

Space for People: Mixed-Use Complex

By

Mashiat Iqbal

15108008

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Bachelor of Architecture

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Mashiat Iqbal
15108008

Approval

The thesis/project titled, “Space for People”,

submitted by

Mashiat Iqbal (15108008)

of Fall, 2020 has been accepted as satisfactory in partial fulfillment of the requirement for the Bachelor of Architecture degree on 10.01.2021.

Examining Committee:

Supervisor:

Iftekhar Ahmed, PhD
Associate Professor,
Department of Architecture

Supervisor:

Abul Fazal Mahmudun Nobi
Senior Lecturer,
Department of Architecture

Supervisor:

Khondaker Hasibul Kabir
Senior Lecturer,
Department of Architecture

Supervisor:

Mohammad Zillur Rahman

Lecturer,
Department of Architecture

Departmental Chairperson:

Zainab Faruqui Ali, PhD

Professor and Chairperson,
Department of Architecture

Dean of the Faculty:

Fuad H Mallick, PhD

Professor and Dean,
School of Architecture and Design

Abstract

Chittagong is the second largest city in Bangladesh. Its location near the Bay of Bengal has made it a major economic hub attracting commerce, business and industrial activities. However, despite its rich culture and nature, population growth and poor planning has caused serious social, infrastructure and environmental problems. The introduction of mixed-use facilities has been known to generate a positive impact on the development of a neighbourhood as facilities are decentralised in the city. Such complexes also generate income for the city corporation as well as provide job opportunities for locals. This serves the need for day-to-day amenities and facilities in one's own neighbourhood along with a space for people to connect as a community. Therefore, the complex stands to serve as a one stop destination for day-to-day activities of residents of the neighbourhood, generate revenue for the city corporation as well as serve as an example to encourage further development in the area. This decentralisation of facilities makes both the city and neighbourhood more liveable than its present situation.

Keywords: Mixed Use; Facilities; Neighbourhood; Chittagong; City Corporation

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List of Acronyms

CBD Central Business District

Chapter 1: Introduction

1.1 Introduction to the Project

This project is proposed by Chattogram City Corporation in an attempt to provide and meet the needs of the current residents of the South Agrabad area in Chattogram. Chittagong, now officially known as Chattogram, is a major coastal city and financial centre in south-eastern Bangladesh. With a population of more than 2.5 million and metropolitan area population of 4,009,423 in 2011, Chittagong stands as the second largest city in the country (Chittagong Chamber, 2019). Chittagong plays a pivotal role in Bangladesh's economy. The area of Agrabad in particular serves as the main central business district of the city. The area houses many of Bangladesh's largest companies as well as various multinational firms. Originally, Agrabad was planned as a residential area by the Chittagong Development Authority (CDA) in the 1960s after the partition. However, the location of Agrabad near the port plays a huge part to its inevitable transformation from a residential to a commercial district as CBD of Chattogram.

Despite the area's success as a CBD, there still remains a huge gap in its facilities for the people of Agrabad. This stands true for most of Chittagong as there are few existing well-established mixed-use facilities which serve various parts of the city. This project serves as a step in the right direction to help decentralize such facilities in each area of Chittagong, starting with South Agrabad. This move will help control traffic as people find a variety of facilities within their neighbourhoods. Besides providing facilities within a walking distance, the project also aims to provide residents with a place to gather and escape from the everyday hassles of life to relax in a 'space for people'.

1.2 Aim and Objectives of the Project

The main aim of the project is to provide the residents of South Agrabad a place of gathering and breathing space within its dense neighborhood. The project aims to equip residents with a range of facilities within a walking distance to help serve the needs of various groups of people.

Some of the objectives of the project are as follows:

- To create a place of relaxation and gathering
- Provide public facilities within a walking distance in that area
- Provide facilities for people of all ages
- Create and enhance the public realm of South Agrabad, Chattogram

1.3 Project Summary

Name of the Project: Space for People

Implementer of the Project: Chattogram City Corporation

Location: 27 No. South Agrabad ward, Chattogram

Site area available for the Project Development: 0.67 Acres (Approx.)

Proposed built-up area of the Project: 150,000 sqft

Proposed Program of the Project:

Administrative, retail, recreational activities, public gathering.

Chapter 2: Literature Review

2.1 Historical background of commercial growth in Chittagong

Chittagong metropolitan city is the second largest city of Bangladesh based on population size and land area. As per World Urbanization Prospects Report (2009 revision) Chittagong is the 10th fastest developing city in the world. The busiest sea port of the country makes the city the main international business hub, as well as the commercial capital of the county. The large population size and growth is the main challenge to city planners and policy makers.

Chittagong has undergone dramatic changes in its physical form through urbanization. Rapid urban growth has created huge demands on urban utilities and services as well. The negative consequence of rapid urbanization has caused major degradation in urban environment (Islam, 2013). Chittagong alone has nearly 30.8 % of the total urban population. The population of Chittagong may rise to 107.76 million in 2050, of which above 56.4% will be located in urban areas. (World Urbanization Prospects, 2009).

Alongside expected growth in population, the growth of the job market in Chittagong and large-scale immigration of people from rural areas of Chittagong is also rising gradually. If these patterns remain, then ultimately the population of the city will reach approximately 10.8 million by 2050 (Bayes and Yiaser, 2013).

These rapid changes in urbanization call for a deeper look into the morphological change in land uses. For example, the evolution of the planned residential developments of Dhaka reveals that the planned areas, in spite of several controls, have undergone morphological changes to adapt to the community need. Consequently, the planned residential areas have evolved into a mixed land use pattern and changed into an unplanned state in relation to their physical layout.

Cities, as a physical system consisting of two components - a continuous network of space and a collection of functional location associated with particular land use. The city can thus be described as a product of two spatial system- (Erickson 1997). What tend to remain consistent is the relationship between plot and street. Plots are on occasionally subdivided when uses change within the existing street pattern (Conzen 1990). In addition, the shifting nature in building use within the street network of the system, becomes the main mechanism of the morphological transformation in the urban system. Understanding the logical structure of those elements will help us in the future evaluation of existing environment and in redevelopment and transformation.

2.2 Mixed use facilities

The term ‘mixed-use’ refers to buildings and communities that are a mix of business, retail and public facilities in a pedestrian friendly setting. This kind of complex may also be known as a Live-Work-Play community, as the public and residents of a neighbourhood access facilities that aid them in their day to day activities.

Generally, mixed-use falls into three categories:

- Vertical Mixed-Use Development, where public spaces such as retail shops, restaurants and other commercial businesses are on the lower level, and upper levels are kept for private functions such as including offices or residential units

- Horizontal Mixed-Use Development are usually single-use buildings that provide a complementary blend of business, retail and residential within a walkable neighbourhood
- Mixed-Use Walkable Areas combine vertical and horizontal mixed-use in an area that surrounds a core such as an outdoor plaza for concerts, farmer's markets and other events

The ever-growing trend of mixed-used neighbourhoods can be accredited to the desire for social connections in a community. Public areas in commercial and residential spaces allow people to meet, whether by chance or intentionally. Such connections further promote the strength and growth of communities. Relatedly, people living around such mixed-use developments often feel content in smaller residences in exchange for communal facilities. Conveniences such as gym, swimming pool, children's play, roof deck and communal event spaces are common amenities often in demand by urban dwellers looking for societal connections. Finally, people are looking for accessibility. Whether it be Millennials just starting out or the elderly, mixed-use residents are all looking for access to a variety of services including public transportation, retail, and even and cultural activities within a walkable range.

However, transforming run-down areas with new functions and uniting them with the surrounding urban web is one of the main tasks of urban design and planning. The transformation processes are extensive and multifaceted, and are counterpart to the country's economic conversion, and a move towards a more knowledgeable society.

2.3 Facilities for neighborhoods

Successful cities are made with successful neighbourhoods. They should be compact, safe, with environmental and psychological comfortable environment for the dwellers. The community is developed when the users have common urban amenities, facilities and place to share.

Communal amenities serve the basic needs of residents and are fundamental to the liveability and development of the City. With respect to neighbourhood and community design, they can provide a centre for activity and, therefore contribute to the defining of a neighbourhood's character. Community facilities must be positioned in a manner that highlights or defines the character of the communities or neighbourhoods in which they are located.

Over the years the major reason behind the changing culture of shopping is due to changes in consumer demands and expectations. Originally around the 1990s, the main lure of markets was stores and food outlets combined with retail shops. As time progressed, the demand of the consumers started to change. Today, the most popular shopping centres are in mixed-use areas, with streets and existing malls in the surrounding plots. In order to keep up with the ever-growing city, malls are now also being combined with nearby transport services. The future of the retail facilities will be an experience rather than just a market or mall which will incorporate public plazas, entertainment facilities, retail facilities and recreation all at once. (Gunning ,2014).



Figure 1: Features of a 20-Minute Neighborhood

(Source: beesmart.city)



Figure 2: The Benefits of Great Places

(Source: Project for Public Spaces)

Chapter 3: Site Appraisal

The site location of this project is in South Agrabad in the district of Chattogram. It falls under wards 24 and 27 under the thana of Double Mooring. The site is located in a residential area. It is around 4.7 km along the CDA avenue from GEC more. It takes about 20min by road, via car to reach the site from GEC. The area of the site is 0.67 acres (approximately 29,185 sqft).

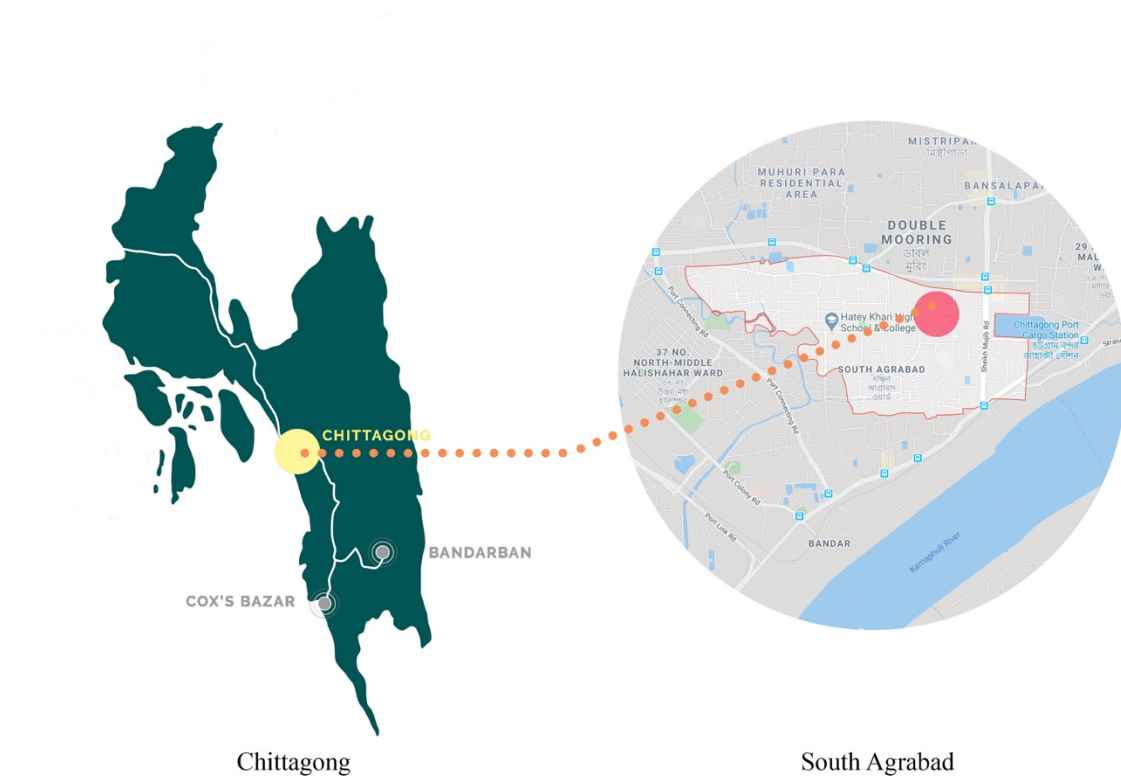


Figure 3: Location of the site

(Source: Google Earth)

3.1 Site surroundings

The site is surrounded mostly by low to mid-rise residential buildings of 4-5 storeys with little to no vegetation. The notable landmarks within the site include the Agrabad public school and college, a madrasa and the Salma Rahman Jame mosque.

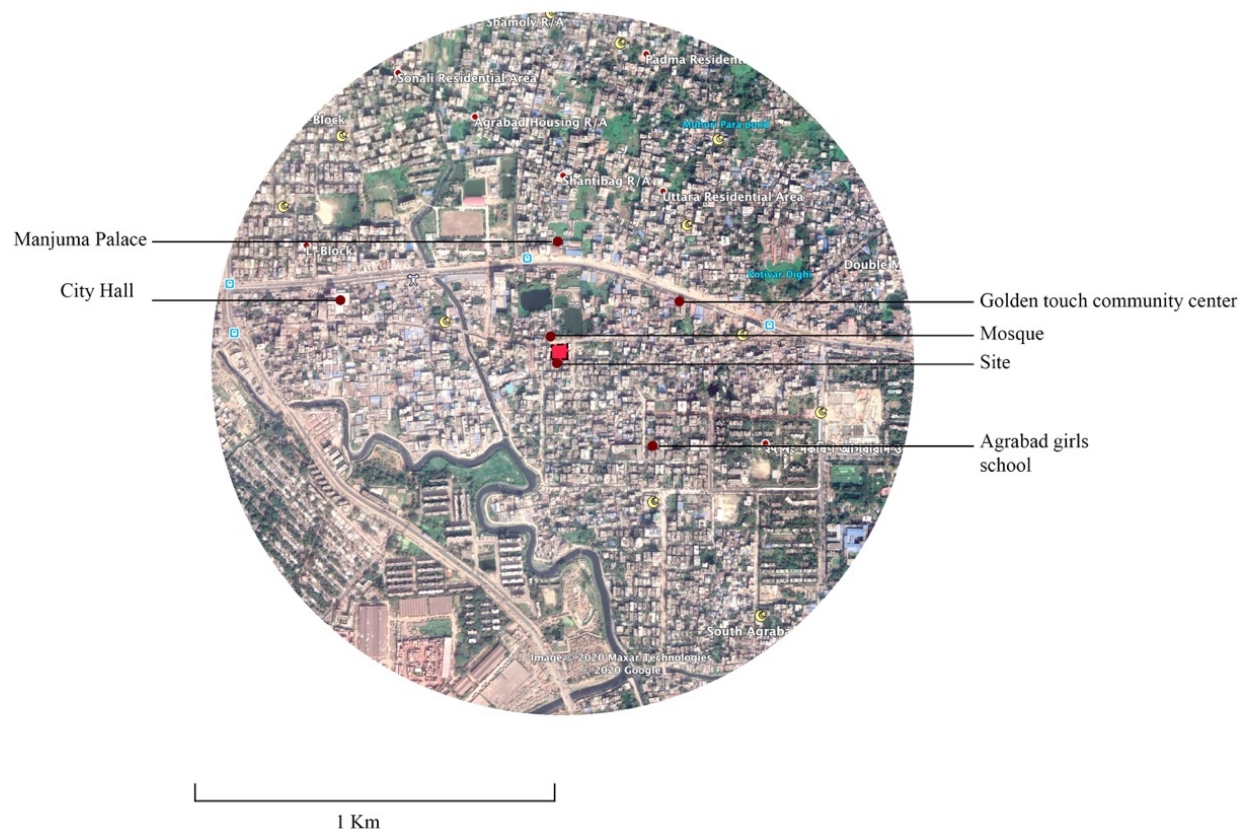


Figure 4: Landmarks surrounding the site

(Source: Google Earth)

3.2 Historical Development of the Site

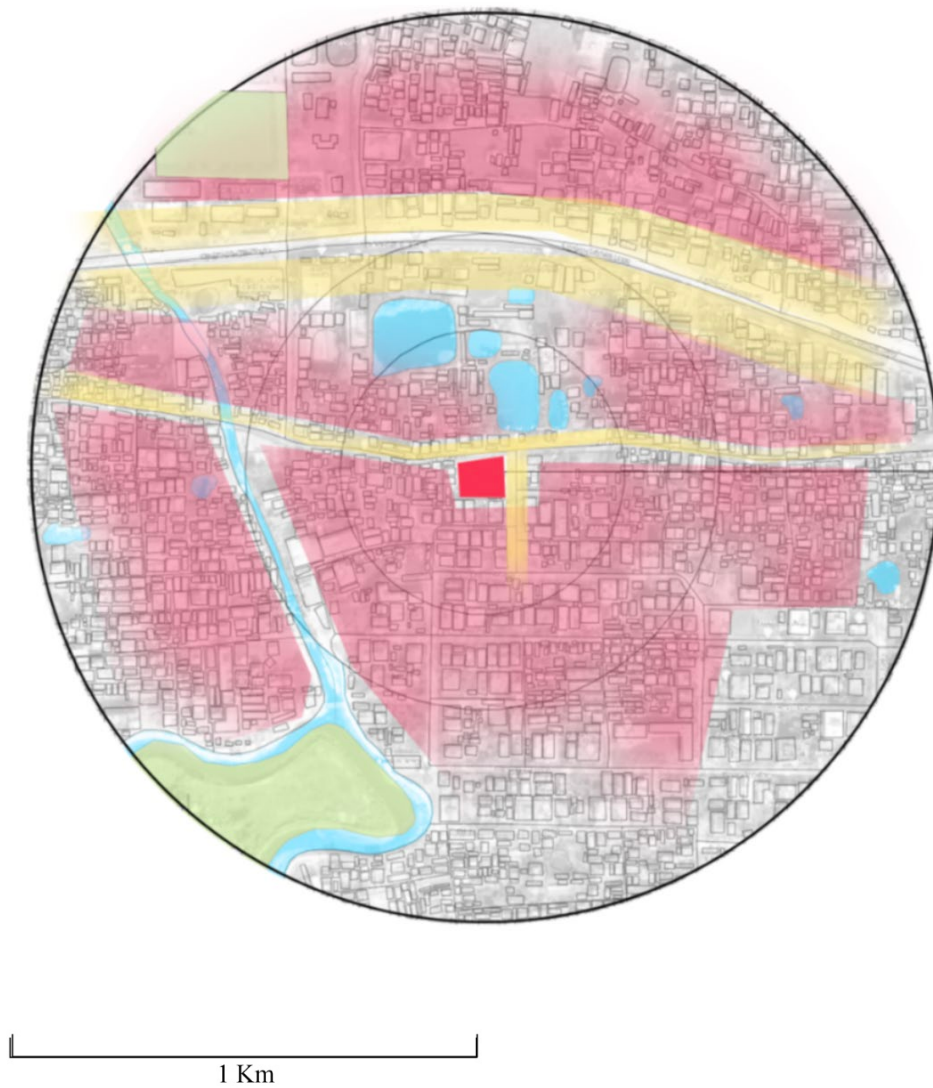
The site area was originally perceived as a residential area, but throughout the years mixed-used areas have developed along the edges of the roads. The site at present is a barren land. Only recently have plans to develop it has been made to provide some much-needed amenities and facilities to the people of the neighborhood. The goal of Chittagong City Corporation is to enhance the quality of living in South Agrabad through these interventions.

3.3 Geographical Characteristics of the Site

The site itself is a geologically flat land with no notable vegetation and any waterbodies. On the west side of the site is a residential building while the other three sides are surrounded by roads. There are various slopes at different points of the road of about 2 feet. The area is flood prone. During monsoon seasons the area faces major flooding, where the highest water level reaches up to 8 feet.

3.4 Land-use Pattern of the Surroundings

The immediate surroundings of the site include in majority low to mid-rise residential buildings, having residents of lower to lower-middle income groups. However right on the edges of the road are one to two storeys of various small workshops and shops. These range from wood workshops to small salons. The south-eastern side of the site are some important community-based functions such as schools, madrasas, needle training centers etc. These act as few of the sources of supporting facilities for people residing within the area.



- Legend:**
- Residential
 - Commercial
 - Water Body
 - Open Spaces

Figure 5: Land-use pattern of the immediate site surrounding
(Source: Author)

3.5 Accessibility and Connectivity

The site is accessible by a secondary road that branches out of the primary road. The primary road, the Agrabad access road leads to the secondary Halishahar road which falls on the northern side of the site. Motorized vehicles such as buses, cars, autorickshaws were allowed on the primary road. However, the secondary road that goes to the site from the main road gives access to only cars and taxis. On the eastern and southern sites of the sites are two more access roads leading to more residences as well as a few institutions and shops. There are walkways for pedestrian access however they are inconsistently placed and are in poor condition.

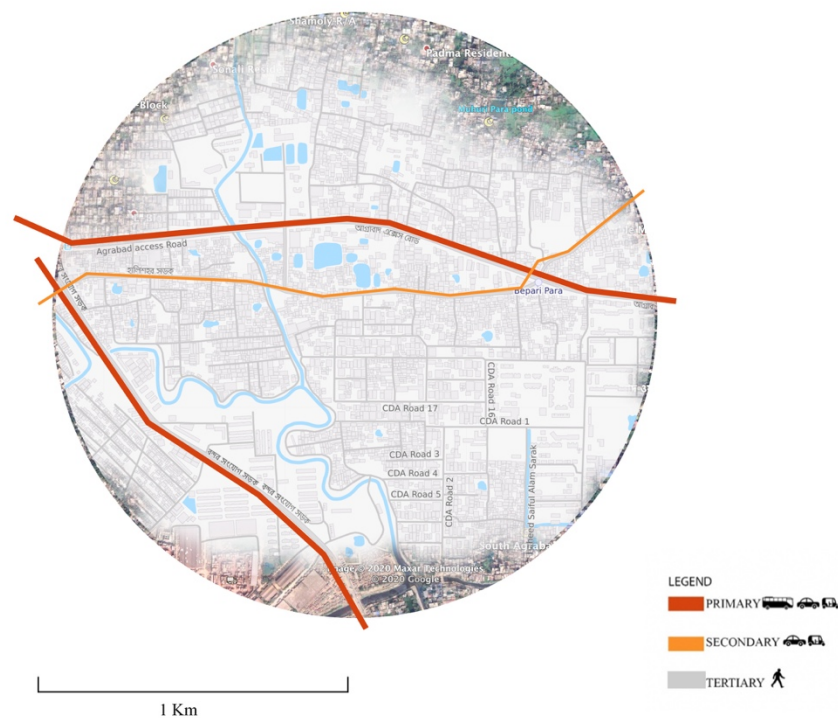


Figure 6: Accessibility to the site

(Source: Author)

3.6 Climatic Conditions

The weather of Chittagong is characterized by tropical monsoon climate. The dry and cool season is from November to March; pre-monsoon season is from April to May which is very hot. The area of Agrabad is usually prone to flooding due to heavy rainfall from June to October. The month with the most rainfall is July when the rain falls for 19 days and typically aggregates up to 727mm (28.6") of precipitation. The temperature of this area can rise upto 31C around March to May and fall to 15C around January February. Humidity of the area can go upto 85% in the month of July.

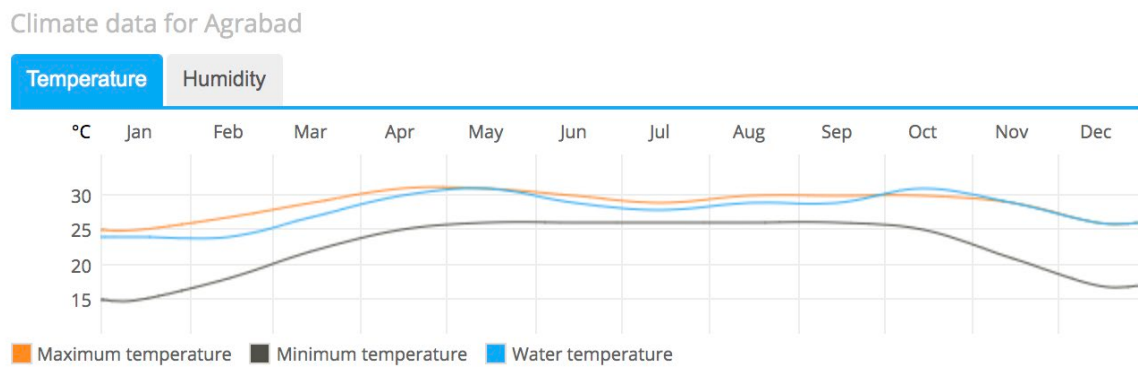


Figure 7: Average minimum and maximum temperature of the year

(Source: meteovista.co.uk)

3.8 Images of Existing Site Condition

Image 1: View from western side



Image 2: View from eastern side



Image 3: View from northern side



Image 4: View from southern side



(Source: Author)

Chapter 4: Case Study Appraisal

To understand the scope of opportunities and possible approaches to this project a number of case studies have been selected. In this Chapter, three case studies have been selected, one international, one regional, and finally a local case study. The aim of these case studies is to gain a better understanding of the typology of spaces, standards and design considerations that may be taken into consideration while designing this project.

4.1 WERK12 / MVRDV + N-V-O Architekten



Image 4.1: Werk 12, Germany

(Source: archdaily)

Architect – MVRDV + N-V-O Architekten

Location – Munich, Germany

Site Area – 82,882 sqft

Forming the centre of the Werksviertel-Mitte district, it is a plan to regenerate the urban landscape on a former industrial site. The 7,700m² mixed-used is located near Munich's East Station and stands out with its forward façade featuring five-metre-tall verbal expressions from comics in German.

4.1.1 User behavior and requirements

“The area of the Werksviertel-Mitte district has already undergone such interesting changes, transforming from a potato factory to a legendary entertainment district,” says founding partner of MVRDV Jacob van Rijs. “With our design, we wanted to respect and celebrate that history, while also creating a foundation for the next chapter. WERK12 is stylish and cool on one hand, but on the other, it doesn't take itself so seriously – it's not afraid to say ‘PUH’ to passers-by!”.

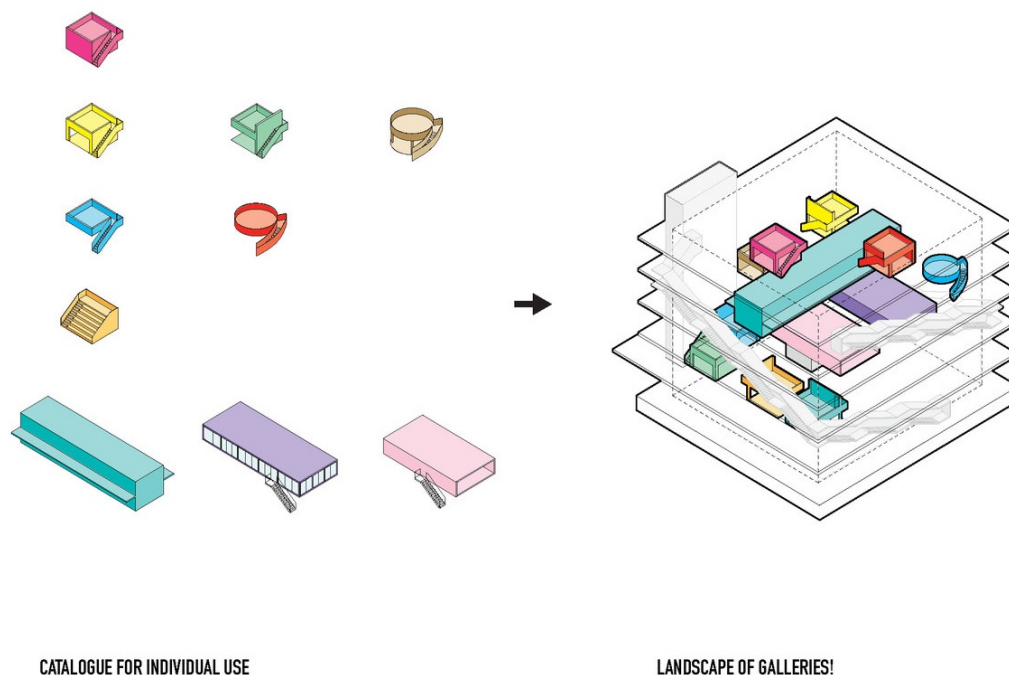


Image 4.2: Different spaces

(Source: archdaily)

4.1.2 Form and Function

The five levels of the development are taken by restaurants and bars on the ground floor, the offices of Audi Business Innovations on the top, and a three-storey gym in between, of which one is dedicated to a swimming pool. WERK12's floor-to-ceiling glass walls, together with its location near the train station, provide the upper levels with superb views towards central of Munich.

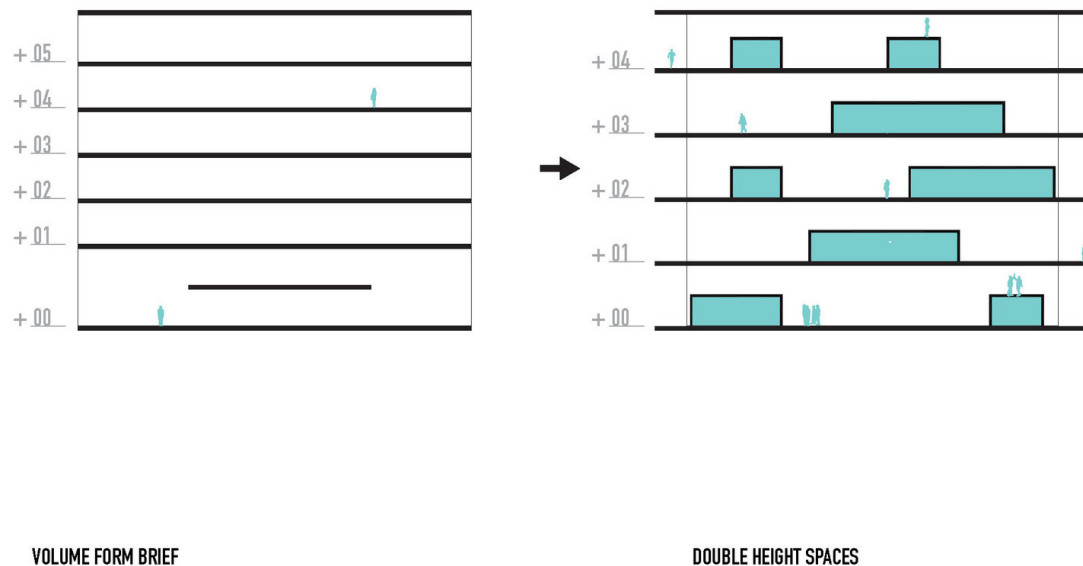


Image 4.3: Different levels

(Source: archdaily)

4.1.3 Horizontal and vertical circulation

Users can move around in a handful of ways. The building's external circulation core on the north-east side is appended by 3.25-metre-wide terraces surrounding each level. These are coupled with external staircases bending around the building to connect various open spaces. This public path up the building hazes the difference between interior and exterior, by connecting interior functions and activities with the exterior. Additionally the finishing is

made in the same material as the ground-level footpaths to highlight their importance as part of the public areas of the building.

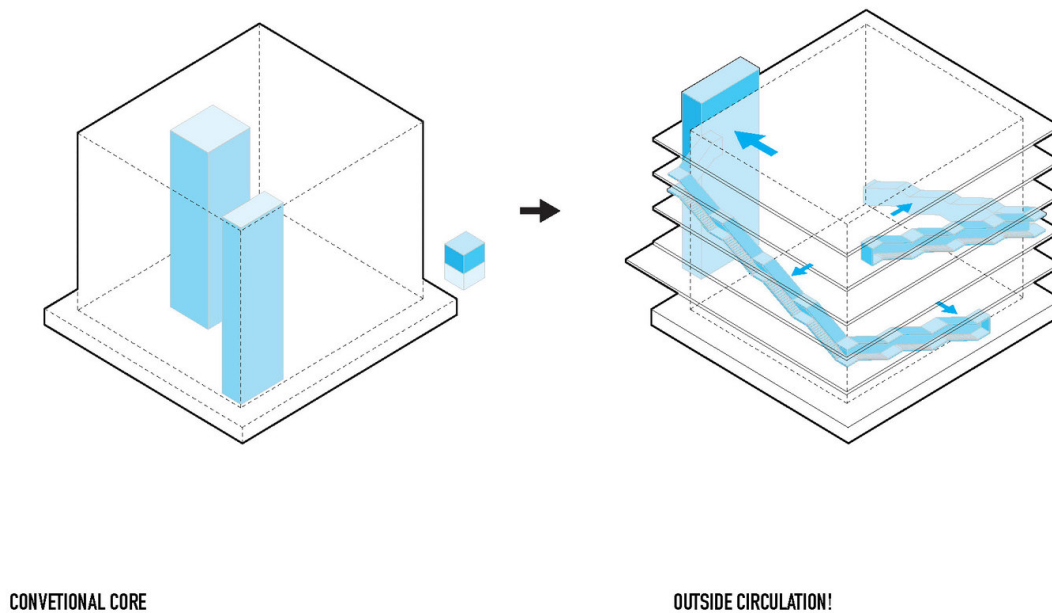


Image 4.4: Circulation

(Source: archdaily)

4.1.4 Structural details

Understanding and studying the structural details is also important. For example, large span structures such as Auditoriums use trusses or heavy I-section steel beams and sometimes shell-roofing that involve construction of Ring beams whereas in small span structures, RCC construction is used.

4.1.5 Design detailing

The façade is decorated by an urban art piece developed in collaboration with local artists Christian Engelmann and Beate Engl, containing bold letters spelling out common expressions taken from the German version of Donald Duck comics. This 5-metre-tall lettering and the informal nature of the expressions are chosen as a nod to graffiti culture and extensive use of signage found on the old site. At night, the appearance of the building is transformed by its lighting.

ELEVATION



Image 4.5: Elevation

(Source: archdaily)

4.2 Shenzhen Prince Plaza / OMA



Image 4.6: Shenzhen Prince Plaza

(Source: archdaily)

Architect – OMA

Location – Shenzhen, China

Site Area – 10, 6500 m²

The Building Prince Plaza is located in Shekou's Sea World district, a coastal zone in Shenzhen backed by the Nanshan Mountains and facing the Shenzhen Bay. The 200-metre mixed-use podium tower connects with Shekou's commercial developments, its industrial history, and its natural setting.

4.2.1 Form and Function

The tower is a collective of four blocks attached to a central core. Three sky decks—decorated with a hexagon-patterned facade derived from hills and waves—serve as viewing platforms open to views of the mountains and the sea. Intended for use by both occupants and public. The four blocks respond to the different scales in the surrounding.

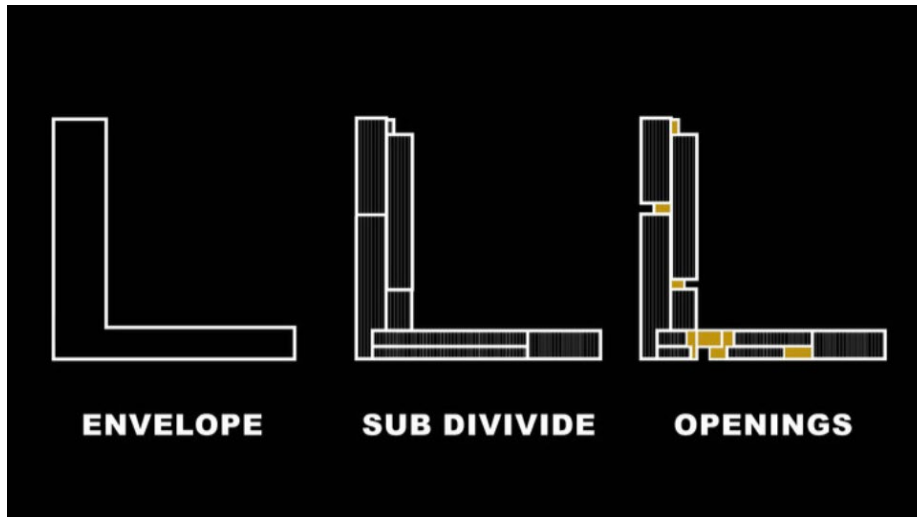


Image 4.7: Form

(Source: archdaily)



Image 4.8: Plan

(Source: archdaily)

4.2.2 Site Planning and Landscape detailing

A 40,000 m² podium mall occupies the site to utilize street level retail frontage. Unlike typical enclosed shopping malls, Prince Plaza's podium mall has a permeable façade and a roof terrace—an extension of the existing commercial and recreational facilities of the Sea World district.

4.2.3 Design detailing

Two of the bars on one side are set back to allow natural light into the work spaces. The façade of the tower with its wide glass panels allow occupants to connect visually to its surroundings.

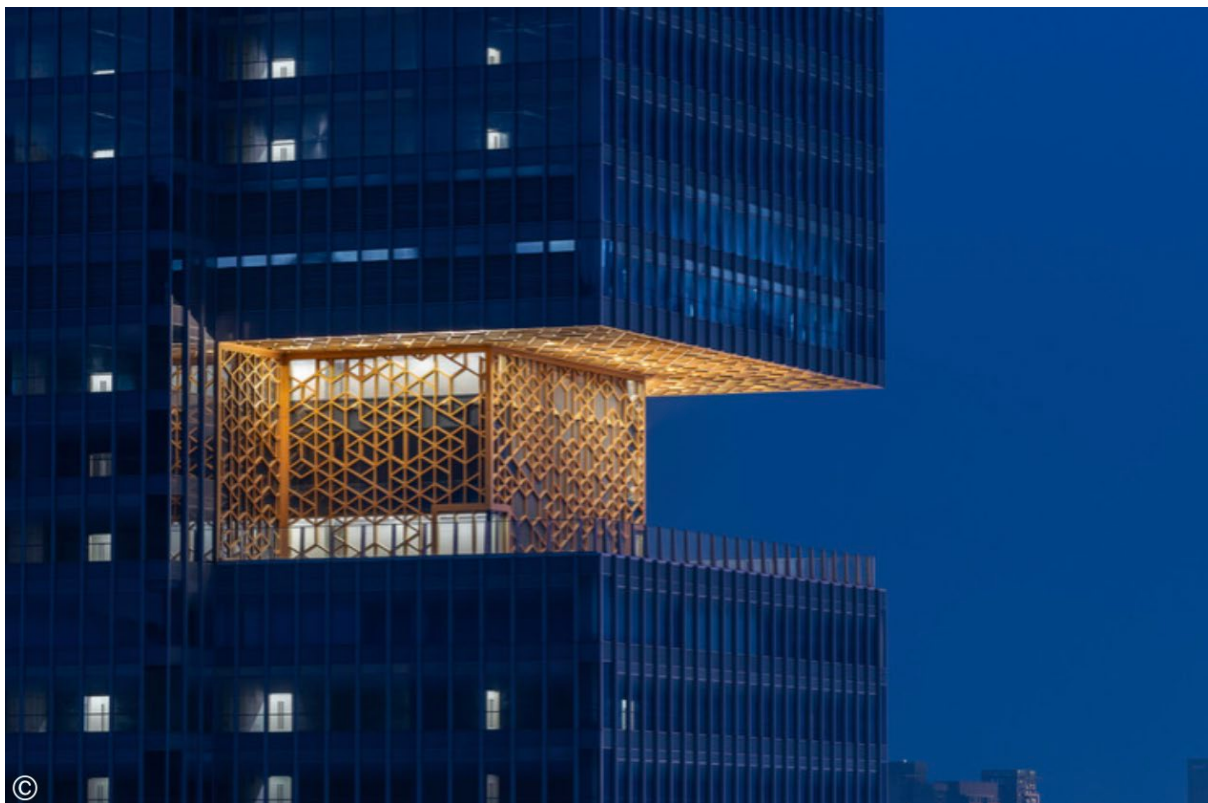


Image 4.9: Shenzhen Prince Plaza terrace

(Source: archdaily)

4.3 Bashundhara City



Image 4.10: Bashundhara City

(Source: alamy)

Architect – Mustapha Khalid

Location – Pantha Path, Karwan Bazaar , Dhaka

Site Area – 4.39 Acres

Bashundhara City is a 19-storey high building complex covering an area of 191200 sqft comprising an 8-storey podium containing Retail Spaces, Mega Stores, Theme Park, Cinemas and Food Court, and a 19-storey Corporate Office of Bashundhara Group over a 2-storey Health Club and Swimming Pool.



Image 4.11: Bashundhara City site

(Source: Author)

4.3.1 Form and Function

The basic concept of the design originated from the intent of creating a city within a city, which can be revealed by identifying four distinctive constituency blocks, connected by streets converging into the atrium. Spines are so created as if the city streets leading to the heart of the city centre producing a psychodrama that in turn makes the building into a virtual city rendezvous. This atrium of mass activities covered with a large-scale glass dome. The plaza under the dome thus becomes an active social environment for the whole commercial complex. There are over 2325 shops, several floors for accommodating offices and business centres. The range of products and services is vast and the marketing is aggressive. A multi-screen movie theatre with digital sound system screens both local and international films. Each of the three

parts of the theatre can accommodate 262 viewers. Billiard centre and video games, food court with 100 shops, a theme park for children on the 8th floor, gym is also available.

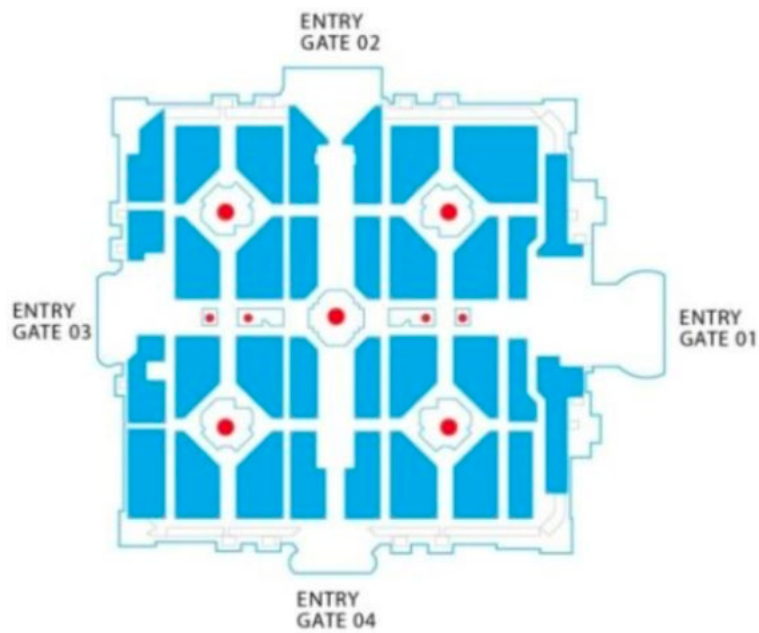


Image 4.12: Bashundhara City entry

(Source: Google)

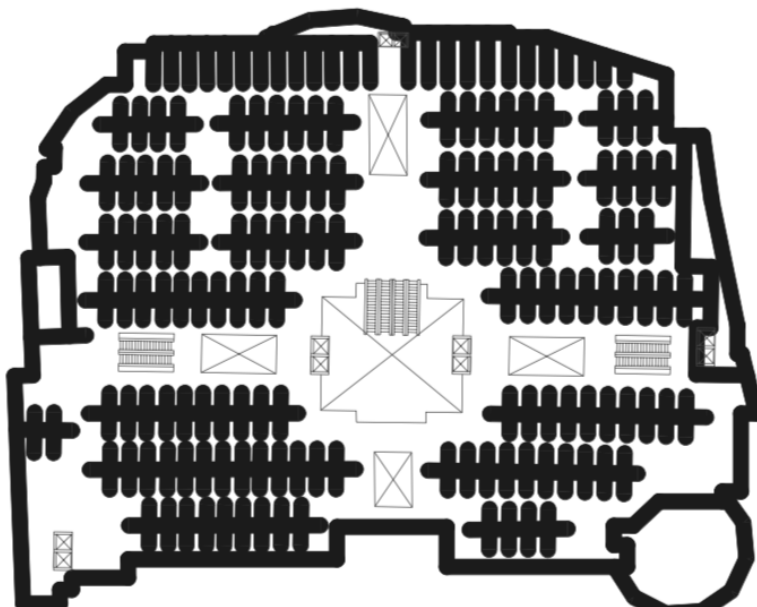


Image 4.13: Bashundhara City plan

(Source: Google)

4.3.2 Horizontal and vertical circulation

Main entry to the shopping precinct through a diaphanous façade facing the main street being inserted into a larger plaza, located at the converging point where vaulted skylights at cardinal alignments come together, emphasizes the main axis of the complex. Secondary entries and the stairways symbolically stand at the sides of the complex to create symmetry and identify secondary axis significant to the alignment of users assembling in the precinct.



Image 4.14: Bashundhara City Circulation

(Source: Alamy)

4.3.3 Utility planning

The design utilises a universal grid and modular planning, consolidates core services and optimises building support system to achieve a higher flexibility and results in lowered maintenance and operation costs. Considering street level transparency at the southern interface and guarded by the east west solid walls reduces energy use and maximizes daylights, resulting in an aesthetics of transparency, light and clarity.

4.3.4 Design detailing

The central atrium has a stained-glass enclosed roof. The other 4 atriums are covered with translucent sheets to allow daylight into the complex.



Image 4.15: Bashundhara City Sky dome

(Source: Alamy)

Chapter 5: Program Appraisal

The following chapter analyses the given programs for designing the mixed-use complex. The programs primarily comprise of Administrative Facilities, Commercial Facilities, Recreational Facilities, Healthcare and Fitness Facilities and Supporting Facilities, each of which have been revised to meet the efficiency of space utilization as per standards, case studies and context study.

5.1 Administrative Facilities

The given program includes common facilities available to the public upon entrance to the complex. It also includes basic administrative functions such as an office.

Functional space		Number of units	Number of users	Area per unit (in sft)	Total area (in sft)
A. Administrative facilities					
1	Lobby	1		200	200
2	Lounge				
	Reception	1		1400	1400
	Toilet	1		225	225
	Snacks corner	1		345	345
3	Plaza	1			2300
4	Central maintenance office	1	3	300	300
	Pantry	1		120	120
	Lounge	1			1000
5	Prayer spaces				
	Prayer space	2	50	10	500
	Ablution	2			150
	Store	1			60
	Toilet	2			800
Subtotal					7390

5.2 Commercial Facilities

To serve the neighbourhood as well as the city, this mixed-use rentable program will ensure a lot of activity. It can serve as business conference centre, exhibition hall and community centre.

The commercial facilities include community centre, super shops, beauty parlor and day care centre. These functions are accommodated due to demand by the community for such facilities.

Thus, allocating a total of 30,819 sft to commercial facilities

Functional space		Number of units	Number of users	Area per unit (in sft)	Total area (in sft)
B. Commercial facilities					
1	Community center				
	Kitchen	1		910	910
	Semi-open space	1		300	300
	Toilet	1		340	340
	Lobby	1		1100	1100
	Hall	1	750	10	7500
	Toilet	2		600	1200
	Store	1		130	130
	Pantry	1		690	690
2	Super shop				
	Shops			11800	11800
	Toilet			220	220
3	Beauty Parlour				
	Reception	1		415	415
	Staff area	1		130	130
	Toilet	1		170	170
	Shampoo area	1		350	350
	Facial	1		420	420
	Pedicure/Manicure	1		740	740
	Spa	1		255	255
	Dressing	1		600	600
4	Day care center				
	Reception	1		550	550

	Office	1	4	100	400
	Toilet	2		220	220
	Pantry	1		400	400
	Toddler area (0-12 months)	1	10	35	350
	Pre-school area (Age 1-3 years)	1	25	35	875
	Pre-school area (Age 3-5 years)	1	22		770
				Subtotal	30819

5.3 Recreational Facilities

The entire city people need recreational facilities. This complex will serve as a breathing space and provide users within the neighbourhood and others in the city with a place to unwind. This also serves as a place for social interaction with people from different areas. Dining facilities and exhibition spaces will attract users to gather and mingle as well as serve as an income source for many others.

Functional space		Number of units	Number of users	Area per unit (in sft)	Total area (in sft)
C. Recreational facilities					
1	Food court				
	Stalls	10		150	1500
	Seating	2	215	20	4300
	Toilet	2		660	660
2	Restaurant	1	295	20	5900
3	Exhibition spaces	2	180	25	4500
	Store	1		60	60
	Toilet	2		230	230
	Office	1	2		160
				Subtotal	17320

5.4 Training/Work Facilities

The city is developing and so are its people. The following functions will further facilitate this growth by providing necessary spaces and amenities. This will serve to empower women in particular as they can participate in training workshops to train for employment to support themselves and their families. It will also serve young students who can come here to foster their curiosity and knowledge in various areas.

Functional space		Number of units	Number of users	Area per unit (in sft)	Total area (in sft)
D. Training facilities					
1	Workshop spaces				
	Workshops	3	16	125	2000
	Reception & Lounge	1		1300	1300
	Office	1	3		335
	Toilet	2		800	800
2	Computer lab	1	130	10	1300
3	Incubator spaces				
	Incubator rooms	6	92	20	1840
	Meeting	1	14	20	280
4	Conference spaces				
	Conference rooms	5	240	20	4817
	Lounge	1		3000	3000
	Toilet	2		800	800
	Pantry	1		460	460
5	Training centre				
	Training rooms	3	100	650	1950
	Teacher's room	1		420	420
	Office	1		420	420
6	Library				
	Library	1	55	25	1375
	Lounge	1		1385	1385
	Toilet	2		800	800
	Pantry	1		460	460
	Open to sky terrace			2200	2200
				Subtotal	25997

5.5 Healthcare and Fitness Facilities

It is the age of fitness and many people have become self-aware about their health and fitness.

There is an increase in demand for healthcare and fitness facilities in one's own neighborhood for all age groups. Therefore, there are a range of functions from swimming to yoga to keep inhabitants of the neighborhood fit and active.

Functional space		Number of units	Number of users	Area per unit (in sft)	Total area (in sft)
E. Healthcare and Fitness facilities					
1	Swimming pool				
	Kids pool	1	5	20	100
	Pool	1	35	15	525
	Pool deck	1			1000
	Kitchen	1		160	160
	Reserve tank	1		270	270
	Machine room	1		1000	1000
2	Dressing room				
	Gents	1	28	280	280
	Ladies	1	36	360	360
3	Gymnasium	1	122	10	1220
4	Sports zone	1		870	870
6	Lounge	1		620	620
				Subtotal	6365

5.6 Supporting Facilities

Functional space		Number of units	Number of users	Area per unit (in sft)	Total area (in sft)
F. Supporting facilities					
1	Sub station	1		336	336
2	Generator	1		440	440
3	Sentry box	1		50	50
4	Water tank	1		660	660
5	Pump house+WTP	1		140	140
6	Chiller space	1		600	600
7	Over Head Water Tank (OHWT)	1		370	370
8	Parking	101			33500
				Subtotal	36096

Site Area: 0.67 acre

Total Built Area: 124,387 sft

Chapter 6: Design Considerations

The following design considerations are based on the findings from the previous chapters. These will keep in consideration guidelines, requirements and demands of the project building and associated facilities. Achieving these few design considerations will bring the project closer to making it a complete and sustainable project.

6.1 Climatic and Geographical conditions

The area of Agrabad is known to be prone to flooding. During monsoon seasons, the area faces major flooding, where the highest water level reaches up to +5 feet. Considerations must be made as to how to protect the building facilities from flooding as well as provide easy access during such times.

6.2 Promoting Pedestrian and Vehicular Access

The location of the site is in a dense mixed use and residential area. Though pedestrian footpaths are available, they are inconsistently placed throughout the site thereby preventing smooth transition from one place to another. Care must be taken to ensure convenient accessibility by users who will come to the complex. On the other hand, vehicular accessibility must also be planned to ensure maximum efficiency of circulation within and around the building.

6.3 Vertical Zoning

The complex is designed as a center for the neighborhood, which will provide various facilities and amenities that will cater to people as per the changing needs and demands of the context. Thus, the design must incorporate public spaces that will be flexible in use, e.g. provide space

for street vendors, outdoor exhibitions, host festivals etc. These spaces will also help to bring transition of space from outdoor to indoor, for efficient user movement between the multiple functions of the project, in terms of guiding the users from one function to another.

6.4 Environmental Sustainability

The building must be as environment conscious as possible making use of various effective sustainable building design strategies (e.g., building envelope improvement, daylight harvesting, advanced lighting design, displacement ventilation, chilled ceiling etc.) could contribute more than 25% of the total building energy consumption compared to the international building energy code. The use of such strategies will also help in reducing the maintenance cost of the complex, making it more economic and sustainable.

Chapter 7: Design Suggestions

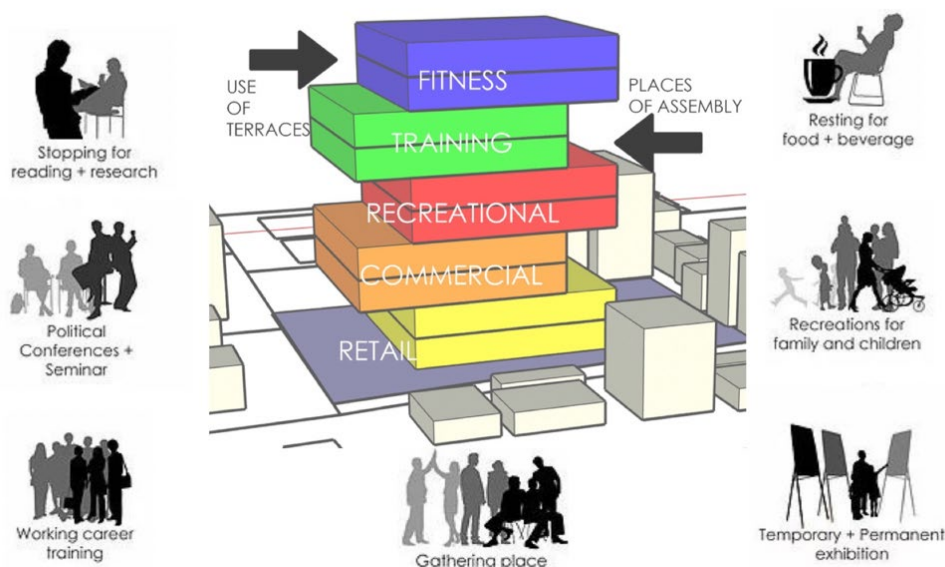
The project space for people is a mixed used facilities complex designed to provide facilities for the neighbourhood of south agrabad in Chittagong. This benefits the project by providing a sense of community, social interaction, comfort as well as support for the local community

With provision for activities such as research, conferences, career training, exhibition as well as recreation for families and the youth, serving different user groups and promoting an active community. Thus the concept of vertical neighbourhood was derived. This aims to create a vertical neighbourhood through vertical zoning and places of assembly connecting people on three levels with the city, the neighbourhood, and people, through functions and spaces and ultimately acting as a social hub within the community.

7.1 Concept

Concept: Vertical Neighbourhood — Creating Connections

Stacking of programs vertically to create a vertical neighbourhood

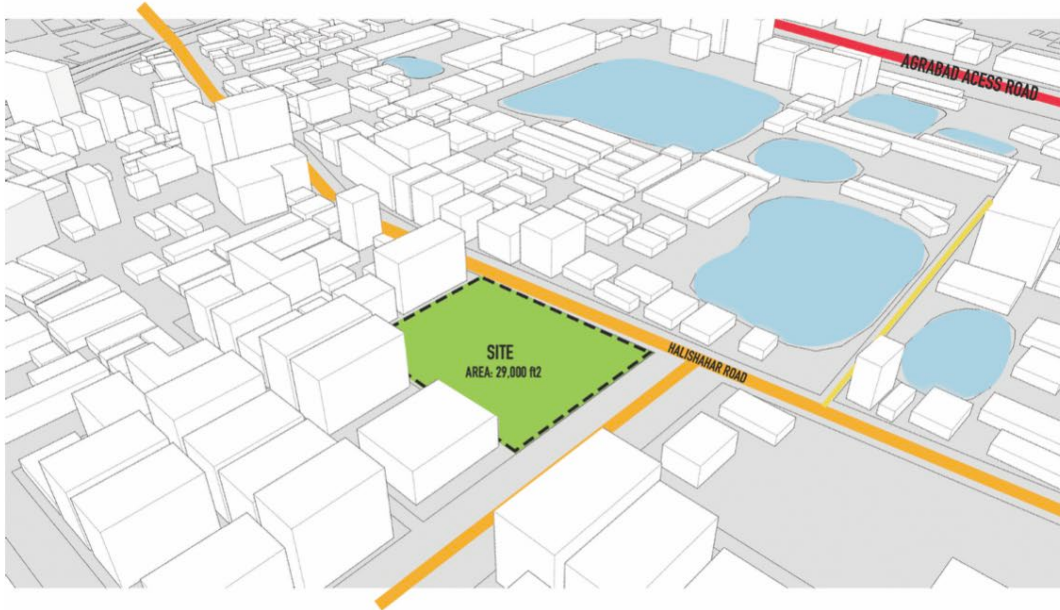


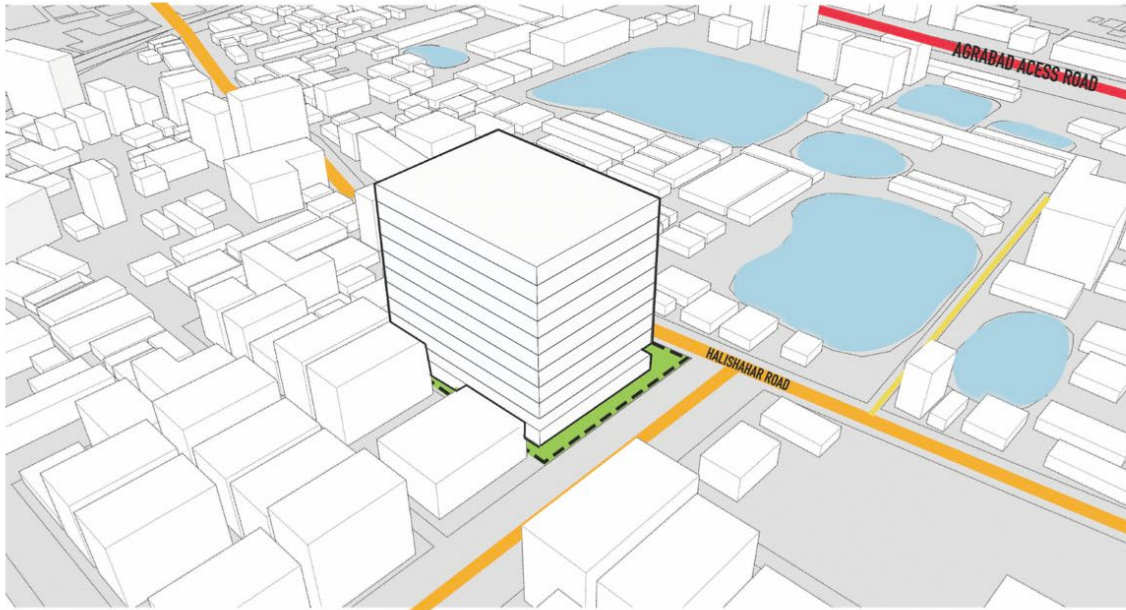
These programs are derived from a live work play concept providing functions such as super shops, community hall, work spaces, fitness and food court and restaurants



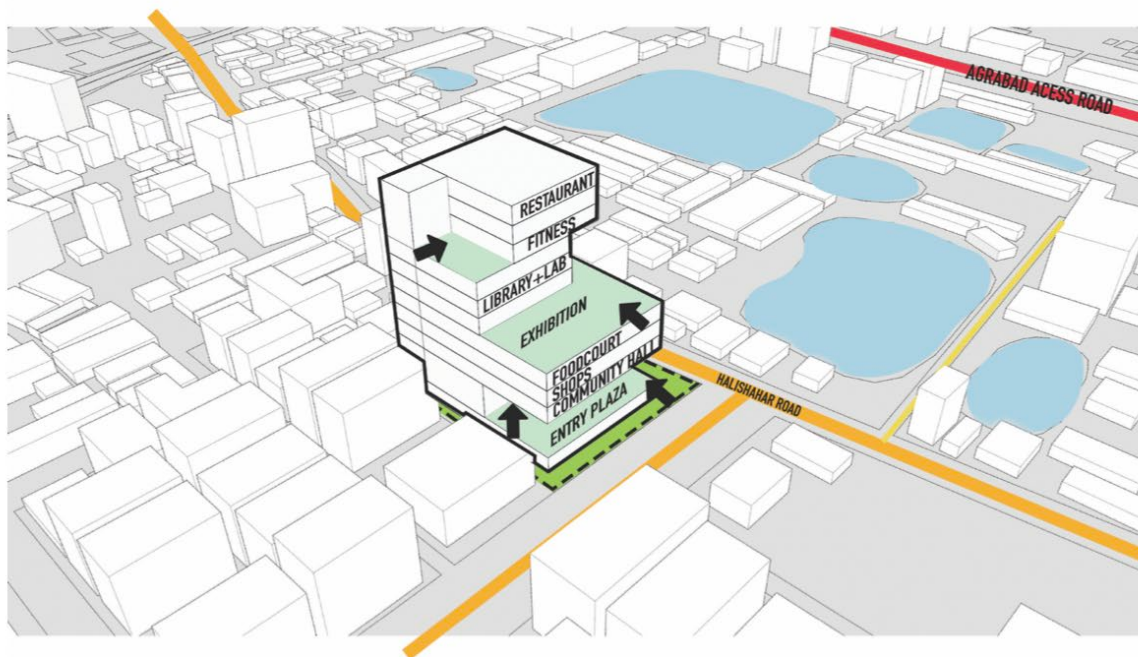
7.2 Form Development

Contextual Analysis

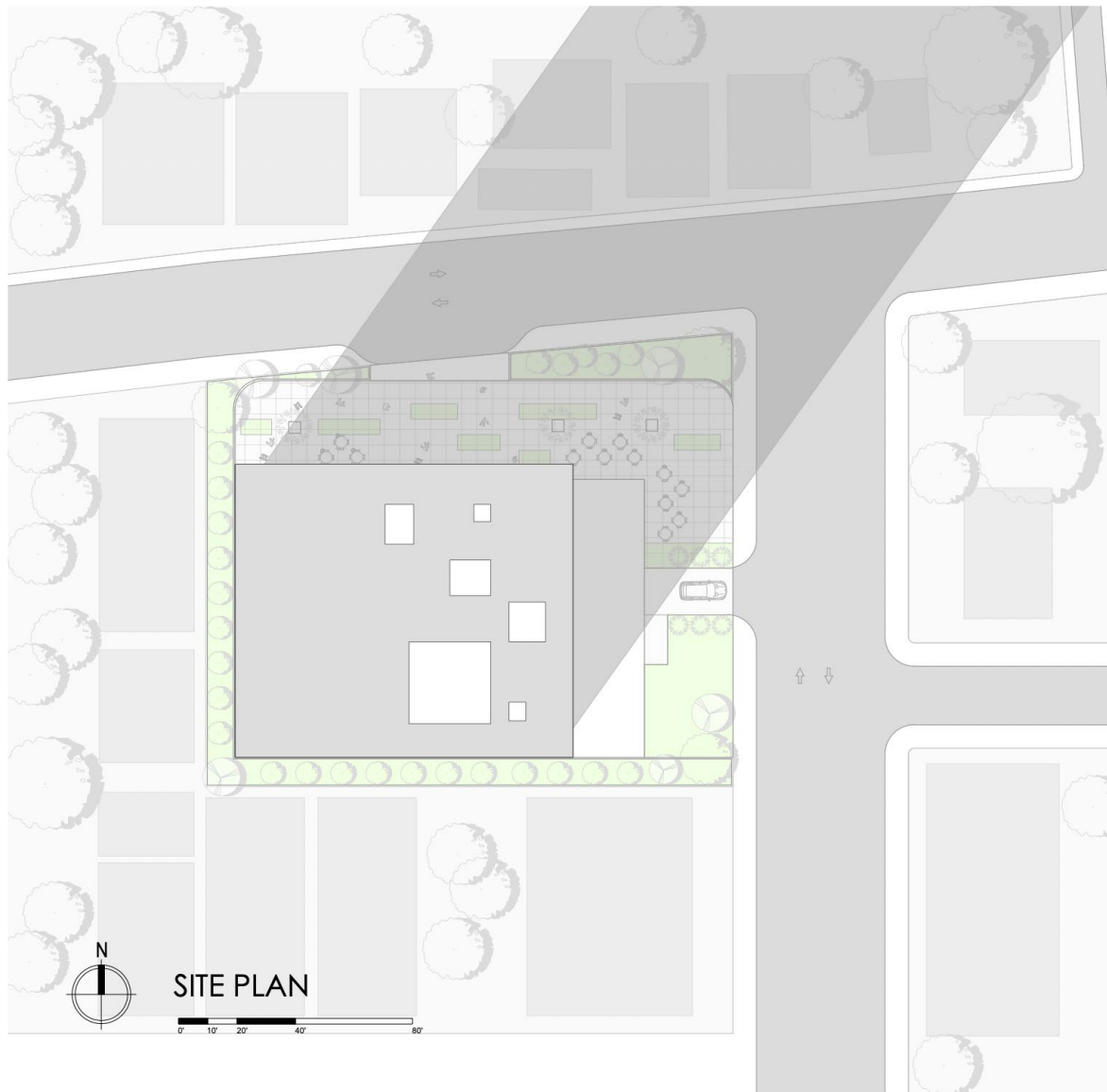


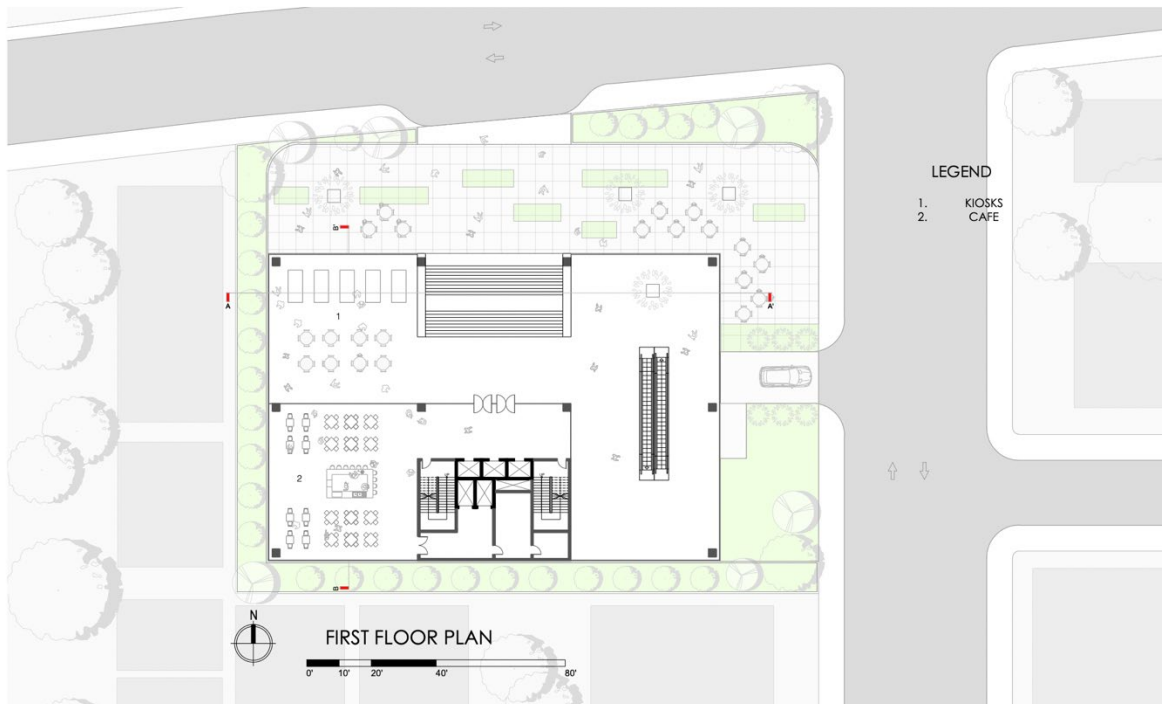
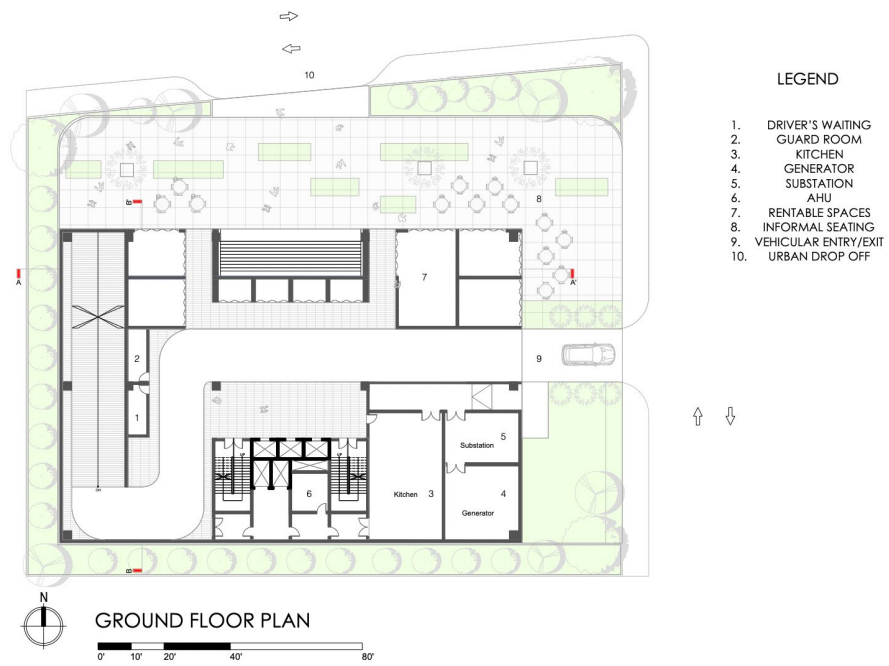


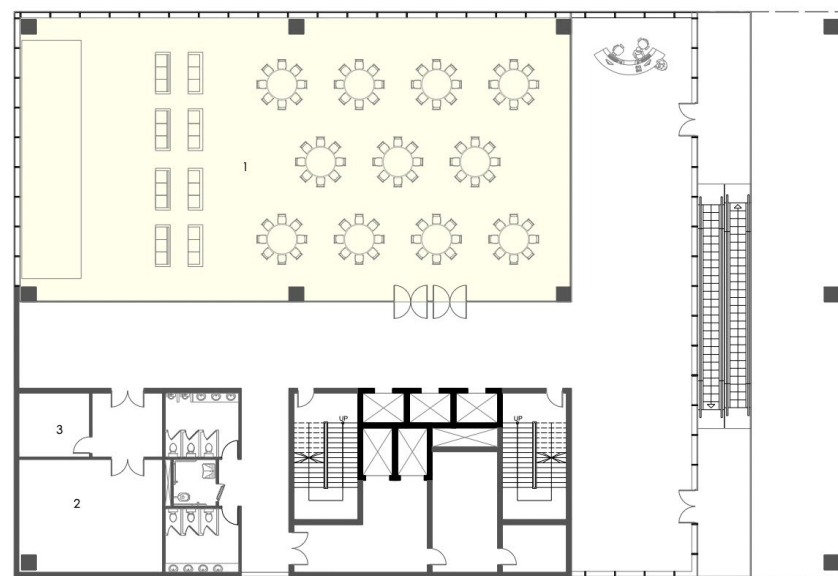
FORMATION OF SPACES



7.3 Plans



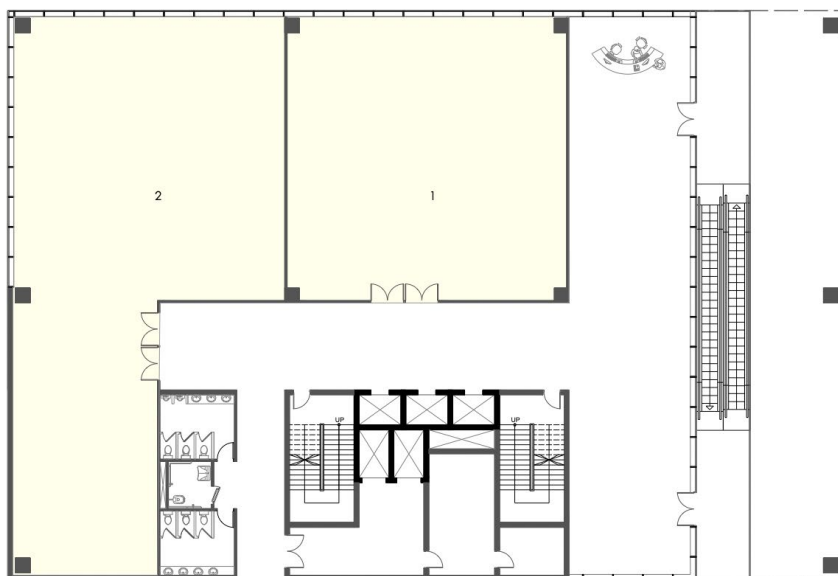




LEGEND

1. COMMUNITY HALL
2. PANTRY
3. ADMIN

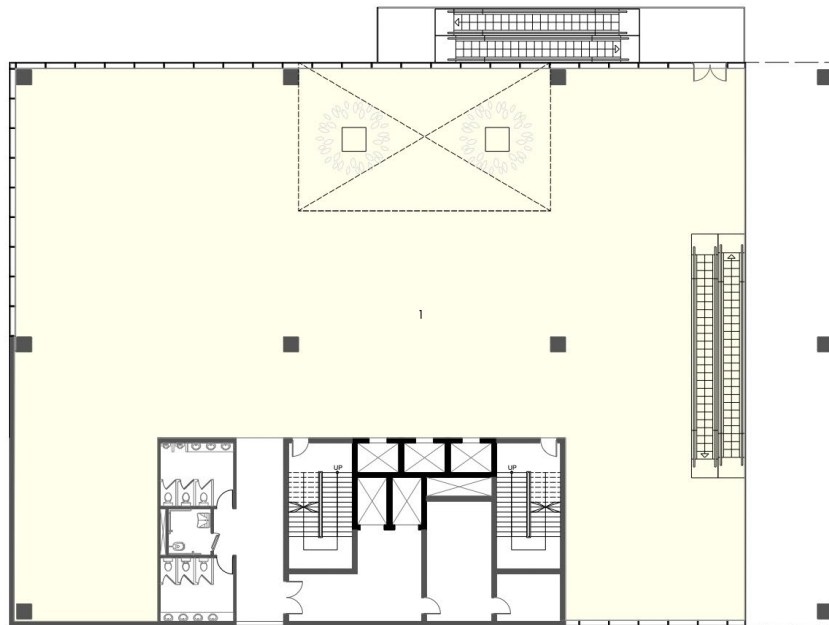

2ND FLOOR-COMMUNITY HALL
0' 10' 20' 40' 80'



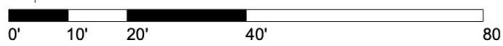
LEGEND

1. PARLOUR
2. DAYCARE & PLAY


3RD FLOOR - PARLOUR + DAYCARE
0' 10' 20' 40' 80'

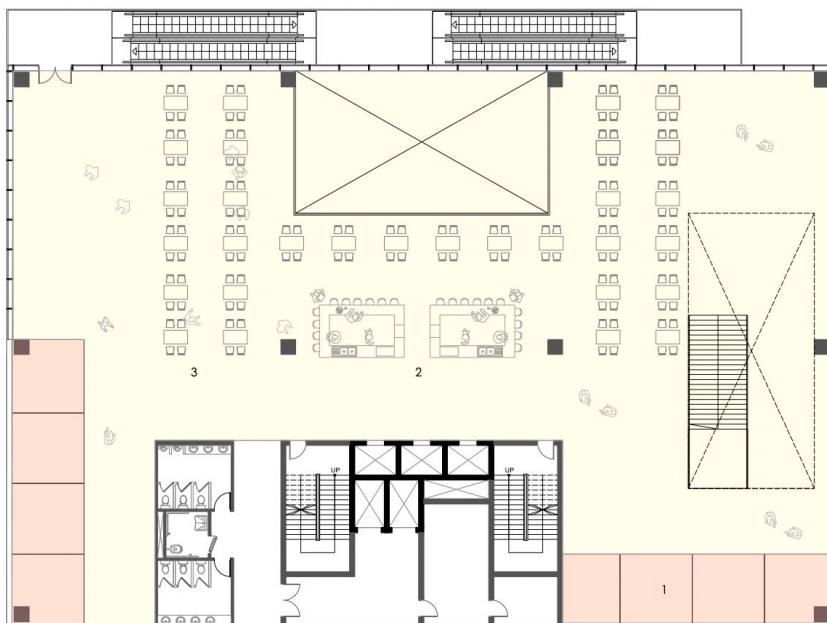


4TH FLOOR - SUPER SHOP



LEGEND

1. SUPERSHOP

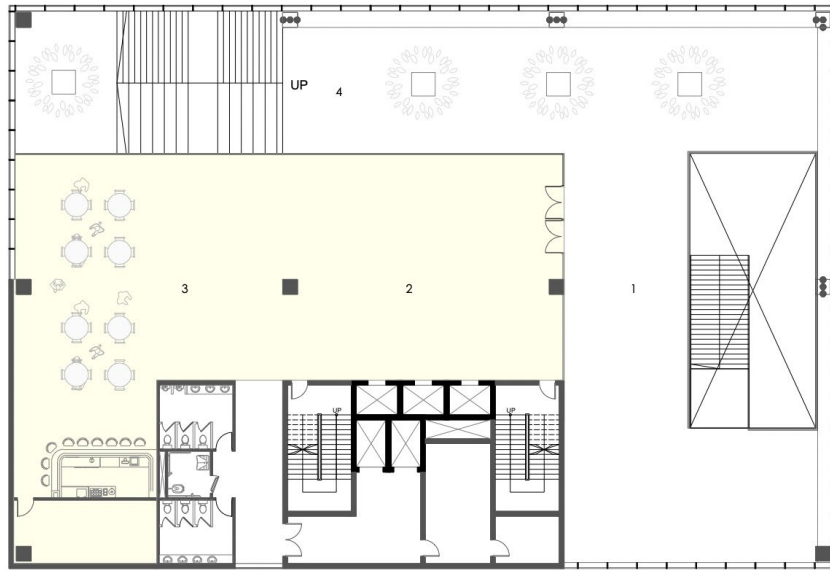


5TH FLOOR - FOODCOURT



LEGEND

1. FOOD STALLS
2. FOOD KIOSKS
3. SEATING



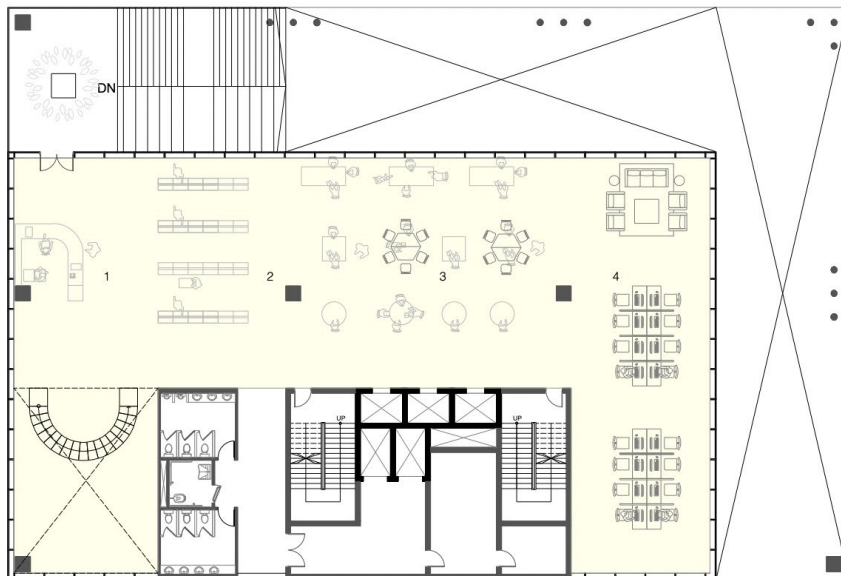
LEGEND

1. OUTDOOR EXHIBITION
2. INDOOR EXHIBITION
3. CAFE
4. OUTDOOR SEATING



6TH FLOOR - EXHIBITION AND CAFE

0' 10' 20' 40' 80'



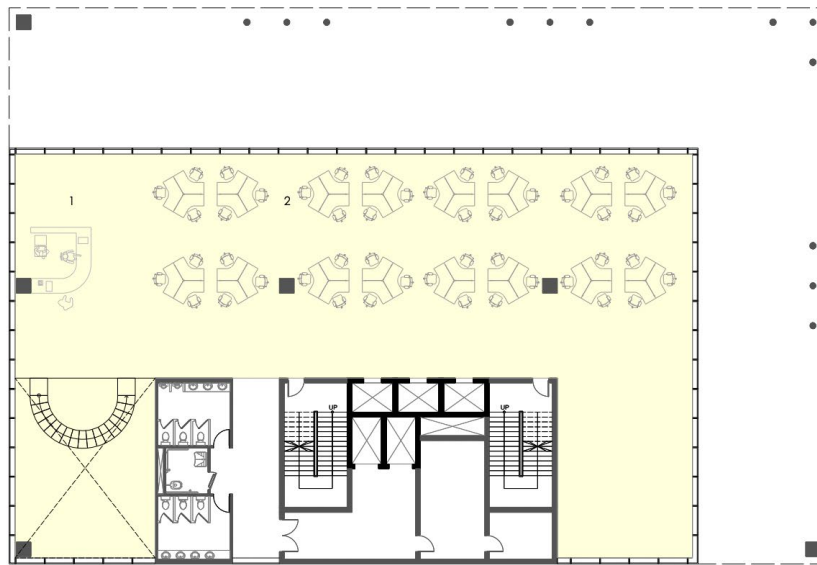
LEGEND

1. RECEPTION
2. BOOKSHELVES
3. READING AREA
4. COMPUTER LAB



7TH FLOOR - LIBRARY AND LAB

0' 10' 20' 40' 80'

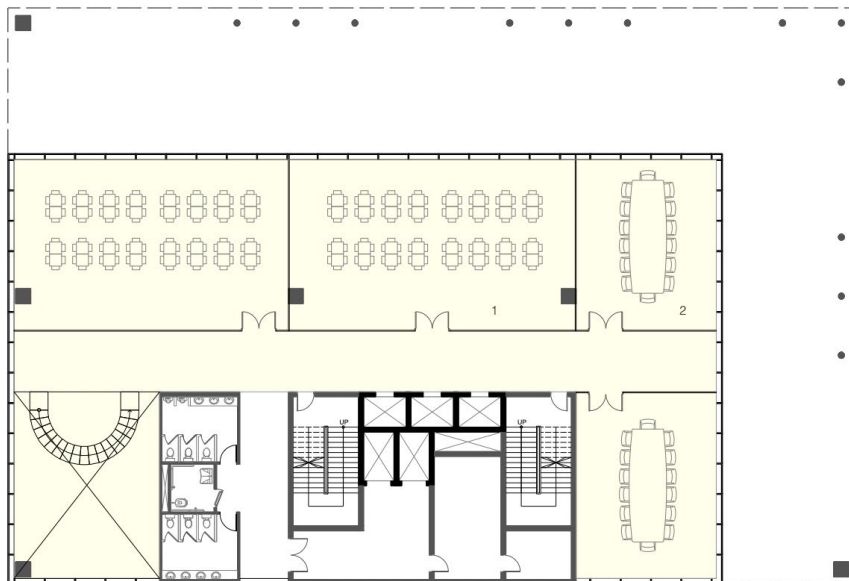


LEGEND

1. RECEPTION
2. SHARED WORK SPACE



8TH FLOOR - SHARED WORK SPACE



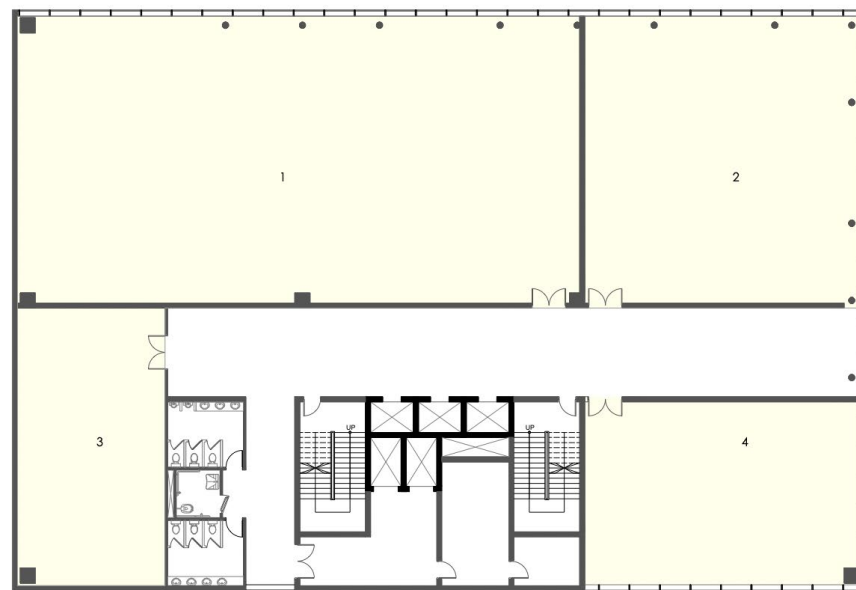
LEGEND

1. TRAINING ROOMS
2. CONFERENCE



9TH FLOOR - TRAINING AND CONFERENCE



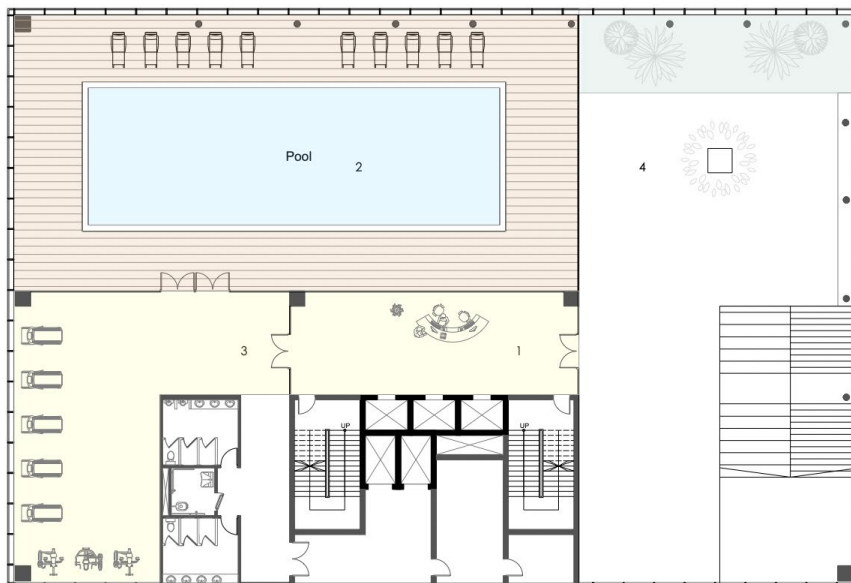


LEGEND

1. POOL MACHINE ROOM
2. KITCHEN
3. PRAYER ROOM
4. STORAGE



10TH FLOOR - SERVICES



LEGEND

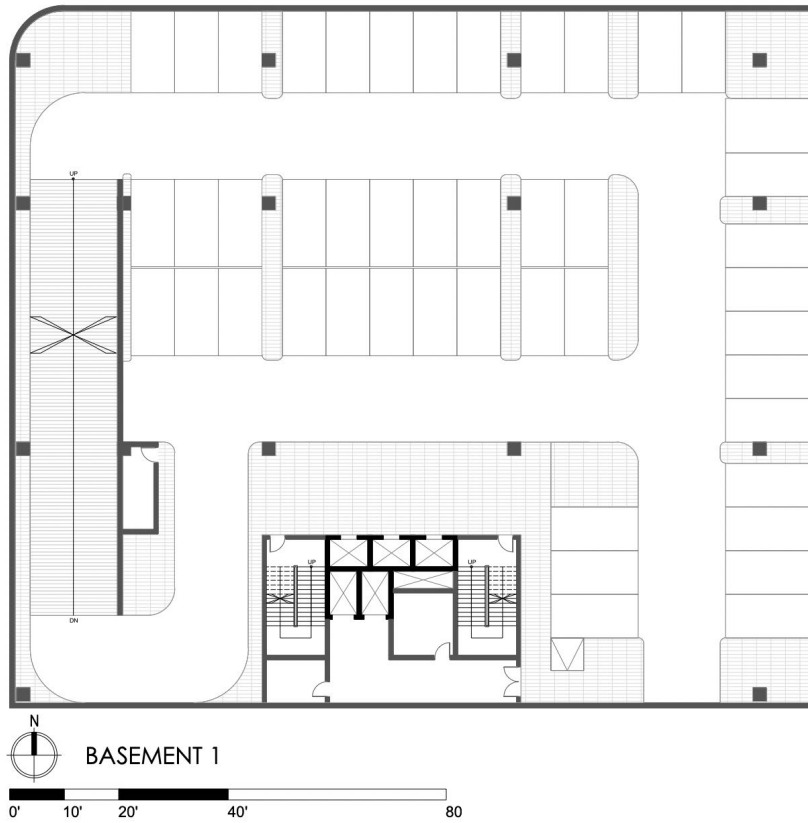
1. RECEPTION
2. POOL AREA
3. GYM
4. OUTDOOR SPACE



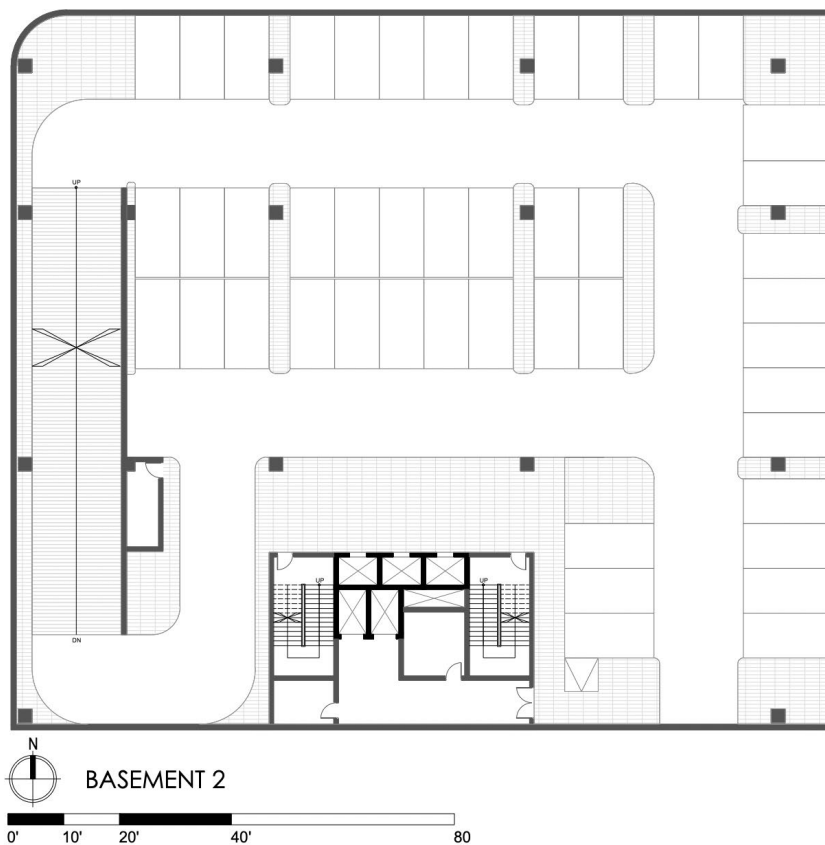
11TH FLOOR - GYM AND POOL



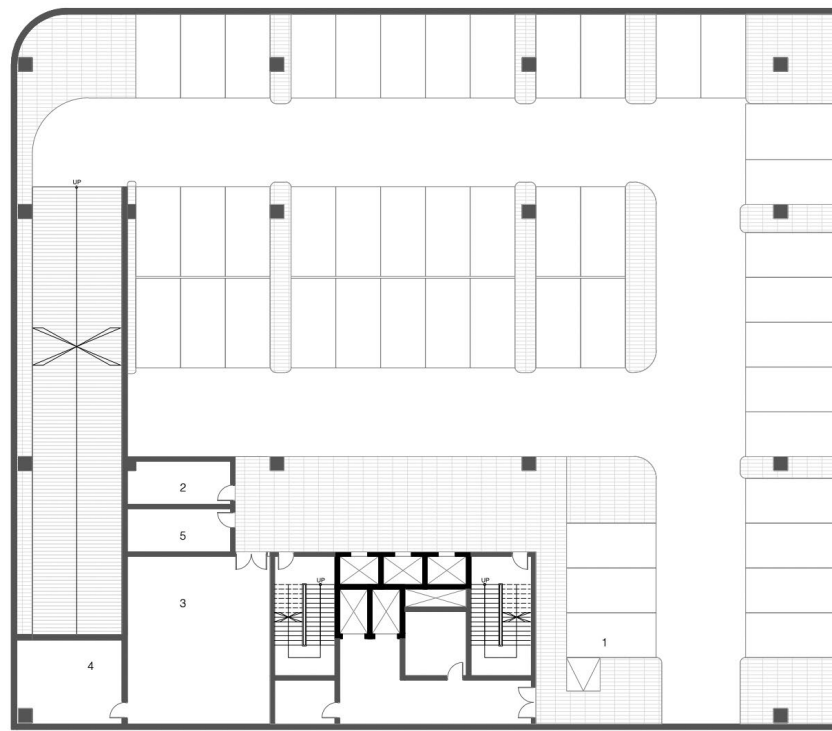




- LEGEND
1. UNLOADING DOCK
 2. DRIVER'S WAITING



- LEGEND
1. UNLOADING DOCK
 2. DRIVER'S WAITING



LEGEND

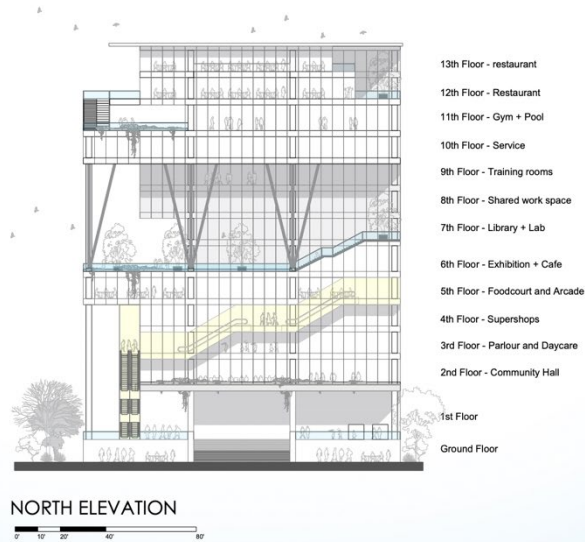
1. UNLOADING DOCK
2. DRIVER'S WAITING
3. WATER TANK
4. WTP
5. SANTRY BOX



BASEMENT 3



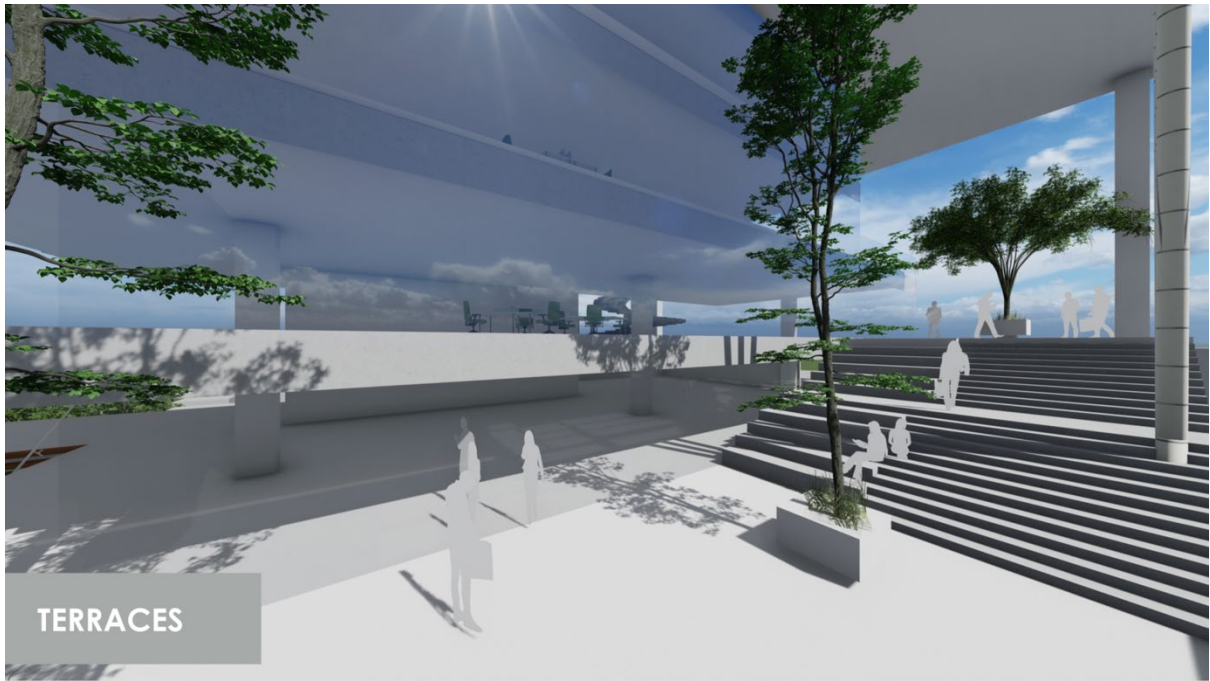
7.4 Sections and Elevation



7.5 Renders







TERRACES



NIGHT VIEW

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- [2] (D. Koch, L. Marcus, J. Steen, N. Khan and F. Nilufar, 2009) Spatial Logic of Morphological Transformation A Paradigm of Planned -Unplanned Areas in Dhaka city, *Proceedings of the 7th International Space Syntax Symposium*
- [3] (The EAE, 2018) Mixed Use Development Trend,
<https://www.theeae.com/mixed-use-development-trend/>
- [4] (W. Nurul, M. Wan and M. Rani, 2014) Understanding the Usage Pattern of Local Facilities in Urban Neighbourhood towards Creating a Livable City, *American Transactions on Engineering & Applied Sciences*
- [5] (T. Clark, R. Lloyd, K. Wong and P. Jain, 2002) Amenities Drive Urban Growth, *Urban Affairs Association*
- [6] (J. Delisle and T. Grissom, 2013) An Empirical Study of the Efficacy of Mixed-Use Development, *Journal of Real Estate Literature*

Appendix A.



Chattogong City Corporation

3rd Floor, City Planning Department,
Head Office, Tigerpass, Chattogram.

Project Summary

1. Title of the Project:

Space for People
(Mixed-use Complex)

2. Objective and Targets:

- 2.1 To create a place of relaxation and gathering
- 2.2 Provide public facilities within a walking distance in that area
- 2.3 Provide facilities for people of all ages
- 2.4 Create and enhance public realm of South Agrabad, Chittagong



4. Location of the Project: 27 No South Agrabad Ward, Chattogram.

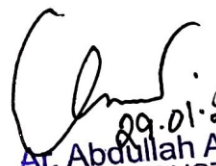
5. Brief Description:

The project is located in South Agrabad, Chittagong to provide mixed-use facilities and a place of gathering for the residents of South Agrabad.

6. Site Area: 0.67 Acres (Approx.)

7. Programs:

- ☐ Community Centre
- ☐ Super shops
- ☐ Conference Room
- ☐ Office
- ☐ Beauty Parlor
- ☐ Daycare Centre
- ☐ Food Court
- ☐ Exhibition Spaces
- ☐ Training Centre
- ☐ Gymnasium
- ☐ Sports Zone
- ☐ Restaurant
- ☐ Other


09.01.2020
Ar. Abdullah Al Omar
B. Arch. (SUST), MIAB
Architect, City Planning Dept.
Chittagong City Corporation

Total proposed amount of built-up area (approx.): 150,000 sft.