

UNDULATE

- Notes:
- Do not scale the drawings
 - The contract Documents are complementary. What is required by one is as binding as if required by all.
 - The contractor shall coordinate all portions of the work as described in the contract documents.
 - Notify the architect for resolutions for all discrepancies prior to construction.
 - Unless otherwise indicated, plan dimensions are to column grid on center nominal surface of masonry, face of studs and face concrete walls.
 - Line of existing grades, as shown on the building elevations and sections are approximate.
 - Verify all rough in dimensions for equipment provided in this contract, or by others.
 - Verify size location/location finish/fire rating, ect. page and provide complete all require opening through floors and walls, access doors, turring,curbs, anchors and inserts. Provided all bases and blocking required by the UL.

NORTH
KEY PLAN



NB	DATE	STATUS

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04 399 9000
SHEIKH ZAYED RD. -DUBAI

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Project: **BUR DUBAI
CREEK OFFICE**

UNDULATE

Status: **DETAIL DESIGN**

Title: **COVER PAGE**

DB	CB	DATE	REV
Aparajita Mahima Ahmad	GY	3/5/2020	3/5/2020
SCALE @ A2 NONE		DWG NB A000	

Site History

- The Dubai Creek was once the backbone of the country as it supported the main occupations such as pearl diving and fishing.
- The warm waters was home to a diverse marine life which attracted about 3000 vessels.
- Now the Fahidi, Al Souk Al Kabeer, Al-Shindaga Historical District, Historical Souks District, Al-Ahmadiya Historical District and Jumeirah Mosque together display the architecture and art.

The Dubai creek was dredged making the it the metropolis city it is today.



1962

The Bani Yas tribe that settled in the area forming the Maktoum dynasty



1964



2007

1960



It divided the city into main parts of what is known as Dubai and Deira now.

1963



The dhows would transport goods and spices as far as India and East Africa.

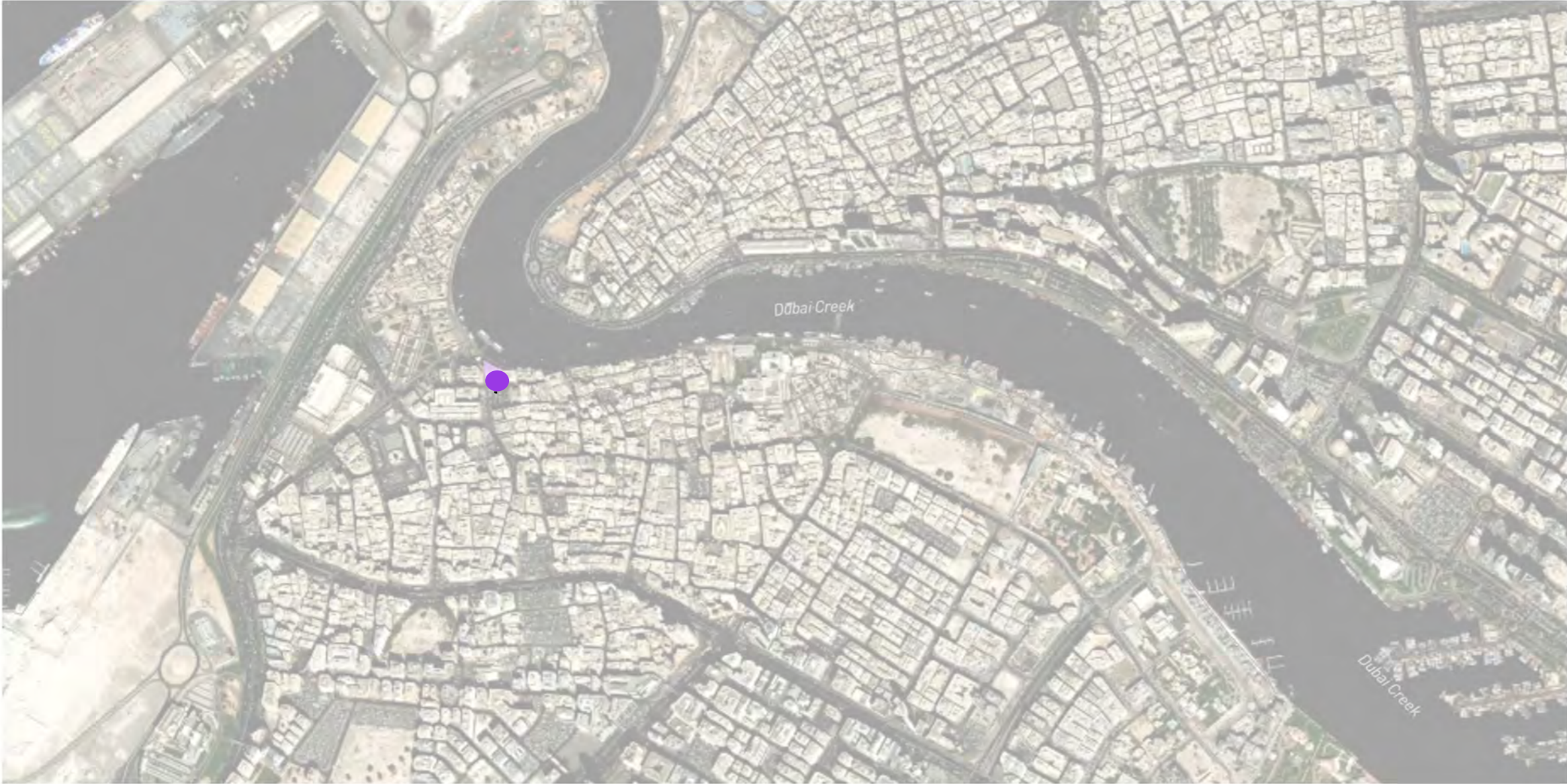
The spices and gold souk areas can be accessed by foot and the Abra rides take you through time.

Present day

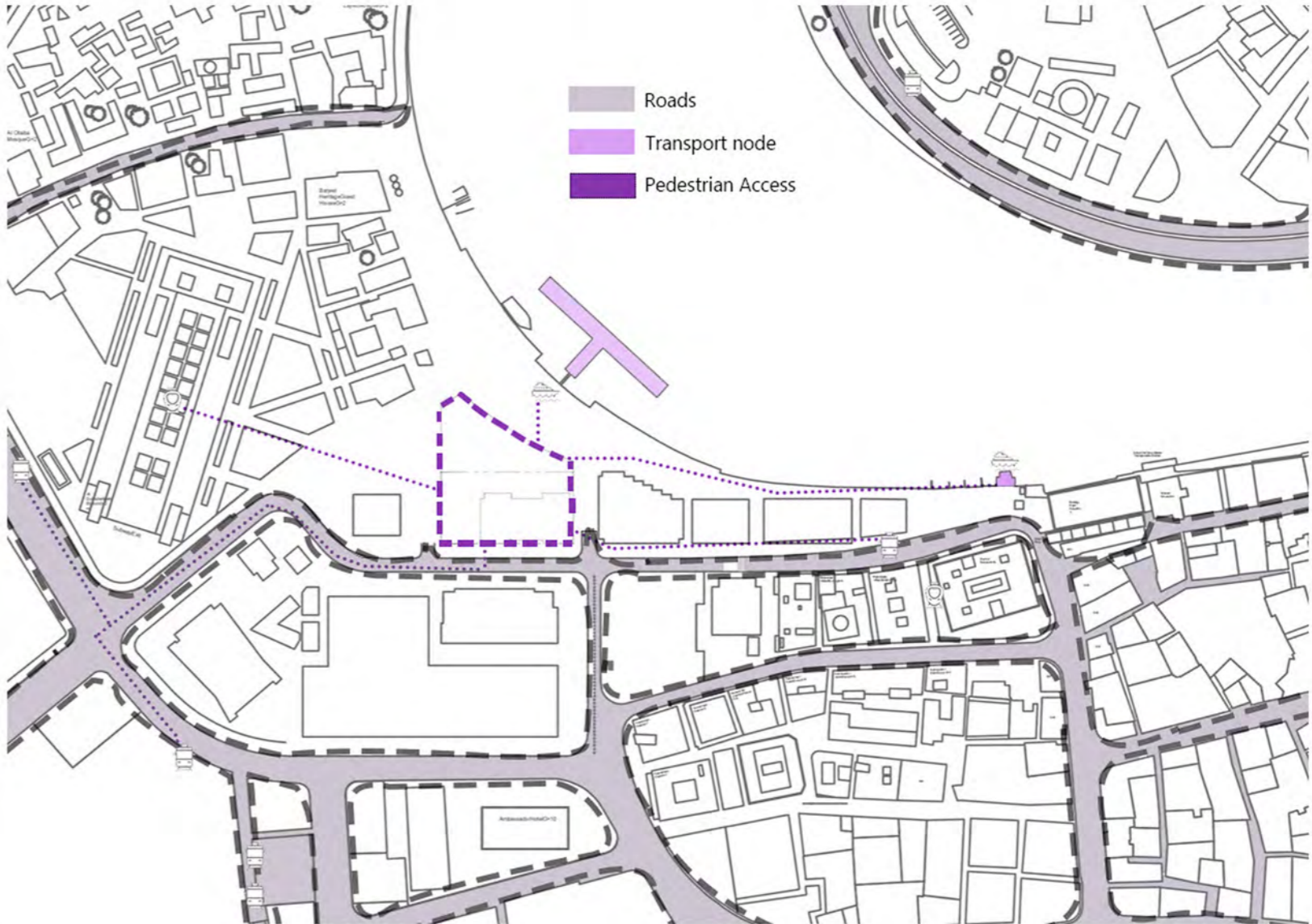


DUBAI MAP WITH SITE LOCATION

Site

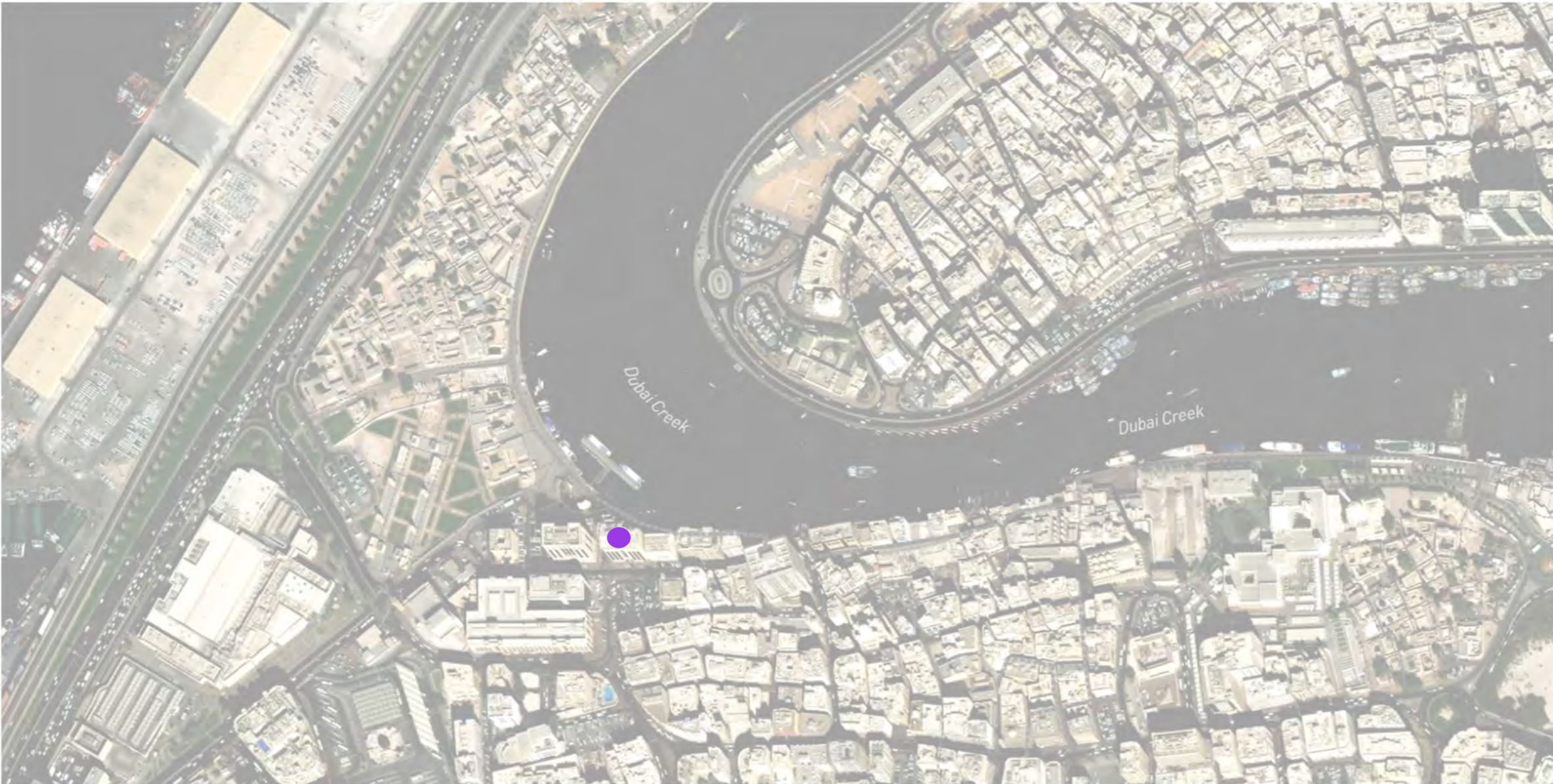


SITE ACCESS

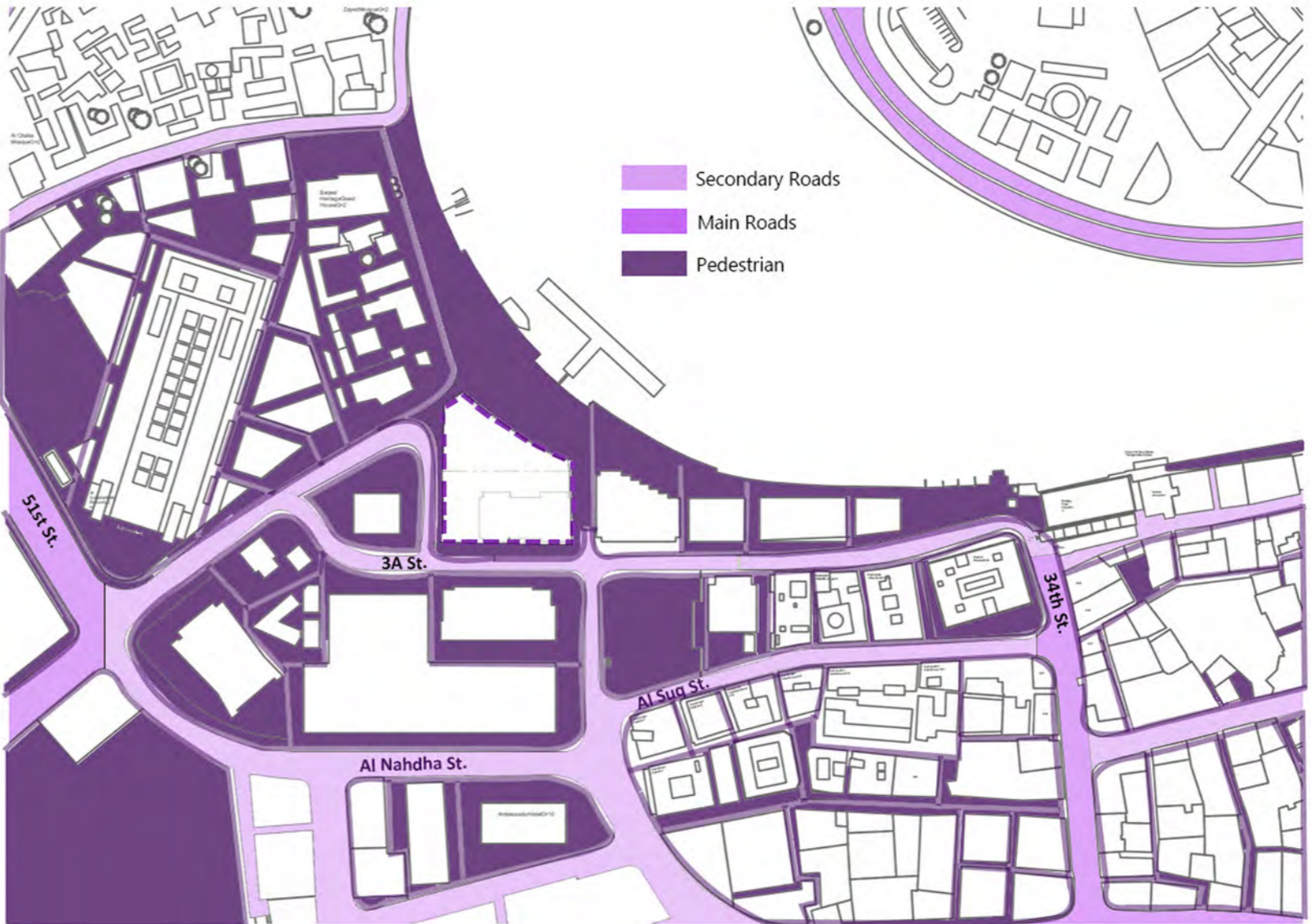


SITE MAP WITH SURROUNDINGS

Site

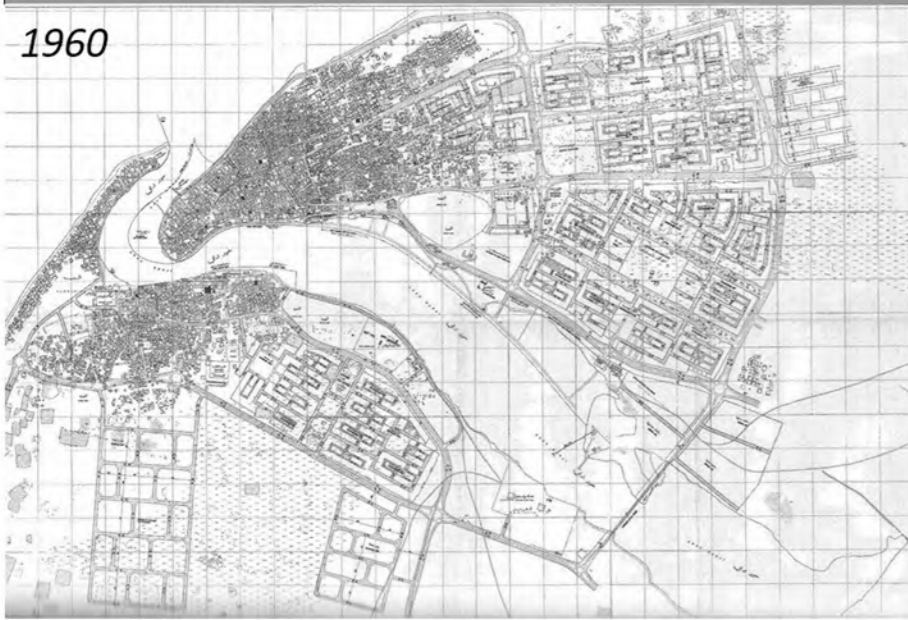


SITE CIRCULATION



Master Plan Evolution

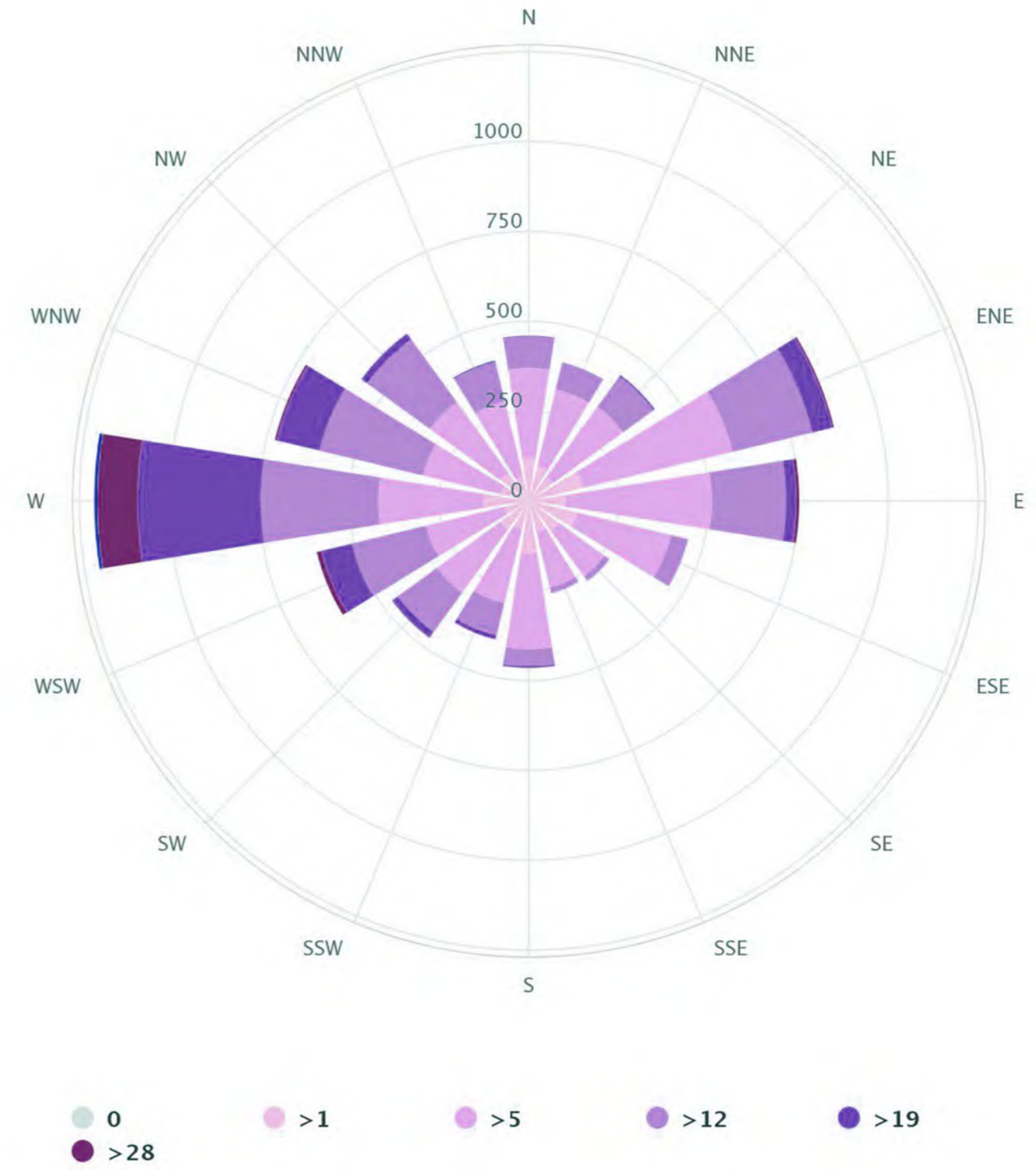
1960



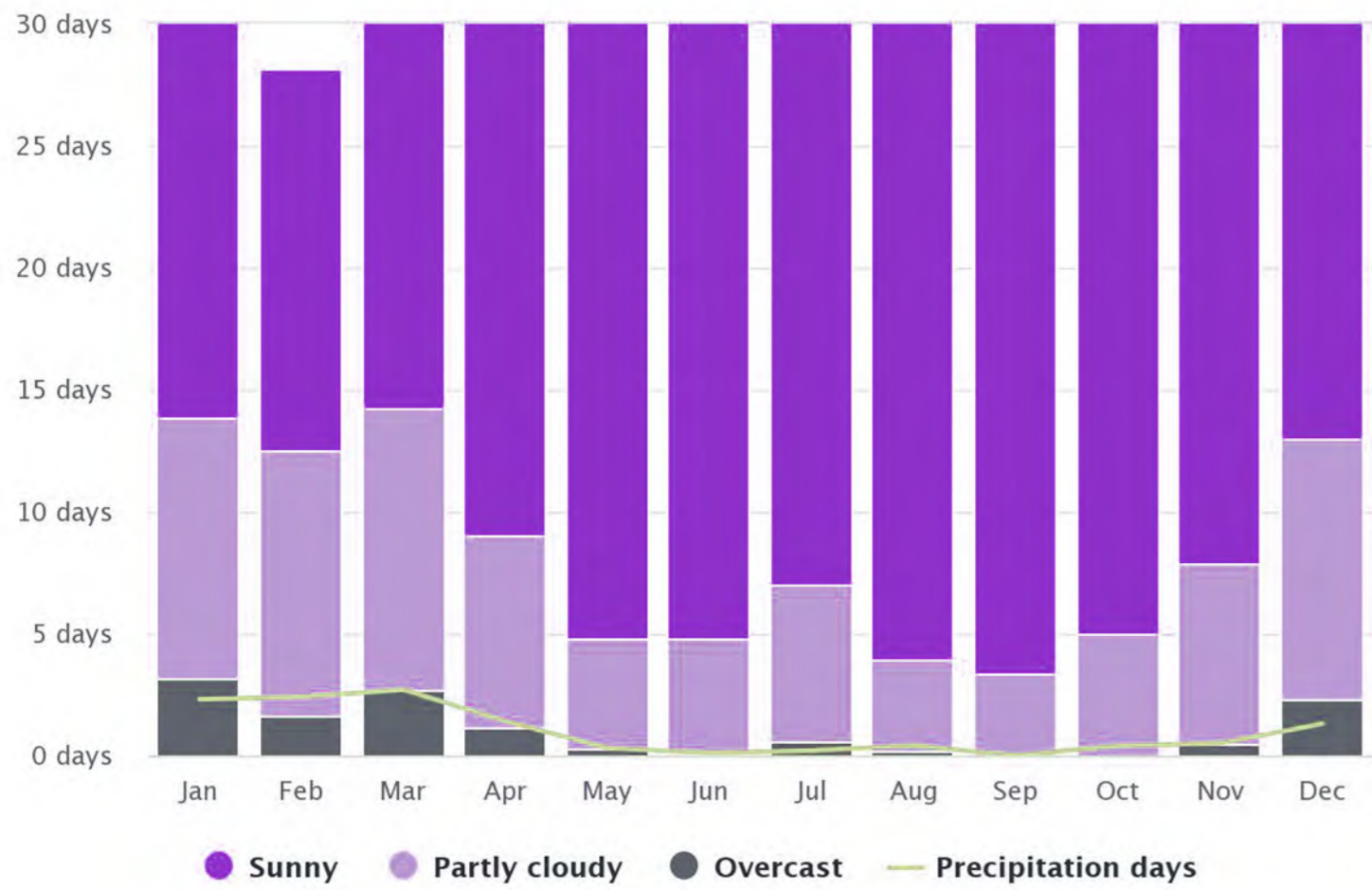
2020



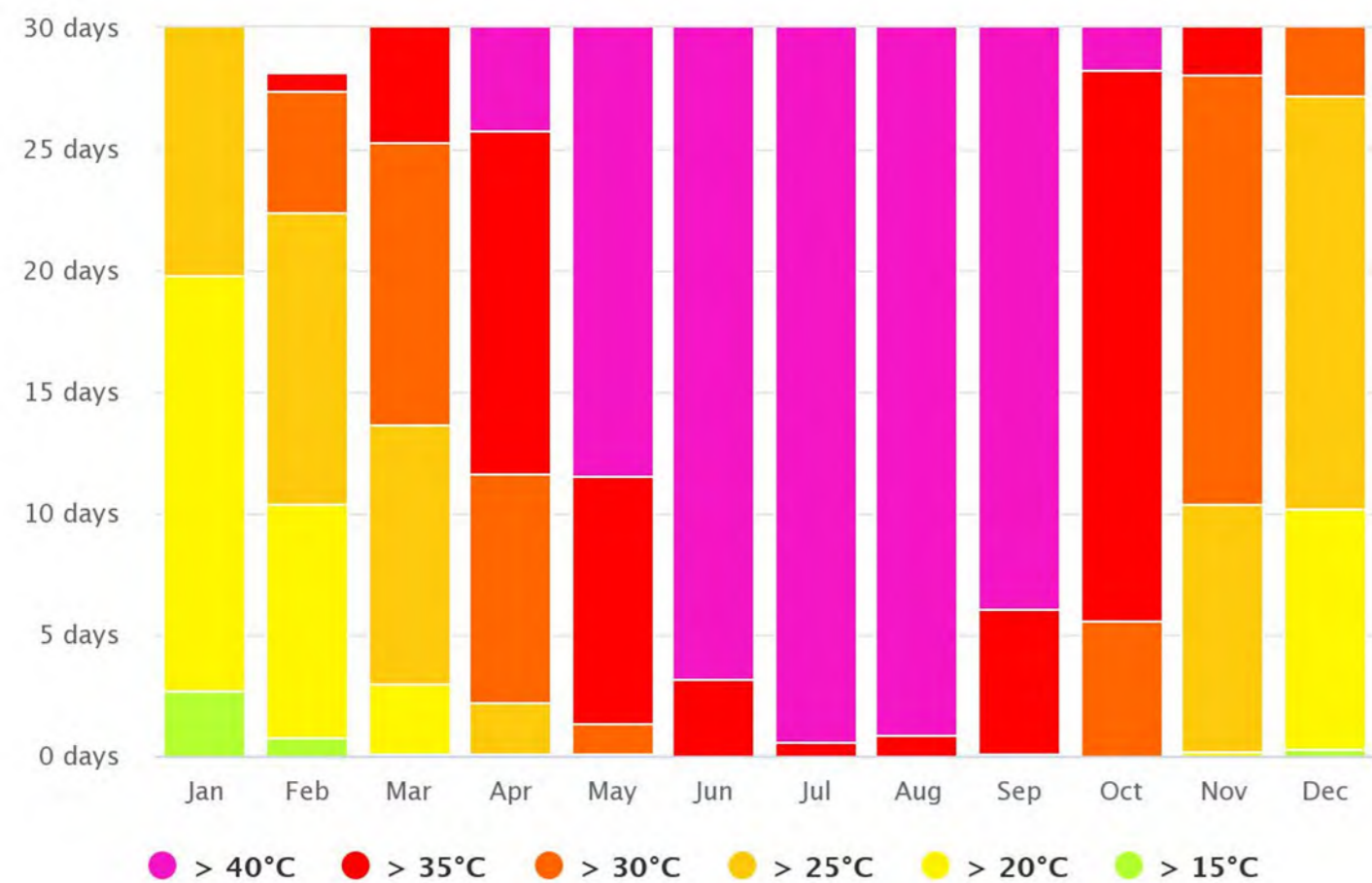
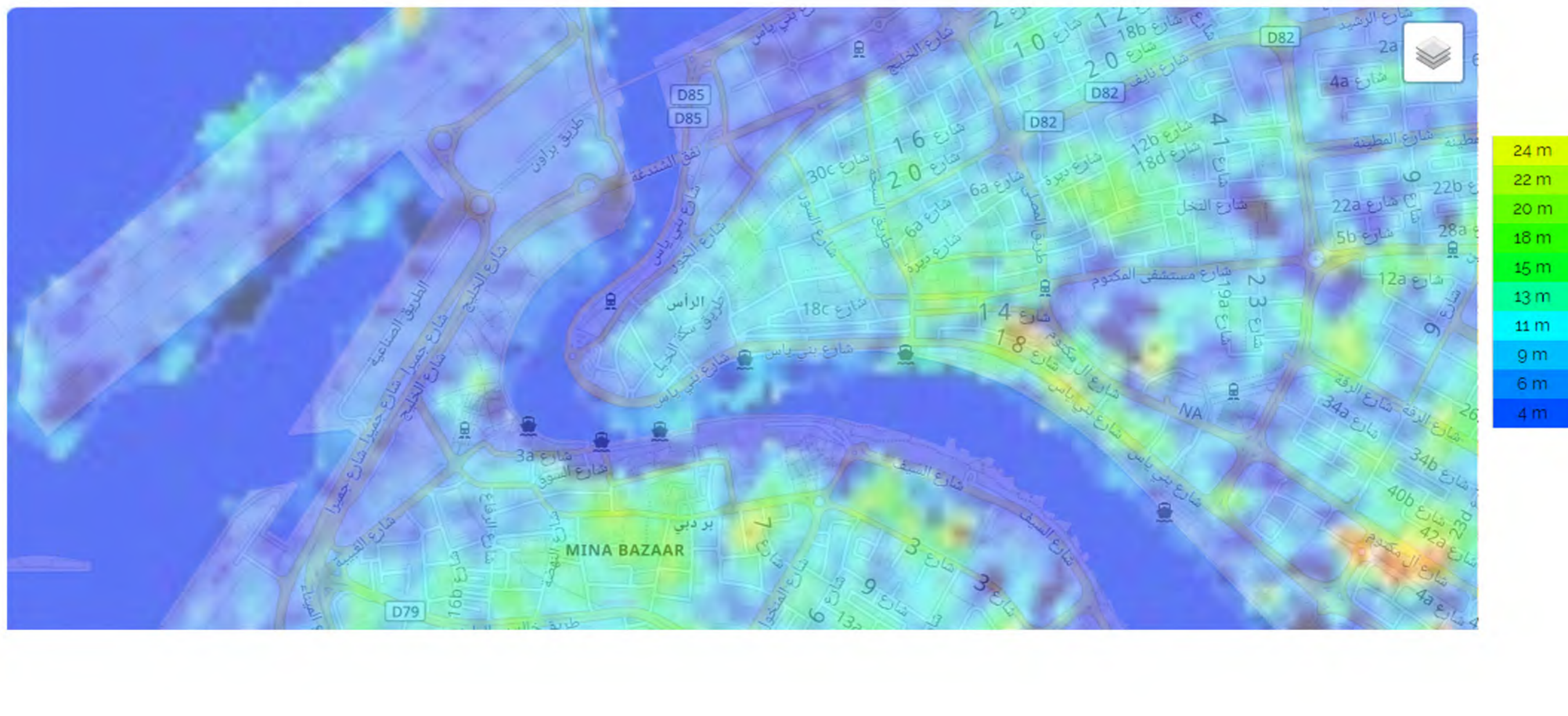
WIND ROSE



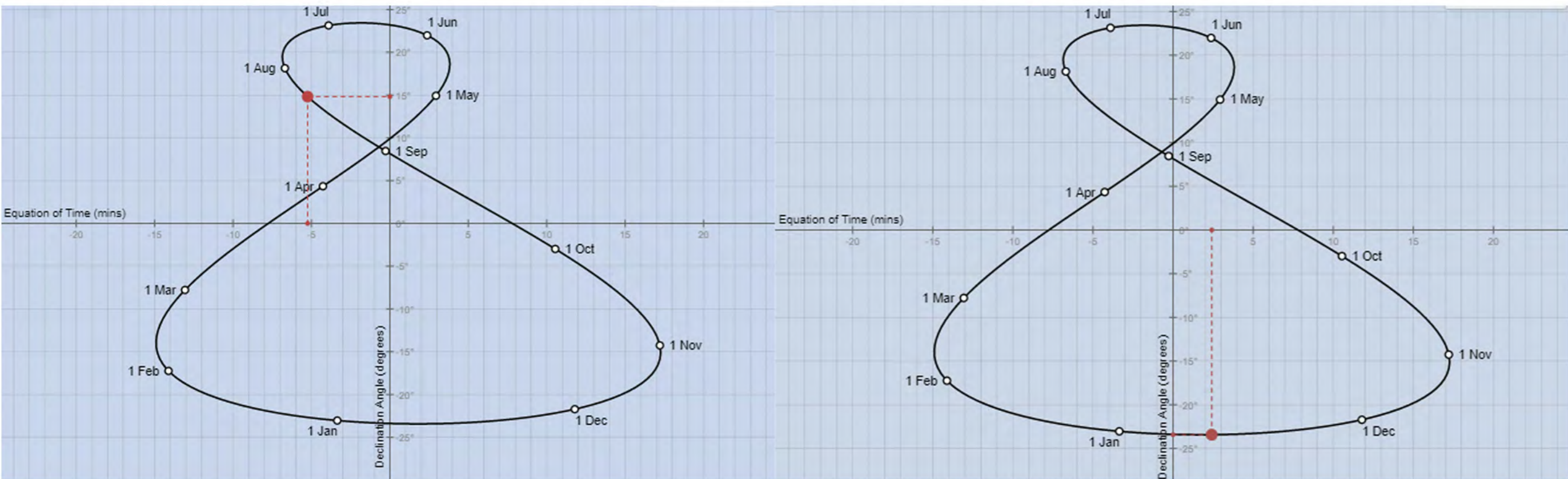
PRECIPITATION LEVELS



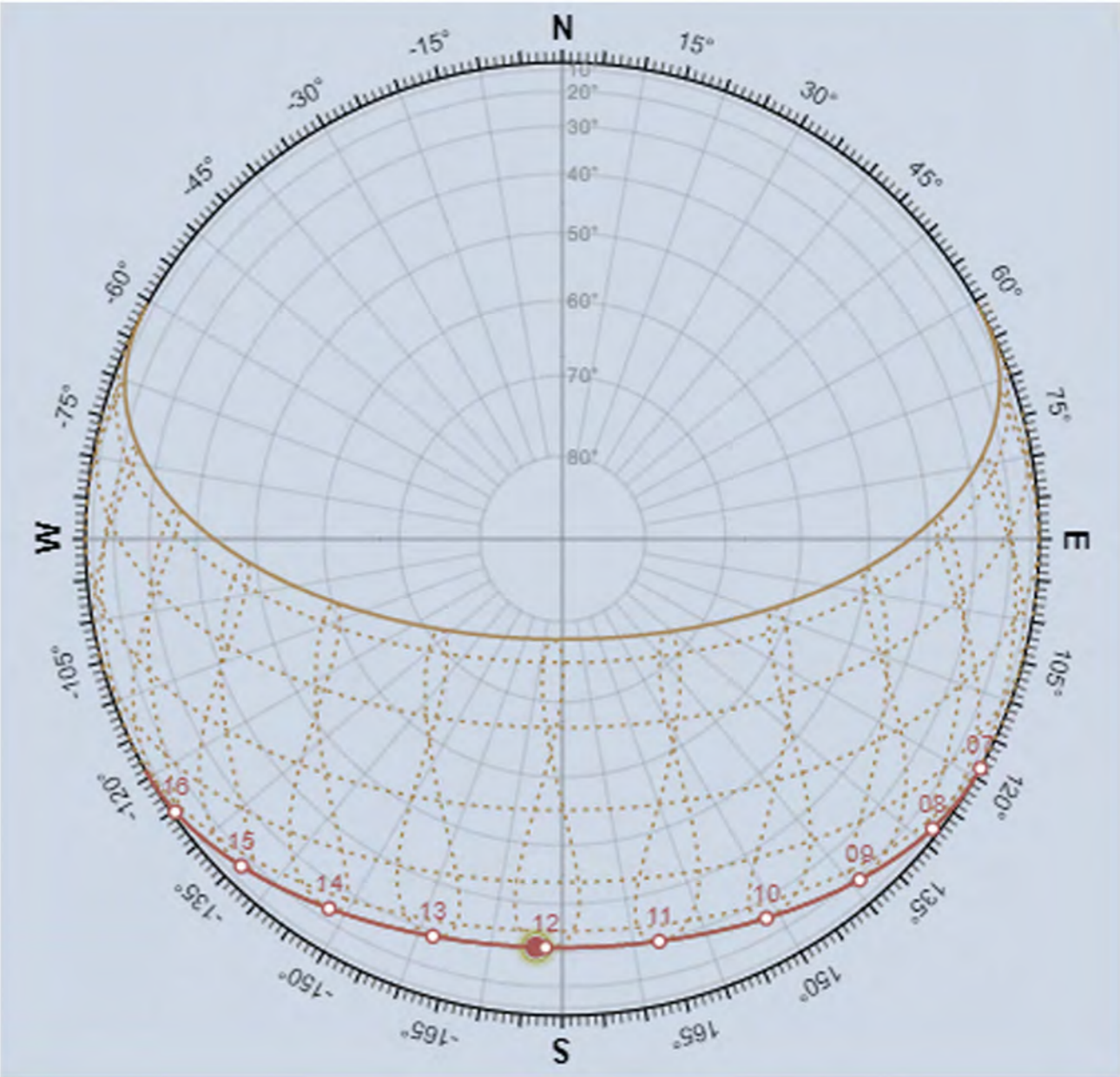
TOPOGRAPHY



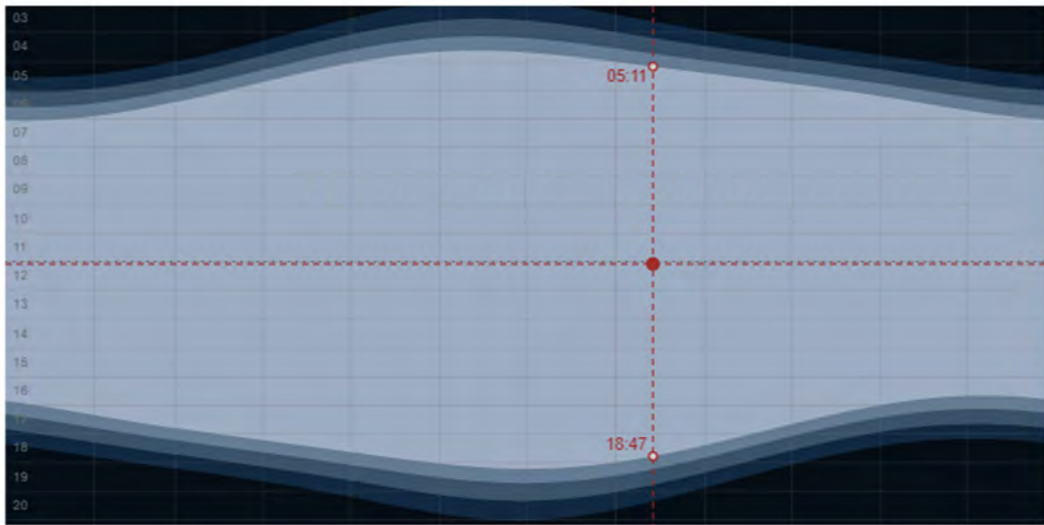
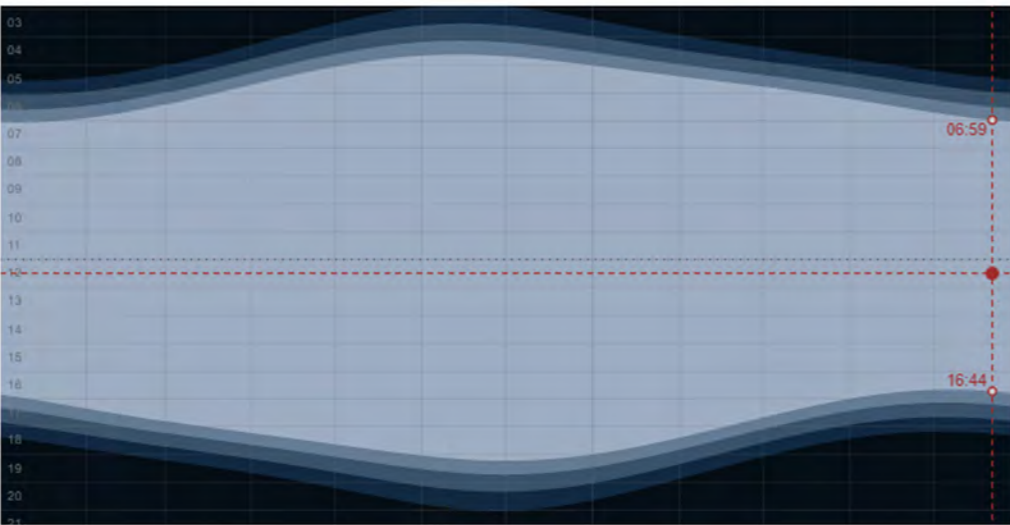
ANALEMMA



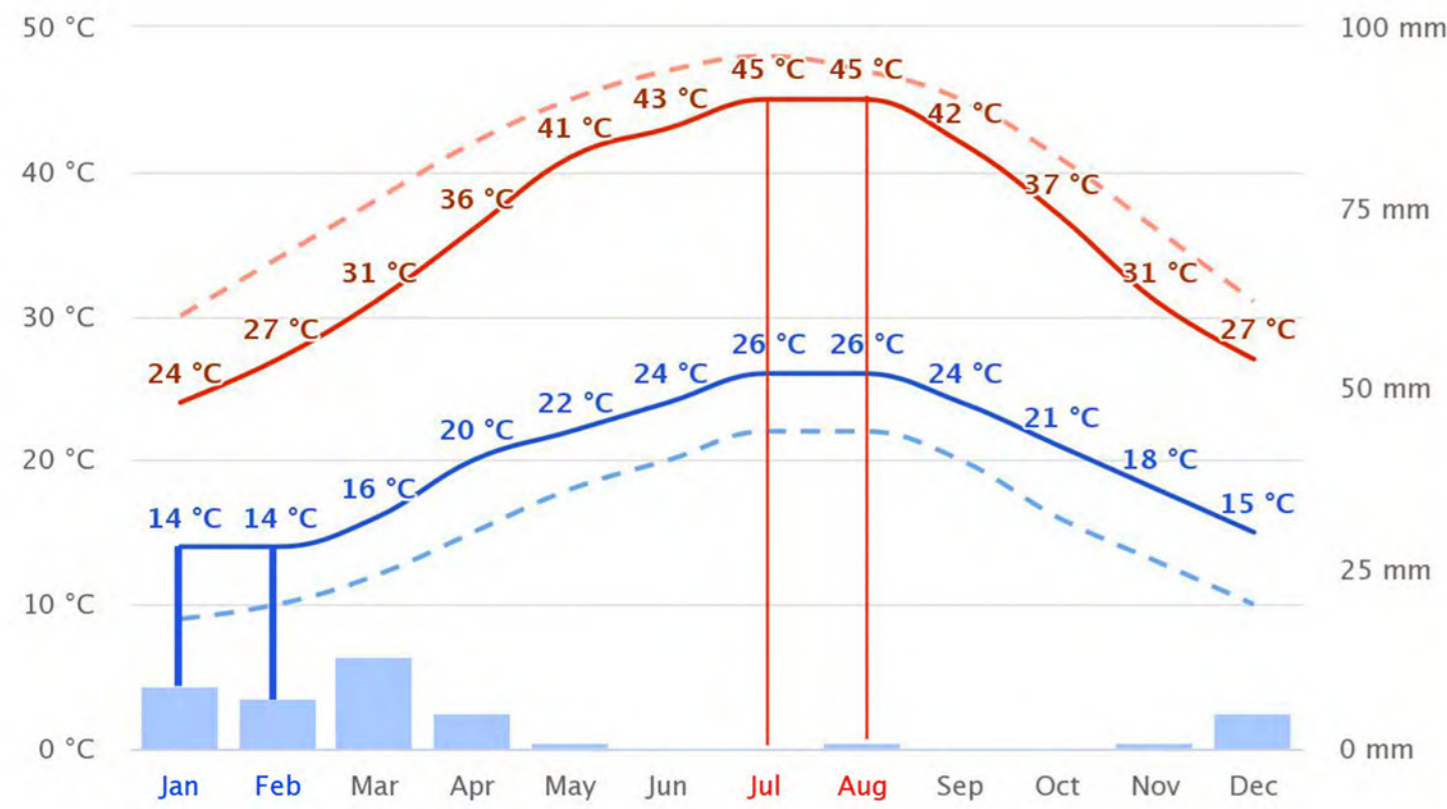
SPHERICAL SUN-PATH



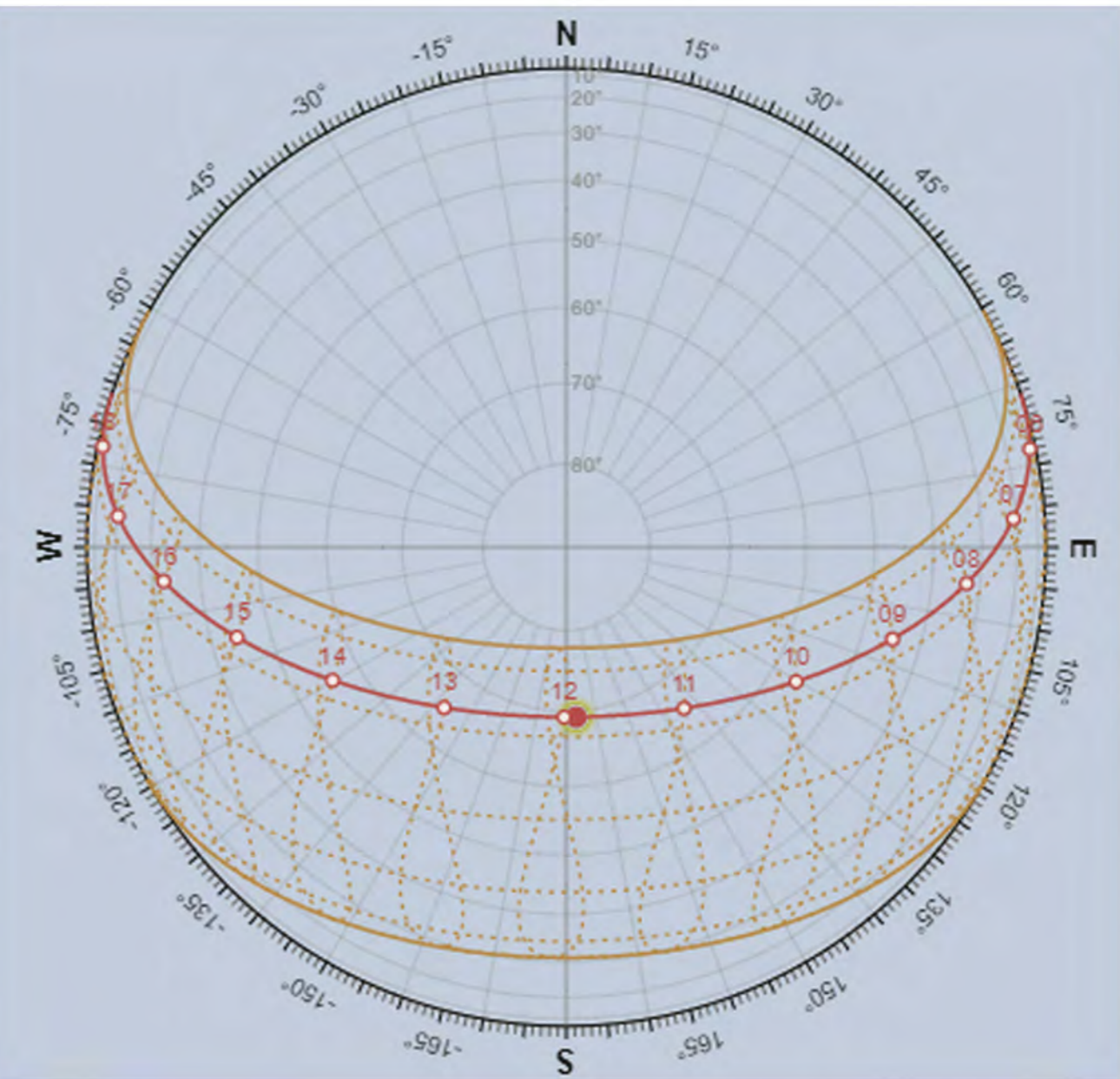
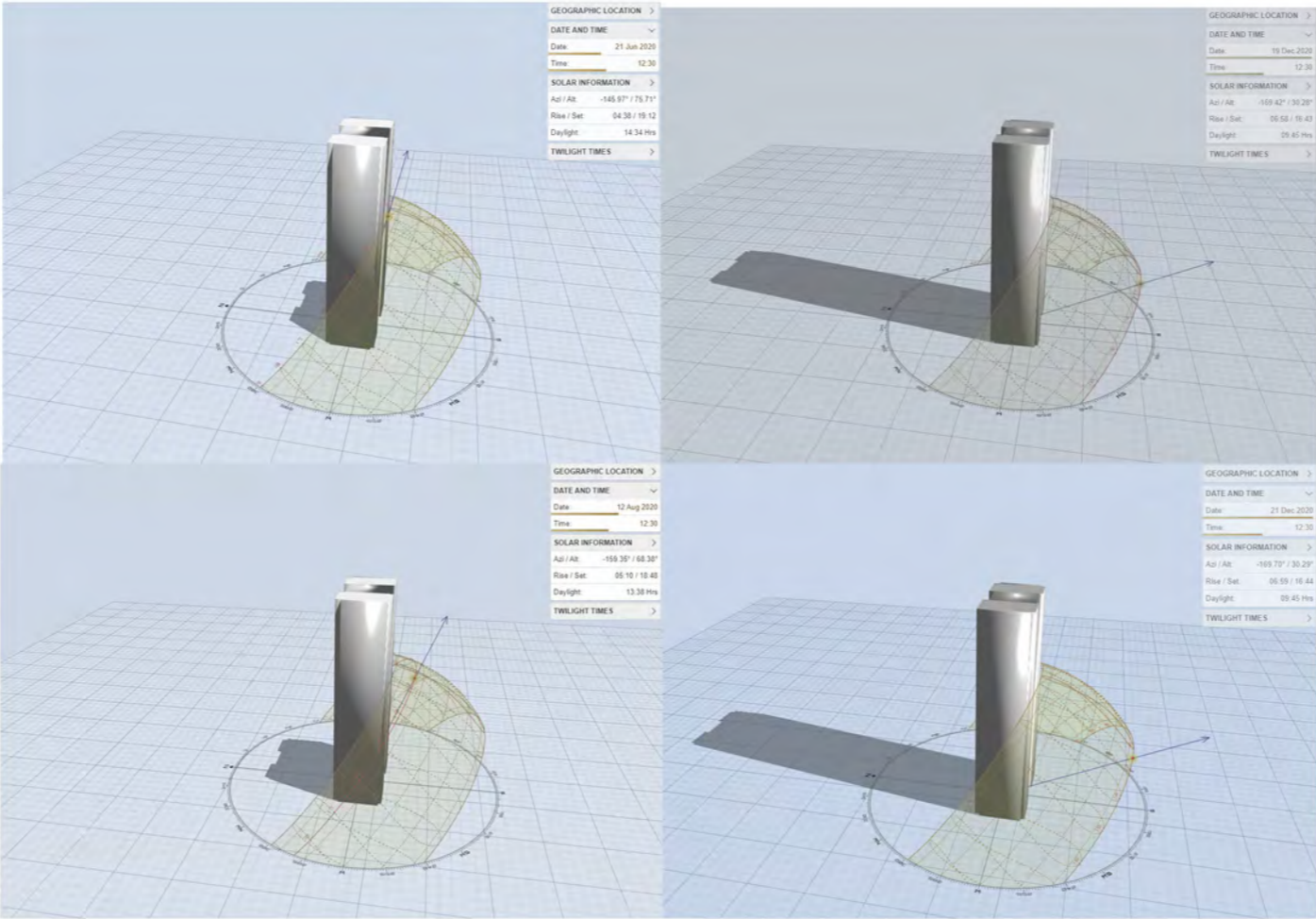
DAY-LENGTH CHART



TEMPERATURES OF DUBAI



SHADOW WITH SUN PATH



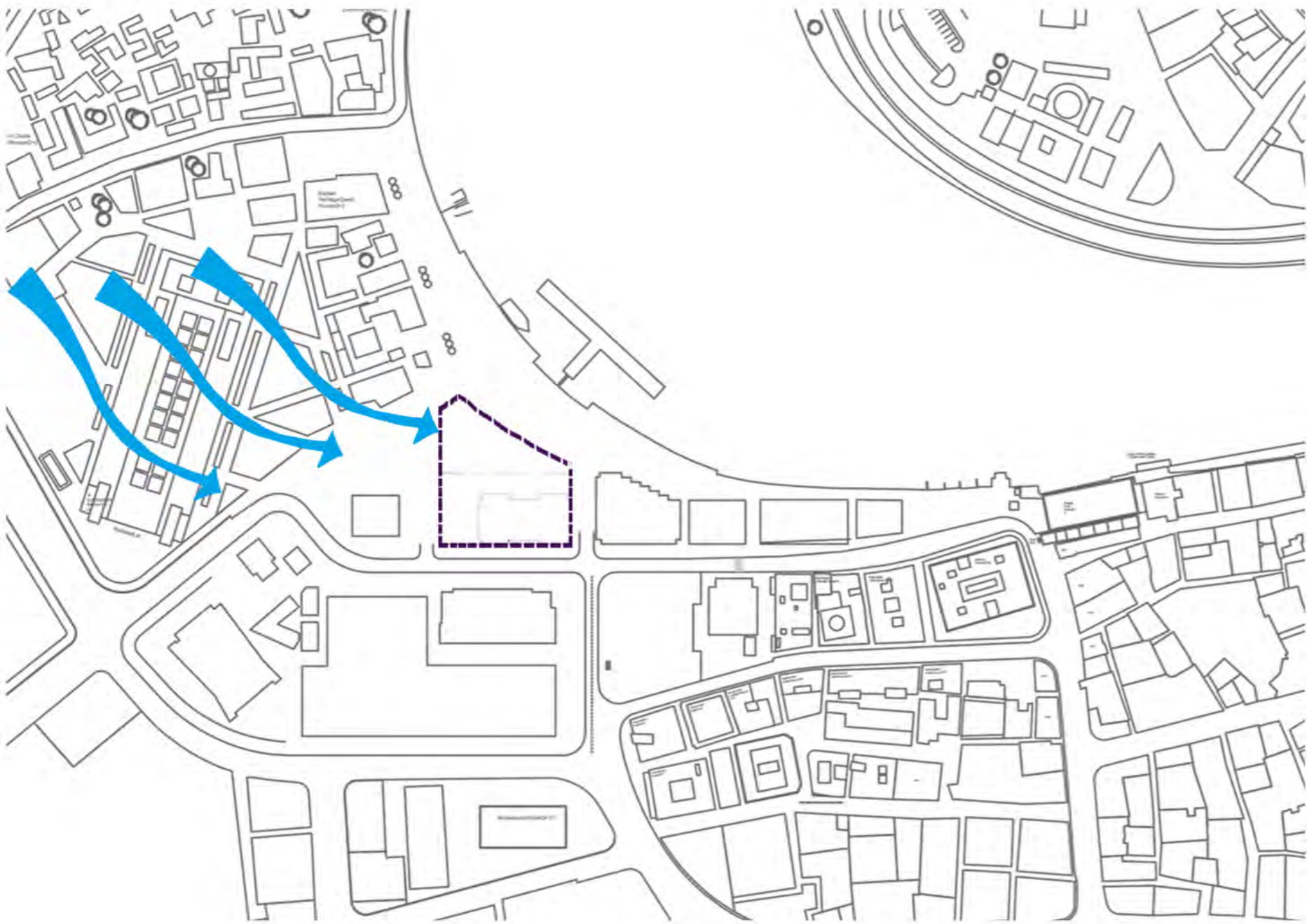
SITE OFFACTIVE EXPERIENCE



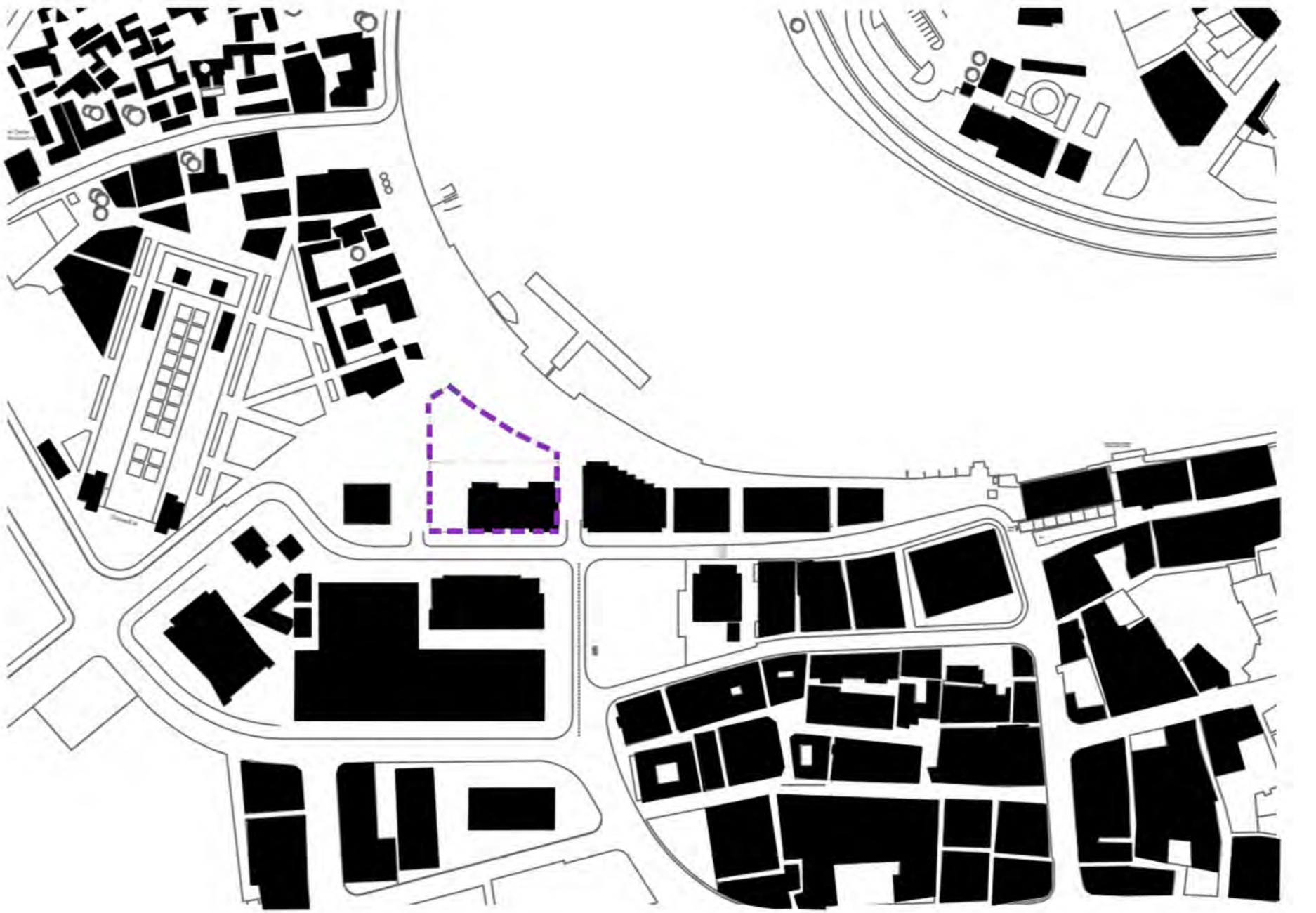
VEGETATION AND LANDSCAPE ZONES



WIND DIRECTION

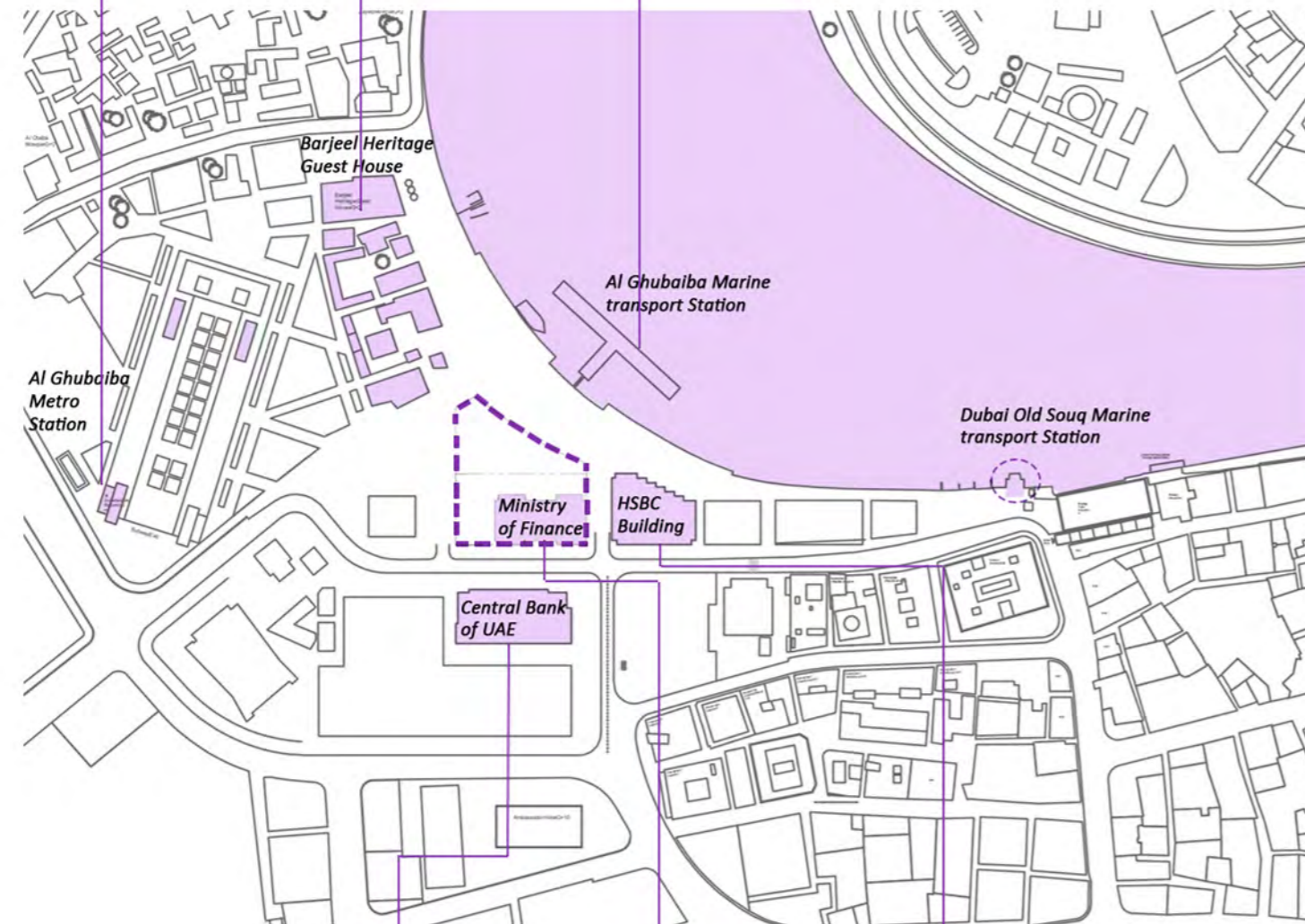


MASS AND VOIDS



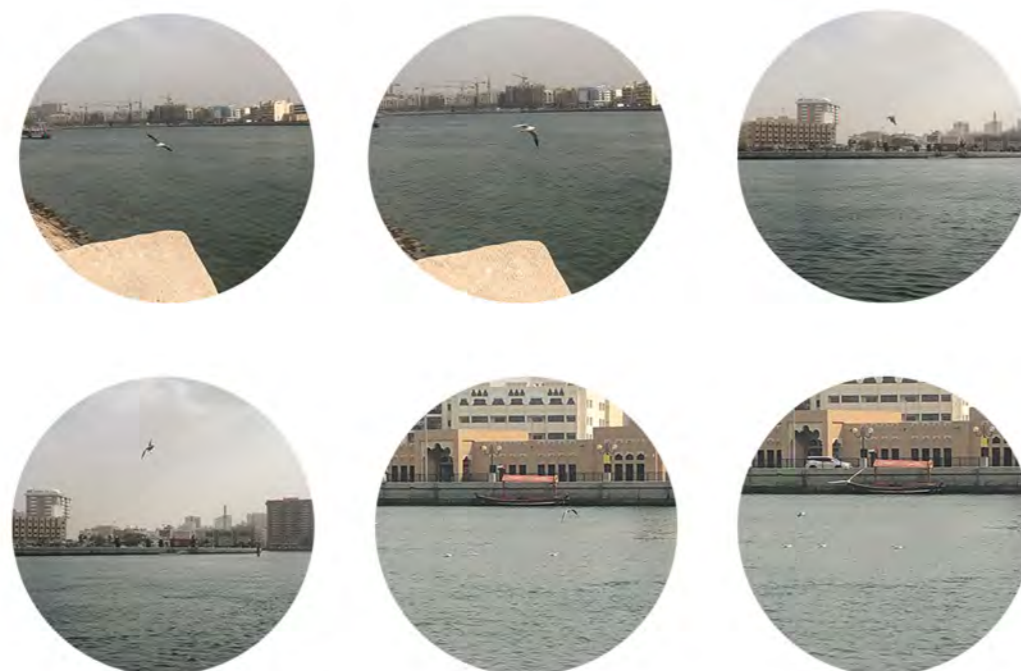


LANDMARKS



SITE SPECIAL ELEMENTS

- The site has the presence of migratory birds



BUILDING IDENTITY



Post Modernism



Post Modernism



Heritage



International Style



Post Modernism



Modernist



Rationalism

SURFACE AND MATERIALS



Rendered surface



Fabric



Wood



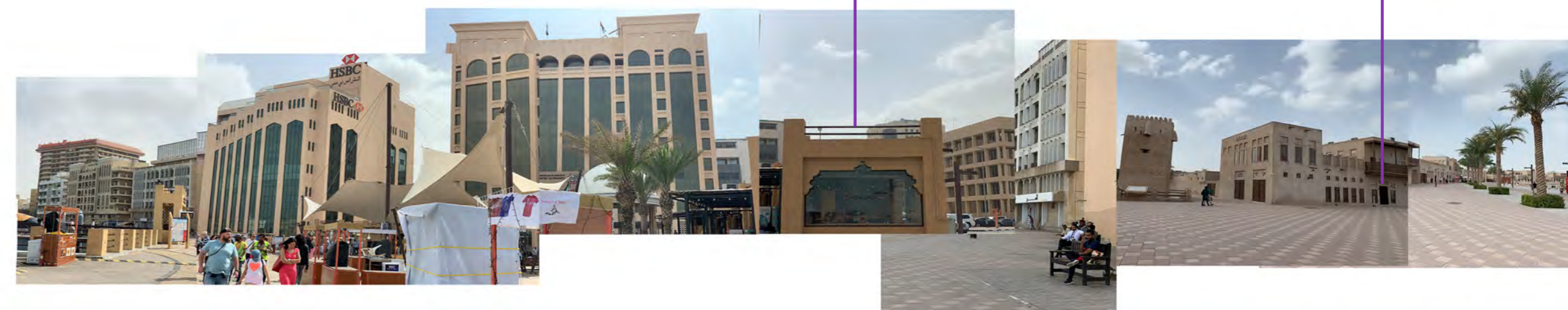
Coral stone



Wood



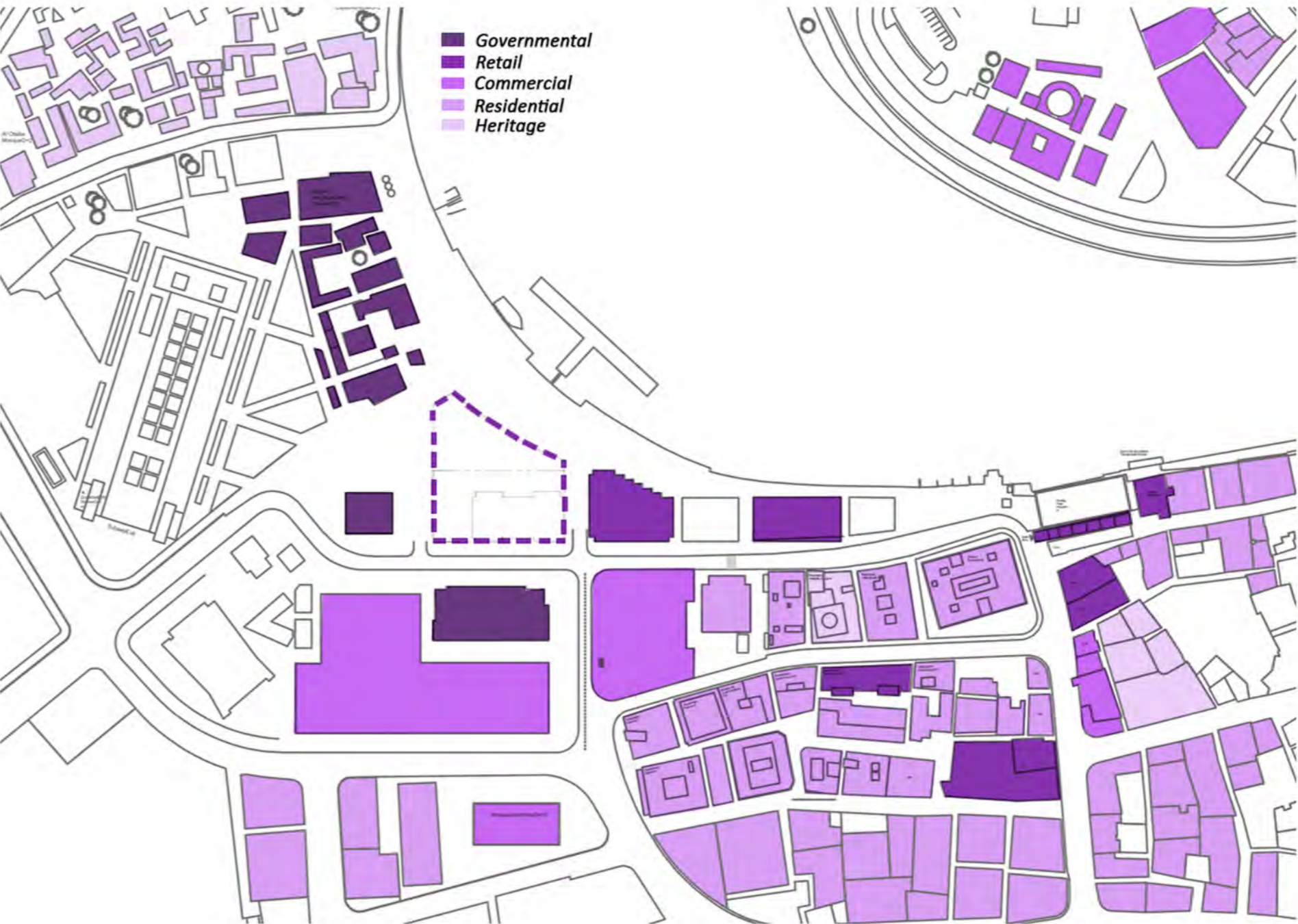
Reflective glass



DENSITY



LAND USE



PROGRAM INVESTIGATION



Strengths

- The site is *centrally located* and is in *close proximity to the water* body, which was the primary trade route in the past, connecting to the Arabian Sea.
- The public has a well *shaded pathway* to walk under and is also protected by the surroundings buildings.
- There is *evaporative cooling* due to the presence of the creek.
- There is access of the area by a *variety of public transports* - public bus , car , metro (the south-west direction) , abra or by foot.
- The area is quite *secure* and each building has a personal security gaurd.
- The site is *well mapped* out for tourists since they can use cheap means of transport lke the Abra.
- Neighbouring areas are also very *historical* and great for purchases of traditional goods like spices.
- The skyline is very *diverse* and buildings are versatile.
- The area has a *variety of disciplines*. eg. commercial, religious, governmental and residential buildings.
- The pedestrian pathways are *linked efficiently*, with the main pathway run in the north-west direction of the Creek.
- The cultural *heritage is restored* and refurbished. eg. the use of sikka roads and addition of restaurants.
- The *transition* of the site from 1960's to the present time is remarkable with building developments going sparse to abundant.
- The area is highly *varied in function* so users recieve all their daily requirements fulfilled.
- The site has *high level of security* because it is in close proximity to official buildings like banks and ministry offices.
- It is a very small stretch of area but with a large number of *vernacular architecture* and important *landmarks* for touristic view.
- The public has a *well shaded pathway* to walk under and is also protected by the surroundings buildings.
- Other than the walkways ,many *public areas are also shaded* very well from the sun exposure



Sikka Road



Multiple transport



*Access to
Abra Stations*



Cultural activities



Govt. Building



Souk Areas



Evaporative cooling



Creek View



Spice souq



*Nearby banks and
official building*



Shaded areas



Restaurants

Weaknesses

- The Creek was *not* developed to provide a *welcoming experience* for its users . eg:- railings limit the human interaction with the water.
- Extremely *high building density* leaving less room for pedestrian interaction.
- There's a *smell of aquatic life* due to the proximity of the creek to the land.
- *Lack of interesting activities* for kids or tourists to interact with culture.
- The area has *high level of sound* due to the mix of public activities in the area. Eg. Abra ridding, shopping, eating at restaurants etc.
- Too many cars in proximity of the building causing *traffic congestion*.
- *Lack of greenspace* and landscaped areas that are unable to help the increasing pollution.
- *Minimal parking spaces* which are mostly non-shaded and too visible by the tourists.
- There is *lack of proper grid like arrangement* to lay out and construct the buildings on the land.
- The *pedestrian pathway* can be *reduced in width* or can *host several events* to utilize the space of the pathway well.
- There's *disparity between the building scales* across the site. eg. buildings of small, medium and larger scale.
- There's a *huge difference between the heights of adjacent buildings*, which affects their relationship and also with its surroundings such as adjacent roads and alleyways.
- Because of the prevalence of the site throughout history, the *buildings come from different styles* of architecture. eg:- roman arched windows used in the Ministry of Finance.
- *Materials* used in the heritage buildings such as coral, adobe and wood tend to *wither over time* due to the their composition.



Smells from the ocean



Shaded place



Sparse Greenery



Crowded areas around cafe's



Materials prone to withering



Parking exposed



Buildings of different styles



Difference of height between adjacent buildings



Railings limit the experience



No greenery

STRATEGY ONE: To make the creek more accessible we could build on the creek so that people could feel the proximity. Even adding inlet into the project make it more interesting design wise. A small area could also have swimming or fishing privileges.

STRATEGY TWO: Increasing the sites pedestrian walkways by making them larger in width in some areas. buildings should have greater setbacks.

STRATEGY THREE: Plant more trees around certain areas that allows the air to be refreshed and countour the smell of the salts and iodine.

STRATEGY FOUR: Add outdoor movie theatres or play areas in effective locations.

STRATEGY FIVE: Make the space planning of the area as such that you have noisy area on one part of the site and quite area on the other.

STRATEGY SIX: There needs to be lesser roads in the area that are directly connected to the main road. The traffic could be controlled by introducing more secondary than perhaps tertiary roads so the traffic could thin out eventually.

STRATEGY SEVEN: The landscaped areas need to not only increase in quantity but the existing ones should plant more trees taking advantage of the dampness from the creek. Integrate more greenery with public spaces and make the area visually captivating.

STRATEGY EIGHT: Pergolas , fabric or green canopy can be used to shade the parking lots.

STRATEGY NINE: A proper layout should be used to arrange the buildings on plot.

STRATEGY TEN: The pedestrian pathway can host activities , live shows etc. adding more life to the streets and pathways of the site.

STRATEGY ELEVEN: The buildings in a zone should follow the scale of the other buildings present in it, leaving no room for major difference in scale.

STRATEGY TWELVE: Buildings should be designed according to their context (eg;- scale) and the space between two buildings should be lively and useful.

STRATEGY THIRTEEN: The buildings on the site belong to various styles which can be shown in a better way as the influence and feel of the style is not very strong.

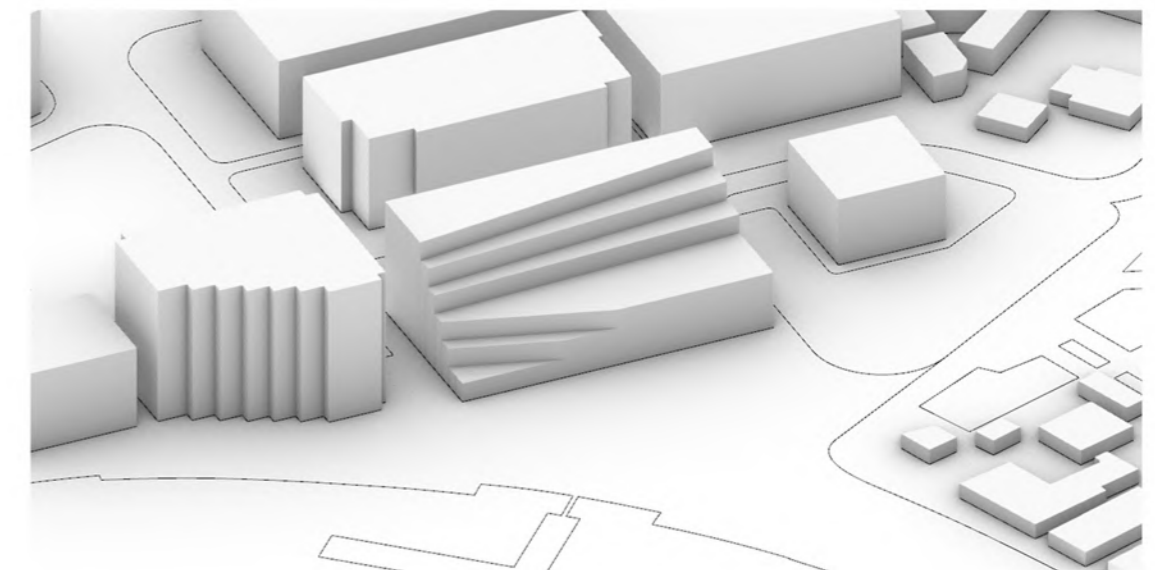
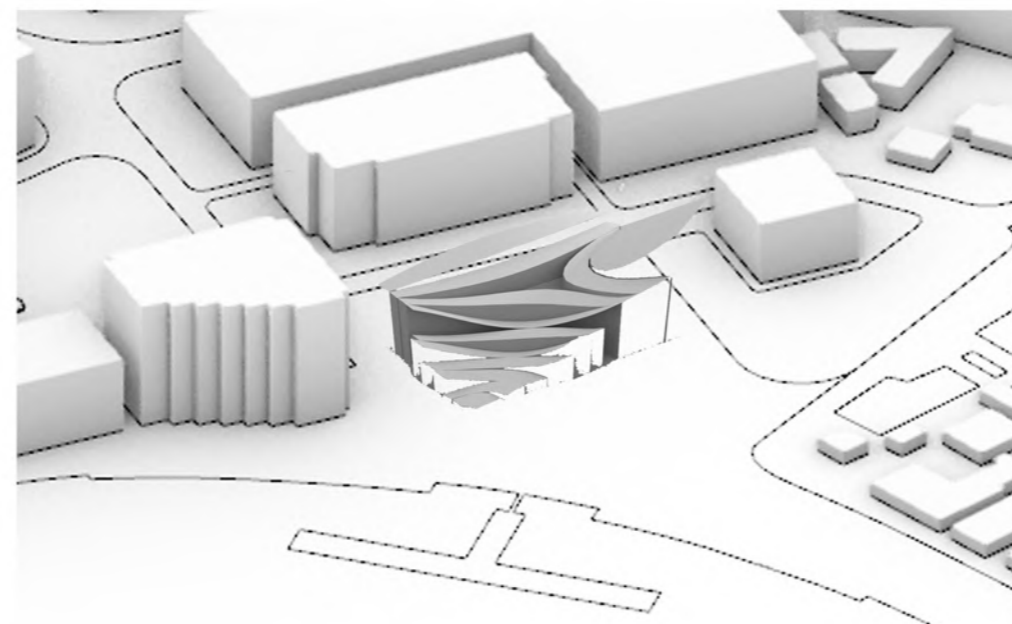
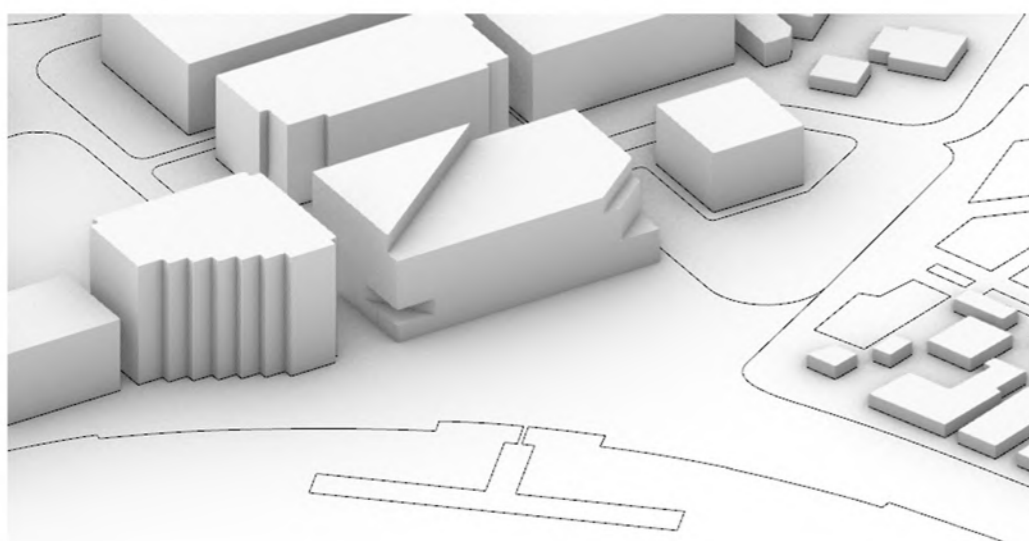
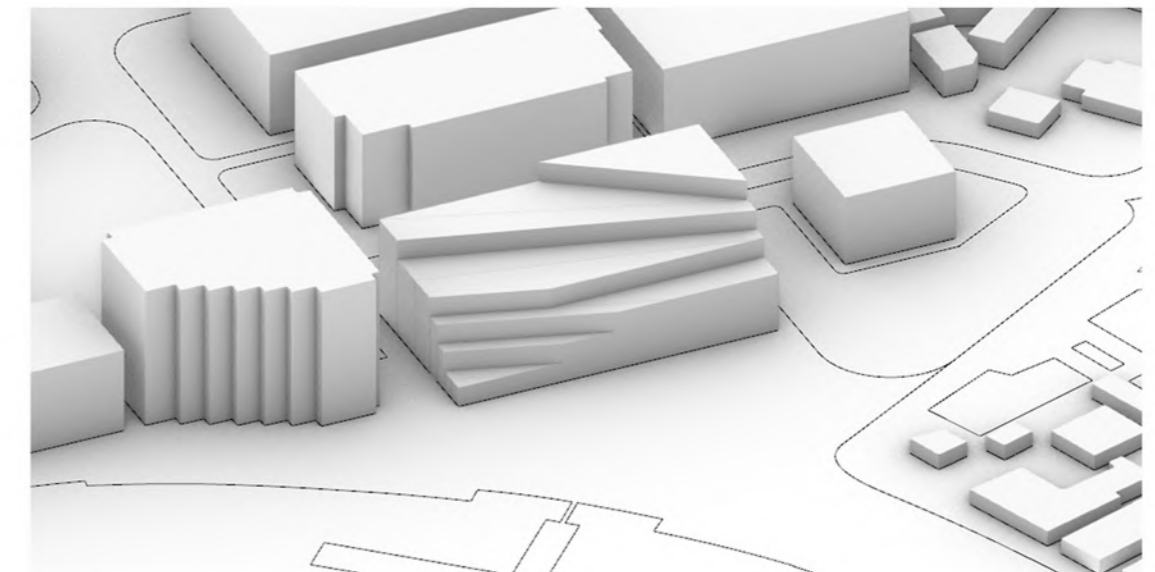
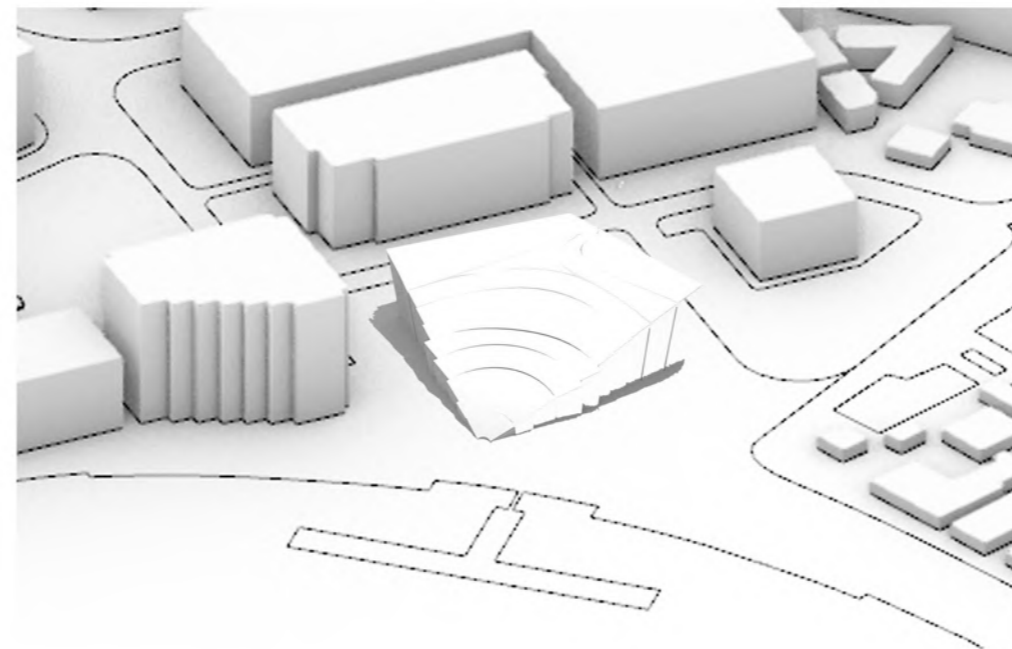
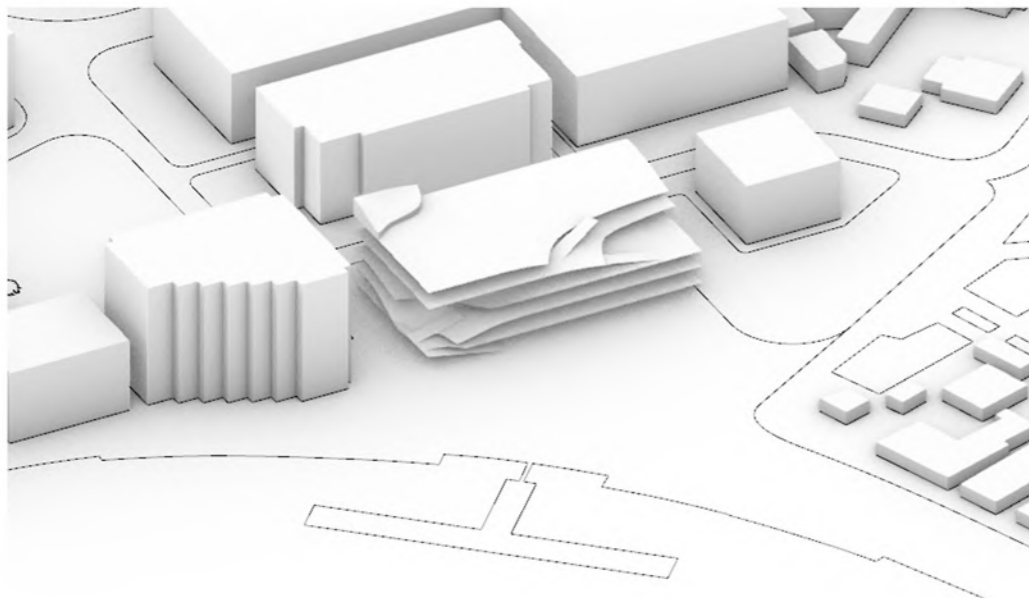
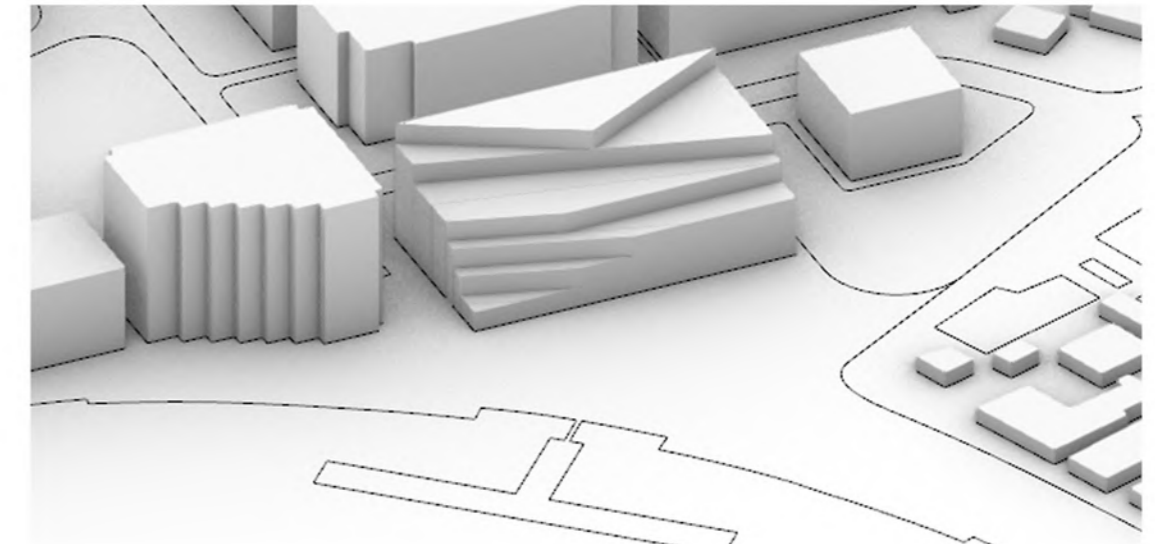
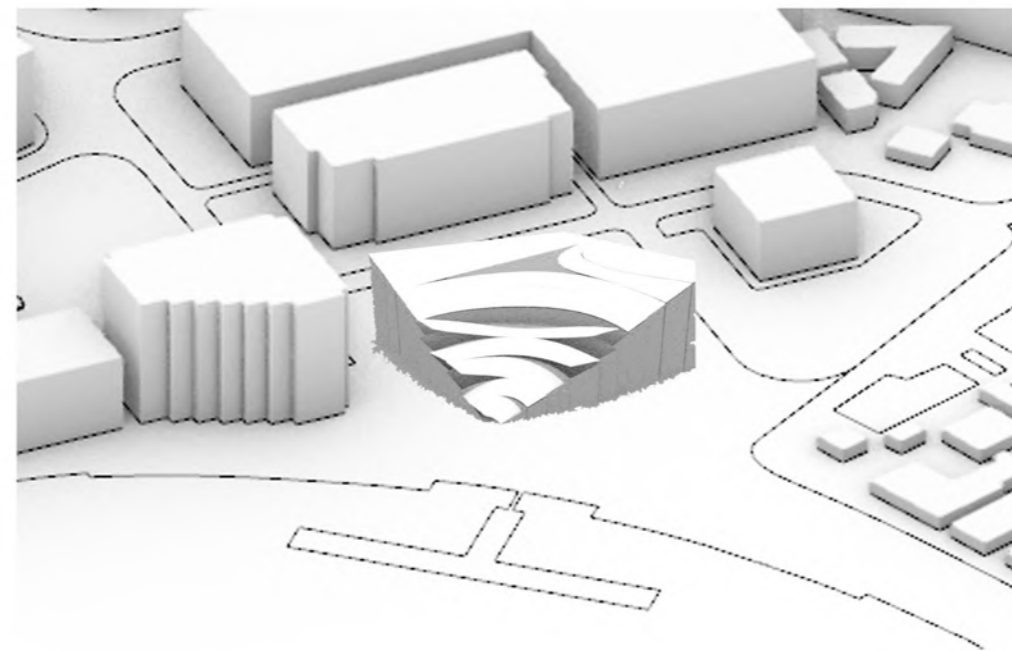
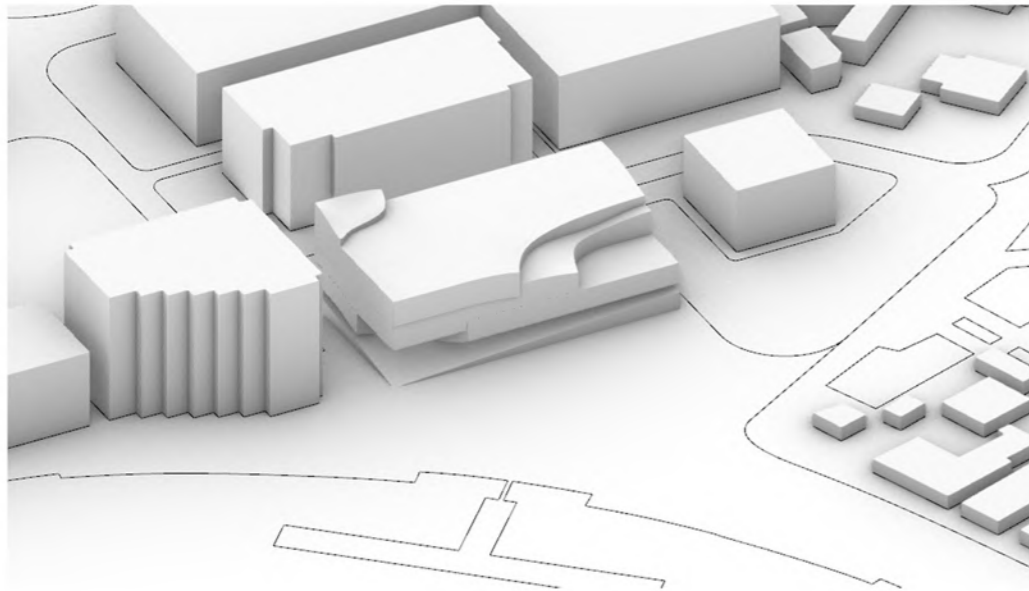
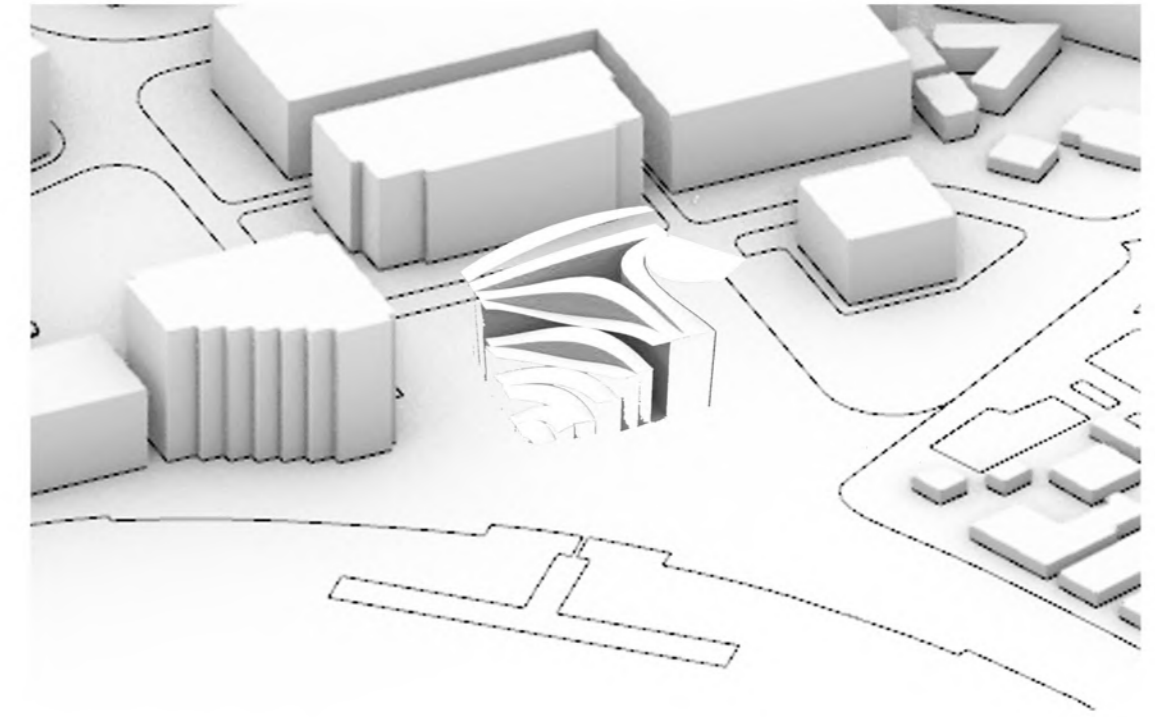
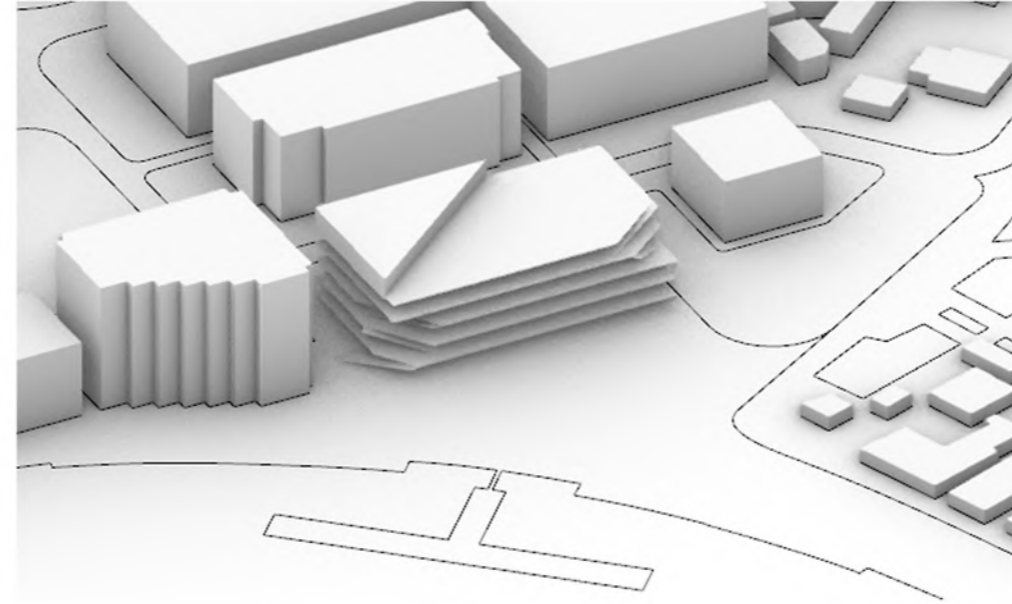
STRATEGY FOURTEEN: Local materials used for heritage buildings tend to wither quickly , materials that can resist withering should be used.

STRATEGY FIFTEEN: Have green roofs to deal with pollution.

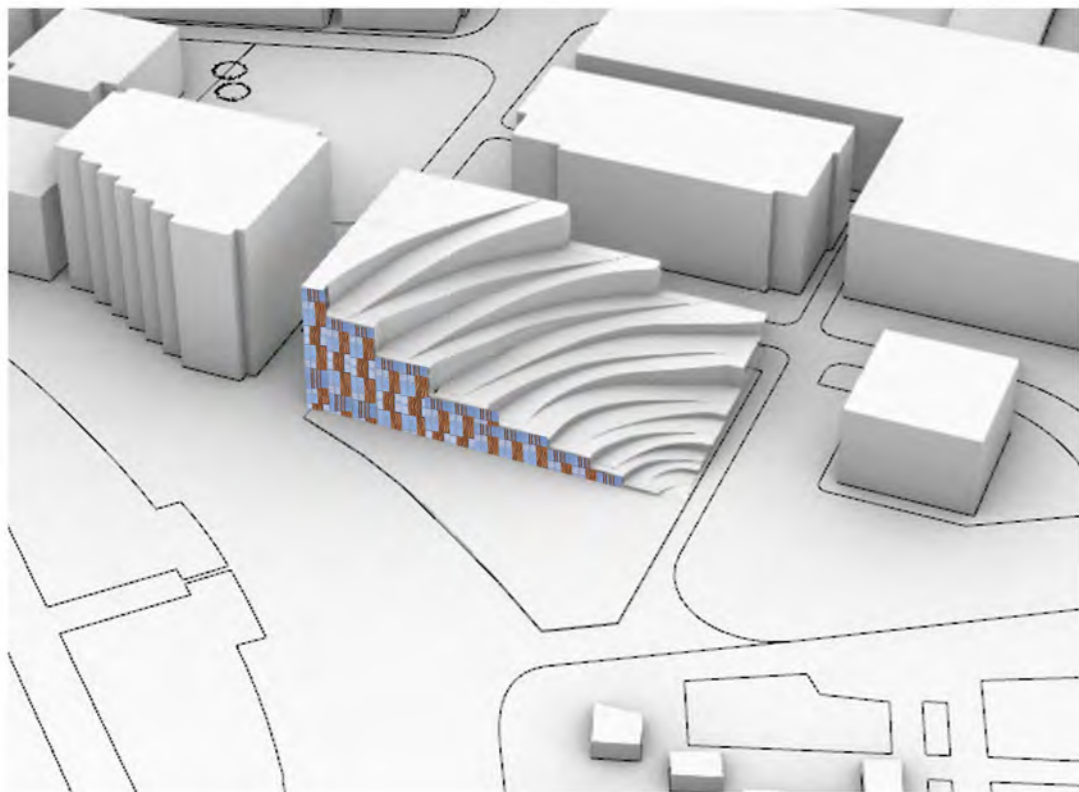
STRATEGY SIXTEEN: Build in a way that the offices are not adjacent to eachother.



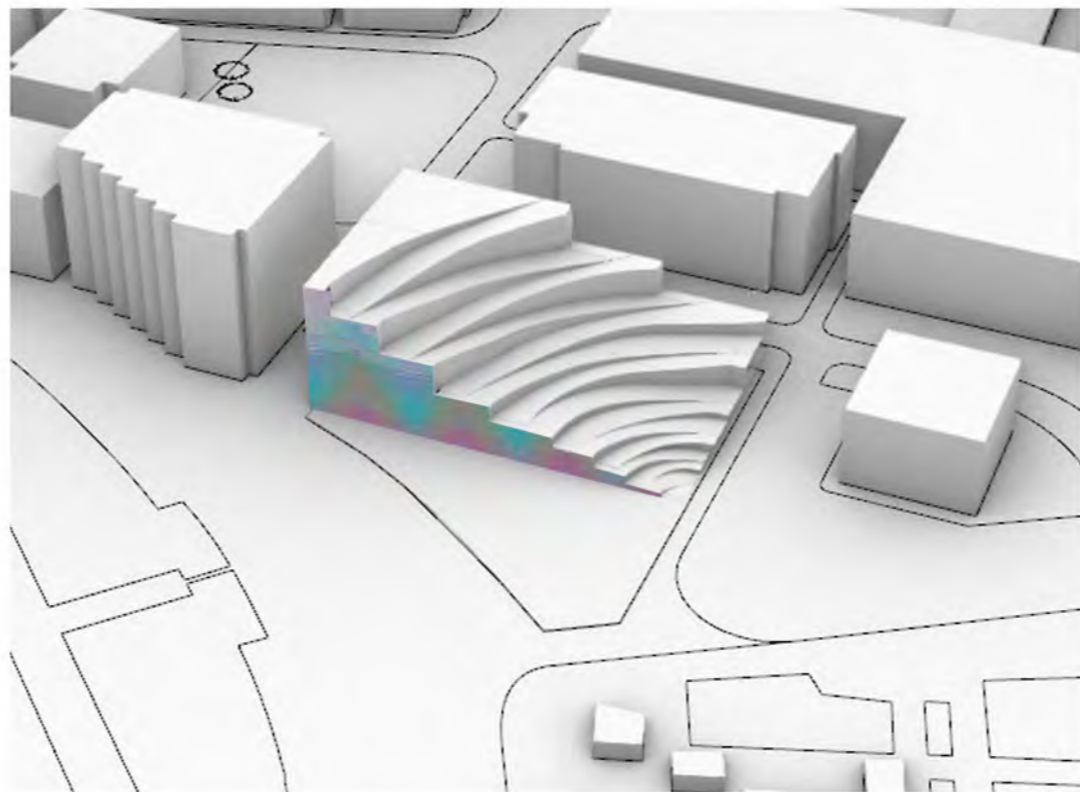




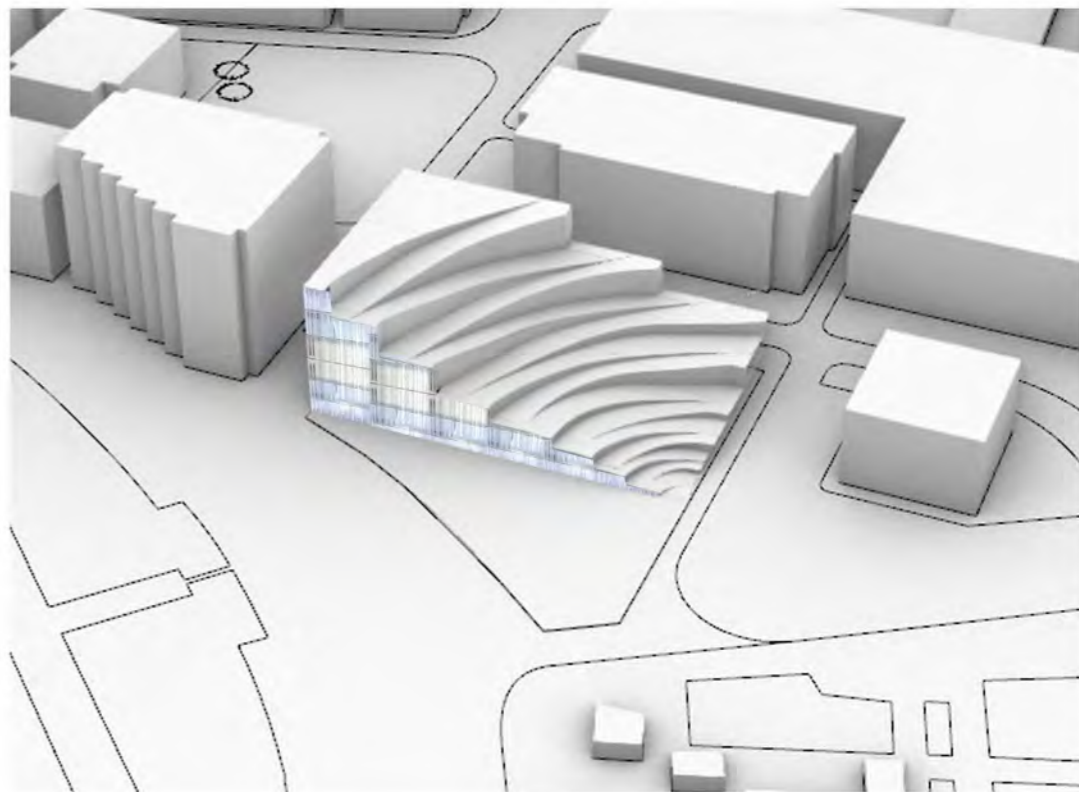
Facade Materiality



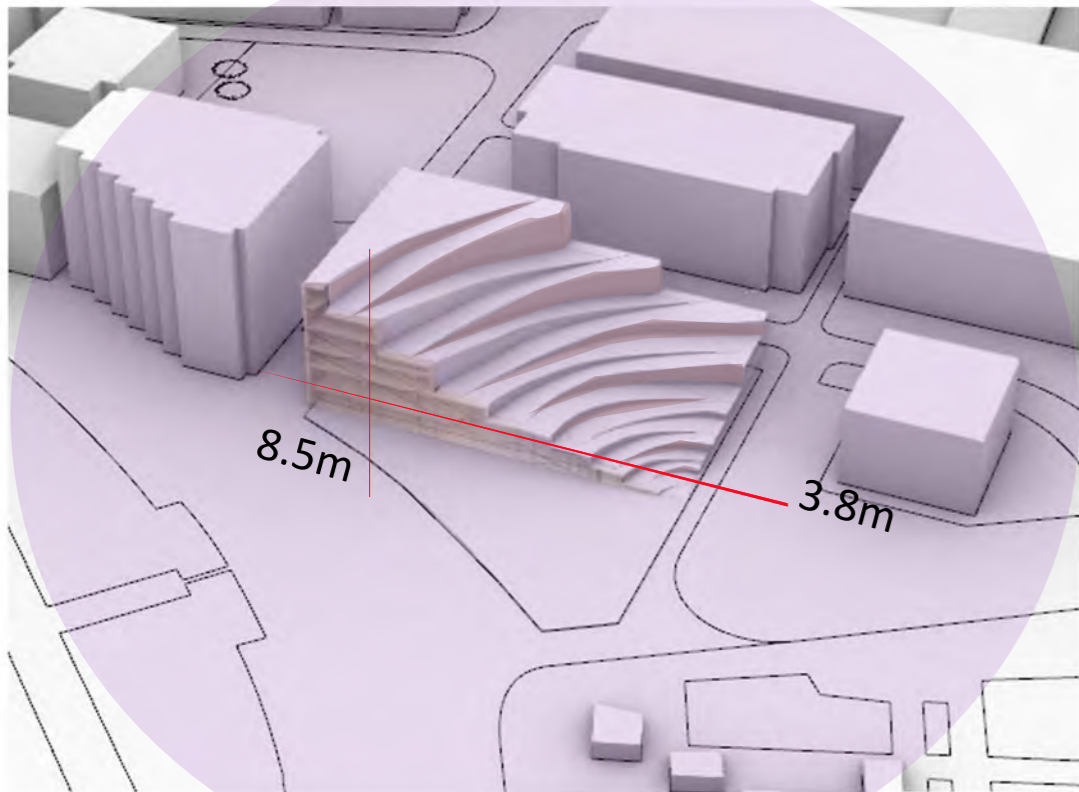
Laminate Sheets



Holographic Glass



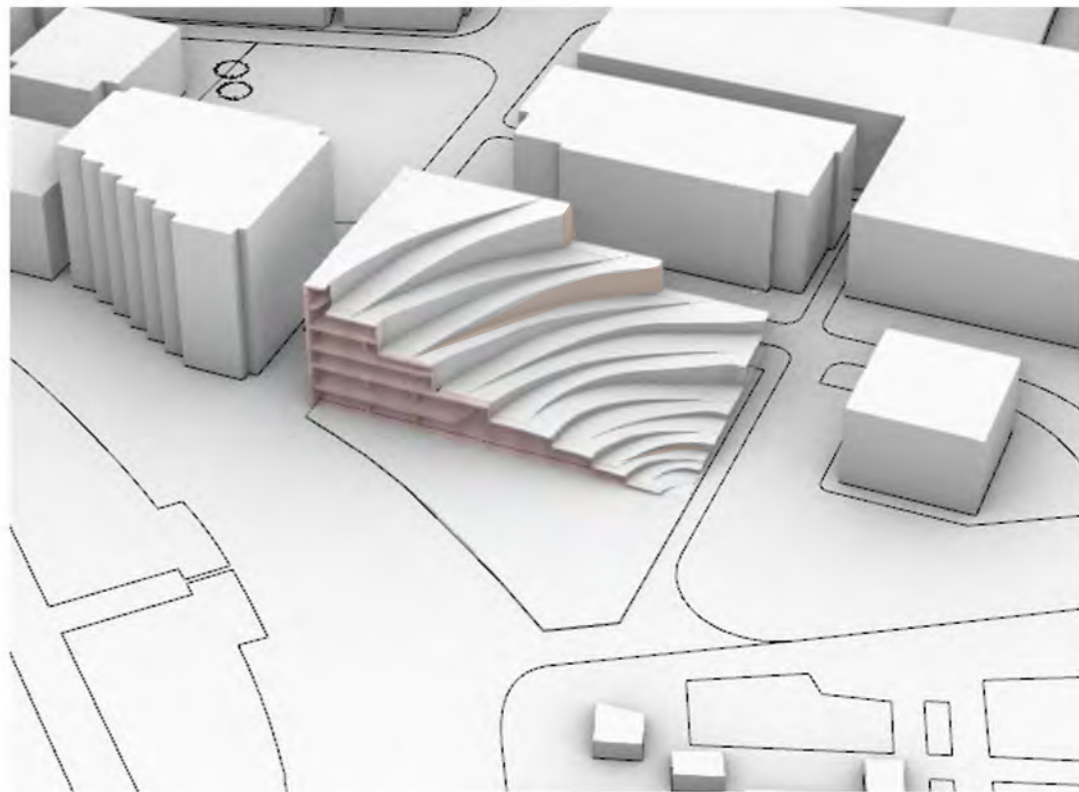
Solid Light Glass



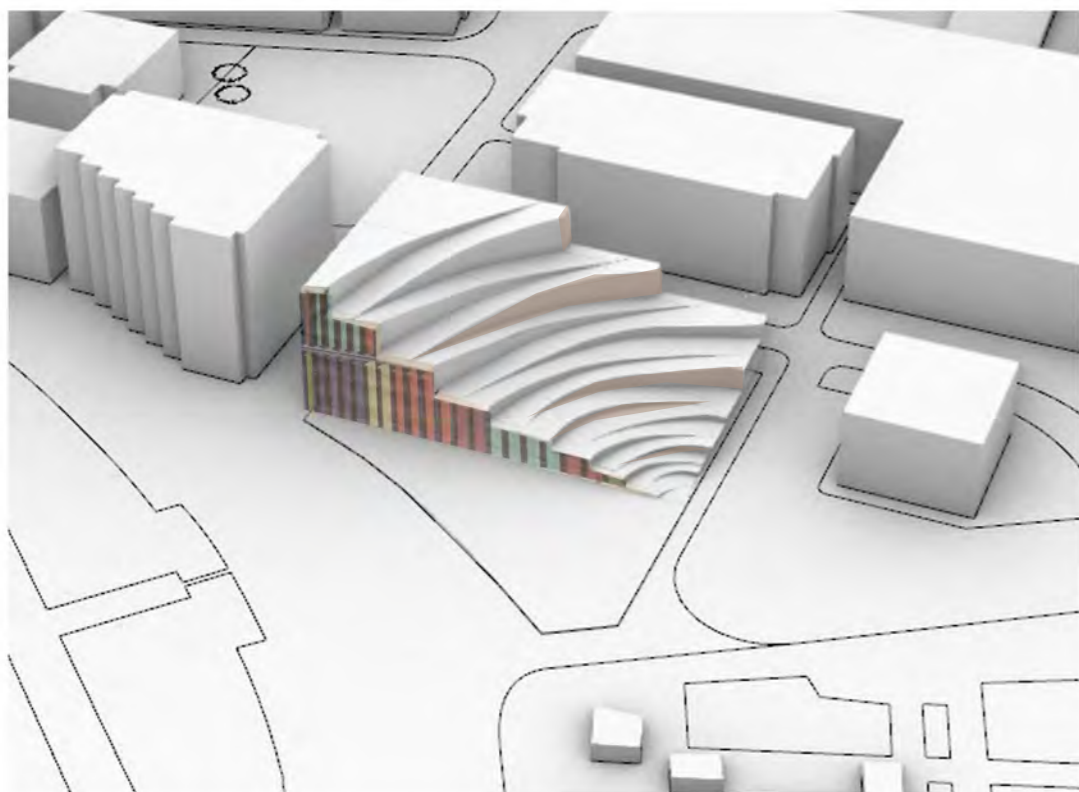
Okalux functional glass with LED (our material)



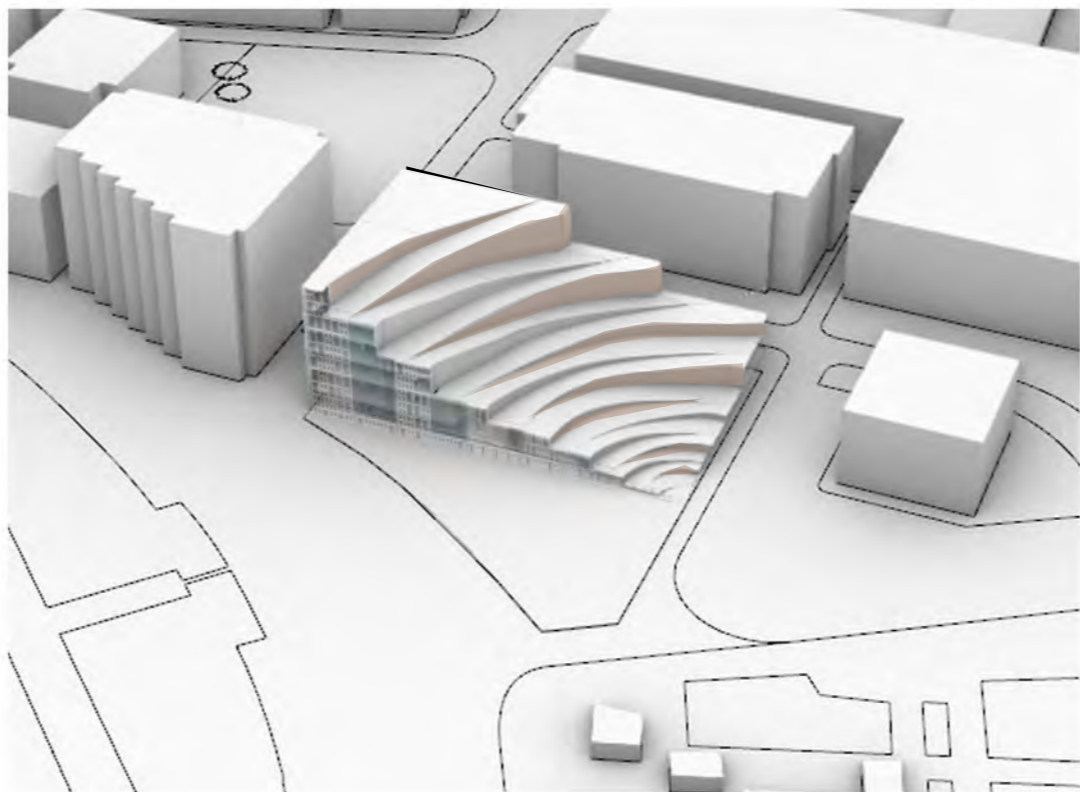
Alluminium Facade



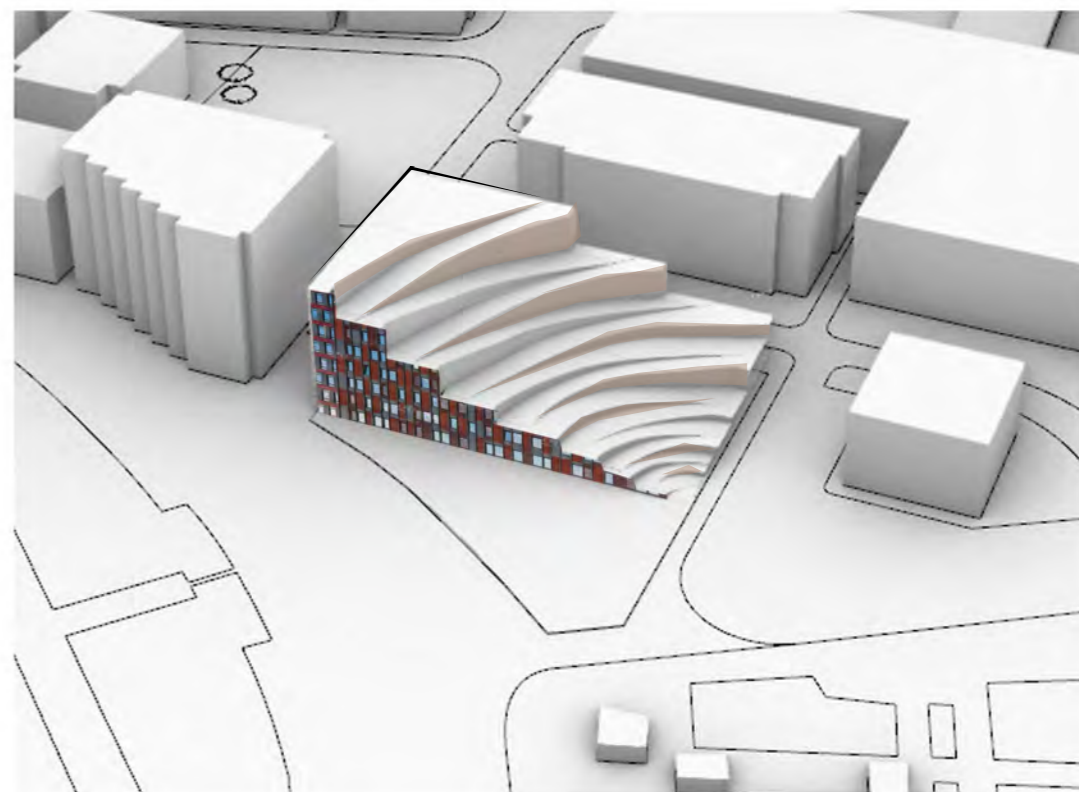
Metal Sheets



Motorized Illuminated Glass shades

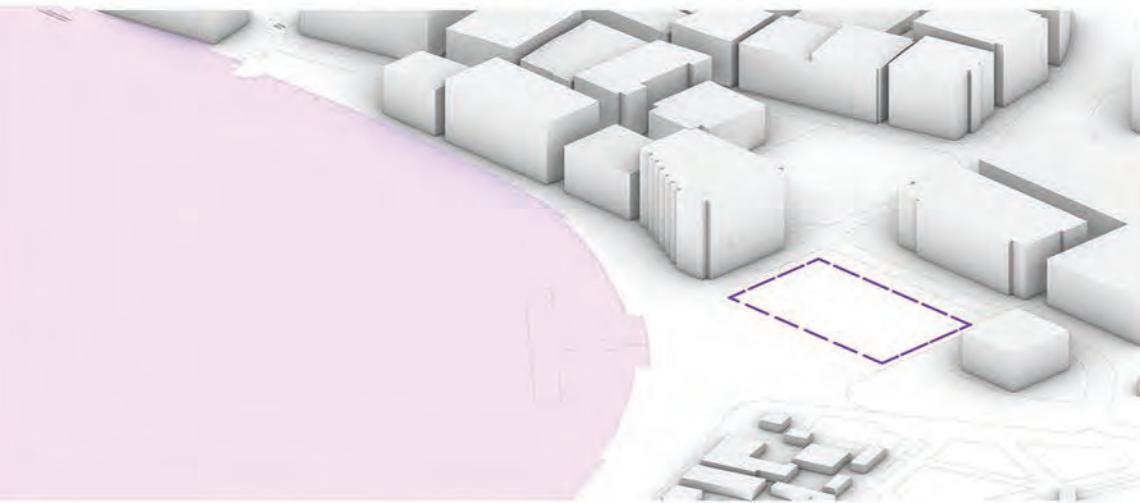


Fiber Reinforced Concrete

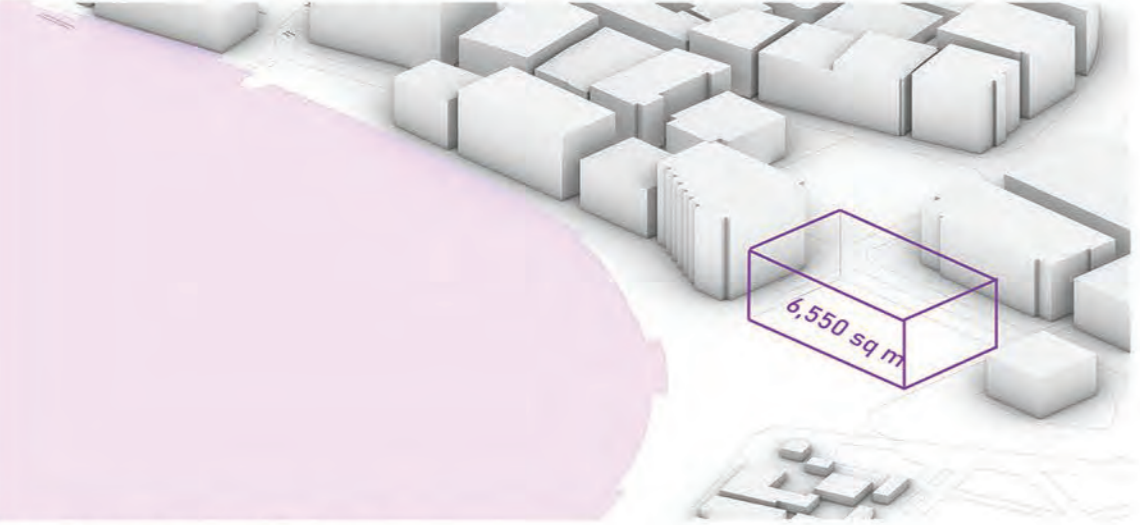


Solarban Low E-glass

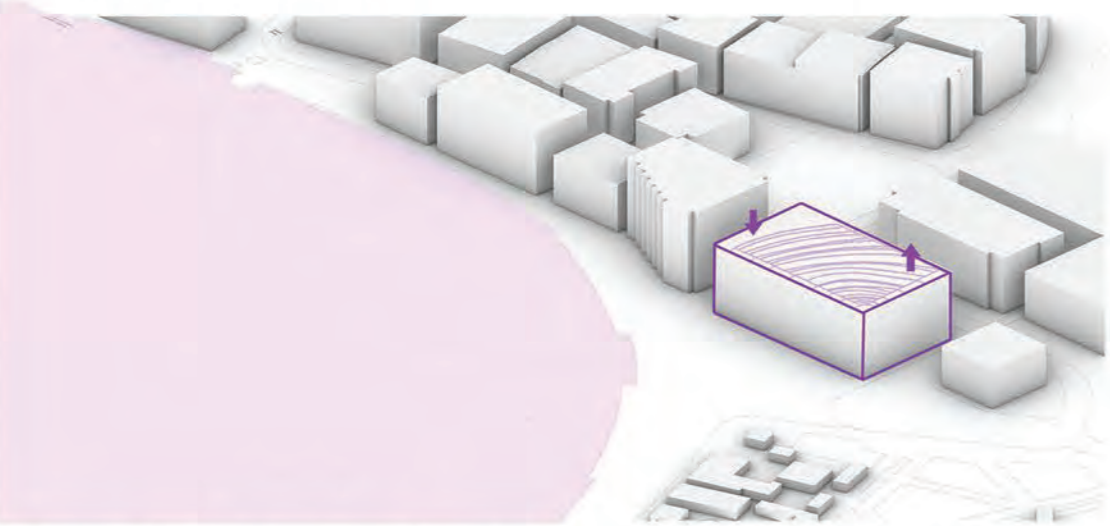
Main concept



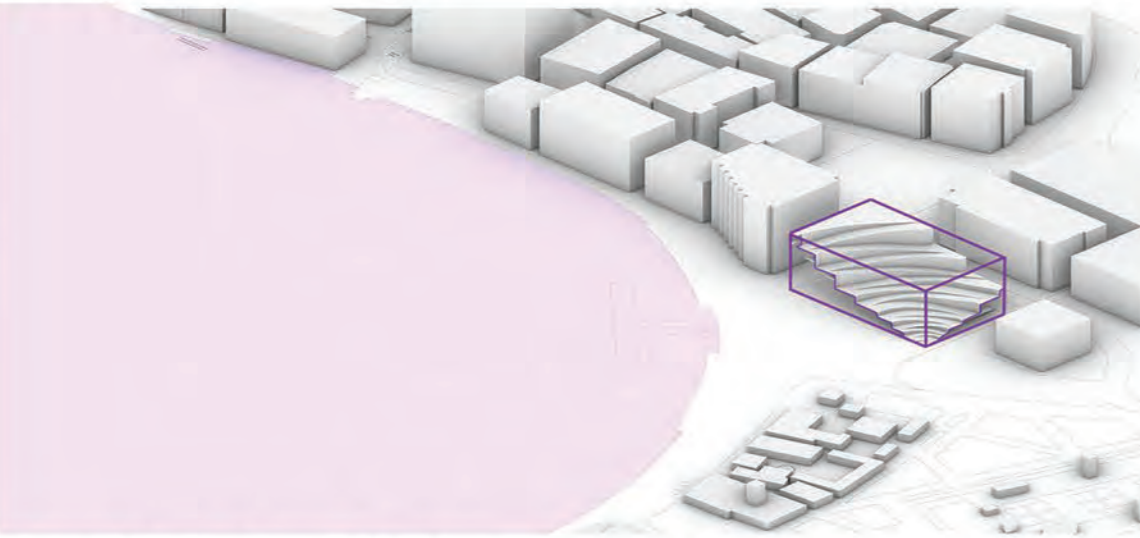
The plot faces the Dubai Creek towards the north



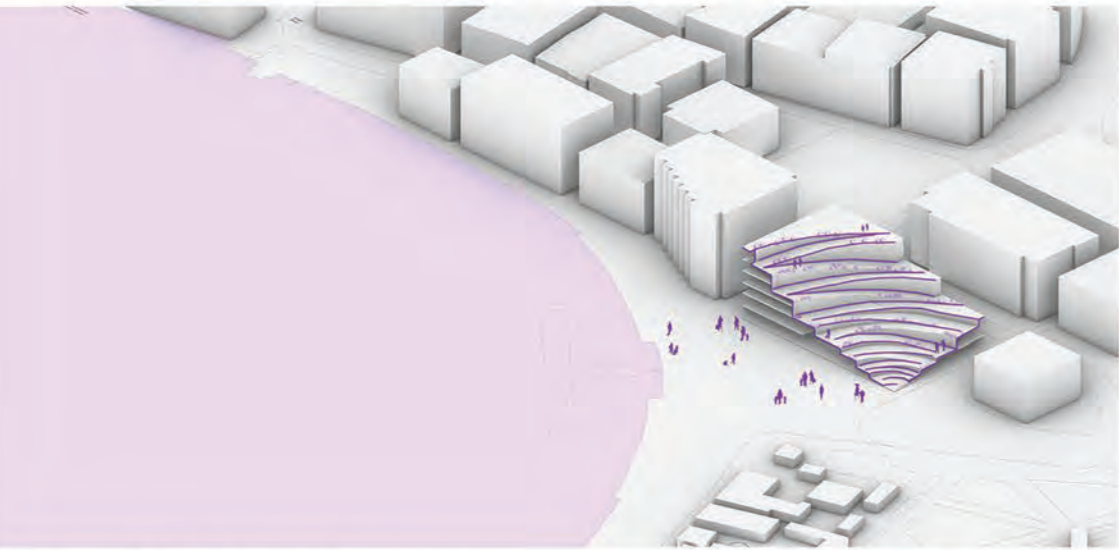
The total GFA is 6,500 sq m



The volume is pushed and pulled using the projected ramps curves to allow for views and light

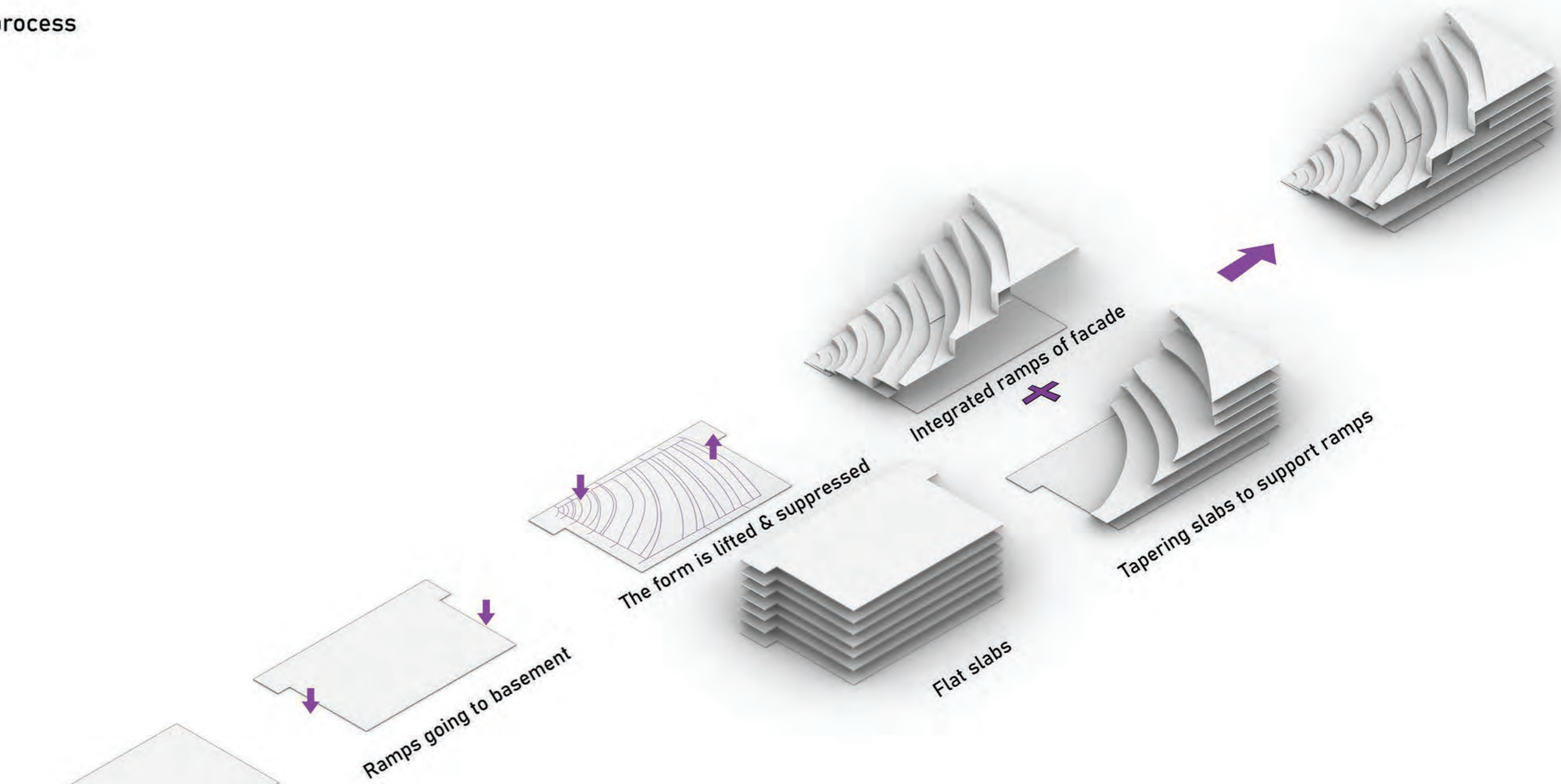


Integrated ramps form the facade with roof garden at the top

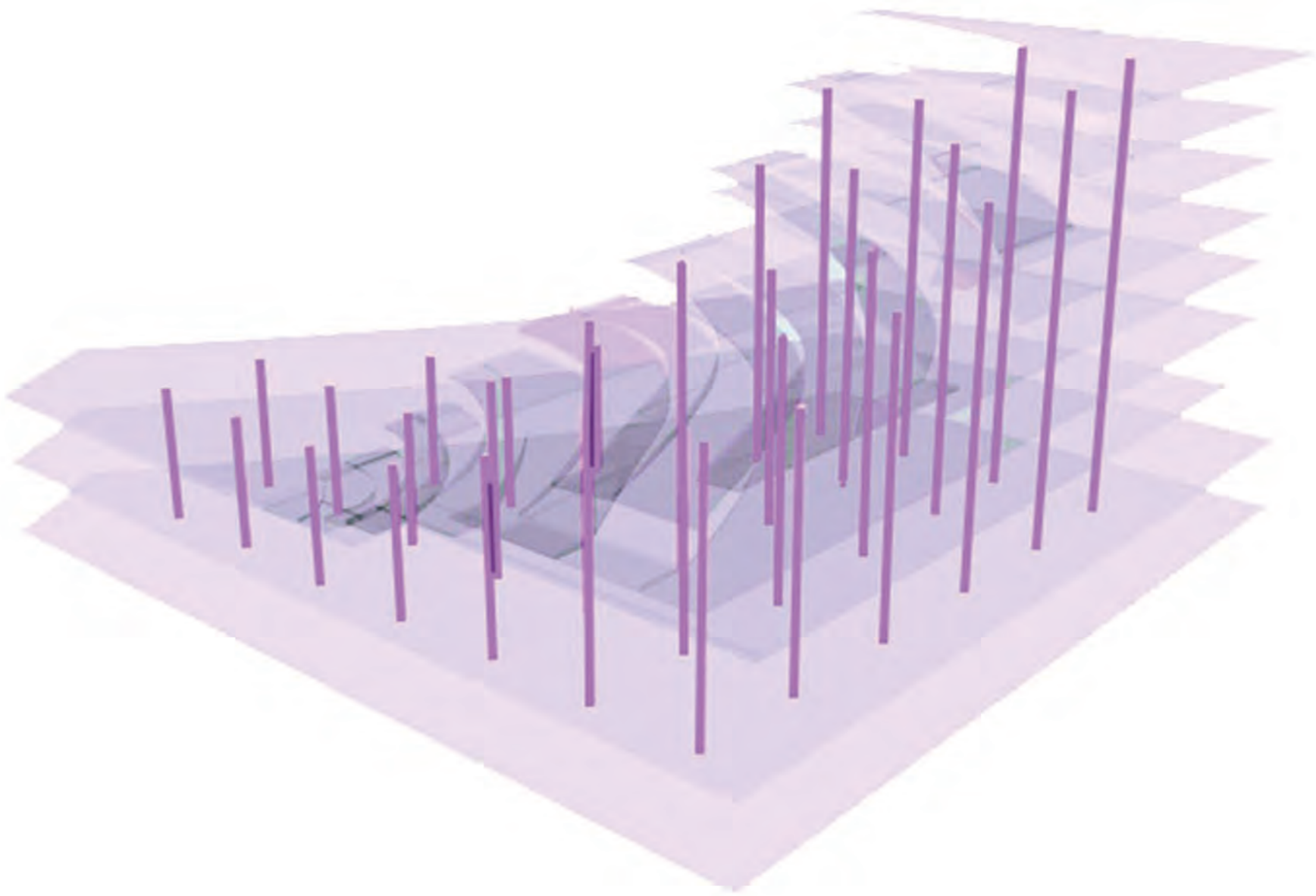


The position of the ramps form a promenade thereby improving public urban life

Design process

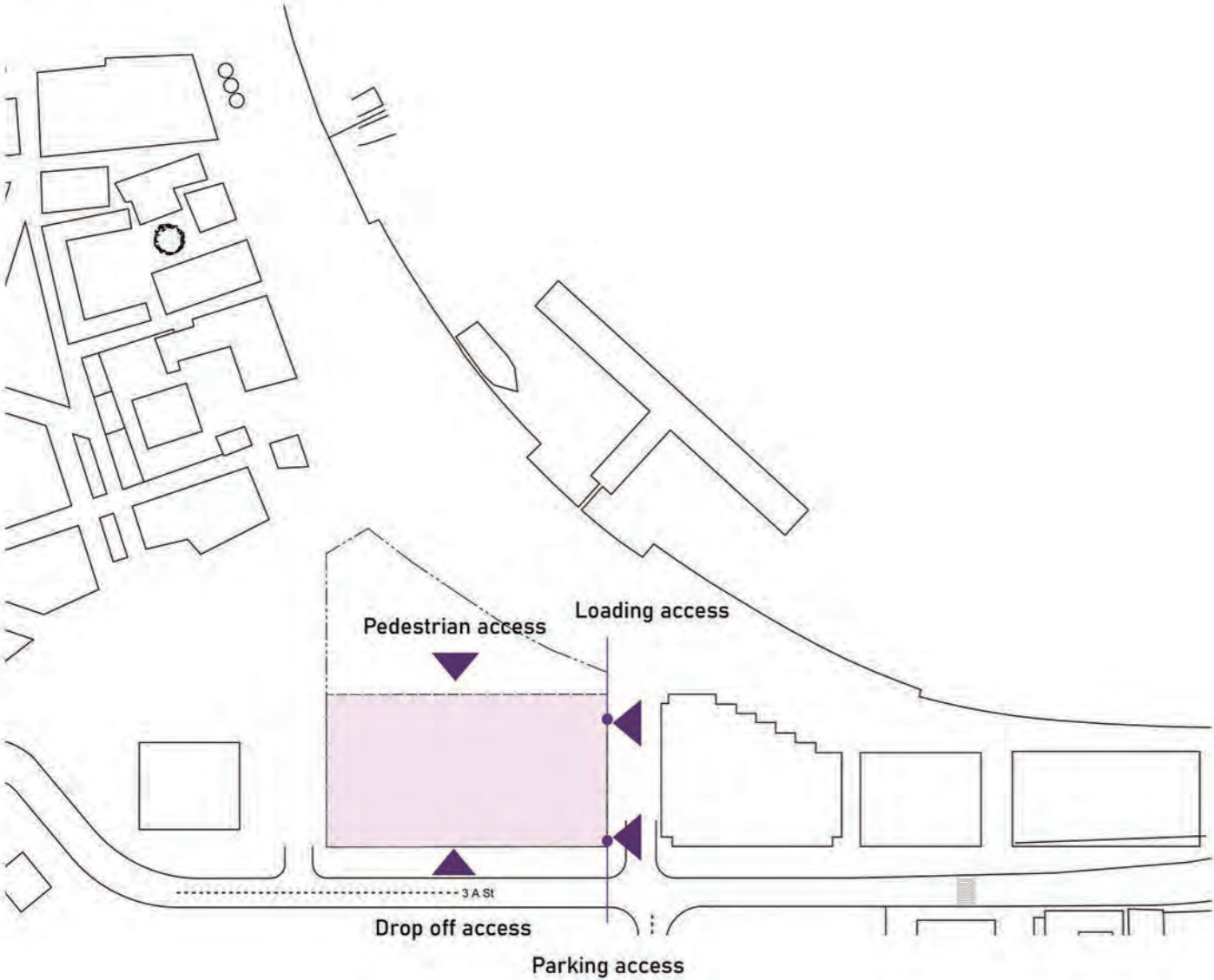


Structural diagram

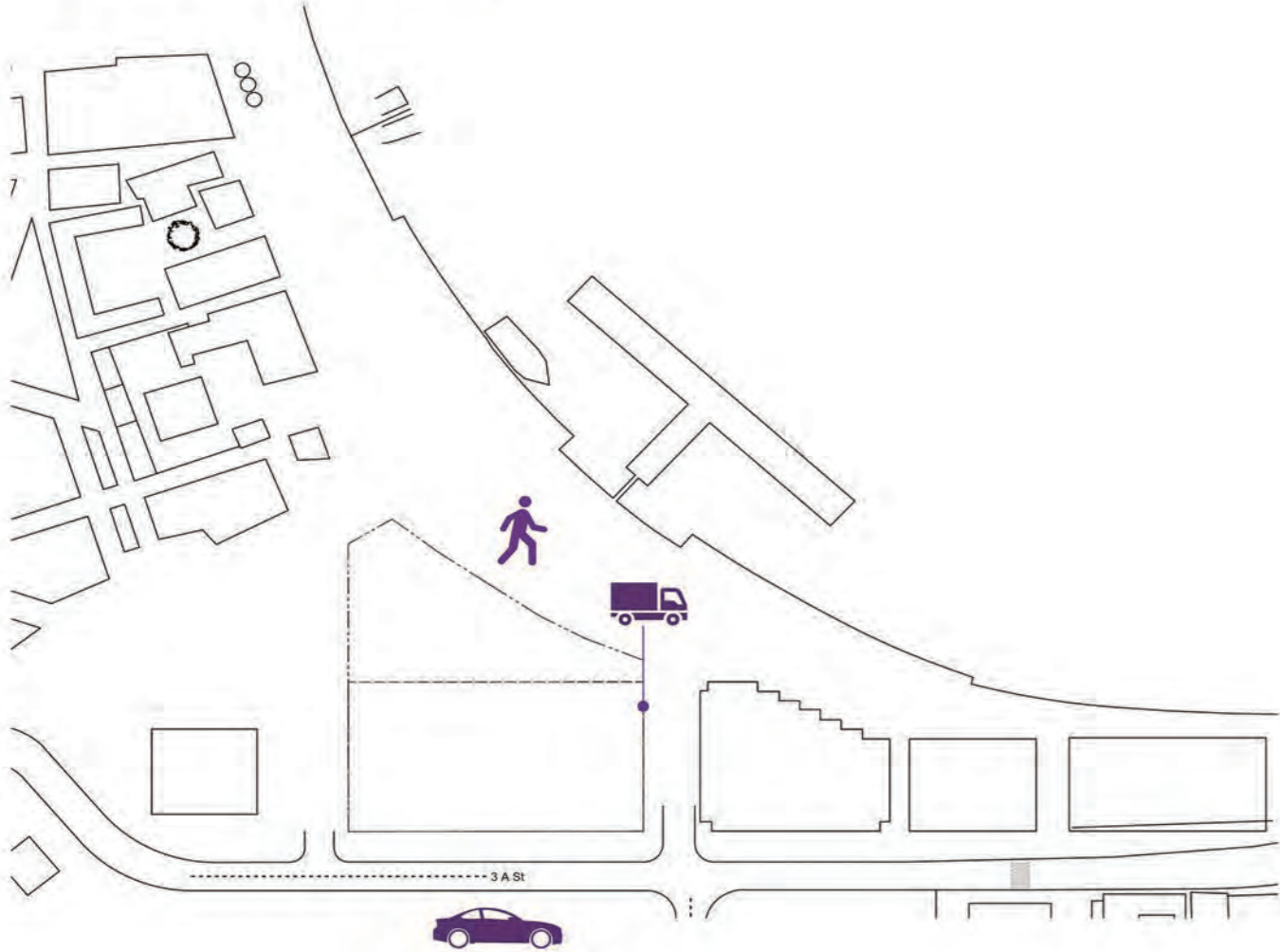


Building access hierarchy

By user category

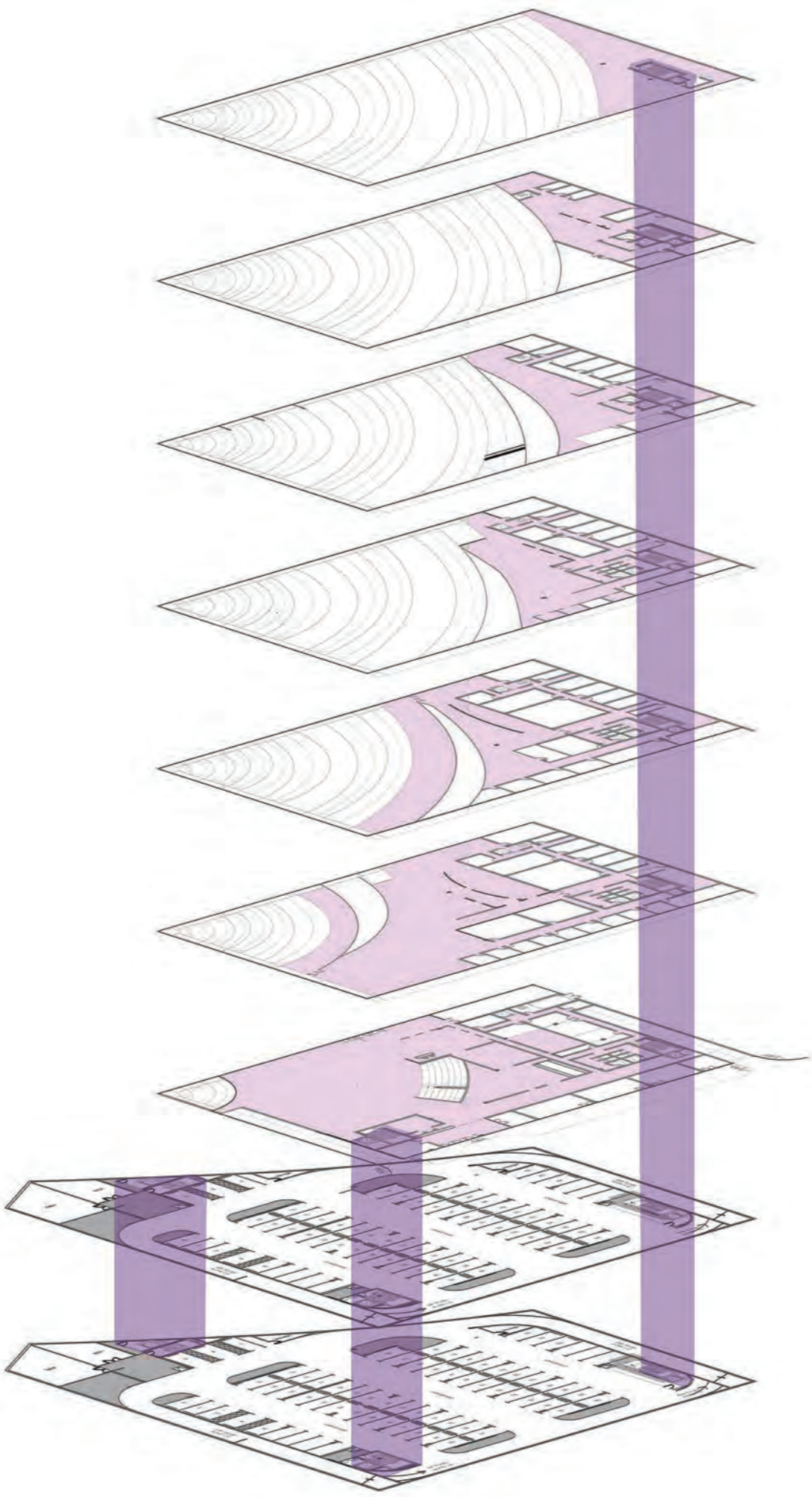


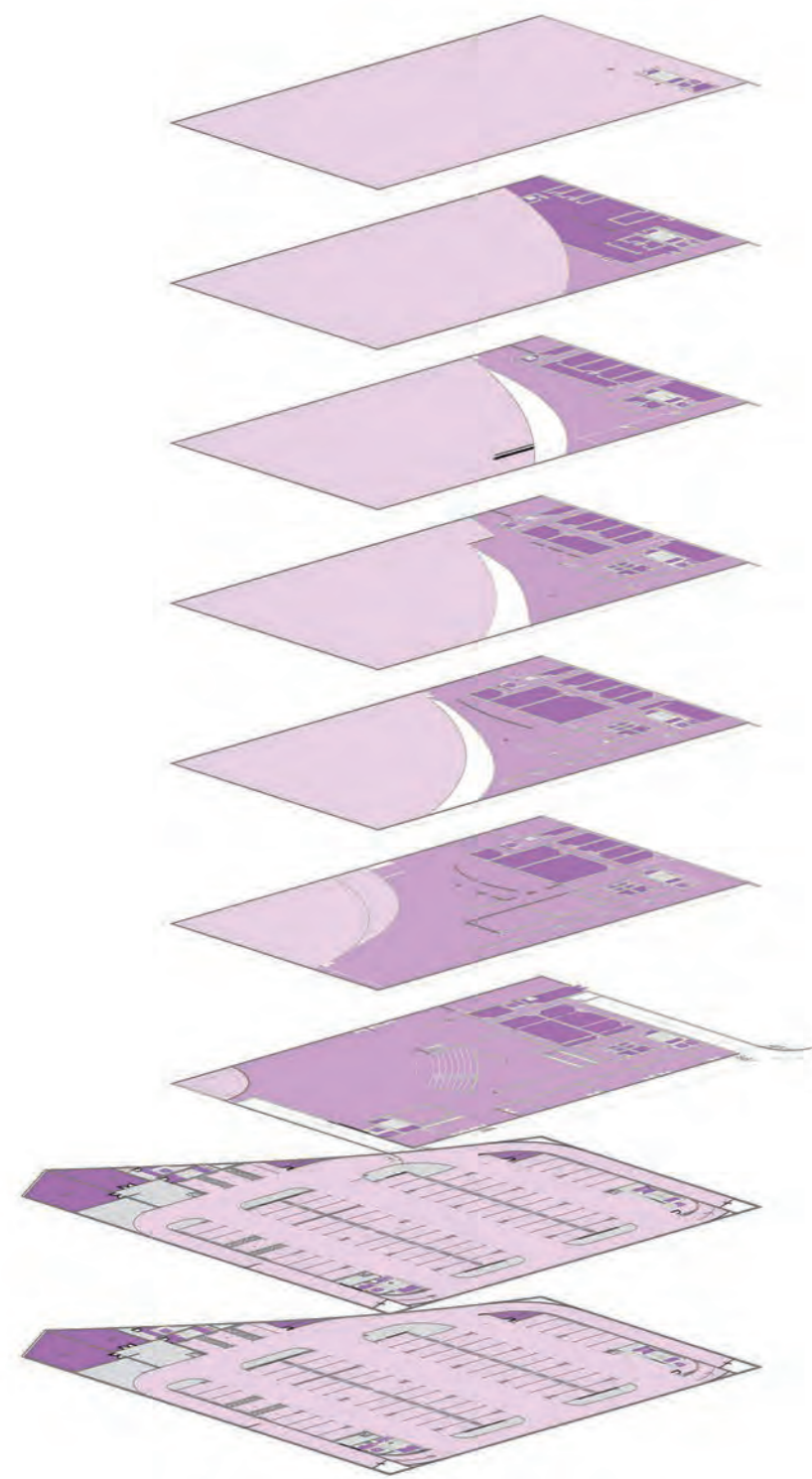
By transport category



Principle of spatial distribution and transitions

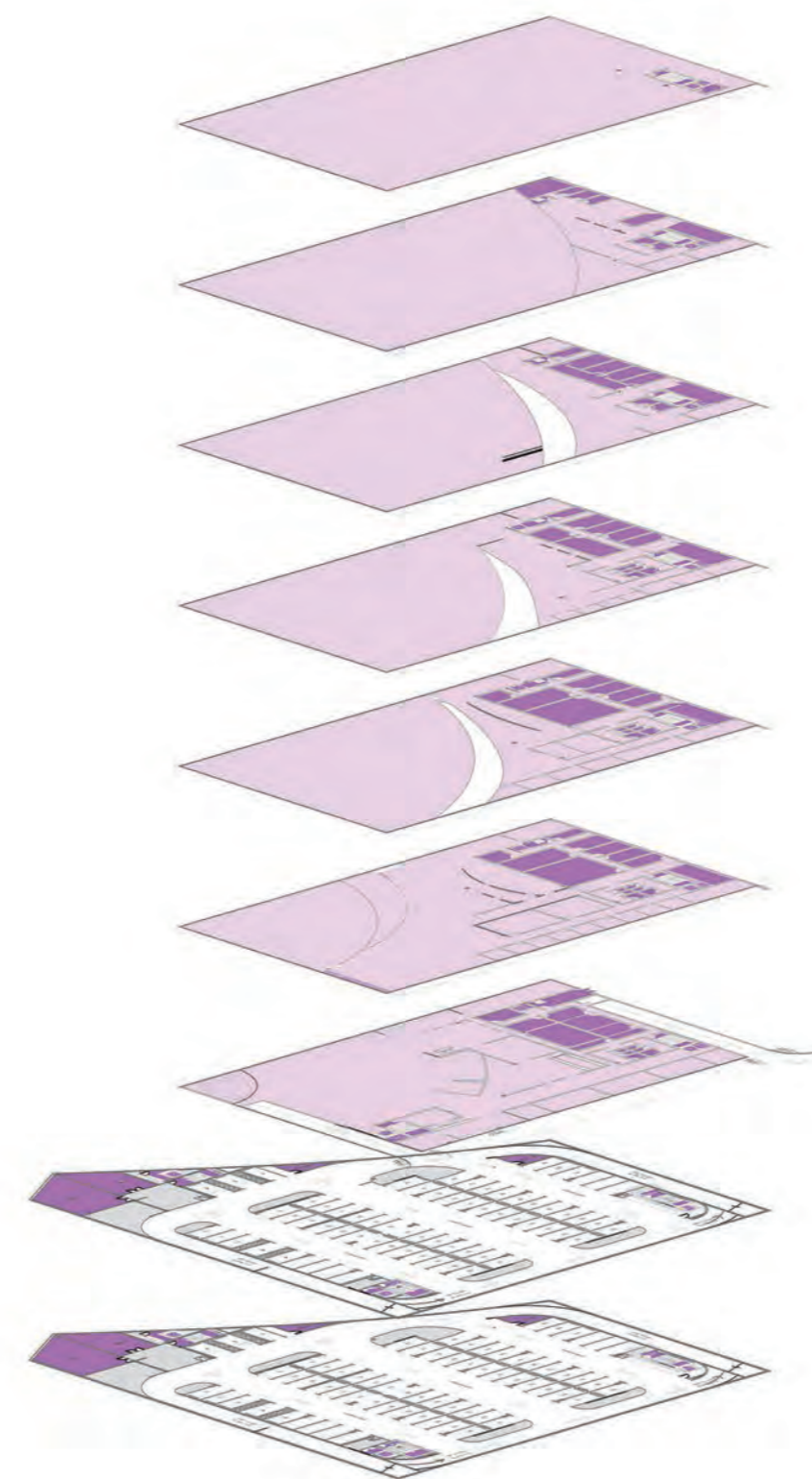
- Horizontal circulation
- Vertical circulation





Public / Private

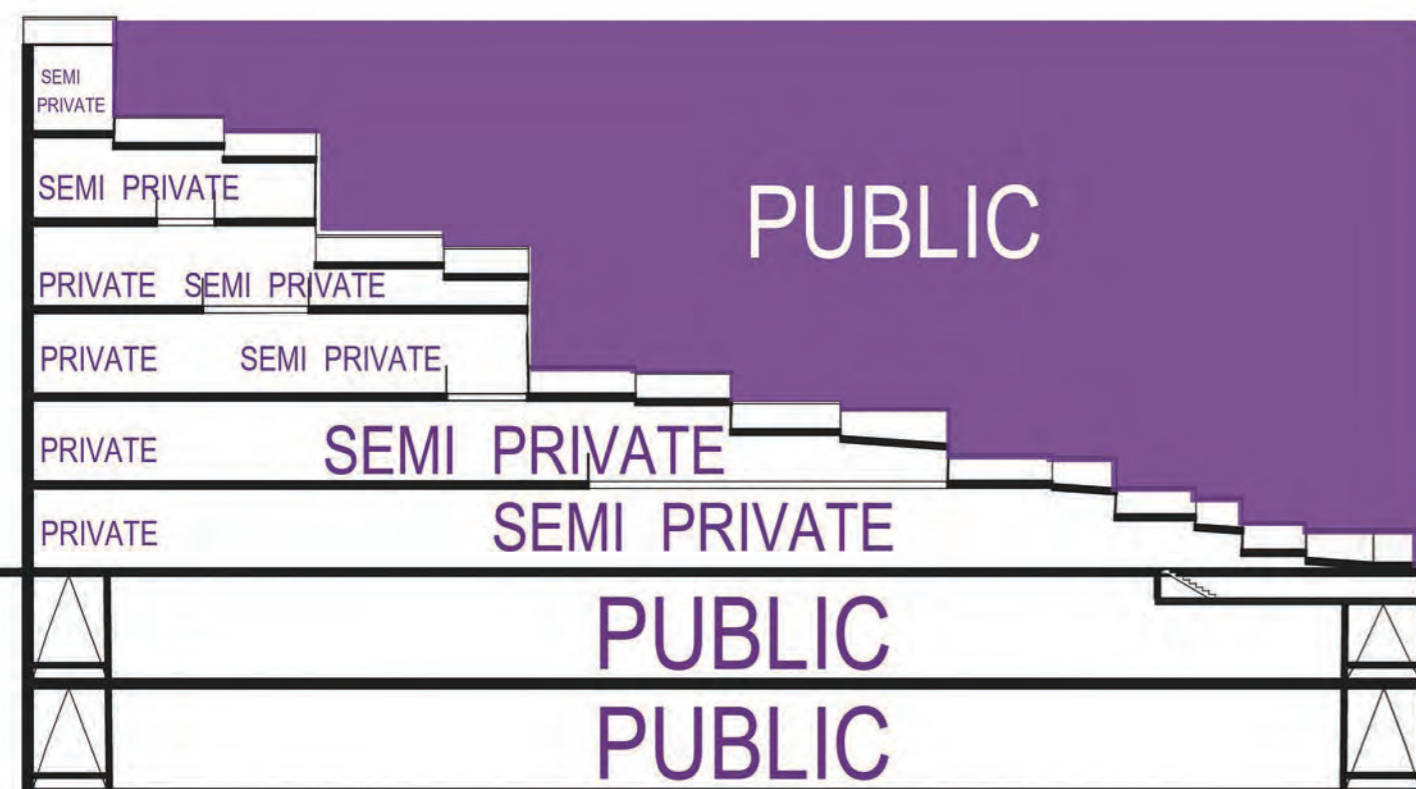
- Public
- Semi - private
- Private



FOH / BOH

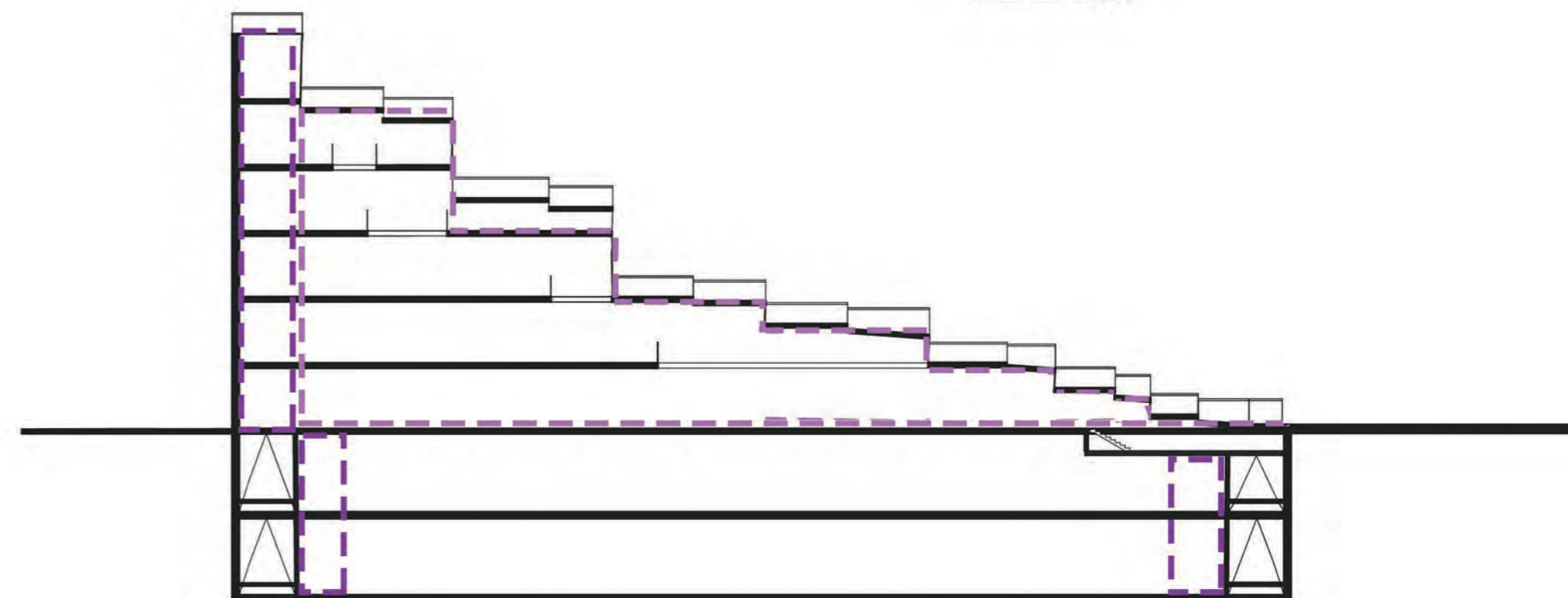
- FOH
- BOH

Public / Private



FOH / BOH

- FOH
- BOH



Specific program components



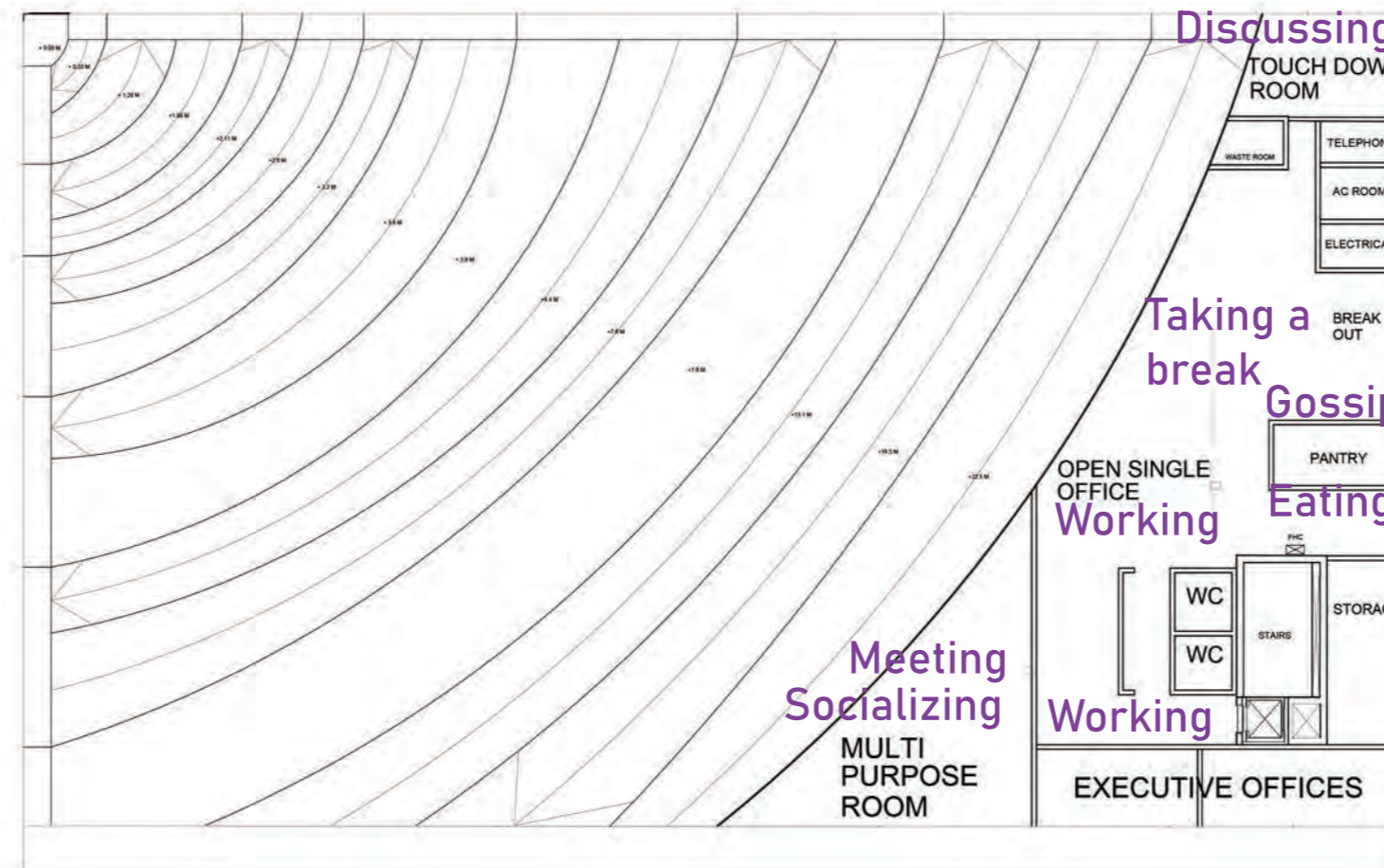
Basement 2



Basement 1



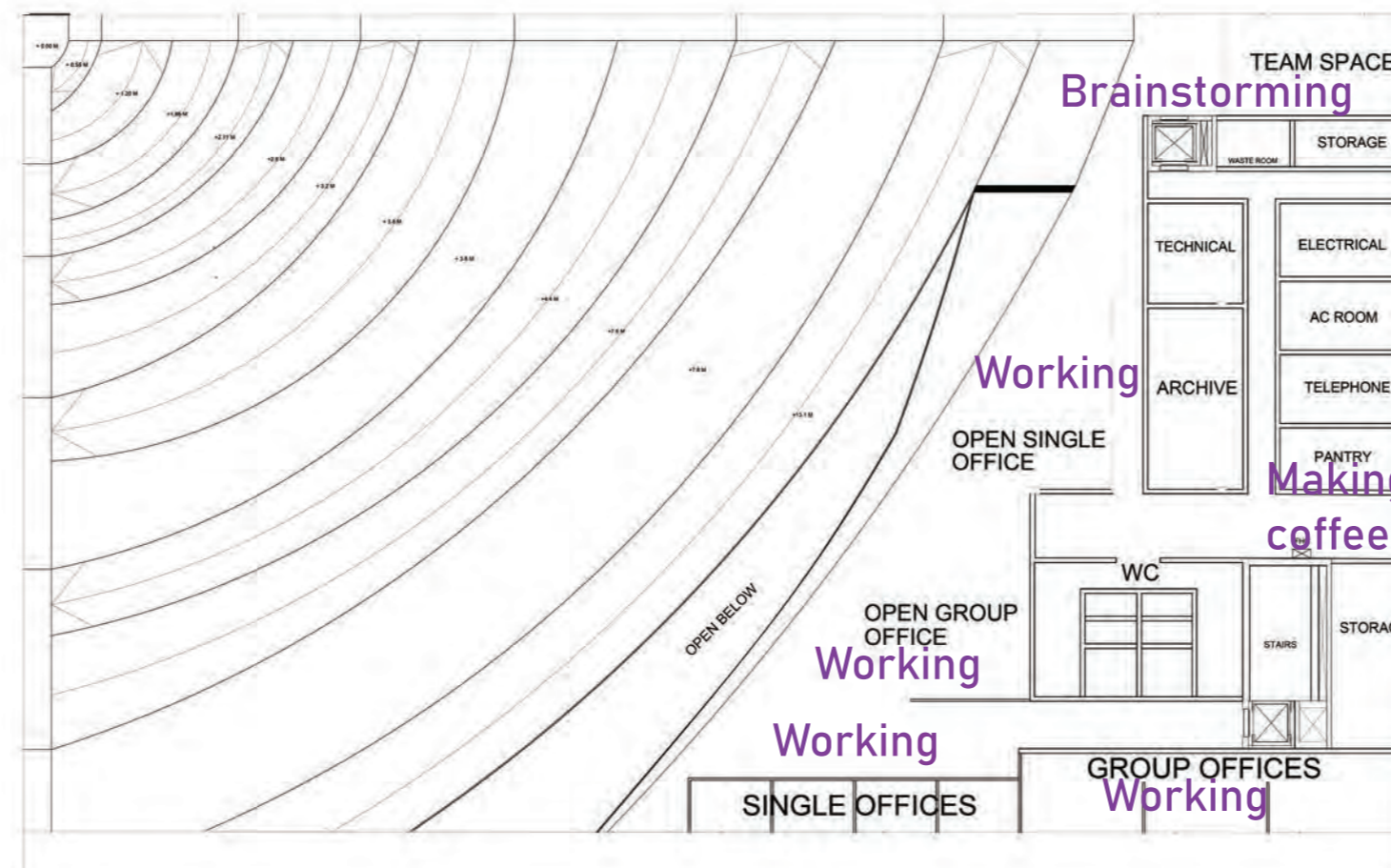
Ground floor



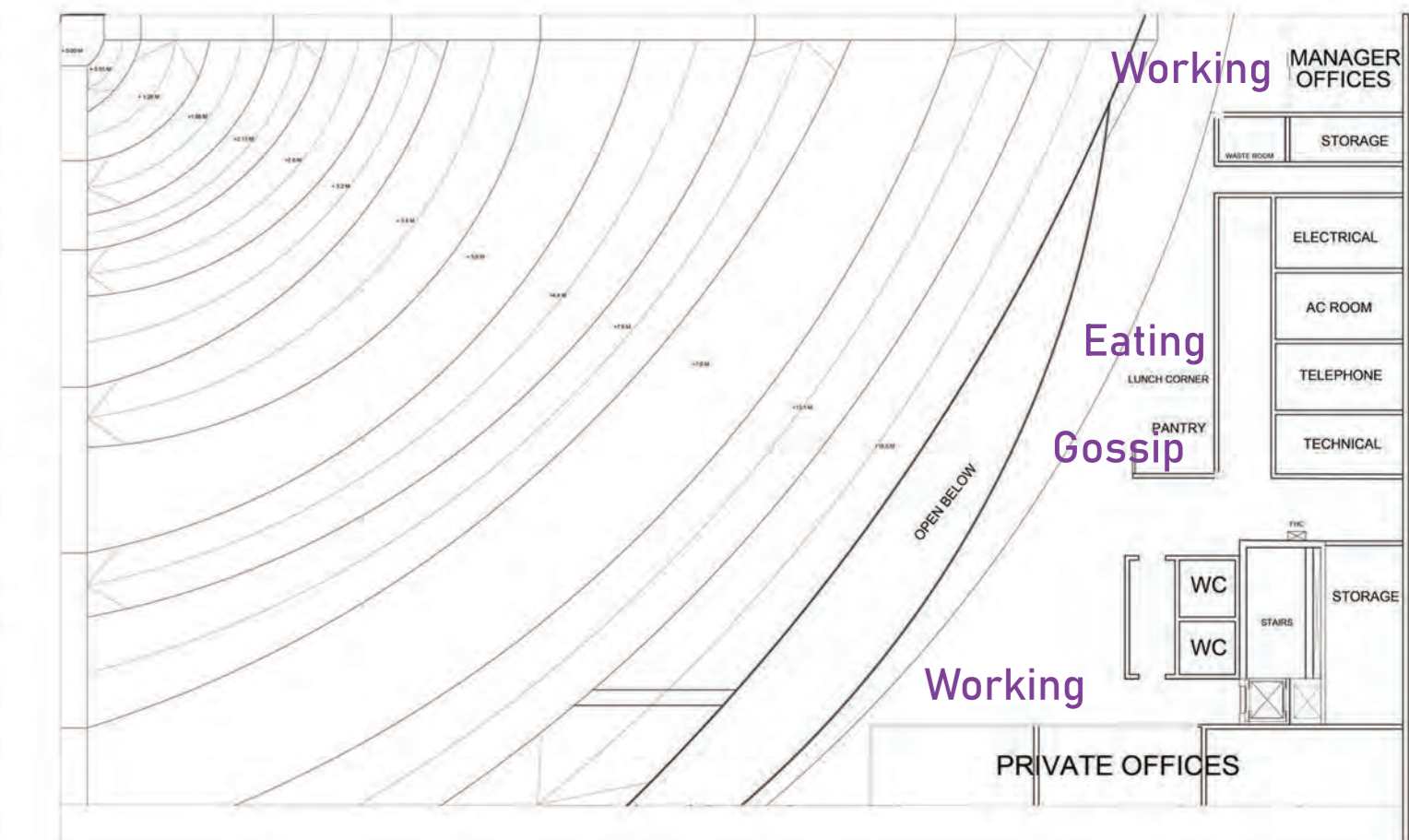
Fifth floor



Roof



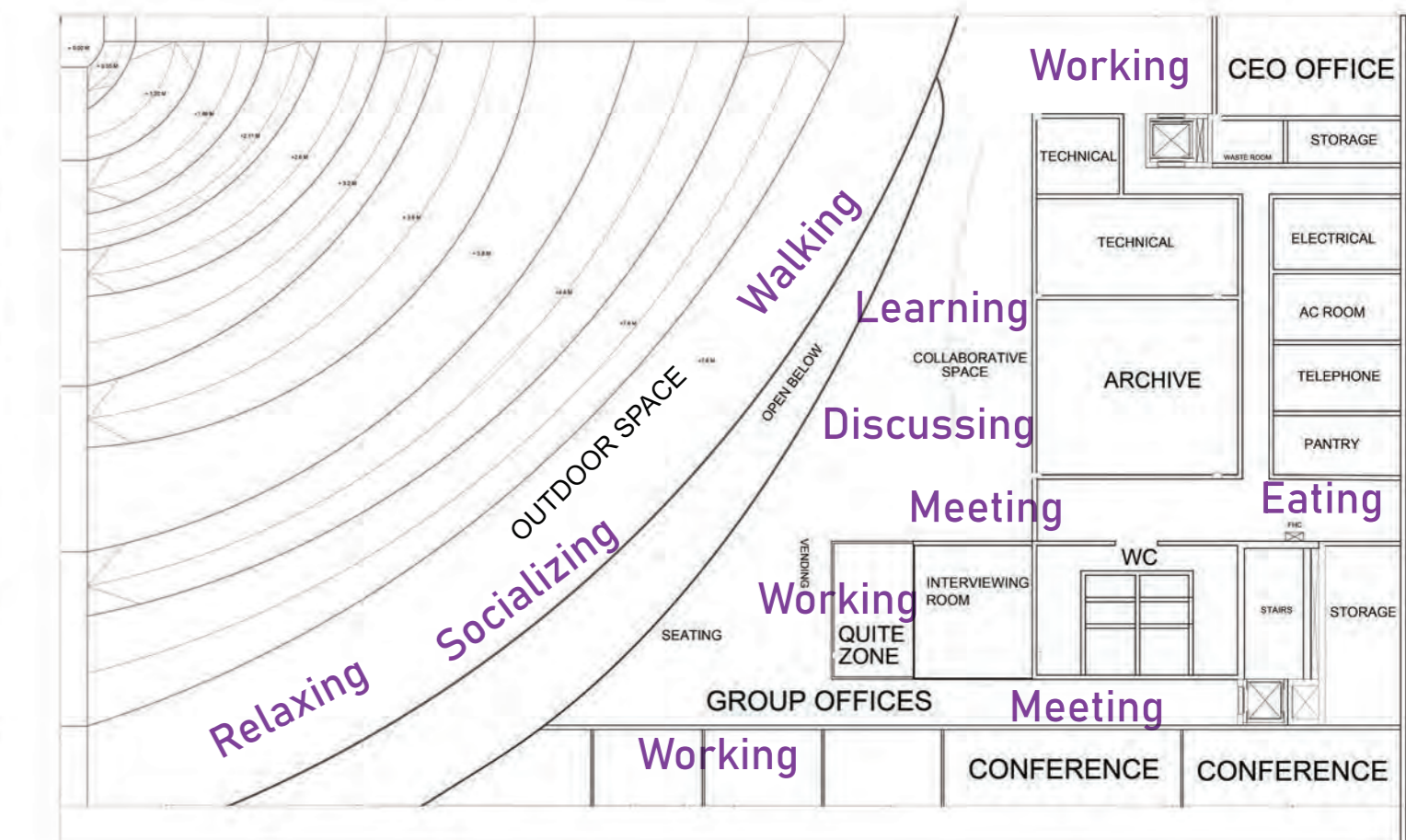
Third floor



Fourth floor

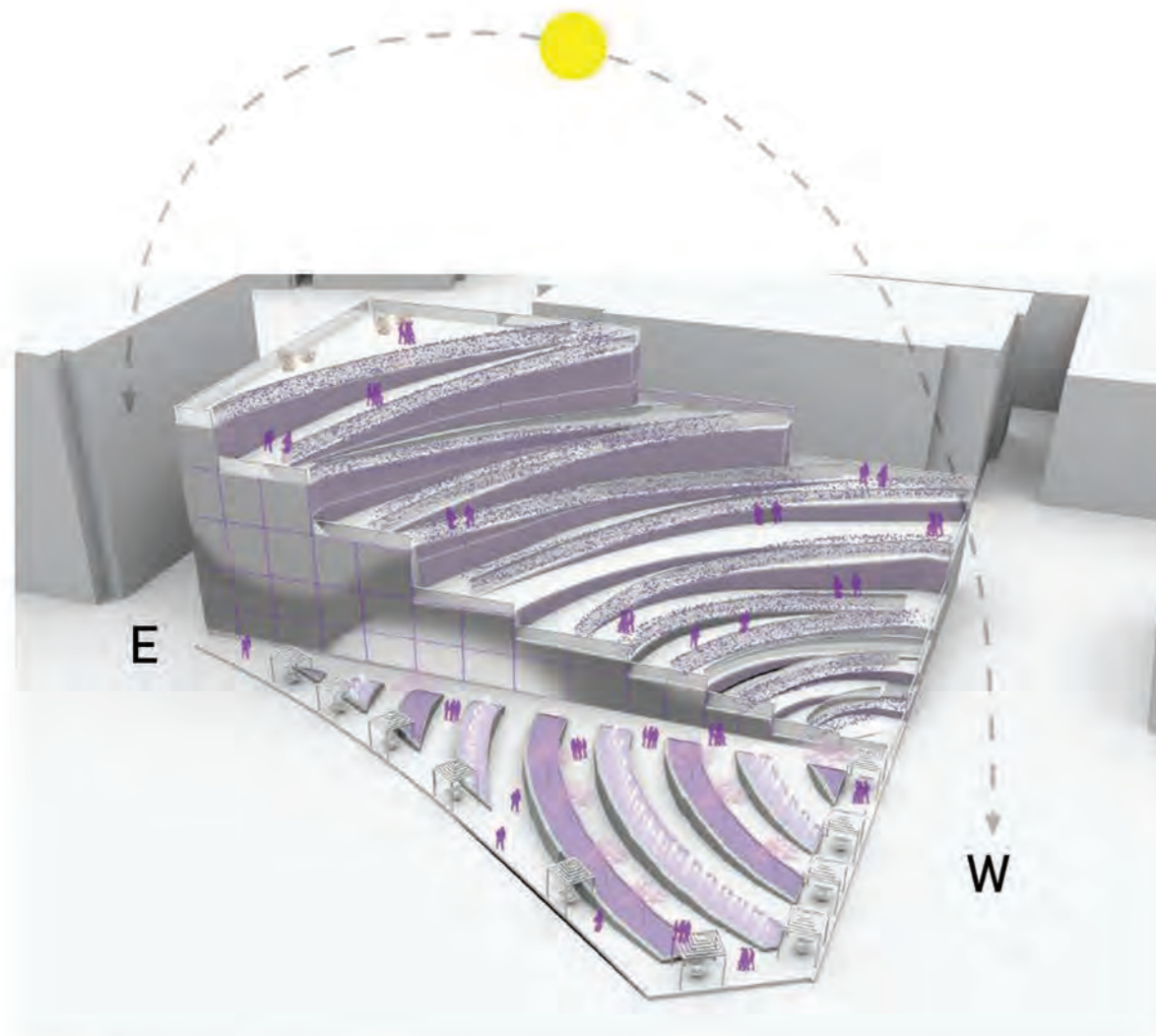


First floor



Second floor

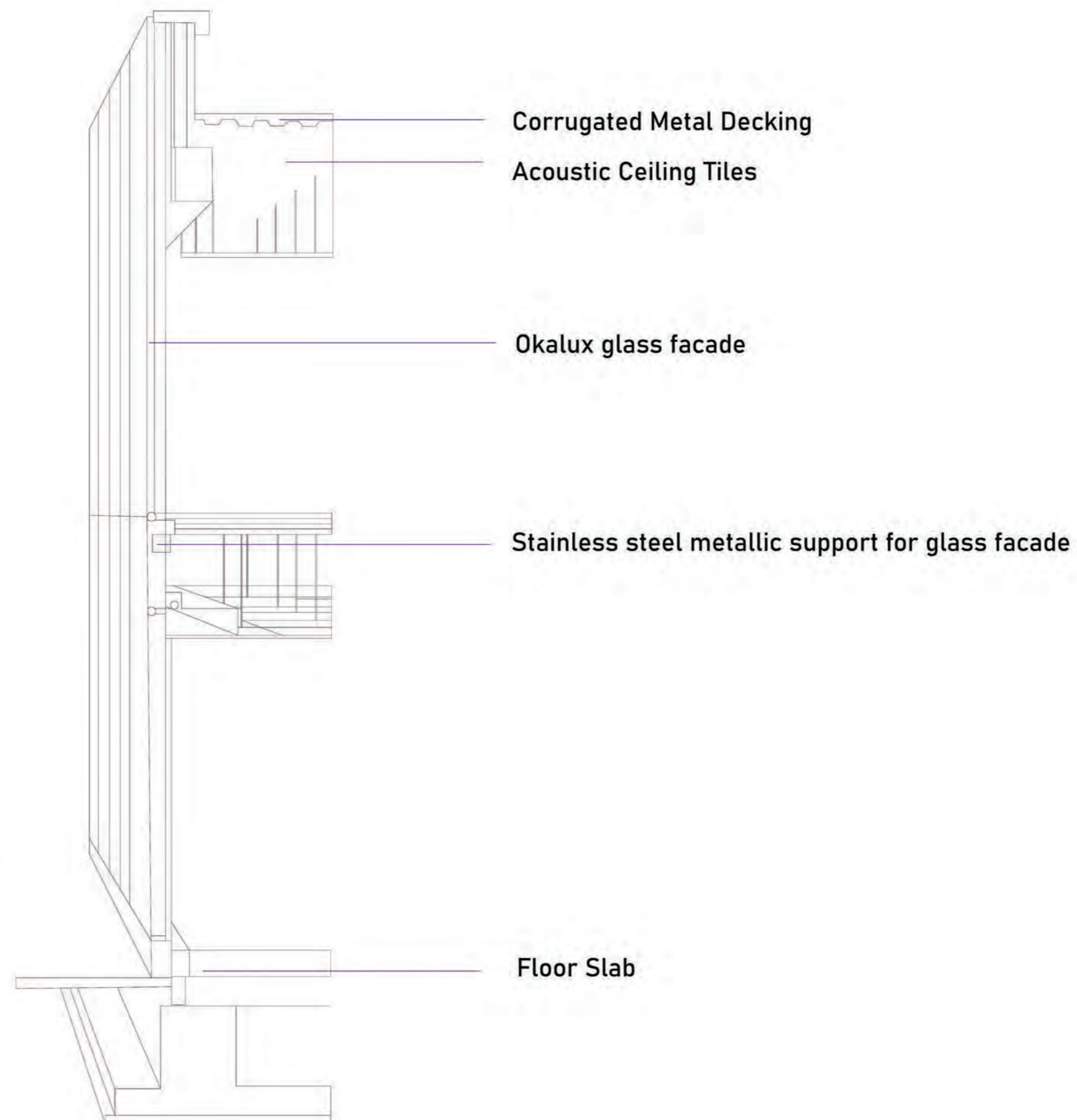
Daylight strategy



No floor level is same .
 The north , south and west facade allow daylight to enter (okalux glass facade used)
 The west facade is opaque in nature.
 Daylight also enters through the glass walls present behind the ramps.

The facade comprises of outdoor spaces and the terraces face the cooler side (north direction towards the Creek)
 The terraces are a mix of private and semi public ones.
 The terraces are covered with lush green vegetation and they lead to the roof garden.

Envelope Section



Material Selection

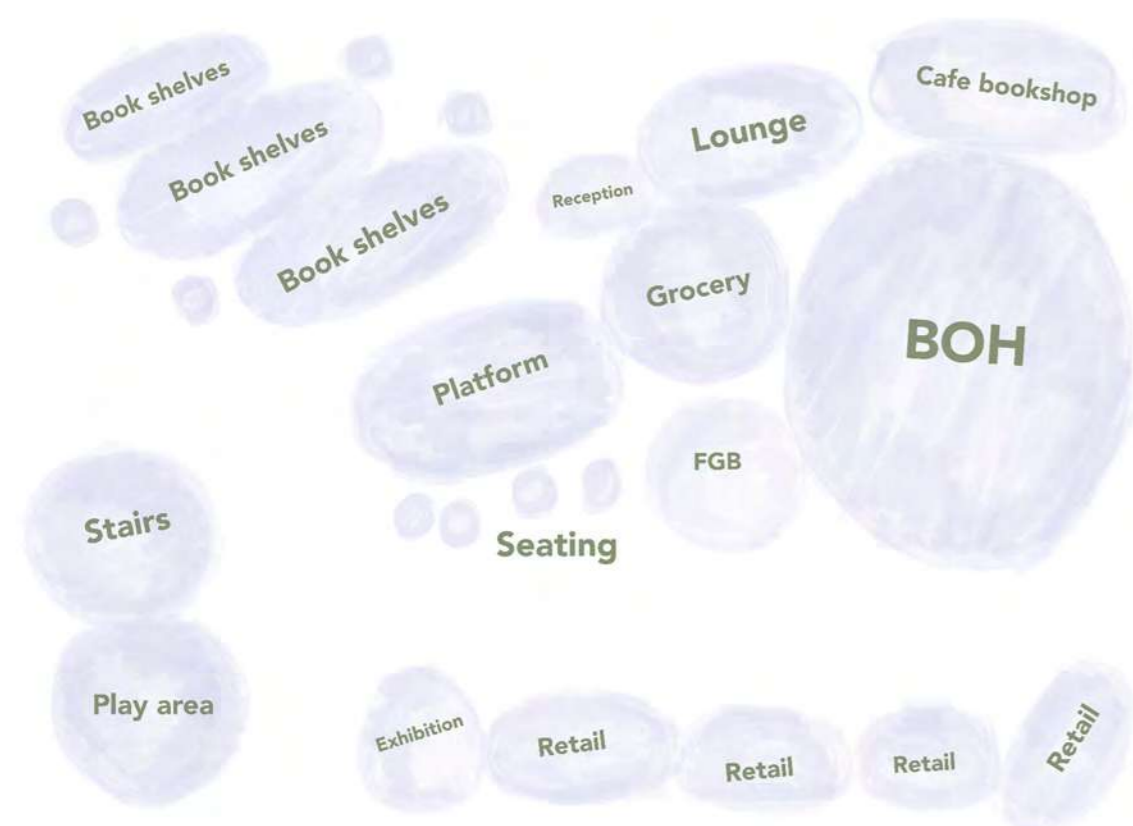


Okalux glass facade

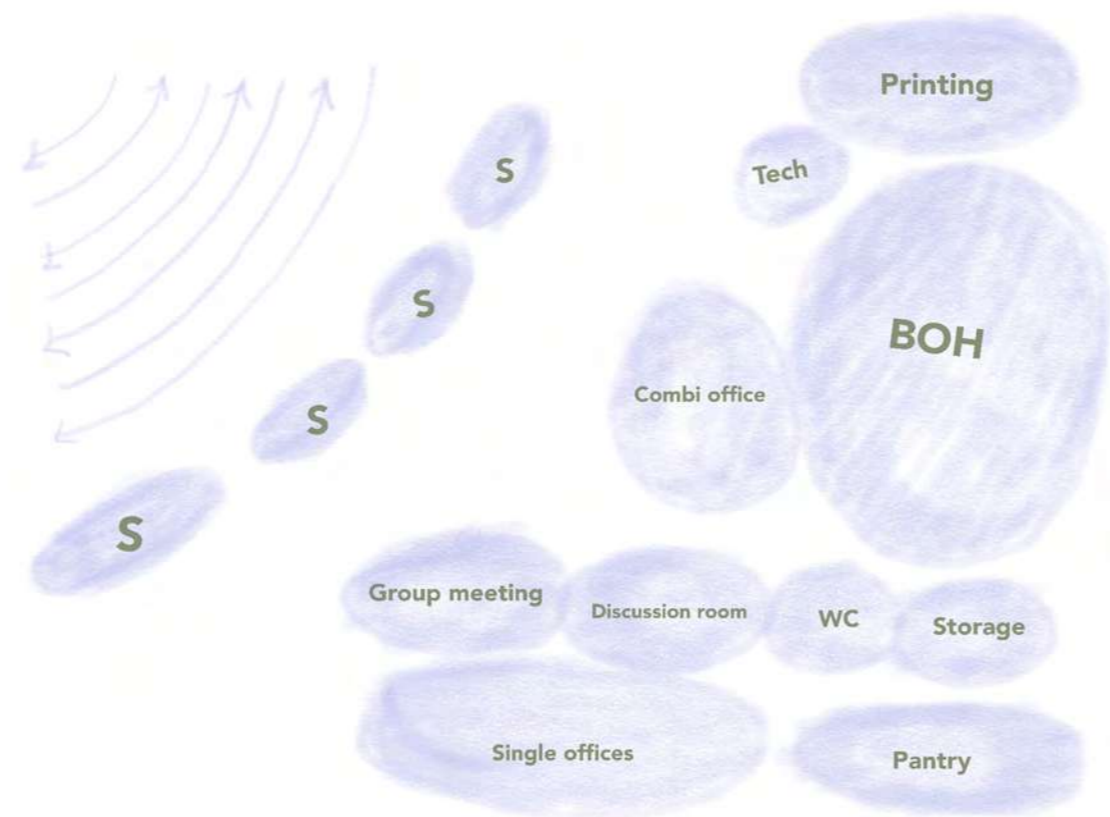
Advantages :

- 1) Controlled heat gain
- 2) Good heat insulation
- 3) Vision and glare protection
- 4) Attractive appearance

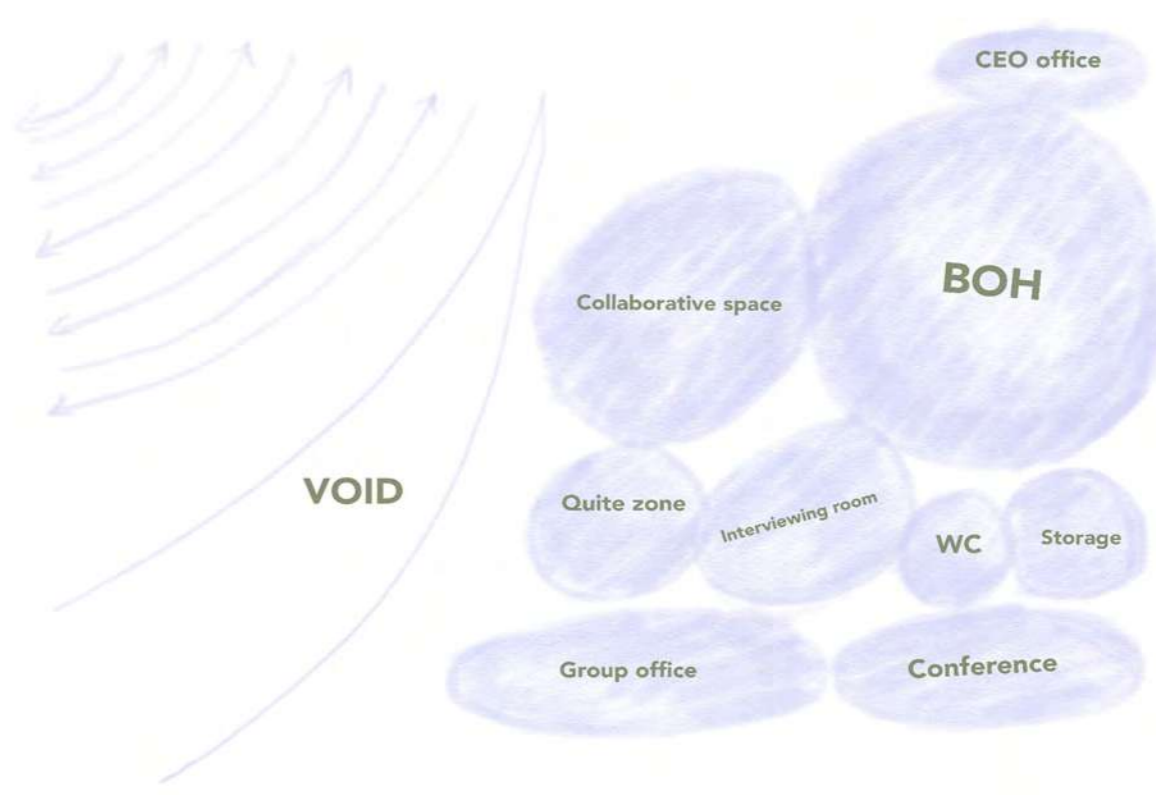
Program Interrelationships



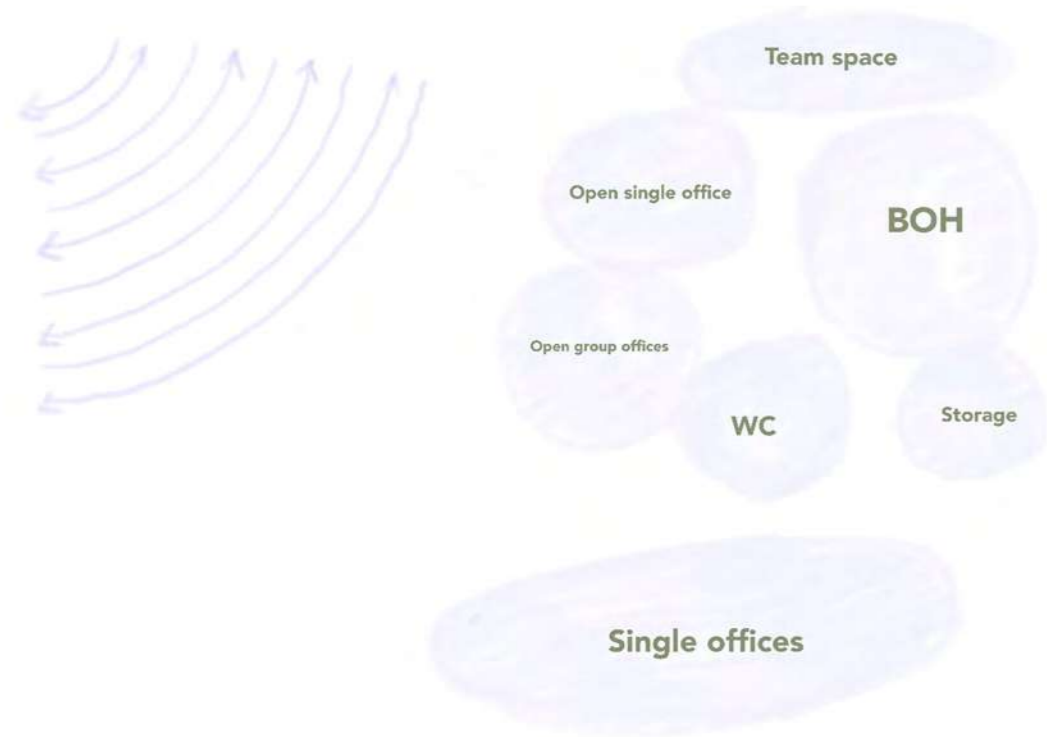
Ground floor



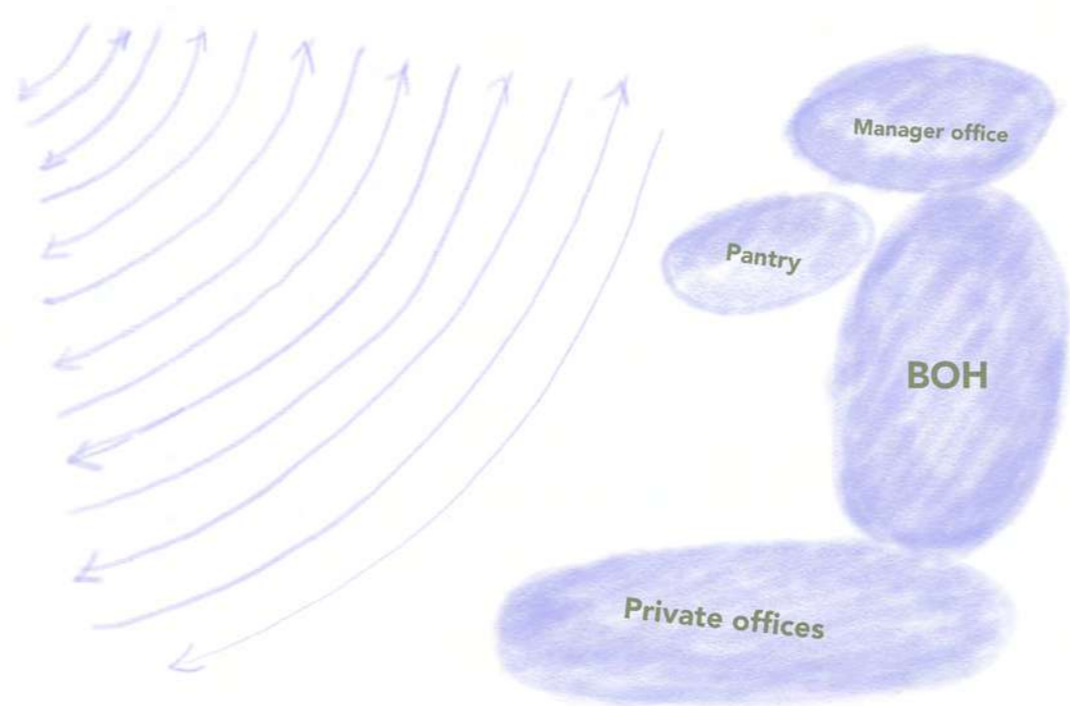
First floor



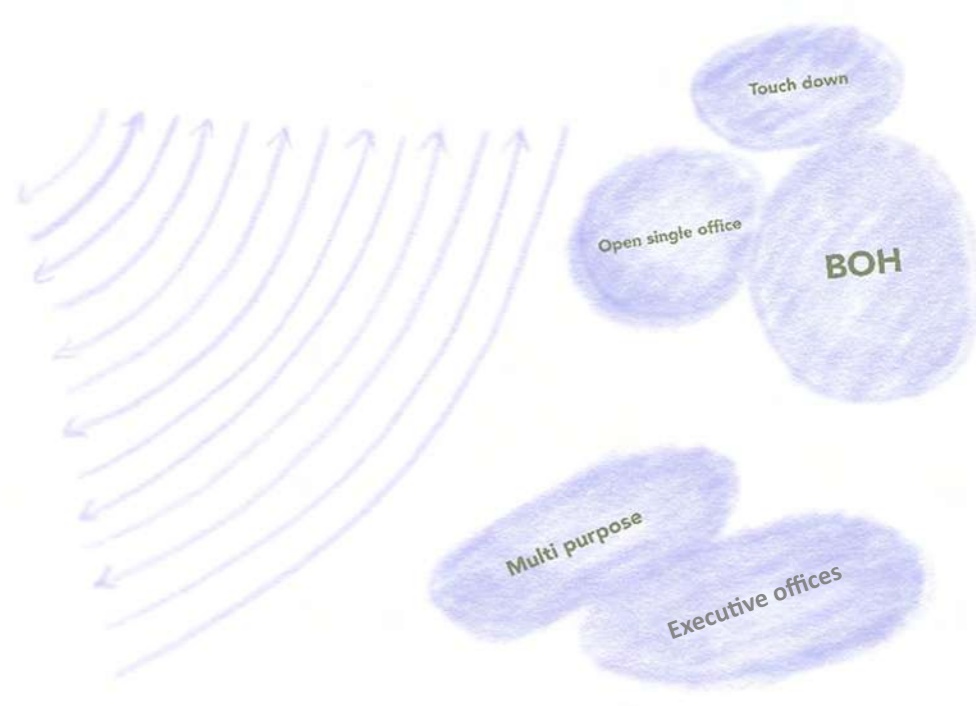
Second floor



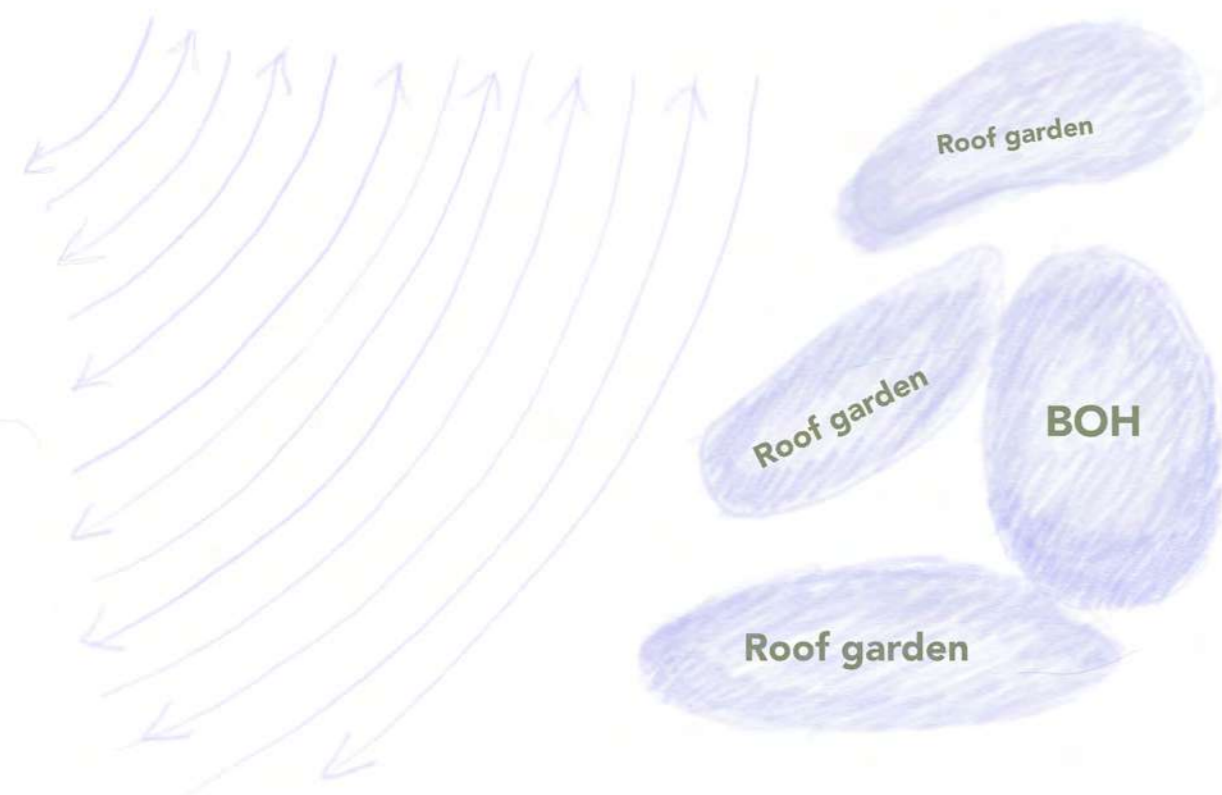
Third floor



Fourth floor

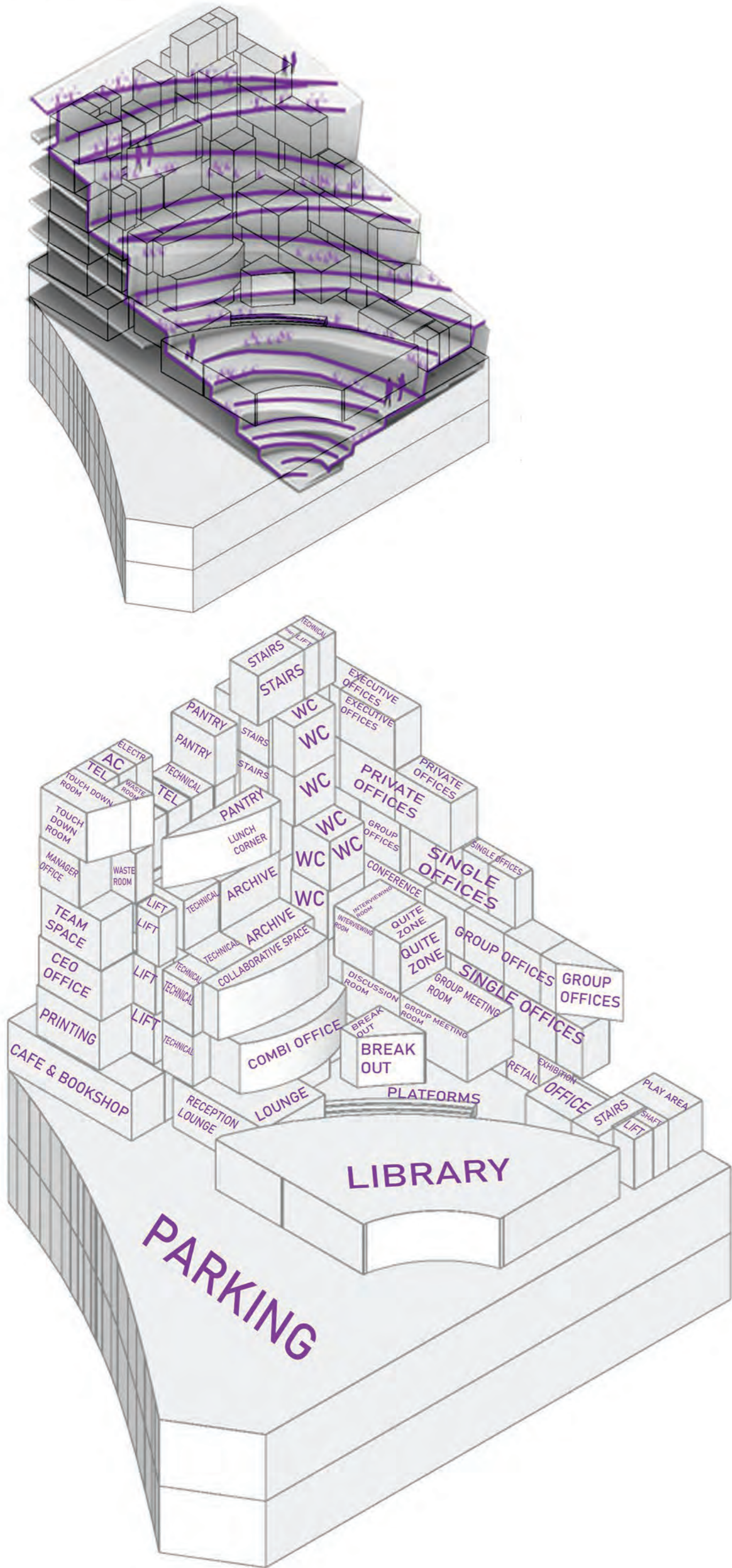


Fifth floor

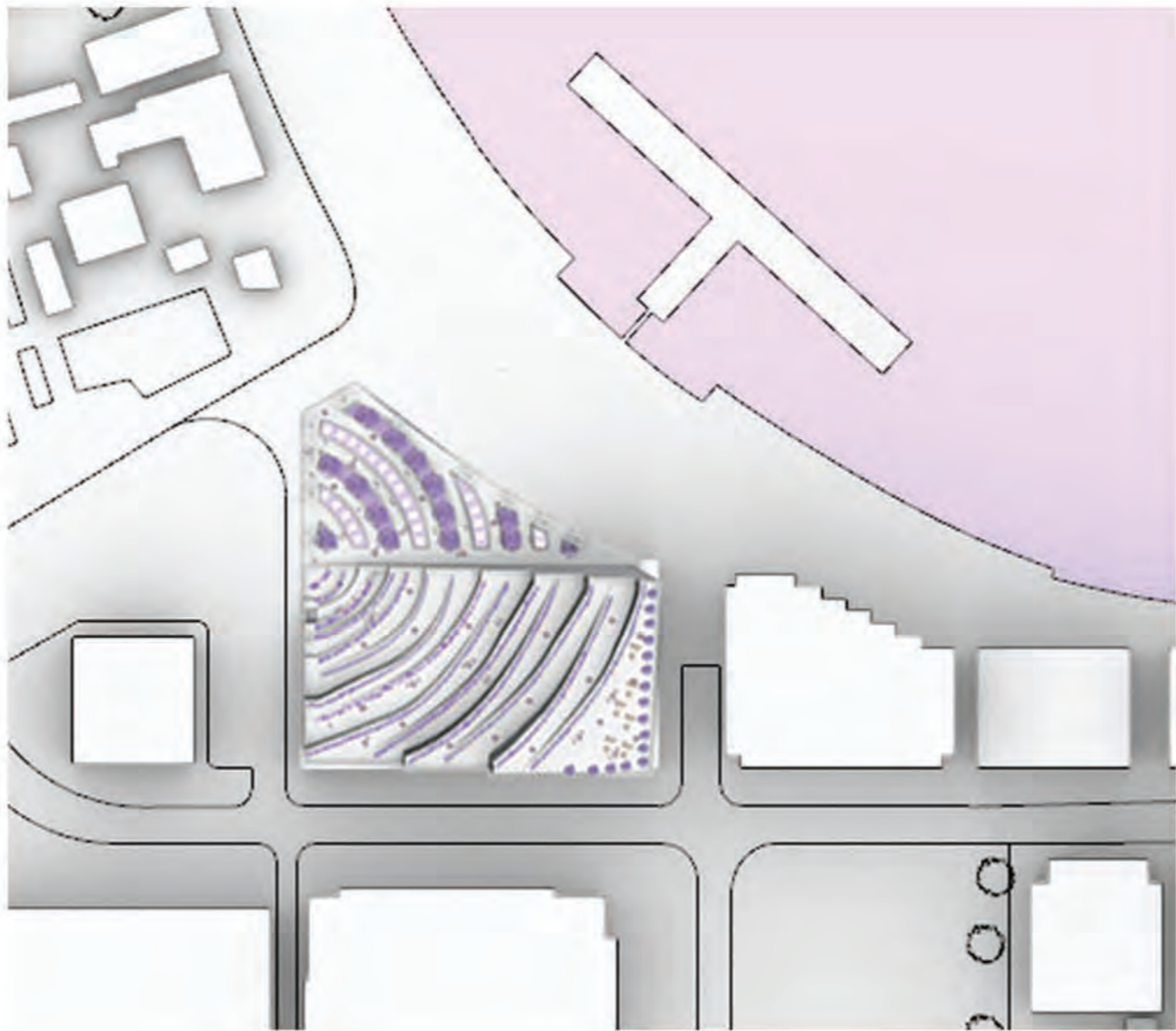


Roof

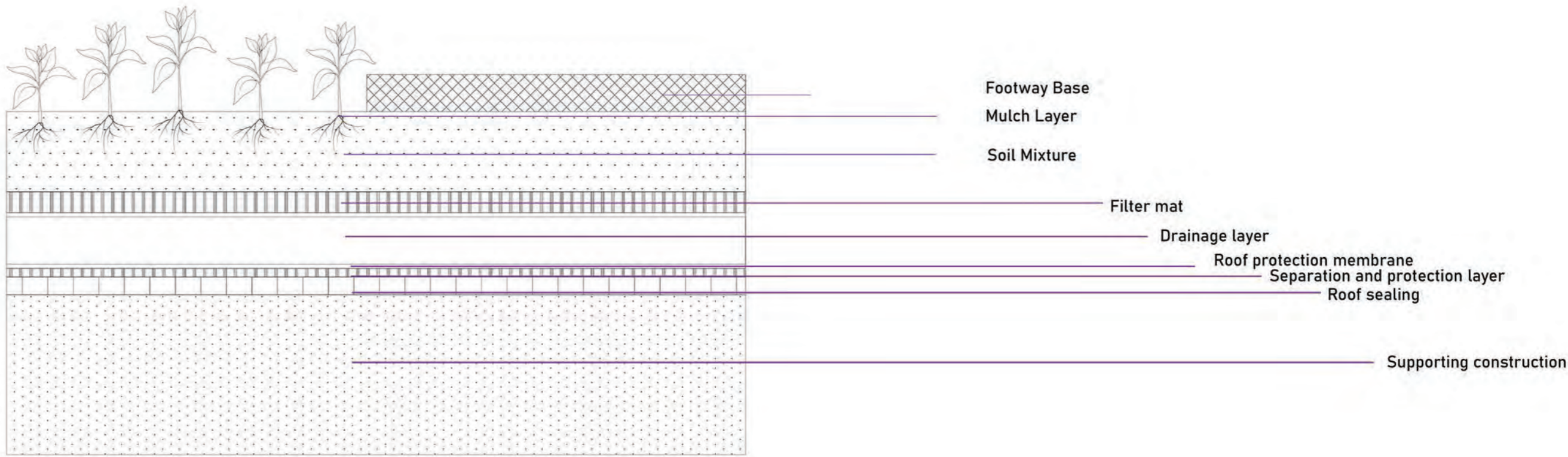
Program components massing



Landscape

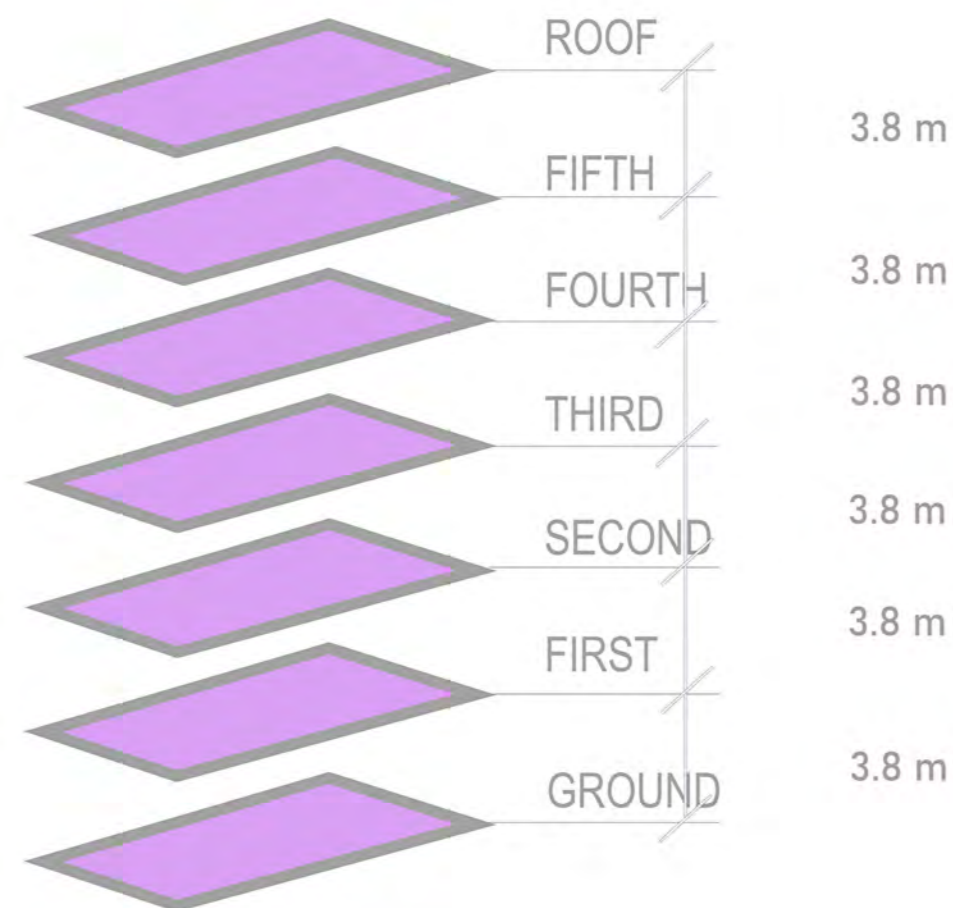


Floor Slab suitable for roof cultivation



Context relationship

Building height

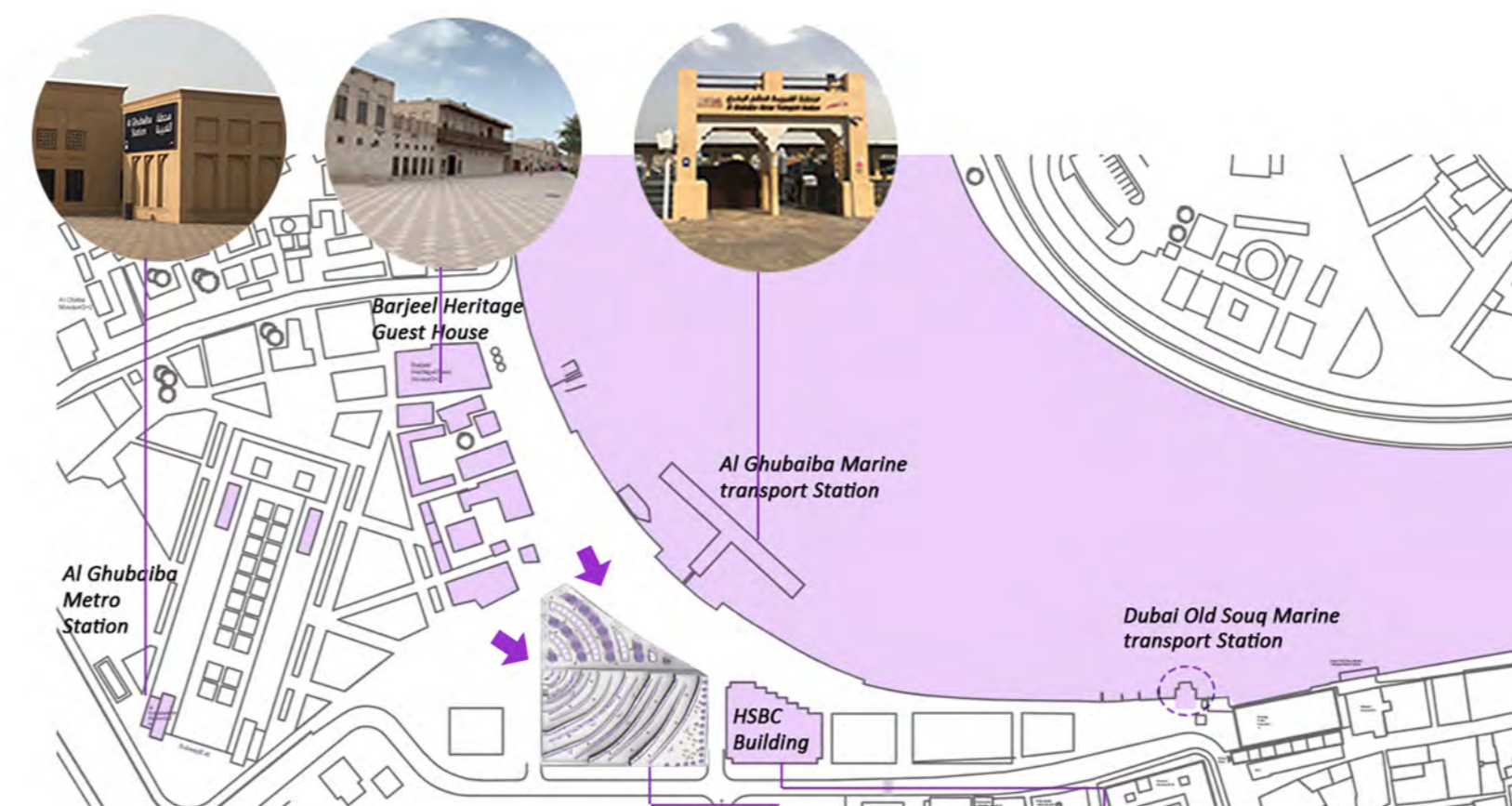


The total height of the building is 22.8 m.
The height of the typical floor is 3.8m (including 0.3 m of slab thickness)
The height of the basement floor is 4.8m (including 0.3 m of slab thickness)

Alignment and Setbacks



Pleasant views connections and Unpleasant views strategy



The ramps of the building faces the Creek and the metro station that regulates a large flow of people.

This attracts the people to use the ramps leading to the roof garden.
The ramps form a promenade thereby improving public urban life

DM LAND RULES

FLOOR NUMBER / HEIGHT

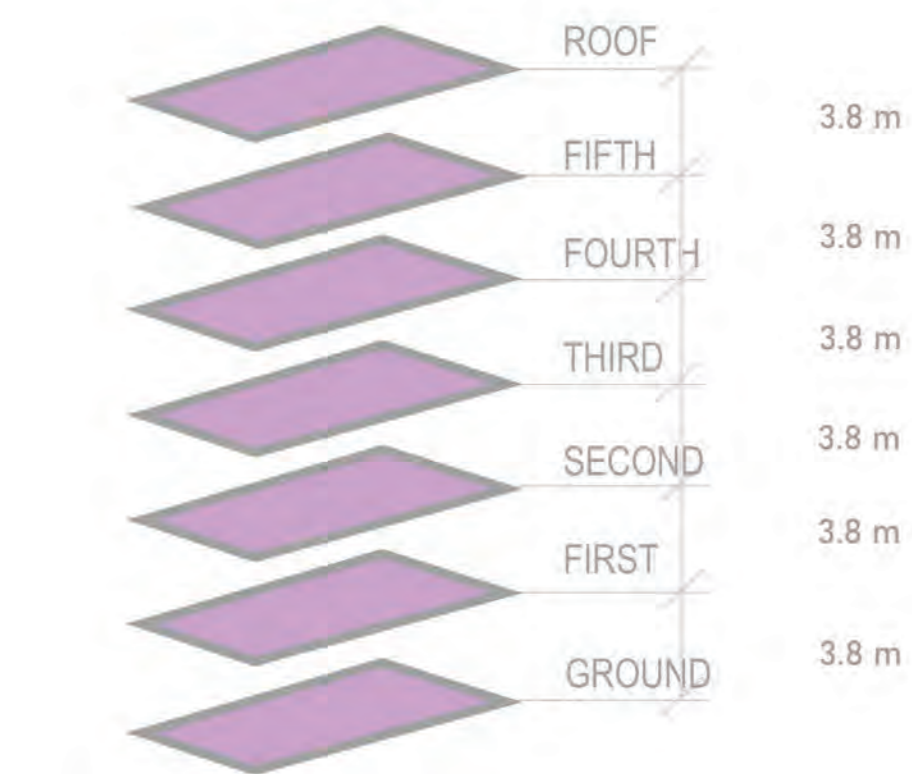
DM regulations Feb 2013, Article 7

The net internal height of a floor shall be calculated from the level of the tile of its ground to the inner side of its apparent ceiling, according to the following:

>Residential and office use:

Minimum: 2.7 m

Maximum: 4.25 m



ALIGNMENT & SETBACKS

DM regulations Feb 2013, Article 11

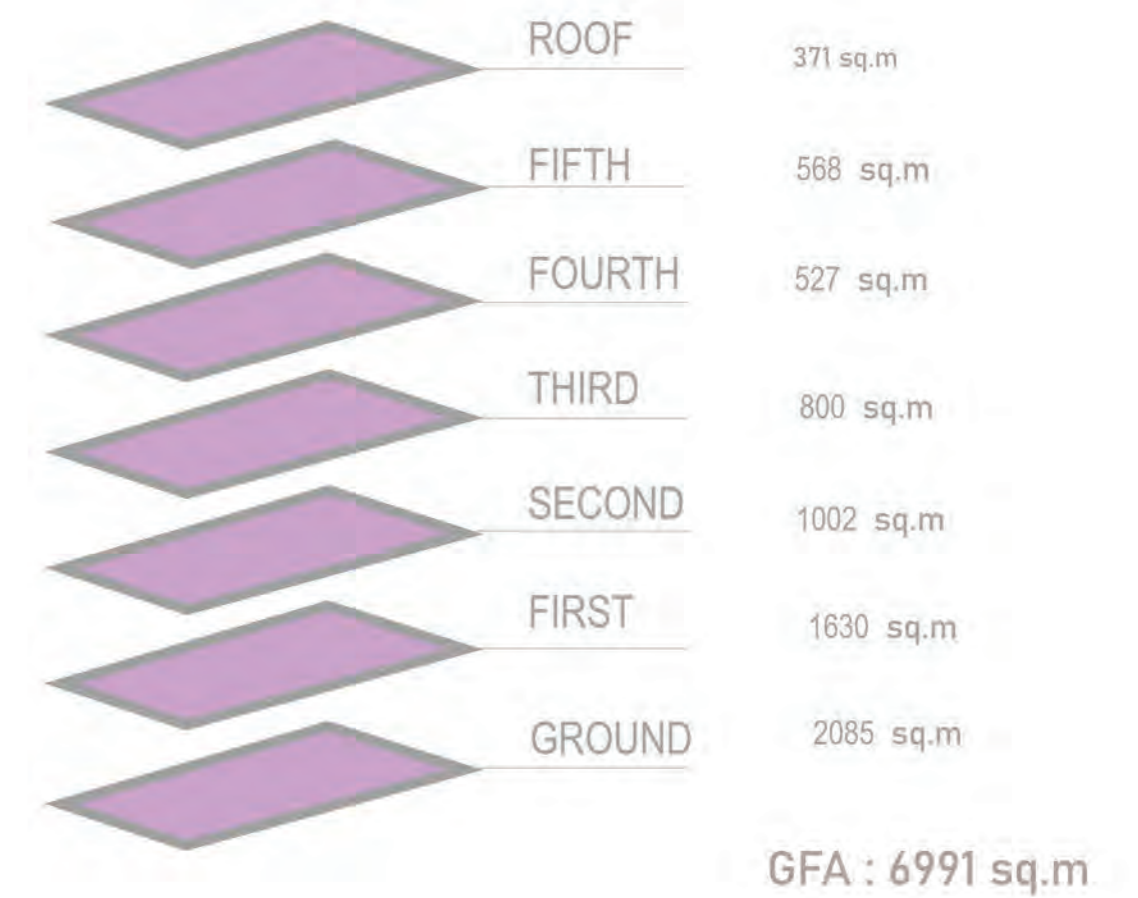
Setbacks shall be measured from the plot border on the neighbor side and from the beginning of the midline of the neighboring pathways and streets. The setback of all buildings must not be less than 3m as a minimum from the direction of the basement



GFA CALCULATION

DM regulations Feb 2013, Article 6

The minimum plot area which is suitable for building shall be in the Central Business District in Deira and Bur Dubai, (with its borders, as set out in the general structural planning of the city), 100sqm as a minimum.



EXISTING / NEW ROAD CONNECTIONS



OTHERS

ALSO I'VE SWAPPED THE GFA CALCULATION AND THE ROAD CONNECTIONS COZ OF SPACE

DM BUILDING REGULATIONS

PARKING NUMBER

DM regulations Feb 2013, Article 25

The minimum parking number to be provided in buildings shall be as follows :

- > Offices :
One parking for 50 sqm of total office area
- > Commercial use :
One parking for 70 sqm of total area for commercial use

GFA = 6991 sqm.
square meters per parking = 50
6991 sqm. / 50 sqm. = 140 parking slots



GARBAGE COLLECTION

DM regulations Feb 2013, Article 51

The waste container pool should be ont the ground floor. Its entry should be connected to the street by a suitably ramped slope. The building must be supplied with a chute system , if it higher than three floors over the ground floor.



DM regulations Feb 2013, Article 44

The minimum sanitation utilities to be available in buildings shall be as follows:

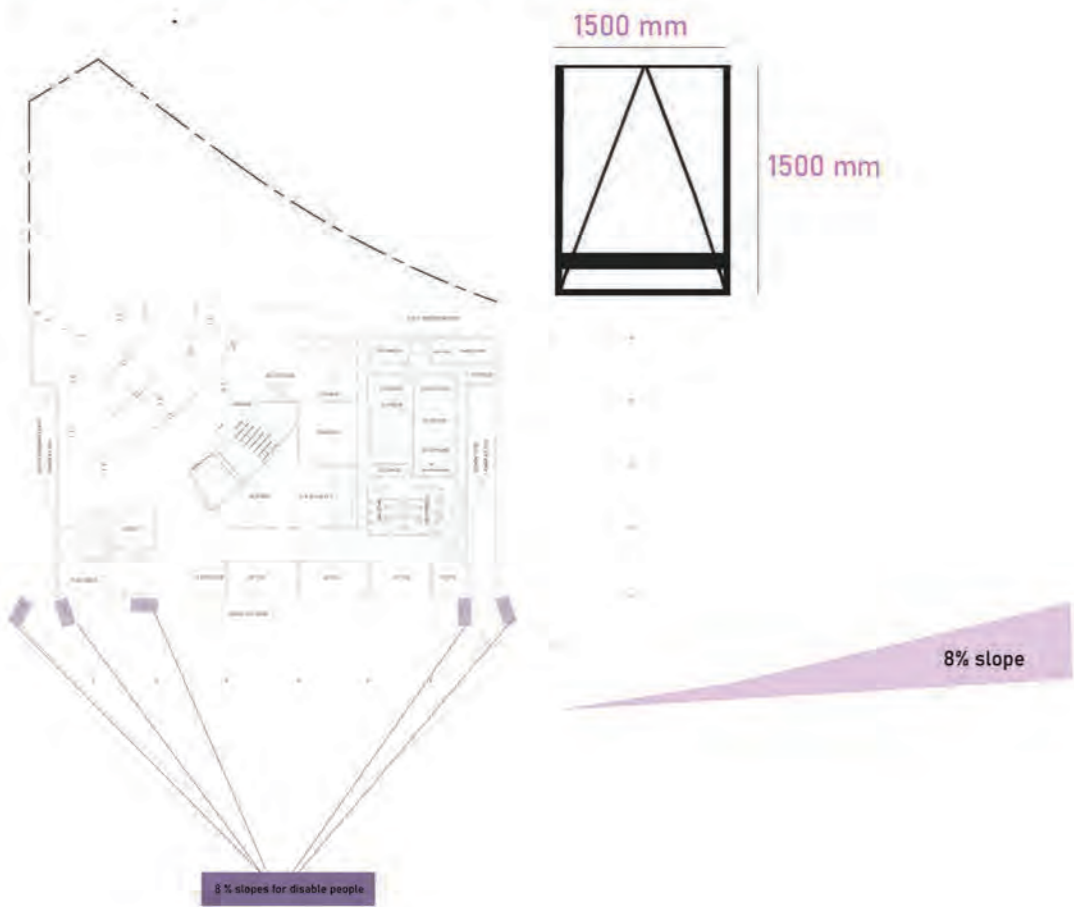
Offices:

A toilet must be provided for every separate office or bathroom or a toilet for every 200 sqm of the open office area, in case of common toilets.



Detailed Ramps and Slope

DM reg. feb 2013 article 23: The tilt of car slopes msu be no more than 1-10 minute height. The net height over a new slope must be less than 2.4m to be measure from vertical direction of the slope.

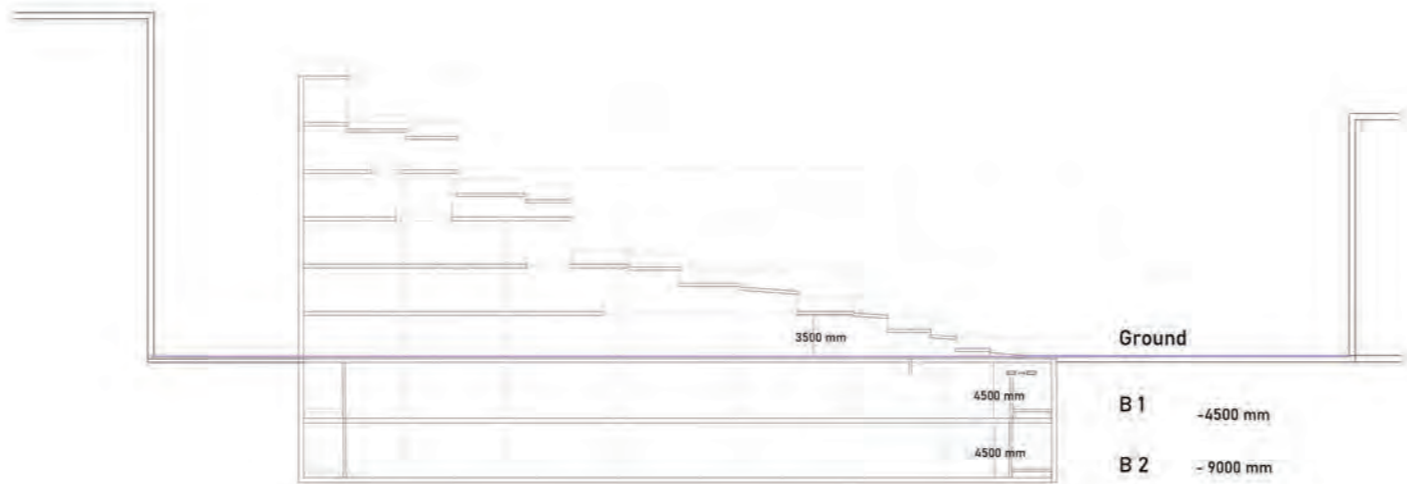


MAX HEIGHT AND CLEAR HEAD ROOM

DM regulations Feb 2013, Article 7

The net internal height of a floor shall be calculated from the level of the tile of its ground to the inner side of its apparent ceiling, according to the following:

- >Residential and office use:
Minimum: 2.7 m
Maximum: 4.25 m



BASEMENT LEVEL REGULATION

DM regulations Feb 2013, Article 18

The conditions for constructing a basement floor shall be as follows:

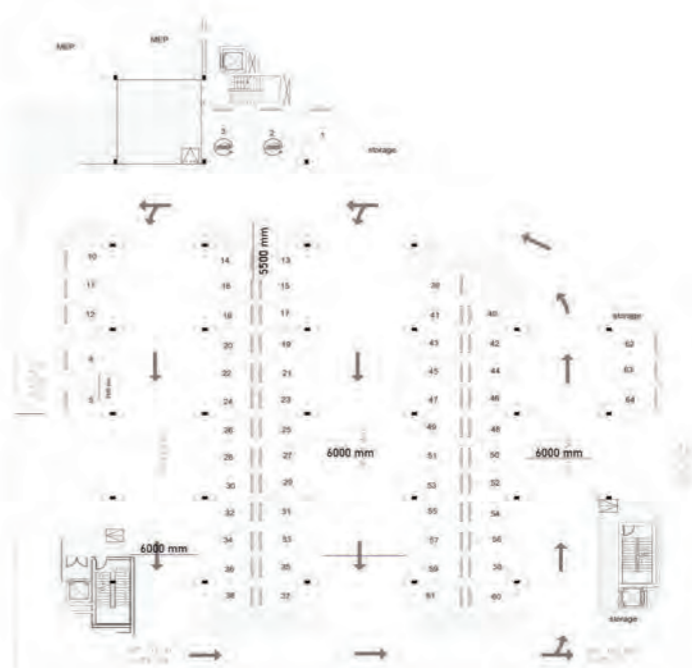
The maximum height of the basement ceiling shall be no more than 1.1 m, measured from the road edge, in the buildings.

The basement shall be connected by a staircase from inside the building. Ventilation and lighting shall be provided on the basement floor.

The basement floor may not be used for accommodation, offices or commercial use. Its use shall be only confined to:

1. Car parking and the services of the building and
2. The services of the residents

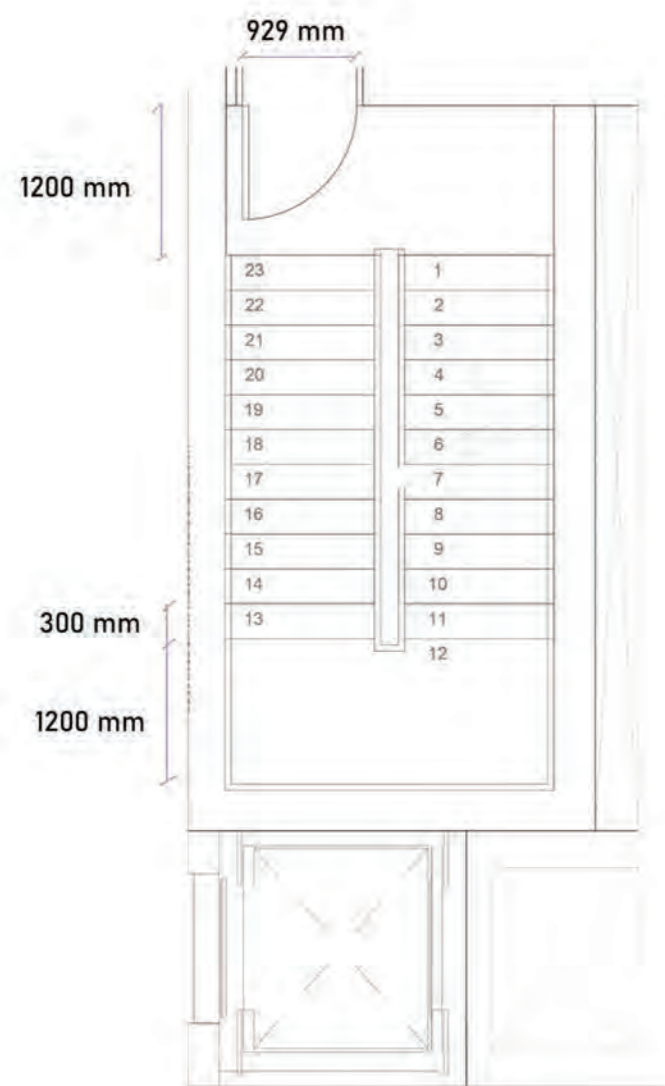
Any part or the foundations of the basement floor should be protruded outside the borders of the plot.



Corridor Clearance

FLS UAE 2018 ,Chapter 3 Table3.8

Minimum of 1200mm shall be provided for every exit corridor, unless the increased width is demanded by the egress width calculation based on occupant load and as required by the individual occupancies.



OTHERS

STAIRS

DM regulations Feb 2013, Article 21

The net stairs width, based upon the exit width, must, in all events, be no less than 1.1 m in the residential and office buildings.
The continued steps in one direction must be no more than 14 steps as a maximum.

The minimum net height above a step shall be 2.4 m.
It is conditional that the main stairs in the residential, commercial, and public building shall be made of fire resistant materials.
There must be a protective barrier at the vacant end of the stairs (handrail) no less than 90 cm in height.

Upon selecting the location of the stairs, the following specifications shall be observed:

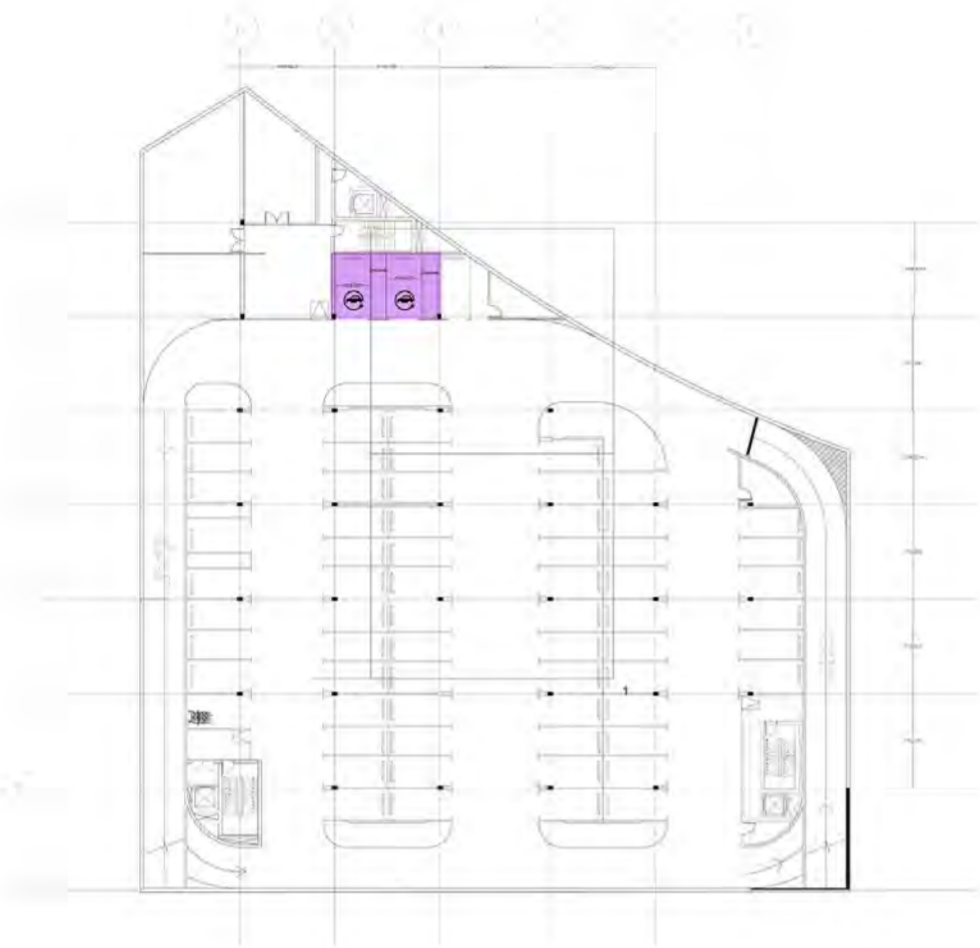
- 1. It shall be accessible from any point in the building and near as much as possible to the street or pathway.
- 2. The space from the door of the stairwell to the farthest point on the floor should be no more than 27 m in the ordinary buildings.



ACCESSIBILITY - UNIVERSAL CODE

Car Park Preferred

For all new buildings other than villas, that have more than 20 parking spaces, designated preferred parking must be provided for a combination of low emitting, fuel efficient and carpool vehicles for required percentage of total vehicle parking spaces required by DM building regulations



Accessibility Path Diagram

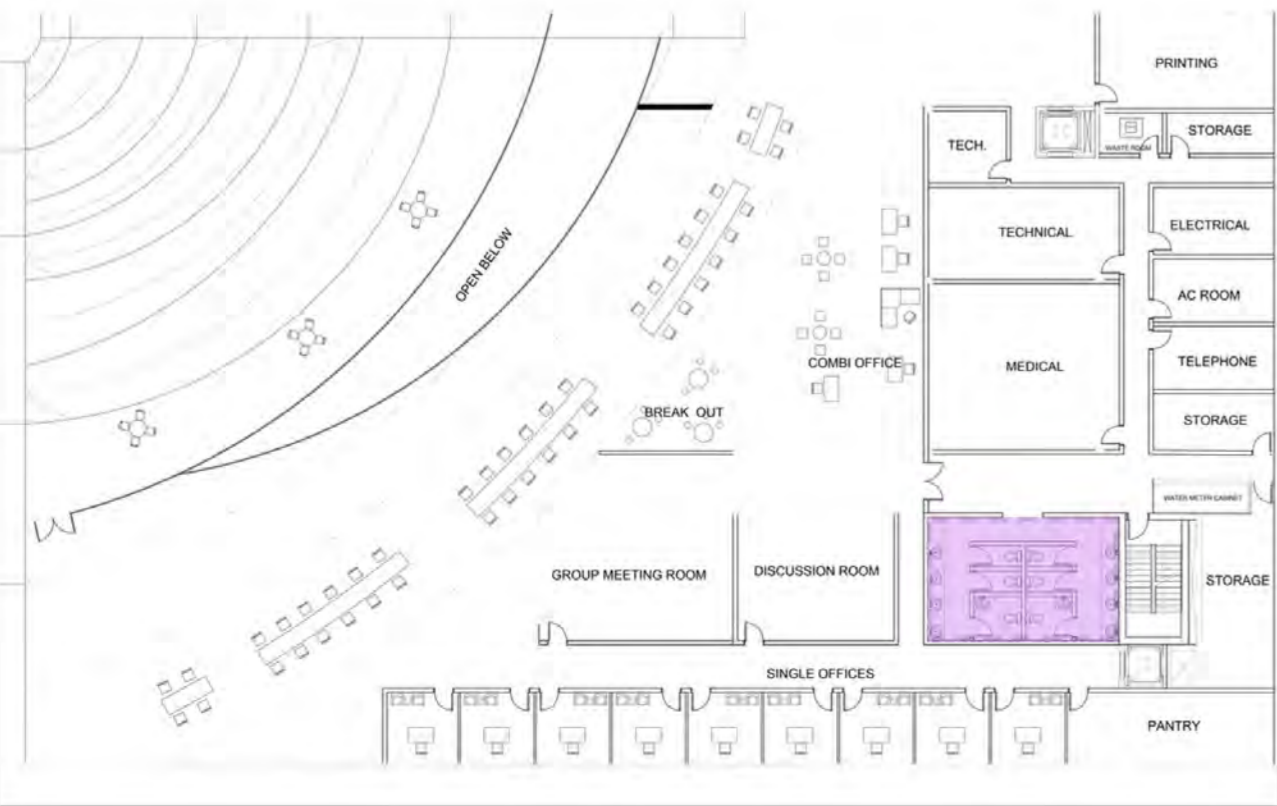
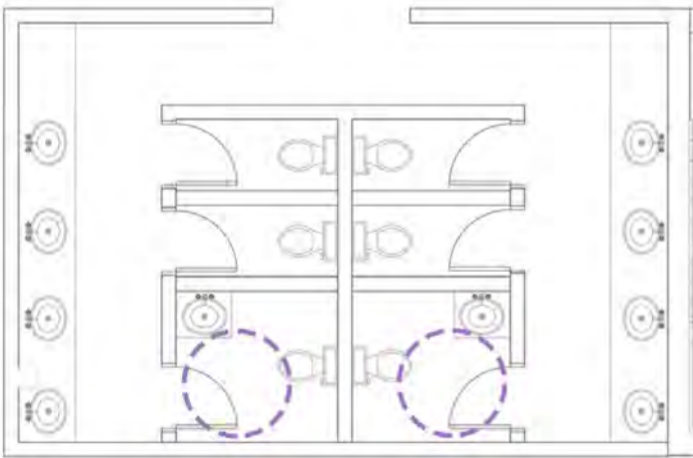
DM universal code feb 2017, Article 5.1
It shall always be more than 2000mm and no one obstacle can reduce it to less than 1200mm



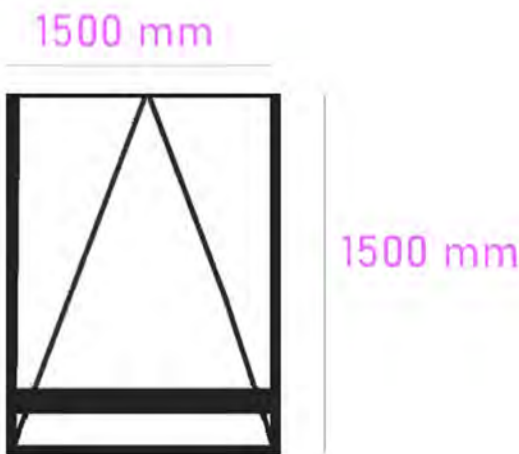
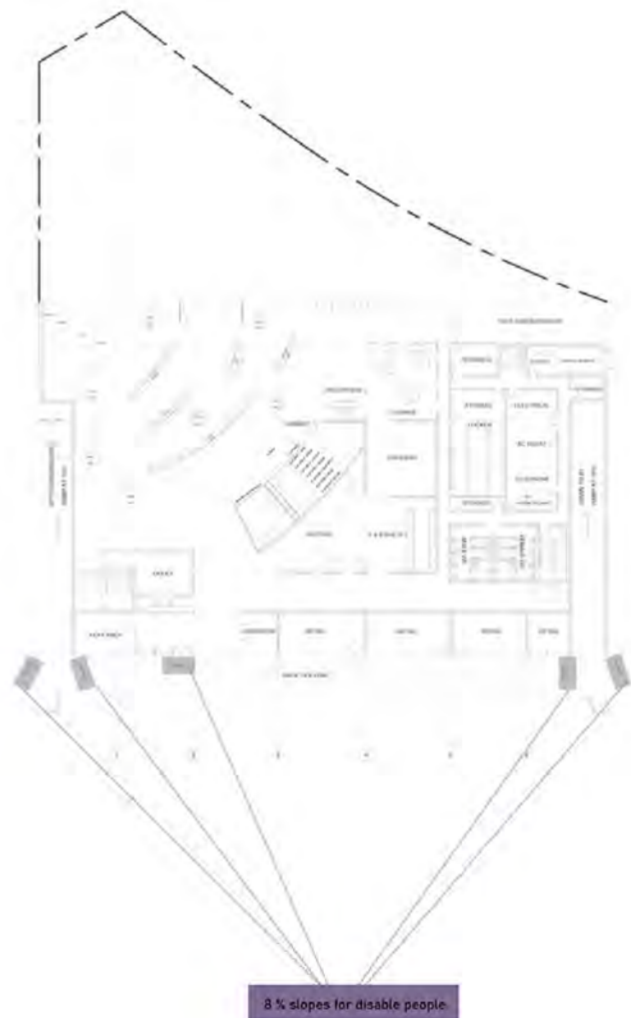
Disabled Ramps and Slope

DM reg. feb 2013 article 23: The tilt of car slopes must be no more than 1-10 minute height.
The net height over a new slope must be less than 2.4m to be measure from vertical direction of the slope.

Disabled Toilet



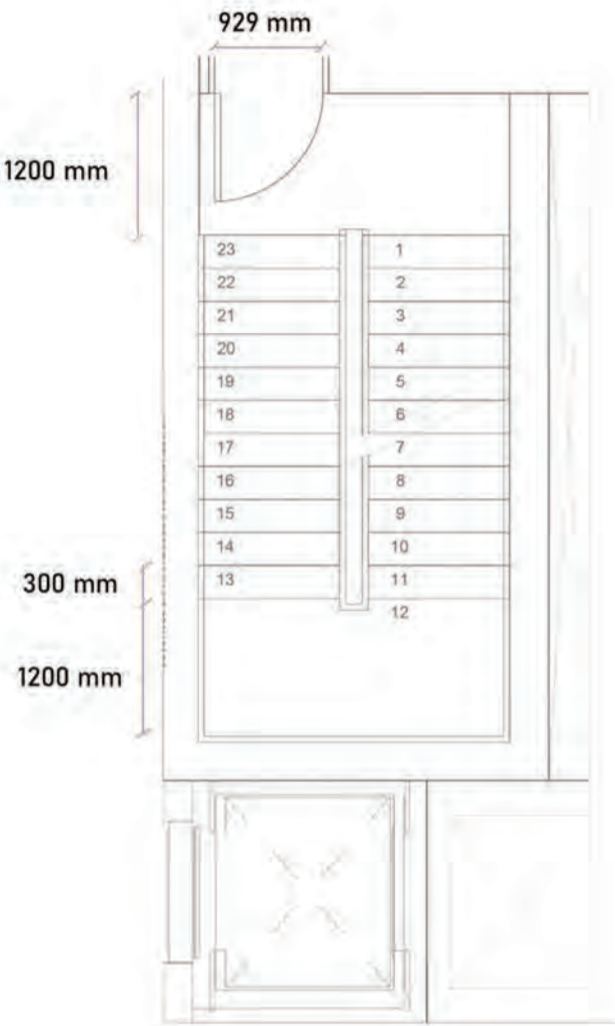
Disabled Lifts



Corridor Clearance

Others

FLS UAE 2018 ,Chapter 3 Table3.8
Minimum of 1200mm shall be provided for every exit corridor, unless the increased width is demanded by the egress width calculation based on occupant load and as required by the individual occupancies.



FIRE SAFETY

Building Category and Applied Code

FLS UAE 2018, CHAPTER1, 1.7.2

Category B (Group B)
Business: An occupancy used for the transaction of business other than mercantile, usually used for office, professional or service-type transactions, including storage of records and accounts.

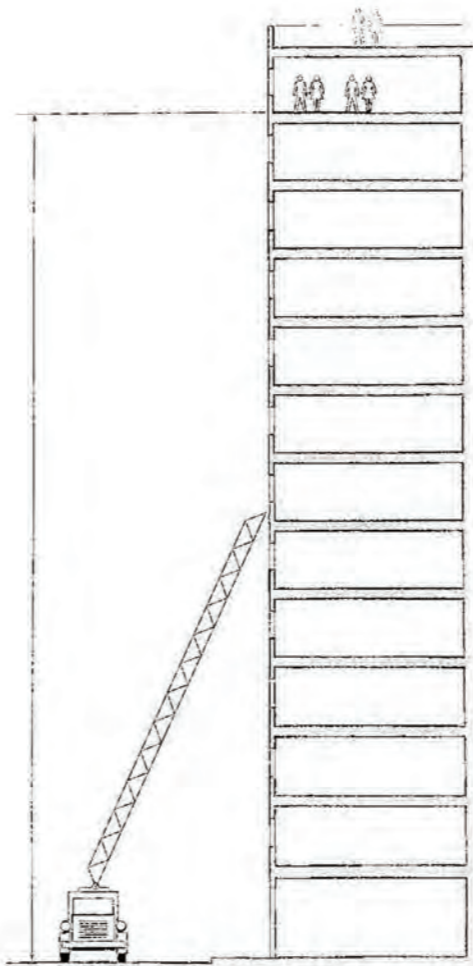
2.3. Types of Occupancies (Occupancy Classifications)

2.3.1. Table 1.1. defines the occupancies, based on which the construction requirements, height, area, Fire resistance of structural elements, separation between buildings are dictated. For sprinkler design purpose, occupancy classifications shall be in accordance with Chapter 9, Section 1.1.13.

Table 1.1: Types of Occupancies based on their usage, Hazard and number of occupants (RISKS)			
OCCUPANCY	GROUP A	GROUP B	GROUP C
2. Business An occupancy used for the transaction of business other than mercantile, usually used for office, professional or service-type transactions, including storage of records and accounts.	1. Electronic data processing 2. Telephone exchanges 3. Radio and television stations 4. Laboratories 5. Testing and research 6. Airport traffic control towers	1. Offices 2. Modular Site Offices 3. Banks 4. Government offices 5. Post offices 6. Money Exchange centers 7. Sales and Marketing Offices 8. Professional/ Consultancy services such as architects, attorneys, dentists, physicians, engineers, etc.	1. Barber Shops 2. Beauty Shops 3. Massage Centers 4. Typing Centers 5. Translation centers 6. Print Shops 7. Photo Studios

Low rise / High rise Implications

FLS UAE 2018, CHAPTER 1 , 1.2.7 & CHAPTER 1, 1.7.41
High Rise Building : The occupancies or Multiple and Mixed occupancies , facilities , buildings and structures having total height of the building (excluding roof parapets) is between 23 Meters to 90 Meters from the lowest grade or lowest level of Fire Service access into that occupancy is categorized as High rise building. The vertical distance from the grade plane to the average elevation of the highest roof surface. It is measured from the distance of the curbstone of the nearby road, as approved to calculate the level of the tiles of the ground floor to the end of the ceiling of the building, excluding the stairwell ceiling, mechanical equipment and services on the end of the ceiling. in other words the vertical distance that is measured from the ground surface level to the highest point of the height of the building.

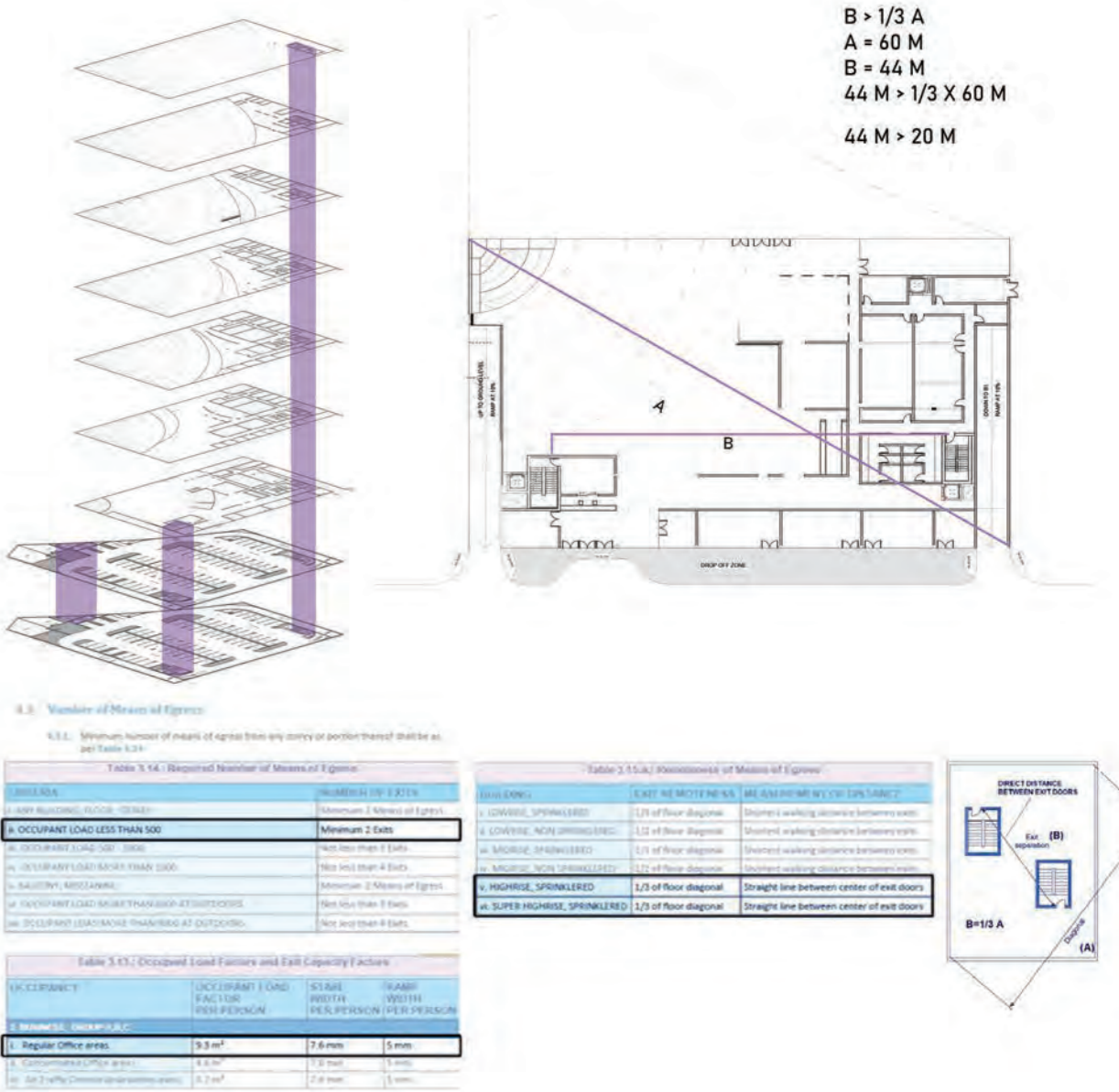


BUILDING CODES ILLUSTRATED 2018, CHAPTER4, SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE

Criteria for determining if a building is a high-rise is measured to the highest occupied floor,- no to the height of the building construction, and not to an occupied roof. The definition of a high-rise building is based on the height at which typical fire-department extension ladders and hose streams can effectively fight a fire. Thus a building with an occupied floor more than 22860 mm the lowest of fire-department access is defined as high-rise.Fire fighting in a high-rise assumes that the fire fighters must enter the building and go up inside the building to fight a fire.

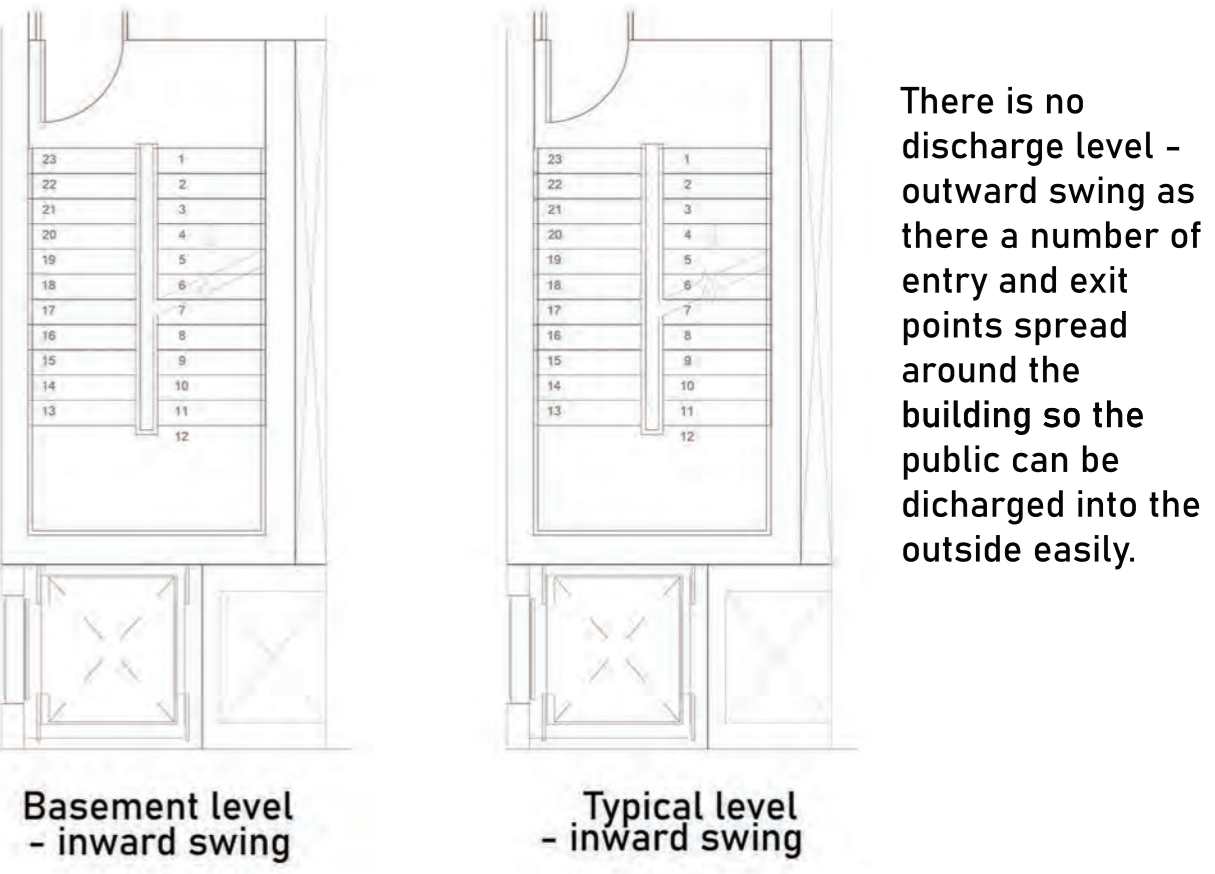
Fire Exit Cores Number & Distance

FLS UAE 2018, CHAPTER 3 , TABLE 3.14
Occupant load less than 500 - Minimum 2 Exits



Direction of egress & discharge level

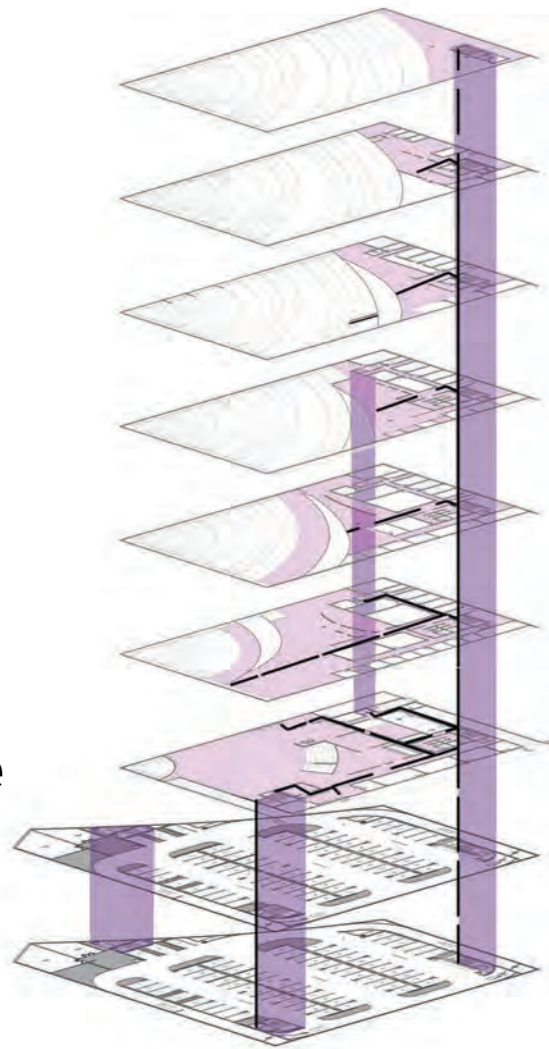
FLS UAE, Chapter 3 Table3.2
Door leaves required to be of the side hinged or pivoted swinging type shall swing in the direction of egress travel. For sprinkler protected buildings, minimum of 50% of the number of exits, and minimum 50% of the required egress capacity, shall discharge directly to the outside of the building through yards, courts, open spaces or similar



Means of Egress

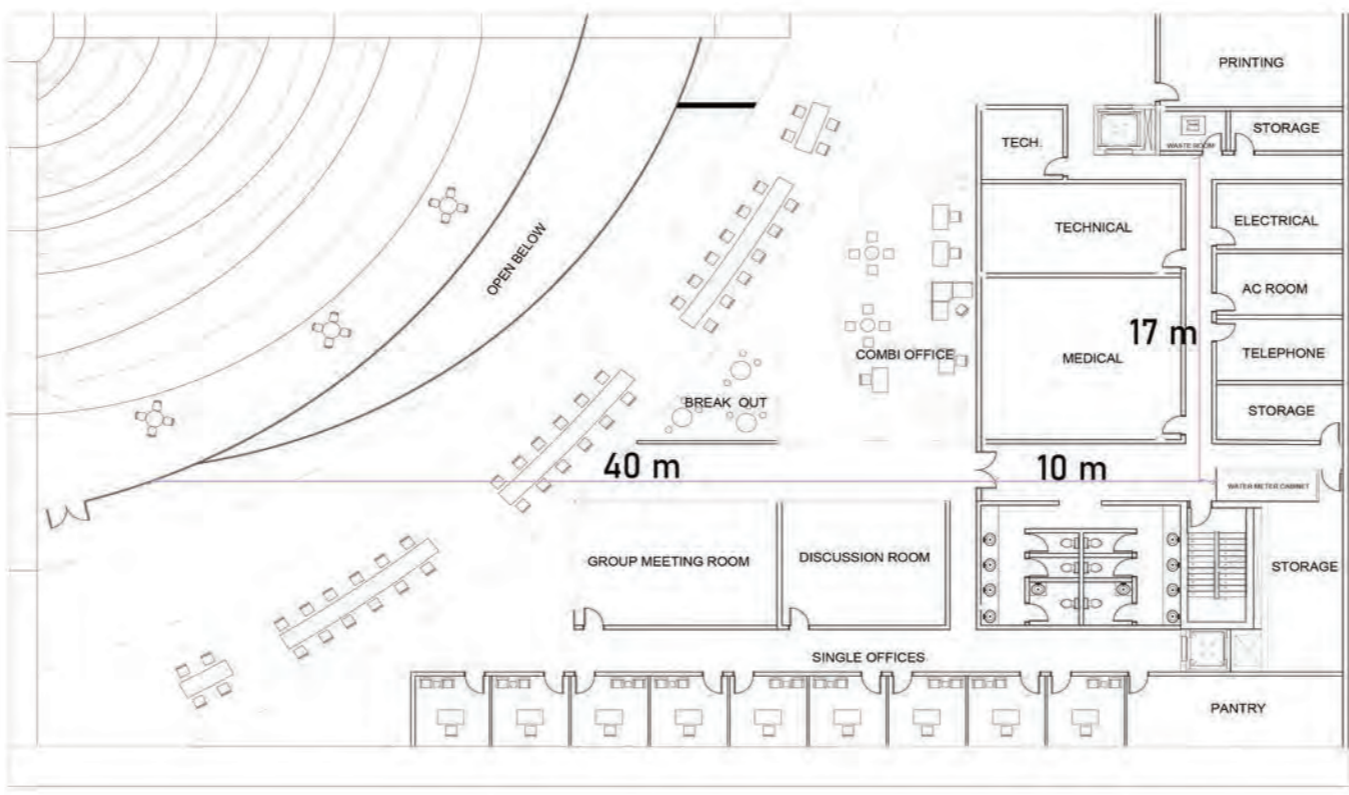
FLS UAE 2018, Chapter 3, 2.2.1 and Table 3.14

Two means of egress , as a minimum, shall be provided in every occupied building or structure , section , and area where size , occupancy , and arrangement endanger occupants attempting to use a single means of egress that is blocked by fire or smoke.



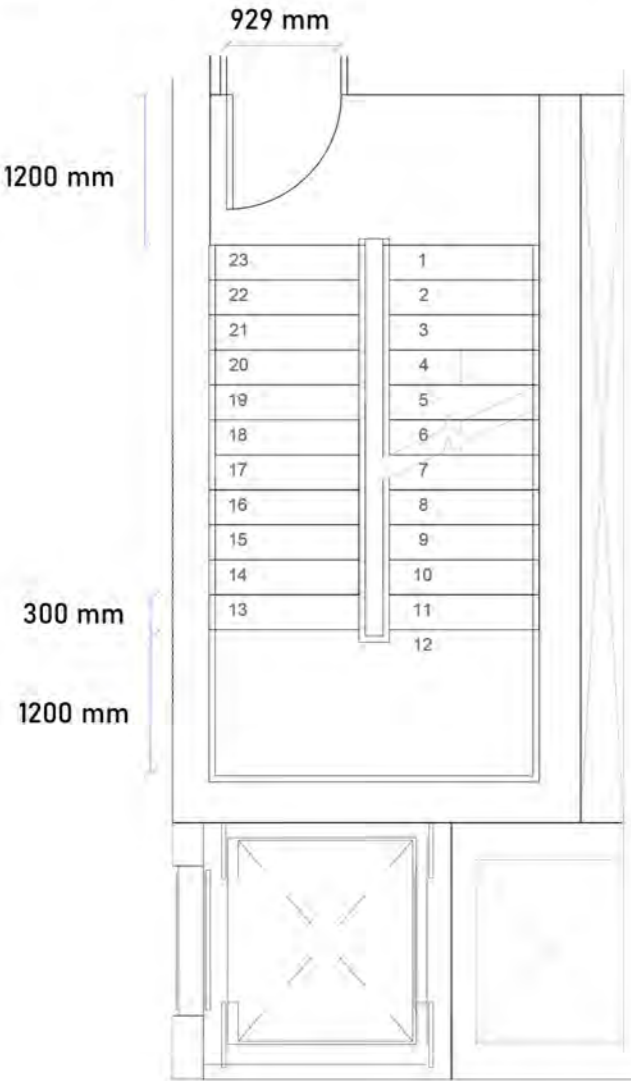
Typical Floor Travel Distance

Fire and life safety codes of practice , 2011 edition, Chapter 3
Travel distance required with sprinkler protection business occupancy : 91m



Corridor Clearance

FLS UAE 2018 ,Chapter 3 Table3.8
Minimum of 1200mm shall be provided for every exit corridor, unless the increased width is demanded by the egress width calculation based on occupant load and as required by the individual occupancies.



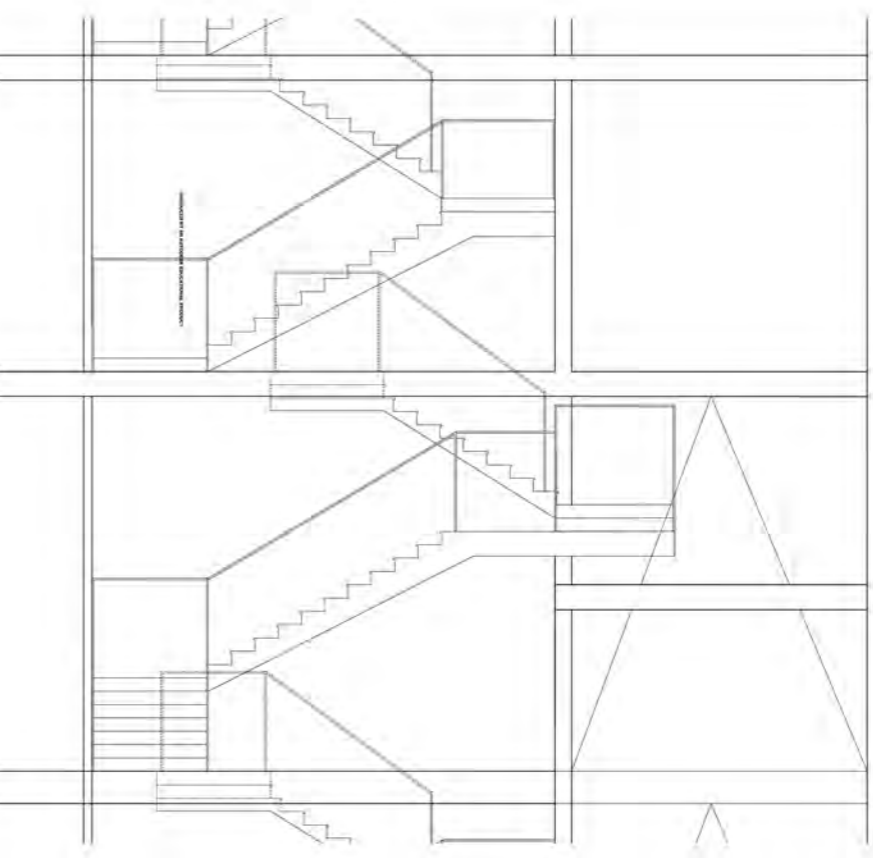
Basement Travel Distance

Distance between exits 29 m



Fire exit stairs

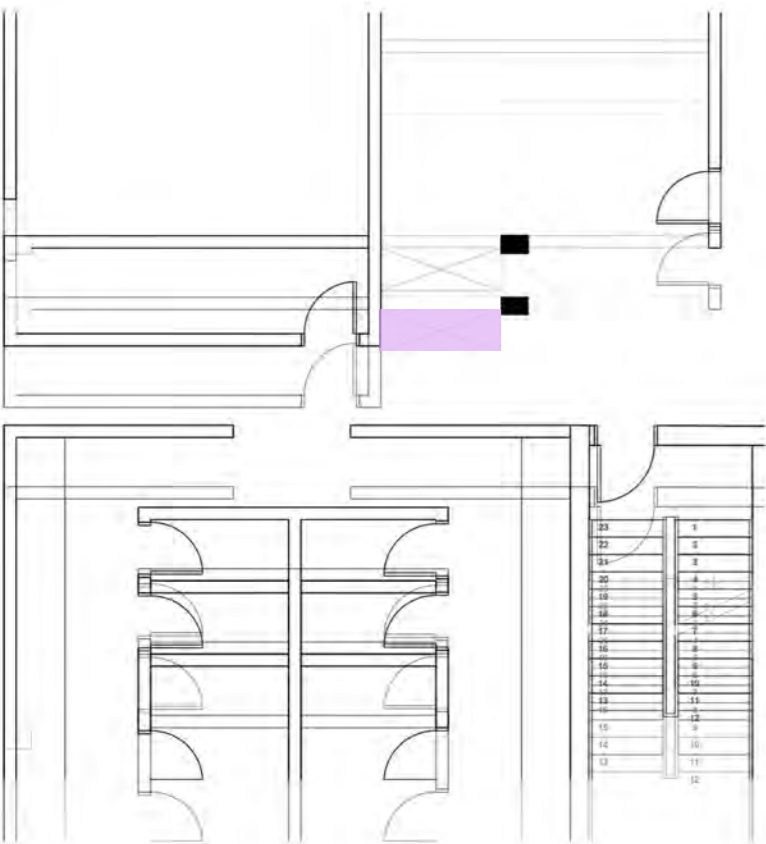
FLS UAE 2018, Chapter 3 Table 3.4
The minimum required width of an exit serving up to 2000 persons shall not be less than 1200 mm and shall satisfy the egress capacity. Maximum height of riser shall not exceed 180 mm. Minimum stair thread depth



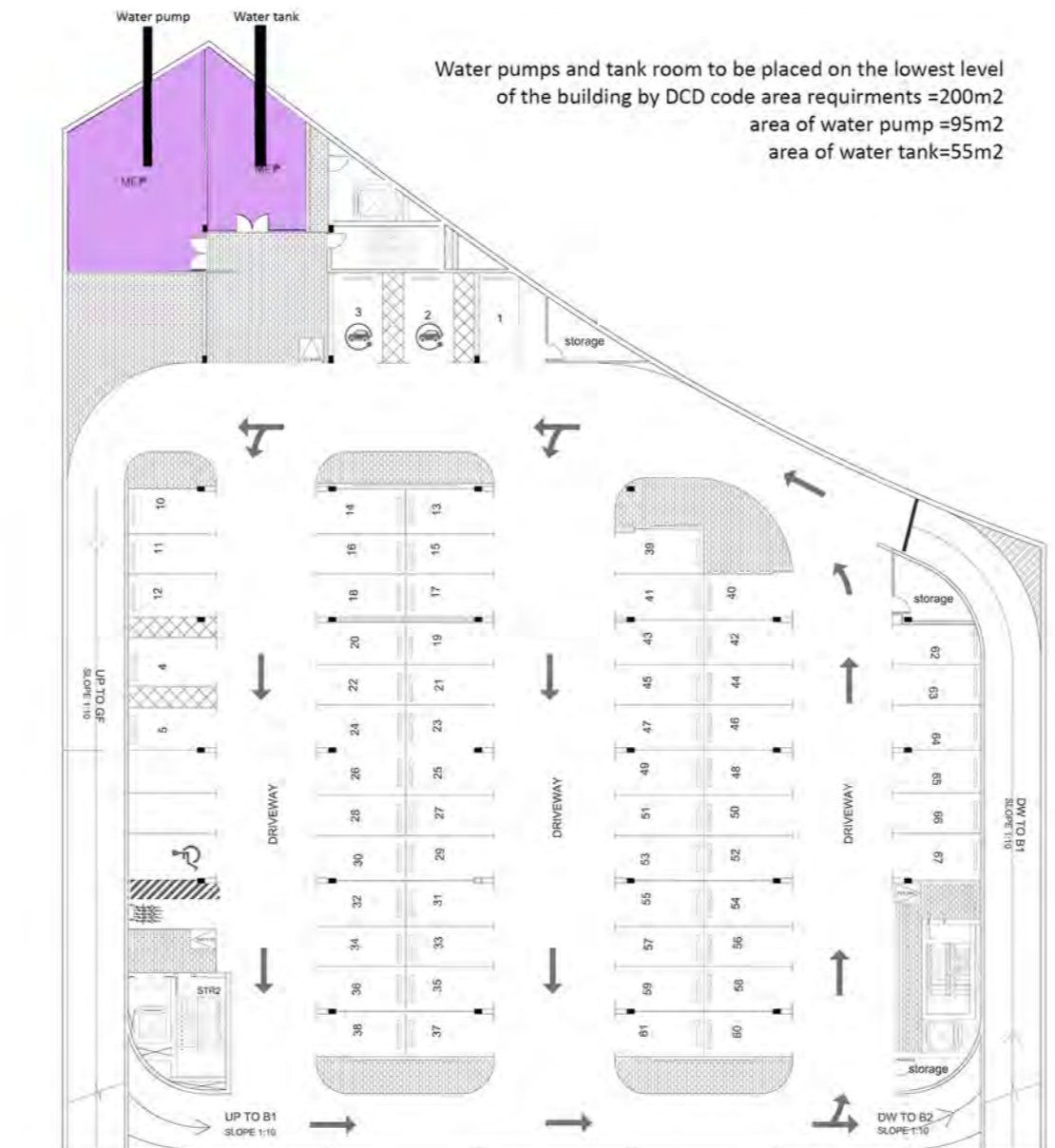
Riser = 170 mm
Tread depth = 300 mm

Provision for fire hose cabinet

FLH UAE 2018 , Chapter 2.2, 10.3
Fire Hose Cabinet (FHC) shall be installed and clearly visible next to exit chair and distribute in the corridor circulation areas. In every floor of the building FHC s within 6 meters

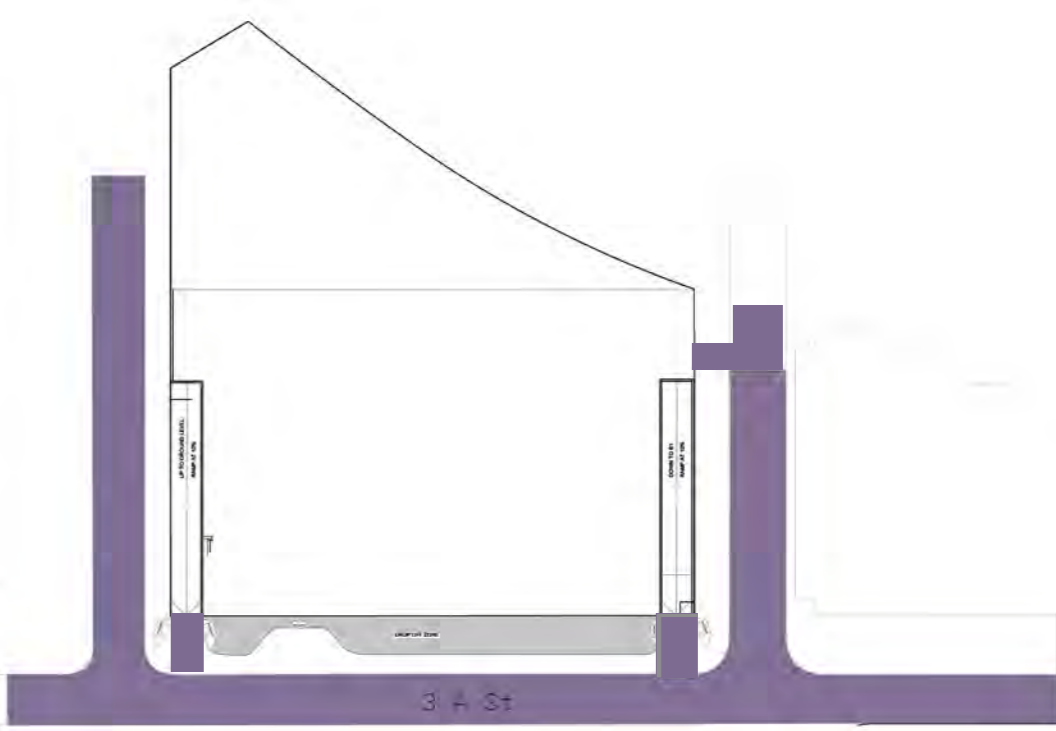


Pump room, water tank location



Fire Truck Access

2018, Chapter 3.4.4.3 and Table 3.12
1 of 1/4th (25%) of the building's perimeter shall have ss road
1 of 1/6 th of the perimeter if area is less than 4000 sqm
eter if area is between 4001 - 8000 sqm



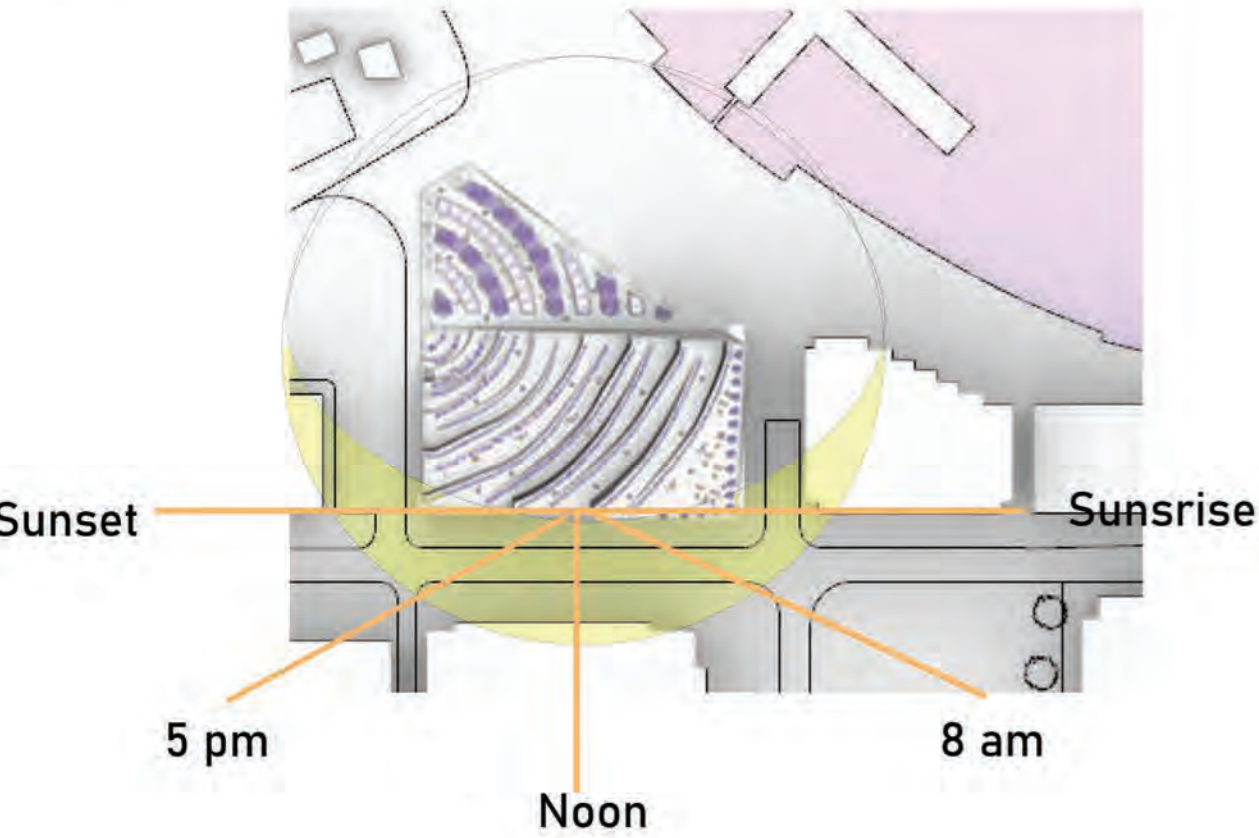
SUSTAINABILITY AND GREEN BUILDING CODE

ORIENTATION

Al Sa'fat 2016, 304 Chapter 4, Article 304.05

For new buildings, other than villas and industrial buildings, One of the following must be achieved

1. At least fifty percent (50%) of the total glazed surface area of the building, (excluding glazed areas with back insulated panels), must be facing the angle located between the east and the north-west which equals to 150 degree starting from the east.
2. South and west glazed areas, excluding glazed areas with back insulated panels, must be treated environmentally.



THERMAL COMFORT ZONING

Al Sa'fat 2016, 402 Chapter 2, Article 402.1

For all new and existing buildings, the heating, ventilation and air conditioning (HVAC) system must be capable of providing the following range of conditions for ninety five percent (95%) of the year

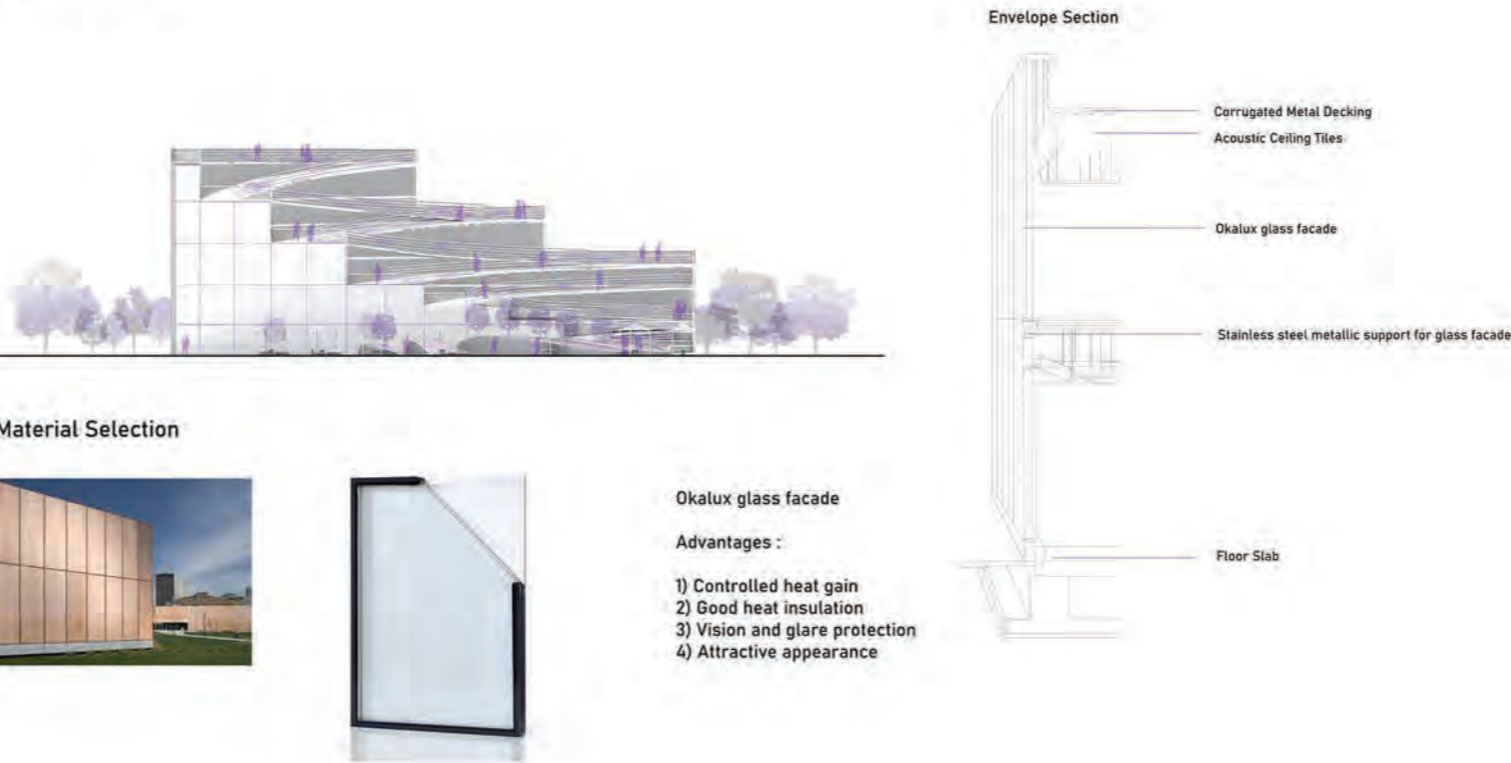
For occupant comfort, normal occupied spaces should have an average air velocity between (0.2 – 0.3) m/s



BUILDING ENVELOPE

Al Sa'fat 2016, 501 Chapter 5, Article 501.1

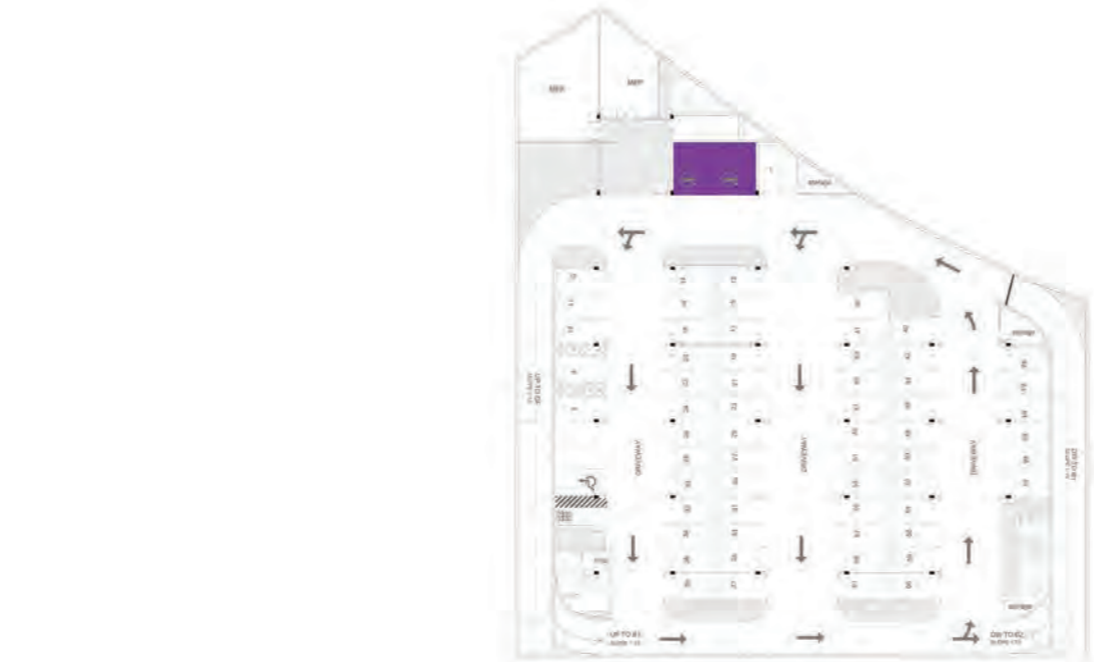
For all new air conditioned buildings, exterior building elements must have average thermal transmittance (also known as U Value) and Shading Coefficients (SC) that does not exceed the values specified and Light Transmittance should be greater than or equal to the value specified.



CHARGING STATIONS

Al Sa'fat 2016, 301 Chapter 1, Article 301.1

For all new buildings, other than villas, that have more than 20 parking spaces, designated preferred parking must be provided for a combination of low-emitting, fuel-efficient and carpool vehicles for required percentage of the total vehicle parking spaces required for the building by Dubai Municipality (DM) Building Regulations. In addition addition to the disabled parking. The required percentages are:
• 5 % for Silver Sa'fa • 7% for Golden Sa'fa • 10% for Platinum Sa'fa

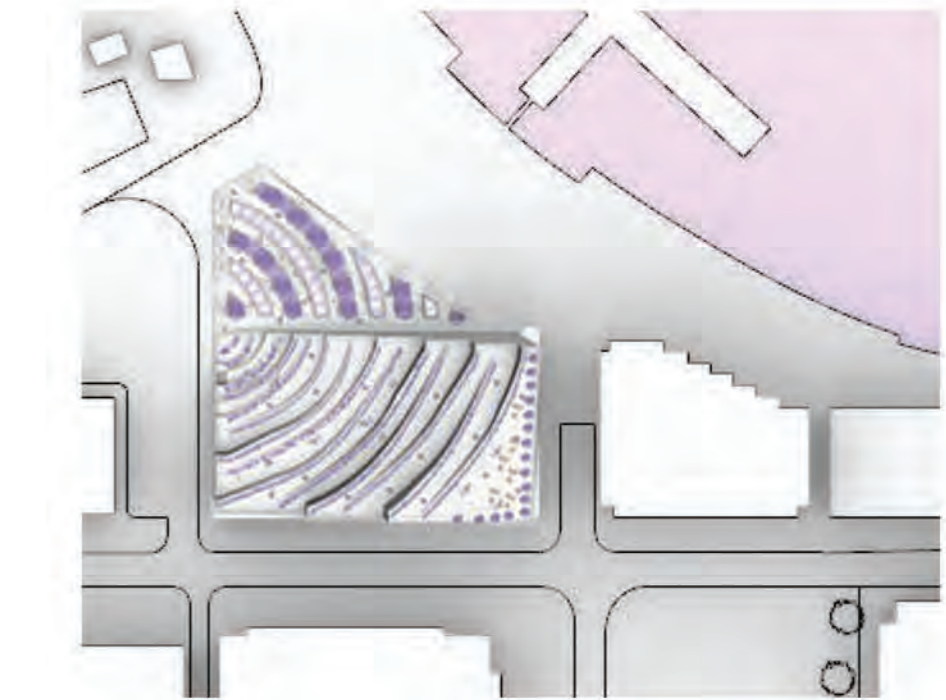


GREEN ROOF

Al Sa'fat 2016, 304 Chapter 4, Article 304.0

For all new and existing buildings, the heating, ventilation and air conditioning (HVAC) system must be capable of providing the following range of conditions for ninety five percent (95%) of the year

For occupant comfort, normal occupied spaces should have an average air velocity between (0.2 – 0.3) m/s



PREFERRED PARKING

Al Sa'fat 2016, 301 Chapter 1, Article 301.0

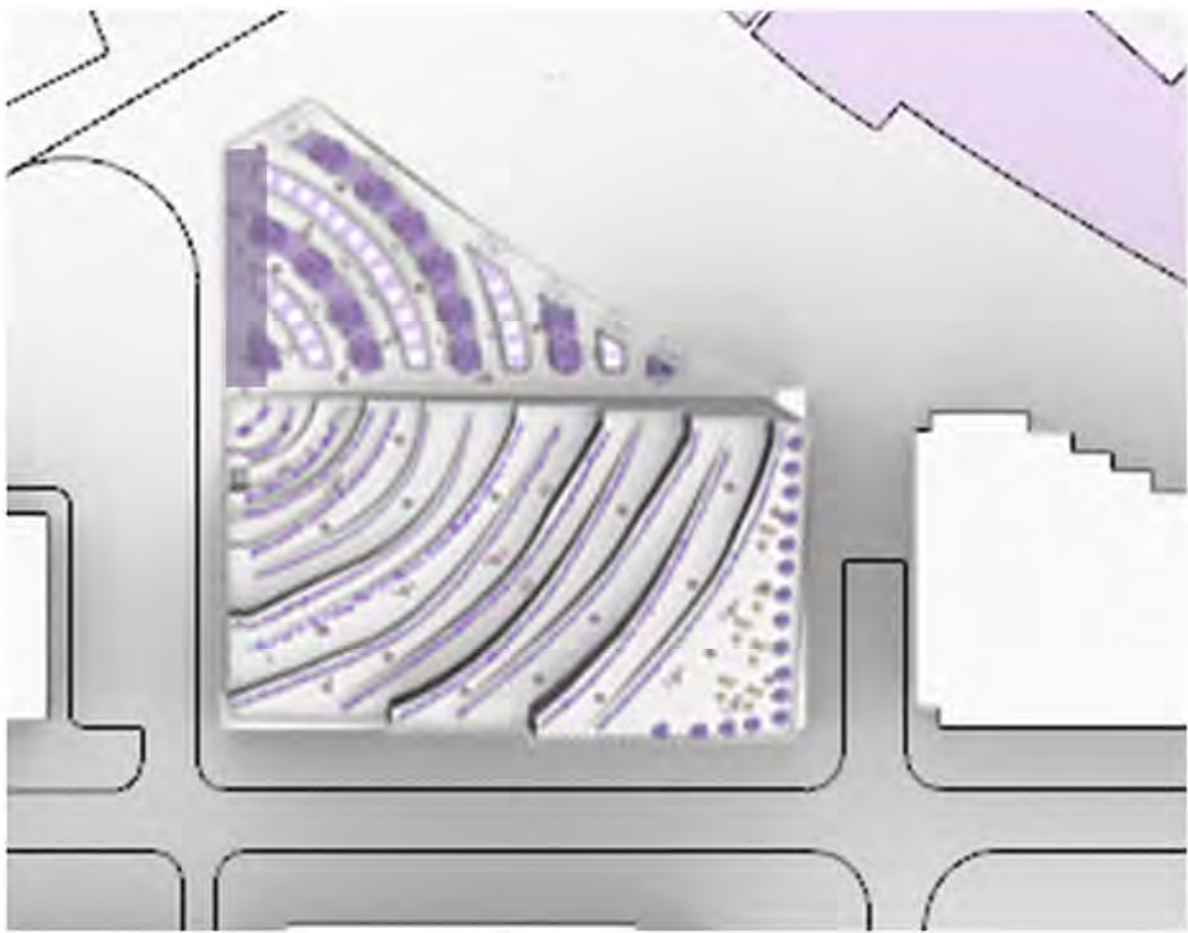
For all new buildings, other than villas, that have more than 20 parking spaces, designated preferred parking must be provided for a combination of low-emitting, fuel-efficient and carpool vehicles for required percentage of the total vehicle parking spaces required for the building by Dubai Municipality (DM) Building Regulations. In addition addition to the disabled parking. The required percentages are:
• 5 % for Silver Sa'fa • 7% for Golden Sa'fa • 10% for Platinum Sa'fa



LANDSCAPE/SHADING

Al Sa’fat 2016, 304 Chapter 4, Article 304.0

For all new buildings, other than villas, all pedestrian linkages within the plot area must be shaded using materials with a Solar Reflectance Index (SRI) equal to or greater than those specified in Table 304.01 (1).



BICYCLE RACKS

Al Sa’fat 2016, 301 Chapter 1, Article 301.0

For all new buildings, other than villas, all pedestrian linkages within the plot area must be shaded using materials with a Solar Reflectance Index (SRI) equal to or greater than those specified in Table 304.01 (1).



PARKING DAYLIGHTING AND VENTILATION¹

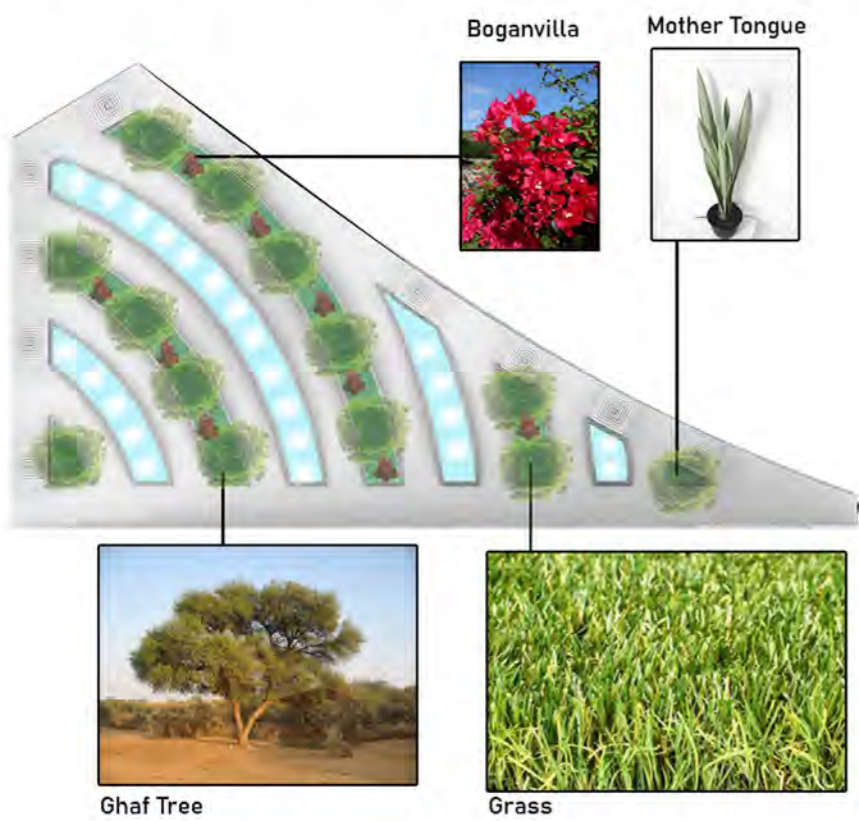
Al Sa’fat 2016, 401 Chapter 1, Article 401.10

Parking Ventilation For all buildings with enclosed parking: A. Mechanical ventilation must be provided to ensure that the Carbon Monoxide (CO) concentration in the enclosed parking area is maintained below fifty (50) parts per million (ppm) by:
• Providing a minimum of six (6) outside air changes per hour, or
• Installing a variable volume ventilation system controlled in response to input from a minimum of one CO sensor per four hundred square meters (400 m2) floor area of parking. B. A supply of outdoor air must be provided to each parking level. C. Occupied areas such as offices, shopping centres, hotels, waiting rooms, and ticket booths connected to enclosed parking, must be supplied with conditioned air under positive pressure compared with adjoining parking area. D. Ventilation systems must be capable of providing ten (10) air changes per hour for smoke clearance purposes in case of a fire incident. (Or monitoring CO concentration as per Item (E)). E. CO monitoring equipment must be installed with a minimum of one CO sensor per four hundred square meters (400 m2) floor area of parking. Sound alarm triggers when the CO concentration reaches or exceeds seventy five (75) ppm in, at least, five percent (5%) of the monitored locations. F. Where a Building Management System (BMS) or Central Control and Monitoring System (CCMS) is installed, the CO concentration must be monitored to allow real-time profiling and management of air quality.

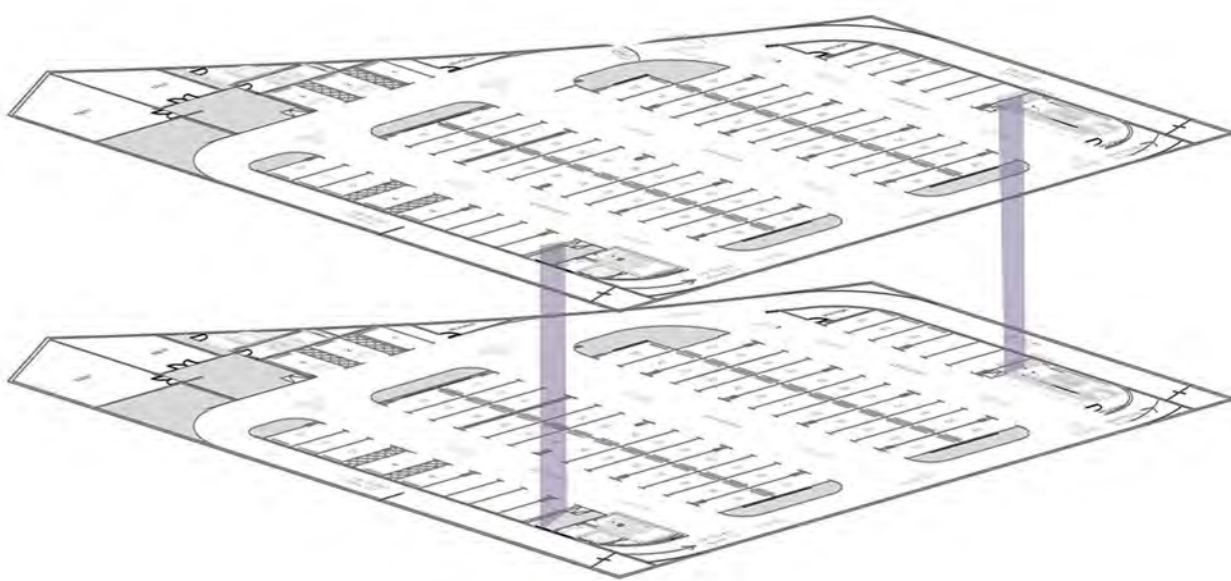
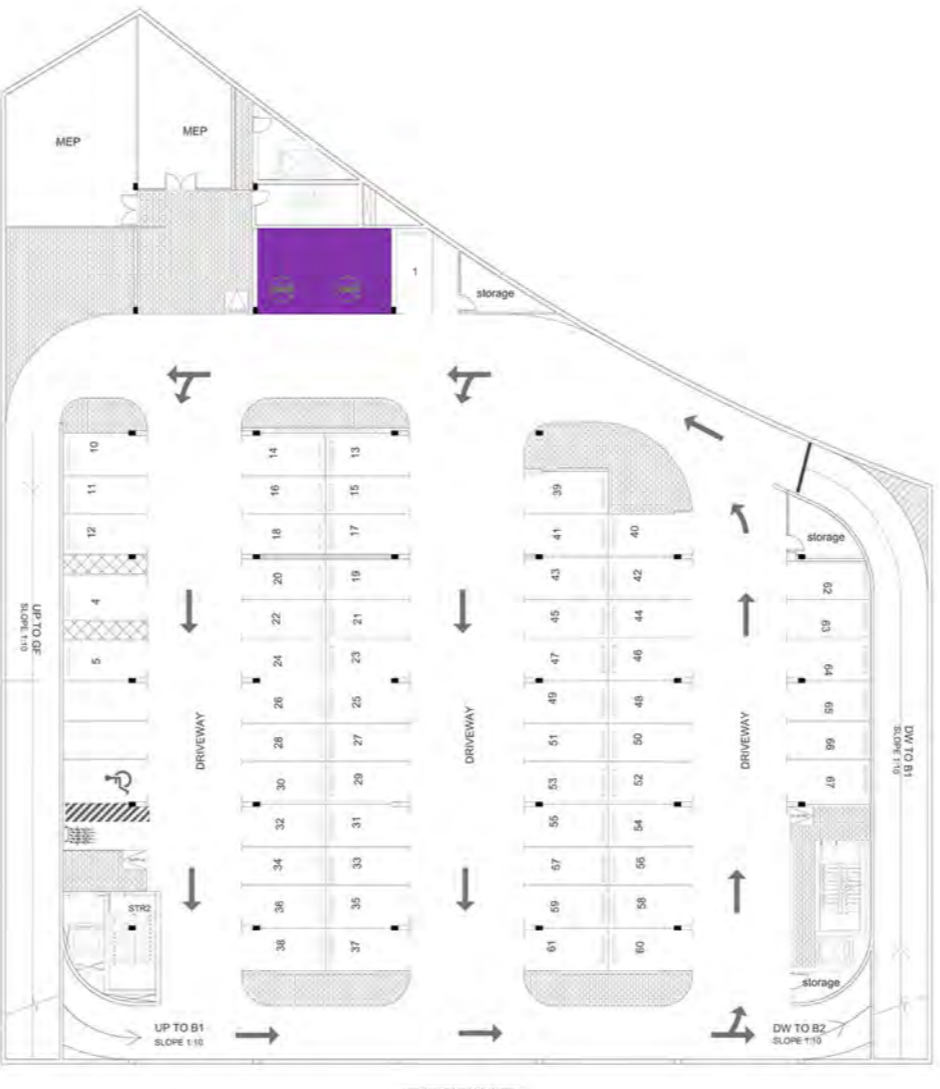
LAND SPECIES

Al Sa’fat 2016, 302 Chapter 2, Article 302.1

Local Species For all new buildings, a minimum of twenty five percent (25%) of the total planted area within the building plot, including green roofs, must utilise plant and tree species indigenous or adapted to Dubai's climate and region. For all new villas at least one palm tree must be plant-



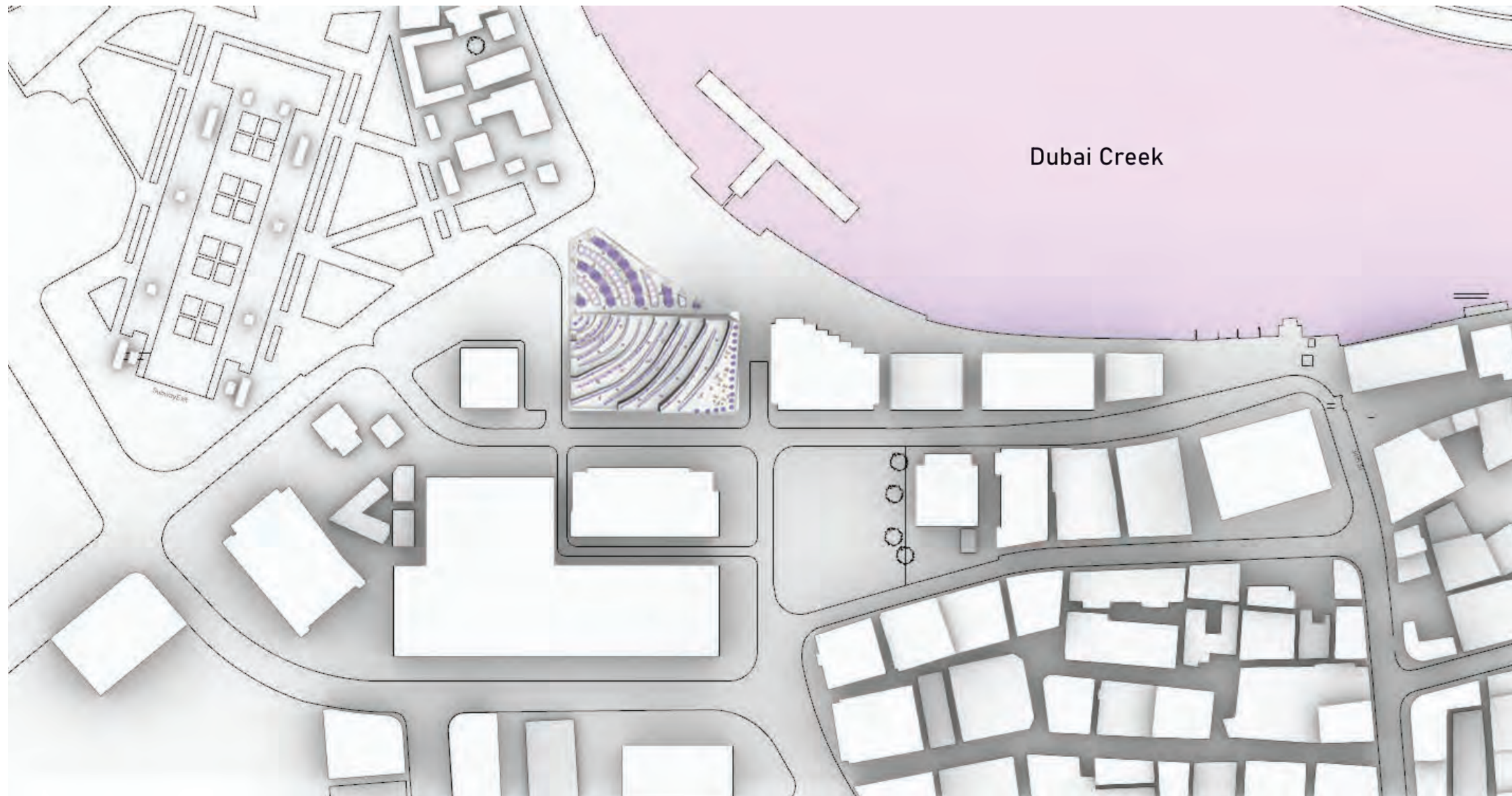
CHARGED PARKING



Mass Plan 1:5000

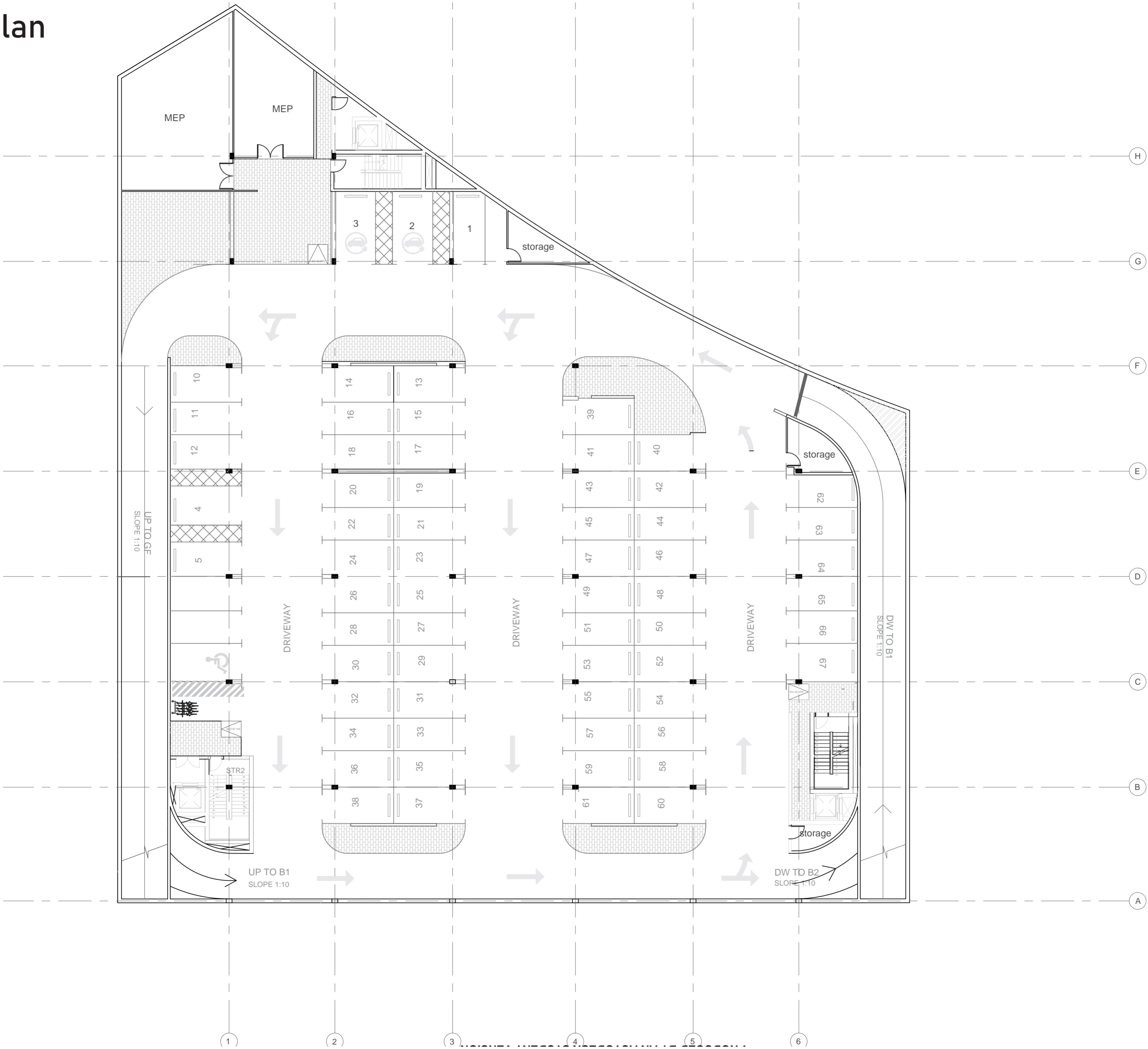


Mass Plan 1:500



Mass Plan 1:2000

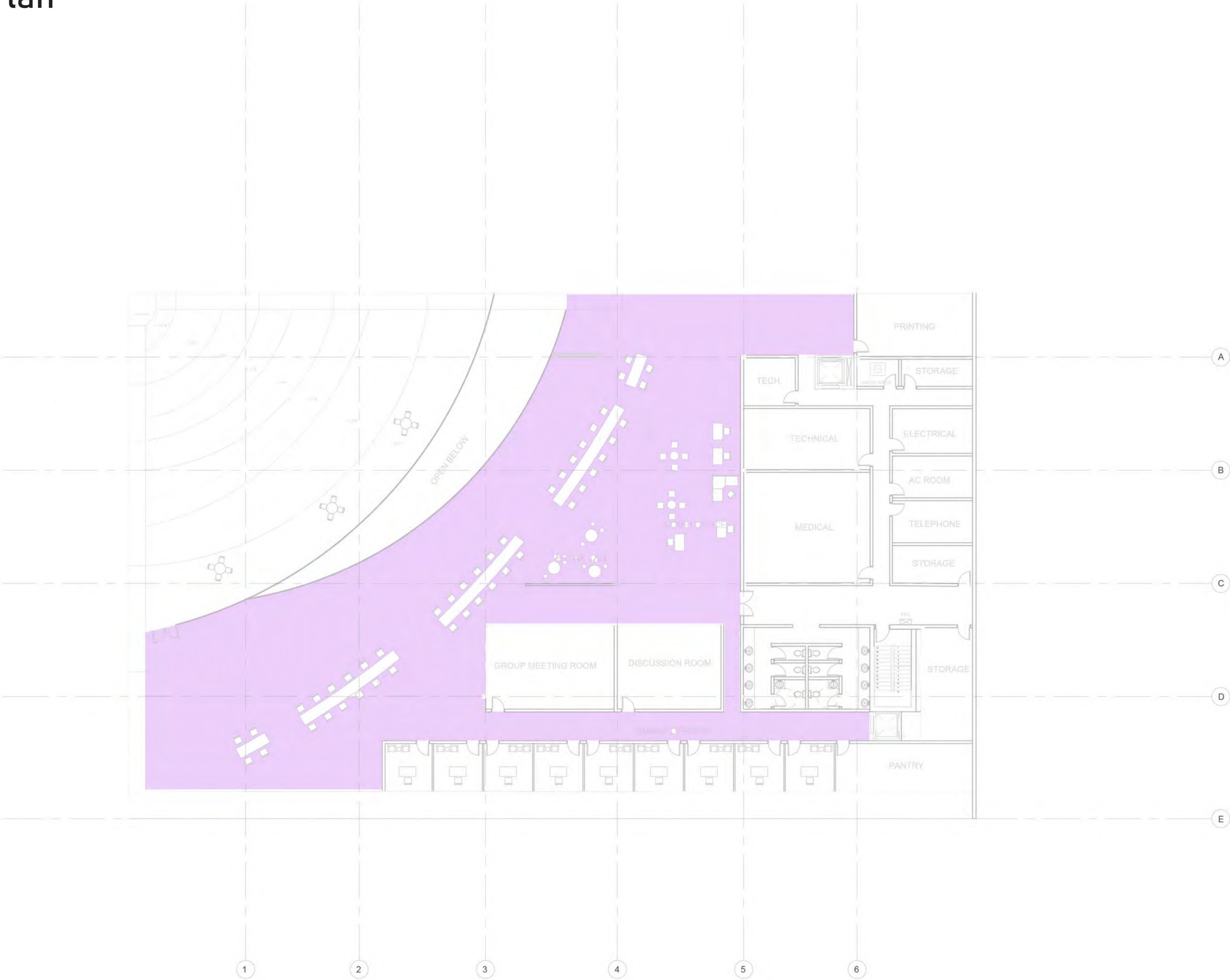
Basement Plan



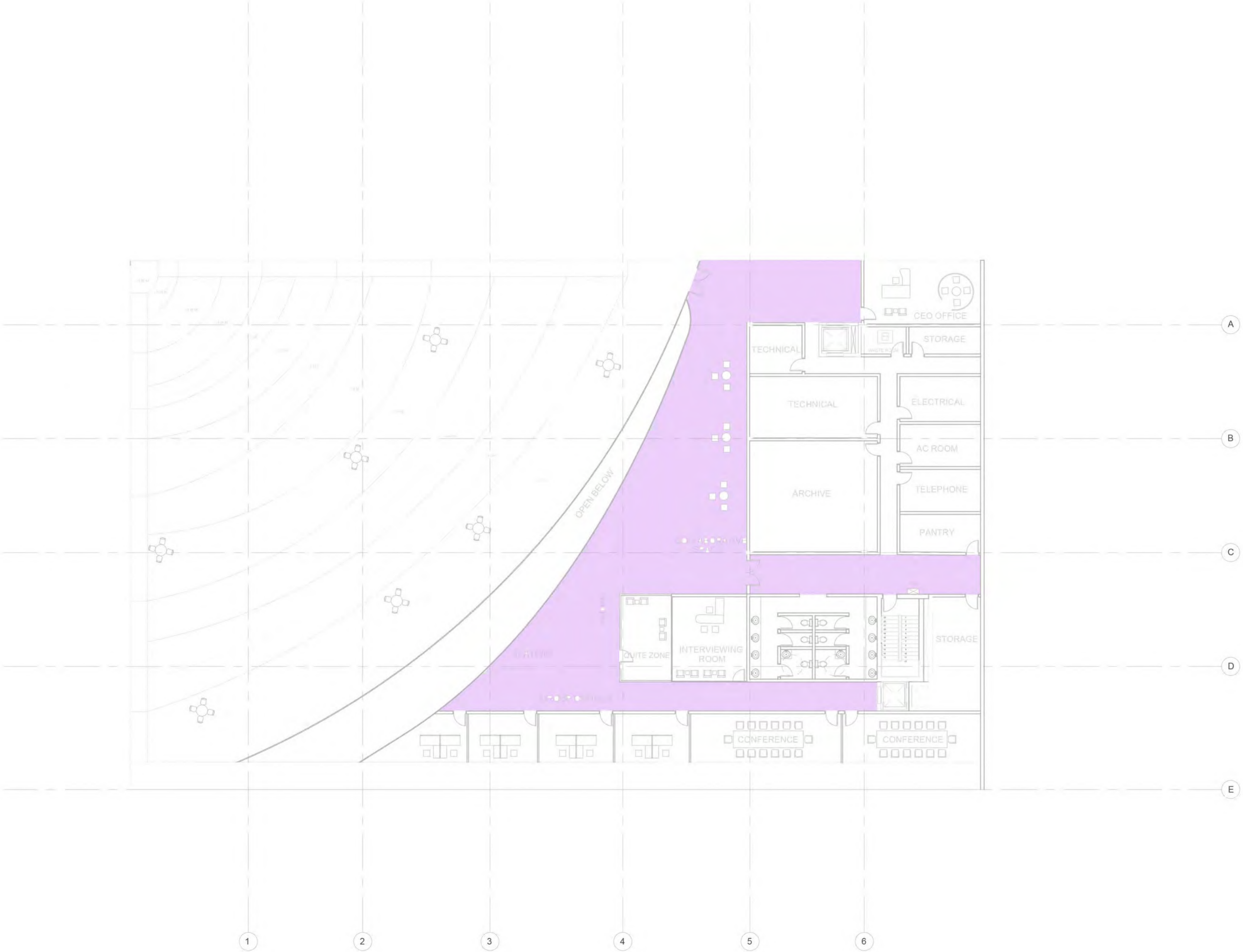
Ground Floor Plan



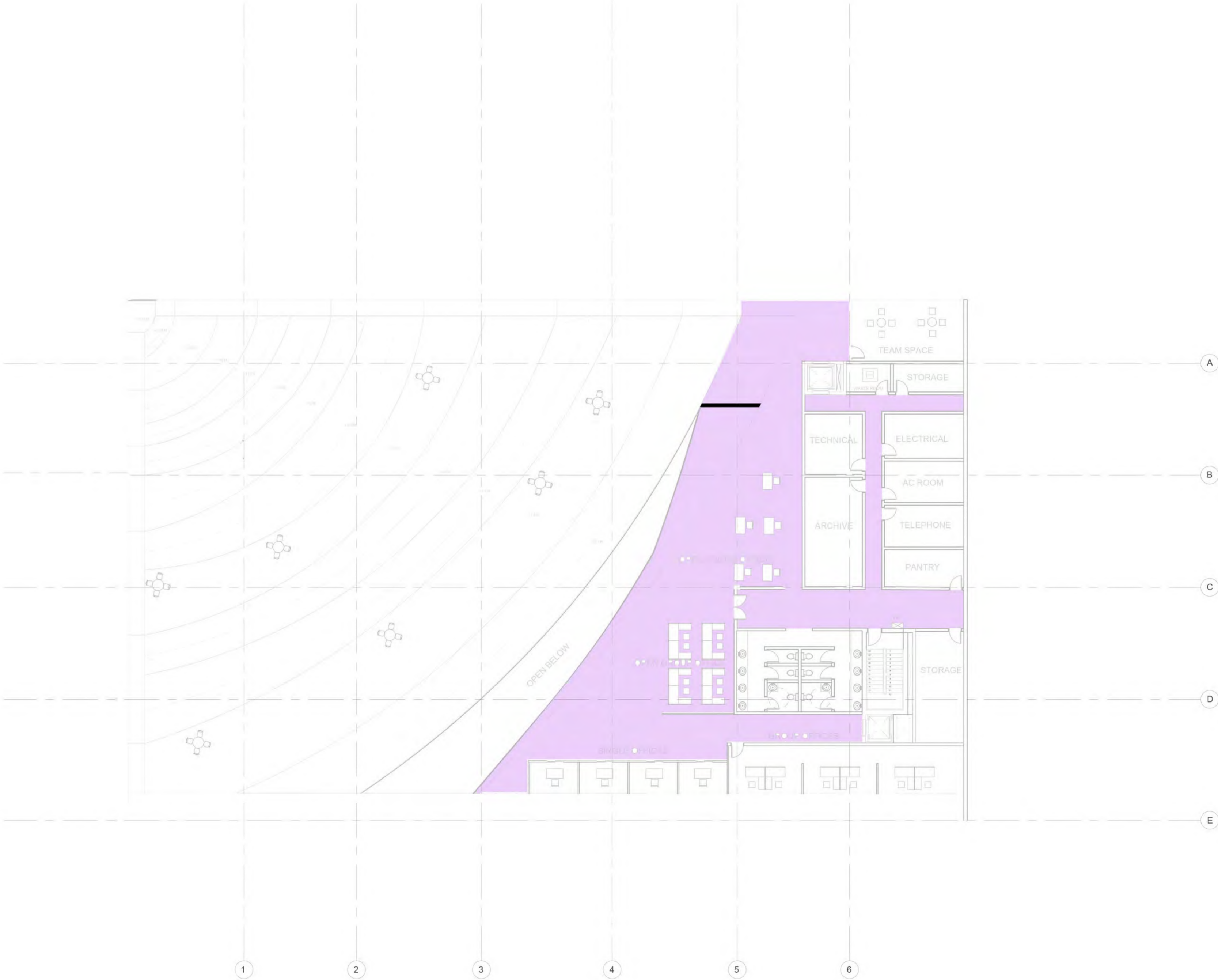
First Floor Plan



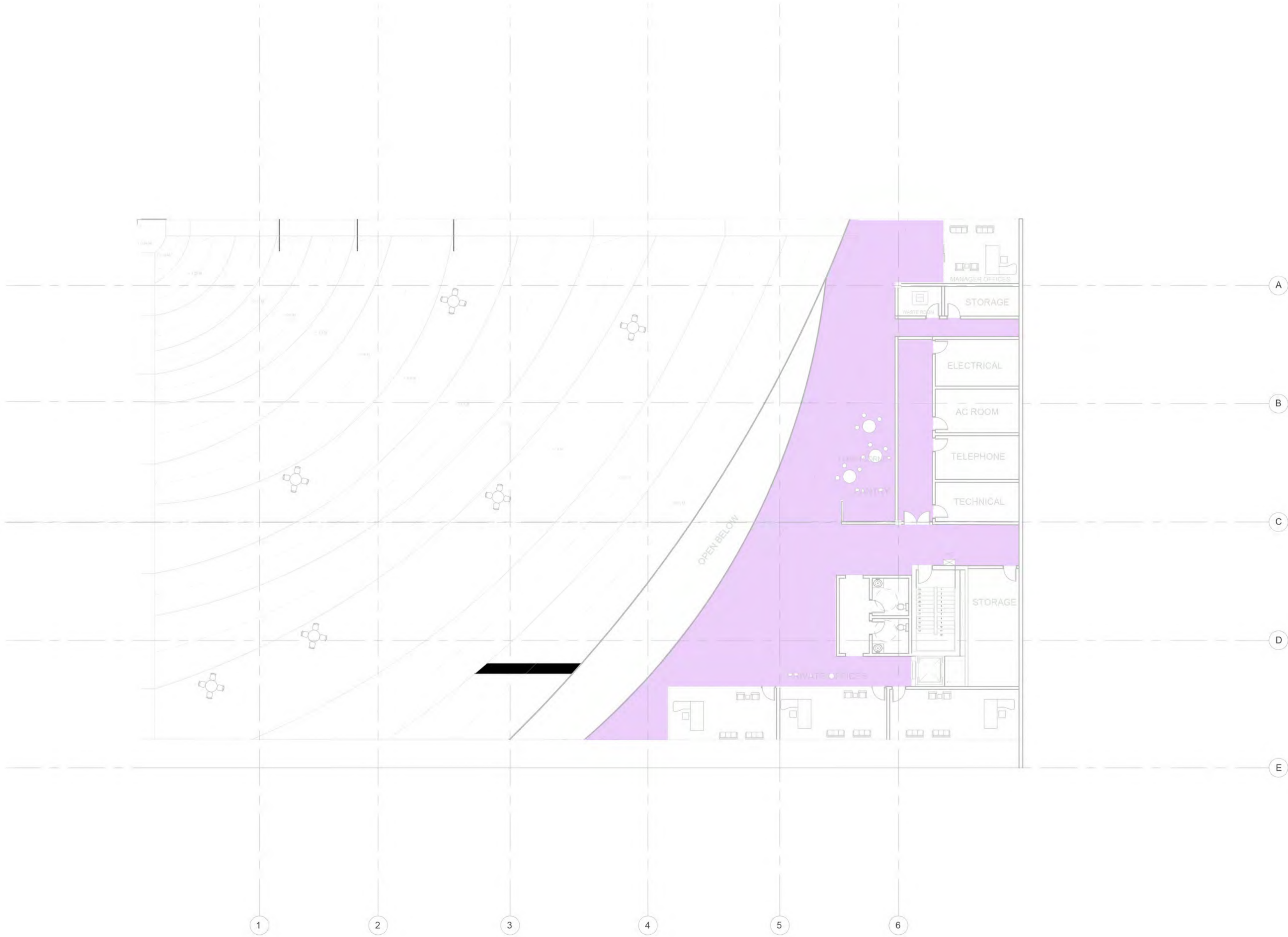
Second Floor Plan



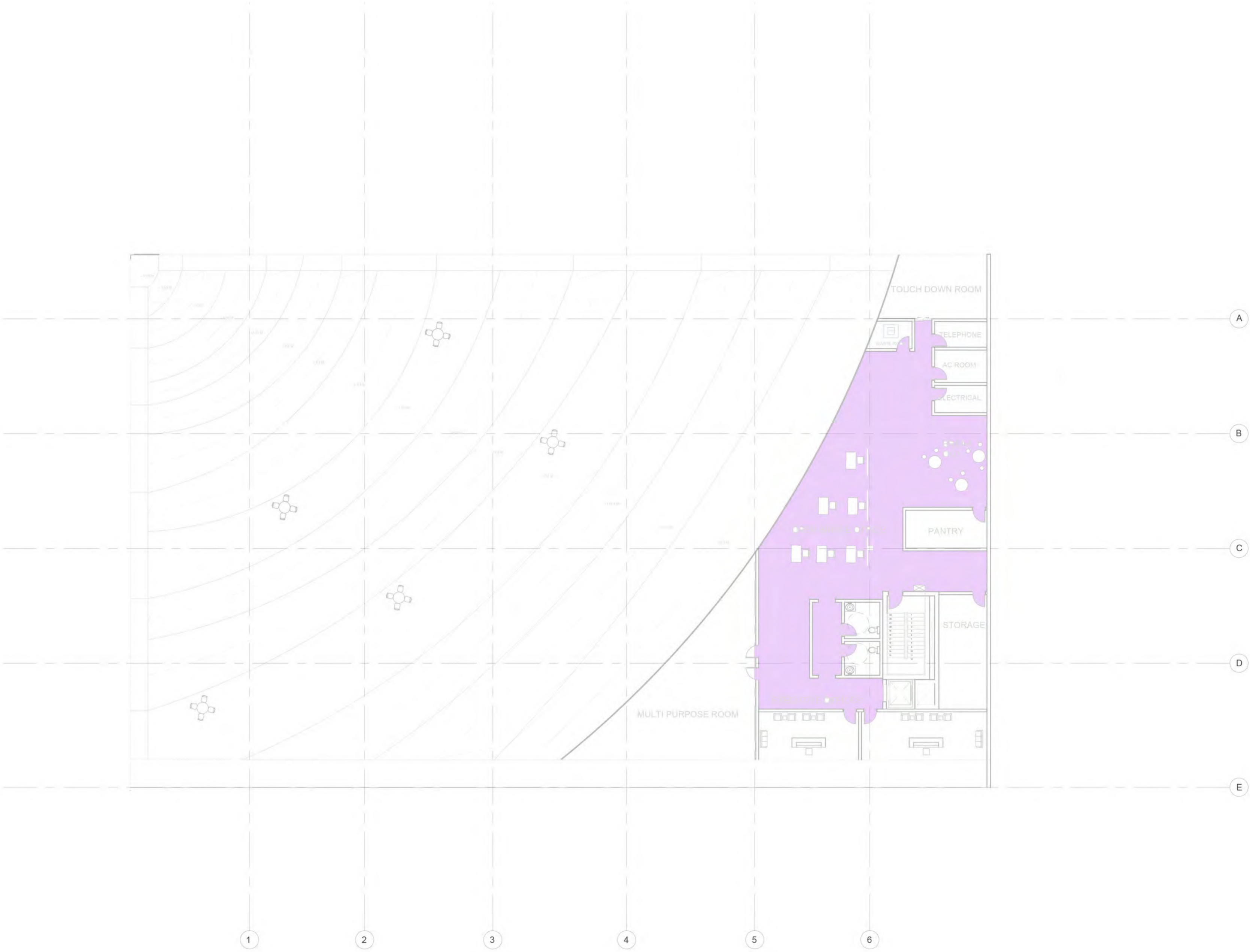
Third Floor Plan



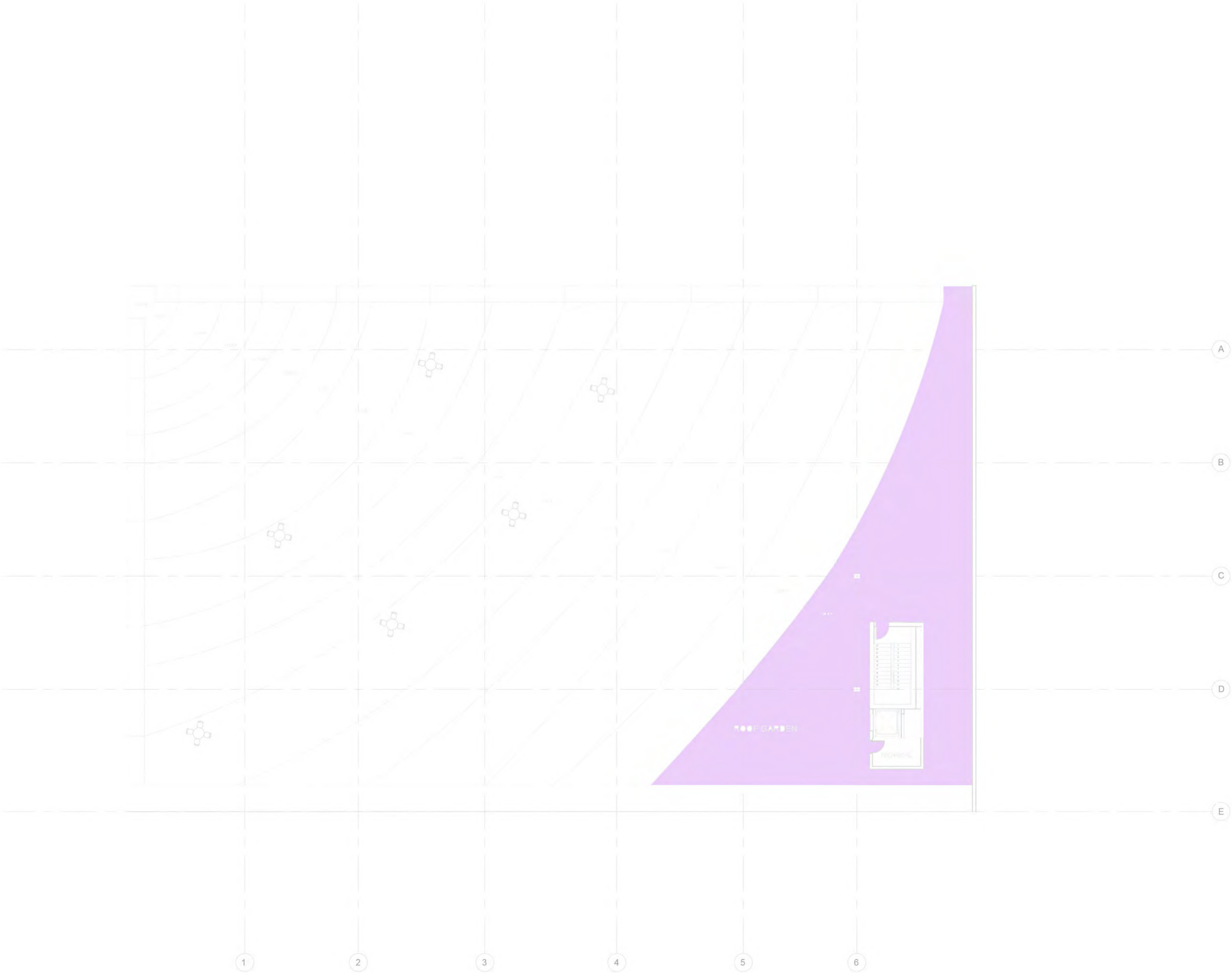
Fourth Floor Plan



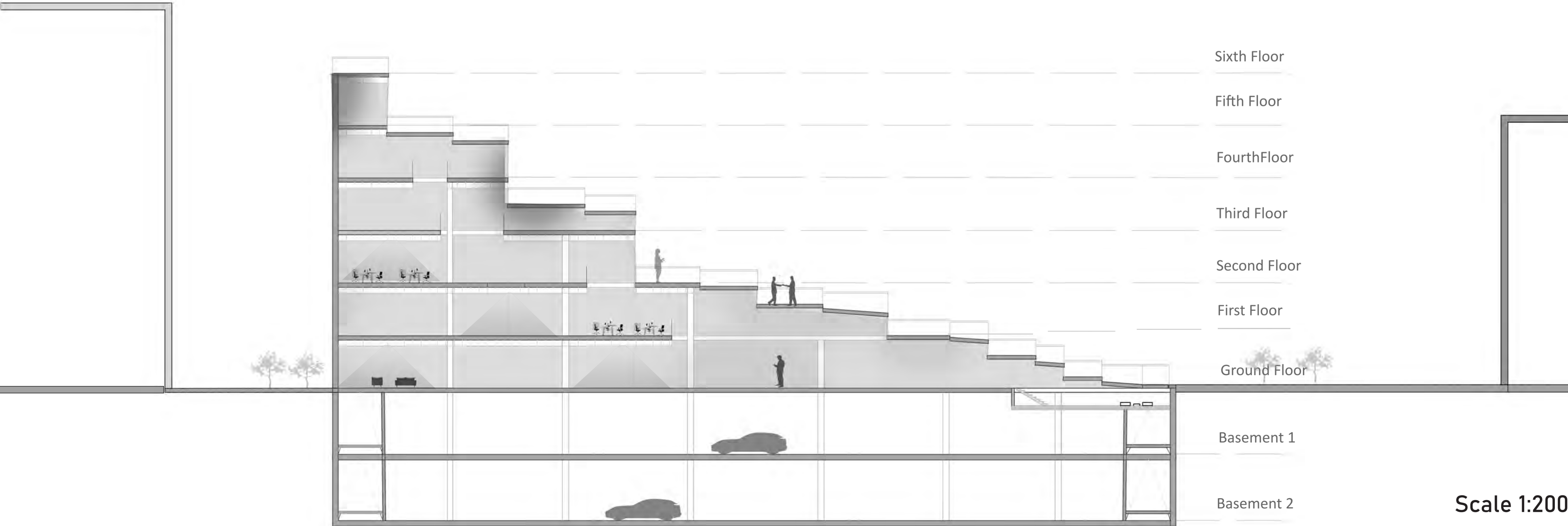
Fifth Floor Plan



Roof Plan

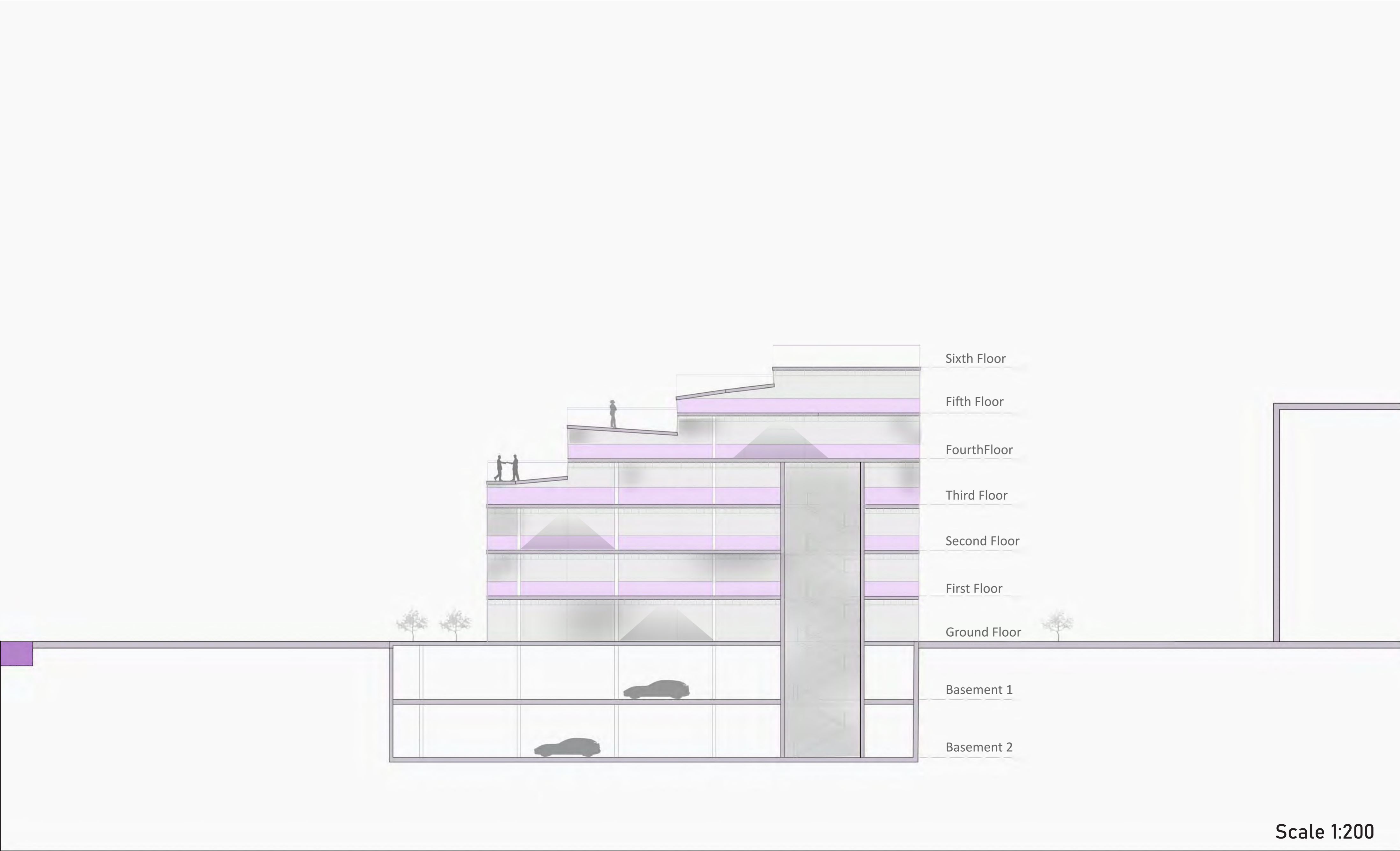


Sections Aa

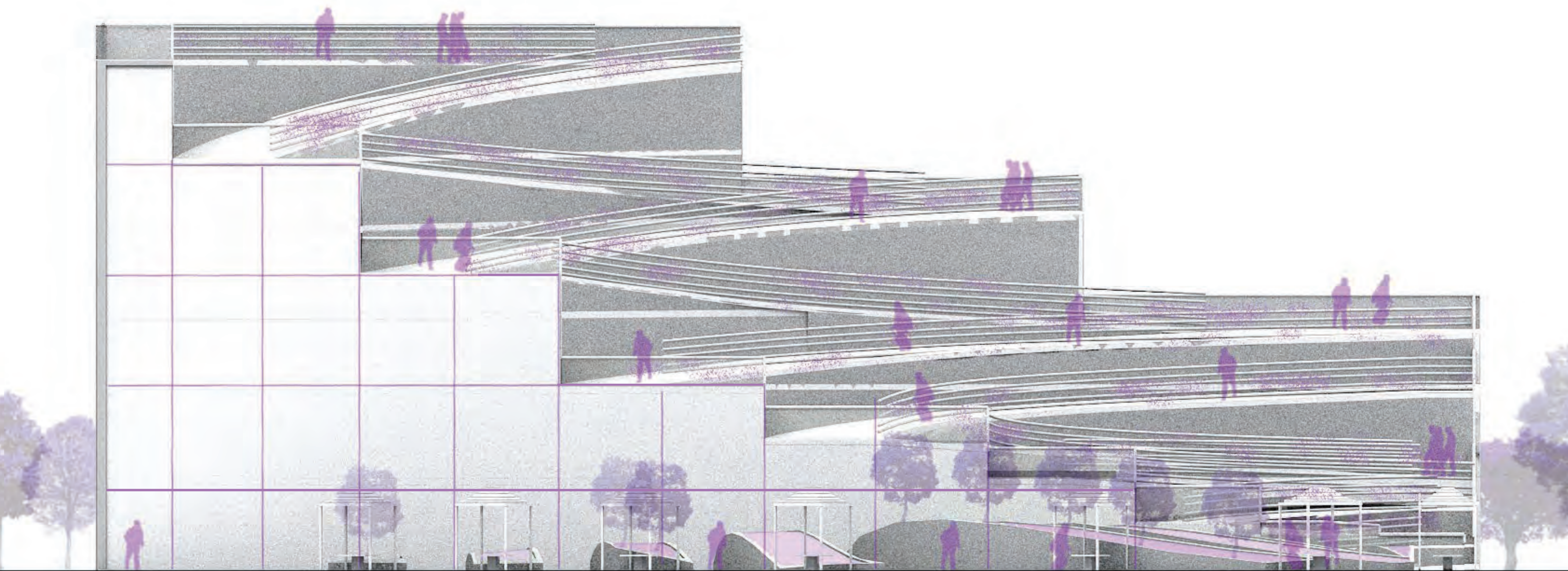


Scale 1:200

Sections Bb

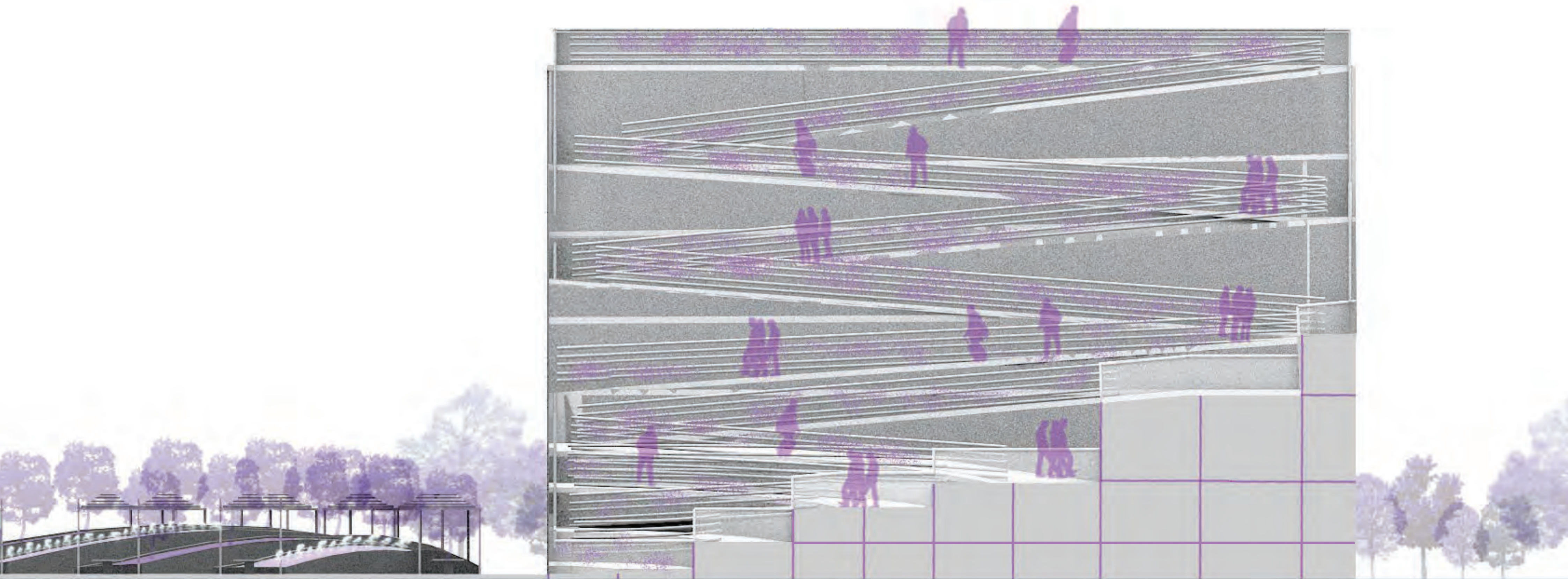


North Elevation



Scale 1:200

West Elevation



Scale 1:200

Birds Eye view



Interior Render

