaluate available software Training Hardware Software Mindset Change	**Prepare** for transition Training Hardware Software Mindset Change	**Immediate** transition Removal of Non-related software	**Knowledge** sharing





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BIM Levels Up Strategies

- Assignment of Studio **BIM Managers**
- Creation of **BIM Manual**
- **Removal** of Non-related BIM Software
- Shared Learning thru **Architips**
- **Mentoring**
- **BIM Audit**

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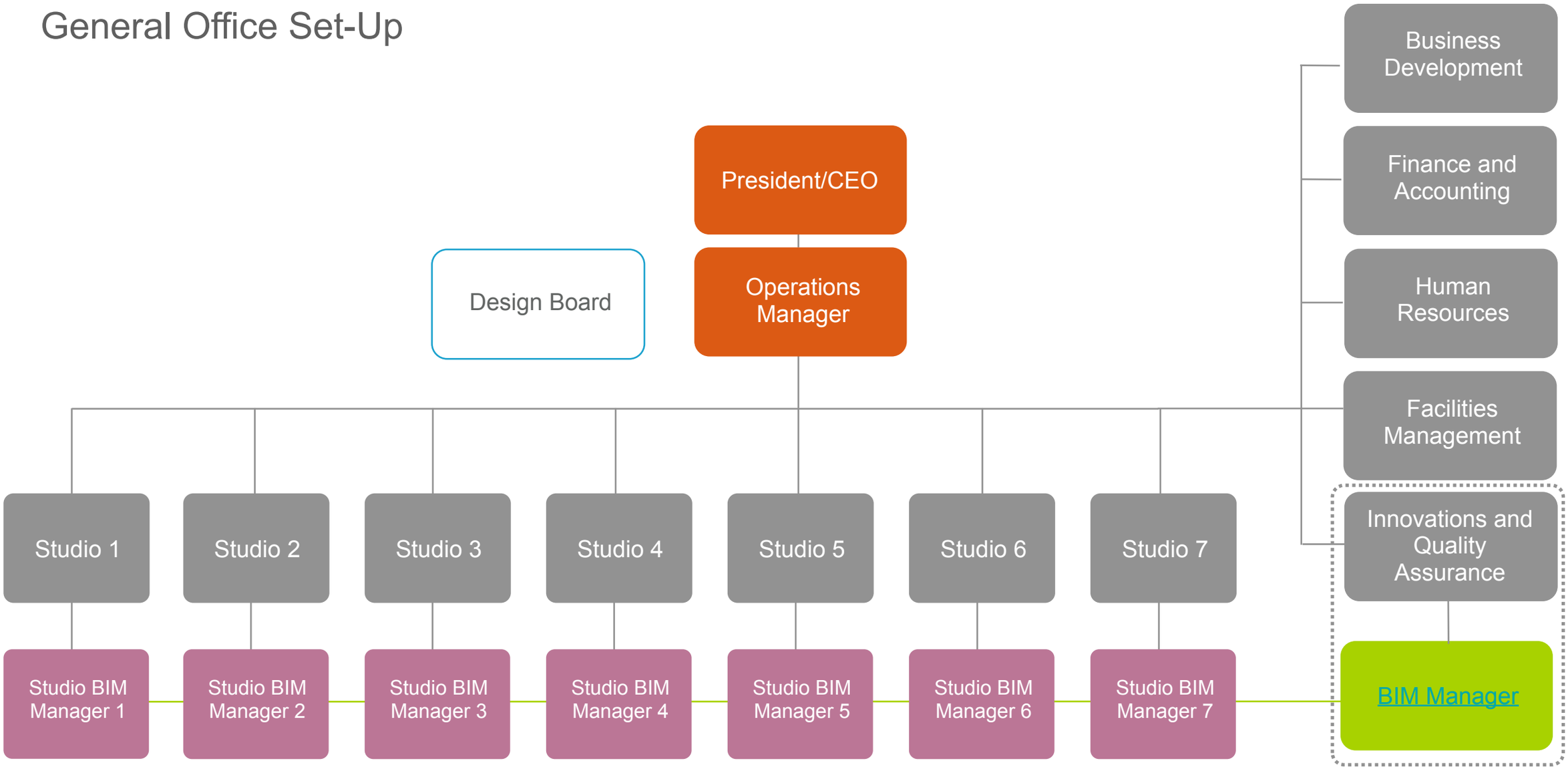
BIM Levels Up Strategies

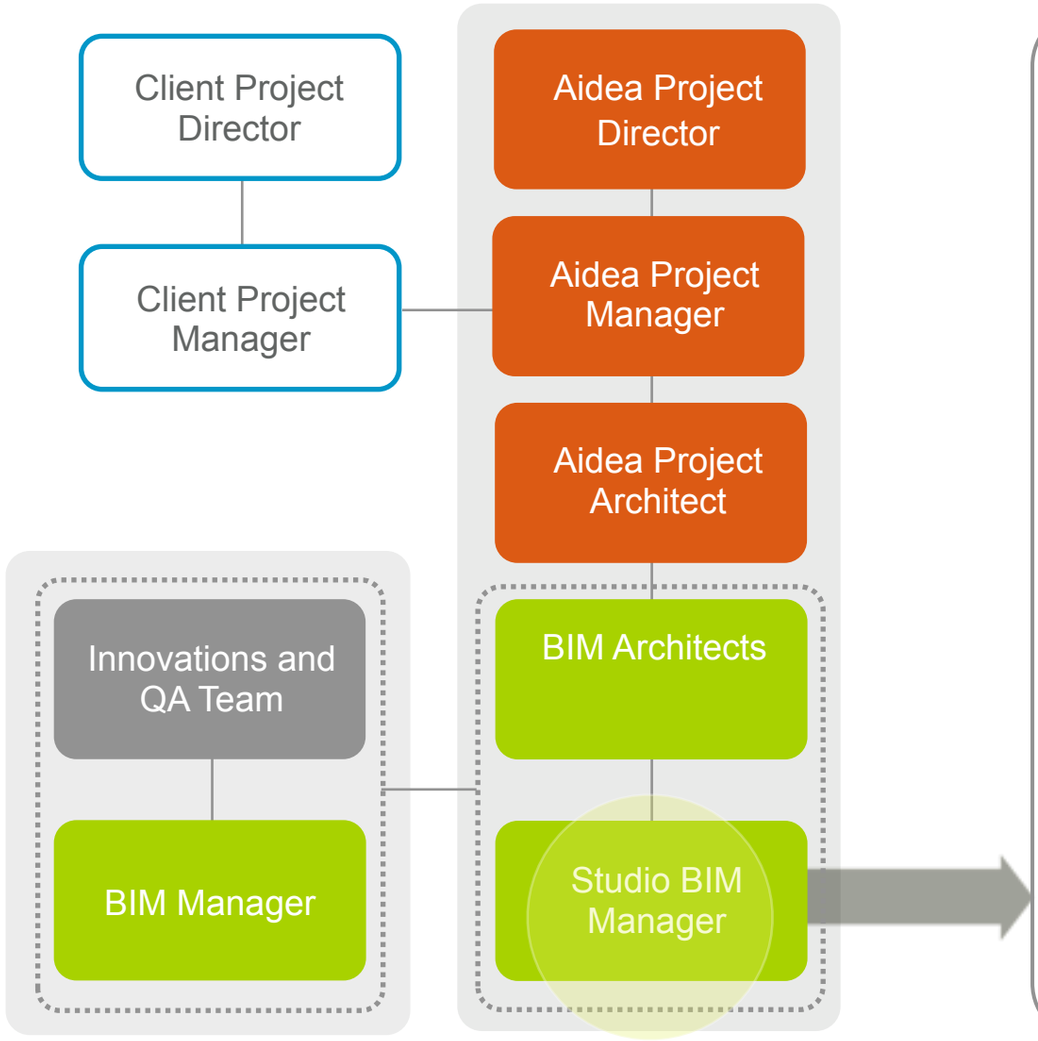
General Office Set-Up



BIM Levels Up Strategies

BIM Levels Up Strategies

Typical Project Set Up



Roles and Responsibility:

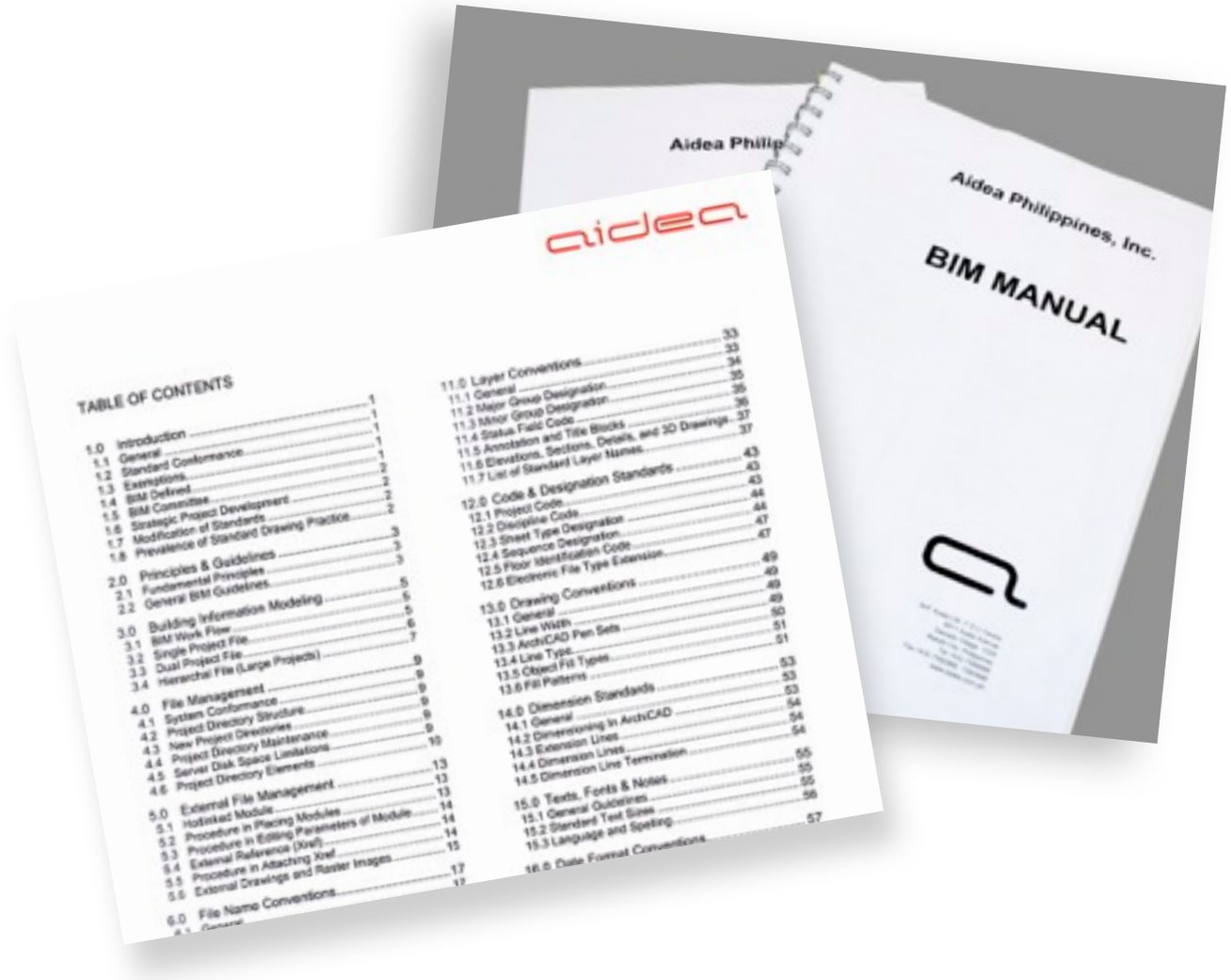
- **Audits** project for correct execution of BIM processes and compliance to BIM standards
- **Assists** in setting up **teamwork** for projects
- **Assists** in **BIM/CAD concerns**
- **Monitor** compliance to **BIM processes** and **standards**
- **Collates BIM learnings** for distribution to other BIM architects
- **Reports** to **Office BIM Manager** the result of the project audit, unresolved BIM issues and suggestions on how to improve application of BIM

BIM Levels Up Strategies

BIM Levels Up Strategies

Creation of **BIM Manual**

- Summary of Aidea BIM **Principles** and **Guidelines**
- File **Management**
- **BIM Standards**
- **Maintenance**



BIM Levels Up Strategies

BIM Levels Up Strategies

Removal of **Non Related** BIM Software

- Process **Optimization**
- **Eliminating** Softwares not needed
- **Collaboratio**n of all Softwares

Retained Software Applications

GRAPHISOFT ARCHICAD

Autodesk 3ds Max 2008

TEKLA

GRAPHISOFT MEP MODELER

SOLIBRI

GRAPHISOFT VB EXPLORER

ArchiTerra

LANDSCAPE SUITE

ARTLANTIS

GRAPHISOFT ECODESIGNER

Removed Software Applications

~~2D Software~~

BIM Levels Up Strategies

BIM Levels Up Strategies

Shared Learnings Thru **Architips**

- **Collation** of all ArchiCAD and other related learning
- Every learning is collated and **shared** through internet
- Everyone can **contribute**

BIM Levels Up Strategies

BIM Levels Up Strategies

Mentoring

- Creating Human Resources Policies that:

- **Assesses** proficiency ‘ and skills gap

- Design **training** to address gaps

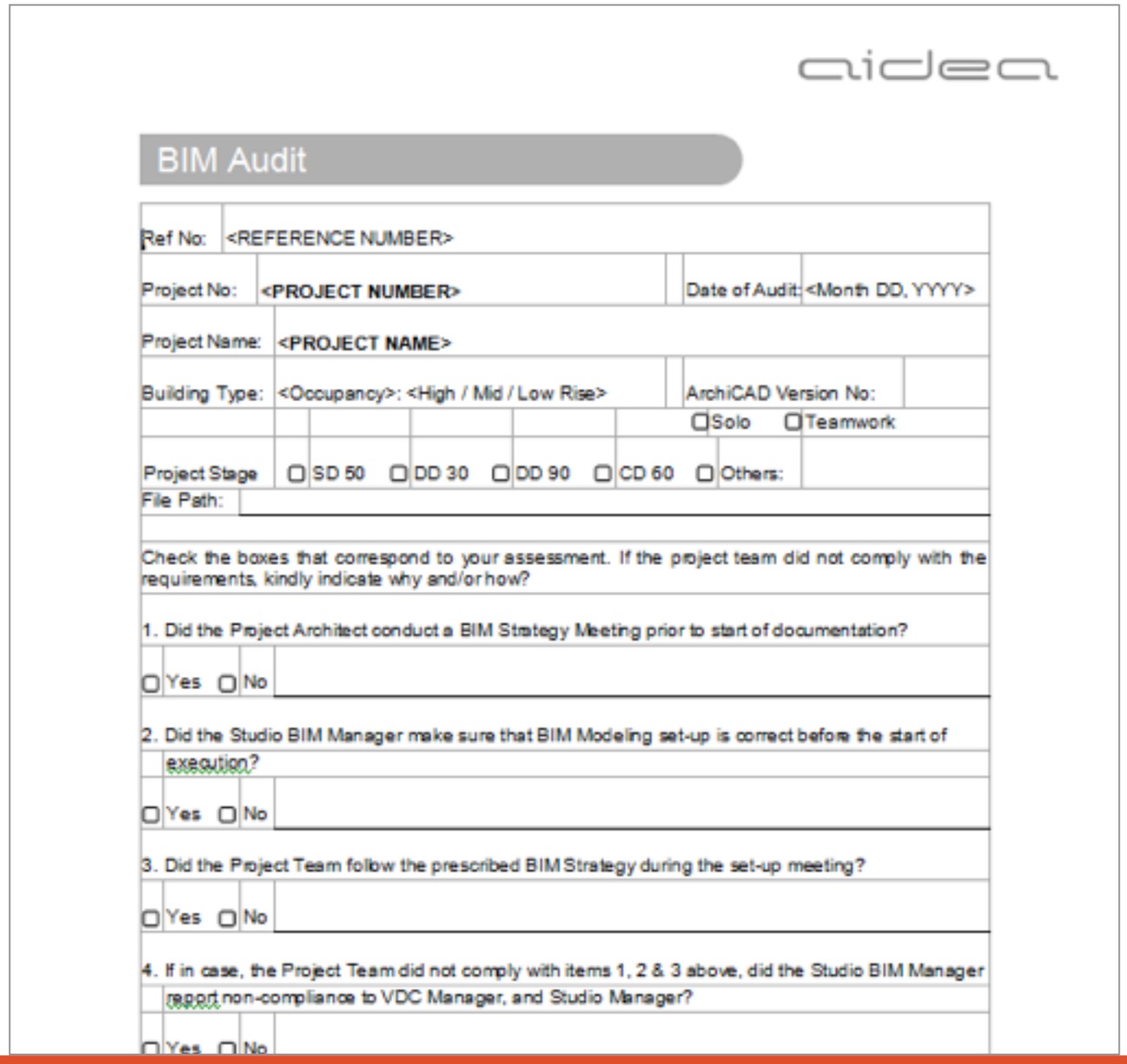
- **Advances** skills

BIM Levels Up Strategies

BIM Levels Up Strategies

BIM Audit

- Creation of Audit Criteria
- Conduct BIM Audit at every phase



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BIM Audit

Ref No:	<REFERENCE NUMBER>		
Project No:	<PROJECT NUMBER>	Date of Audit:	<Month DD, YYYY>
Project Name:	<PROJECT NAME>		
Building Type:	<Occupancy>: <High / Mid / Low Rise>	ArchiCAD Version No:	
		☐ Solo ☐ Teamwork	
Project Stage	☐ SD 50 ☐ DD 30 ☐ DD 90 ☐ CD 60 ☐ Others:		
File Path:			

Check the boxes that correspond to your assessment. If the project team did not comply with the requirements, kindly indicate why and/or how?

1. Did the Project Architect conduct a BIM Strategy Meeting prior to start of documentation?

☐ Yes ☐ No

2. Did the Studio BIM Manager make sure that BIM Modeling set-up is correct before the start of execution?

☐ Yes ☐ No

3. Did the Project Team follow the prescribed BIM Strategy during the set-up meeting?

☐ Yes ☐ No

4. If in case, the Project Team did not comply with items 1, 2 & 3 above, did the Studio BIM Manager report non-compliance to VDC Manager, and Studio Manager?

☐ Yes ☐ No

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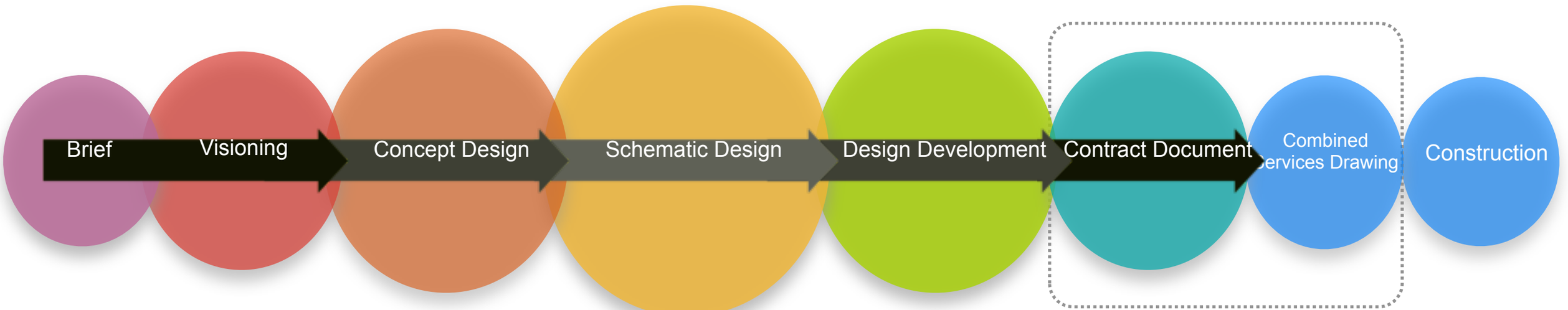
Our Design Process

Work Process

Integrated Construction Document (ICD)



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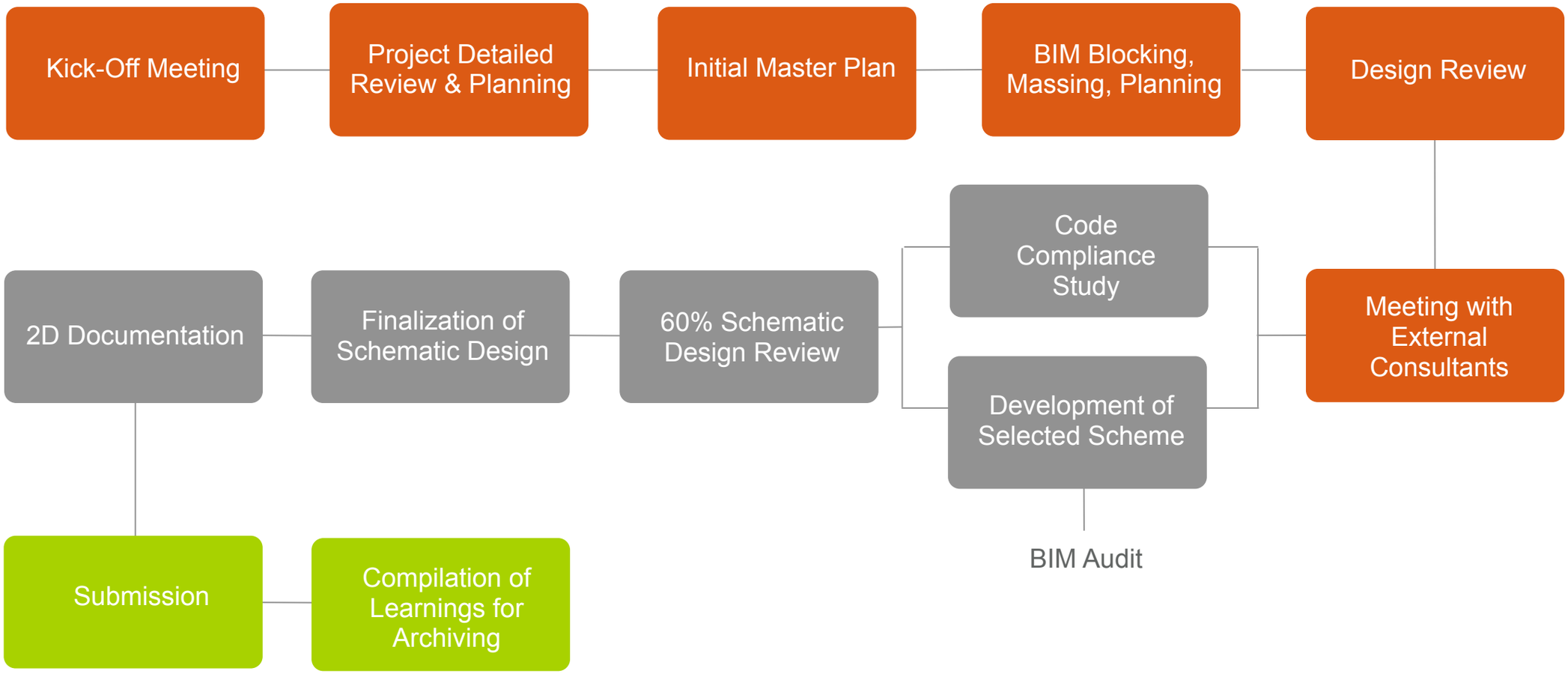
Our Design Process
Schematic Design Phase

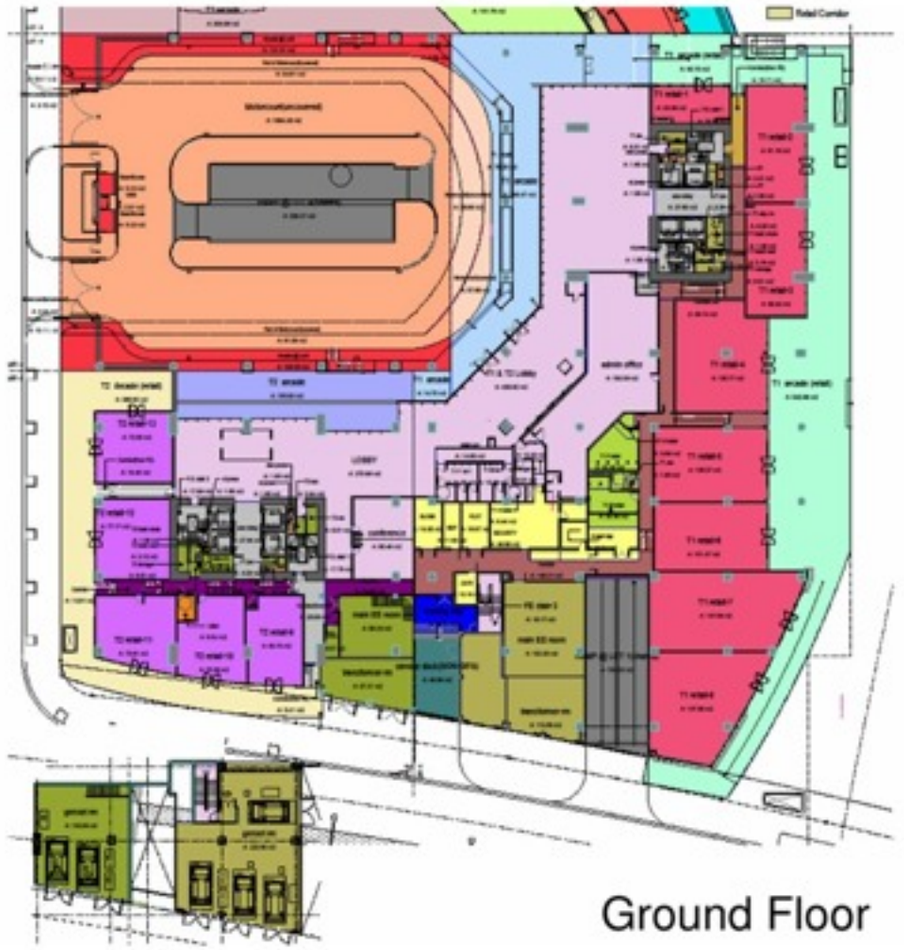


Our Design Process
Schematic Design Phase

Initial Masterplan

Our Design Process
Schematic Design Phase

Initial Masterplan



Our Design Process
Schematic Design Phase

- Early Quantification: Automatic Areas for Initial Estimate Generation

Our Design Process
Schematic Design Phase

- Early Quantification: Automatic Areas for Initial Estimate Generation

Header Options | Freeze Schedule Header | Selected: 0 | Editable: | Scheme Settings...

Area Tabulation

UNIT TYPE	ROOM NAME	Program		Provided	
TYPE AM					
. 1BR TYPE 1.6	Foyer/Hallways	3.00		5.15	sqm
. 1BR TYPE 1.6	Kitchen	7.00		7.81	sqm
. 1BR TYPE 1.6	Living/Dining	22.00		22.32	sqm
. 1BR TYPE 1.6	Master Bedroom	16.00		17.12	sqm
. 1BR TYPE 1.6	Master T&B	5.00		6.89	sqm
. 1BR TYPE 1.6	Mechanical Deck	-		2.88	sqm
. 1BR TYPE 1.6	Utilities/Laundry	1.00		1.30	sqm
. 1BR TYPE 1.6	Walk-in Closet	4.00		5.11	sqm
				68.58 m²	
. 1BR TYPE 1.6-CO...	Chase			0.54	
. 1BR TYPE 1.6-CO...	Columns			2.84	
				3.38 m²	
. 1BR TYPE 1.7	Foyer/Hallways	3.00		4.06	sqm
. 1BR TYPE 1.7	Kitchen	7.00		9.14	sqm
. 1BR TYPE 1.7	Living/Dining	22.00		28.95	sqm
. 1BR TYPE 1.7	Master Bedroom	16.00		22.71	sqm
. 1BR TYPE 1.7	Master T&B	5.00		7.52	sqm
. 1BR TYPE 1.7	Mechanical Deck	-		1.76	sqm
. 1BR TYPE 1.7	Storage	-		1.54	sqm
. 1BR TYPE 1.7	Utilities/Laundry	1.00		1.30	sqm
. 1BR TYPE 1.7	Walk-in Closet	4.00		8.56	sqm
				85.54 m²	
. 1BR TYPE 1.7-CO...	Chase			0.42	
. 1BR TYPE 1.7-CO...	Columns			1.64	
				2.06 m²	
TYPE A - 3-18 & 23-30					
. 1BR TYPE 1.1	Balcony			6.34	sqm
1BR TYPE 1.1	Foyer/Hallways	3.00		4.00	sqm

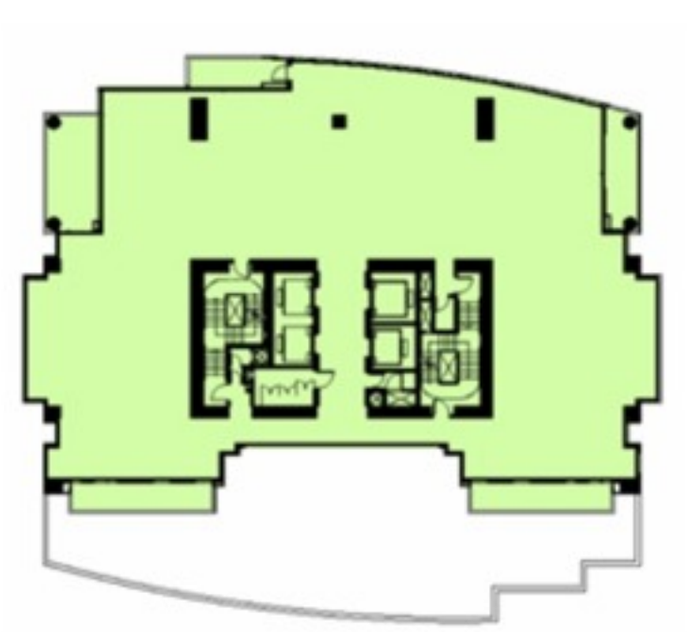
173%

Our Design Process
Schematic Design Phase

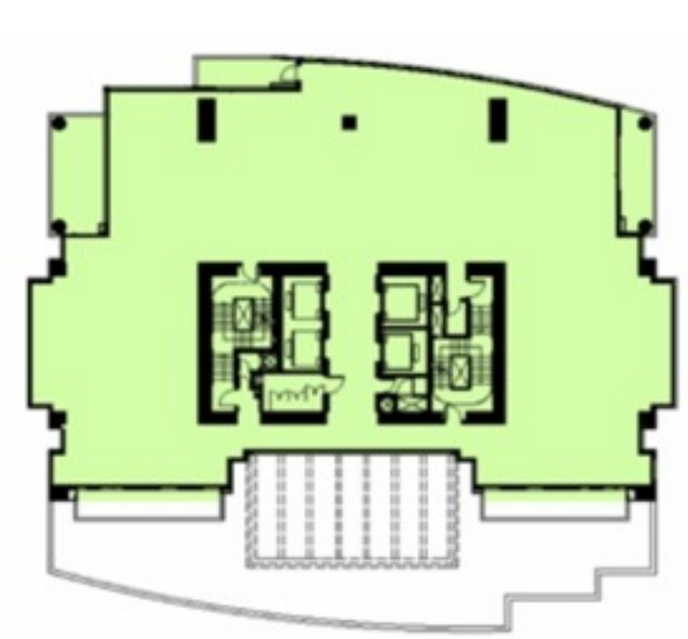
Blocking Plans

Our Design Process
Schematic Design Phase

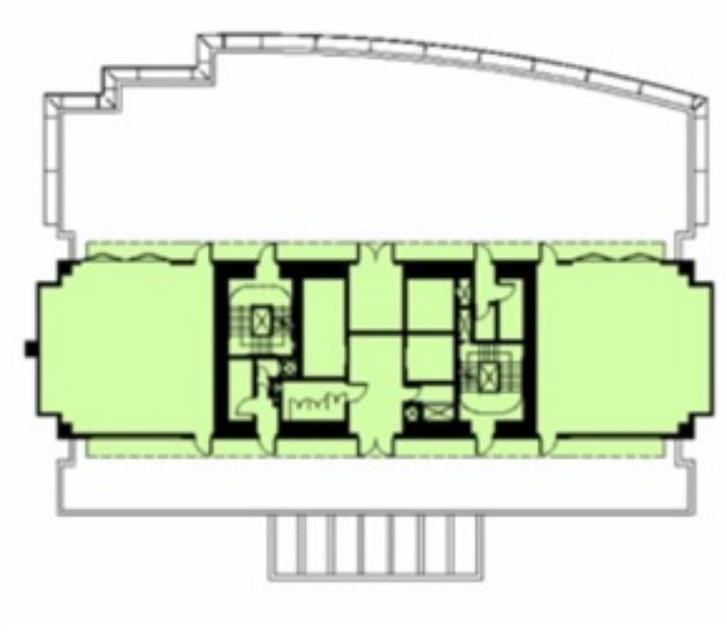
Blocking Plans



Type D.1 49th



Type D.1 50th



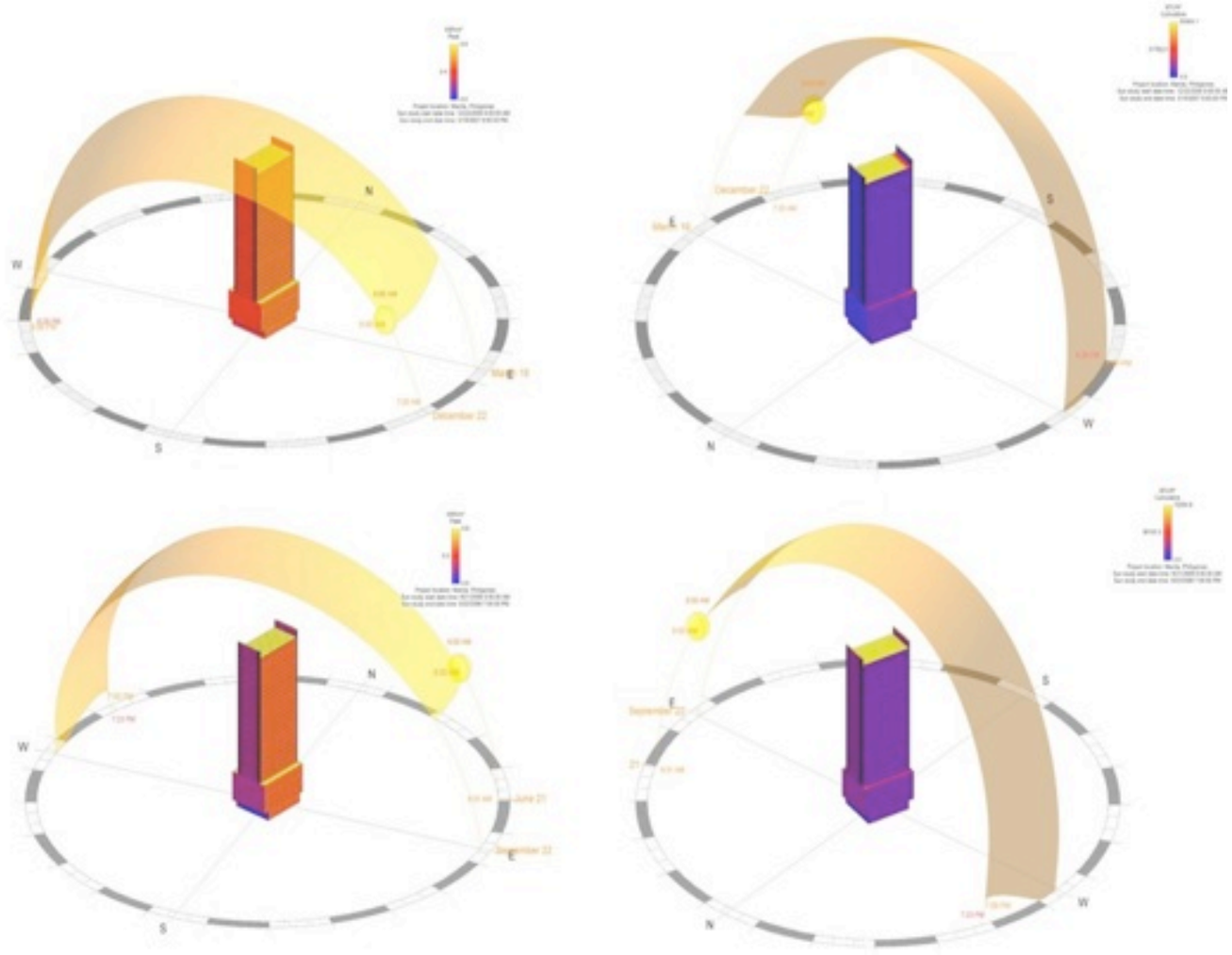
51st FLOOR

Our Design Process
Schematic Design Phase

- Environmental Analysis:
  Sun Path

Our Design Process
Schematic Design Phase

- Environmental Analysis:
  Sun Path

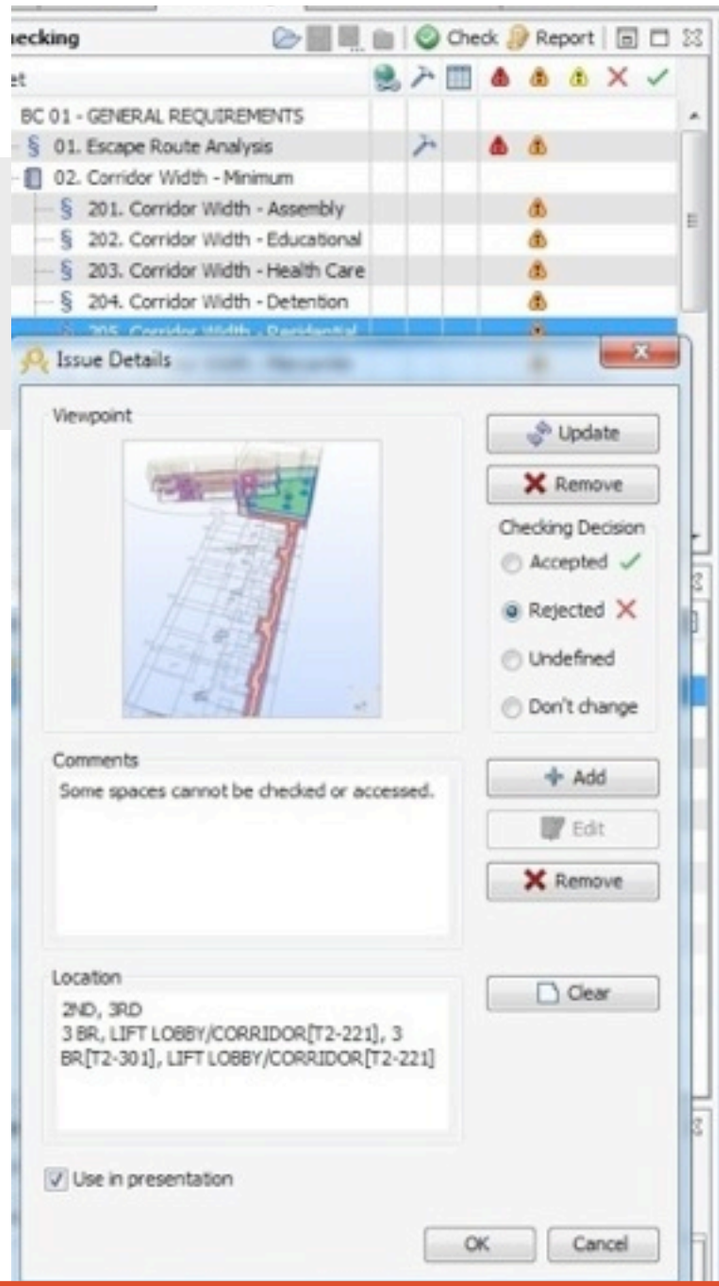


Our Design Process
Schematic Design Phase

- Solibri Model Checker:
  Corridor Width -
  Code Check

Our Design Process
Schematic Design Phase

- Solibri Model Checker: Corridor Width - Code Check

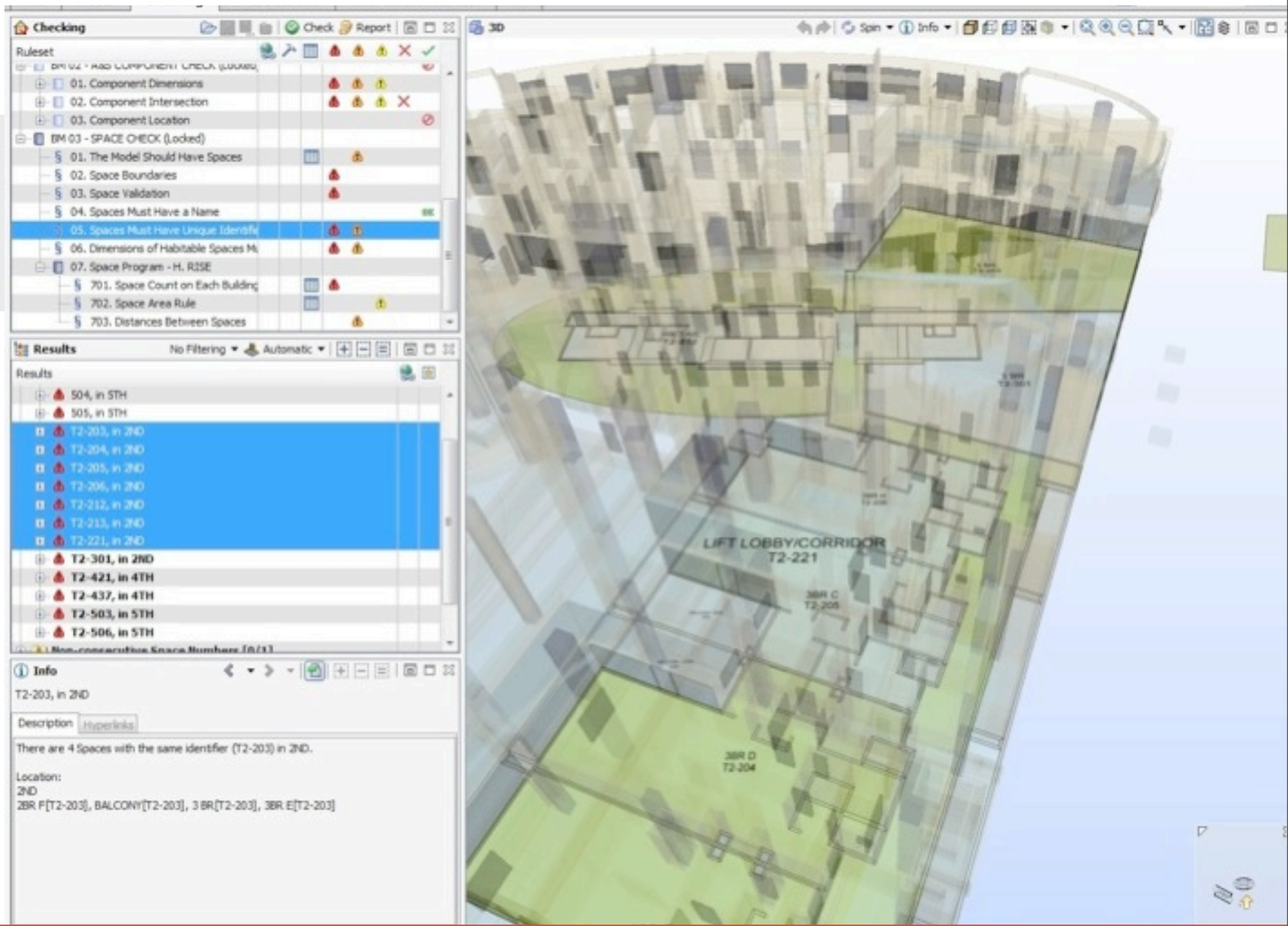


Our Design Process
Schematic Design Phase

- Solibri Model Checker:
  Model Check -
  Space Tagging

Our Design Process
Schematic Design Phase

- Solibri Model Checker: Model Check - Space Tagging



Our Design Process
Schematic Design Phase

- Massing & Planning Studies

Our Design Process
Schematic Design Phase

- Massing & Planning Studies

Our Design Process
Schematic Design Phase

3D Model

Our Design Process
Schematic Design Phase

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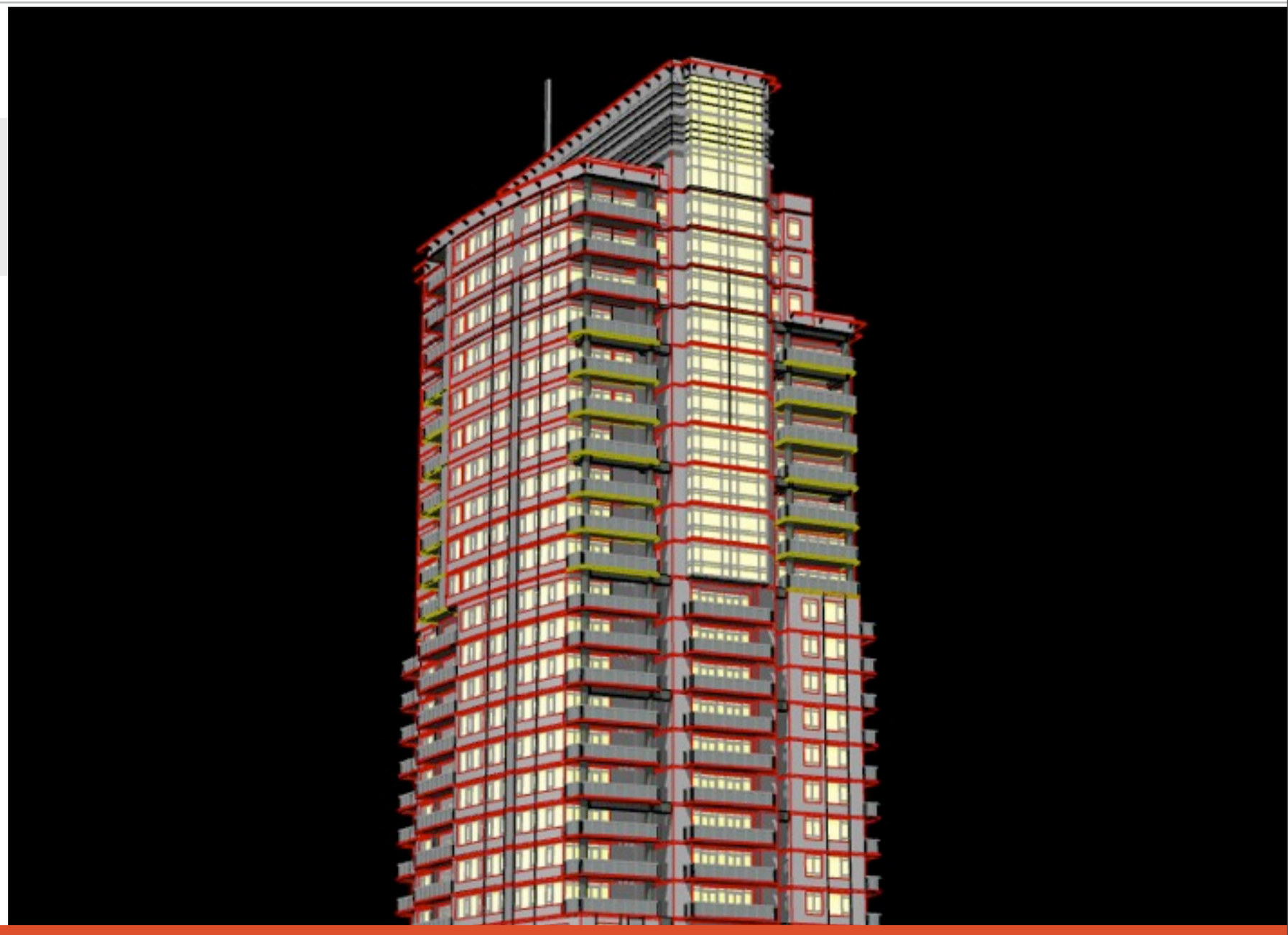
3D Model



Our Design Process
Schematic Design Phase

- Design Output:
  Site Development Plan

Our Design Process
Schematic Design Phase

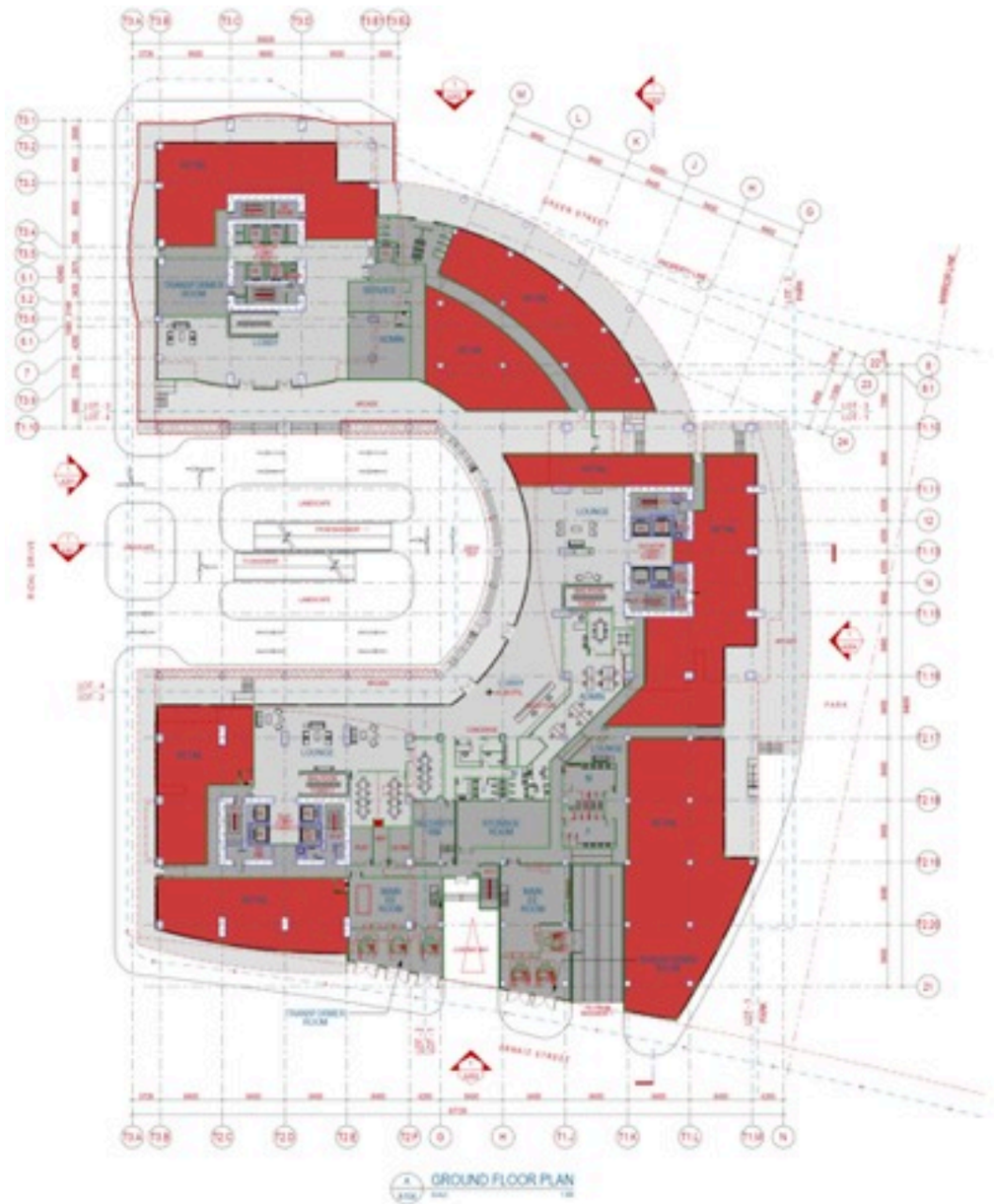
Design Output:
Site Development Plan

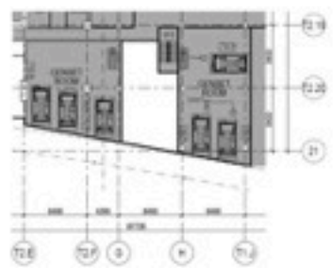
Our Design Process
Schematic Design Phase

- Design Output:
  Floor Plan

Our Design Process
Schematic Design Phase

- Design Output:
  Floor Plan





Our Design Process
Schematic Design Phase

- Design Output:
  Creation of Rendered
  Imaged Using Same Model

Our Design Process
Schematic Design Phase

- Design Output:
  Creation of Rendered
  Imaged Using Same Model

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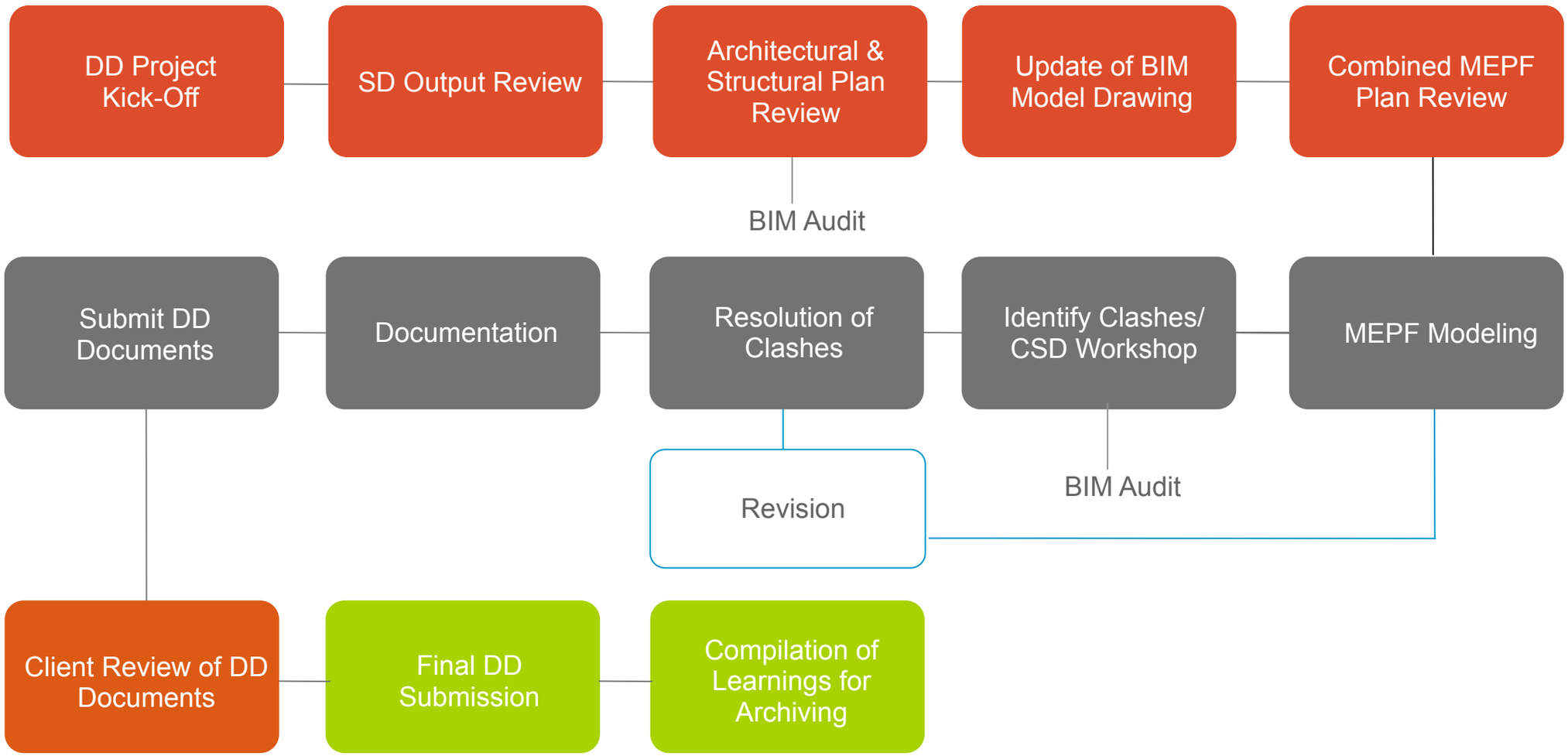
Our Design Process
Design Development Phase

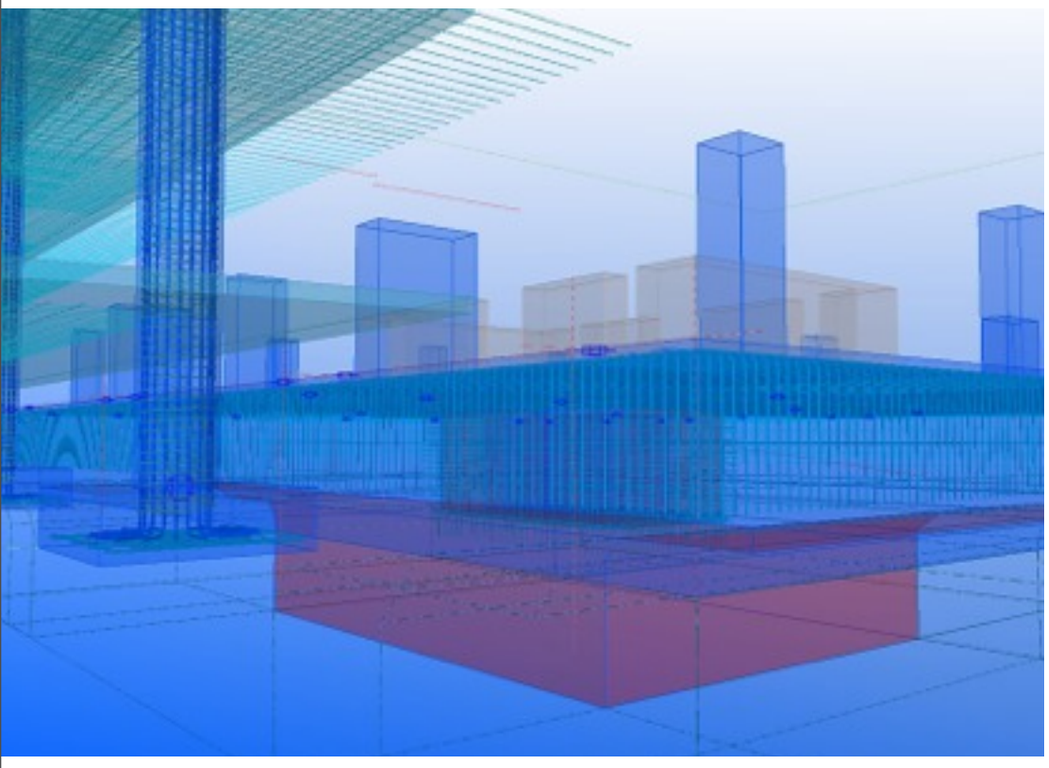


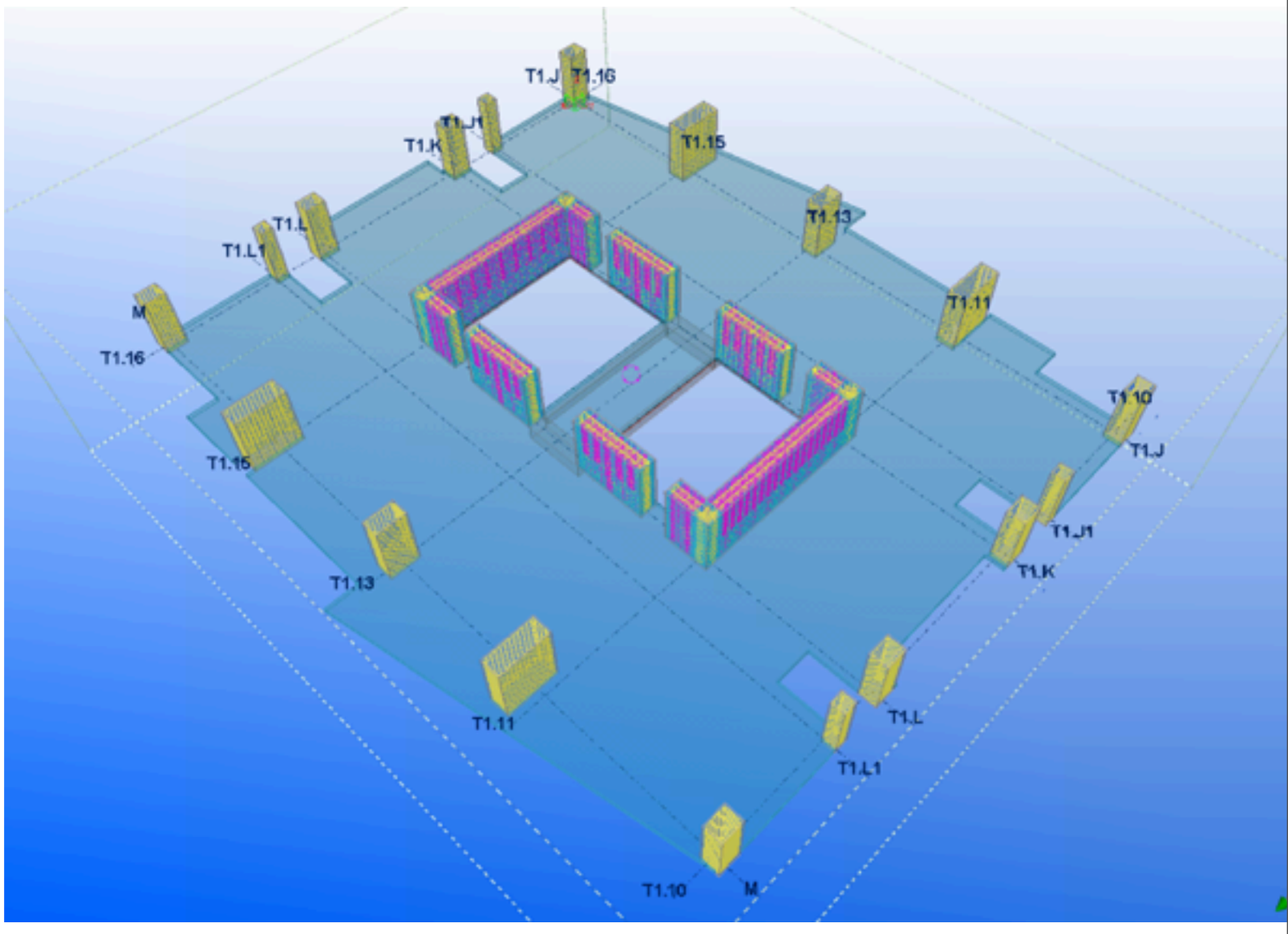
Our Design Process
Design Development Phase

- Architectural Model from Schematic Design Phase

Our Design Process
Design Development Phase

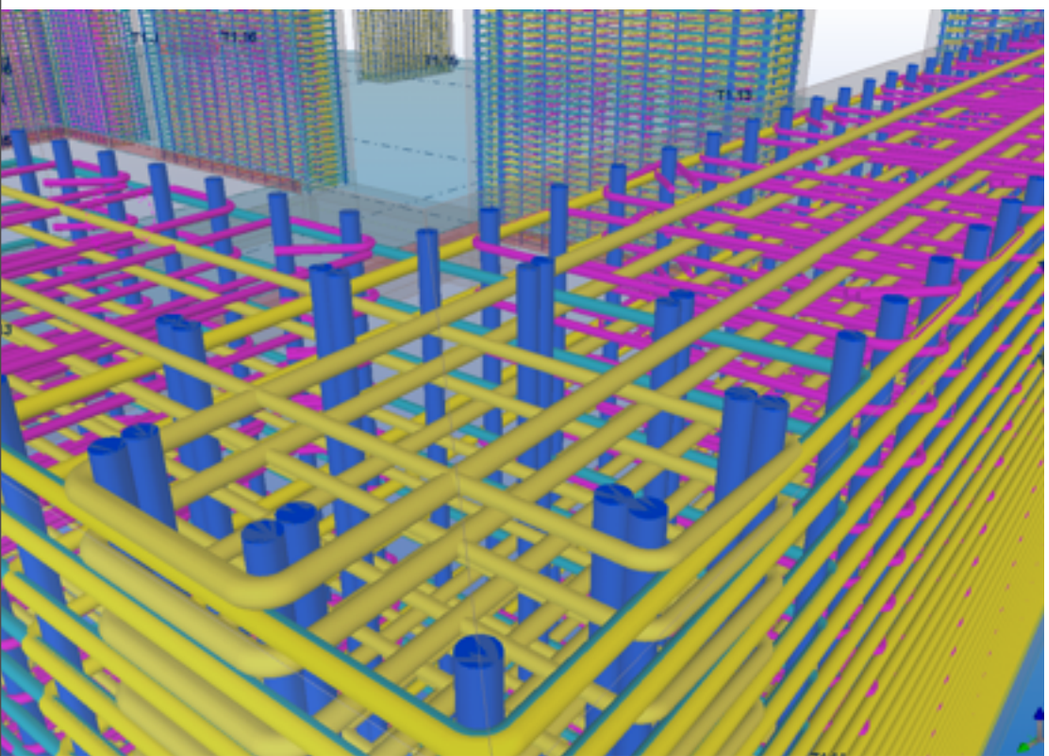
Structural Modeling in Tekla

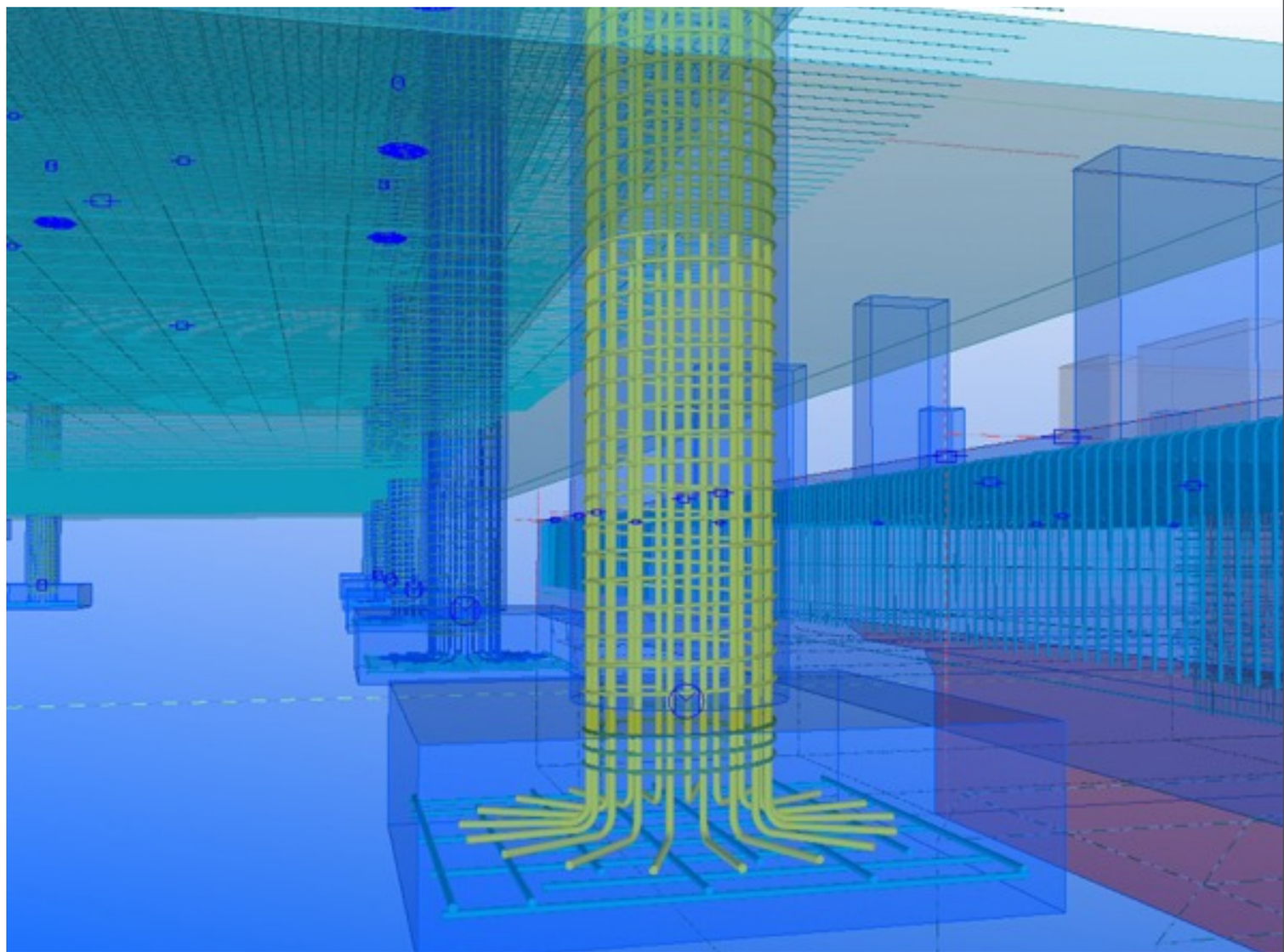




Our Design Process
Design Development Phase

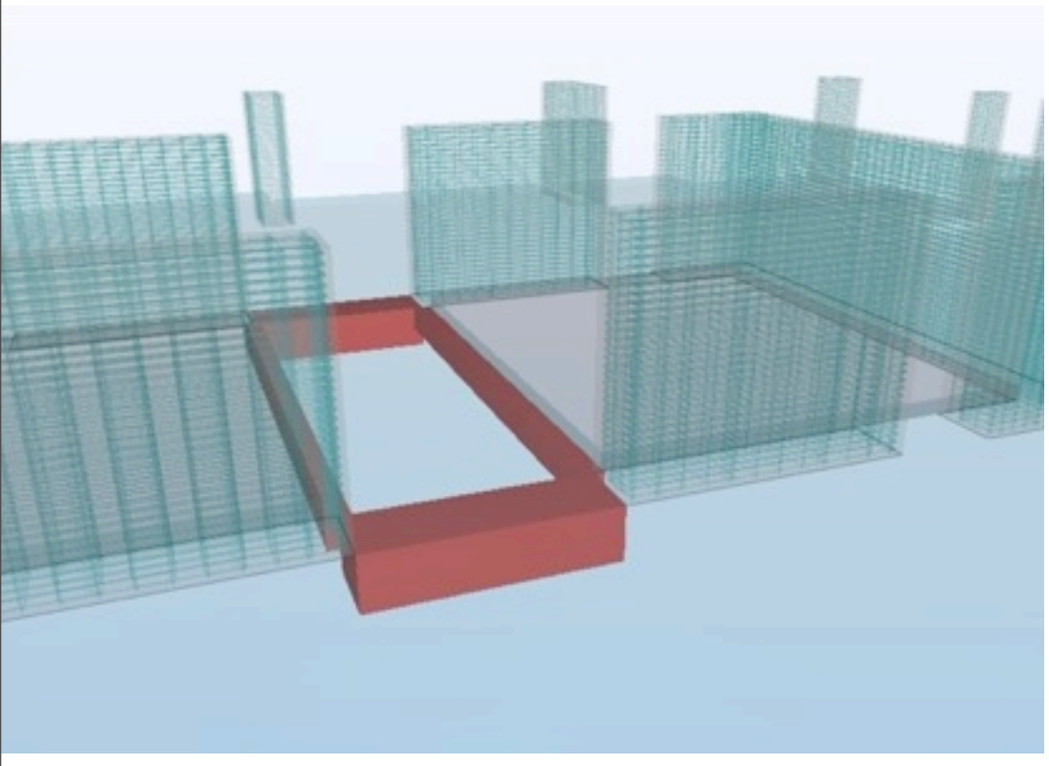
- Structural Modeling in Tekla

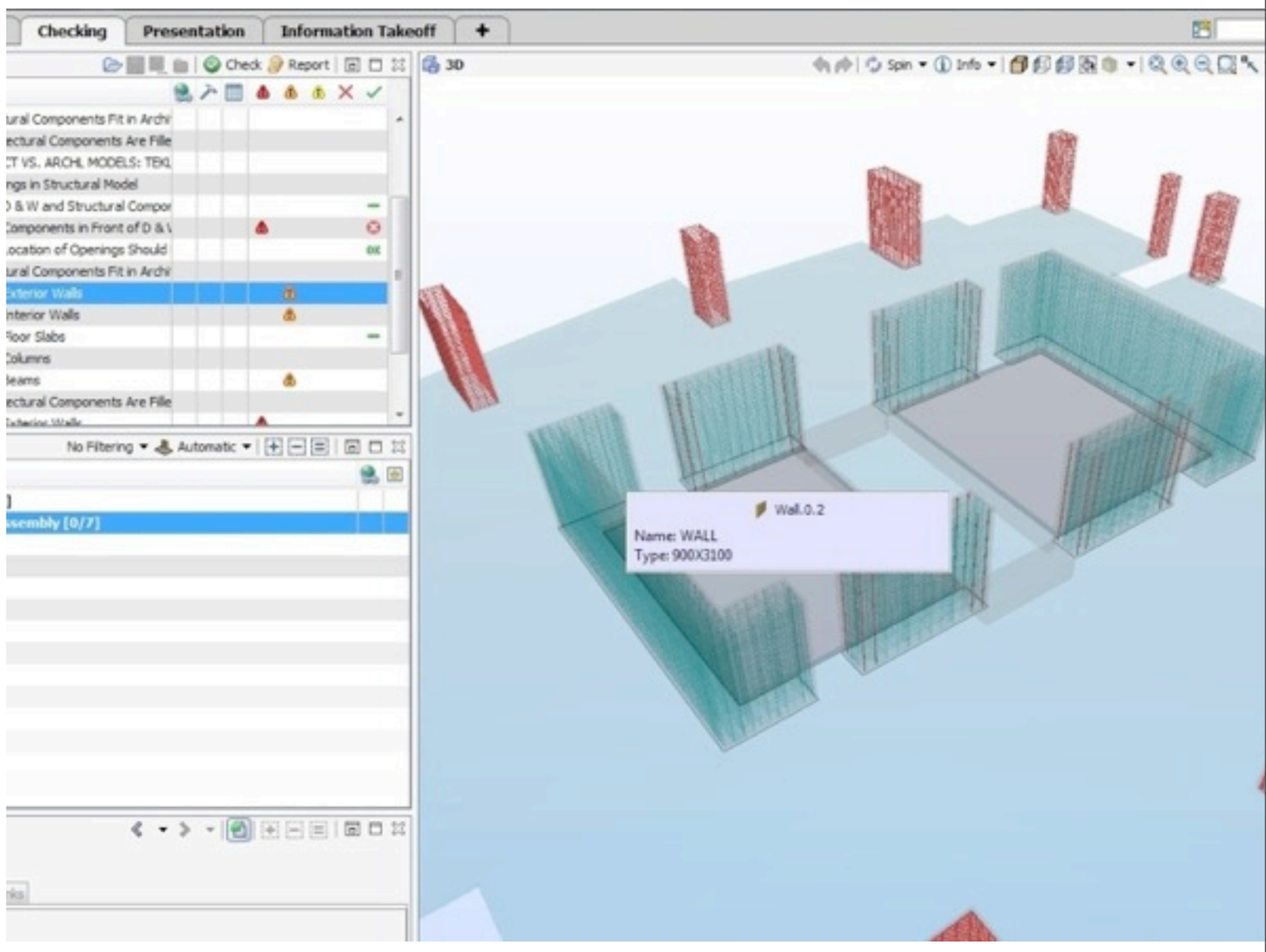




Our Design Process
Design Development Phase

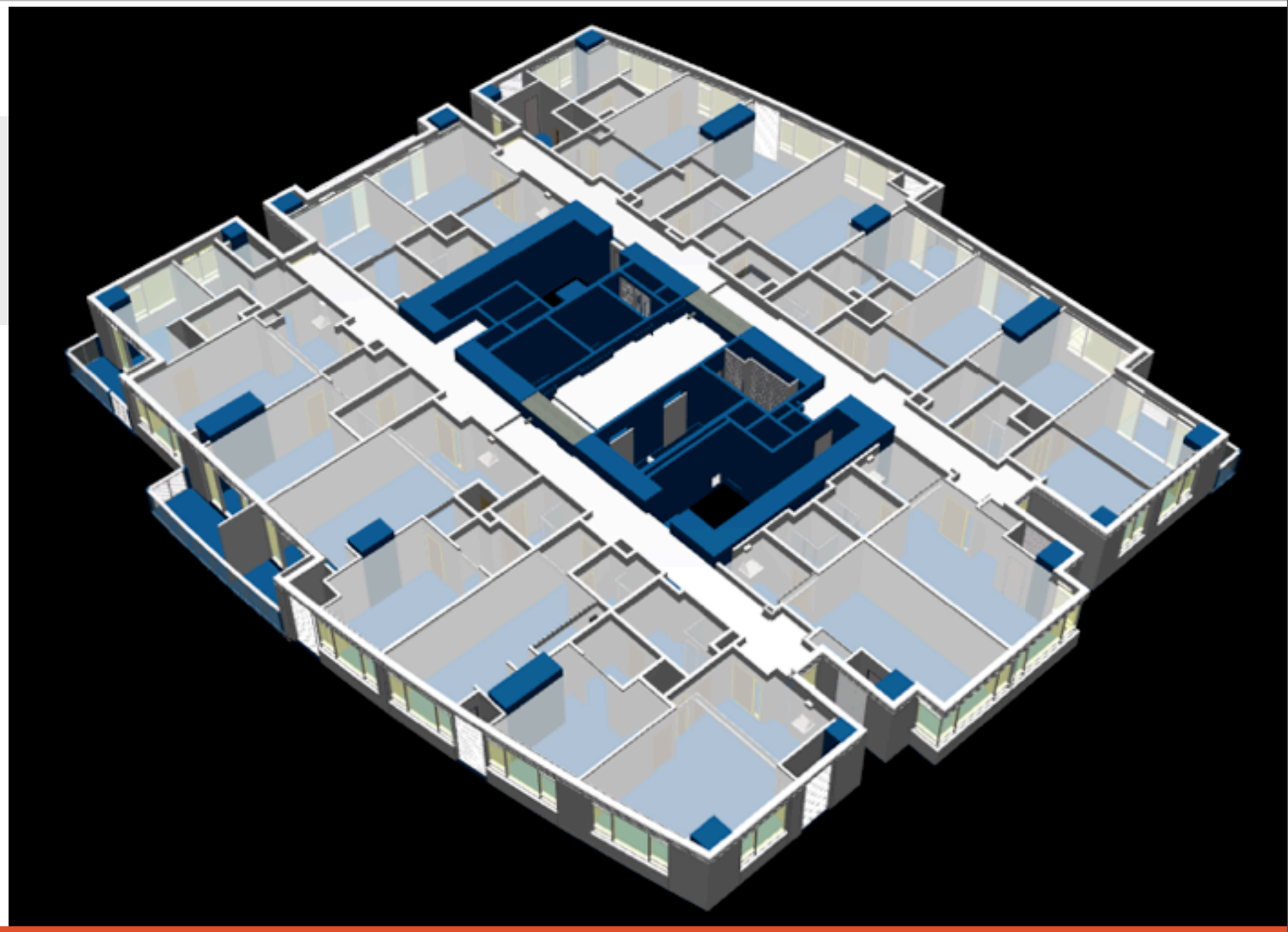
Structural Model Checker in Solibri





Our Design Process
Design Development Phase

- Integration of Architectural & Structural



Our Design Process
Design Development Phase

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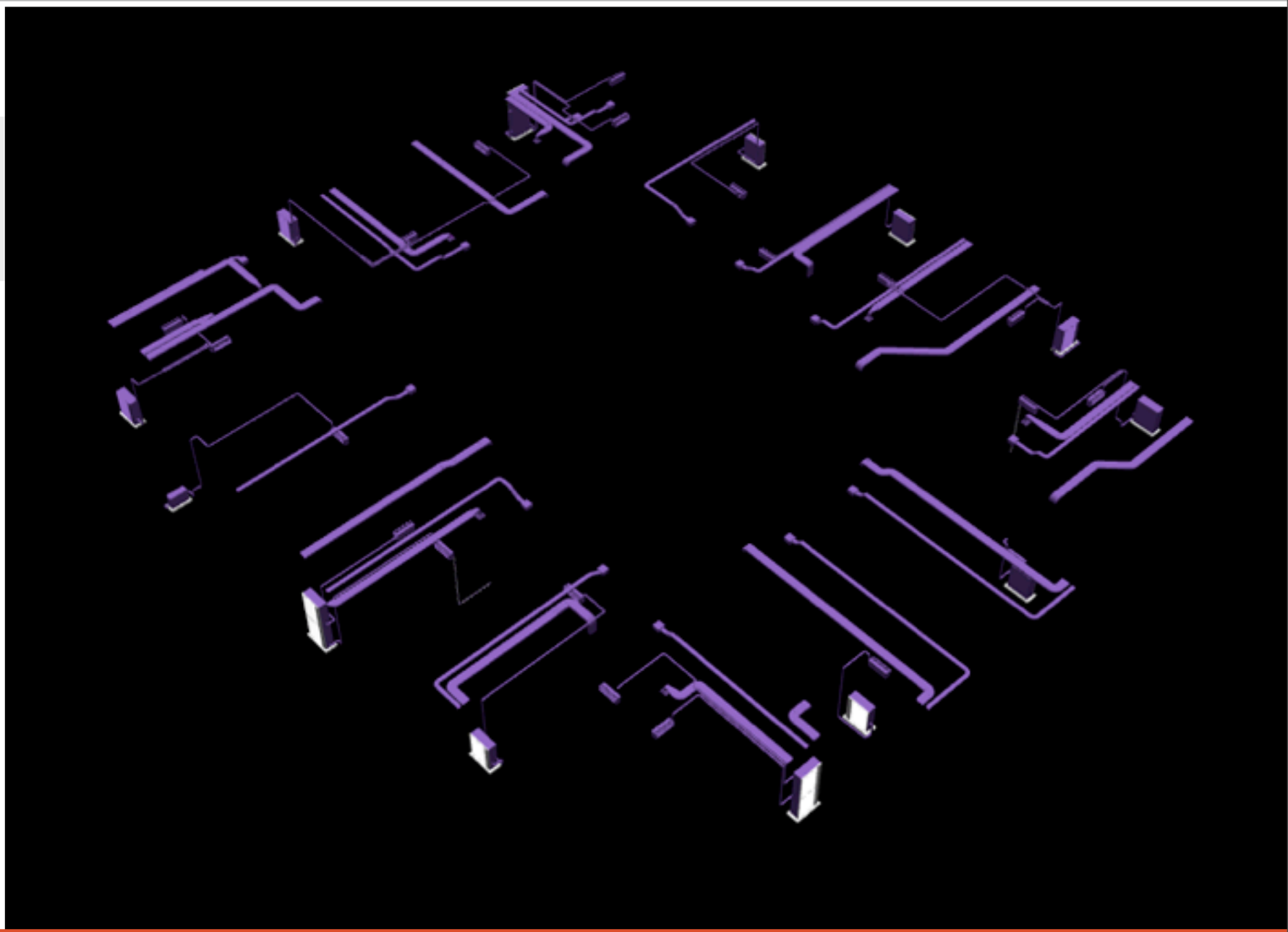
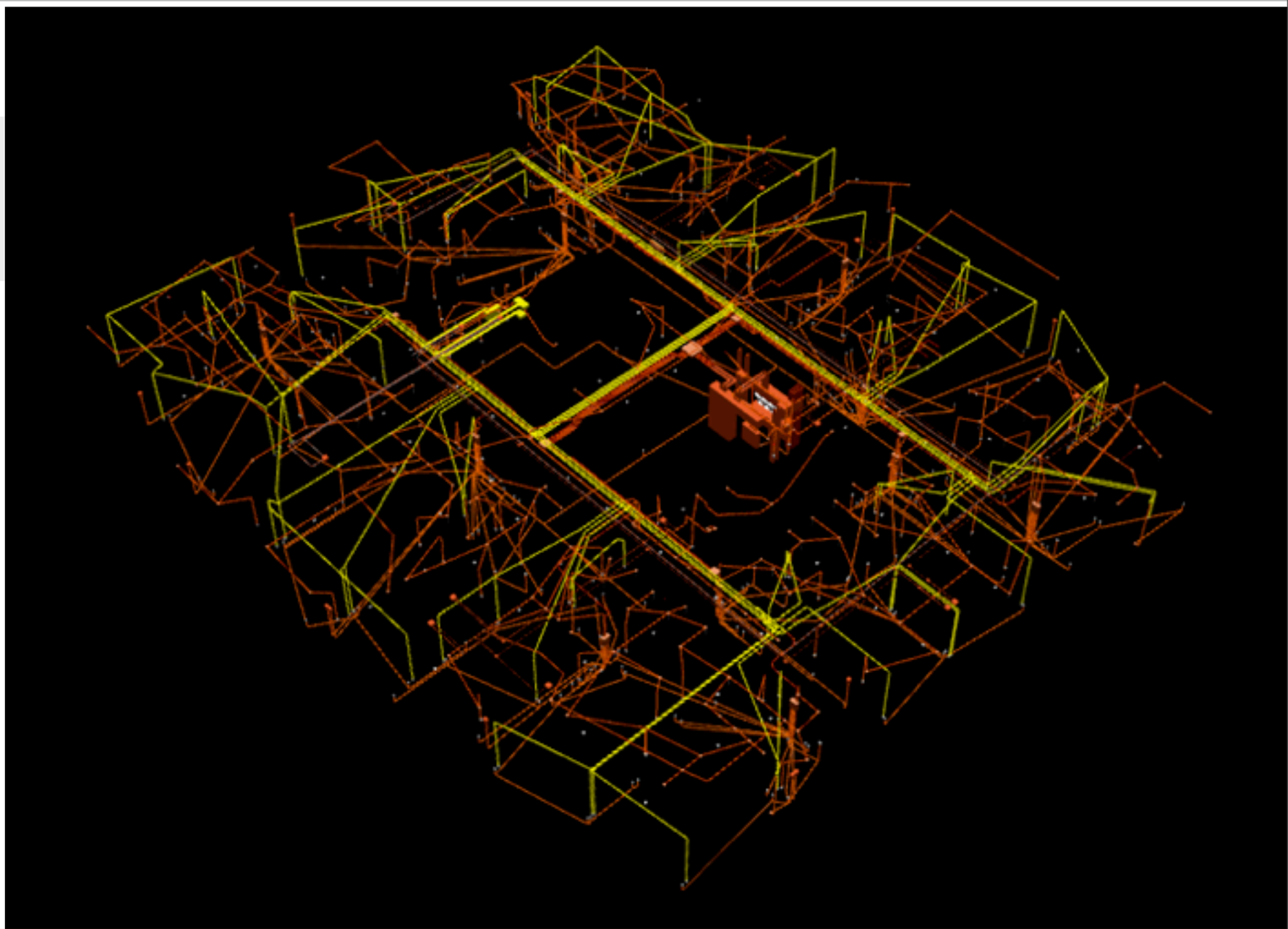
- Mechanical Modeling



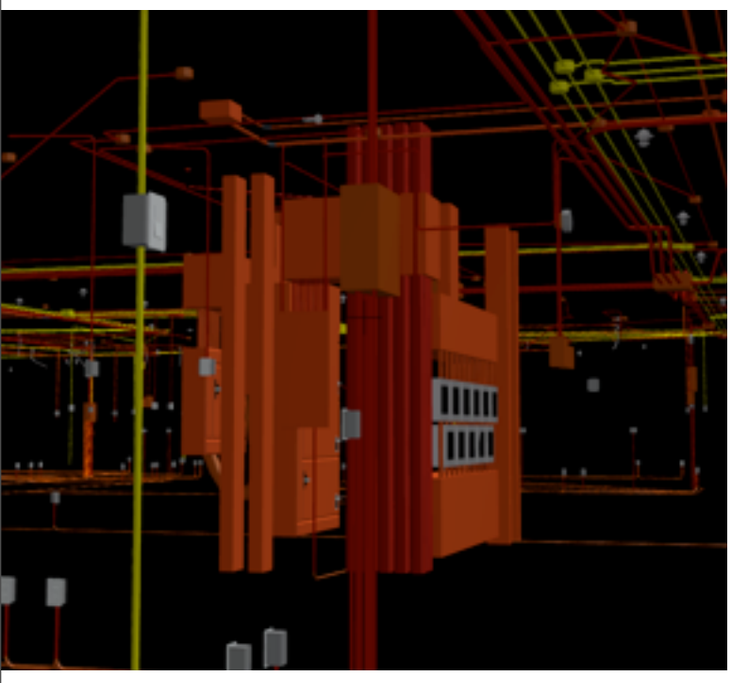
Our Design Process
Design Development Phase

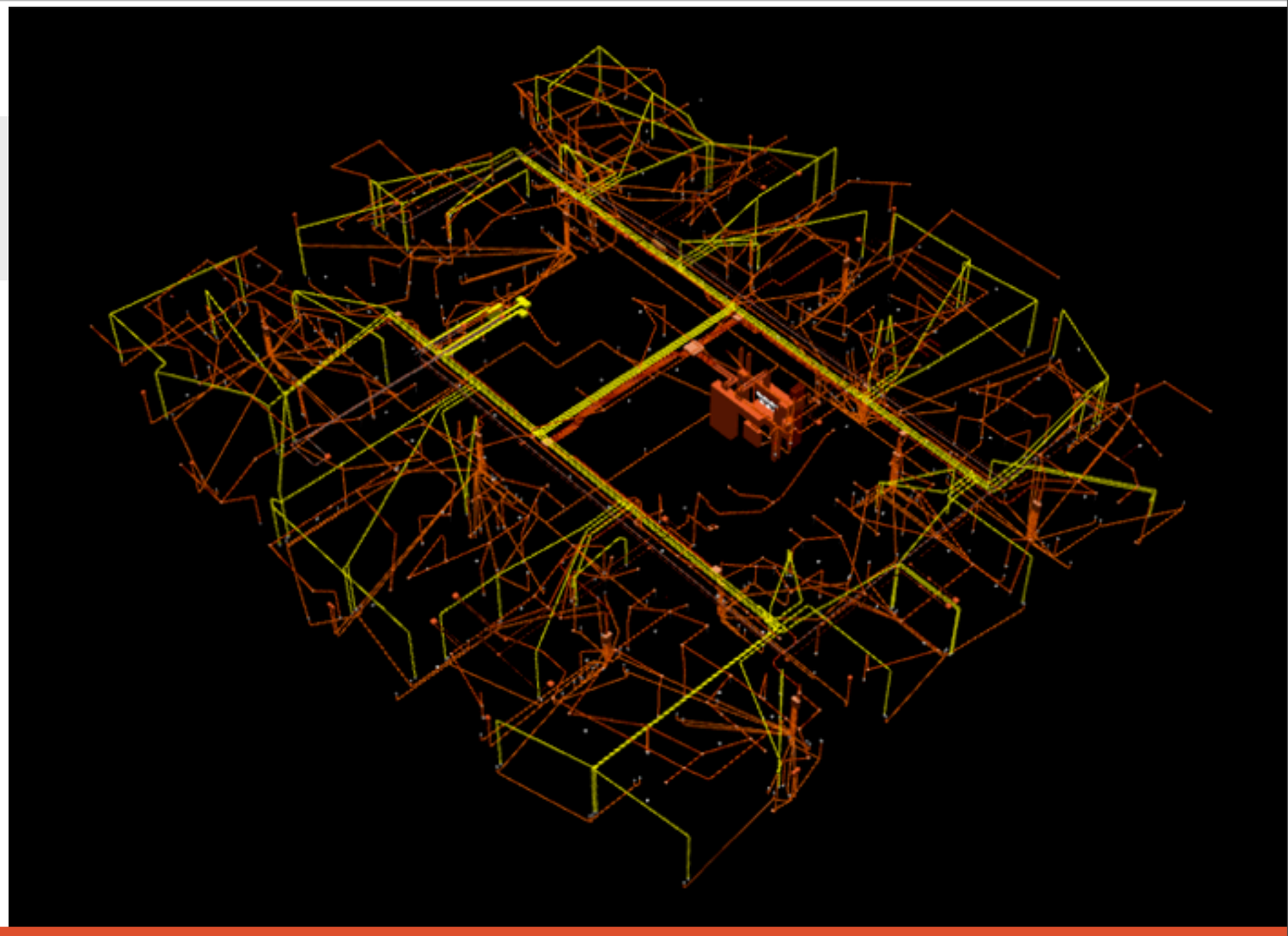
- Electrical Modeling



Our Design Process
Design Development Phase

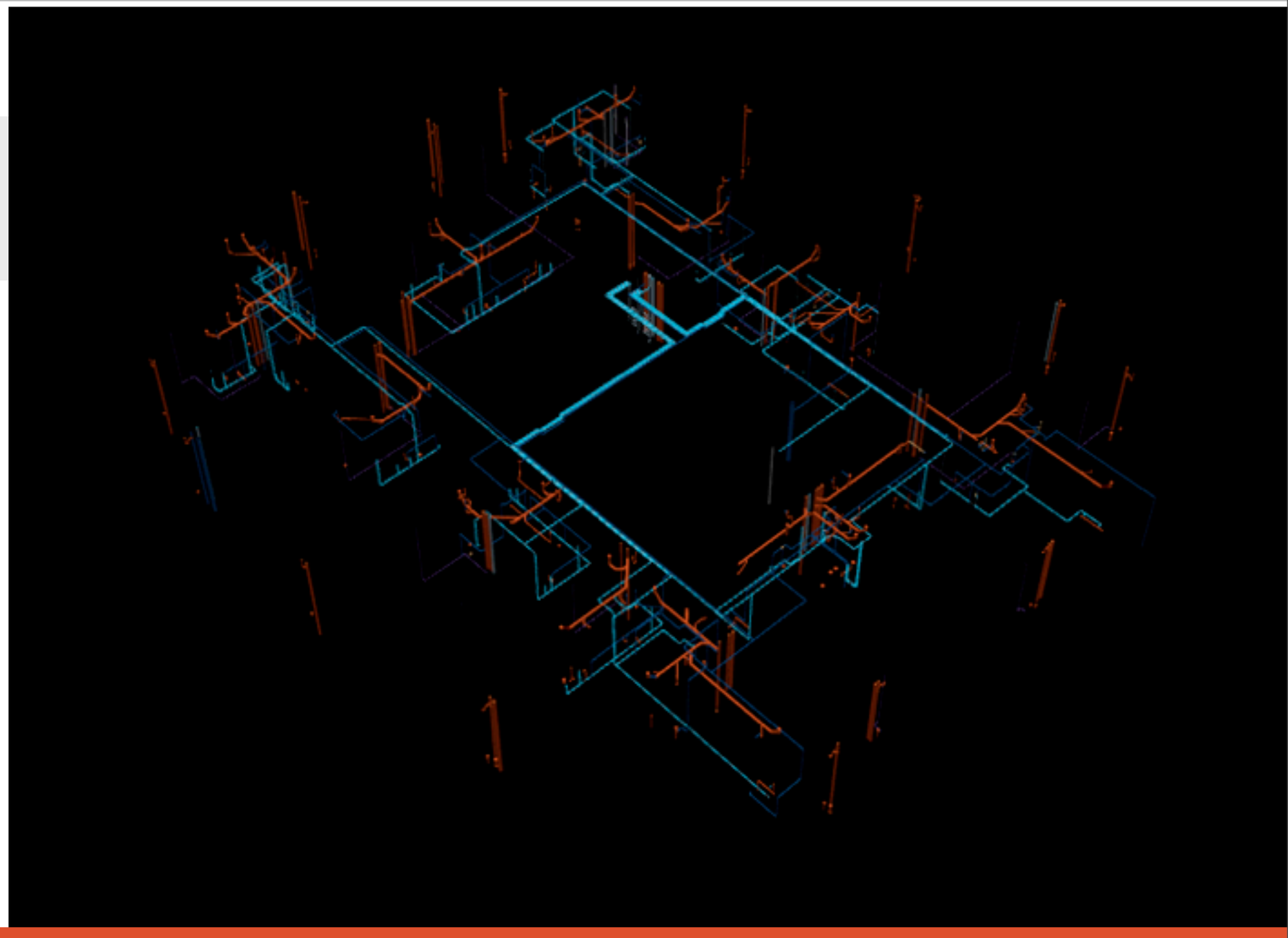
Electrical Modeling





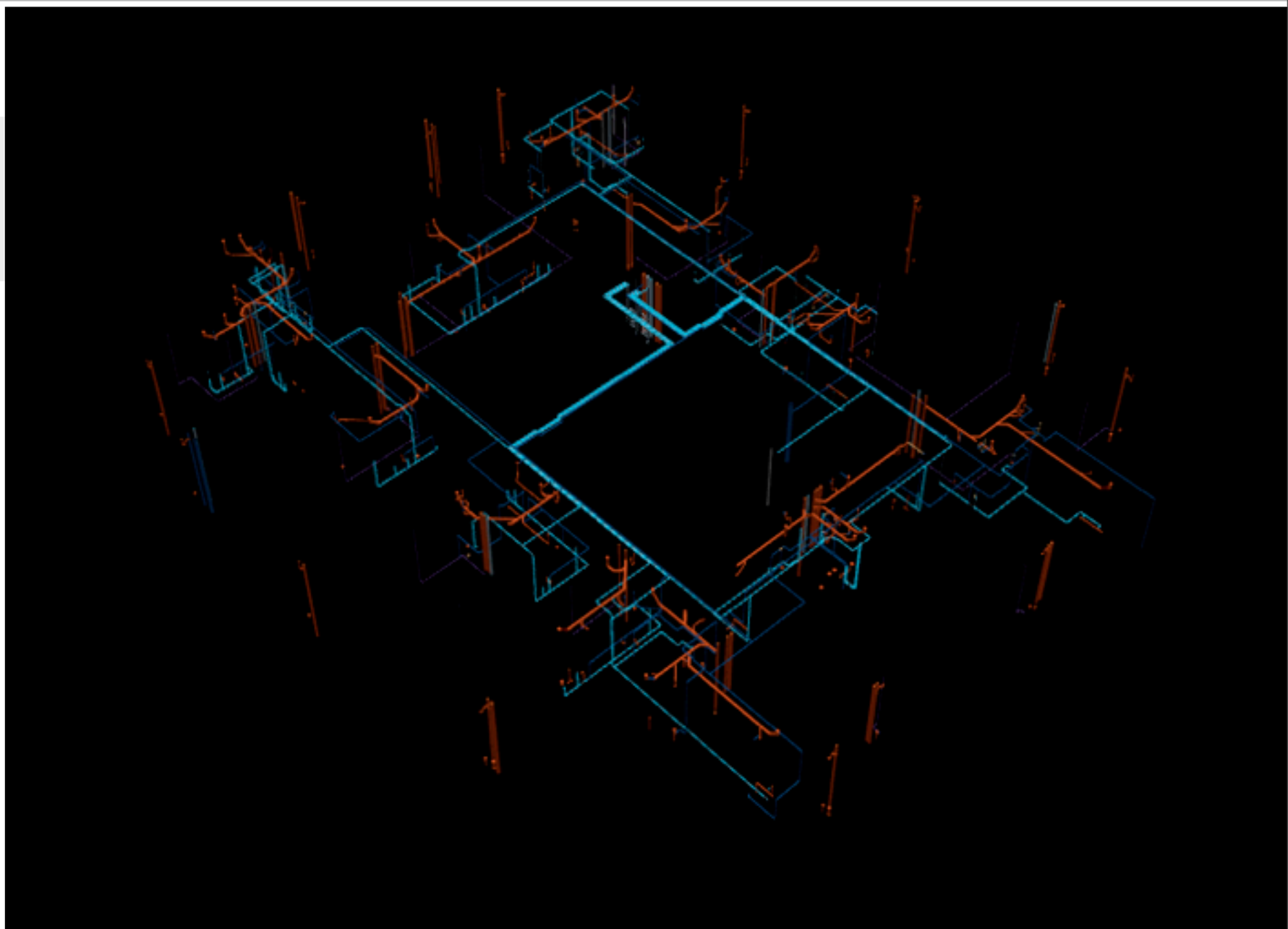
Our Design Process
Design Development Phase

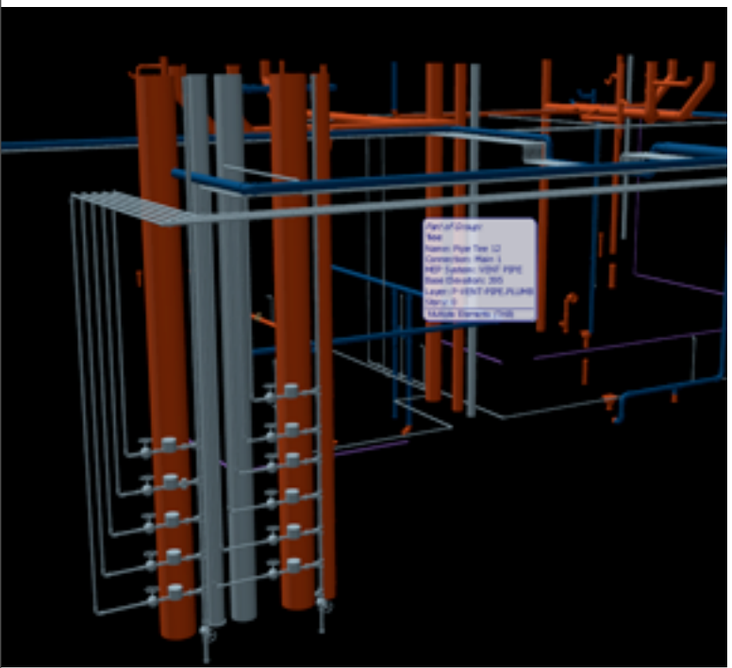
Plumbing Modeling



Our Design Process
Design Development Phase

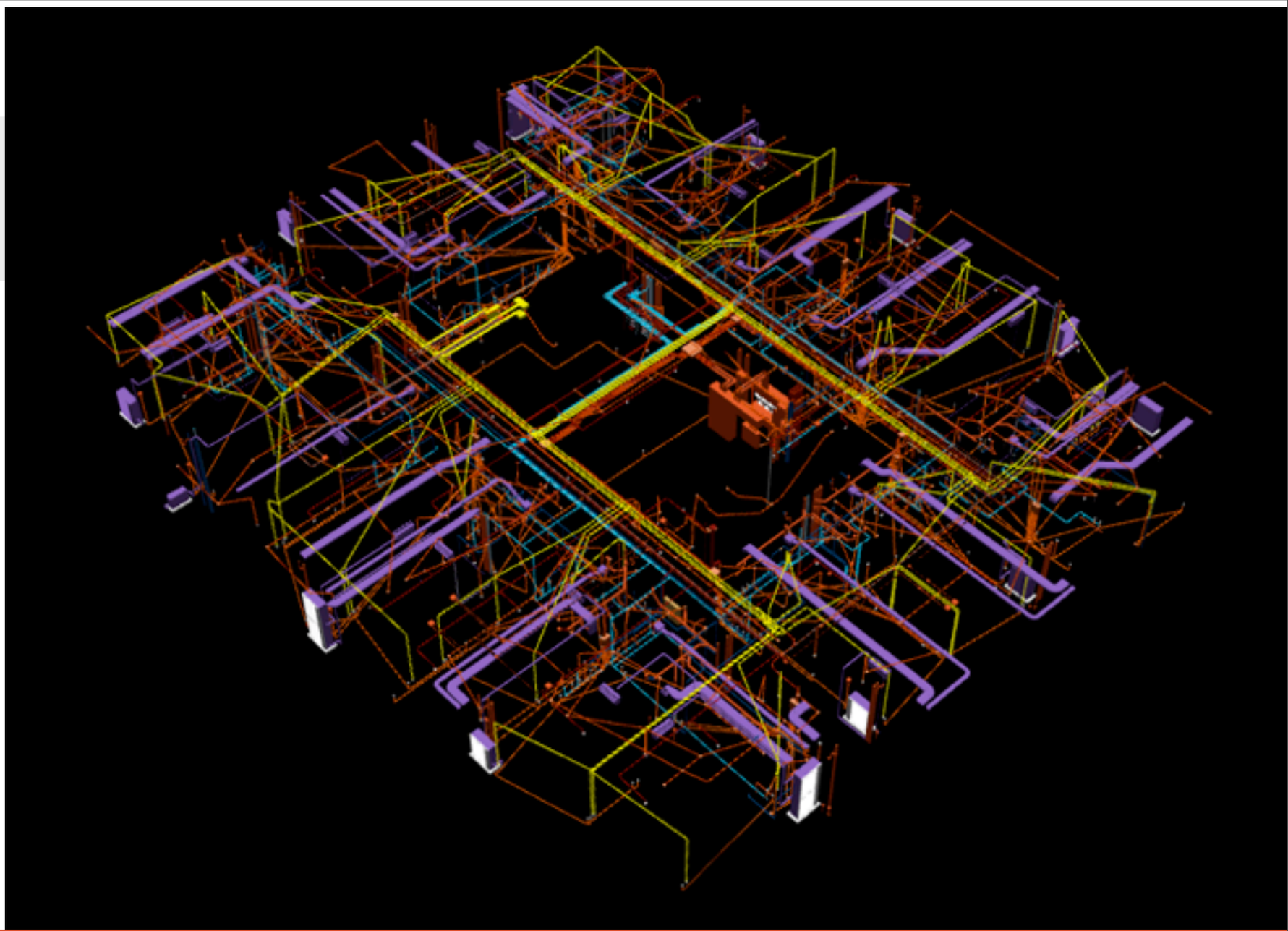
Plumbing Modeling





Our Design Process
Design Development Phase

- Combined MEPF



Our Design Process
Design Development Phase

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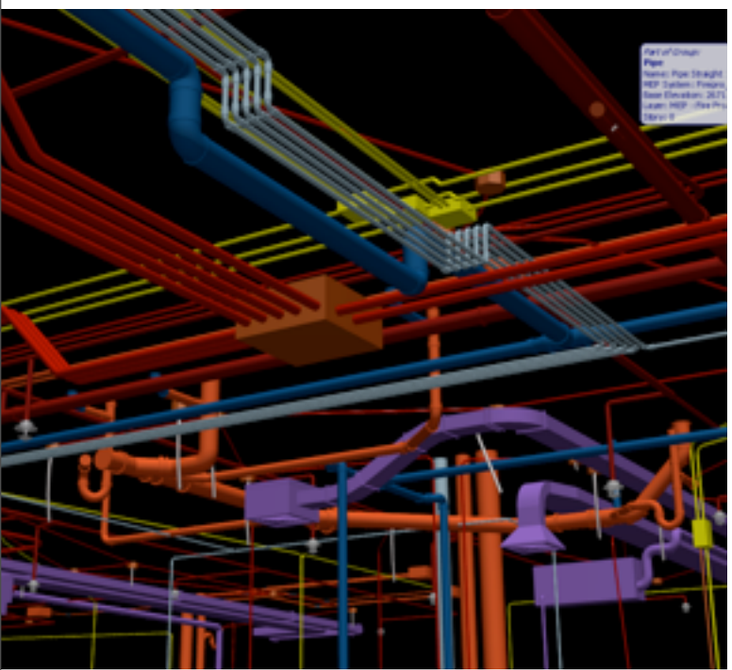
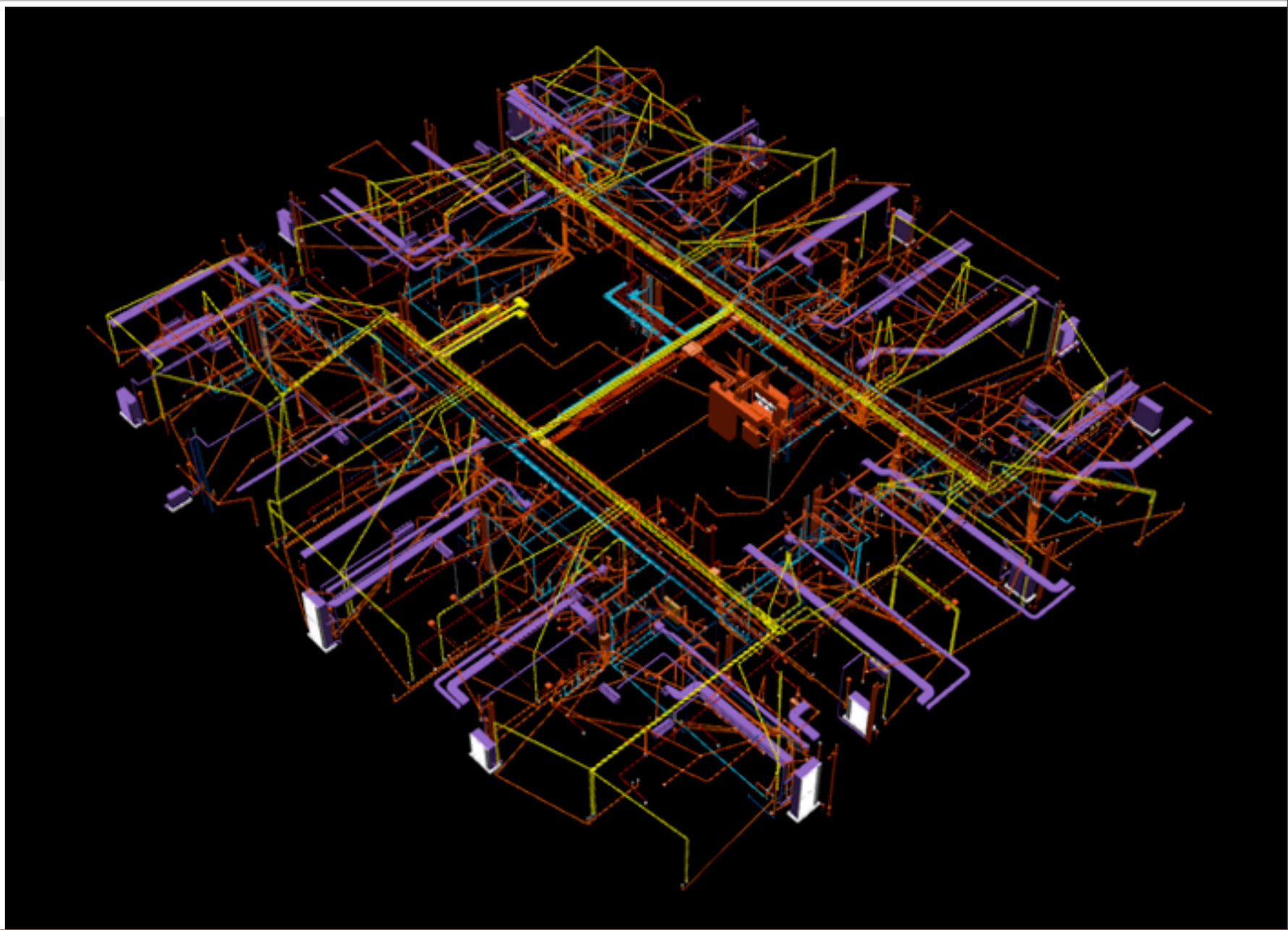
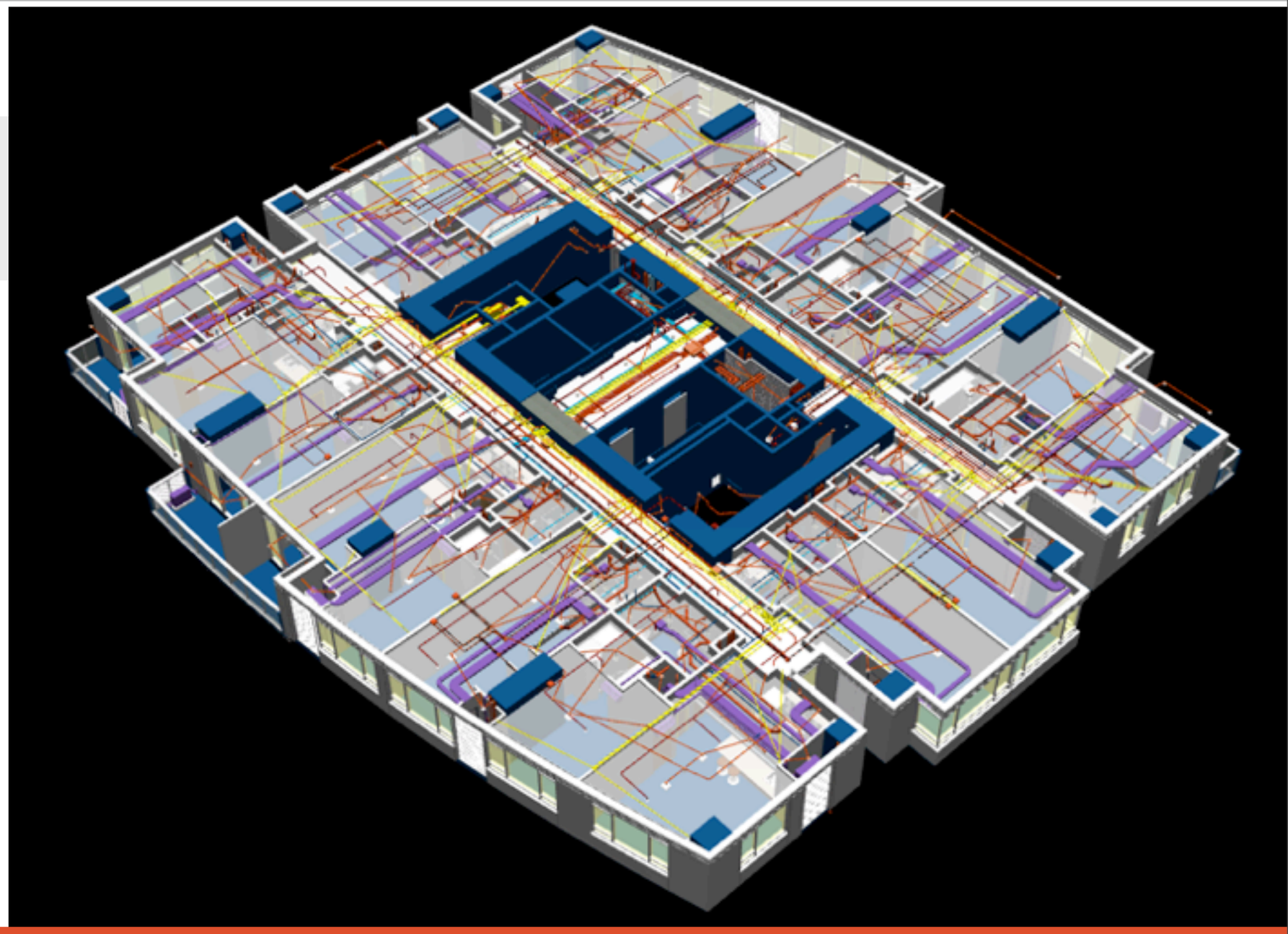
- Combined MEPF





Our Design Process
Design Development Phase

- Integration of ASMEPF



Our Design Process
Design Development Phase

- Solibri Model Checker: Solibri Report

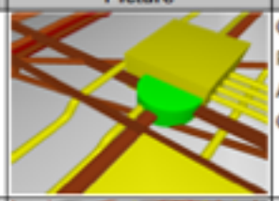
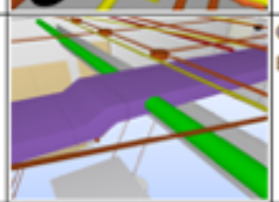
Our Design Process
Design Development Phase

- Solibri Model Checker: Solibri Report

3RD FLOOR CLASH DETECTION REPORT

Model Name	09069_3-FLR_TYP A
Checker	
Organization	
Date	February 7, 2011
09069_3-FLR_TYP A	Date: 2011-02-03 16:44:18 Application: ArchiCAD 12.0 IFC: IFC2X3
09069 PL_3 TYP_A	Date: 2011-02-03 17:21:36 Application: ArchiCAD 12.0 IFC: IFC2X3
09069_ELEC_3-18 23-30_TYP A	Date: 2011-01-24 10:50:17 Application: ArchiCAD 12.0 IFC: IFC2X3
09069_FPRO_3-18 & 23-30_TYP-A	Date: 2011-01-24 15:33:34 Application: ArchiCAD 12.0 IFC: IFC2X3
09069_SEC_3-18 23-30_TYP A	Date: 2011-01-24 15:21:12 Application: ArchiCAD 12.0 IFC: IFC2X3
09069_MECH_3 TYP-A	Date: 2011-02-07 13:08:26 Application: ArchiCAD 12.0 IFC: IFC2X3

3RD FLOOR CLASH DETECTION REPORT

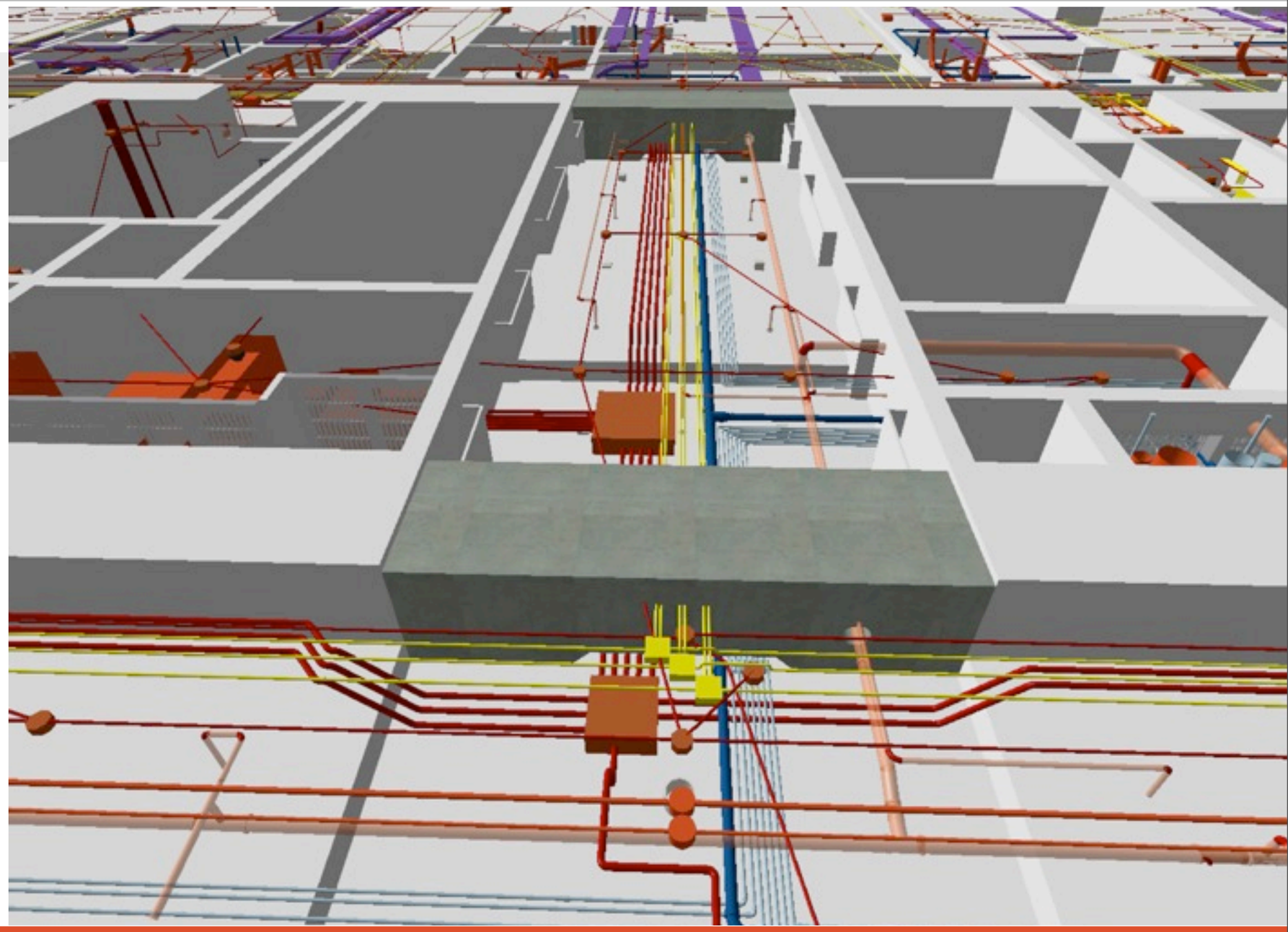
Number	Id	Location	Date	Author	Picture	Issue comment	Responsibilities	Action Required
1	1	3RD FLOOR, BETWEEN GRID LINE T1.J1-T1.K & T1.11-T1.13 NEAR AUXILIARY ROOM	4-Feb-2011			CLASH BETWEEN JUNCTION BOX, PULLBOX, E-SECURITY CONDUIT, AUXILIARY CONDUIT & LIGHTING CONDUITS		
2	2	3RD FLOOR, BETWEEN GRID LINE T1.J1-T1.K & T1.13 NEAR ELEVATOR LOBBY	4-Feb-2011			CLASH BETWEEN JUNCTION BOX, PULLBOX, E-SECURITY CONDUIT, AUXILIARY CONDUIT & LIGHTING CONDUITS		
3	4	BETWEEN GRID LINE T1.K-T1.L & T1.10-T1.11 3L/1BR-1.4	4-Feb-2011			CLASH BETWEEN MECHANICAL EXHAUST DUCT & REFRIGERANT PIPE		
4	5	BETWEEN GRID LINES T1.13-T1.15	4-Feb-2011			CLASH BETWEEN MECHANICAL EXHUAST DUCT & REFRIGERANT PIPE		

Our Design Process
Design Development Phase

Clash Detection

Our Design Process
Design Development Phase

- Clash Detection

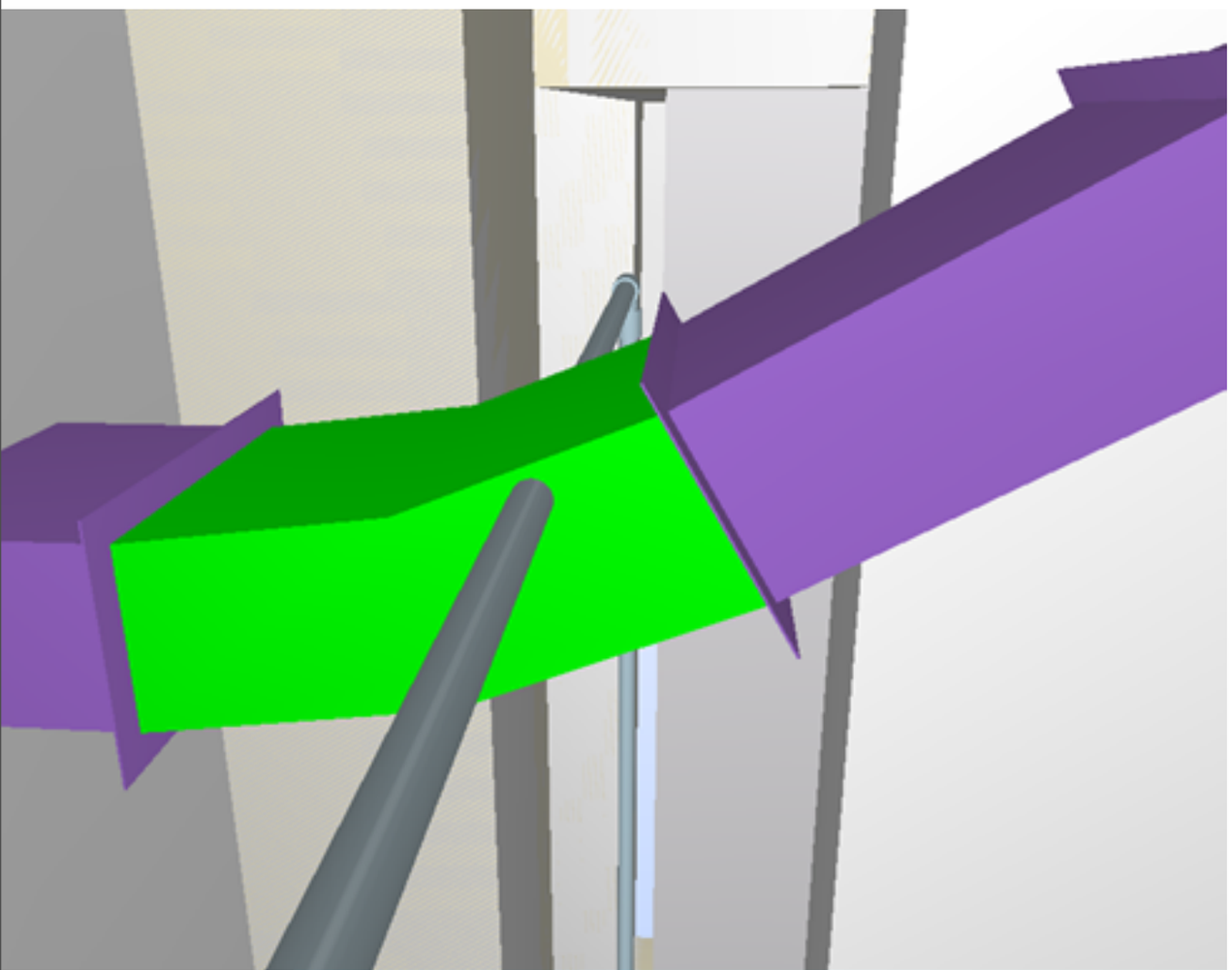


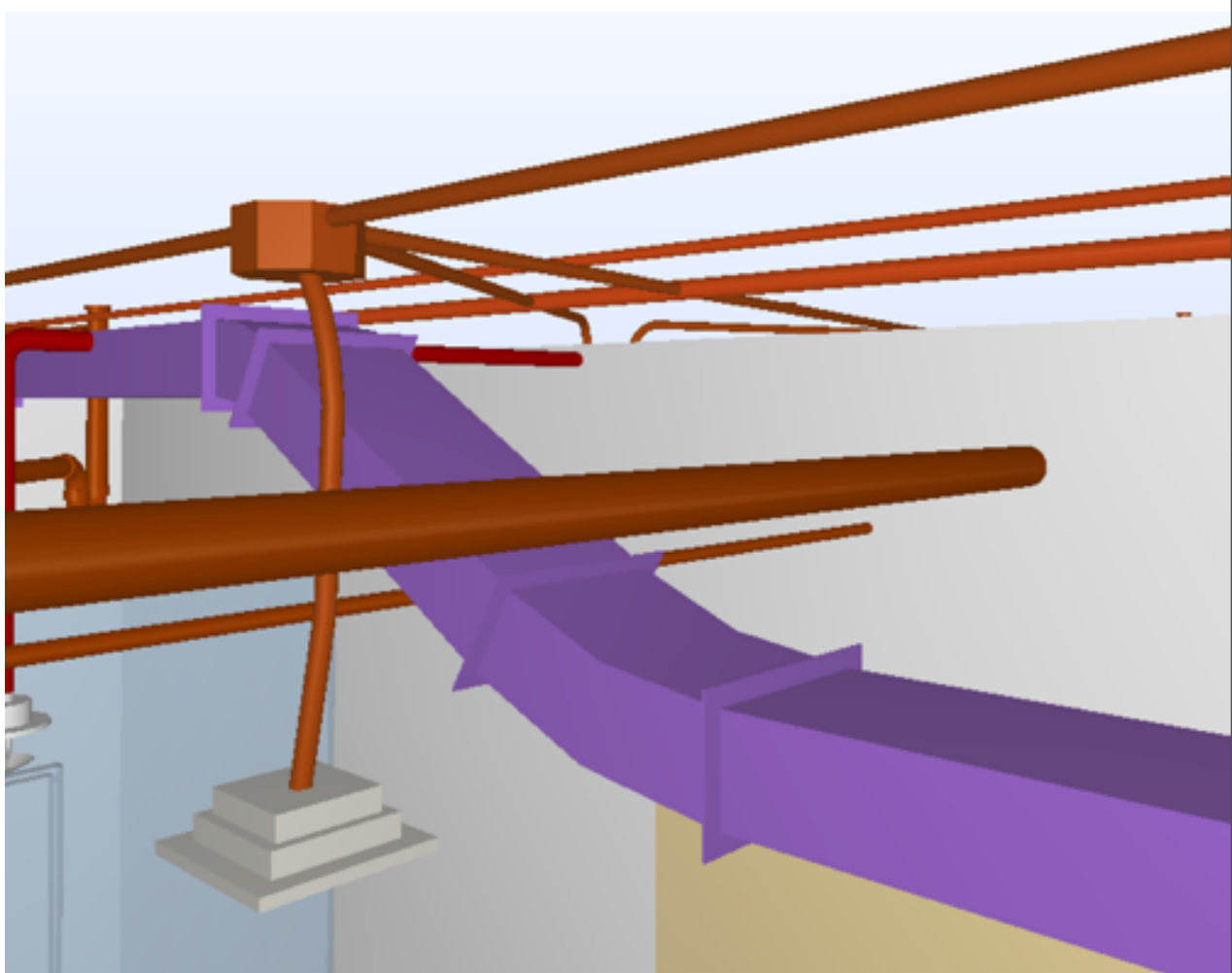
Our Design Process
Design Development Phase

Clash Detection & Resolution

Our Design Process
Design Development Phase

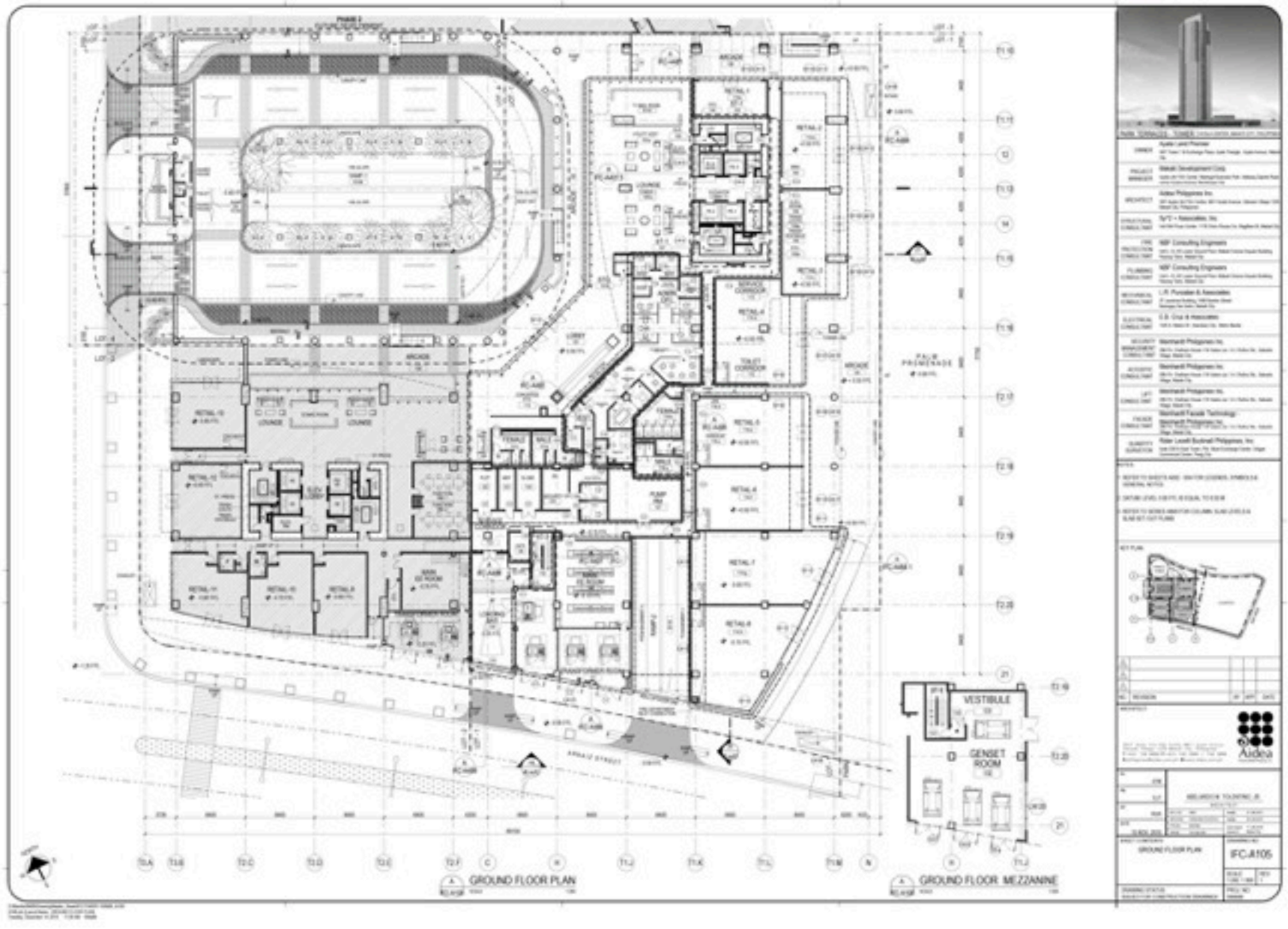
Clash Detection & Resolution





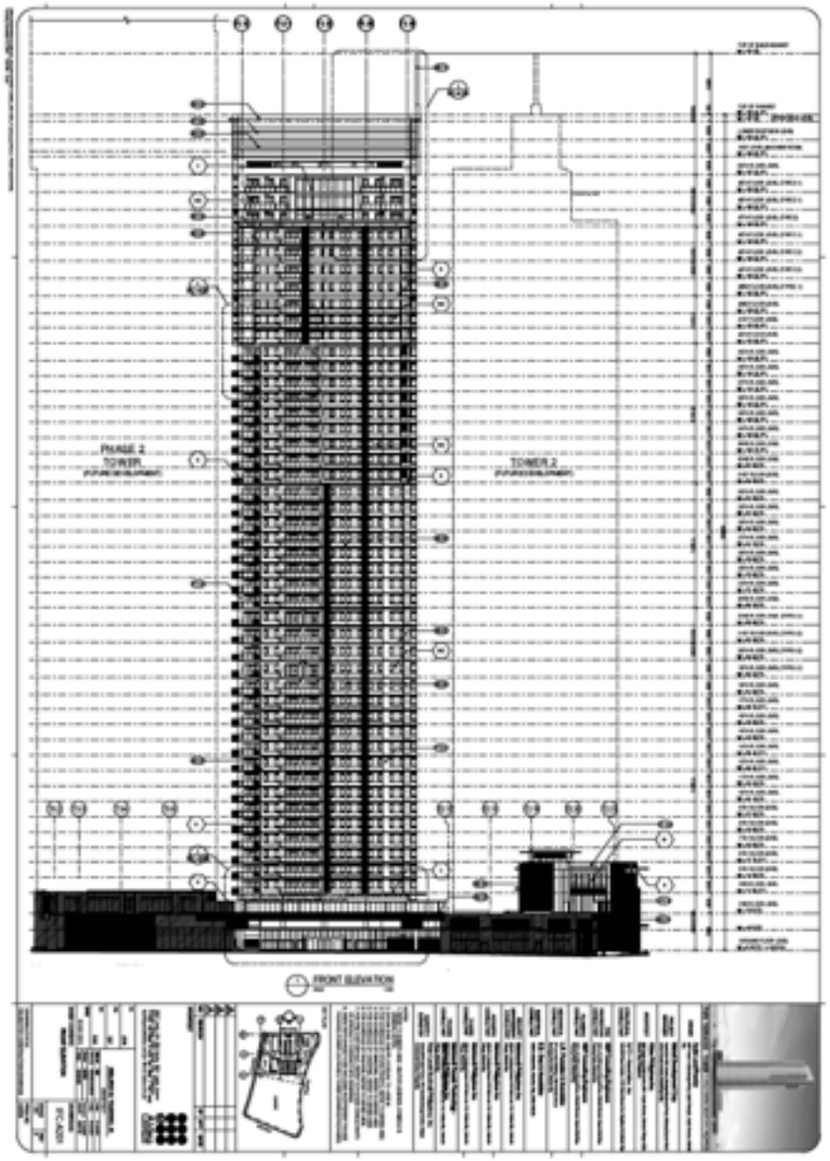
Our Design Process
Design Development Phase

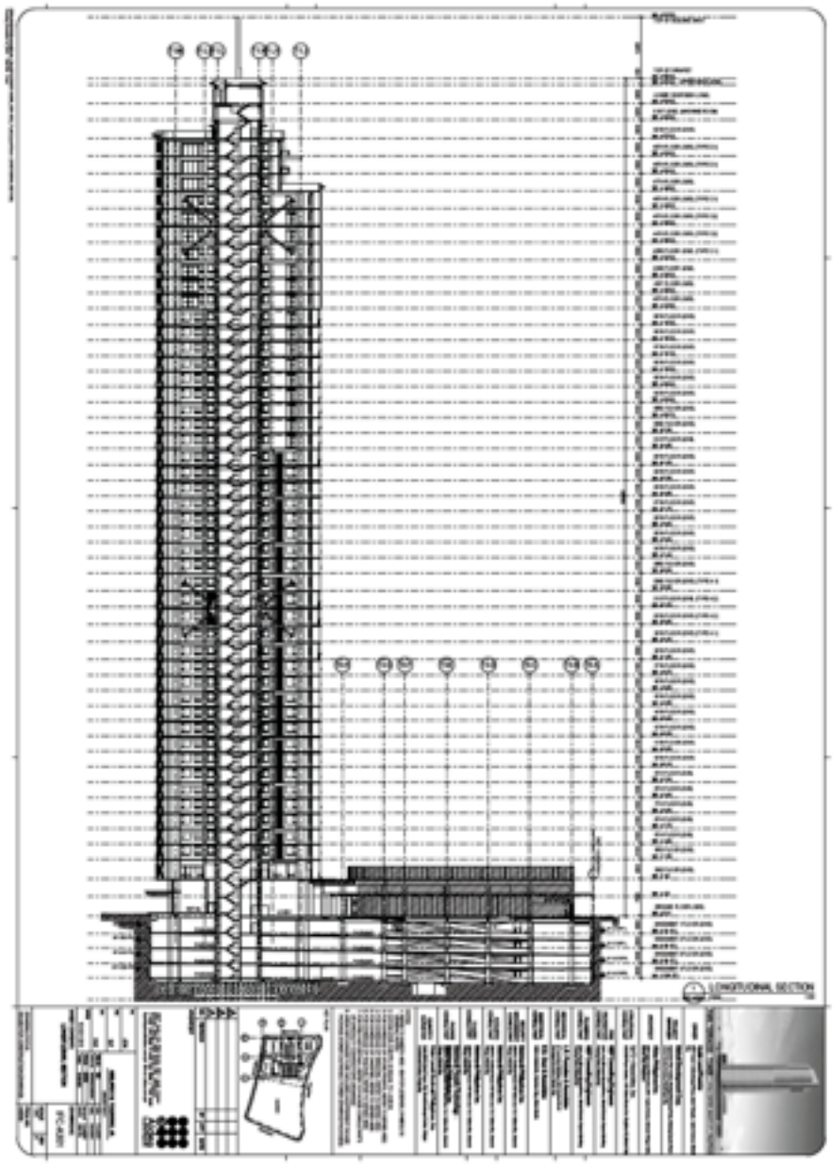
Design Output: Floor Plan



Our Design Process
Design Development Phase

Design Output: Elevation & Section





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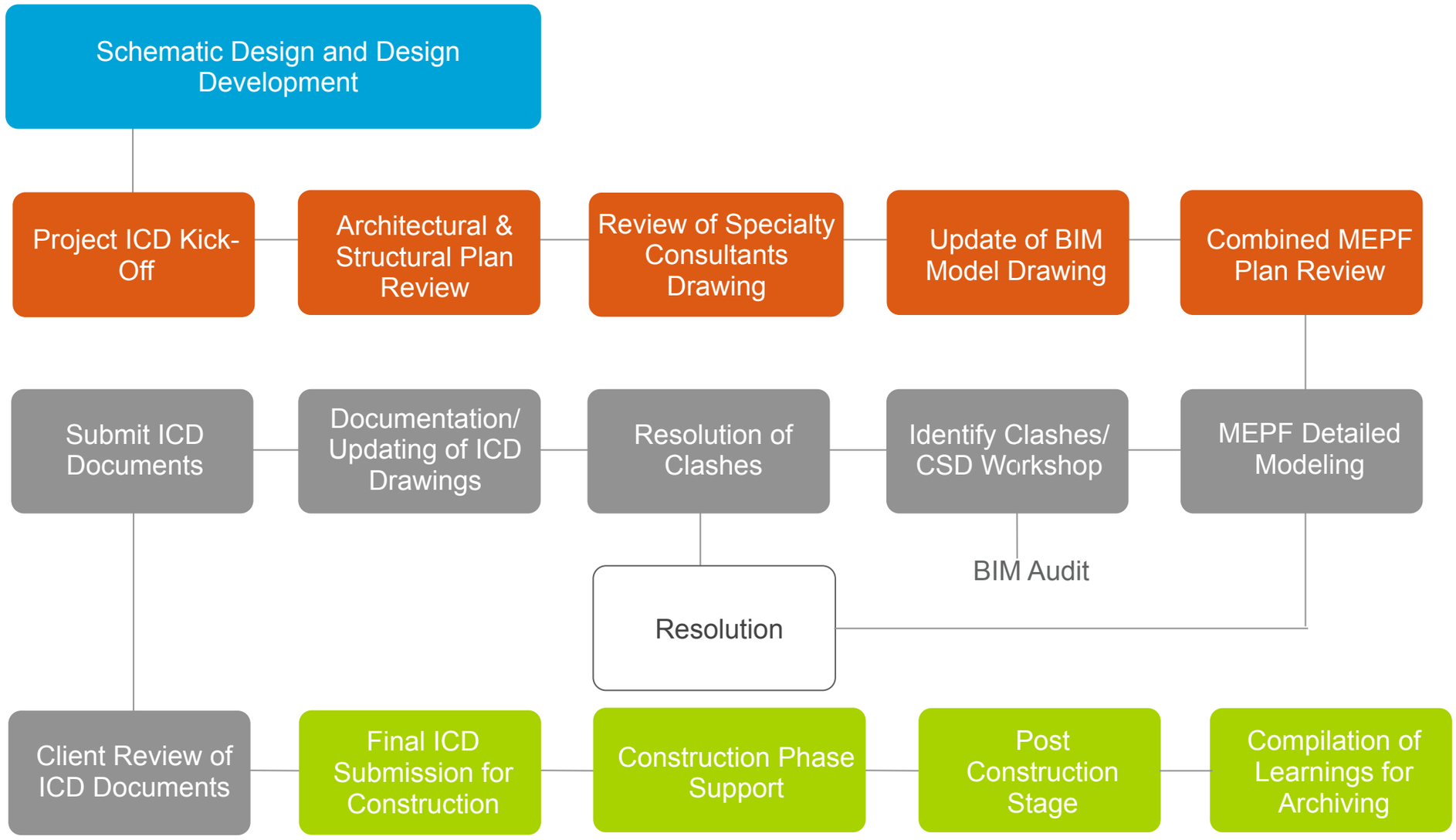
Our Design Process

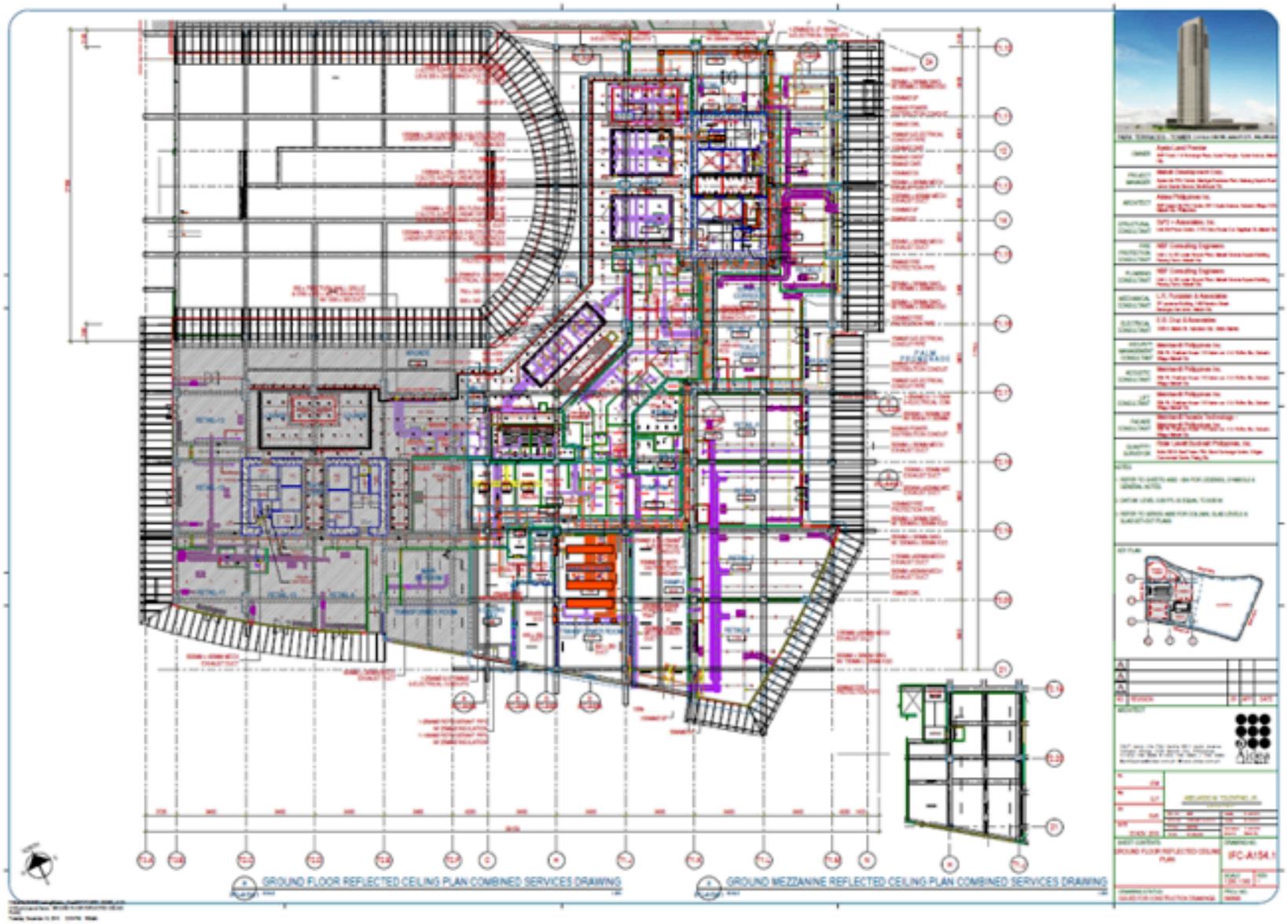
Integrated Construction Document



Our Design Process

Integrated Construction Document

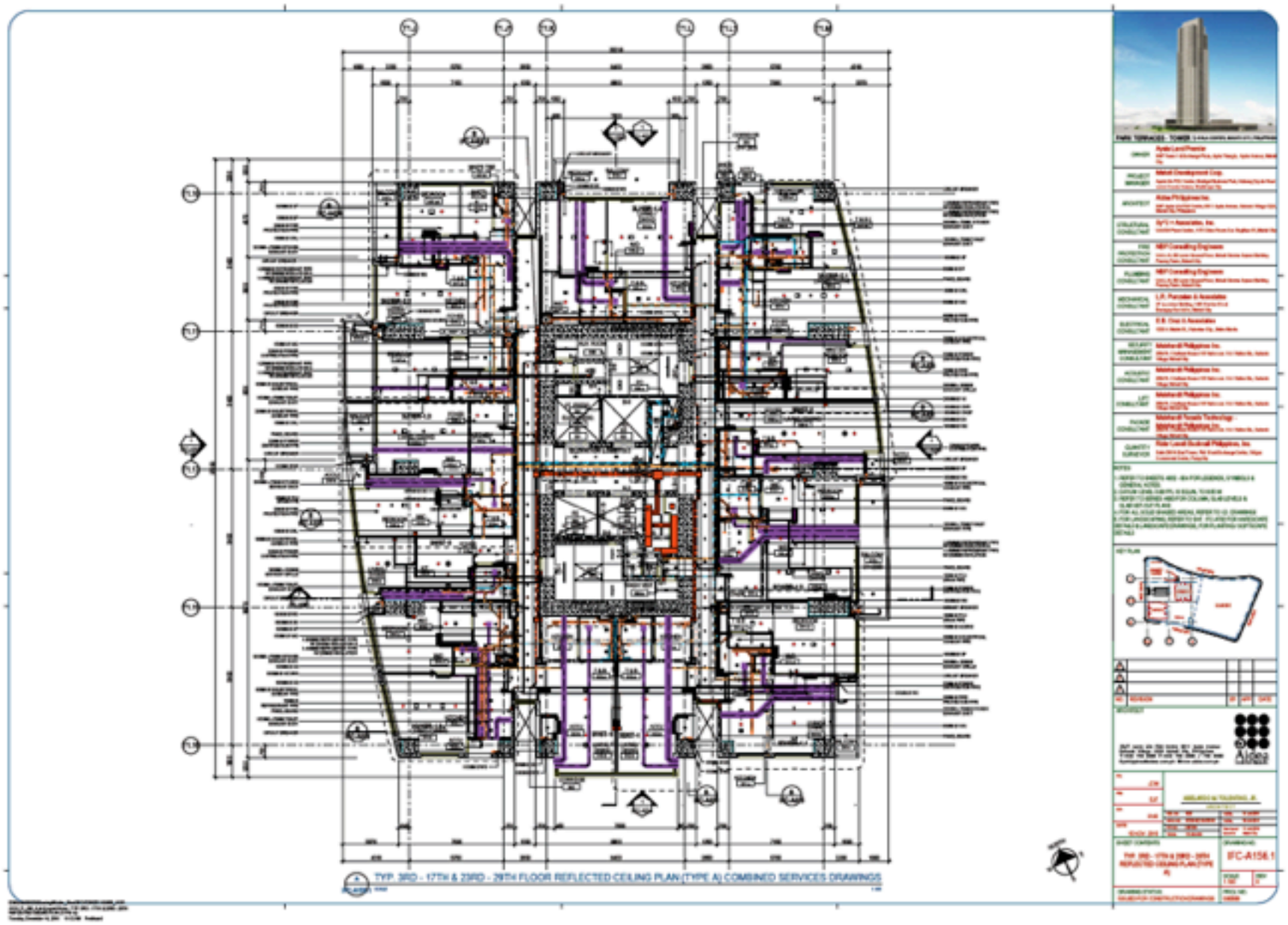
Design Output: Elevation & Section



Our Design Process

Integrated Construction Document

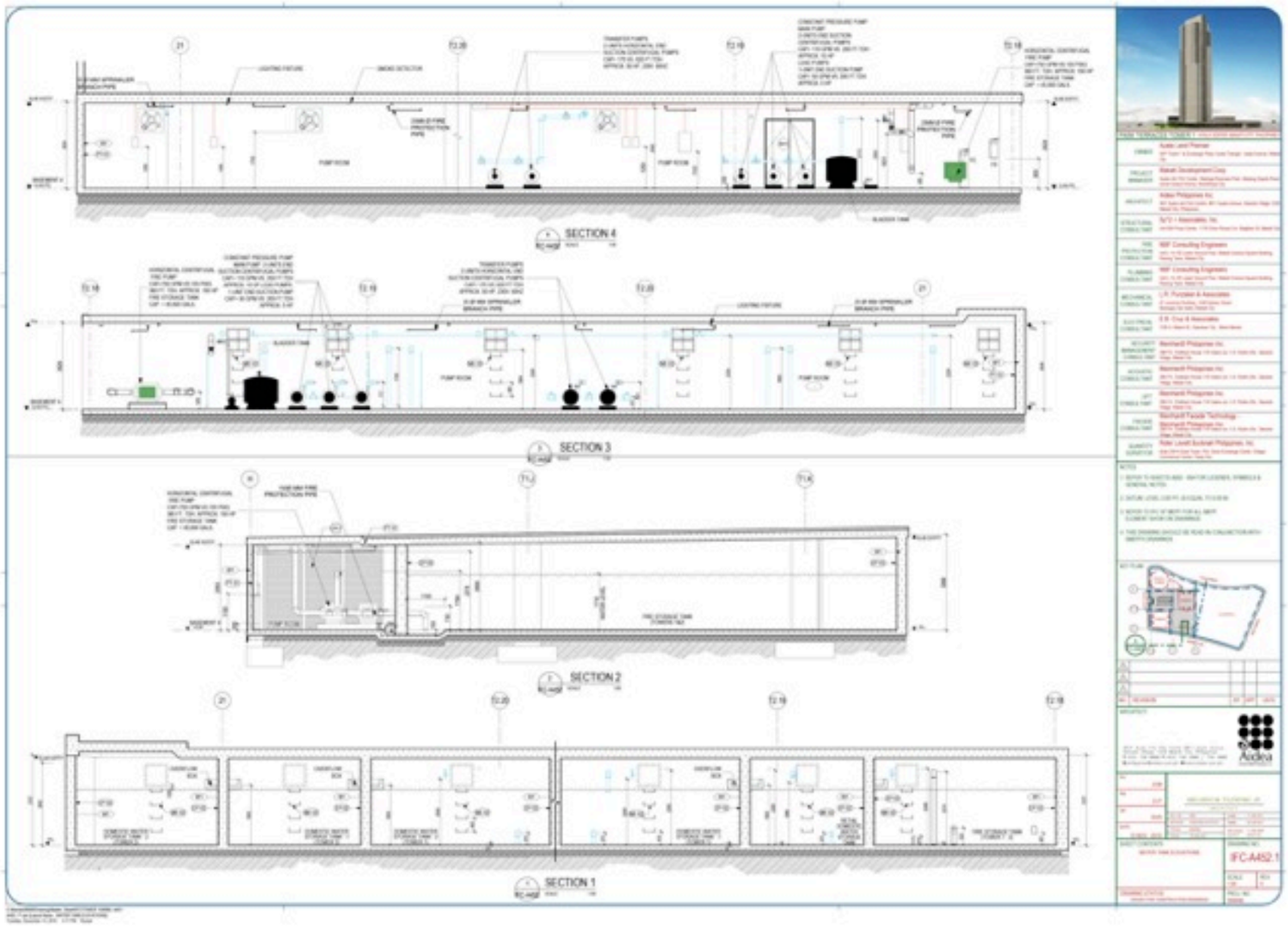
Design Output: Floor Plan



Our Design Process

Integrated Construction Document

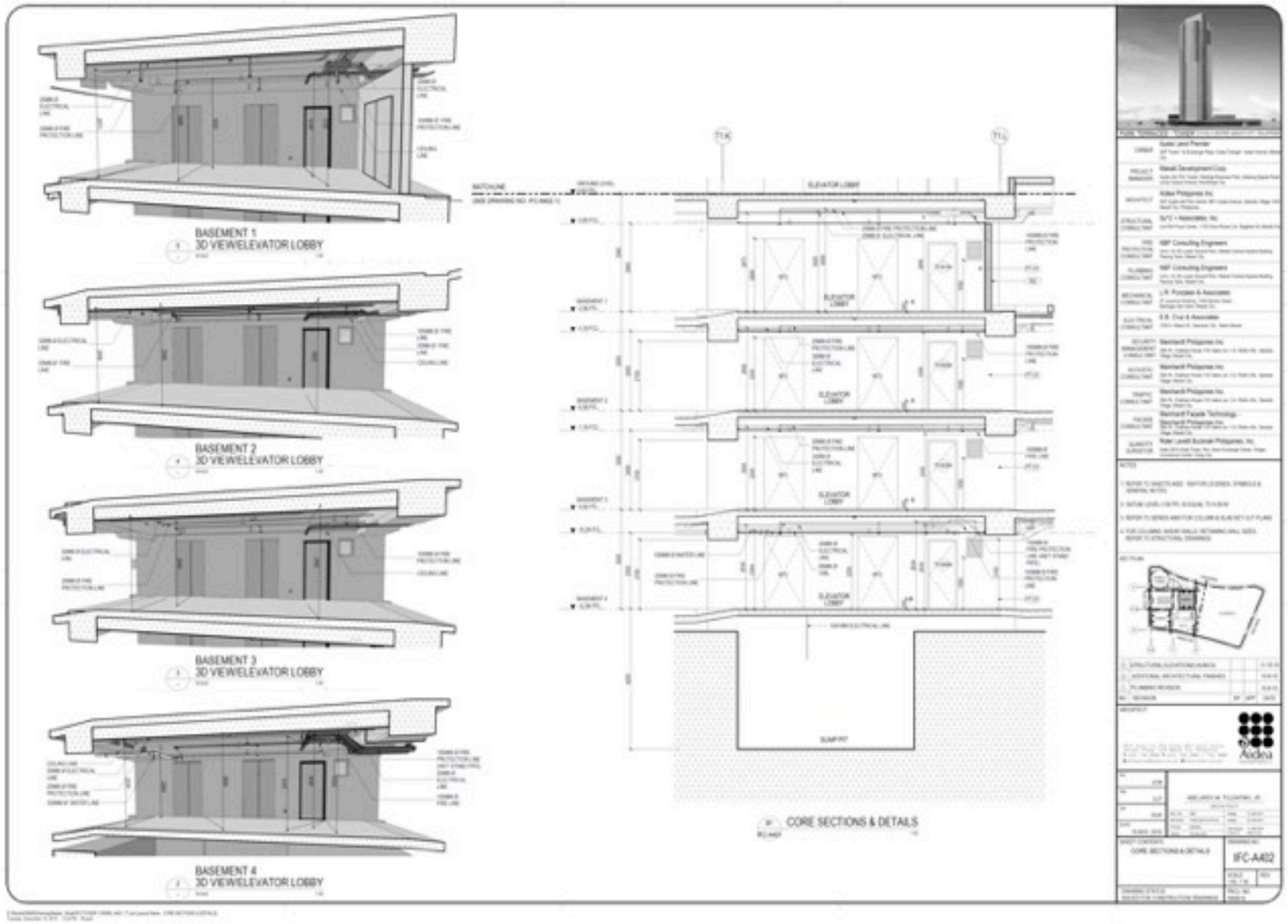
Design Output: General Arrangement Drawing



Our Design Process

Integrated Construction Document

Design Output: General Arrangement Drawing



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Effects & Results in Using BIM

Work with International Firms

Teamwork

- Model updates
-Checking

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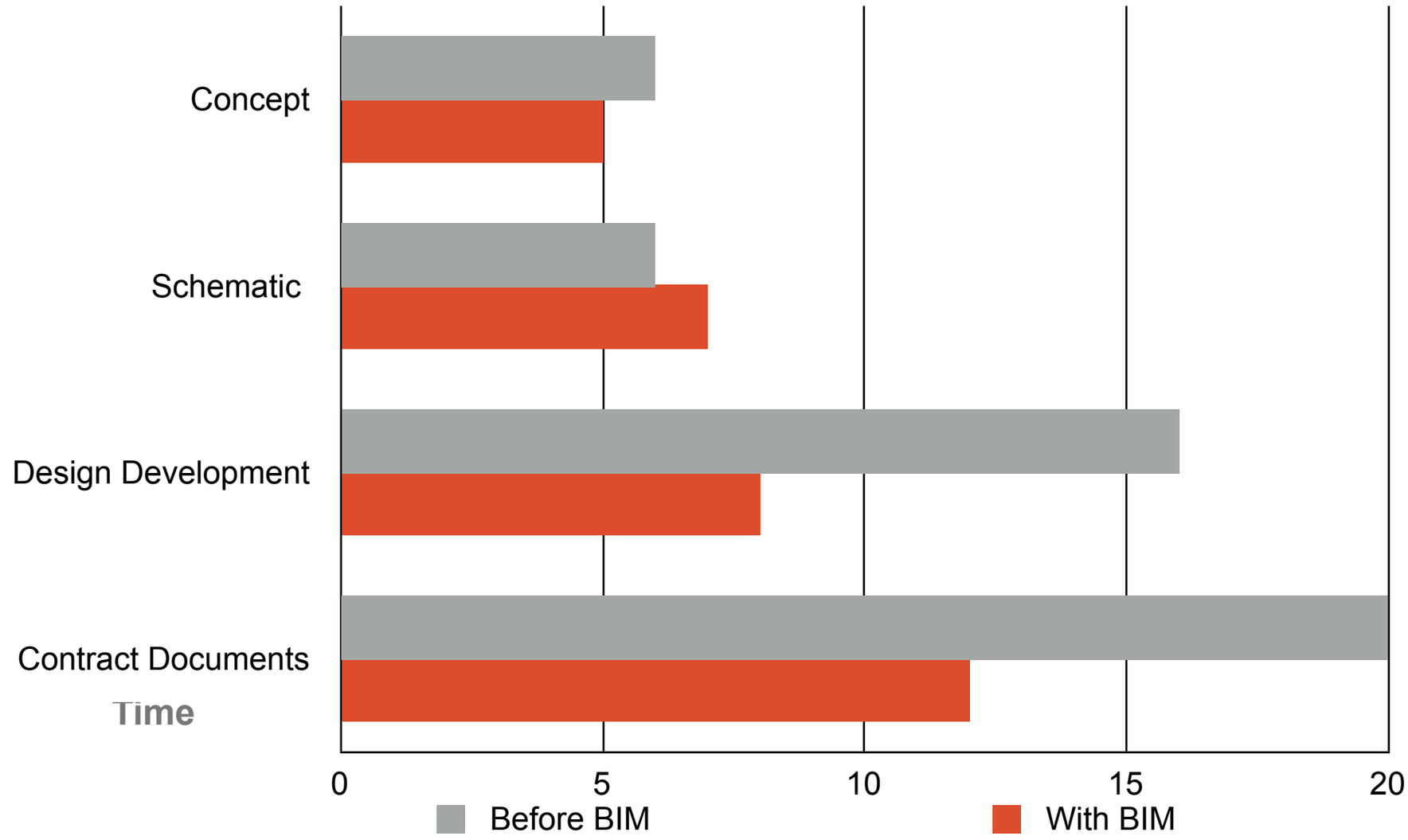
Effects & Results in Using BIM

Time



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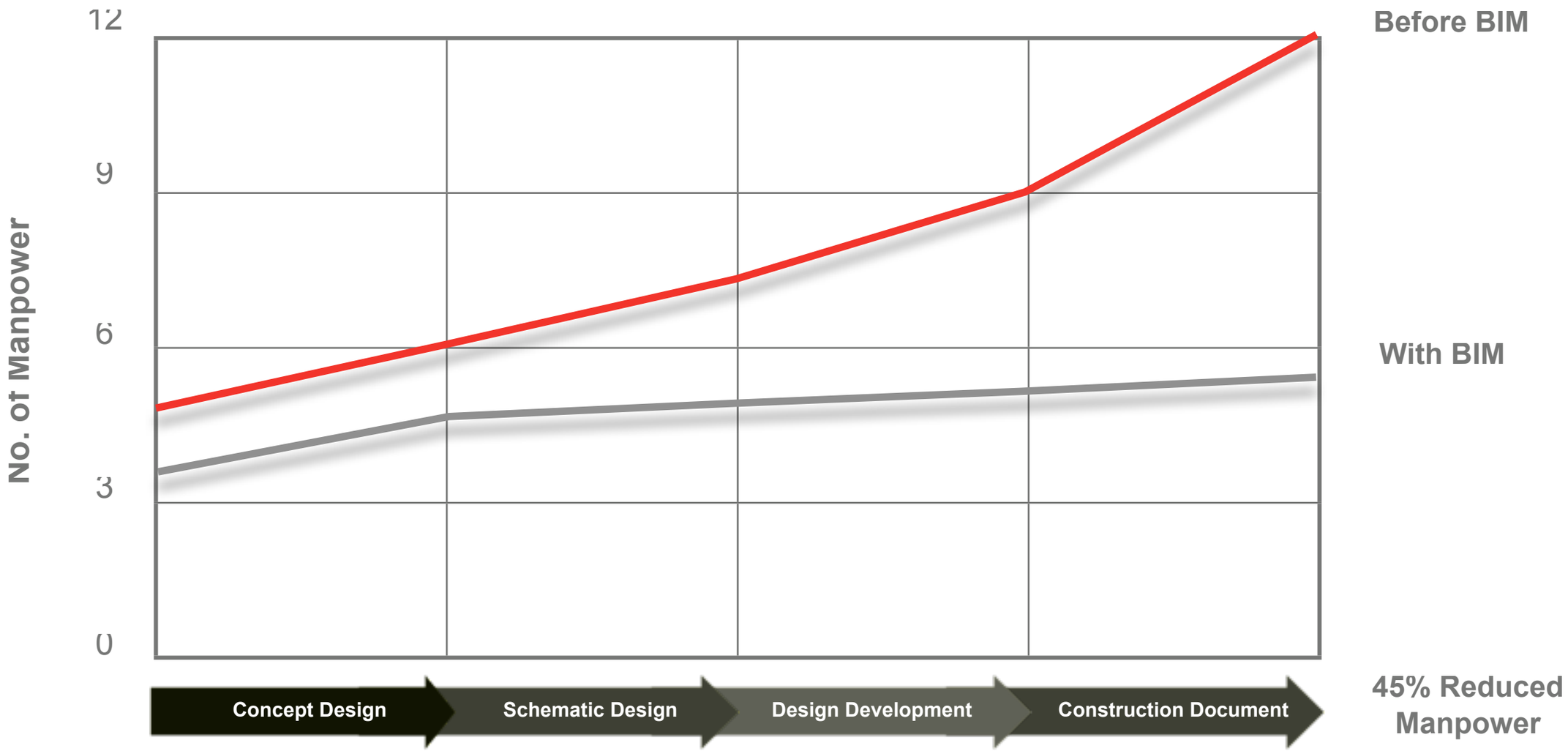
Effects & Results in Using BIM

Manpower



Projects done in BIM

High Street South Bonifacio Global City, Philippines

Projects done in BIM

The Serendra Bonifacio Global City, Philippines

Projects done in BIM

One World Place Bonifacio Global City, Philippines

Projects done in BIM

Park Terraces Makati City, Philippines

Projects done in BIM

New Management Office of Socar Baku City, Azerbajian

Projects done in BIM

Arya Bonifacio Global City, Philippines

Projects done in BIM

One Museum Park West Chicago, Illinois, U.S.A.

BIM Projects

Calyx Cebu City, Philippines

Calyx Cebu City, Philippines

Calyx Cebu City, Philippines

BIM Projects

Celadon Manila City, Philippines

Celadon Manila City, Philippines

BIM Projects

Celadon Manila City, Philippines

BIM Projects

Arya Bonifacio Global City, Philippines

Arya

Bonifacio Global City, Philippines

Arya

Bonifacio Global City, Philippines

BIM Projects

Park Terraces Makati City, Philippines

BIM Projects

Park Terraces Makati City, Philippines

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Park Terraces Makati City, Philippines

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Aston Redoak Bonifacio Global City, Philippines

Aston Redoak

Bonifacio Global City, Philippines

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Aston Redoak Bonifacio Global City, Philippines

BIM Projects

Globe Headquarters

Bonifacio Global City, Philippines

Globe Headquarters

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Globe Headquarters

Bonifacio Global City, Philippines

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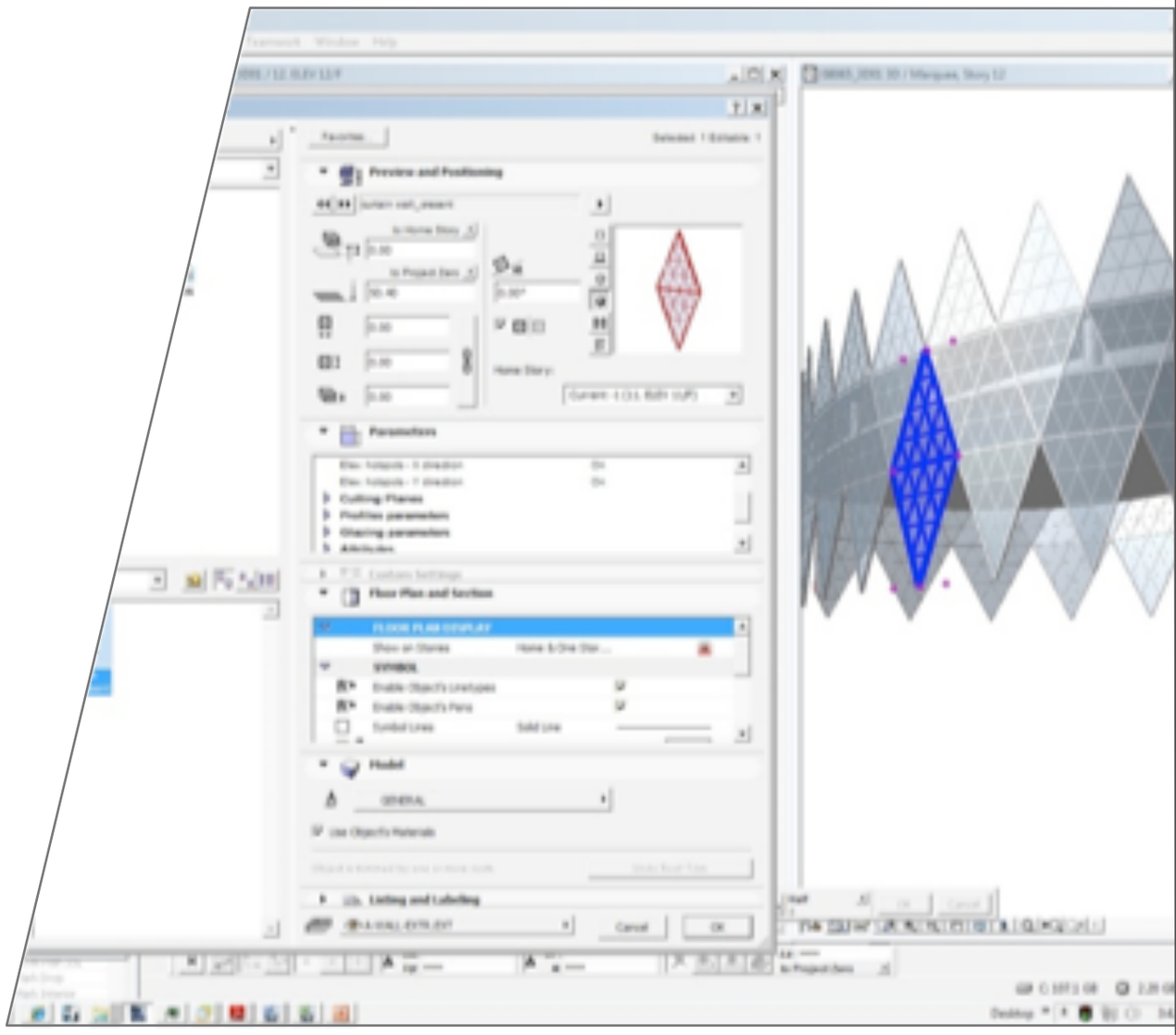
The Future with BIM
Current Developments

GDL Development

- Geometric Descriptive Language

- Create parametric objects

- Efficiency in work production.



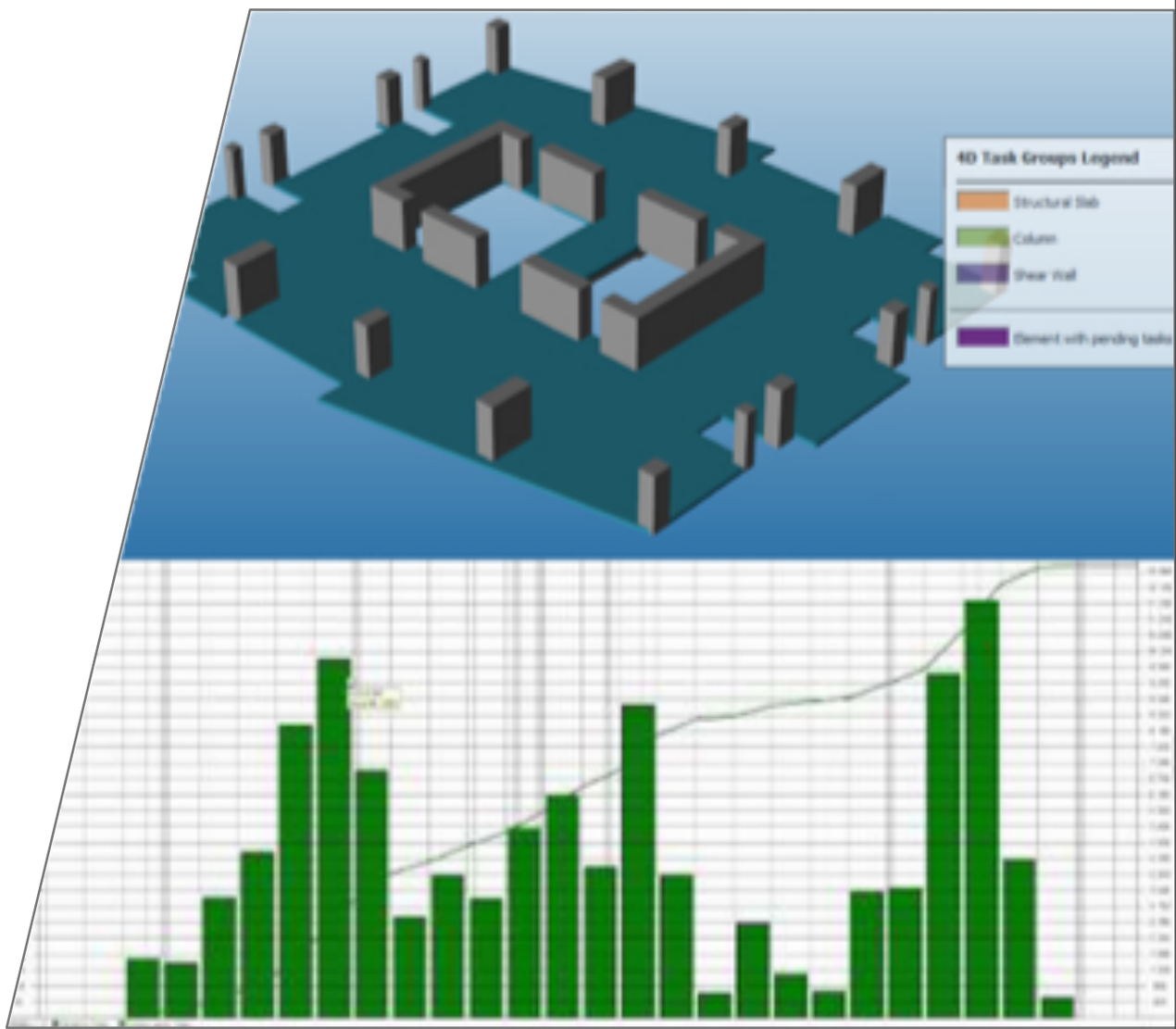
The Future with BIM
Current Developments

4D - Time Scheduling & Sequencing

- Integrates 3D BIM Model with the 4D schedule.

- Generates automatic 3D simulation of construction phase.

- Create report of actual progress on site and compares to the original baseline schedule.



VICO SOFTWARE
Integrating Construction

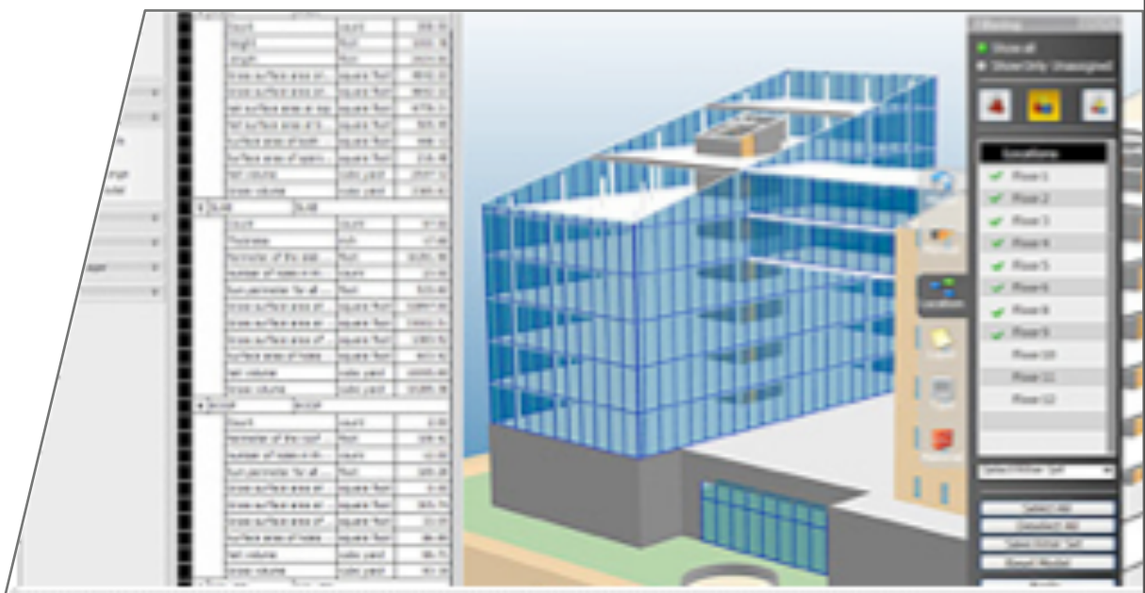
The Future with BIM
Current Developments

5D - Cost Estimating

- Highly accurate model-based quantity take-off.

- Generate quantity take-off reports.

- Filter and classify model-based quantities.



Cost Plan Report

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Integrating Construction

Code	Description	Quantity	Unit	Unit Cost	Price
S1000	**STRUCTURAL**	**1**	**-**	**235,499.85**	**235,5**
S1010	STRUCTURAL SLAB		CM	Infinity	5,1
S1011	*FORMWORKS*	*34*	*SM*	*100.00*	*3,4*
S1012	*STEELWORKS*		*CM*	*NaN*	
S1013	*CONCRETE POURING*		*CM*	*NaN*	
S1014	*FORWORKS STRIPPING*	*35*	*SM*	*50.00*	*1,7*
S1020	STRUCTURAL COLUMN	67	CM	1,145.94	76,8
S1021	*FORMWORKS*	*245*	*SM*	*100.00*	*24,5*
S1022	*STEELWORKS*	*65*	*CM*	*300.00*	*19,5*
S1023	*CONCRETE POURING*	*67*	*CM*	*300.00*	*20,1*

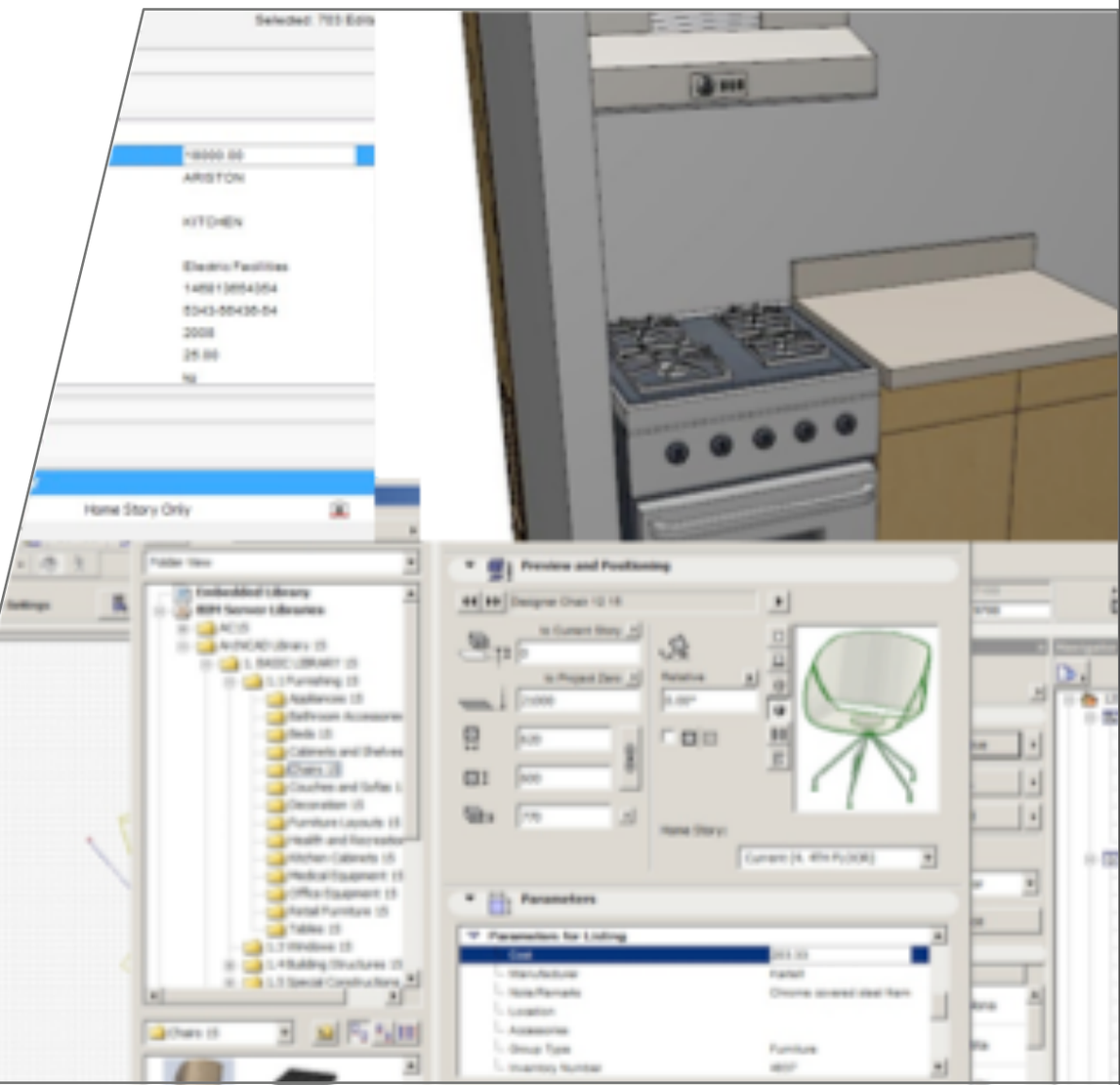
VICO SOFTWARE
Integrating Construction

The Future with BIM
Current Developments

6D - Procurement Integration

- Object based data integration of material specification.

- Product and price database.



GRAPHISOFT.
ARCHICAD

The Future with BIM
Current Developments

7D - Operations / Maintenance

- Database information pertaining to the building

- Area utilization & inventory management

- Maintenance task and management.

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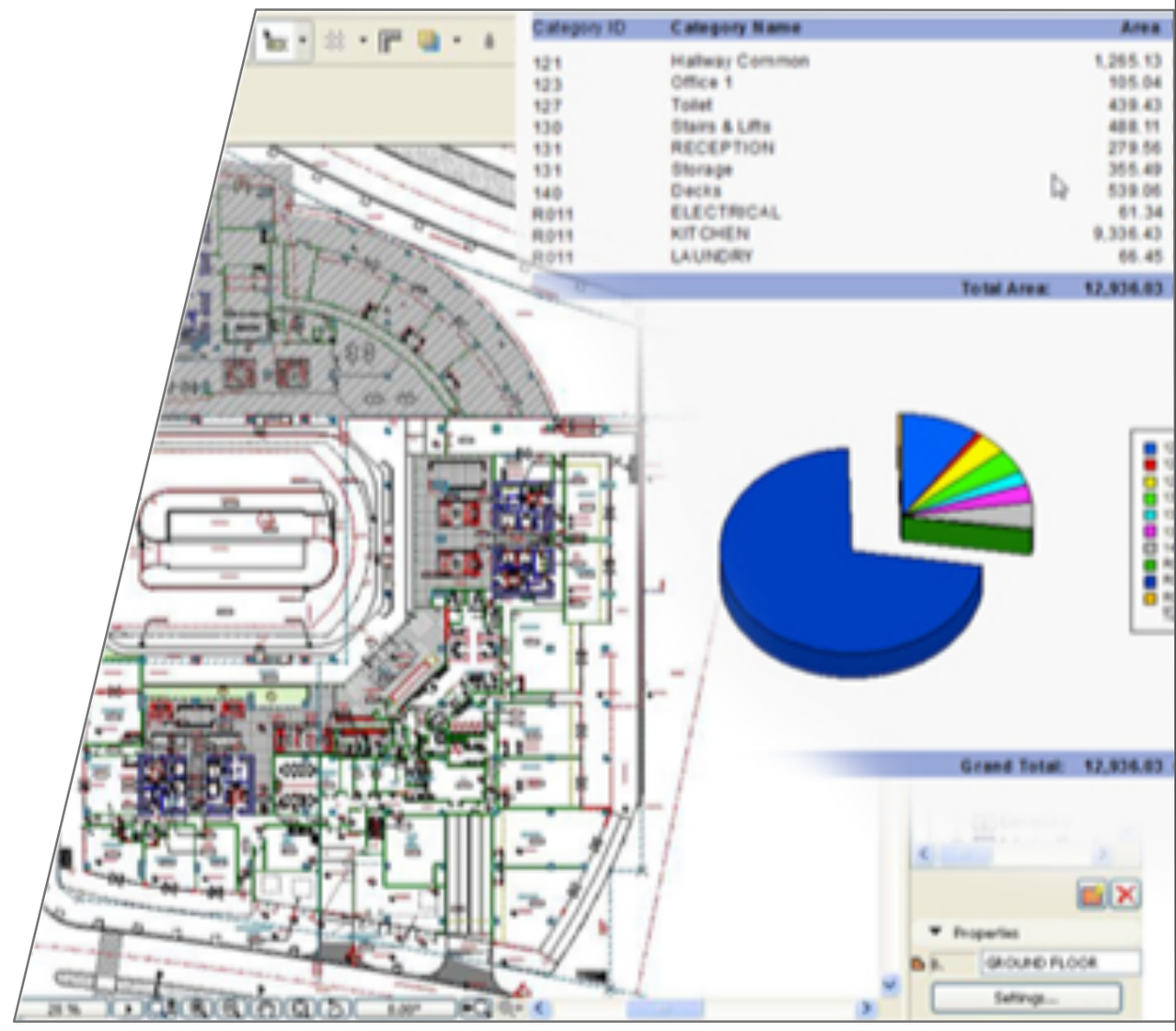

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