

Eng. Abdullah Ahmed AL-Dubikel



portfolio



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## Building Engineering:

Building Engineers are concerned with the planning, design, construction, operation, renovation, and maintenance of buildings, as well as with their impacts on the surrounding environment. Building Engineering, commonly known in as Architectural Engineering, is an interdisciplinary program that integrates pertinent knowledge from different disciplines such as:

- 1-Civil engineering for building structures and foundation.
- 2-Mechanical engineering for, Ventilation and Air-Conditioning system (HVAC), and for mechanical service systems.
- 3-Electrical engineering for power distribution, control, and electrical systems.
- 4-Physics for building science, lighting and acoustics.
- 5-Chemistry and biology for indoor air quality.
- 6-Architecture for form, function, building codes and specifications.
- 7-Economics for project planning and scheduling.

The building engineer explores all phases of the life cycle of a building and develops an appreciation of the building as an advanced technological system. Problems are identified and appropriate solutions found to improve the performance of the building in areas such as:

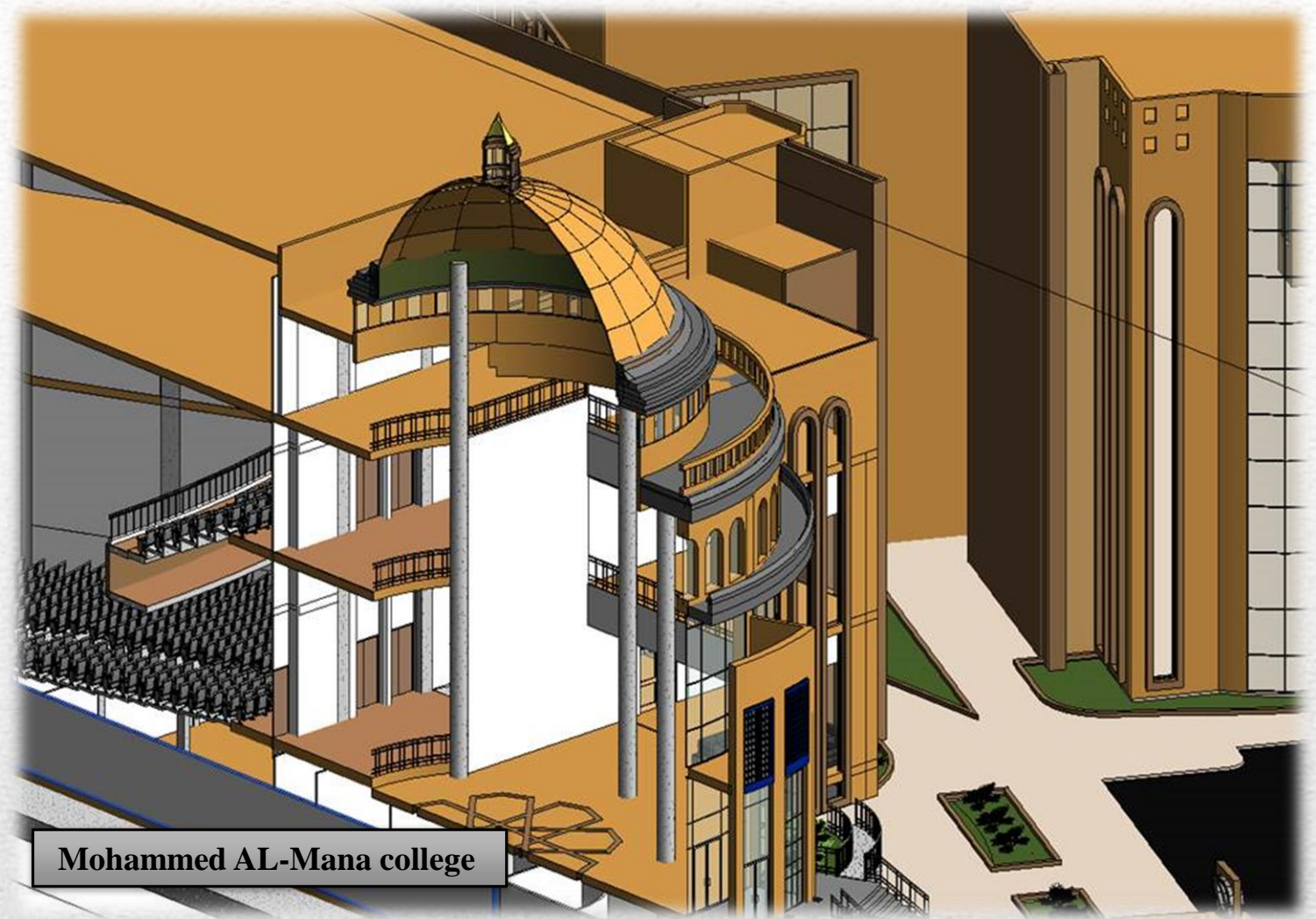
- 1-Energy efficiency, passive solar engineering, lighting and acoustics.
- 2-Indoor air quality.
- 3-Construction management.
- 4-HVAC and control systems.
- 5-Advanced building materials, building envelope.
- 6-Earthquake resistance, wind effects on buildings, computer-aided design.



# Introduction

## BIM:

Building information modeling is a process involving the generation and management of digital representations of physical and functional characteristics of places. which can be extracted, exchanged or networked to support decision-making regarding a building or other built asset. Current BIM software is used by individuals, businesses and government agencies who plan, design, construct, operate and maintain diverse physical infrastructures, such as water, refuse, electricity, gas, communication utilities, roads, bridges, ports, tunnels, etc.



Mohammed AL-Mana college



AL-mana hospital in al azizia



# Introduction

## Certificates & Community Service:



شهادة  
اعتماد  
هندسي

اعتماد هندسي  
Certificate  
Engineering Accreditation



عضوية رقم: 309294

Membership no.: 309294

Saudi Council of Engineers, which aims at prescribing necessary rules, regulations, and examinations for obtaining professional degrees, as stipulated in its Statute issued by Royal Decree 36/M dated 26/09/1423H, and in accordance with the Executive Bylaws and Regulations for professional accreditation, hereby awards:

استناداً إلى نظام الهيئة السعودية للمهندسين الصادر بالمرسوم الملكي رقم م/ ٣٦ وتاريخ ٢٦ / ٩ / ١٤٢٣ هـ، بوضع القواعد والامتحانات اللازمة للحصول على الدرجات المهنية وبناءً على اللائحة التنفيذية وقواعد الاعتماد المهني للمهندسين، فقد قررت الهيئة منح:

ABDULLAH AHMED A ALDUBAIKEL

عبدالله احمد بن عبدالرزاق الديبكل

Building Engineering

هندسة البناء



This Certification is valid until: 12 December 2017

هذه الشهادة صالحة إلى تاريخ 24 ربيع الأول 1439

Secretary General الأمين العام

PAC Director مدير الاعتماد المهني

جامعة الدمام  
UNIVERSITY OF DAMMAM

يمنح مجلس جامعة الدمام  
عبدالله احمد عبدالرزاق الديبكل  
درجة: البكالوريوس في هندسة البناء

من كلية: العمارة والتخطيط  
في الفصل الدراسي: الثاني  
للعام الجامعي: ١٤٣٦/١٤٣٧

The Council of University of Dammam hereby confers upon

ALDUBAIKEL, ABDULLAH AHMED  
The degree of Bachelor of Building Engineering  
(Regular)

from the College Of Architecture And Planning  
In the 2nd Semester of the  
academic year 2015/2016

عميد القبول والتسجيل  
Dean Of Admission & Registration

أ.د. عبدالله بن عمر باموسي  
Prof. Abdullah Omar Bamosa



جامعة الدمام  
UNIVERSITY OF DAMMAM

وزارة التعليم  
جامعة الدمام  
عمادة القبول والتسجيل  
MINISTRY OF EDUCATION  
UNIVERSITY OF DAMMAM  
DEANSHIP OF ADMISSION AND REGISTRATION

شهادة تخرج  
GRADUATION CERTIFICATE



## Certificates & Community Service:

MINISTRY OF HIGHER EDUCATION | وزارة التعليم العالي  
UNIVERSITY OF DAMMAM | جامعة الدمام  
COLLEGE OF ARCHITECTURE & PLANNING | كلية العمارة والتخطيط

جامعة الدمام  
UNIVERSITY OF DAMMAM

شهادة التدريب العملي  
PRACTICAL TRAINING CERTIFICATE

The College of Architecture & Planning Certifies that تشهد كلية العمارة والتخطيط

بن الطالب / عبدالله أحمد الديبكل بان الطالب / عبدالله أحمد الديبكل  
STUDENT NAME \ **abdullah ahmed aldubaikel** ID. No. **2120000383** ورقمه الأكاديمي / 2120000383

بقسمه / هندسة المباني بقسمه / هندسة المباني

DEPARTMENT \ **Building Engineering** قدا تمه تدريبه العملي في / مكتب نجيب المانع للاستشارات الهندسية

HAS COMPLETED HIS PRACTICAL TRAINING AT \ **N.AI Mana Engineering and Consulting Office**

FROM **07 \ 06 \ 2015** TO **20 \ 08 \ 2015** في الفترة من **1436 / 08 / 20** هـ إلى **1436 / 11 / 05** هـ

'Dean of the College of Architecture & Planning'  
Dr. Abdulsalam A. Al-Sudairi

Vice Dean for Training & Community Services  
Prof. Dr. Jamaliddin Yousef Salagoor

جامعة الدمام  
UNIVERSITY OF DAMMAM  
عمادة خدمة المجتمع والتنمية المستدامة

دافع  
DIAFEA

2014 دروع السلامة المستدامة  
Sustainable Safety Shields SSS

تشهد عمادة خدمة المجتمع والتنمية المستدامة بجامعة الدمام  
أن الطالب/ة عبدالله الديبكل  
قد اجتاز المشروع التدريبي لبرنامج "دافع" الوطني لمدة 5 أيام  
عن يوم الأحد بتاريخ 1437/ 2 / 17 هـ إلى يوم الخميس 1437/ 2 / 1 هـ

جعله الله درعاً واقياً للوطن  
ونفع الله بعلمه وزاده به رفعة..

دافع .. مسؤولية مجتمع ...  
و مبادرة وطن ...

معالي مدير الجامعة  
الدكتور عبدالمنعم محمد الرشيد

جامعة الدمام  
UNIVERSITY OF DAMMAM

وزارة التعليم  
جامعة الدمام  
MINISTRY OF EDUCATION  
UNIVERSITY OF DAMMAM

نتقدم بخالص الشكر والتقدير  
للتالب / عبدالله أحمد الديبكل  
كلية التربية

لمشاركته في مسابقة التصوير الفوتوغرافي والتي نظمتها  
عمادة شؤون الطلاب بتاريخ 1437/2/1 هـ

عميد عمادة شؤون الطلاب  
د. علي بن طارّد الدوسري

جامعة الدمام  
UNIVERSITY OF DAMMAM

عمادة شؤون الطلاب  
Deanship of Student Affairs

نجاح العمل منظومة متكاملة يترأس هرمها إنجاز الناجحين

تتقدم جامعة الدمام بالشكر والتقدير  
عبدالله أحمد الديبكل  
بواقع عدد (24) ساعة عمل تطوعية  
للمشاركة الفعالة والجهود المبدولة  
في إنجاز فعاليات "ملتقى المهنة الثالث 2016"

والذي أقيم في معارض الظهران الدولية في الفترة من  
16 - 20 / أبريل / 2016 م الموافق 9 - 13 / رجب / 1437 هـ

وكيل الجامعة للدراسات والتطوير وخدمة المجتمع  
أ.د. عبدالله بن حسين القاضي

A.H. Alkady

جامعة الدمام  
UNIVERSITY OF DAMMAM



## Certificates & Community Service:

THE BIG SAUDI  
International Building & Construction Show

١٨ - ٧ جمادى الأولى ١٤٣٦ هـ  
7 - 10 March 2016  
Jeddah Centre for Forums & Events

*Certificate of Attendance*

This is to certify that  
**Abdullah Aldubikel**  
successfully attended  
**Working safely at height**  
conducted at The Big 5 Saudi

Nathan Waugh  
Portfolio Director

Hours earned: **1**

Organised by: M.I.C.E. Arabia  
Co-organised by: dmgevents

THE BIG SAUDI  
International Building & Construction Show

١٨ - ٧ جمادى الأولى ١٤٣٦ هـ  
7 - 10 March 2016  
Jeddah Centre for Forums & Events

*Certificate of Attendance*

This is to certify that  
**Abdullah Aldubikel**  
Attended The Big 5 Saudi 2016.  
The global sourcing point for construction suppliers with educational sessions that improves industry credentials and professional development.

Nathan Waugh  
Portfolio Director

THE BIG SAUDI  
International Building & Construction Show

١٨ - ٧ جمادى الأولى ١٤٣٦ هـ  
7 - 10 March 2016  
Jeddah Centre for Forums & Events

*Certificate of Attendance*

This is to certify that  
**Abdullah Aldubikel**  
successfully attended  
**LEED LAB Part III - LEED v4 for Architects**  
conducted at The Big 5 Saudi

Nathan Waugh  
Portfolio Director

Hours earned: **2**

Organised by: M.I.C.E. Arabia  
Co-organised by: dmgevents

THE BIG SAUDI  
International Building & Construction Show

١٨ - ٧ جمادى الأولى ١٤٣٦ هـ  
7 - 10 March 2016  
Jeddah Centre for Forums & Events

*Certificate of Attendance*

This is to certify that  
**Abdullah Aldubikel**  
successfully attended  
**Introduction to BIM**  
conducted at The Big 5 Saudi

Nathan Waugh  
Portfolio Director

Hours earned: **1**

Organised by: M.I.C.E. Arabia  
Co-organised by: dmgevents

THE BIG SAUDI  
International Building & Construction Show

١٨ - ٧ جمادى الأولى ١٤٣٦ هـ  
7 - 10 March 2016  
Jeddah Centre for Forums & Events

*Certificate of Attendance*

This is to certify that  
**Abdullah Aldubikel**  
successfully attended  
**LEED LAB Part II - LEED v4 for Contractors**  
conducted at The Big 5 Saudi

Nathan Waugh  
Portfolio Director

Hours earned: **2**

Organised by: M.I.C.E. Arabia  
Co-organised by: dmgevents

THE BIG SAUDI  
International Building & Construction Show

١٨ - ٧ جمادى الأولى ١٤٣٦ هـ  
7 - 10 March 2016  
Jeddah Centre for Forums & Events

*Certificate of Attendance*

This is to certify that  
**Abdullah Aldubikel**  
successfully attended  
**Sustainable building envelope design**  
conducted at The Big 5 Saudi

Nathan Waugh  
Portfolio Director

Hours earned: **1**

Organised by: M.I.C.E. Arabia  
Co-organised by: dmgevents

THE BIG SAUDI  
International Building & Construction Show

١٨ - ٧ جمادى الأولى ١٤٣٦ هـ  
7 - 10 March 2016  
Jeddah Centre for Forums & Events

*Certificate of Attendance*

This is to certify that  
**Abdullah Aldubikel**  
successfully attended  
**Effective project management part I**  
conducted at The Big 5 Saudi

Nathan Waugh  
Portfolio Director

Hours earned: **2**

Organised by: M.I.C.E. Arabia  
Co-organised by: dmgevents

THE BIG SAUDI  
International Building & Construction Show

١٨ - ٧ جمادى الأولى ١٤٣٦ هـ  
7 - 10 March 2016  
Jeddah Centre for Forums & Events

*Certificate of Attendance*

This is to certify that  
**Abdullah Aldubikel**  
successfully attended  
**Chemical attacks on the durability of concrete structures in the Middle East**  
conducted at The Big 5 Saudi

Nathan Waugh  
Portfolio Director

Hours earned: **1**

Organised by: M.I.C.E. Arabia  
Co-organised by: dmgevents

THE BIG SAUDI  
International Building & Construction Show

١٨ - ٧ جمادى الأولى ١٤٣٦ هـ  
7 - 10 March 2016  
Jeddah Centre for Forums & Events

*Certificate of Attendance*

This is to certify that  
**Abdullah Aldubikel**  
successfully attended  
**LEED LAB Part I - LEED v4 for Engineers**  
conducted at The Big 5 Saudi

Nathan Waugh  
Portfolio Director

Hours earned: **1.5**

Organised by: M.I.C.E. Arabia  
Co-organised by: dmgevents



## Mohammed AL-mana medical college:

NOTE: All projects done by using (BIM) software.

check the link below or visit my website for video showing my modeling design and animation for my work done by using three software (Rivet2018 – Lumion7 – and Pro show).

Exterior old design

<https://drive.google.com/file/d/0B3NhLRTaCwMKcE90dTRjXzVaNEk/view?usp=sharing>

Exterior and interior for the auditorium final design

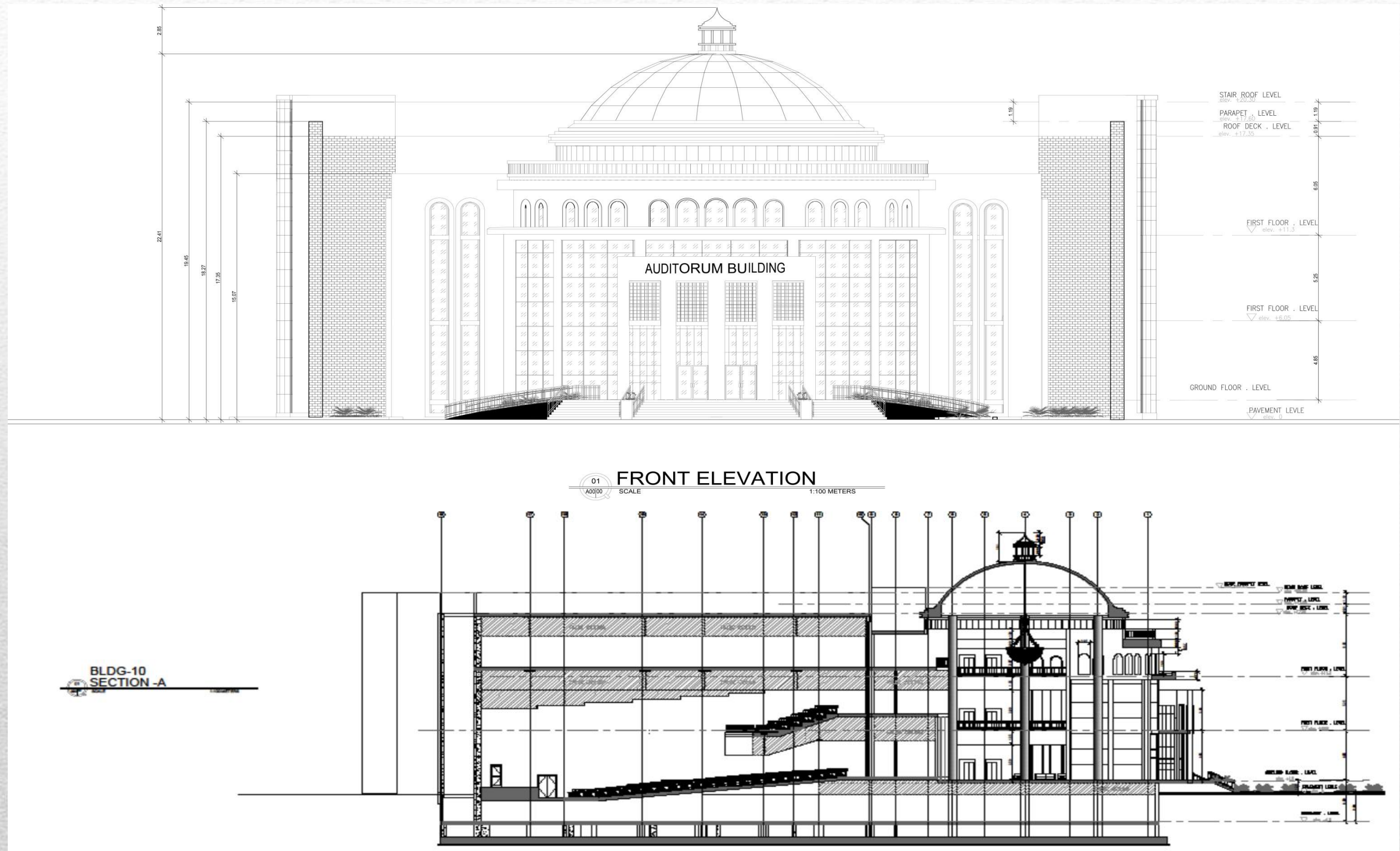
<https://drive.google.com/file/d/0B3NhLRTaCwMKMWY4cnRZV0tleDg/view>



Scan QR code  
To visit my website

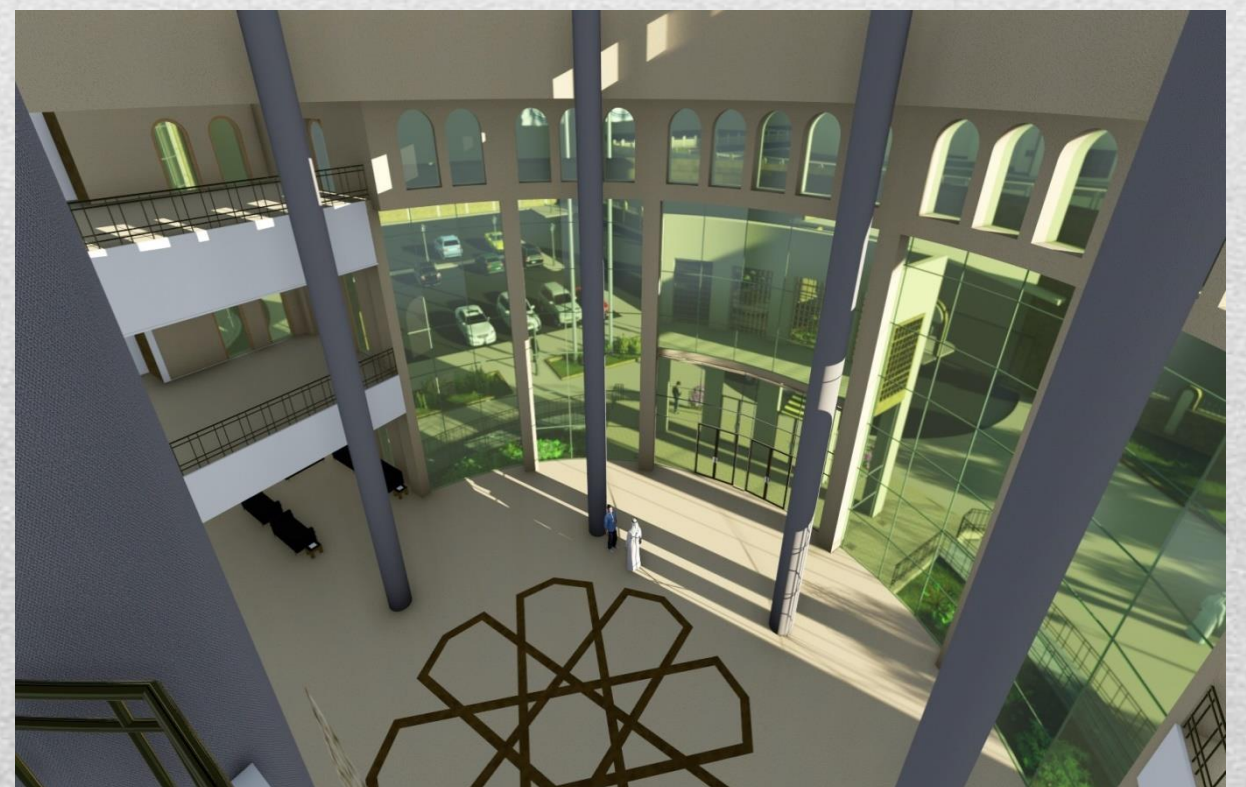


## Mohammed AL-mana medical college:



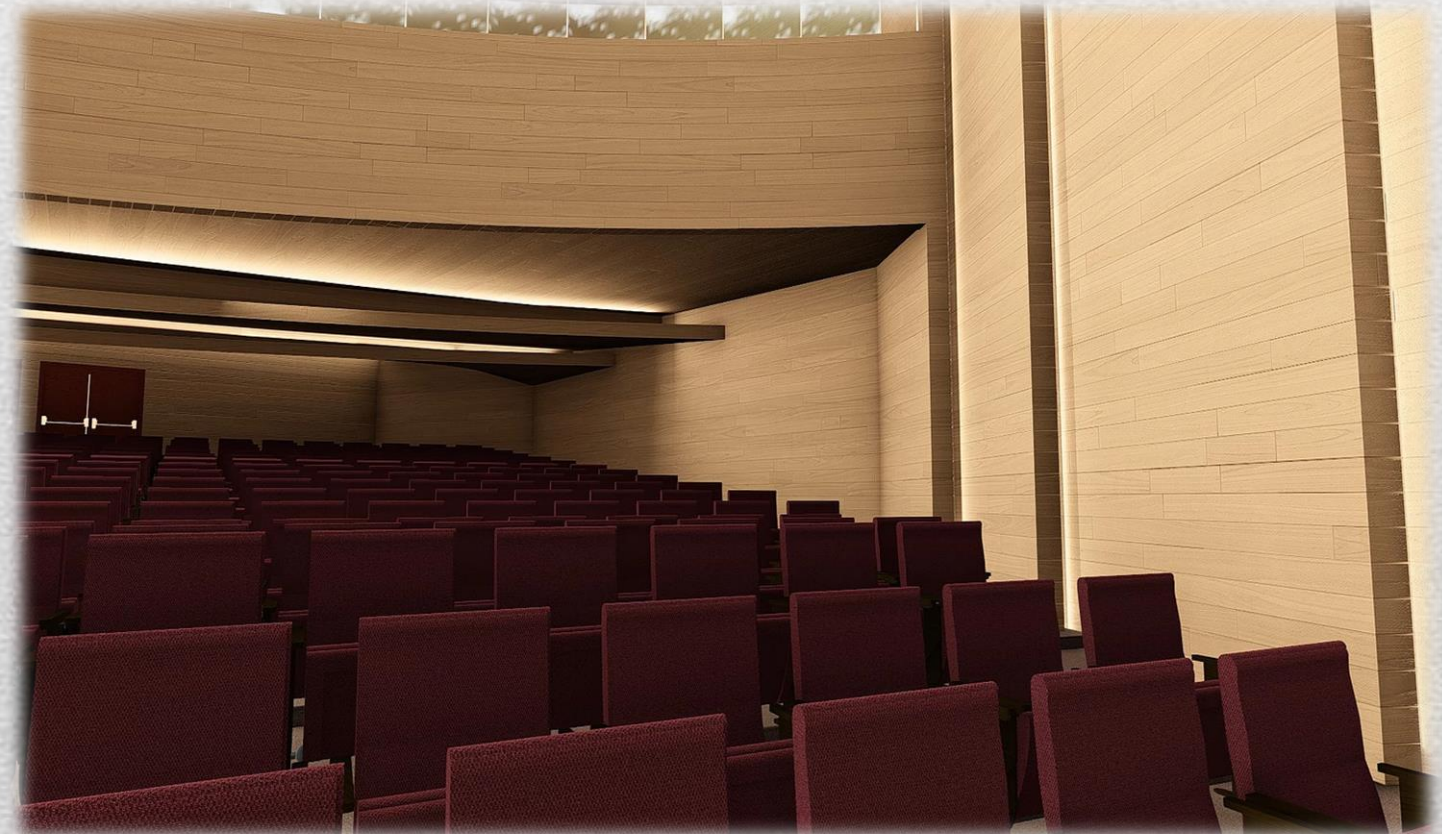
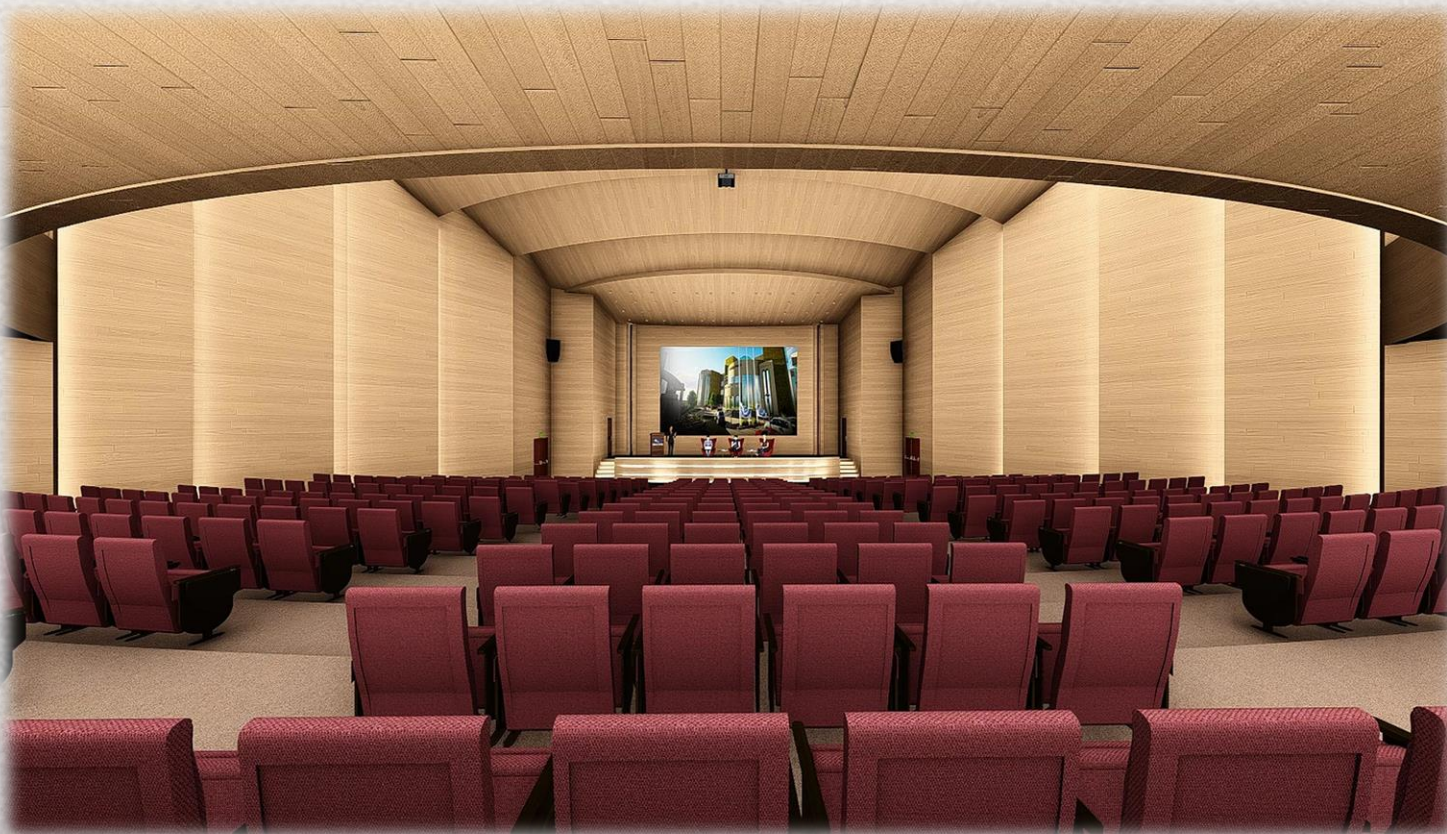
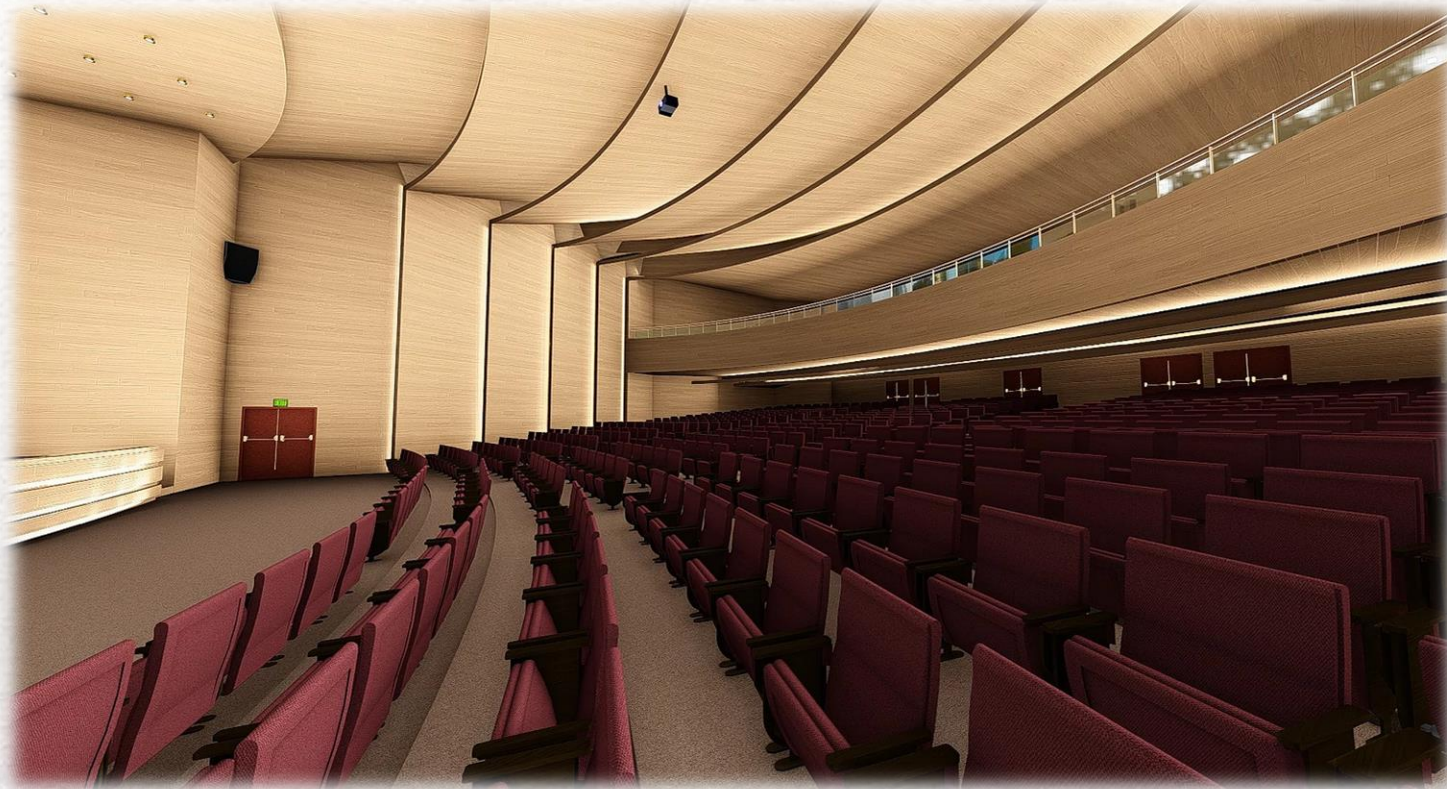


## Mohammed AL-mana medical college:





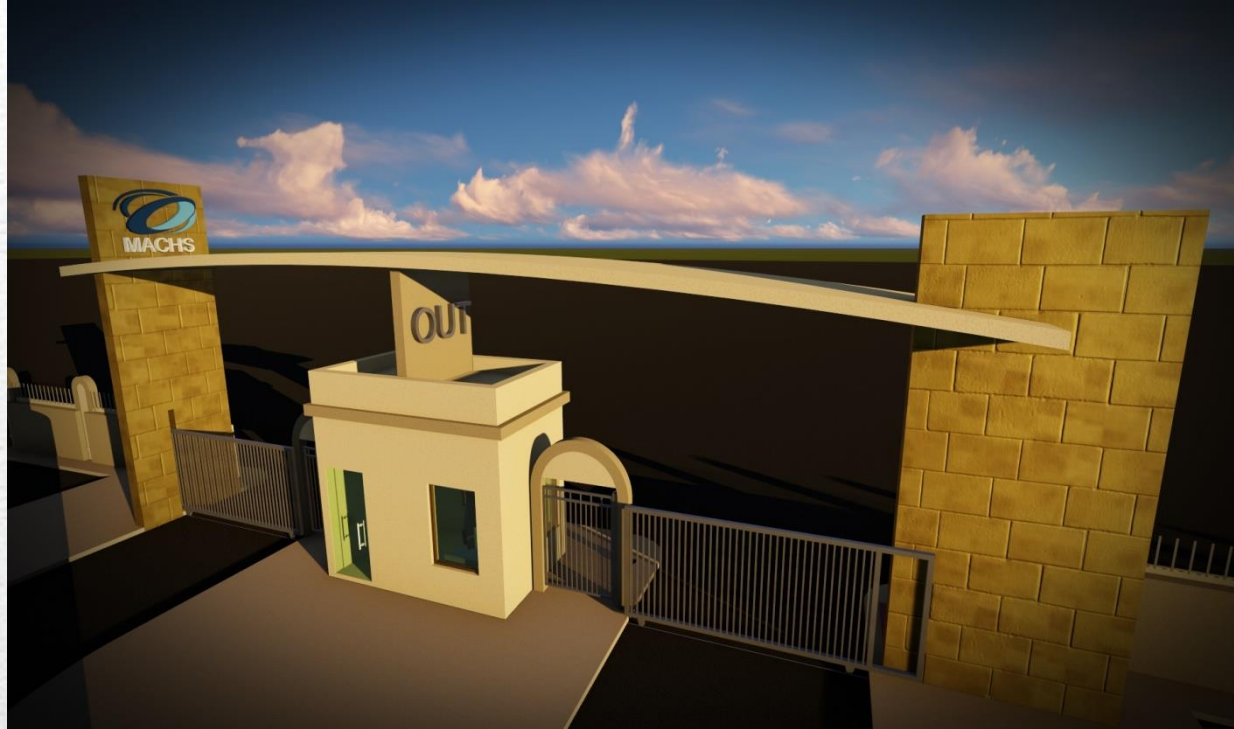
## Mohammed AL-mana medical college:





## Mohammed AL-mana medical college:

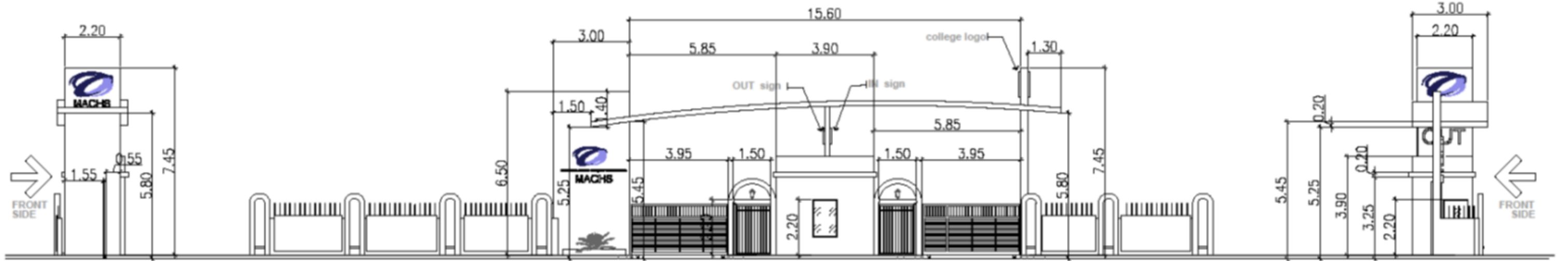
Main gate for the college.





## Mohammed AL-mana medical college:

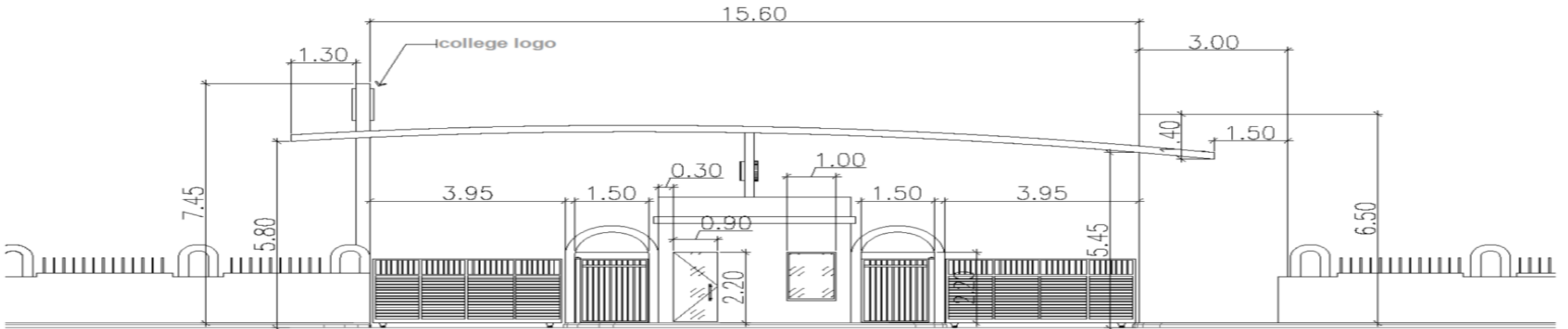
Main gate for the college.



EAST ELEVATION

FRONT SIDE ELEVATION

WEST ELEVATION



BACK SIDE ELEVATION

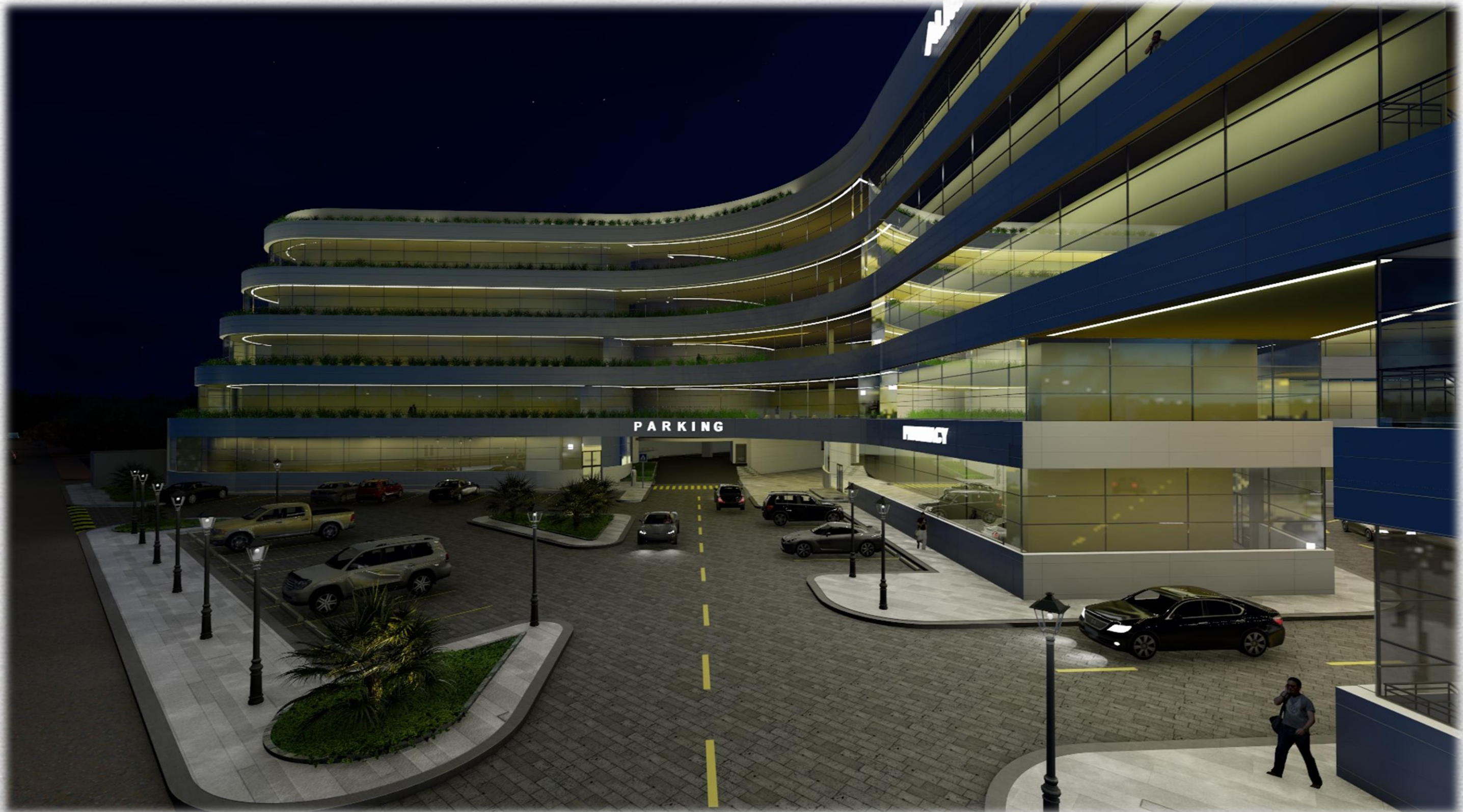


## Al-mana hospital in al Aziziyah (Dammam) :



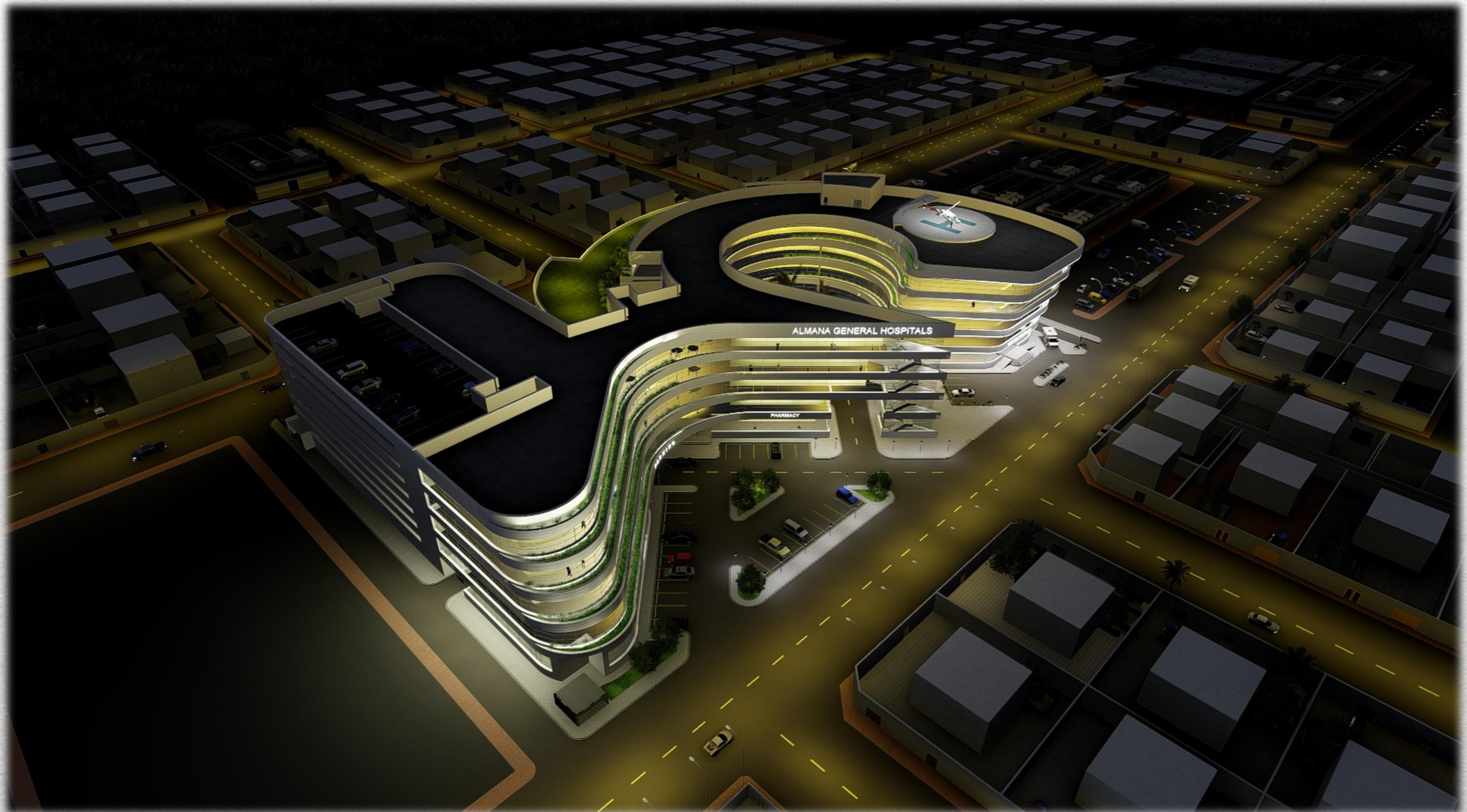


## Al-mana hospital in al Aziziyah (Dammam) :



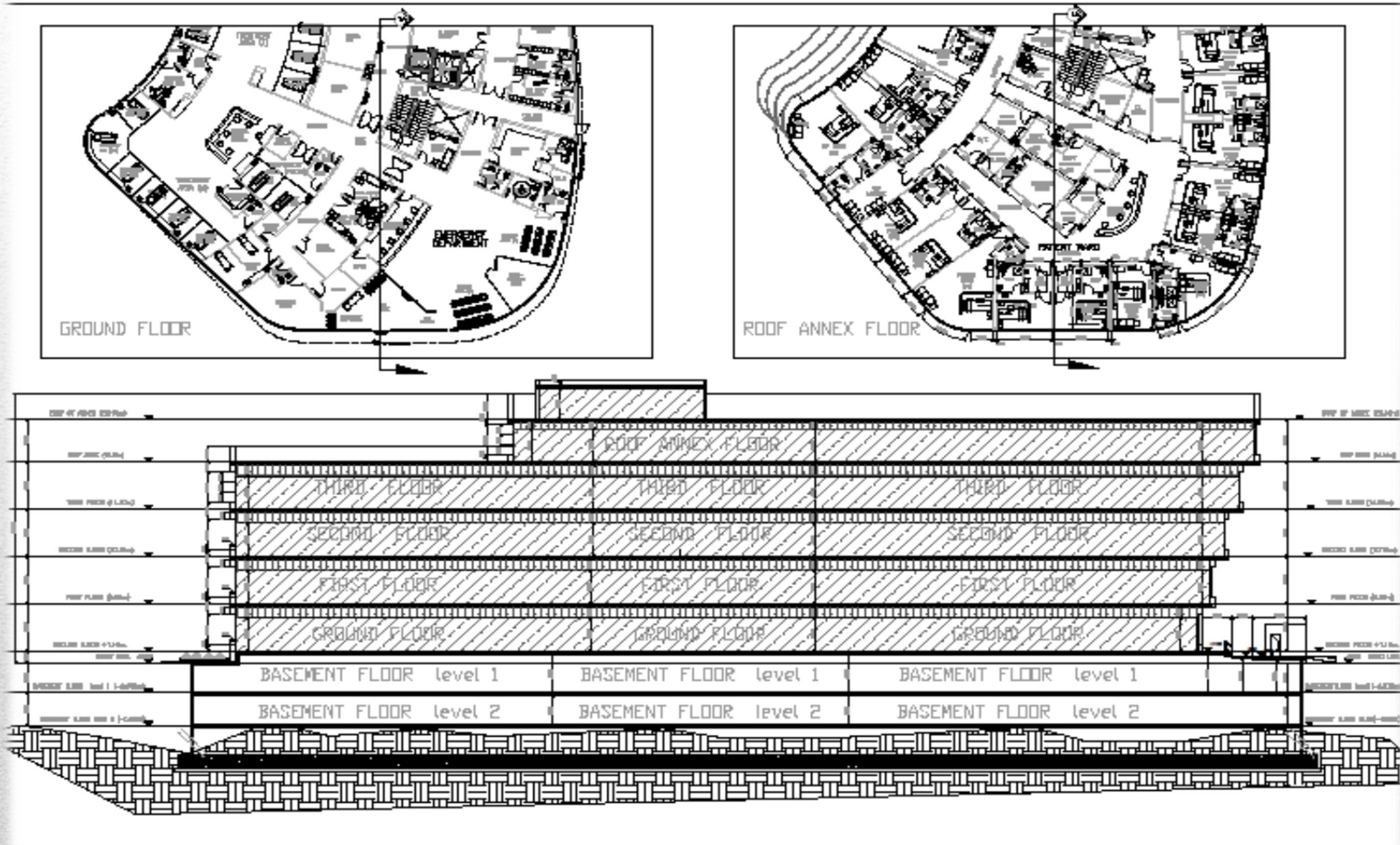


## Al-mana hospital in al Aziziyah (Dammam) :



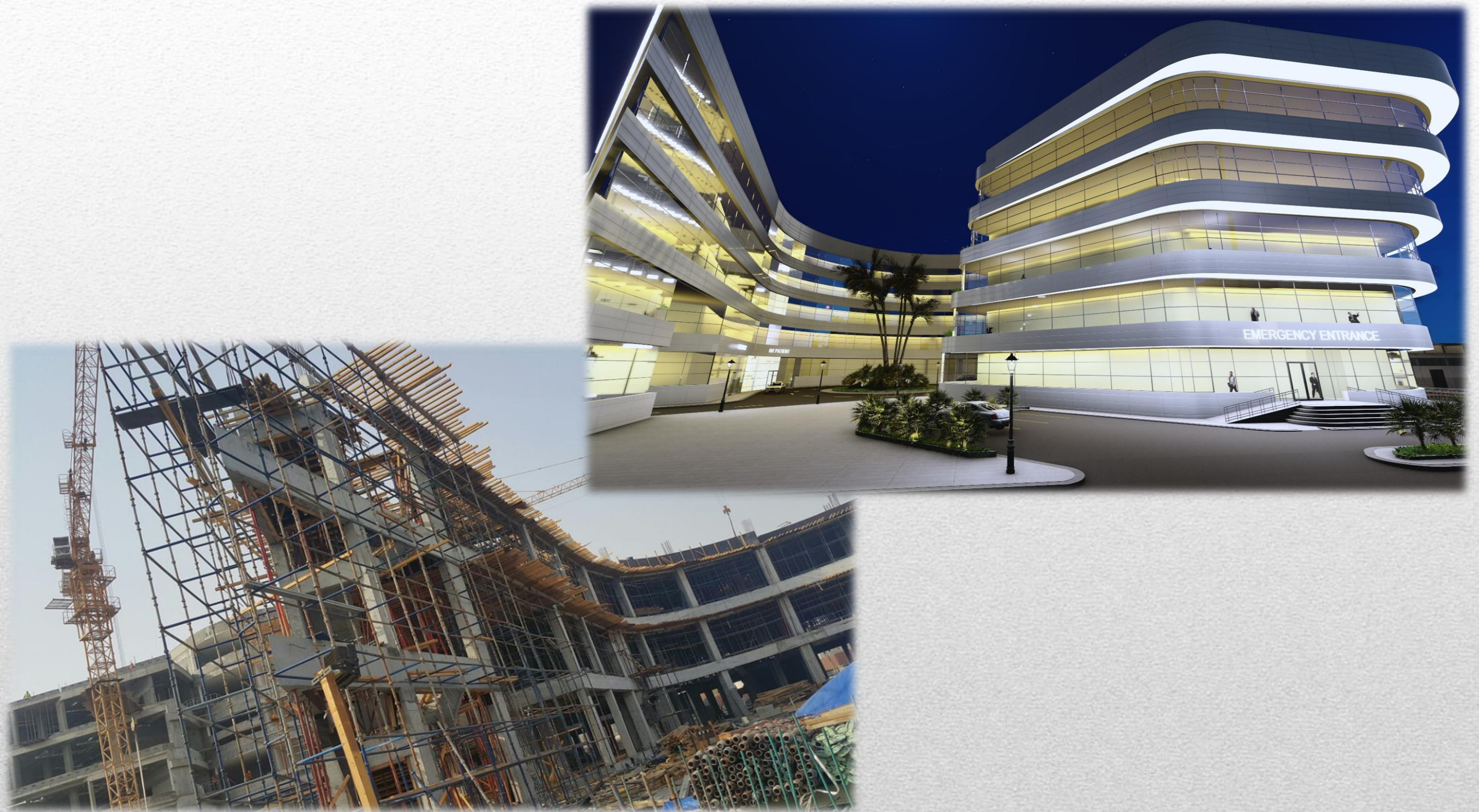


## Al-mana hospital in al Aziziyah:



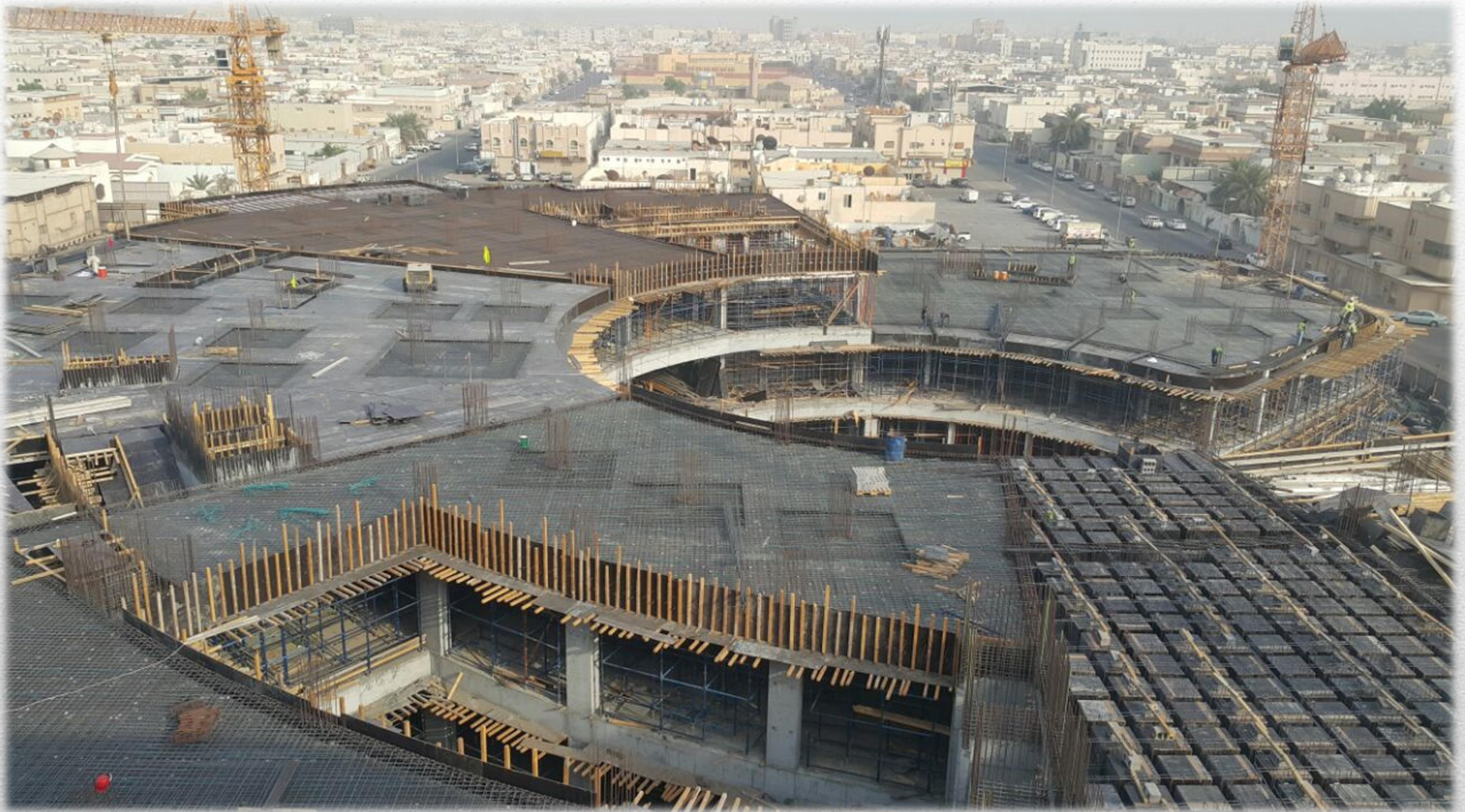


## Al-mana hospital in al Aziziyah (Dammam) :





## Al-mana hospital in al Aziziyah:





## Other Projects :



### **360 Degree rendering images:**

Is new technology for rendering can show to you any space or room by 360 degree  
[check my website for more dietale .](#)



Scan QR code to visit my website and  
[Click \(Go to link\).](#)



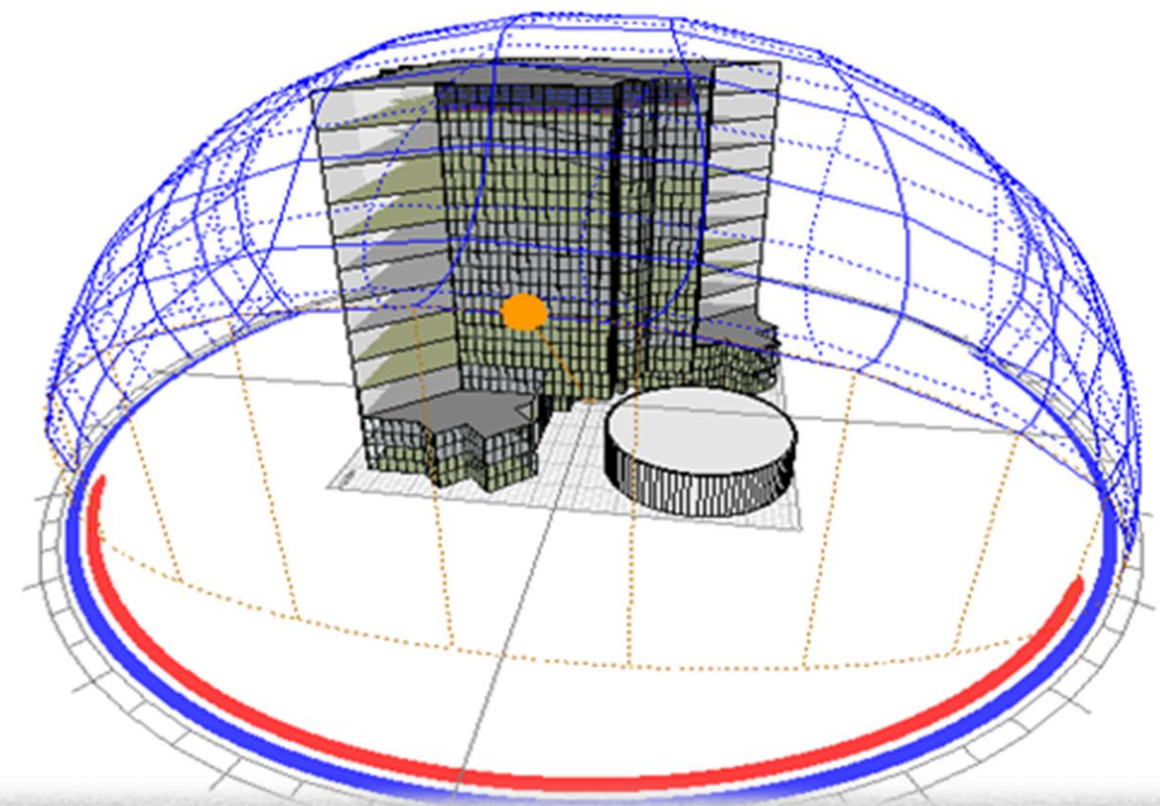
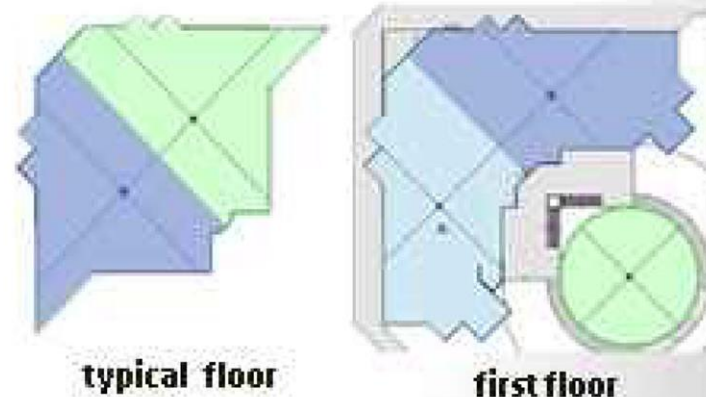
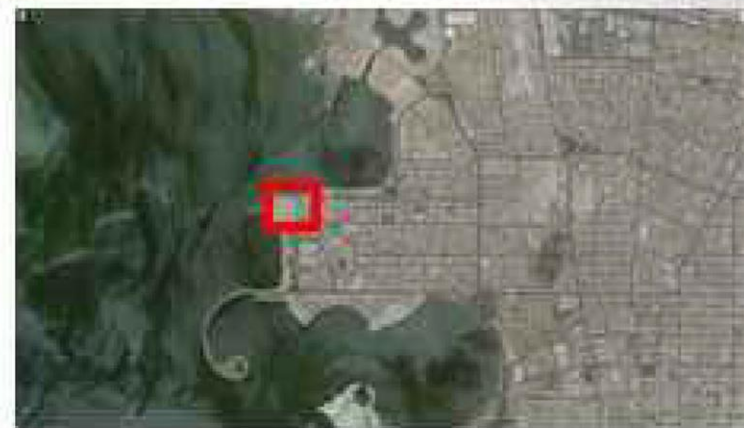
## Graduation project:

my project was about energy consumption of office building have full glazing facades in Dammam.

(for more information) <https://drive.google.com/file/d/0B3NhLRTaCwMKcUdSd0JyUXc4a2M/view?usp=sharing>

### building information:

<b>type of building</b>	multistorey for General Administration of Customs
<b>Location</b>	Dammam, corniche
<b>area</b>	18097.678 m <sup>2</sup>
<b>Air rate change and wind sensitivity</b>	0.5
<b>sky luminance for Dammam</b>	10500 lux
<b>Average Lighting Power</b>	15 W/m <sup>2</sup>
<b>Lighting Level</b>	400-600 Lux
<b>Electrical Cost</b>	0.25 SR/kwh



This is my model building its have A twelve floors.



## Graduation project:





## Graduation project:

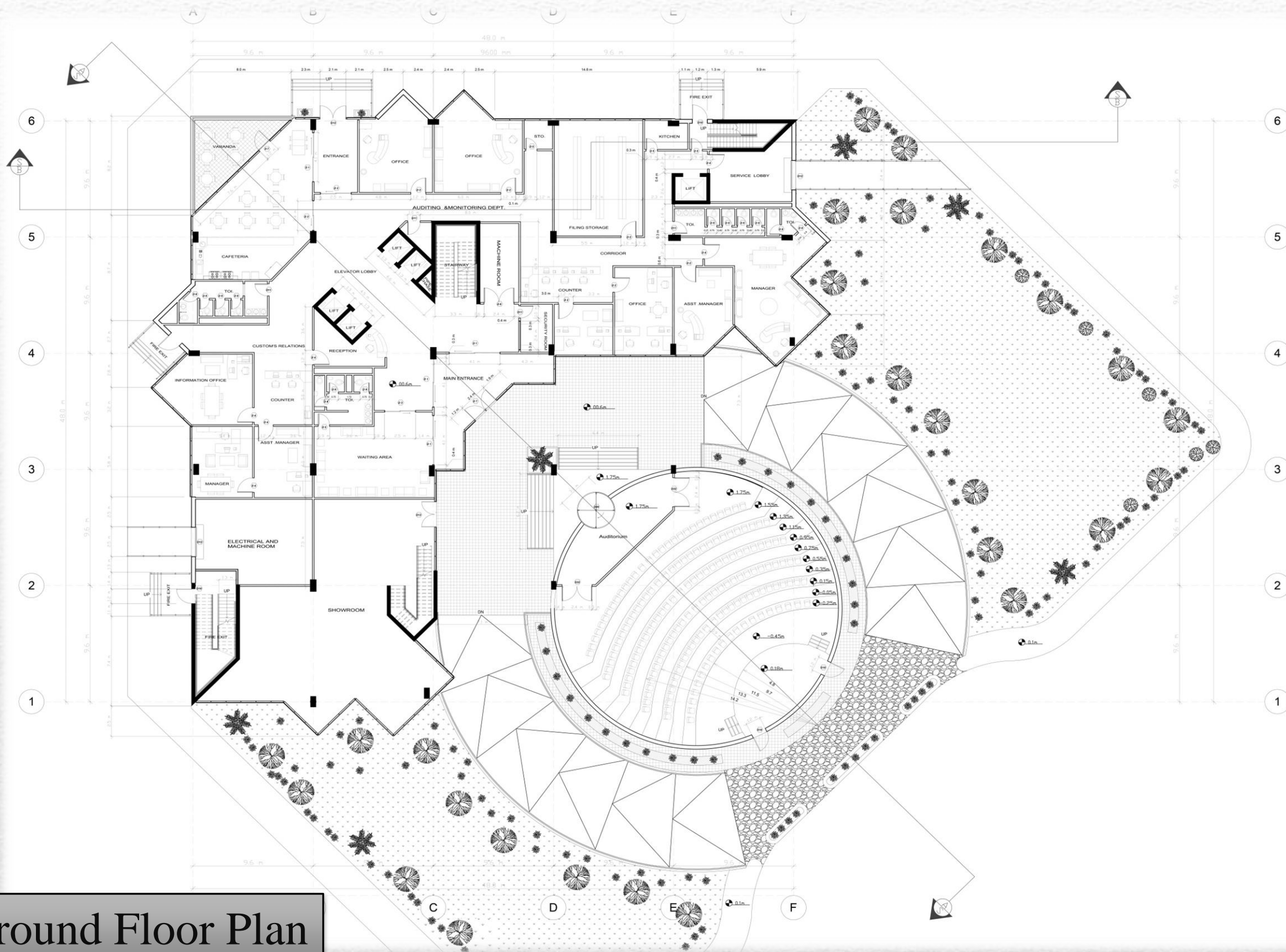


Site Plan

Neighbors



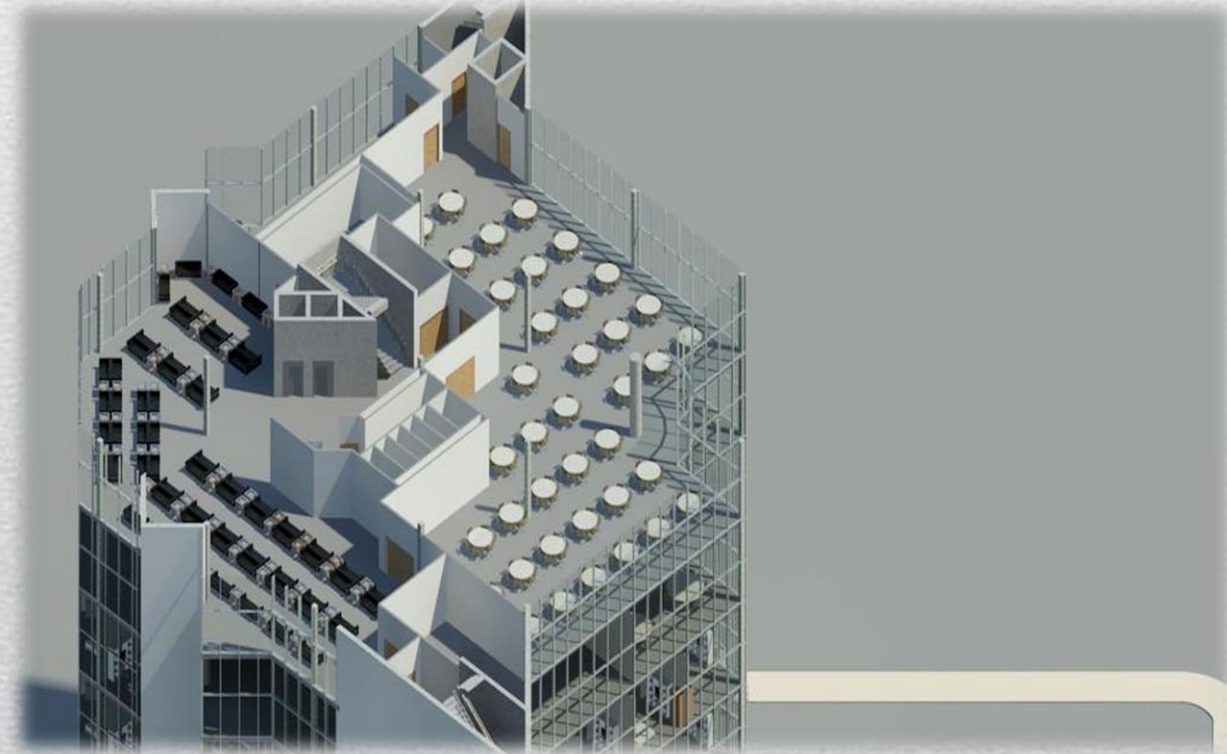
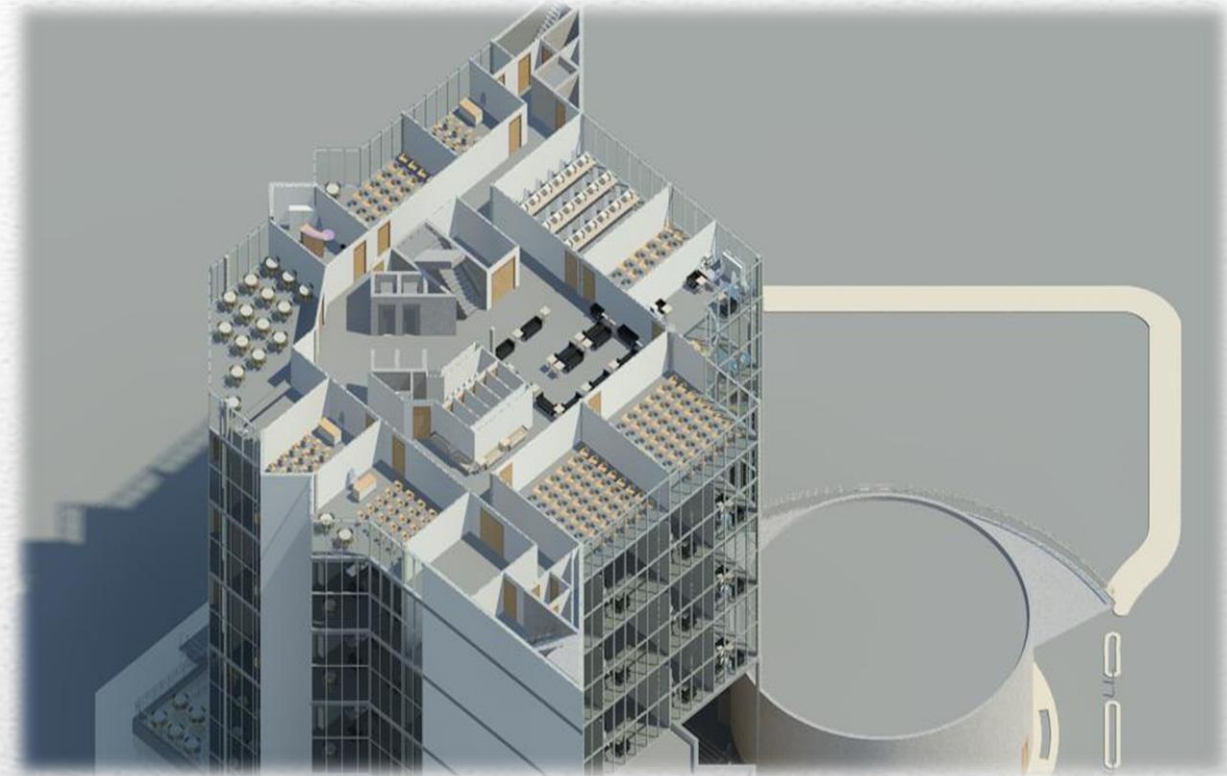
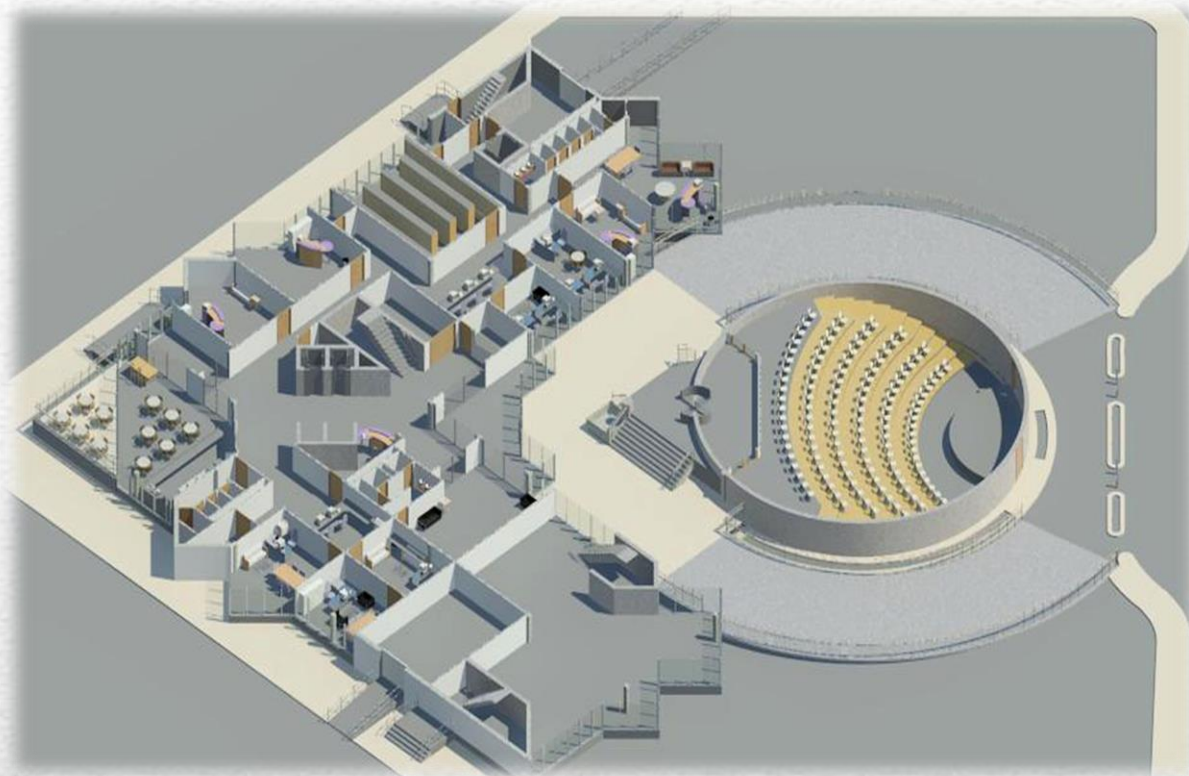
## Graduation project:



Ground Floor Plan

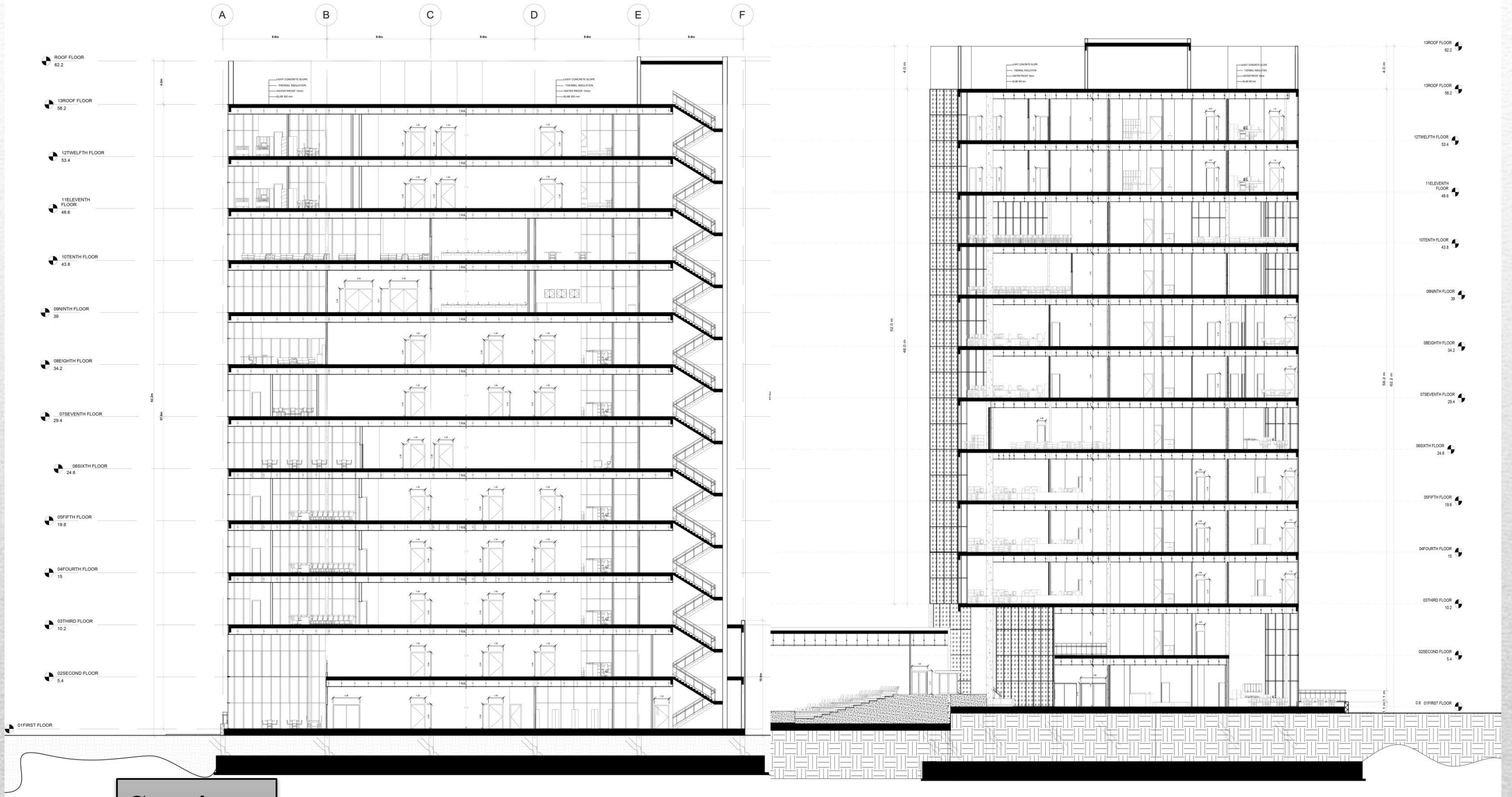


## Graduation project:





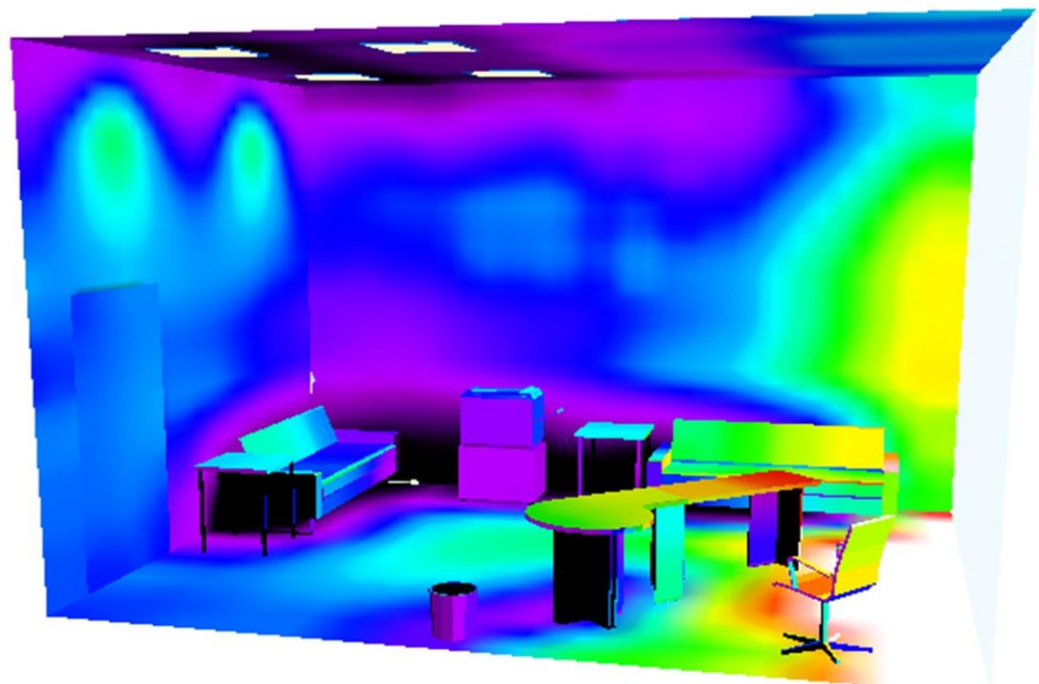
## Graduation project:



Sections



## Graduation project:



**False Colours**

Illuminances  L

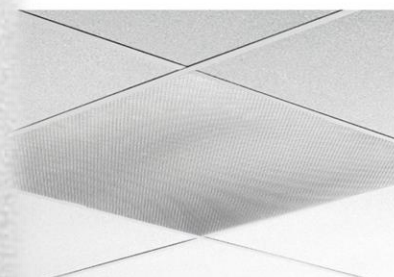
	1200.00 lx
	1075.00 lx
	950.00 lx
	825.00 lx
	700.00 lx
	575.00 lx
	450.00 lx
	325.00 lx
	200.00 lx



4 Artificial lighting + daylight analysis at 4pm clock

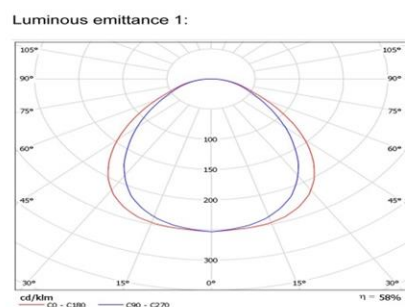
Thorn 96 549 365 OMEGA2 4X18W T26 HFIX EFL PR AC L840 [STD] / Luminaire Data Sheet

Thorn 96 549 365 OMEGA2 4X18W T26 HFIX EFL PR AC L840 [STD] / UGR-Tab



Luminaire classification according to CIE: 100  
IE flux code: 56 85 97 100 58

Processed modular luminaire for 4 x 18W T26 lamps. Electronic, DALI dimmable control gear. Body: white painted steel with prismatic acrylic cover. For exposed tee grid 15 or 24mm; concealed grid with height 12 - 20mm (using wedge brackets) or plasterboard (using wedge brackets). Class I electrical. IP20. Electrical connection via factory fitted 5 x 2 x 1.5mm<sup>2</sup> into key terminal block. Complete with 840 lamps.  
Dimensions: 620 x 595 x 80 mm  
Total power: 69 W  
Weight: 4.4 kg



Luminous emittance 1:

Room Size X Y	Viewing direction at right angles to lamp axis	Viewing direction parallel to lamp axis
2H	2H 15.3 16.5 15.6 16.7 16.9	14.0 15.2 14.3 15.4 15.7
3H	16.5 17.6 16.9 17.9 18.1	15.5 16.5 15.8 16.8 17.1
4H	17.1 18.1 17.4 18.4 18.7	16.1 17.1 16.4 17.4 17.7
6H	17.6 18.5 17.9 18.8 19.1	16.7 17.6 17.0 17.9 18.2
8H	17.8 18.7 18.2 19.0 19.3	16.9 17.8 17.2 18.1 18.4
12H	18.0 18.8 18.3 19.2 19.5	17.0 17.9 17.4 18.2 18.6
4H	2H 15.5 16.6 15.9 16.8 17.1	14.5 15.5 14.8 15.7 16.0
3H	17.0 17.9 17.4 18.2 18.5	16.1 16.9 16.4 17.3 17.6
4H	17.7 18.5 18.1 18.8 19.2	16.9 17.6 17.3 18.0 18.3
6H	18.4 19.0 18.8 19.4 19.8	17.6 18.3 18.0 18.6 19.0
8H	18.7 19.3 19.1 19.7 20.1	17.9 18.5 18.3 18.9 19.3
12H	18.9 19.5 19.4 19.9 20.3	18.1 18.7 18.6 19.1 19.5
8H	4H 17.9 18.5 18.3 18.9 19.3	17.2 17.8 17.6 18.2 18.6
6H	18.7 19.2 19.2 19.7 20.1	18.0 18.5 18.5 19.0 19.4
8H	19.1 19.5 19.6 20.0 20.5	18.4 18.9 18.9 19.3 19.8
12H	19.4 19.8 19.9 20.3 20.8	18.8 19.1 19.3 19.6 20.1
12H	4H 17.9 18.5 18.4 18.9 19.3	17.2 17.7 17.6 18.2 18.6
6H	18.8 19.2 19.3 19.7 20.1	18.1 18.6 18.6 19.0 19.5
8H	19.2 19.6 19.7 20.0 20.5	18.6 18.9 19.1 19.4 19.9

**Glare Evaluation According to UGR**

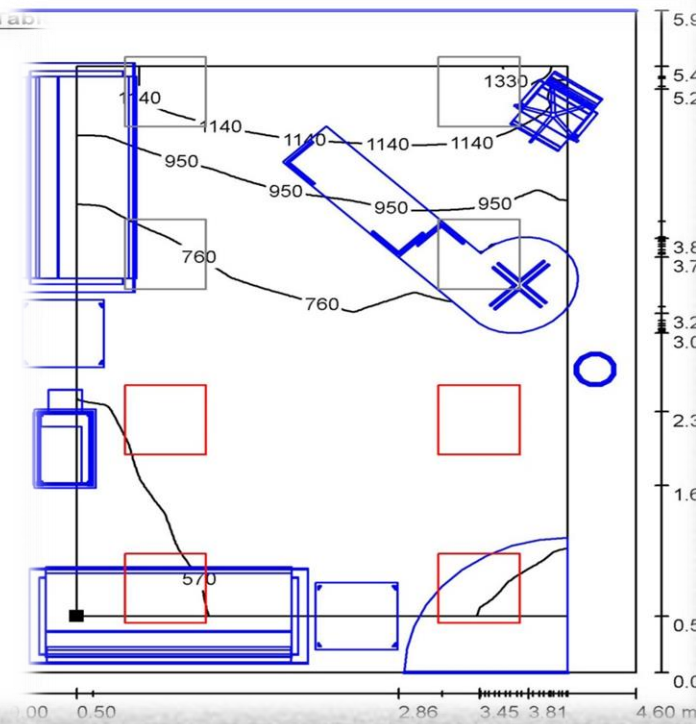
Room Size X Y	Viewing direction at right angles to lamp axis	Viewing direction parallel to lamp axis
2H	2H 15.3 16.5 15.6 16.7 16.9	14.0 15.2 14.3 15.4 15.7
3H	16.5 17.6 16.9 17.9 18.1	15.5 16.5 15.8 16.8 17.1
4H	17.1 18.1 17.4 18.4 18.7	16.1 17.1 16.4 17.4 17.7
6H	17.6 18.5 17.9 18.8 19.1	16.7 17.6 17.0 17.9 18.2
8H	17.8 18.7 18.2 19.0 19.3	16.9 17.8 17.2 18.1 18.4
12H	18.0 18.8 18.3 19.2 19.5	17.0 17.9 17.4 18.2 18.6
4H	2H 15.5 16.6 15.9 16.8 17.1	14.5 15.5 14.8 15.7 16.0
3H	17.0 17.9 17.4 18.2 18.5	16.1 16.9 16.4 17.3 17.6
4H	17.7 18.5 18.1 18.8 19.2	16.9 17.6 17.3 18.0 18.3
6H	18.4 19.0 18.8 19.4 19.8	17.6 18.3 18.0 18.6 19.0
8H	18.7 19.3 19.1 19.7 20.1	17.9 18.5 18.3 18.9 19.3
12H	18.9 19.5 19.4 19.9 20.3	18.1 18.7 18.6 19.1 19.5
8H	4H 17.9 18.5 18.3 18.9 19.3	17.2 17.8 17.6 18.2 18.6
6H	18.7 19.2 19.2 19.7 20.1	18.0 18.5 18.5 19.0 19.4
8H	19.1 19.5 19.6 20.0 20.5	18.4 18.9 18.9 19.3 19.8
12H	19.4 19.8 19.9 20.3 20.8	18.8 19.1 19.3 19.6 20.1
12H	4H 17.9 18.5 18.4 18.9 19.3	17.2 17.7 17.6 18.2 18.6
6H	18.8 19.2 19.3 19.7 20.1	18.1 18.6 18.6 19.0 19.5
8H	19.2 19.6 19.7 20.0 20.5	18.6 18.9 19.1 19.4 19.9

Variation of the observer position for the luminaire distances S

S	+0.2 / -0.2	+0.2 / -0.2
S = 1.0H	+0.2 / -0.2	+0.2 / -0.2
S = 1.5H	+0.4 / -0.6	+0.4 / -0.6
S = 2.0H	+0.8 / -1.0	+0.7 / -0.9

Standard table BK05  
Correction Summand -5.8  
Corrected Glare Indices referring to 5400lm Total Luminous Flux -6.6

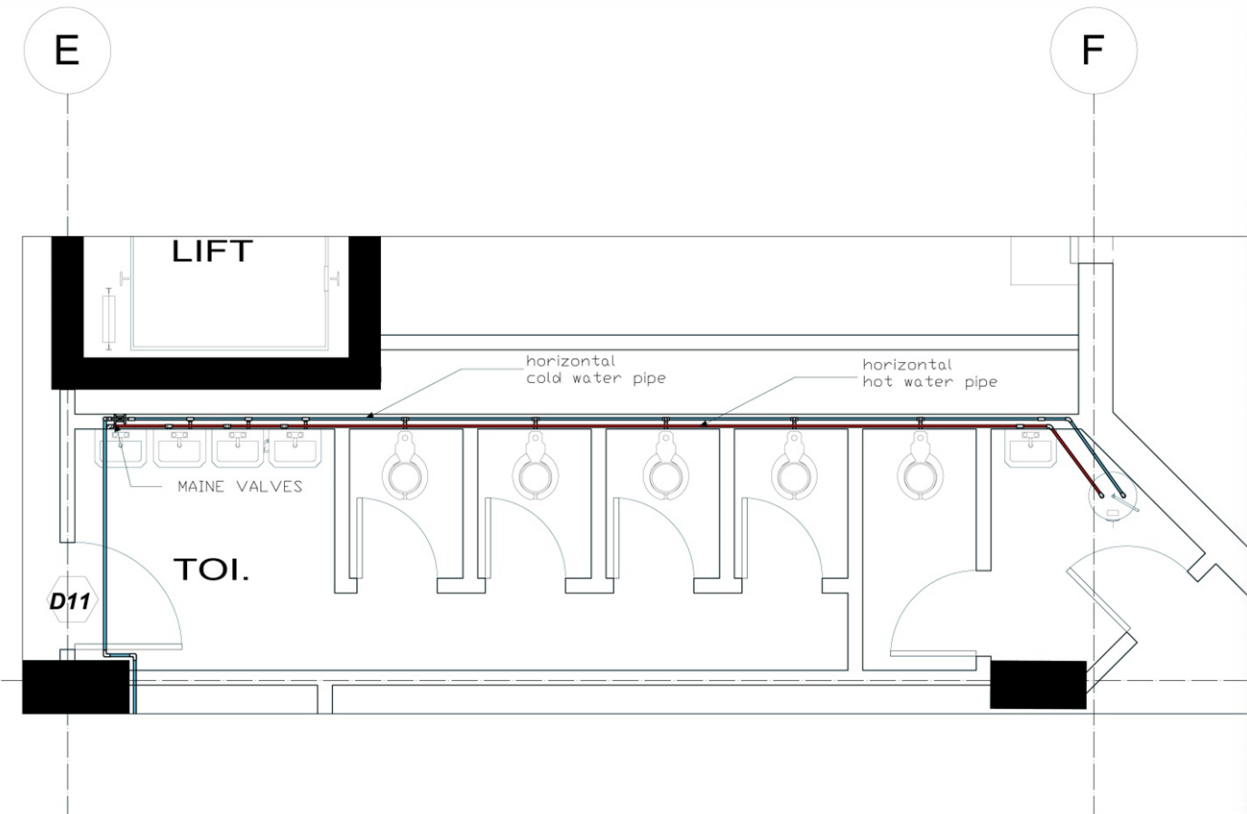
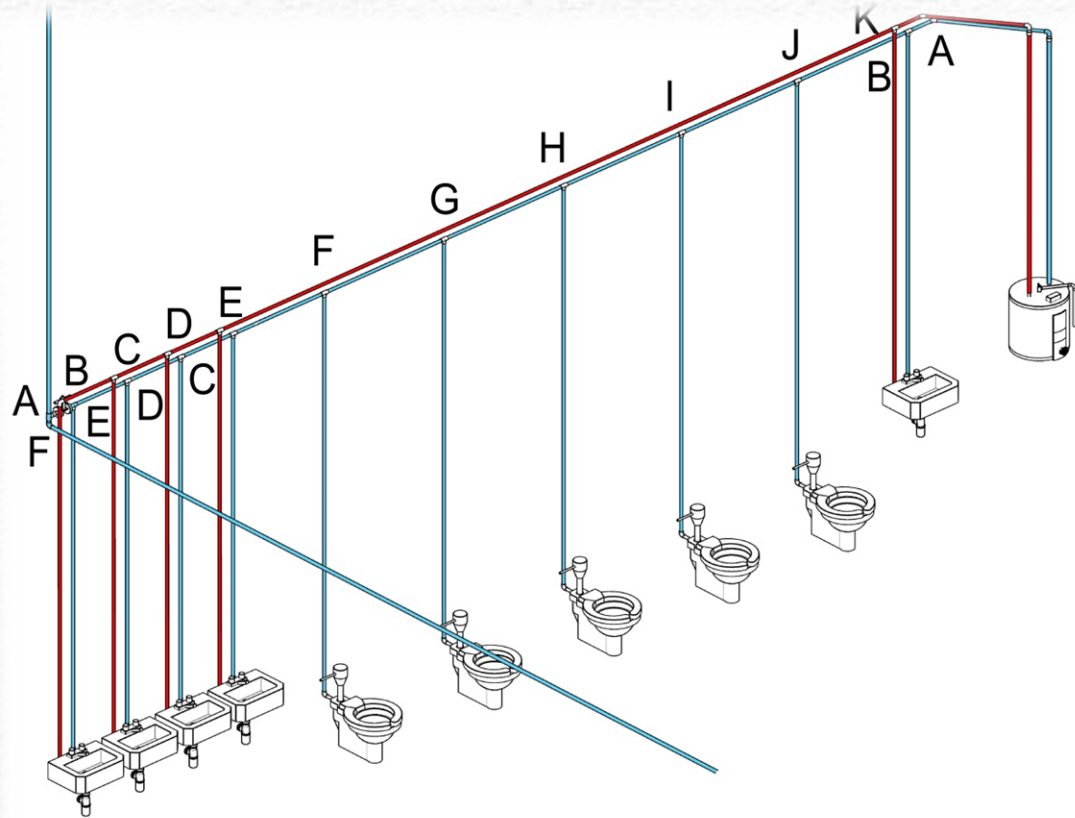
The UGR values have been calculated according to CIE Publ. 117 Spacing-to-Height-Ratio = 1.00



Lighting analysis



## Graduation project:



### WATER SUPPLY CALCULATION

CALCULATIONS FOR PIPE SIZE							CALCULATIONS FOR PIPE SIZE								
COLD WATER							HOT WATER								
V=1.75							V=1.75								
Pipes	Fixtures Attached	Total Fixture Units	Flow Q (gpm)	Flow Q M3/S	Calculated Diameter (m)	Selected Diameter mm	Head Loss (Psi/100 Ft)	Pipes	Fixtures Attached	Total Fixture Units	Flow Q (gpm)	Flow Q M3/S	Calculated Diameter (m)	Selected Diameter mm	Head Loss (Psi/100 Ft)
AB	1xlavatory	1.5	4	0.00025	0.013	15	6	AB	1xlavatory	1.5	4	0.00025	0.013	15	6
BC	2xlavatory	3	6.5	0.00041	0.017	20	4	BC	2xlavatory	3	6.5	0.00041	0.017	20	4
CD	3xlavatory	4.5	8.7	0.00054	0.019	20	7	CD	3xlavatory	4.5	8.7	0.00054	0.019	20	7
DE	4xlavatory	6	10.7	0.00068	0.022	25	3	DE	4xlavatory	6	10.7	0.00068	0.022	25	3
EF	4LA+1W.C	11	15.4	0.0011	0.028	32	3.5	EF	5xlavatory	7.5	12.3	0.00093	0.03	32	3.4
FG	4LA+2W.C	16	18	0.0013	0.031	32	4								
GH	4LA+3W.C	21	19.98	0.0015	0.032	32	4.5								
HI	4LA+4W.C	26	21.86	0.0016	0.034	40	2.5								
IJ	4LA+5W.C	31	23.62	0.0017	0.035	40	2								
JK	5LA+5W.C	32.5	24.1	0.0018	0.036	40	2.8								

Type of Occupant	Number of people	Water Requirement	Total Water Requirement
Auditorium	100	5	500
restaurants	200	5	1000
students	170	20	3400
office workers	255	15	3825
other employees	50	5	250

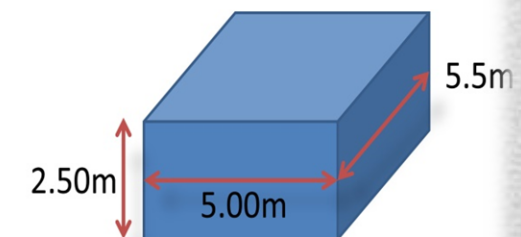
$8975 * 0.00378 = 33.9 \text{ m}^3/\text{day}$

In two days =  $2 * 33.9 = 67.8 \text{ m}^3$

Assumed water depth = 2.5 m

Area Required =  $67.8/2.5 = 27.1 \text{ m}^2$

Total Water Requirement  $500+1000+3400+3825+250=8975$

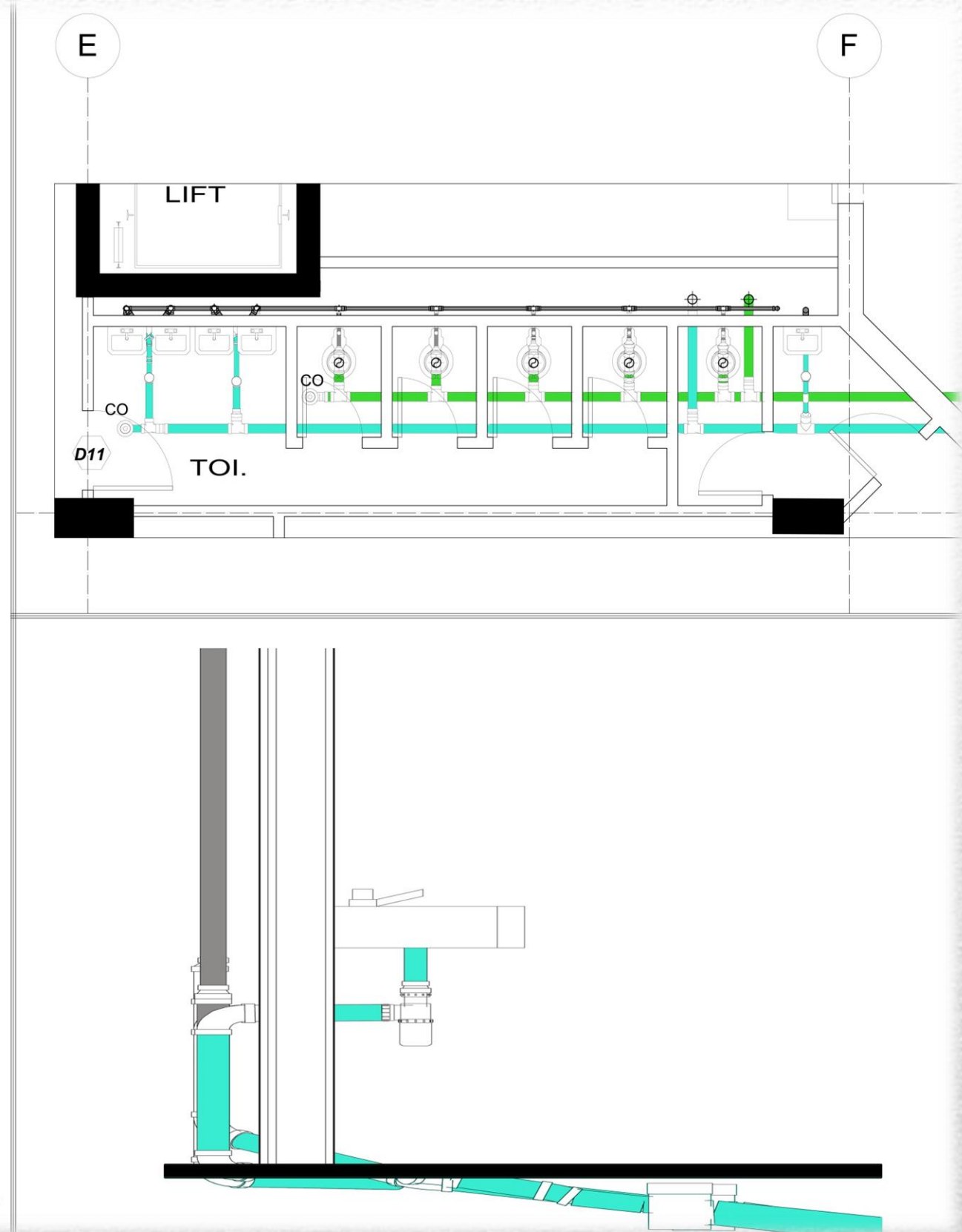
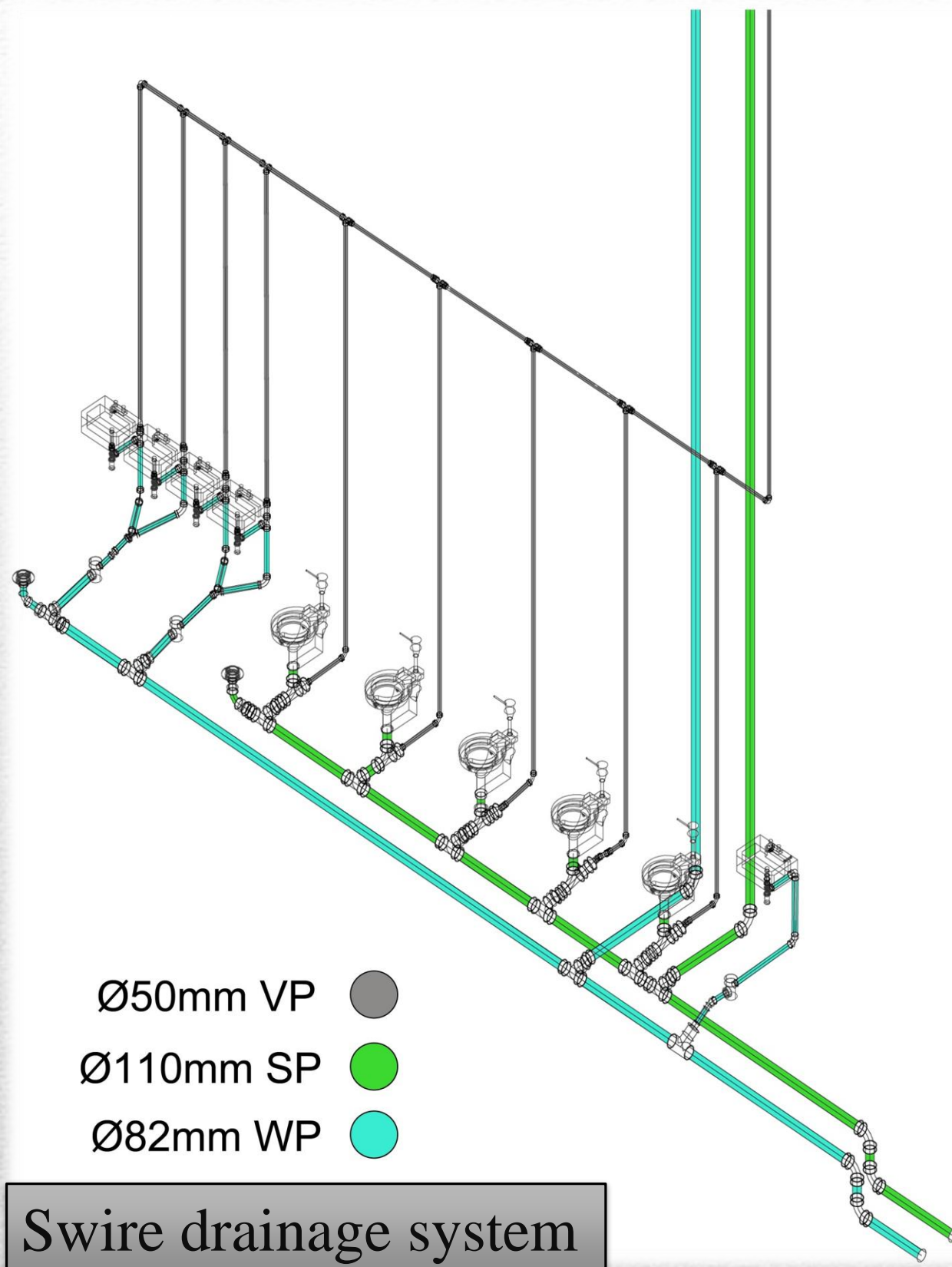


$2 \times 5 \times 5.5 = 68 \text{ m}^3$

### WATER TANK CALCULATION

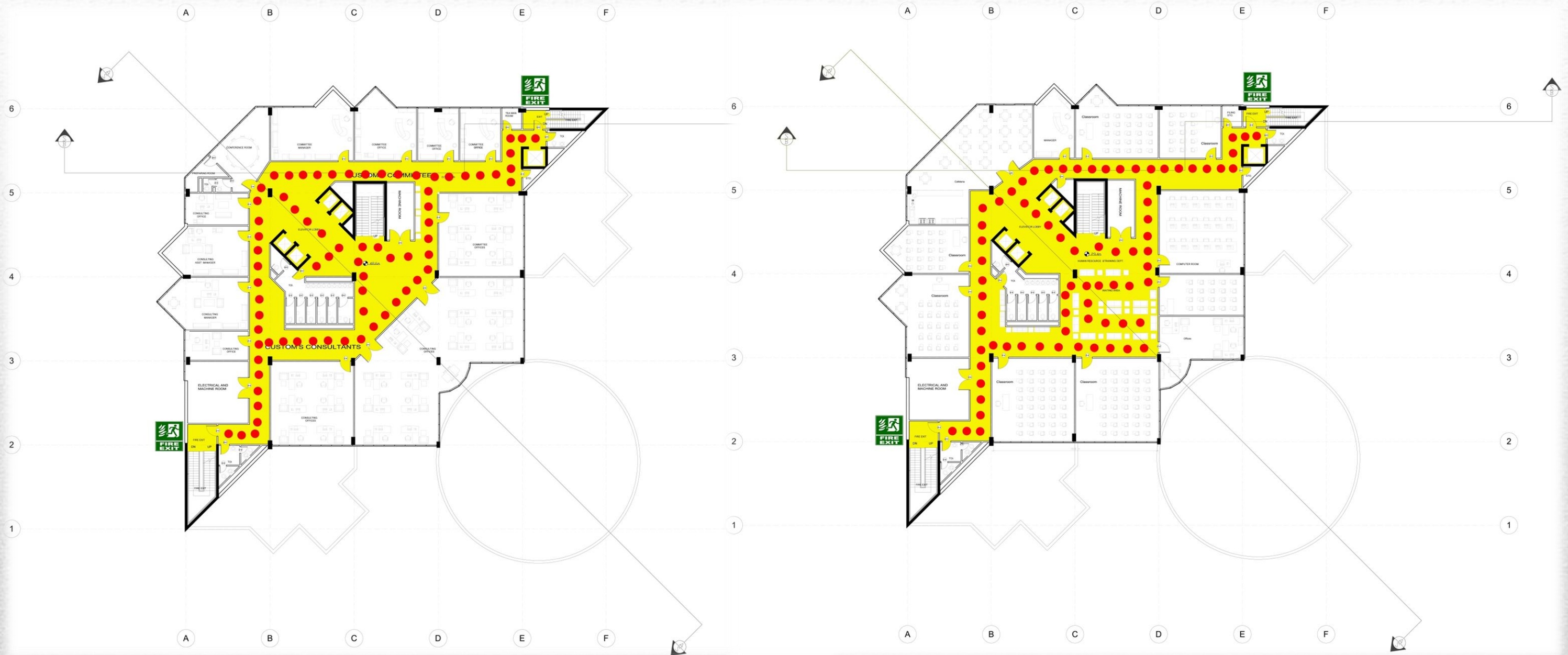


# Graduation project:





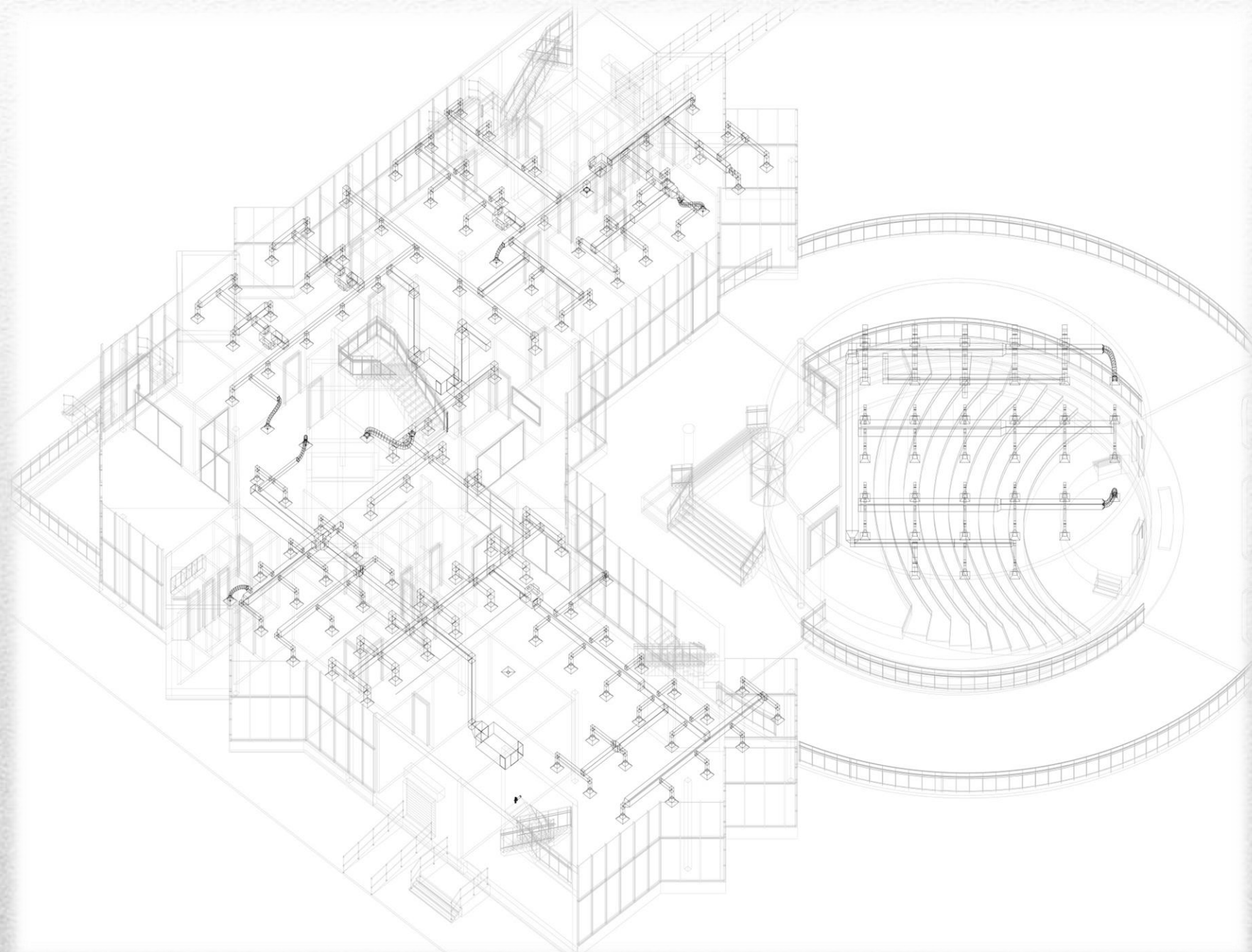
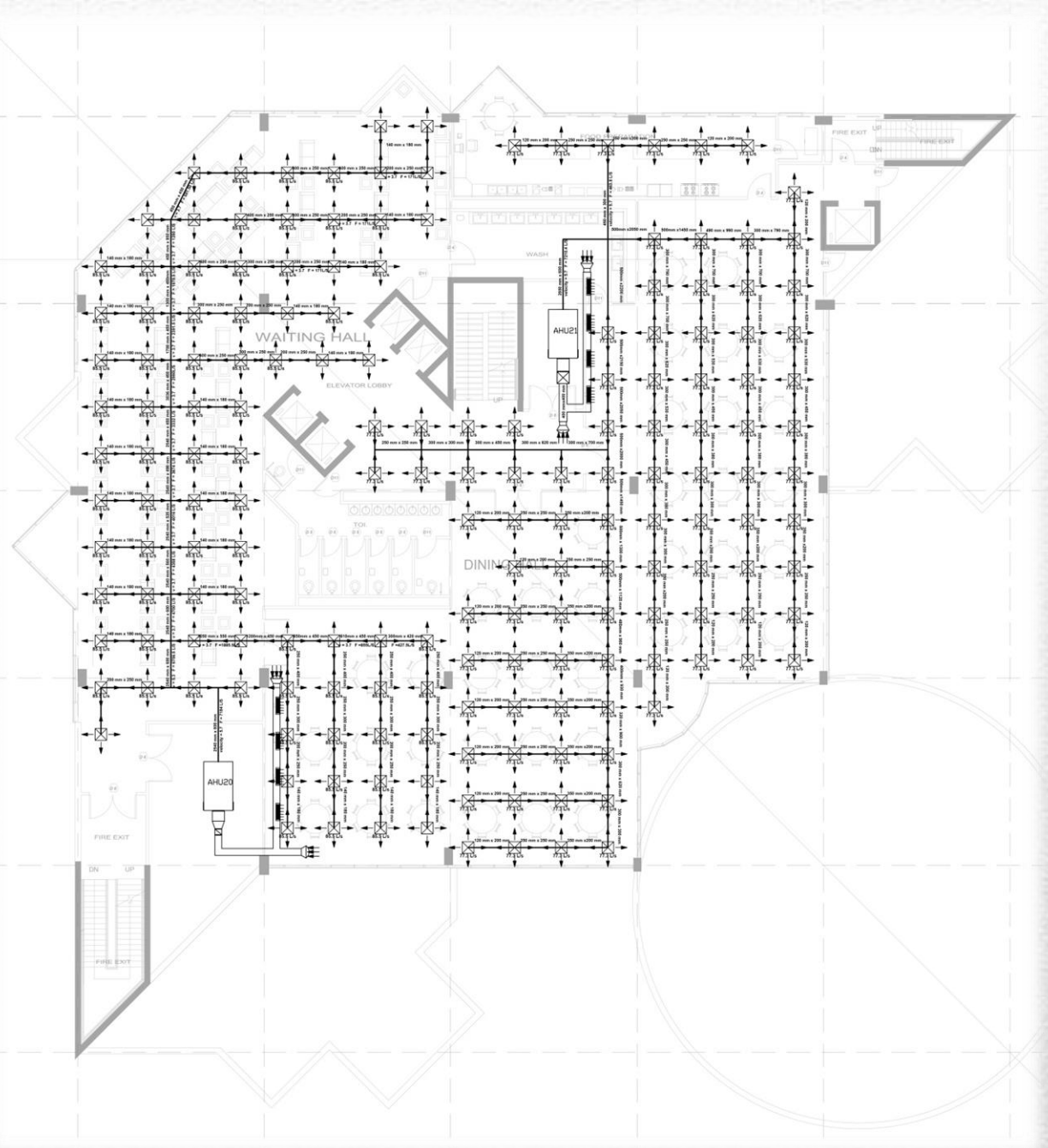
## Graduation project:



Fire escape plan



## Graduation project:



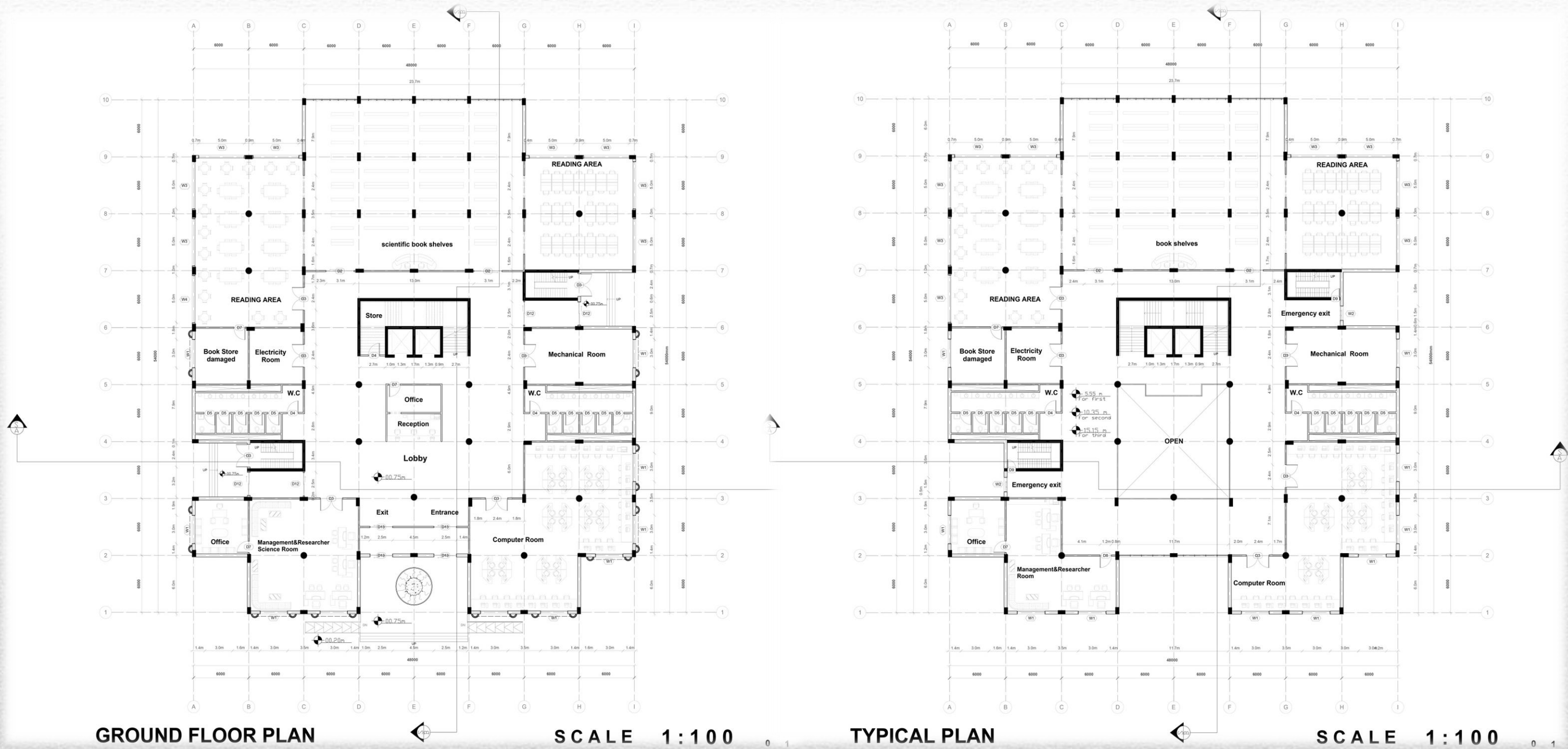
AC duct plan

For all working drawings check link below

[https://1drv.ms/f/s!Apzhiek81QOEjCVna\\_DY6lu1GtXS](https://1drv.ms/f/s!Apzhiek81QOEjCVna_DY6lu1GtXS)



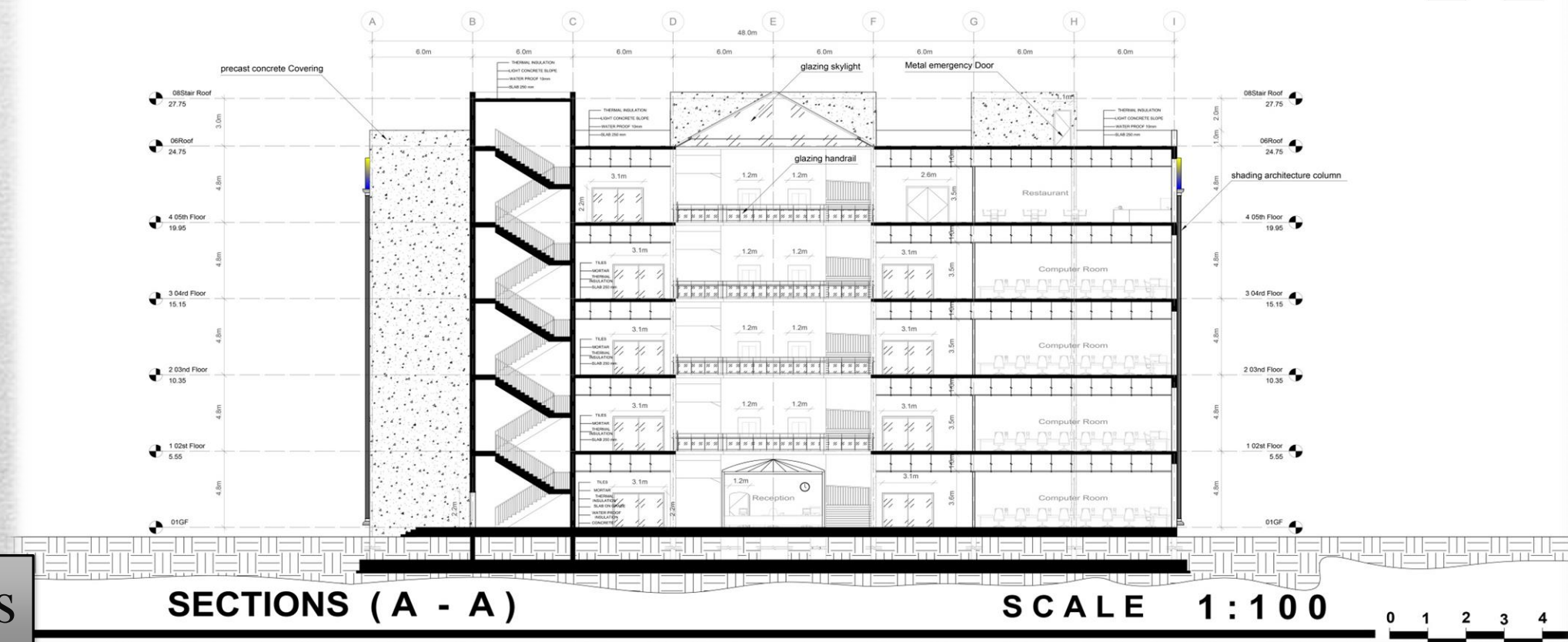
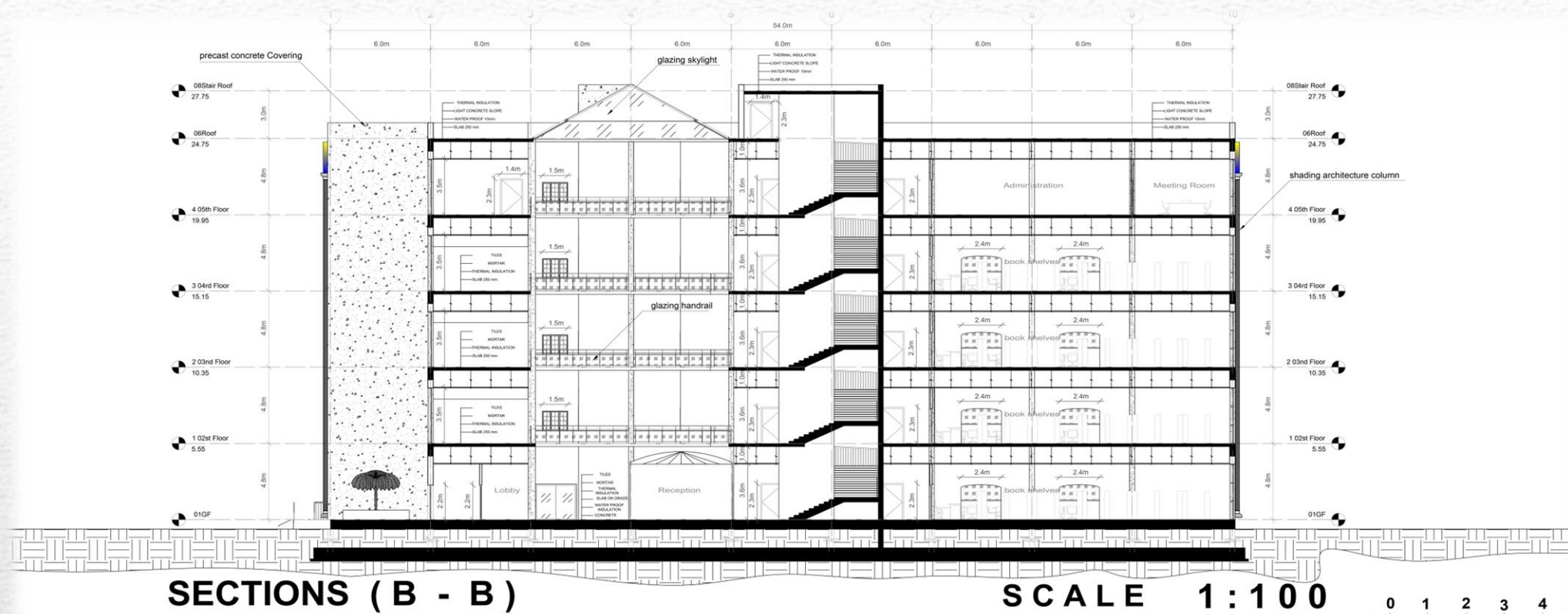
## fourth year project (Library):



Plans



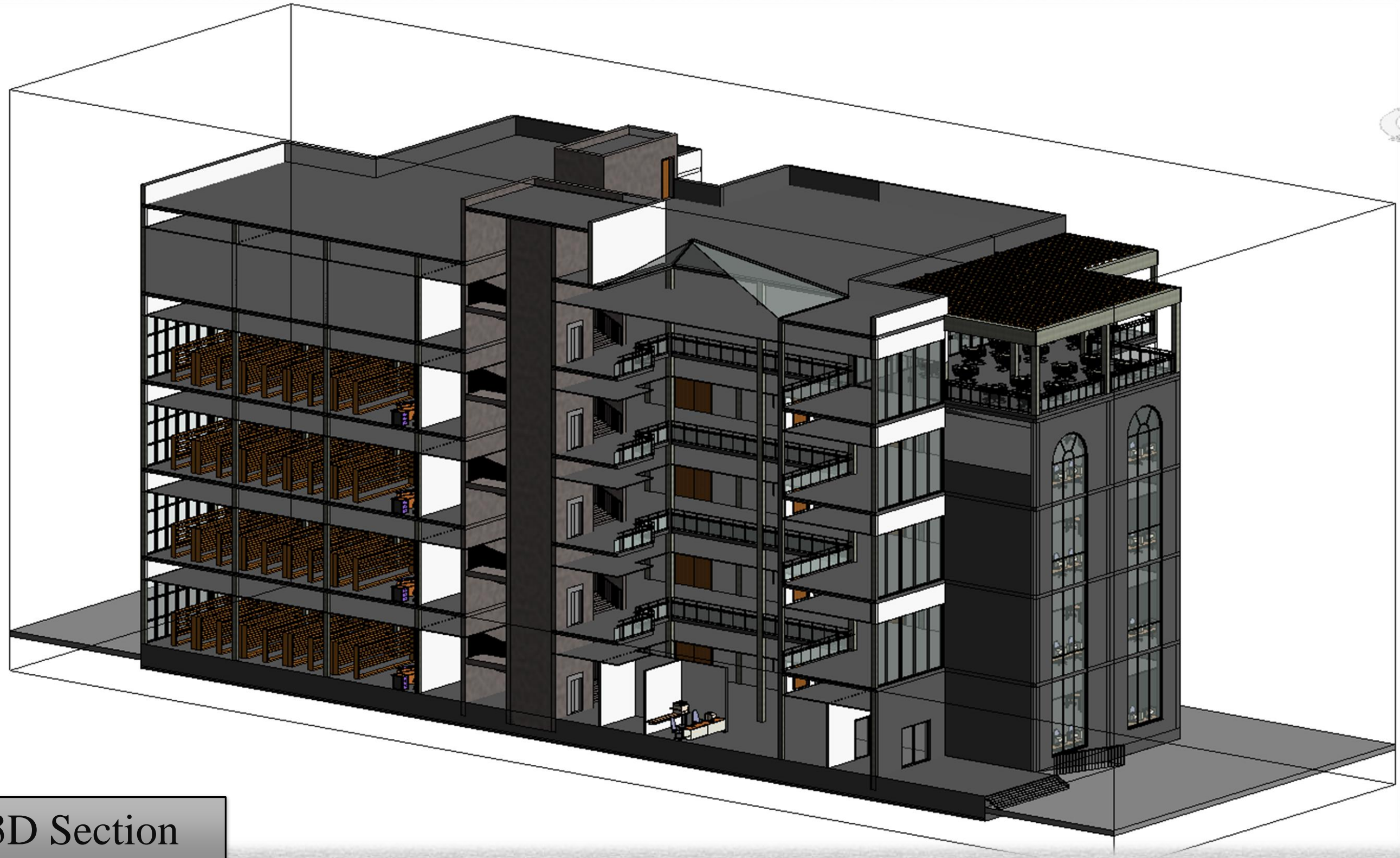
## fourth year project (Library):



Sections



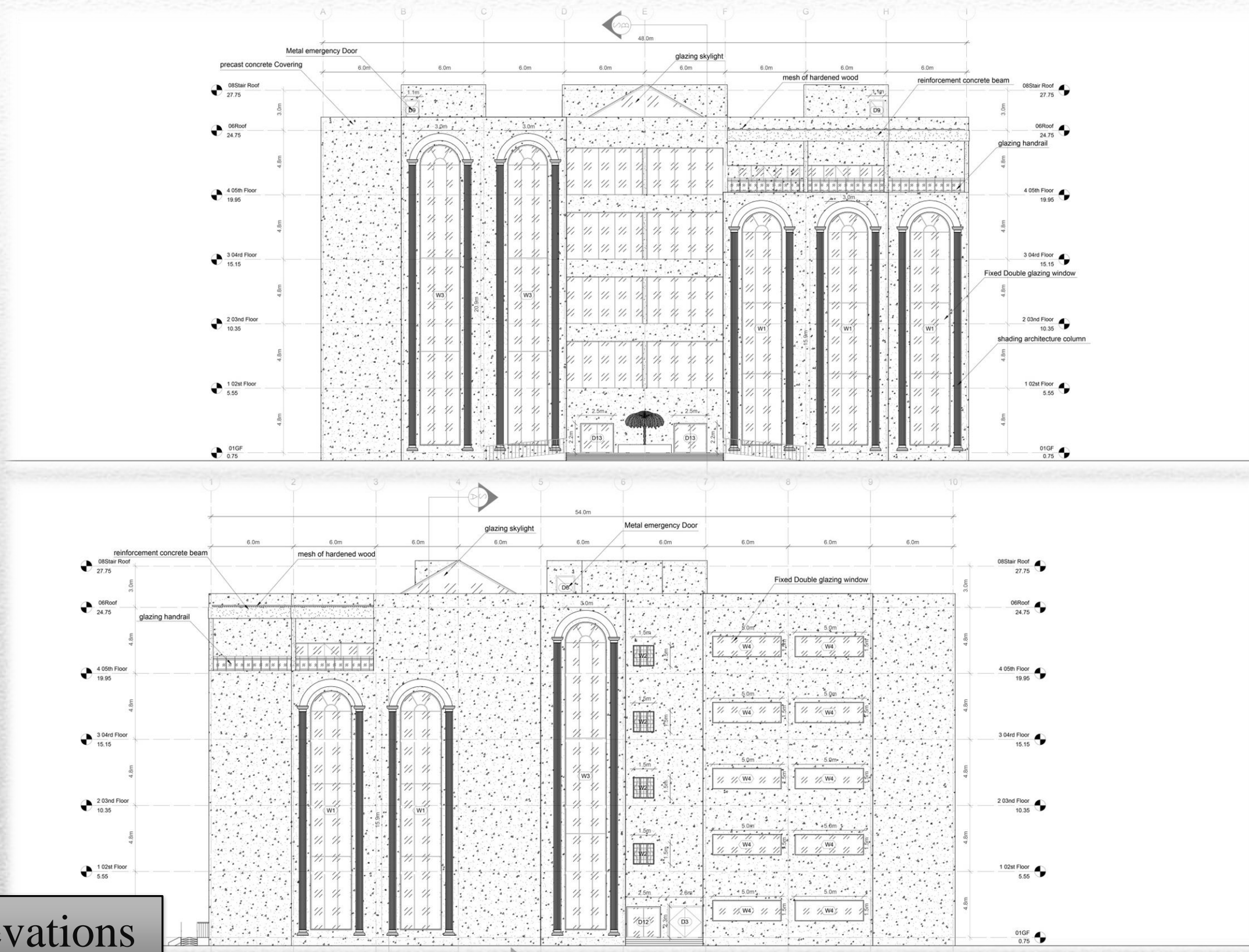
fourth year project (Library):



3D Section



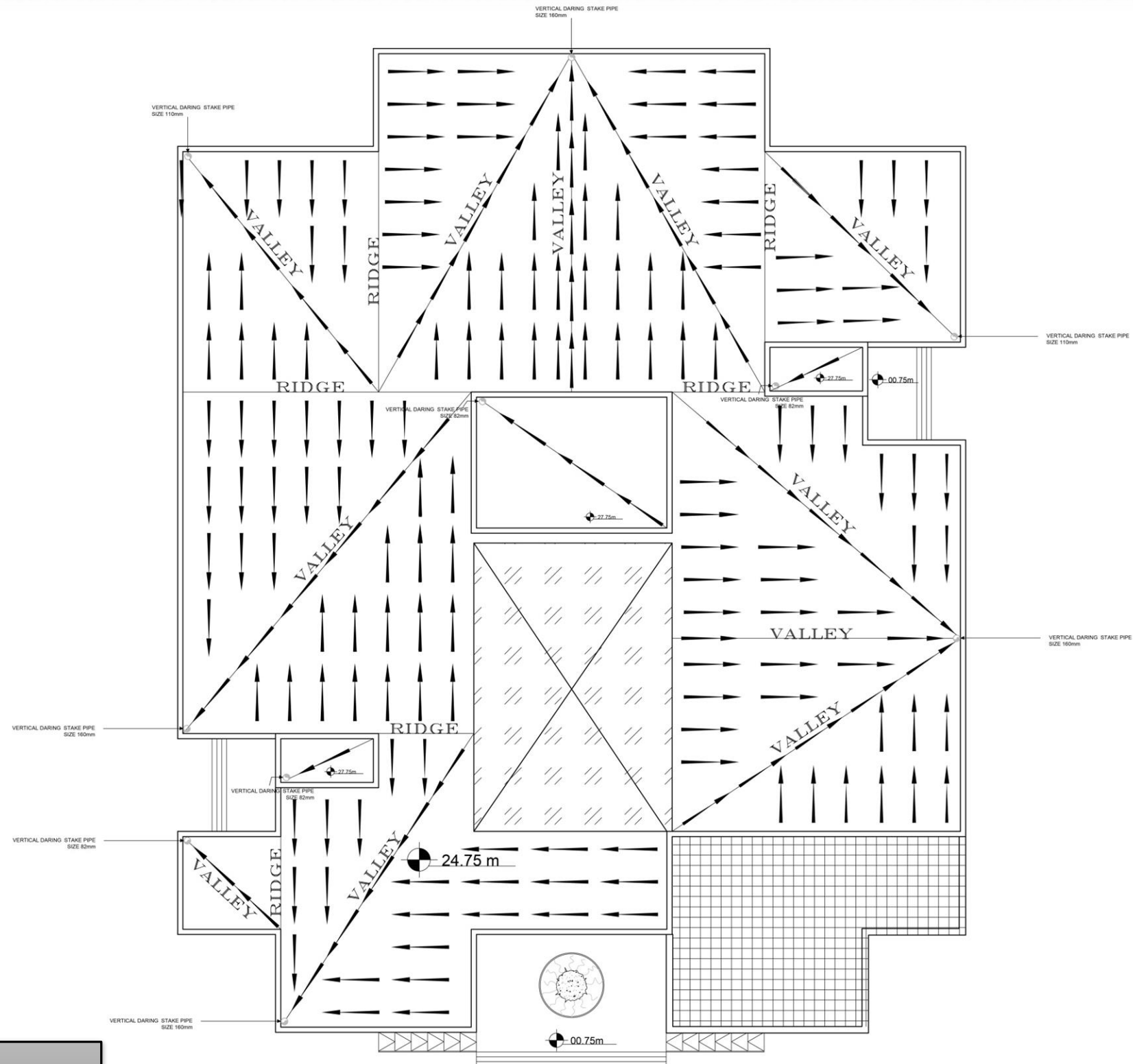
## fourth year project (Library):



Elevations



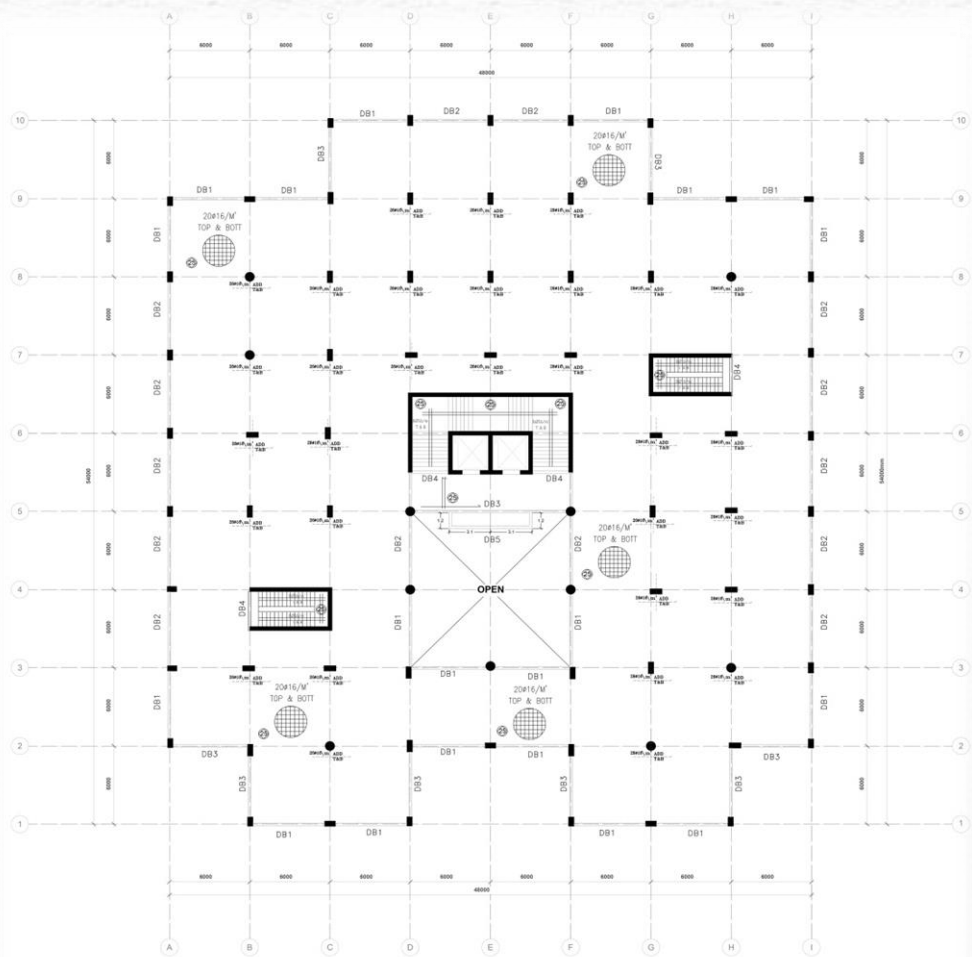
## fourth year project (Library):



Roof drainage

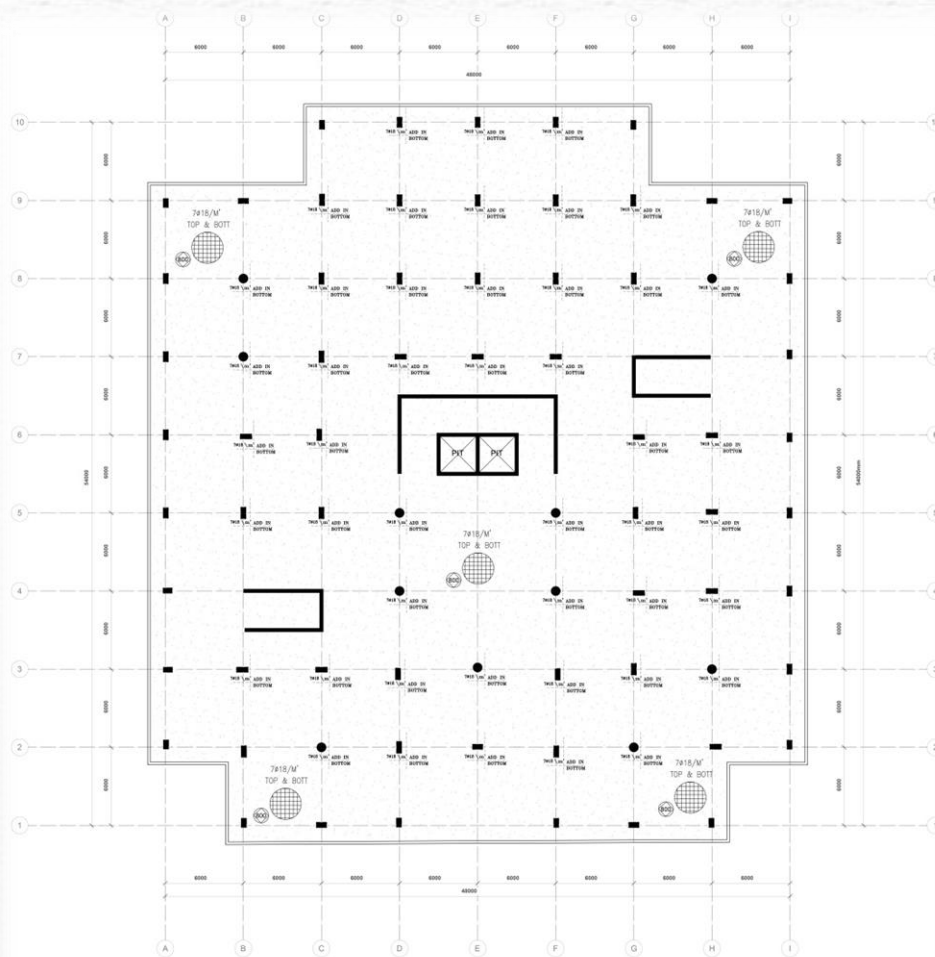


## fourth year project (Library):



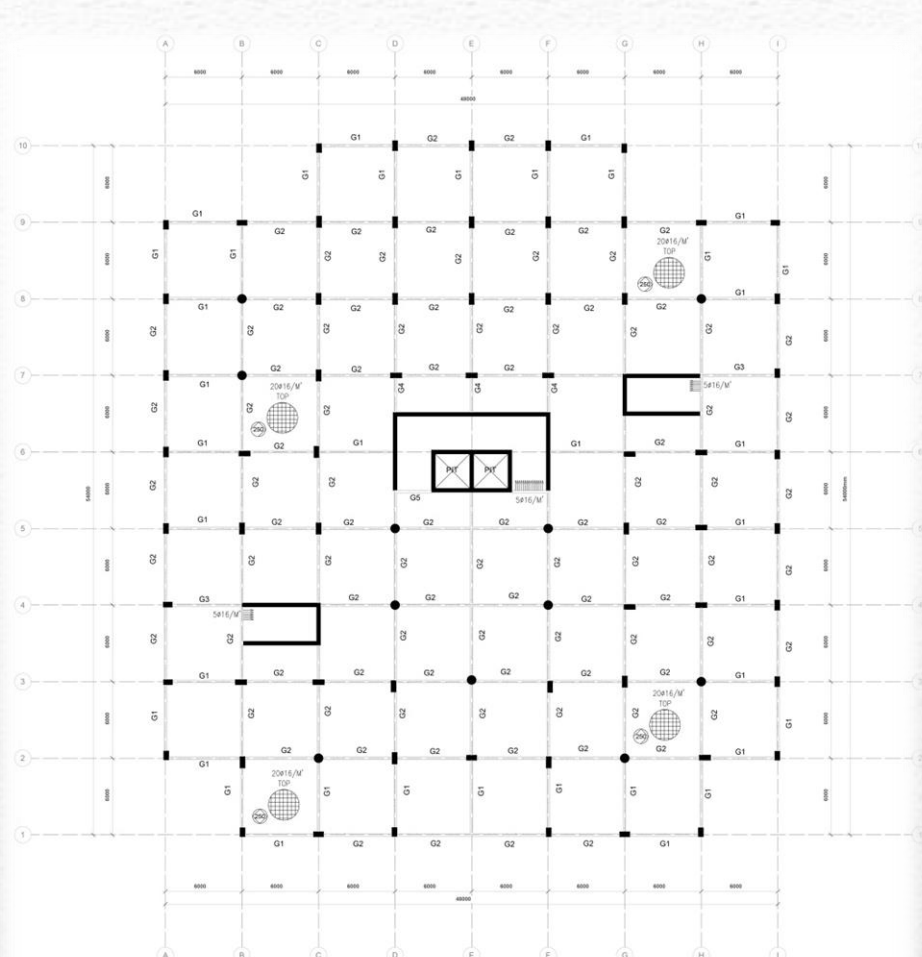
FRAMING PLAN

SCALE 1:100



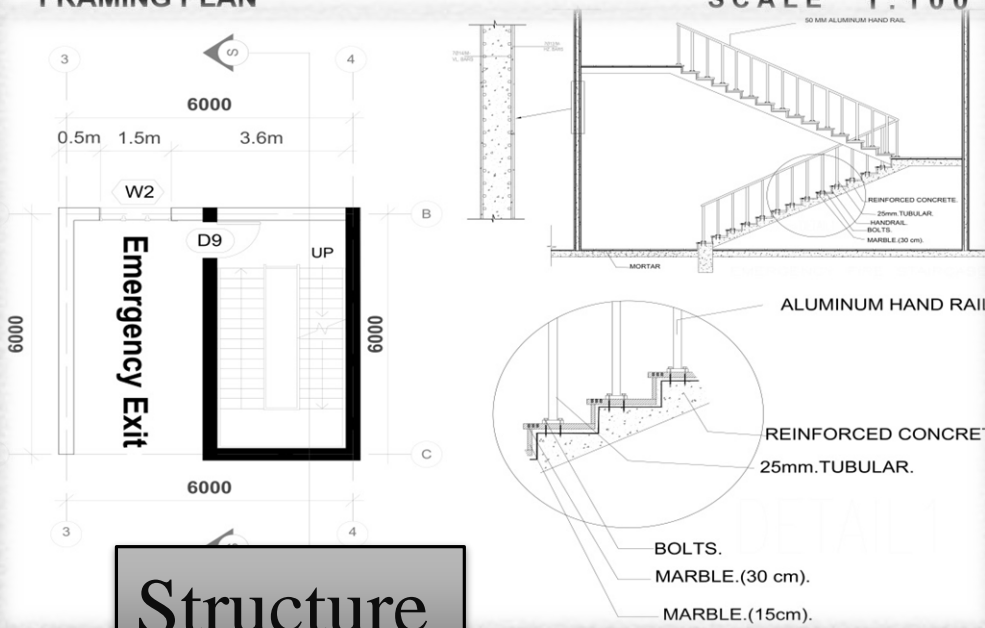
FOUNDATION PLAN

SCALE 1:100

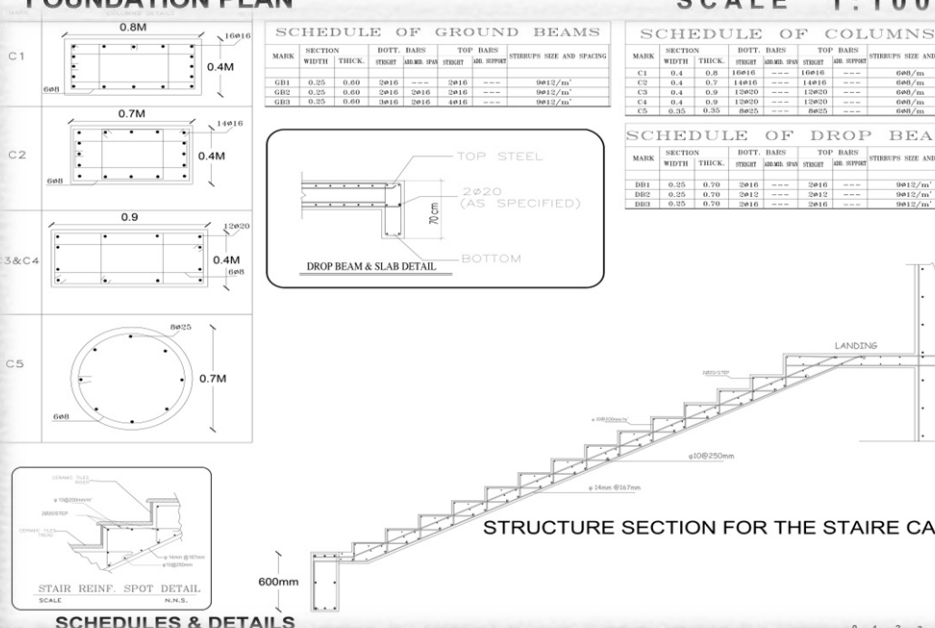


GROUND FRAMING PLAN

SCALE 1:100

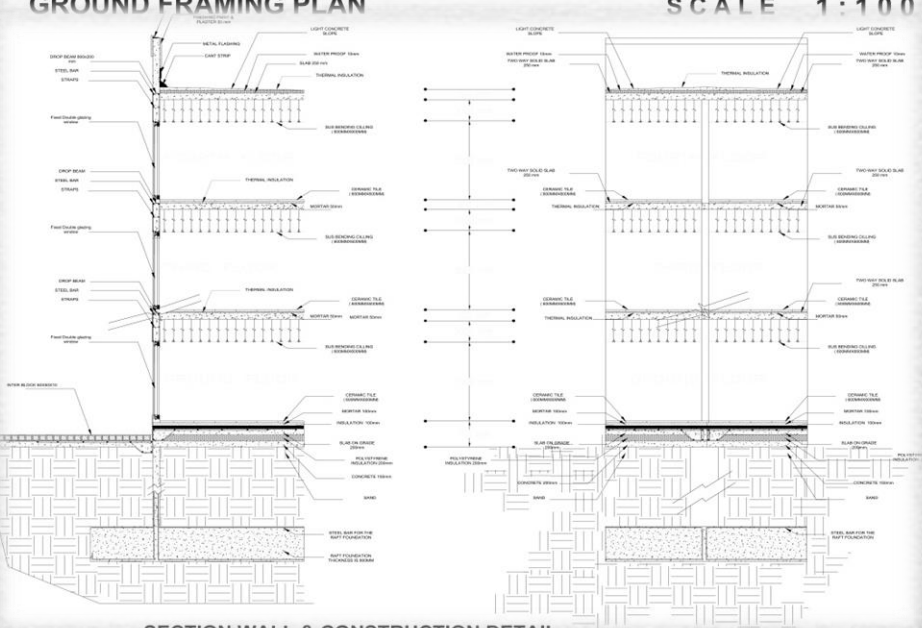


Structure



SCHEDULES & DETAILS

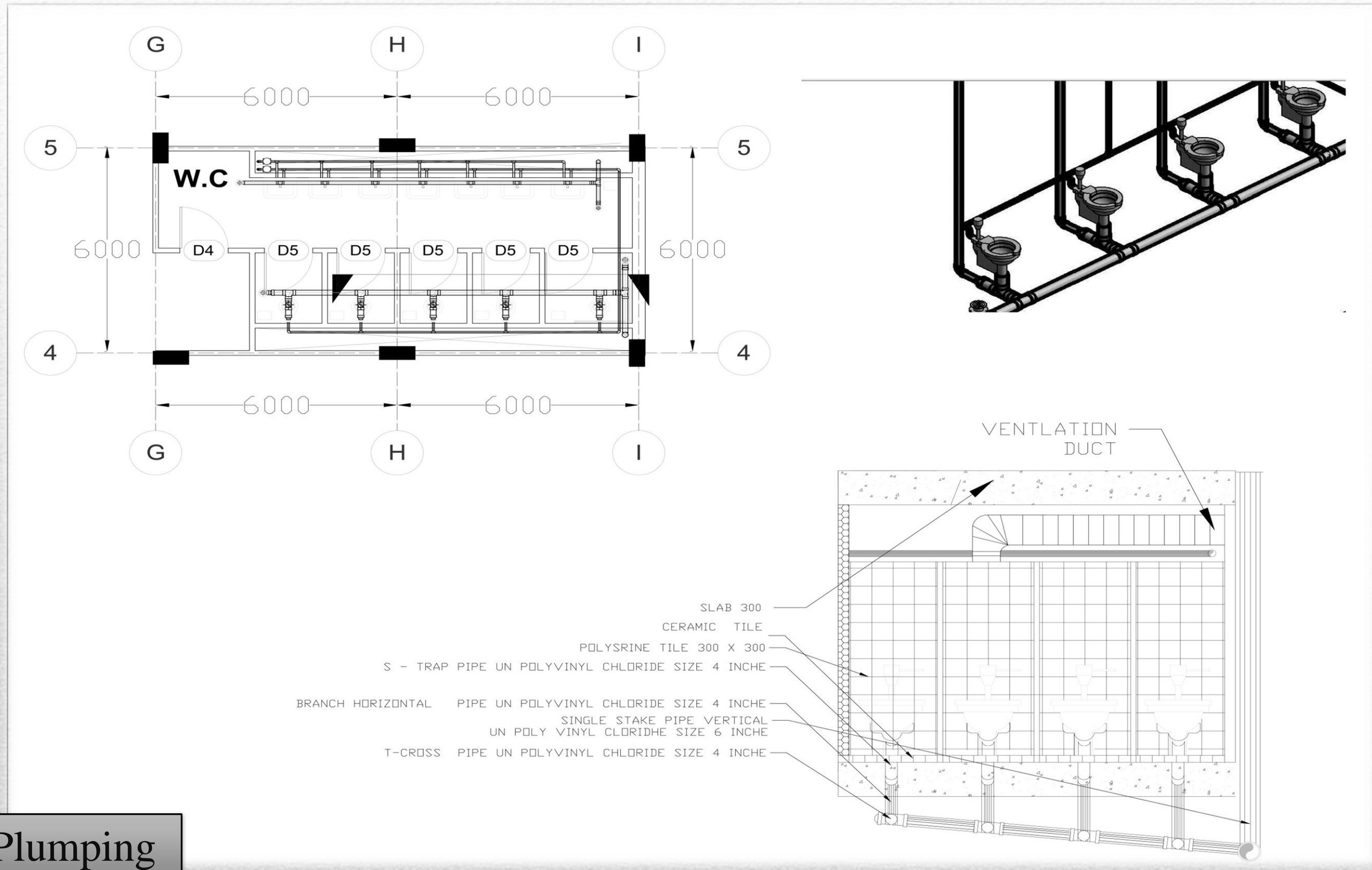
STRUCTURE SECTION FOR THE STAIRCASE



SECTION WALL & CONSTRUCTION DETAIL



## fourth year project (Library):



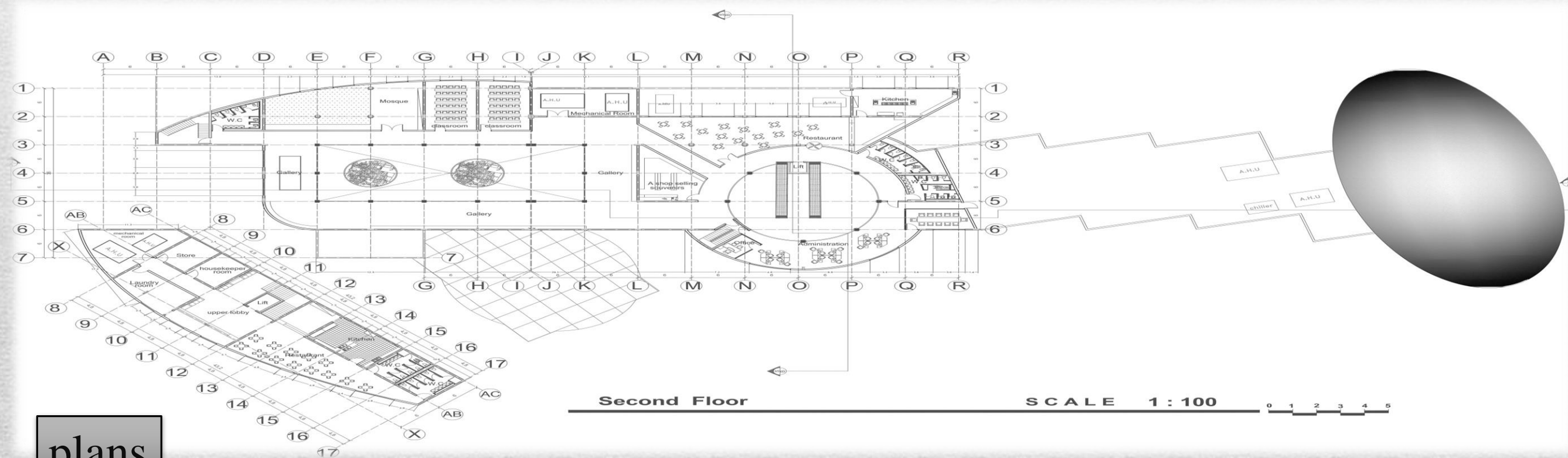
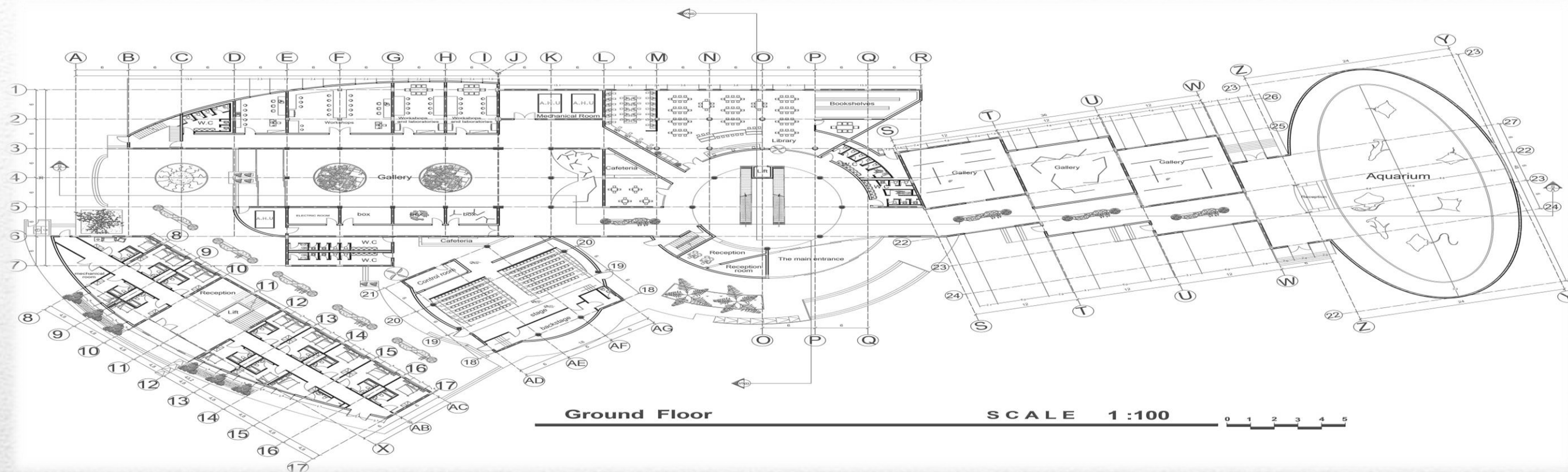
Plumping







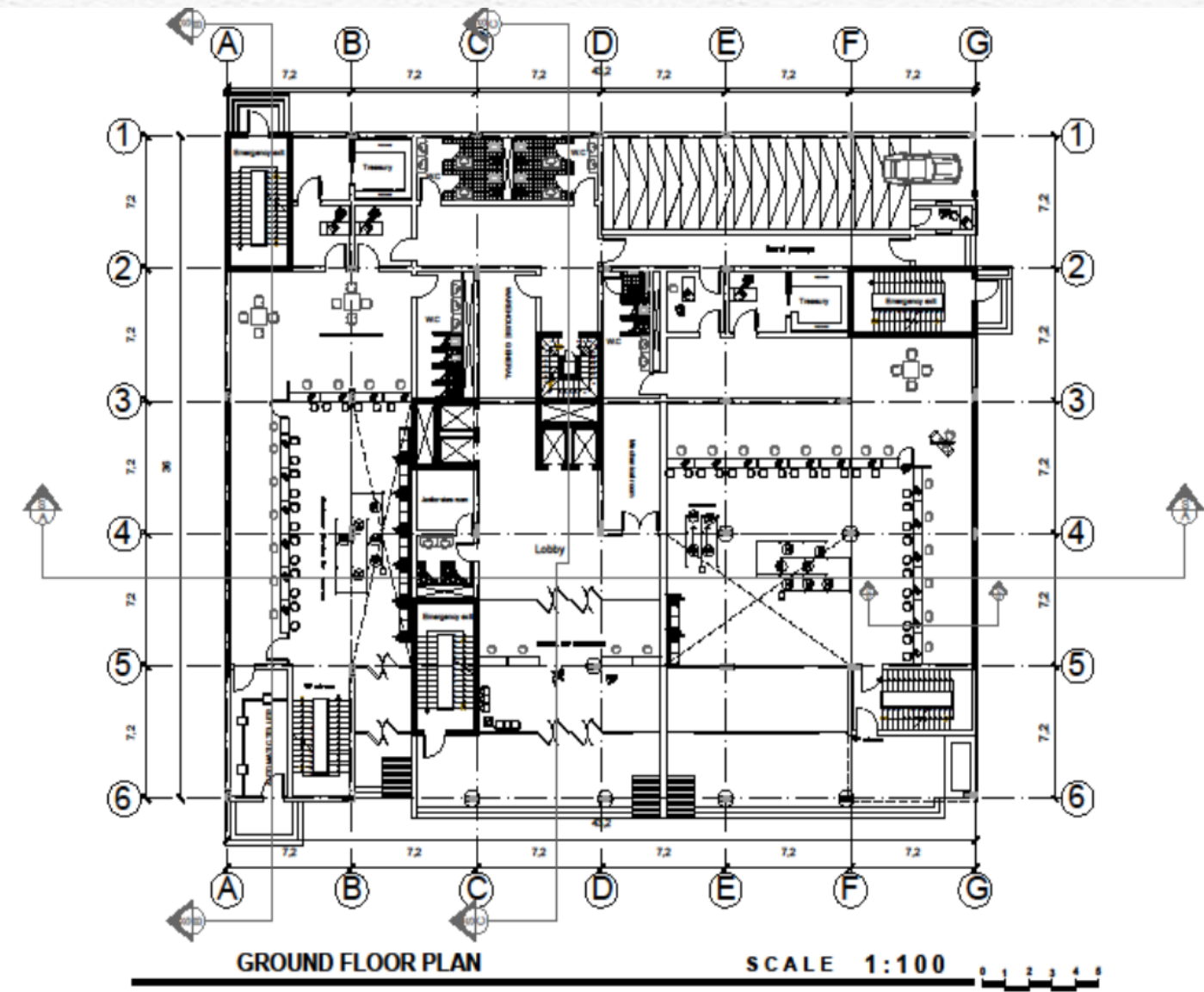
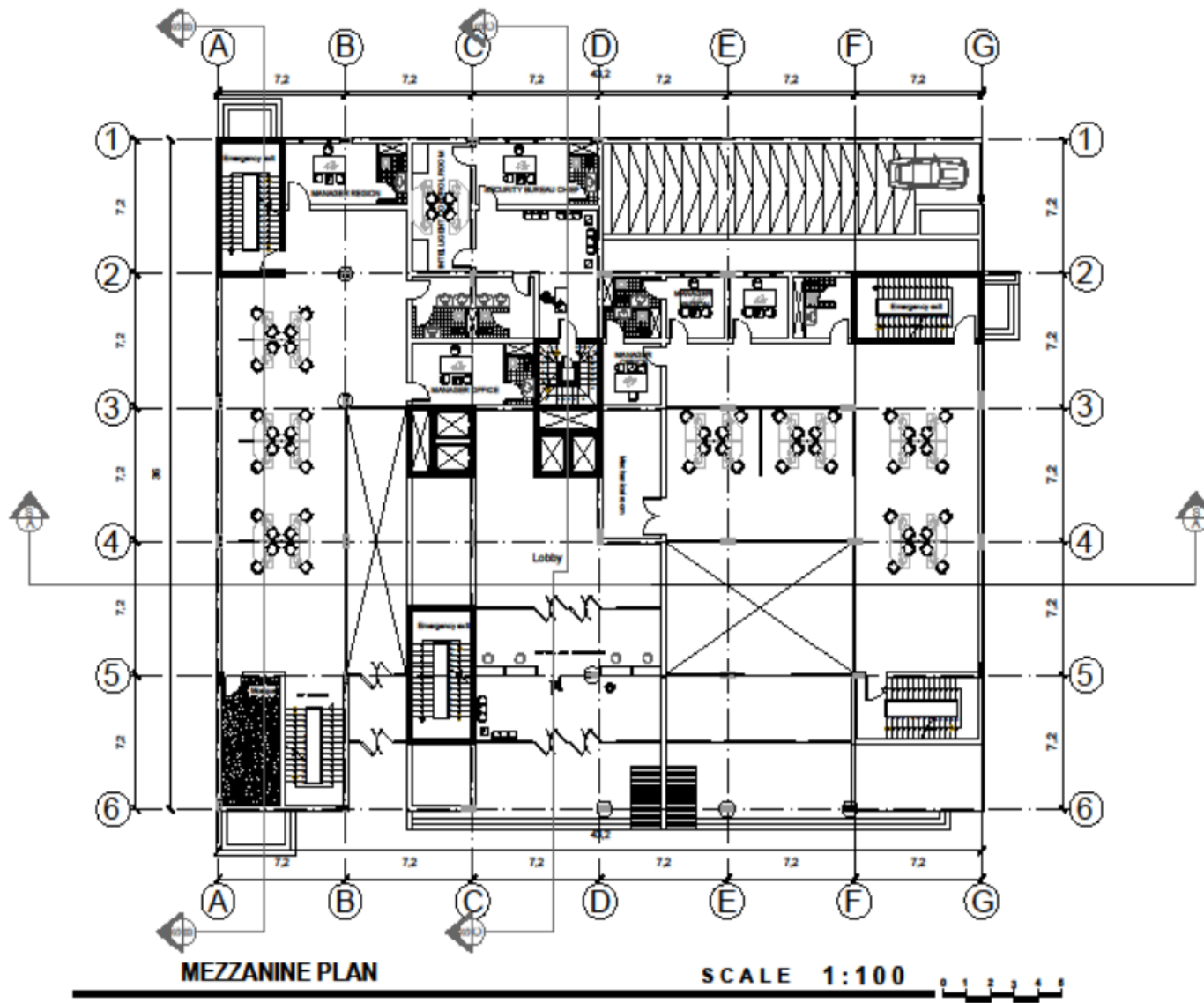
## Third year project (Culture Center):



plans



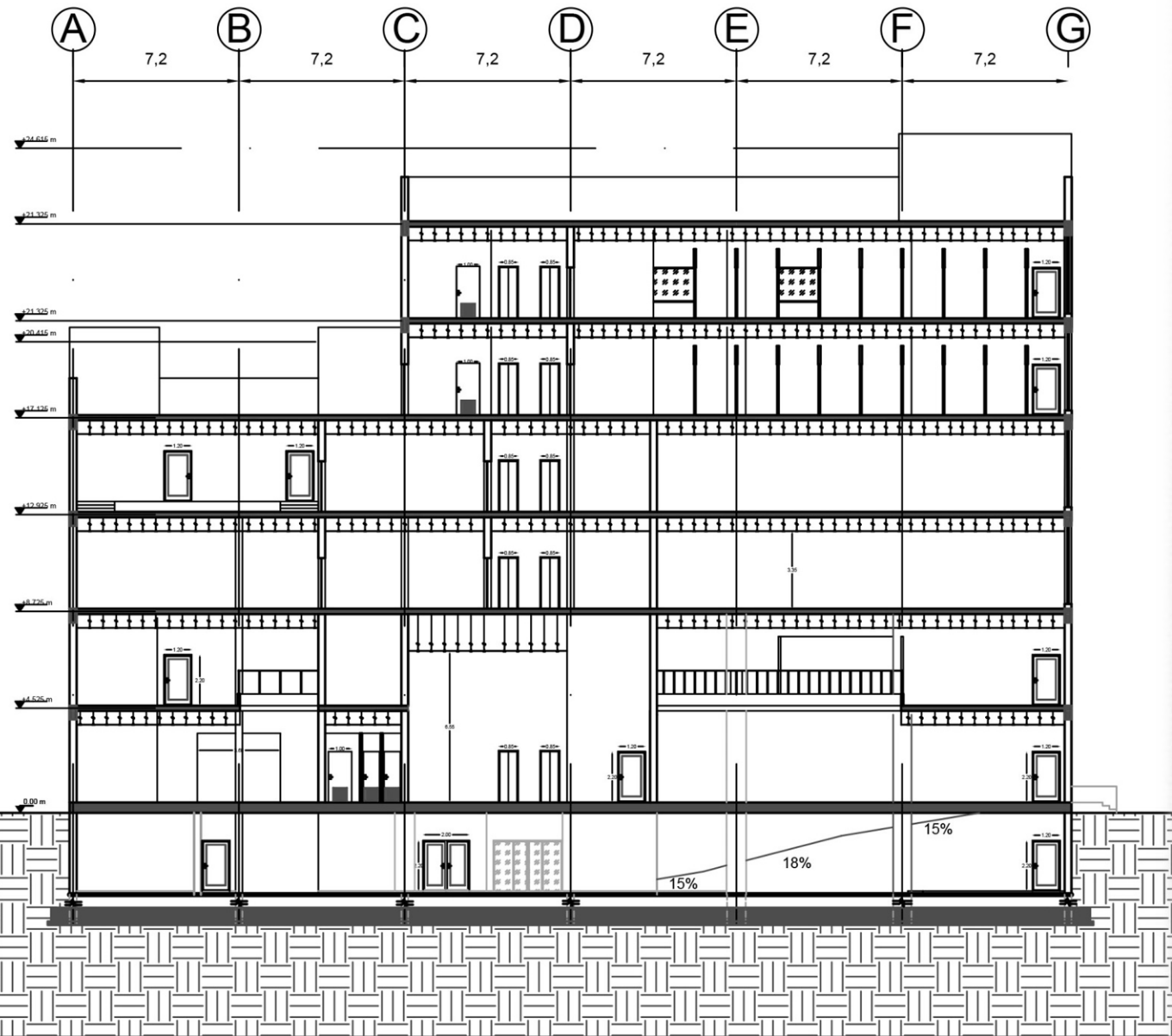
# Second year project (bank & offices)



plans

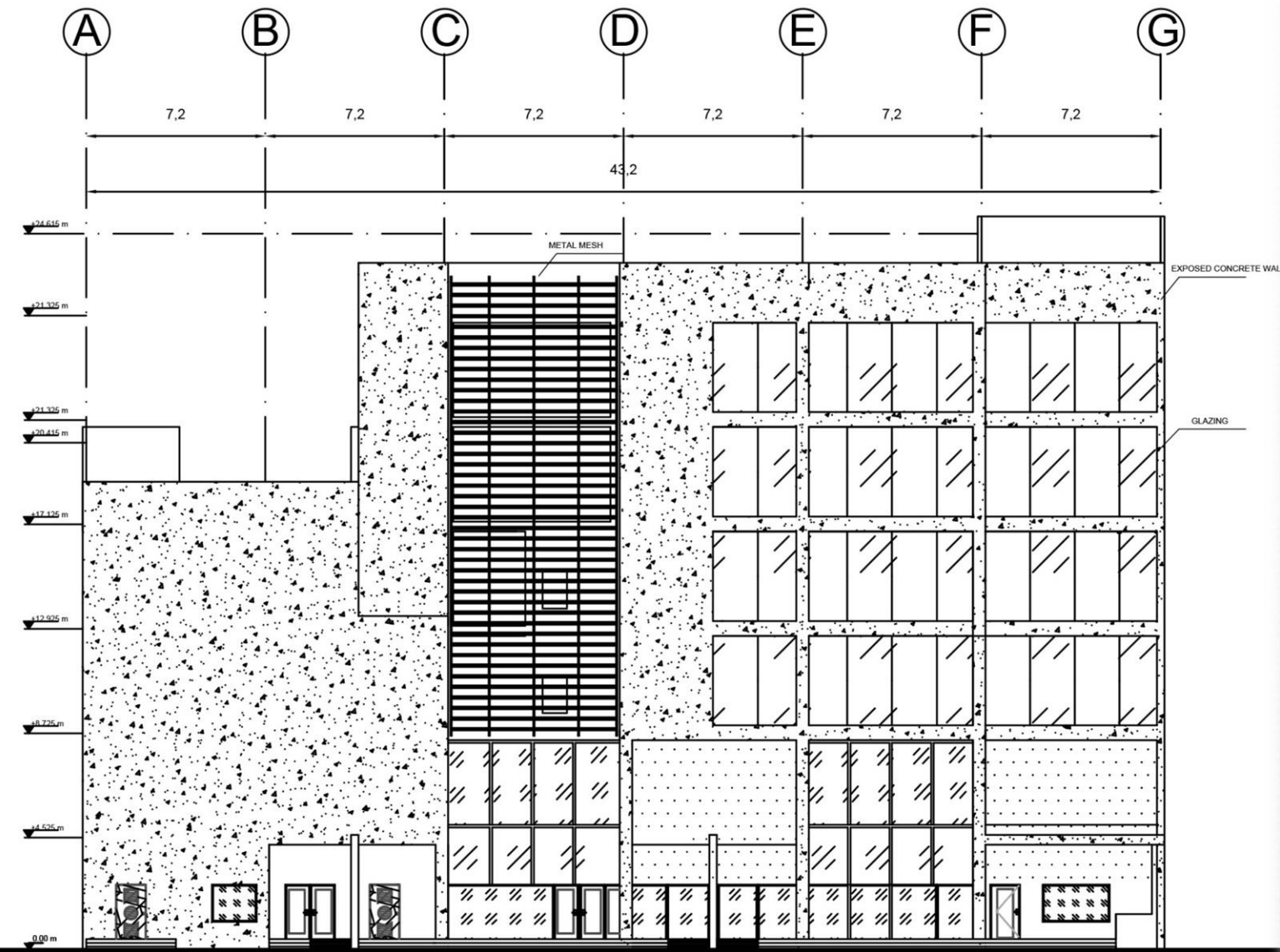
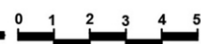


# Second year project (bank & offices)



SECTION A - A

SCALE 1:100



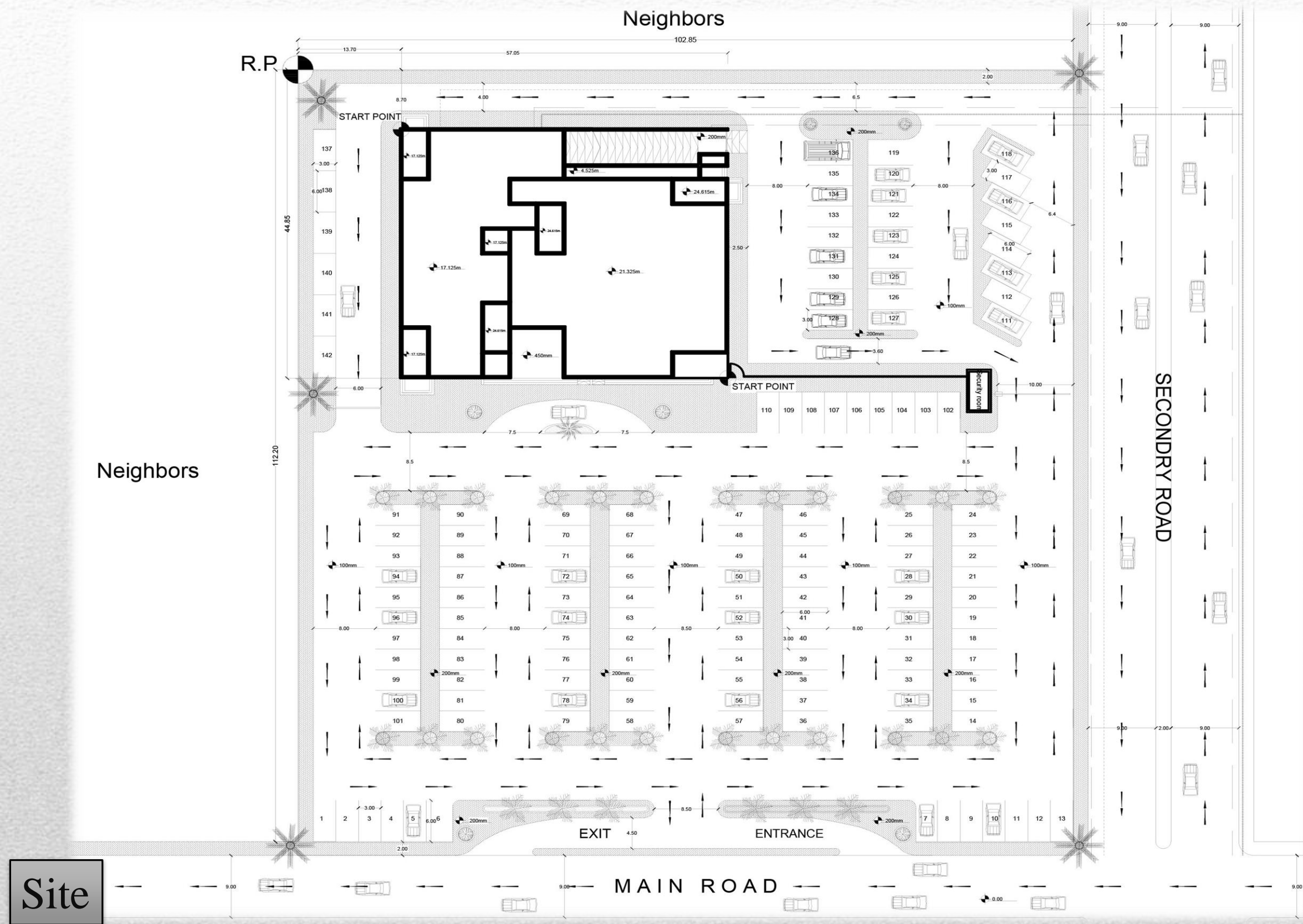
elevation

SCALE 1:100





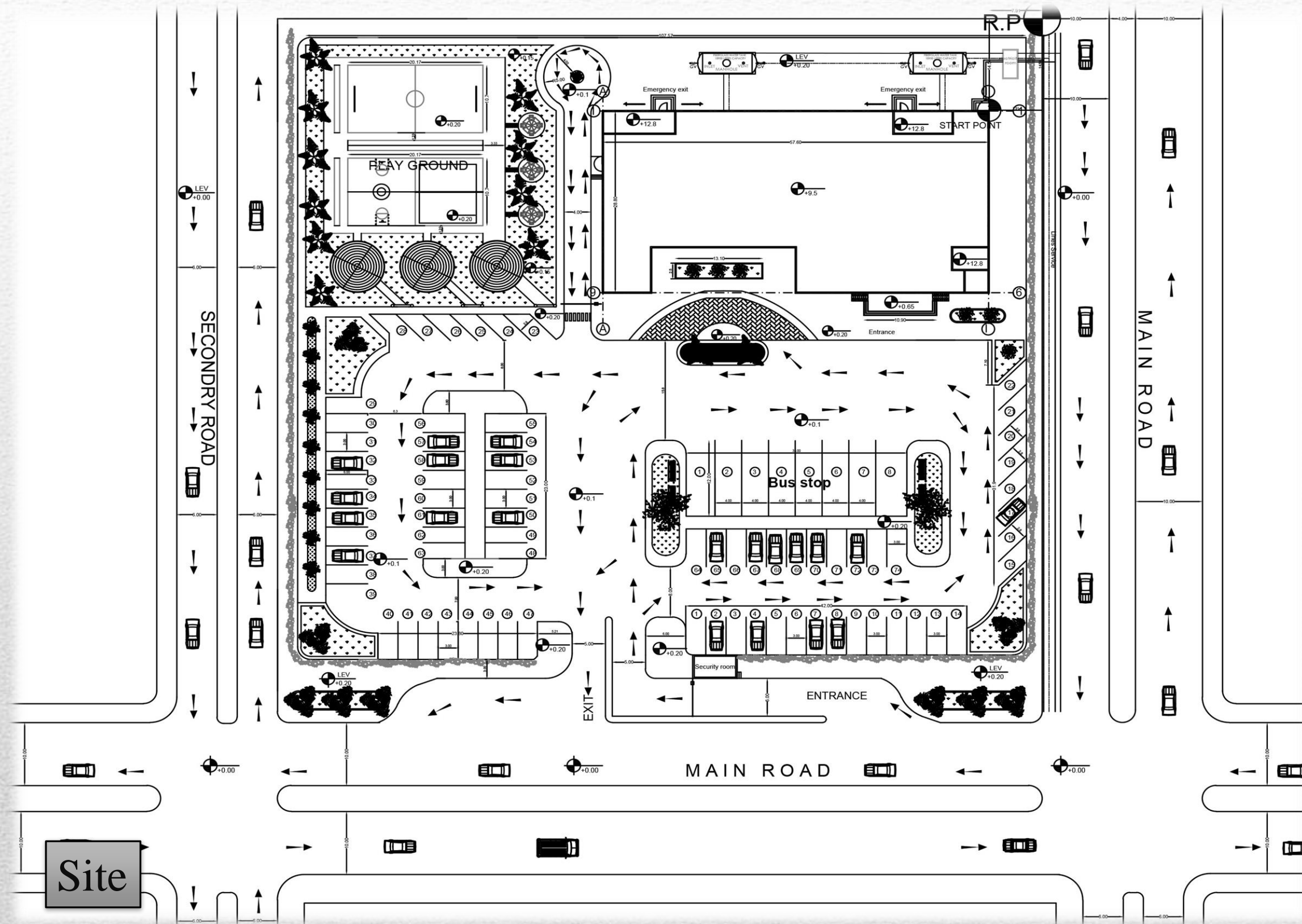
## Second year project (bank & offices)



Site

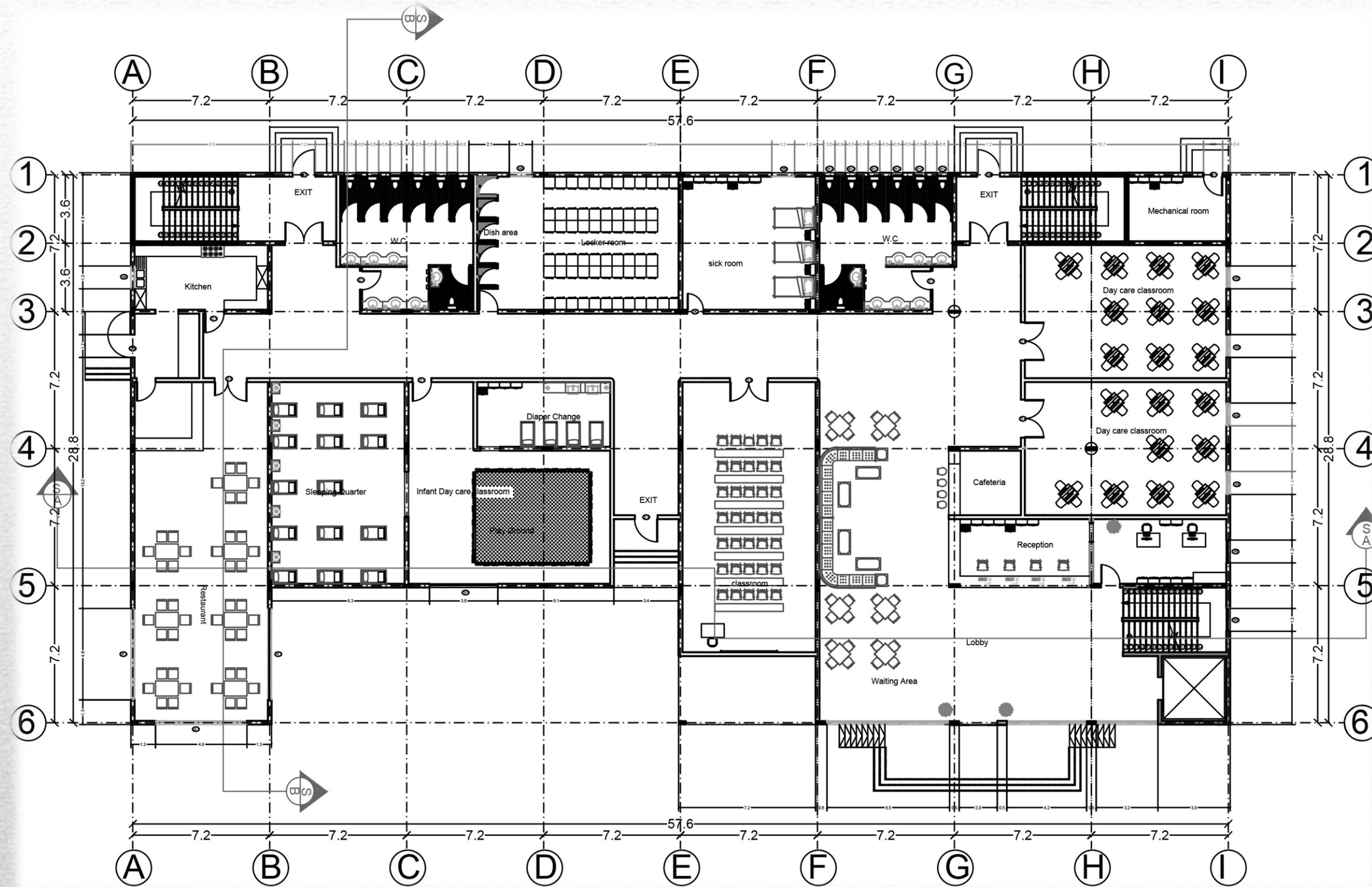


# First year project (Day Care Center)





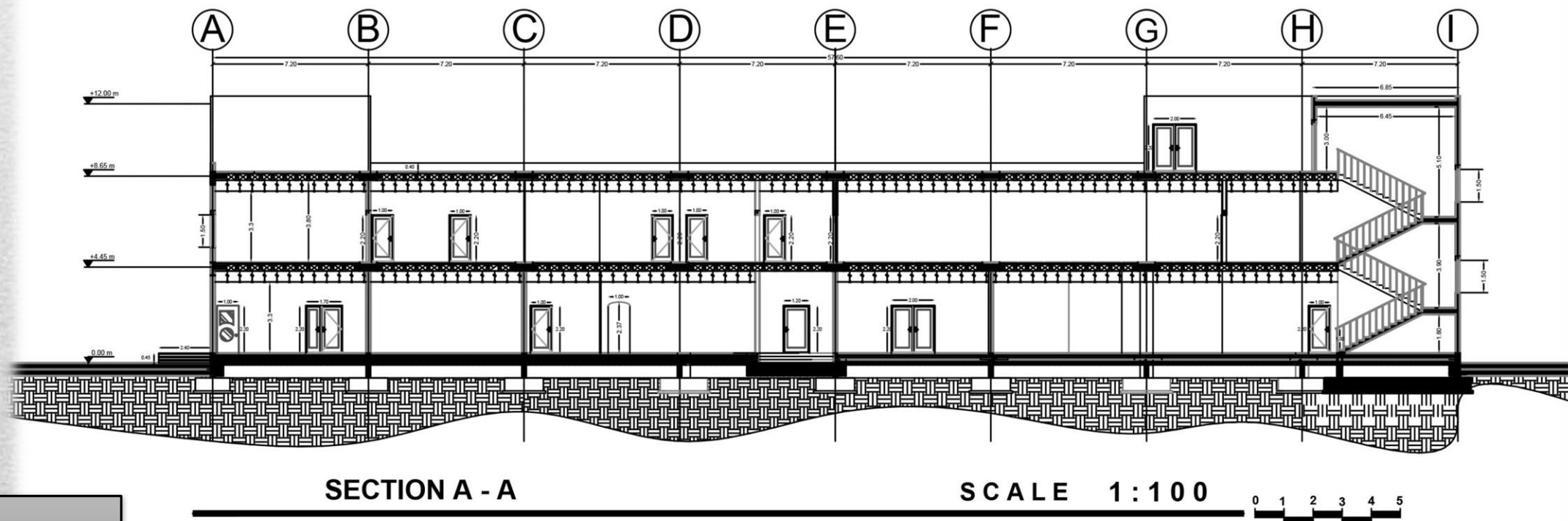
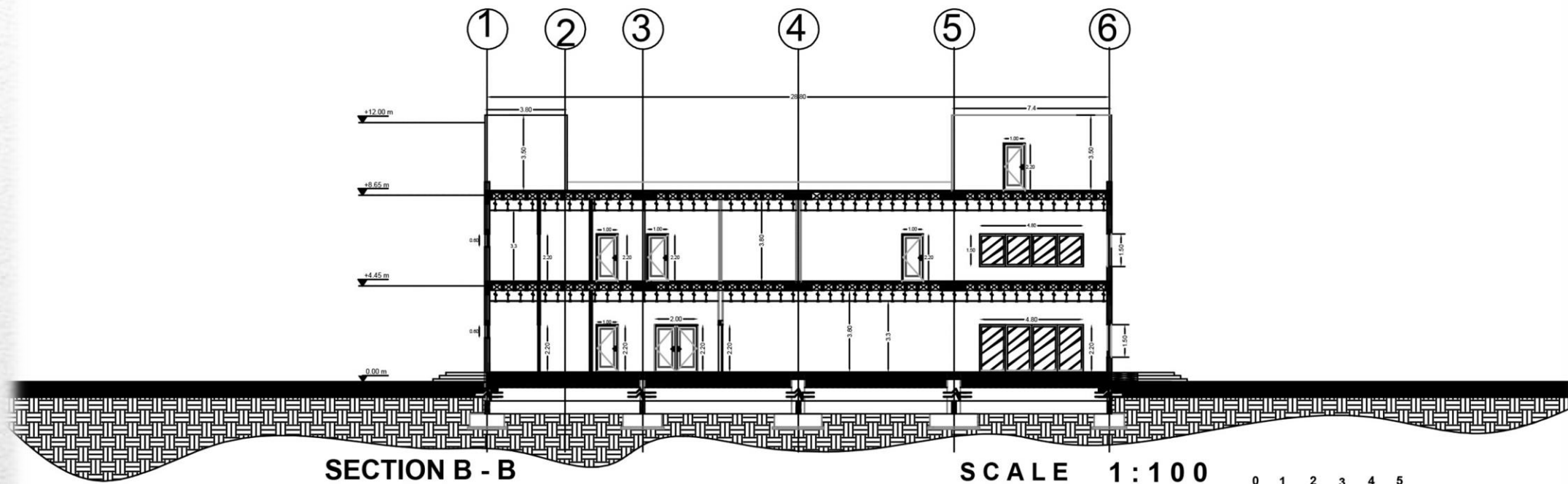
# First year project (Day Care Center)



Ground floor plan



# First year project (Day Care Center)



Sections