CAMPUS DESIGN OF AHSANULLAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

By

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A thesis submitted to the Department of Architecture in partial fulfillment of the requirements for the degree of Bachelor of Architecture

Department of Architecture
BRAC University
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Declaration

It is hereby declared that

1. The thesis submitted is my own original work while completing degree at BRAC University.
2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The thesis does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

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Approval

The thesis/project titled “Campus Design of Ahsanullah University of Science and Technology” submitted by Quazi Tabassum Tahrim Sifat (18108037) of Summer 2023 has been accepted as satisfactory in partial fulfillment of the requirement for the degree of Bachelor of Architecture on 10.09.2023.

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Abstract

With the growing number of students seeking higher education every year, private universities are falling under pressure and race against time to provide quality education to their students. Moreover, it is now a requirement of all forms of universities to function within a permanent campus of their own. Ahsanullah University of Science and Technology now thrives on changing how we perceive the notion of a university in this country. In their new campus, the students not only receive a better education with the creation of multiple new departments but also can experience their student life in a new light in the new campus site. The university is hoping to provide its students with a better education system along with the technical skills for their future endeavors. This dissertation paper highlights the possibilities and scopes through which the university can bring about the change they are hoping to provide.

Keywords: University; University Campus Design; Ahsanullah University of Science and Technology

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Chapter 1: Introduction

1.1 Introduction to the Project

The view towards a student's importance of higher education in the Bangladeshi context has changed immensely over the past few decades. Parents try their best to ensure their child's higher education to ensure a better degree and career for their future. Thus, universities not only hold the responsibility to prepare a student for their job and careers but also prepare a generation to become the backbone of their country.

On average, 800,000-900,000 students pass HSC and equivalent exams each year, with approximately 18% achieving a GPA of 5 (Alamgir & Rahaman, 2023). To pursue their journey of higher education, students aim for prestigious public universities. Public universities are the preferred choice for students and their parents, as they not only offer quality education with a wide variety of subjects and reasonable facilities but also charge very low fees, making them more affordable for lower and middle-income groups.

However, as the preferred public universities have a total enrollment capacity of about 60,000 and with admission becoming more difficult by the year, only 7% of candidates are coming out victorious whereas most students would have to settle for alternative choices. Private universities are significantly providing higher education for this large number of students. According to UGC (University Grants Commission of Bangladesh), some private universities have shown excellent student performance but many still have questionable quality of teaching and inadequate environments for undergraduate programs.

In our country, it appears that as the urge to gain knowledge rises, the quality of education drops. Young graduates often face a gap between their learning and their job requirements despite good academic performance. The knowledge that we gain from our higher studies should not only be limited to books and theories but also include correct implementation and technical know-how that may or may not be relevant to our field of study.

A future-oriented model of university campuses should be a combination of research institutes, incubators, accelerators, innovation centers, coworking spaces, and startup spaces. Incorporating these activities will help bridge the gap between the academic and corporate sectors. Skill development strategies of private universities should familiarize students with the present economy and market value. This campus experience will not only make the way of sharing knowledge easier but it will also change the value and influence of an educational institute on their students.

1.2 Background of the Project

Ahsanullah University of Science and Technology (AUST) is a government-approved private university, founded by the Dhaka Ahsania Mission in 1995. Ahsania Mission, a non-profit voluntary organization, was established in 1958 by educationist and social reformer of undivided India, Khan Bahadur Ahsanullah. Initially, charity and welfare activities were the major focus of this NGO Mission but it has expanded its arena of activities leaning towards sustainable development strategies with time. Ahsanullah University has plans to expand its capacity and add new departments and institutes. A

proposal for the new extension of the university has been developed based on a site located in Birulia, Savar. The initial plan is to shift some of the departments, institutes, and admin sections including all the existing programs and facilities, and establish new departments over the years. The second phase of the development plan includes residential facilities for students, teachers, and staff.

1.3 Project Brief

Project name: Ahsanullah University of Science and Technology

Location: Ashulia model town, Birulia**,** Savar

Project type: University Campus

Client: Ahsania Mission, AUST authority

Site area: 13.164 acres

1.4 Proposed Program

Faculty of Advanced Technology

- Department of Nanotechnology Engineering
- Department of Biotechnology
- Department of Biometric Engineering
- Department of Telecommunication
- Department of Microelectronic Engineering

- Department of Robotic Engineering
- Department of Biomedical Engineering
- Department of Mechatronics Engineering
- Department of Medical Electronics
- Department of Genetic Engineering

Faculty of Environmental Sciences

- Department of Climatology
- Department of Sustainable Development
- Department of Environmental Chemistry
- Department of Environmental Hazard & Disaster Management

Faculty of Urban Planning and Landscape

- Department of Landscape
- Department of Urban Planning

Faculty of Pharmacy

- Department of Pharmaceutical Technology
- Department of Clinical Pharmacy

Faculty of Renewable Energy

- Department of Renewable Energy
- Department of Energy Efficiency

Different Facilities

- Heavy Machineries Laboratory

- Utilities (Bank, Departmental store, etc.)
- Residential Facilities for Teachers, officers and staff
- Separate Hall of Residence for Boys and Girls
- Auditorium - 400 capacity
- Renewable Energy Park
- Center of Excellence (CoE)
- Library
- Teacher’s club
- Student’s club
- Administrative Office
- Proctor office
- ASW office

Other Services

- Parking - 1000 cars
- IT server room
- Medical facilities
- Engineering & maintenance
- Playground with relevant infrastructures
- Storage
- Cafeteria - 400 capacity
- Central Mosque – 5000 sqft

1.5 Aims and Objectives of the Project

- Creating a campus environment that engages its students in knowledge sharing through interaction
- Improve education standards to enhance user experience
- Enhance the learning environment through experimentation and practice
- Promote student-teacher interaction through open-space learning

Chapter 2: Literature Review

2.1 Education

As a society, we all have received education in one way or another, be it through the cultural norms of attending schools or achieving knowledge through apprenticeship. Considering all the variations of knowledge acquiring, we cannot define education with a single definition. Thus, the concept of education is fluid and everchanging.

Proper education improves the capacity of individuals to respond to environmental and development problems of any country. It brings about a sense of value, awareness, and a sense of ethical responsibility among the people.

Education develops people's innate inner abilities by equipping them with knowledge, understanding, skills, interests, attitudes, and critical thinking. As a part of society, we are required to think critically about various issues of life and make decisions without bias, superstition, and blind faith. Therefore, we must learn all these virtues of life through the process of education.

2.2 Education System in Bangladesh

The education system of Bangladesh includes both formal and informal education, both of which are available in a religious variant. Informal education is organized as structured learning that takes place outside of the school environment. Such as, programs aimed at tackling illiteracy, work-related or talent development programs which include company training and lifelong learning programs, and training programs for those who

have left school without a qualification. This informal education is provided at a variety of levels.

Education in Bangladesh is commonly divided into such stages as preschool or kindergarten, primary school, secondary school, and then college, university, or vocational training. The education system in Bangladesh has three levels and is highly subsidized. Primary and secondary education are both compulsory, though universal participation has remained more an ideal than a fact. The government of Bangladesh operates many schools at the primary, secondary, and higher secondary levels.

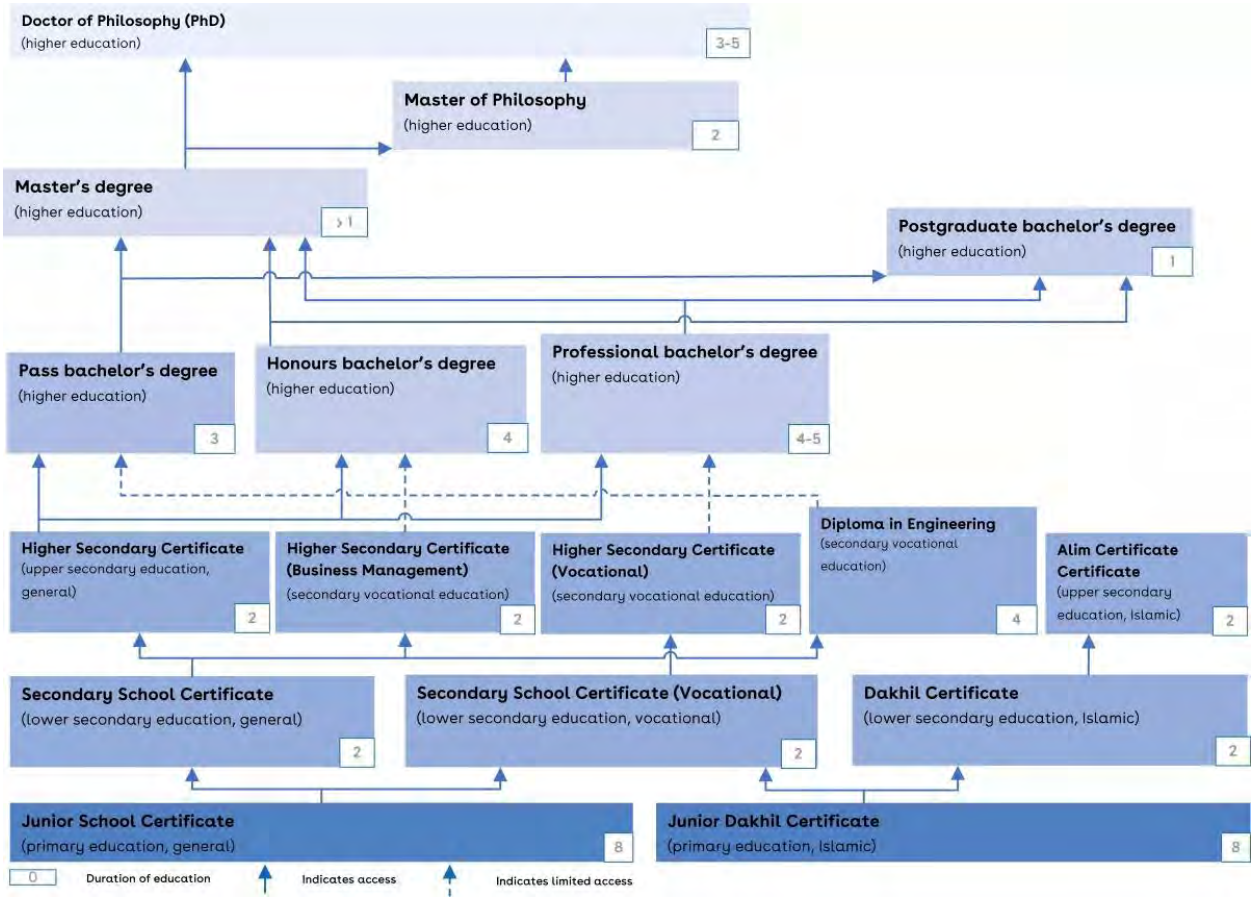

Figure 2.2.A: *Education system in Bangladesh*

Source: *NUFFIC, 1st Edition, October 2012*

2.3 Higher Education Scenario in Bangladesh

Higher education in the public sector of Bangladesh is a legacy of the British colonial education system. At present, there are 53 public universities and 107 private universities in which nearly 1 million students are studying for their undergraduate, graduate, and Ph.D. programs. In addition to that, there are multiple well-recognized medical colleges and national colleges affiliated with the national university where more students are enrolling for higher education.

The development of modern society is heavily influenced by the nature and quality of higher education. Higher education has enormous potential to promote prosperity in developing countries. Throughout the world, universities influence change in society by becoming the center of change and development. In the context of Bangladesh, various education commissions established so far are theoretically focused on harnessing the potential at all levels of society and creating a pool of highly qualified individuals to contribute to national development. But in reality, these universities are very weak and cannot change anything. Better understanding between teachers and students, adoption of modern teaching methods, and dedication of teachers and students can improve the culture of higher education in Bangladesh. Taking initiatives to free universities from the clutches of politics can play an important role in the overall improvement of universities (Monem & Baniamin, 2011).

2.4 Universities in Bangladesh

Higher education is the most important stage in a student's academic life. It's not just about the degree and the job that comes with it, it's the fact that universities have a responsibility to educate a generation. The idea of academic freedom is an important concept in the definition of higher education.

Similar to the gradual progress of education around the world, Bangladesh started its journey of universities to provide formal education in 1921 with Dhaka University. At present, there is at least one national university in each division of the country. With the increasing number of students and demands for higher education, the establishment of private universities was set in motion in 1992.

Higher education in Bangladesh has seen significant improvements in recent years, with a greater emphasis placed on the development of the sector. According to the UNESCO Institute for Statistics, Bangladesh's Gross Enrollment Ratio (GER) in tertiary education was 16.6% in 2019, compared to just 7.3% in 2009 (Higher Education in Bangladesh: Opportunities and Challenges, 2023). This is an impressive increase, indicating that more young people in Bangladesh are gaining access to higher education opportunities.

2.5 Significance of Private Universities

Private universities have made a significant contribution to higher education in Bangladesh. Unfortunately, there are a lot of misconceptions surrounding private

universities. The reason to be skeptical is that these universities are only for the children of the elite and wealthy. But the reality is that thousands of students coming from middle-class families are studying at these universities because our public education system does not have the capacity to accommodate them all. For the most part, many private universities have become internationally recognized institutions of higher education and knowledge centers. The sector complements public universities by providing higher education to thousands of students who would otherwise not have access to higher education (The Daily Star, 2016).

Chapter 3: Site Appraisal

3.1 Site Location

Figure 3.1.A: *Site location map*

The site is located in Birulia of Savar where the Ashulia Model Town is to be developed. Other than Ahsanullah University of Science & Technology, various other universities, and new schools are shifting to the outskirts of Dhaka as a result of rapid urbanization in the capital.

Ashulia Model Town is a new residential neighborhood project proposed by Amin Muhammad Group and has been recently approved by Rajuk to suit the accommodation needs of the people in the highly-dense capital. The reasons for this location to be picked by the developers are that it is close to Uttara with a handful of infrastructure development in progress and many renowned schools are being established here.

Various road development works are under construction in Birulia. The Highway roads now are extremely crowded and require expansion. Currently, most of the access roads around the site are kacha or semi pucca which are being developed under the project of Ashulia Model Town.

3.2 Chronological Development

Figure 3.2.A: *Site in year 2008 and 2013*

In the year 2008, the site and its surroundings were mostly agricultural land with little to no residential buildings or institutions around. No major roads had been connected to this area yet. By 2013, most of the agricultural land was submerged by water which created a small lake at the south of the site, continuing its trail to the west.

Figure 3.2.B: *Site in year 2018 and 2023*

By 2018, the lake had dried up and a large area had been filled up and left empty. The rest of the land had shifted to agricultural land once again. The site surrounding continues to be used as agricultural land in 2023. Single-story tin-shaded residential buildings are noticeable with rapid growth of residential area on the other side of the river.

3.3 Existing Site Conditions

Figure 3.3.A: *Site surroundings*

The existing site is currently being used as a nursery under AUST authority. Tree plants are sent all over the coutry from here. The site surroundings are devoid of any significant buildings. A training institute of Ahsania Mission is under construction to the east of the site. The main road leading to the site is still semi-pucca. A few neighborhood houses and schools are found to the east of the site.

3.4 Existing Site Analysis

Figure 3.4.A: *Figure ground map*

Figure 3.4.B: *Vegetation map*

Figure 3.4.C: *Existing land use map*

Figure 3.4.D: *Existing road conditions*

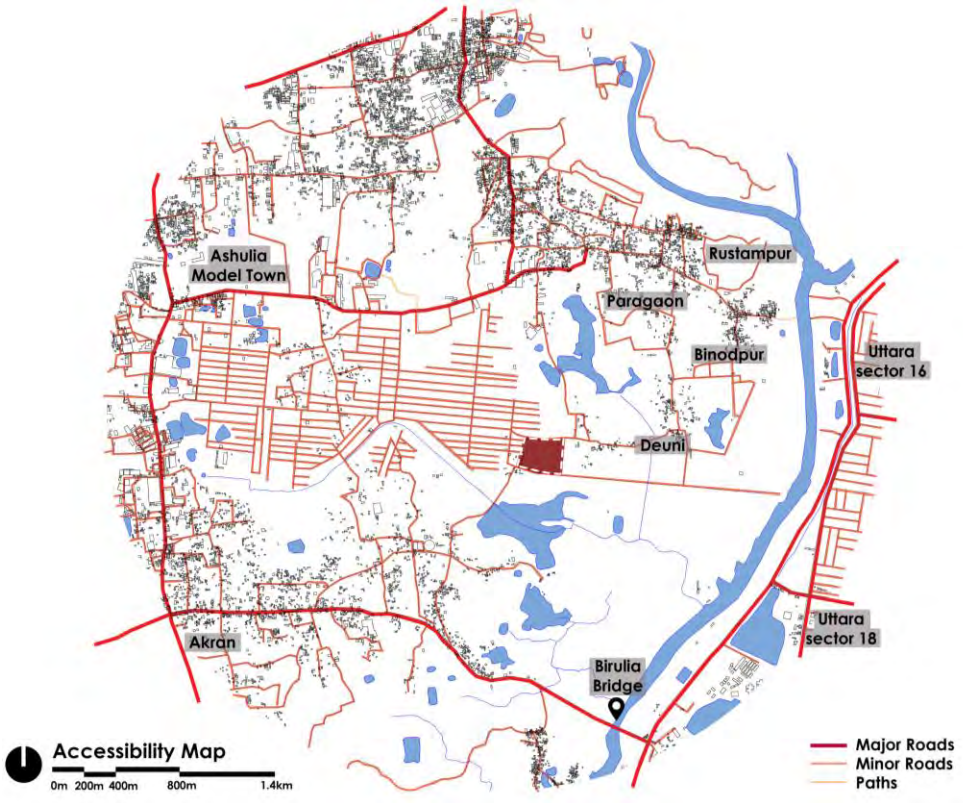

Figure 3.4.E: *Accessibility map*

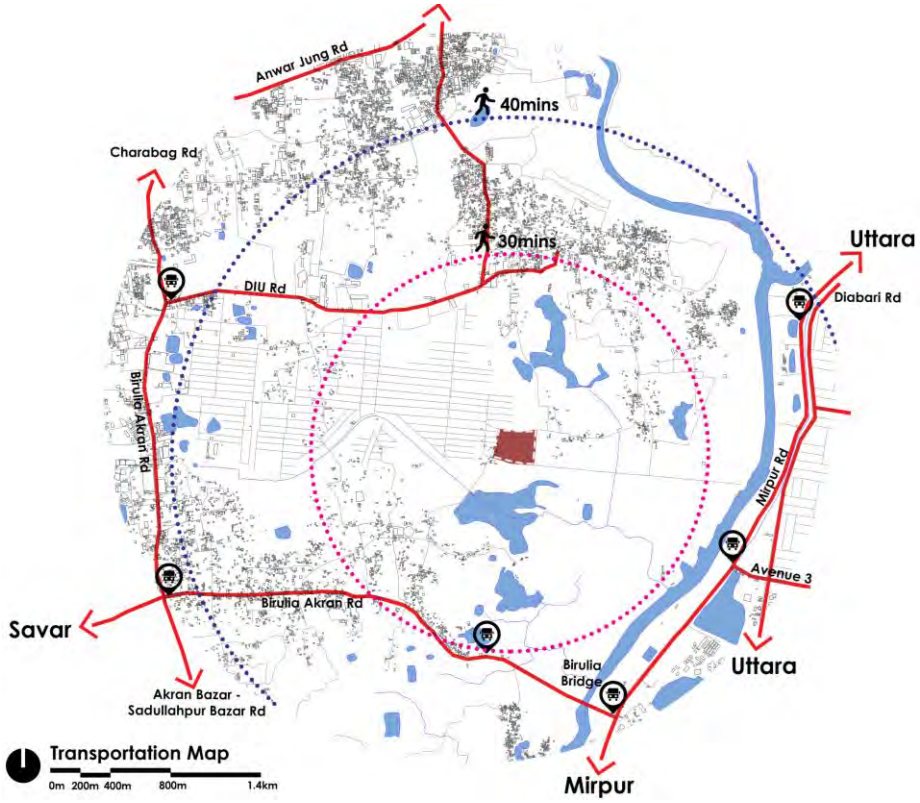

Figure 3.4.F: *Transportation map*

3.5 Future Changes and Prediction

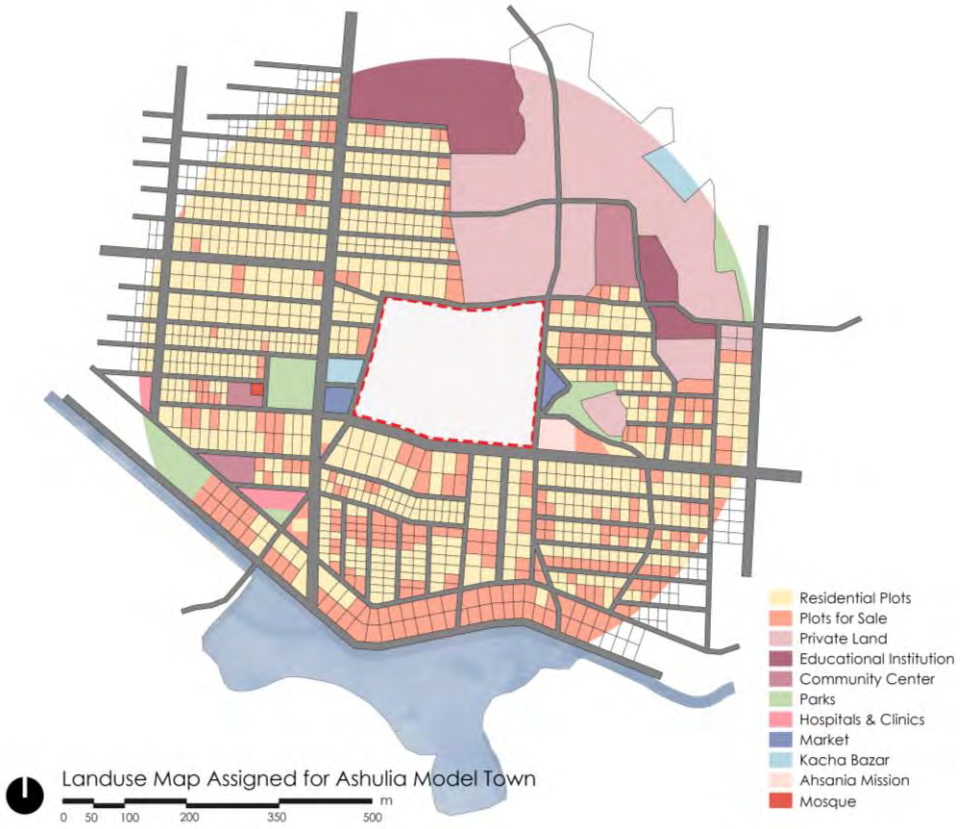

Figure 3.5.A: *Proposed land use map*

Figure 3.5.B: *Proposed road widths*

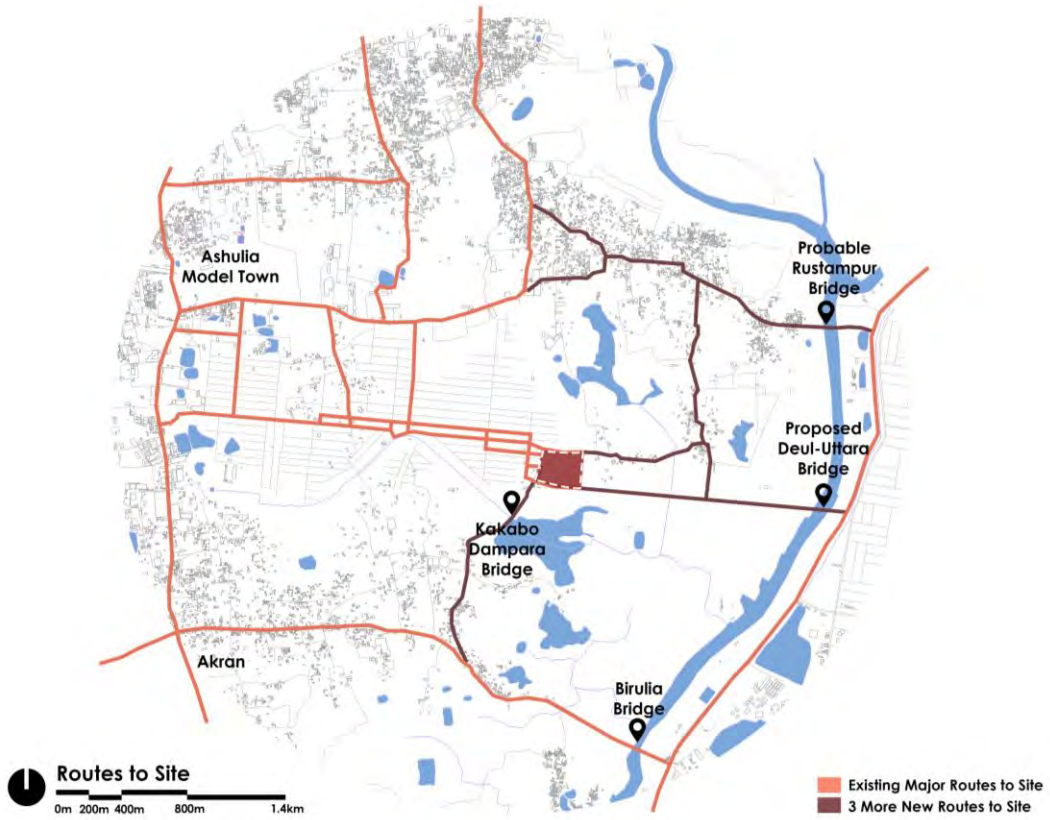

Figure 3.5.C: *Routes to site*

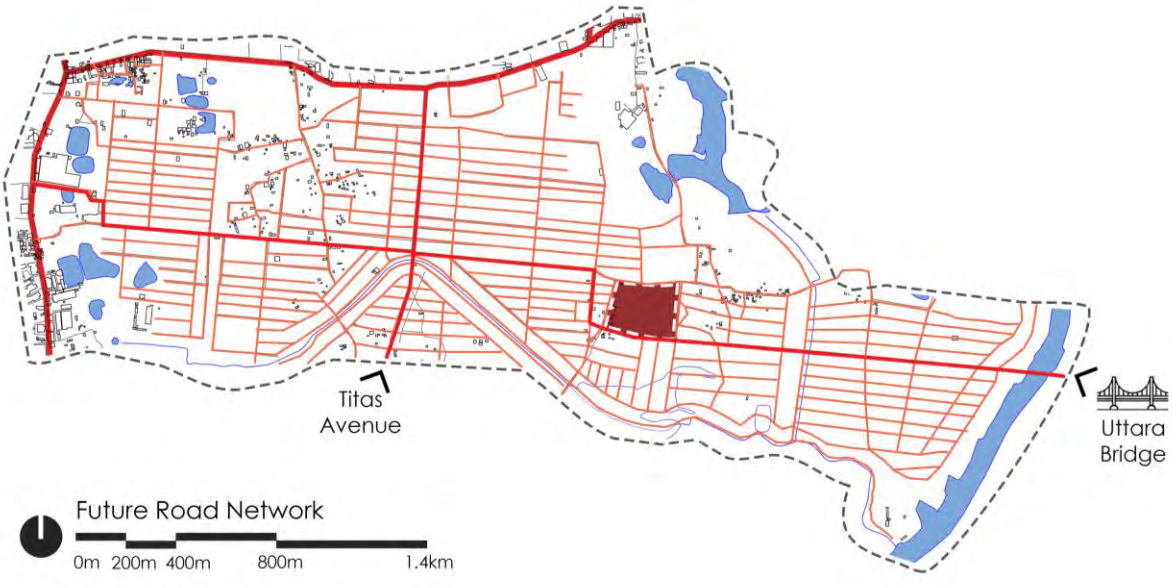

Figure 3.5.D: *Proposed road network*

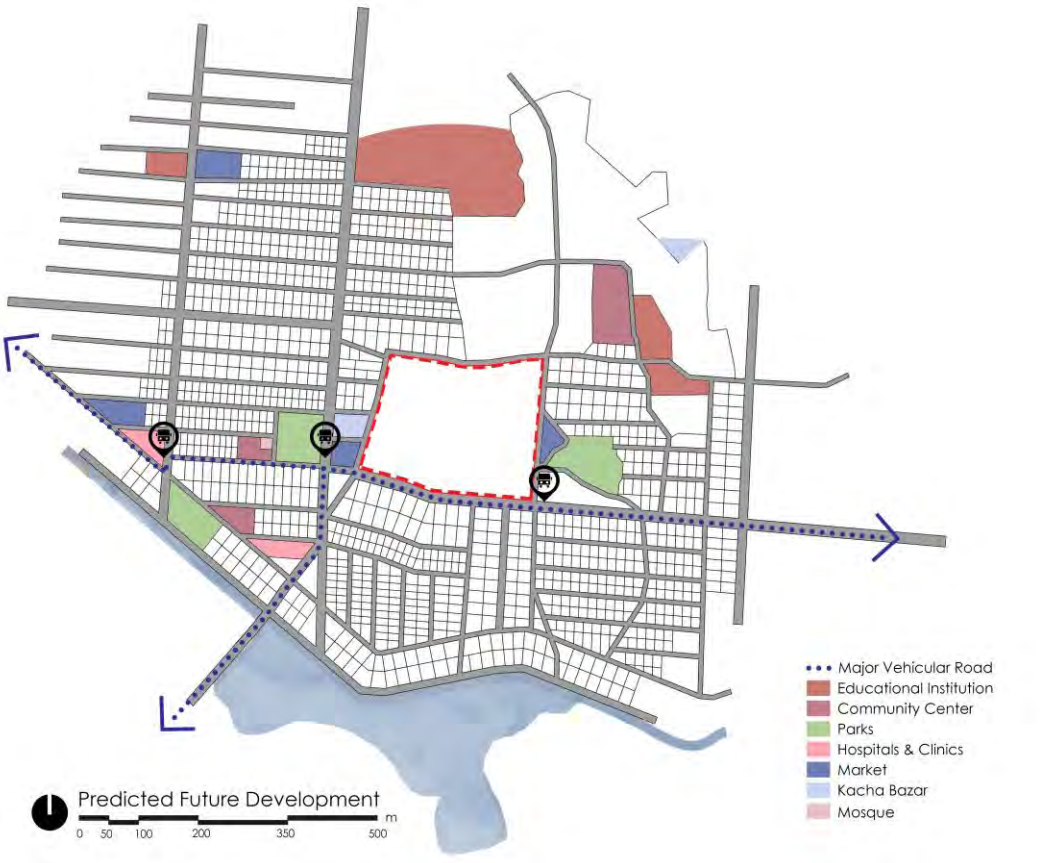

Figure 3.5.E: *Predicted future development*

With the construction of the Uttara bridge, the main road running in front of the site will eventually become the main commercial road of Ashulia Model Town. The direction of the road going to the west of the site is predicted to change its course from inside a dense neighborhood to a straight path where more commercial functions are found. As we have noticed over the years, residential areas often change their nature depending on human movement and usage. Therefore, it is predicted that the area alongside this main road is bound to transform into a commercial zone even though it is currently designed as a residential area.

Chapter 4: Case Study

4.1 Case Study 01

Indian Institute of Management (IIM)

Ahmedabad, India

Figure 4.1.A: *Indian Institute of Management*

- **Established:** 1961
- **Architect:** Louis I Kahn
- **Site Area:** 66 Acres
- **Number of Students:** 500
- **Number of Staff:** 350

The Indian Institute of Management (IIM) was one of the few commissions that Louis I Kahn made outside the United States. The construction of the campus began in 1962. The site was a flat farmland near a village, 8 km to the west of Ahmedabad, and seemingly it had no urban context. The implementation of this program required different types of buildings, a school, dormitories for students, and housing for teachers and service. In this arid area of the country and in an area of 26 hectares of fairly flat land, Kahn outlined a map of inherent scale and geometric forms related to the institutional hierarchy of the various buildings and programs.

4.1.1 Campus Layout

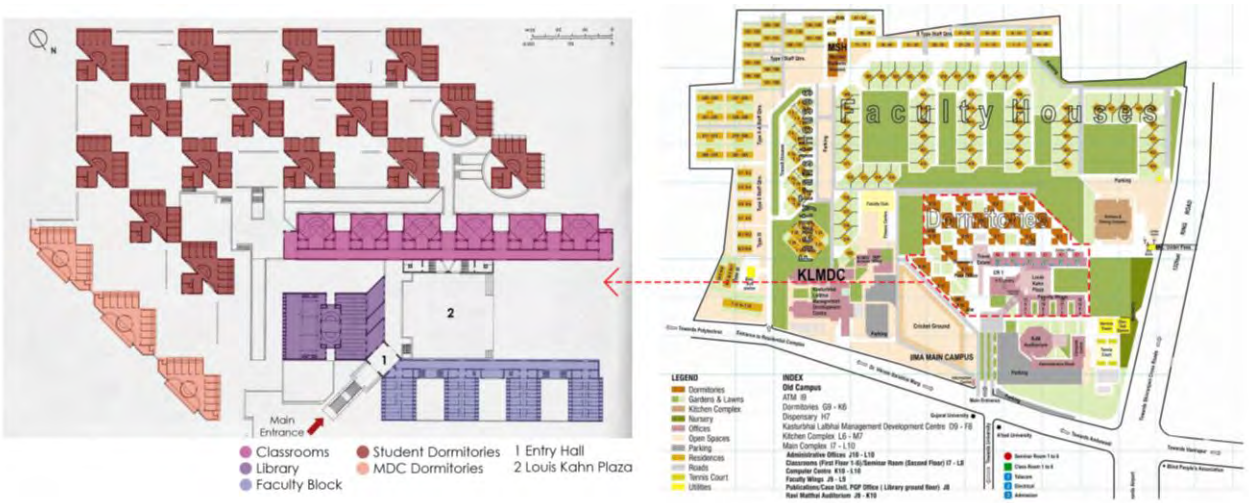

Figure 4.1.1.A: *Master plan blowup*

The campus has detached entries for the institution and residential complex along with a separate service entry. The institutional complex was designed as the focal point of the master plan. The academic building was planned around a court. Academic buildings and students' dormitories had been placed diagonally to take advantage of winds from the southwest. Residential buildings were planned in a hierarchical pattern.

4.1.2 Academic Block

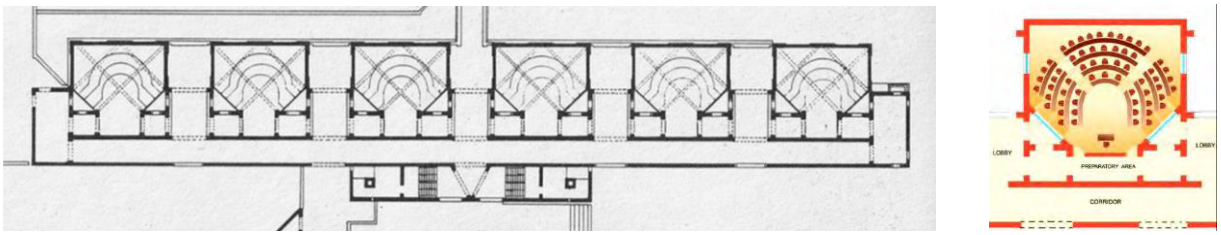

Figure 4.1.2.A: *Classroom plan*

The ground floor has most of the admin offices while classrooms and seminar rooms are on the 1st and 2nd floor respectively. The classrooms have a hexagonal shape with a horseshoe pattern sitting arrangement for 60 students. Windows are high enough to get

glare-free light. Each floor has 6 classrooms of 1500sqft area. Each classroom has an added preparatory space before the corridor to influence students to engage in discussion before dispersing.

4.1.3 Auditorium

- The auditorium has a capacity of 550 seats with a 3000 sqft area.
- the asymmetric folded plate roof helps with acoustics without the need for any false ceilings and plaster molds.
- Multiple seminar rooms and conference halls are used for smaller events.
- Two sets of staircases in the foyer for circulation.
- Two sets of spiral stairs at the rear to access the anterooms.

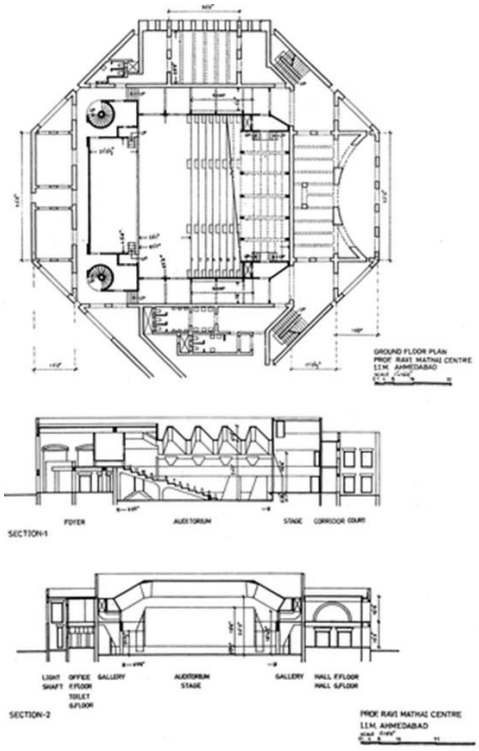

Figure 4.1.3.A: *Auditorium*

4.1.4 Library Block

The library is the most prominent building on the campus. It is approached by a broad, imposing flight of steps from the parking lot. It is done so to become a center for student-teacher interaction. The entrance to the library is from the first floor. The library building

is a five-story structure with a rectangular plan. It accommodates a triple-height reading hall and a conference hall. The library has 1,80,000 books with 12,000 sqft reading halls.

Figure 4.1.4.A: *Library*

4.1.5 Student Dorm

The shape of each dormitory block is square with two residential wings, a triangular lounge, and a square service core. Ground floors of some dormitories have been kept free for circulation with some having been utilized as multipurpose rooms, banks, dispensaries, student welfare offices, etc. The dorm blocks are placed one behind another to ensure cross-ventilation. A ramp leading to a piazza creates a connection between the dorms and classrooms as well as a bridge over village road connecting to classroom corridors.

Figure 4.1.5.A: *Student Dormitory*

4.1.6 Faculty Block

the faculty block is a four-storied building comprising of four blocks conjoined by a corridor on each floor. The enclosed space in between blocks is developed as lawns. The total number of rooms on each floor is 40 with 10 rooms on each floor of one block. Area of each room is 150 sqft, corridor width 10ft.

Figure 4.1.6.A: *Faculty Block*

4.2 Case Study 02

East West University

Aftabnagar, Dhaka

Figure 4.2.A: *East West University*

- **Architect:** Bashirul Haq and Associates
- **Site Area:** 2.46 Acres
- **Built Area:** 5,84,596 sqft
- **Maximum Height:** 110 ft (9 stories)
- **Components of the Campus:**

  - Classrooms - Faculty block - Administration Block - Auditorium
  - Lecture Gallery - Student Lounge - Teacher's Lounge
  - Cafeteria - Club rooms - Parking

The campus is planned around a central courtyard with classrooms and supporting functions arranged around it. Double-edged corridors have been used to provide circulation. The campus offers on-site parking space for university buses.

Cafeteria Roof

Basketball Court

Student Lounge

4.2.1 Floor Plans

Figure 4.2.1.A: *Ground floor plan*

The university building stands on a rather smaller plot for a campus. The functions are placed around an inner courtyard with specific zoning. The administrative office is located closer to the entrance. The classrooms are clustered together at the east side of the plot whereas the auditorium and clubrooms are placed opposite to this academic zone.

4.2.2 Section

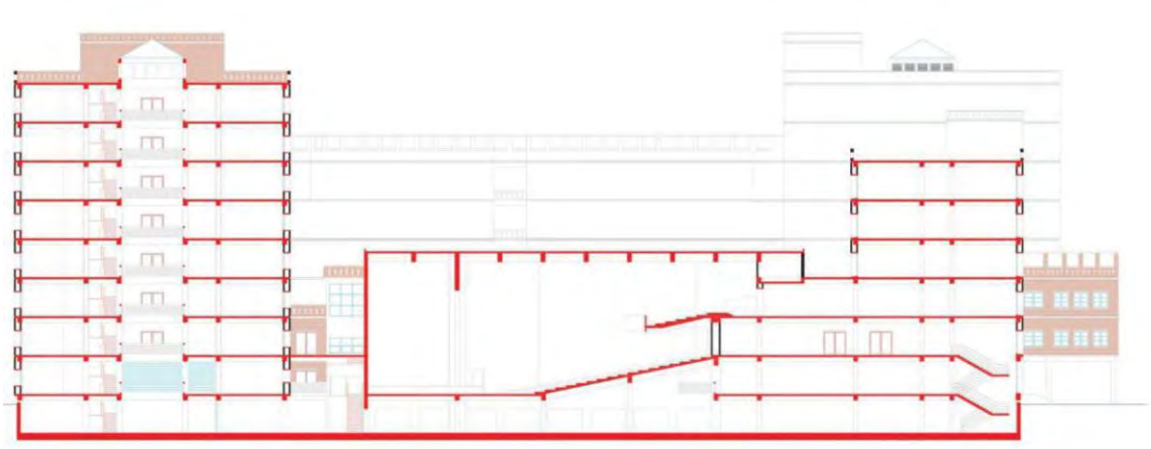

Figure 4.2.2.A: *Section AA'*

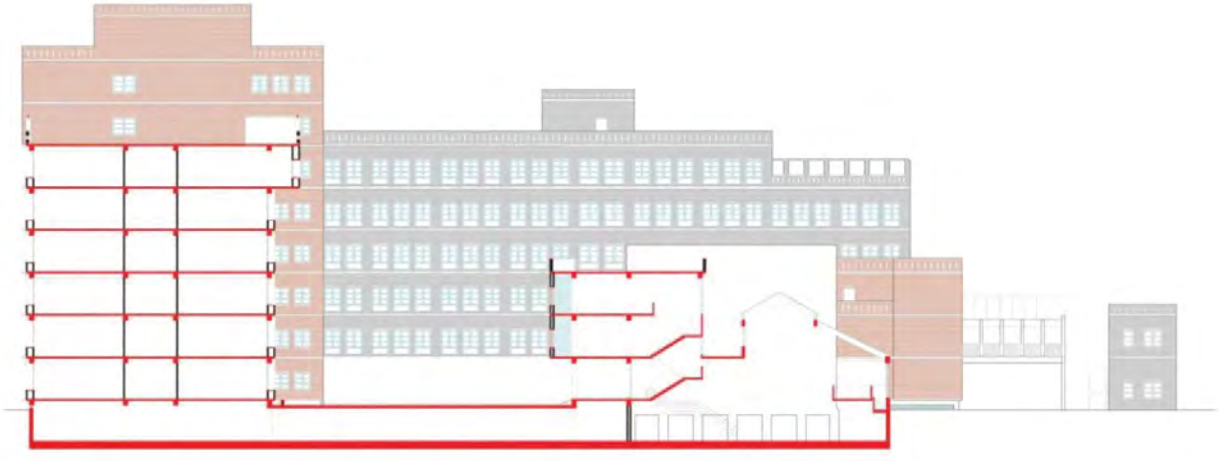

Figure 4.2.2.B: *Section BB'*

Figure 4.2.2.C: *Section CC'*

The sections show the proportion of masses of the building. The auditorium mass is four stories high allowing sunlight to penetrate into the inner courtyard and academic zone located at the northern side of the building. Skylights fill the void inside the faculty offices located on the east and west sides of the building. The segregation of the functional clusters is very clearly seen in the project and placed according to appropriate orientation.

Chapter 5: Program Analysis

5.1 Administration Block

Registrar's office

Description	Area (sqft)
Registrar	200
Deputy registrar	150
Assistant registrar	100
Assistant Administrative Officer (5)	350
Reception/counter	250
Bank	700
File room	325
Common toilet	250
Circulation	697.5
Total	**3022.5**

Proctor's Office

Description	Area (sqft)
Proctor	200
Assistant proctor (5)	250
Assistant Administrative officer	70
Reception/counter	250
Conference room	220
File room	325
Common toilet	250
Circulation	469.5
Total	**2034.5**

Advisor of Students' Welfare Office

Description	Area (sqft)
Advisor of students' welfare	200
Assistant Advisor of students' welfare (4)	400
Career Counselling officer (2)	300
Medical officer	120
File room	325
Common toilet	250
Circulation	478.5
Total	**2073.5**

Total Area (Admin Office)	**7130.5 sqft**

5.2 Academic Block

Name of the Faculty		Name of the Department	Total Students	Total Area (sqft/dept)
Faculty of Advanced Technology	I.	Department of Nanotechnology Engineering	340 max for each dept.	14612
	II.	Department of Biotechnology		
	III.	Department of Biometric Engineering		
	IV.	Department of Telecommunication		
	IV.	Department of Microelectronic Engineering		
	IV.	Department of Robotic Engineering		
	IV.	Department of Biomedical Engineering		
	IV.	Department of Mechatronics Engineering		
	IV.	Department of Medical Electronics		
	IV.	Department of Genetic Engineering		
			3400	**146120**

Name of the Faculty		Name of the Department	Total Students	Total Area (sqft)
Faculty of Urban Planning and Landscape	I.	Department of Landscape	340 max for each dept.	14534
	II.	Department of Urban Planning		
			680	**29068**

Name of the Faculty		Name of the Department	Total Students	Total Area (sqft)
Faculty of Pharmacy	I.	Department of Pharmaceutical Technology	340 max for each dept.	12402
	II.	Department of Clinical Pharmacy		
			680	**24804**

Name of the Faculty		Name of the Department	Total Students	Total Area (sqft)
Faculty of Renewable Energy	I.	Department of Renewable Energy	340 max for each dept.	12402
	II.	Department of Energy Efficiency		
			680	**24804**

Name of the Faculty		Name of the Department	Total Students	Total Area (sqft/dept)
Faculty of Environmental Sciences	I.	Department of Climatology	340 max for each dept.	14612
	II.	Department of Sustainable Development		
	III.	Department of Environmental Chemistry		
	IV.	Department of Environmental Hazard & Disaster management		
			1360	**58448**

Faculty of Advanced Technology

Space Description	No. of Users	Quantity	Required Area (sqft)	Total Area (sqft)
Classrooms	40	6	870	5220
Labs	40	2	1000	2000
Seminar room	120	1		1700
Faculty head	1	1	200	200
Faculty office	15	7	60	420
Lounge+Kitchen				200
Meeting room		1	300	300
Waiting area				200
Toilet				800
Storage				200
Circulation				3372
Total				**14612**

Faculty of Renewable Energy

Space Description	No. of Users	Quantity	Required Area (sqft)	Total Area (sqft)
Classrooms	40	6	870	5220
Labs	40	2	1000	2000
Seminar room	120	1		1700
Faculty head	1	1	200	200
Faculty office	15	7	60	420
Lounge+Kitchen				200
Meeting room		1	300	300
Waiting area				200
Toilet				800
Storage				200
Circulation				3372
Total				**14612**

Faculty of Urban Planning and Landscape

Space Description	No. of Users	Quantity	Required Area (sqft)	Total Area (sqft)
Classrooms	40	6	870	5220
Studio	40	2	1000	2000
Seminar room	120	1		1700
Faculty head	1	1	200	200
Faculty office	12	6	60	360
Lounge+Kitchen				200
Meeting room		1	300	300
Waiting area				200
Toilet				800
Storage				200
Circulation				3354
Total				**14534**

Faculty of Environmental Sciences

Space Description	No. of Users	Quantity	Required Area (sqft)	Total Area (sqft)
Classrooms	40	6	870	5220
Labs	40	2	1000	2000
Faculty head	1	1	200	200
Faculty office	15	7	60	420
Lounge+Kitchen				200
Meeting room		1	300	300
Waiting area				200
Toilet				800
Storage				200
Circulation				2862
Total				**12402**

Faculty of Pharmacy

Space Description	No. of Users	Quantity	Required Area (sqft)	Total Area (sqft)
Classrooms	40	6	870	5220
Labs	40	2	1000	2000
Faculty head	1	1	200	200
Faculty office	15	7	60	420
Lounge+Kitchen				200
Meeting room		1	300	300
Waiting area				200
Toilet				800
Storage				200
Circulation				2862
Total				**12402**

Total Area (Academic Block)	**283244 sqft**

Other Services

Space Description	No. of Users	Total Area (sqft)
Stores		1000
Auditorium (Multipurpose)	400	4000
Central Mosque		5000
Library (Users+bookshelves+ circulation)		3500
Librarian		250
Deputy Librarian		200
Storage and archive		300
PC room		900
Study area		2000
Toilet (library)		500
Teachers Club		1500
IT server room		800
Medical facilities		2000
Engineering & maintenance		800
Cafeteria		5000
Student's club		4000
Total		**31750**

Blocks	Total Area (sqft)
Administration Office	7130.5
Academic Block	283244
Ancillaries	31750
Total	**322124.5**

5.3 Accommodation Block

University Name	Student Number	Accommodation	
		Male	Female
Daffodil International University	16550	2526	792
BRAC University	11200	120	120
City University	7158	1007	1000
Dhaka University	30015	11943	5003
Student to Dorm Ratio			26.50%

Students Accommodation

Total Students	2720
Total Dorm Seats	720
Female To Male Dorm Seat Ratio	1:1.85
Female Dorm Seats	252
Male Dorm Seats	468
Bedroom with study (for 3)	225 sqft

Female Dorm

7 storied building with 12 rooms in each floor

Space Type	User	Required Area (sqft)	Area sqft
Total accomodation room area (for 3 students in each room)	252 (84 rooms)	225	18900
Toilet		680x7	4760
Hostel superintendent	3	225	675
Toilet			150
Staff (living and toilet)	4		400
Dining Hall			1000
Kitchen			400
Storage + service (5%)			1314.25
Circulation (30%)			8279.775
Total			**35879.025**

Male Dorm

2x7 storied building with 12 rooms in each floor

Space Type	User	Required Area (sqft)	Area sqft
Total accomodation room area (for 3 students in each room)	468 (156 rooms)	225	35100
Toilet		680x7	9520
Hostel superintendent	3x2	225	450
Toilet			300
Staff (living and toilet)	8		800
Dining Hall			1000
Kitchen			800
Storage + service (5%)			2398.5
Circulation (30%)			15110.6
Total			**65479.1**

Teachers and Staff Accommodation

Total Teachers	60
Total Staff	30
Bedroom with study (for 2)	225 sqft

Teacher and Staff Dorm

7 storied building with 6 rooms in each floor

Space Type	User	Required Area (sqft)	Area sqft
Teachers accommodation room area	60 (30 rooms)	225	6750
Staff accommodation room area	30 (15 rooms)	225	3375
Toilet		680x7	4760
Dining			1000
Kitchen (total)			400
Storage + service (5%)			814.25
Circulation (30%)			5129.775
Total			**22229.025**

Total Area (Accommodation)	**123587.1 sqft**

Total (All Functions)	**445711.6 sqft**

Chapter 6: Design Development

6.1 Concept Development

Figure 6.1.A: *Concept Diagram 1*

According to the future prediction of site surroundings, the major commercial road in front of the site influences its surrounding areas, converting them into commercial areas over time. Therefore, all commercial and common facilities of the project are to be located at the south of the site. In order to incorporate the most influential site force, the green parks on both sides of the site, are to be connected by a green belt running through the site. Finally, as there are multiple educational institutes to be erected at the north of the site, all academic functions will be located at the northeast side to make the academic zone more interactive with students outside of the project.

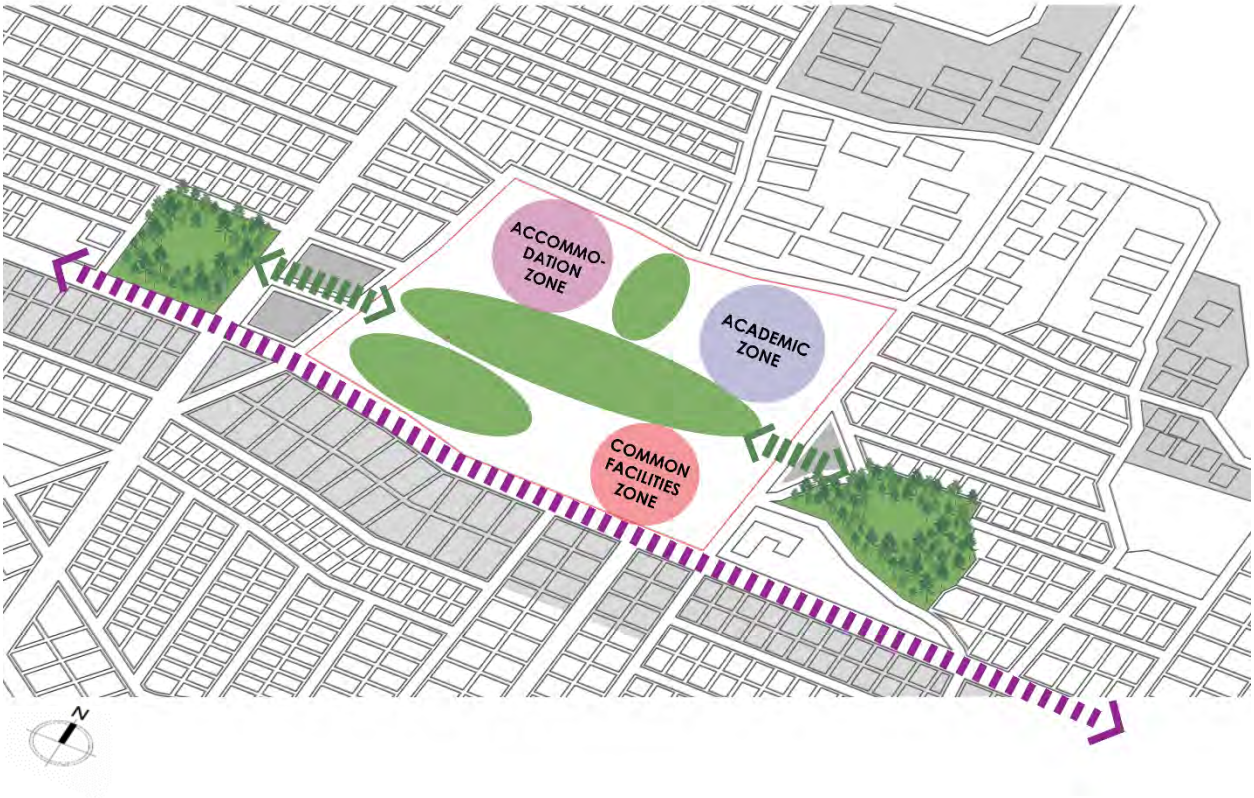

Figure 6.1.B: *Concept Diagram 2*

The zoning of functions is done according to the observations of the first diagram. The commercial zone is placed at the south and the academic zone at the north with a green belt running through them. Finally, the accommodation zone is placed on the northwest side as it is closer to the surrounding neighborhood. An additional green belt is introduced in between the academic and accommodation zone to create a buffer between these contrasting functions. Another green chunk is added to the southwest to buffer out the noise and pollution of traffic created at the junction of roads.

Figure 6.1.C: *Concept Diagram 3*

As a university is expected to have a large number of people coming at the same time, multiple entry points are necessary to avoid congestion. The diagram shows the five probable entrances for the project. The vehicular entry is limited to the south while the other entrances are mainly pedestrian. Entry to the dormitories is situated near the neighborhood area to prevent other people from entering.

6.2 Form Generation

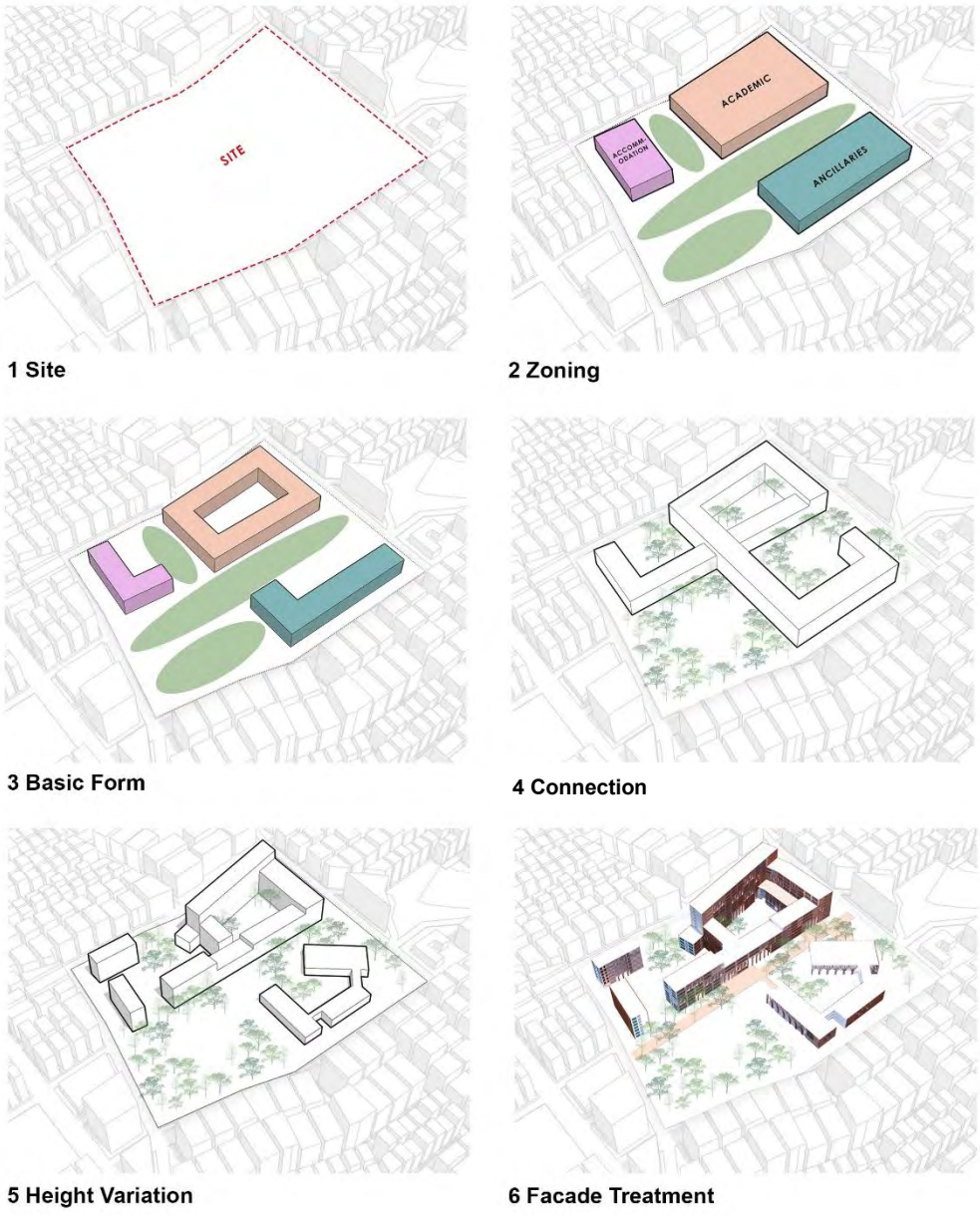

Figure 6.2.A: *Form Generation*

The separated zones were initially connected by form. According to the functions of each block, a variation of height in the buildings created the final form. The entire complex is wrapped by a screen to ensure cohesion among all functions.

6.3 Design Development

6.3.1 Floor Plans

Figure 6.3.1.A: *Ground floor plan*

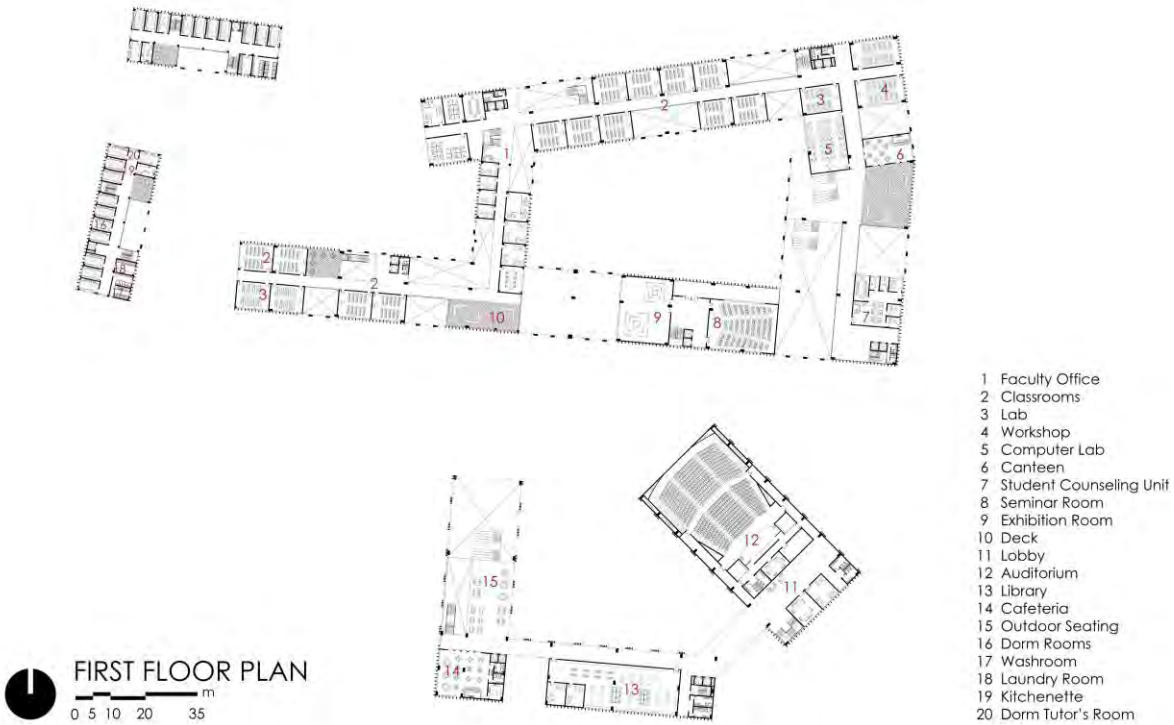

Figure 6.3.1.B: *First floor plan*

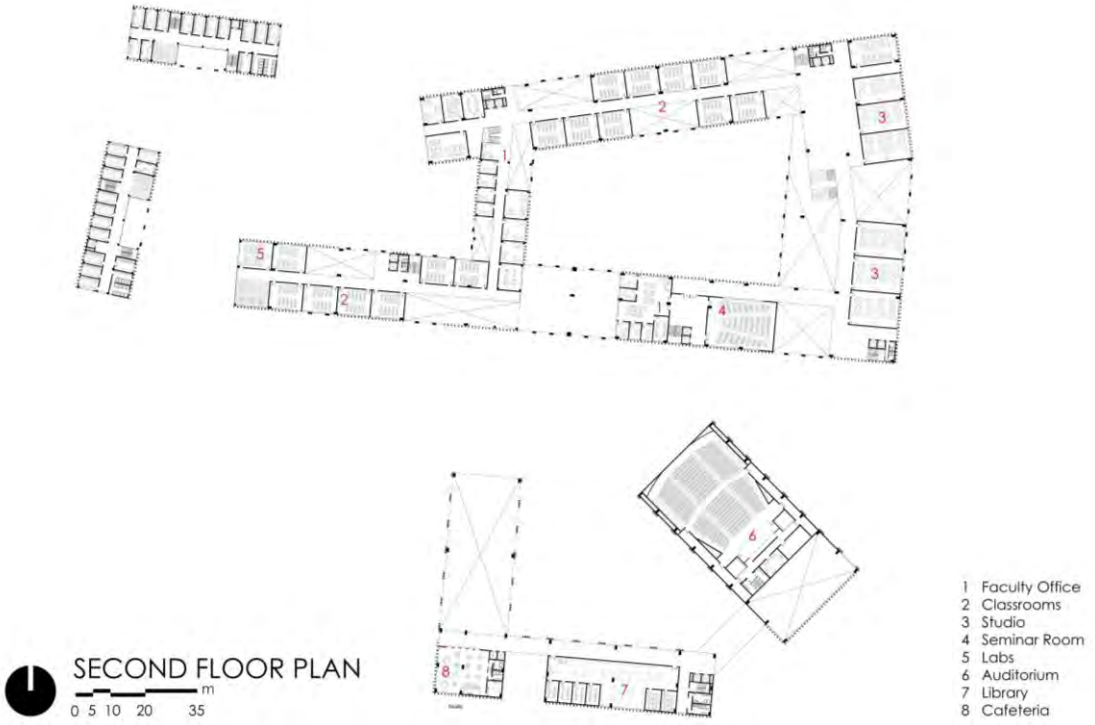

Figure 6.3.1.C: *Second floor plan*

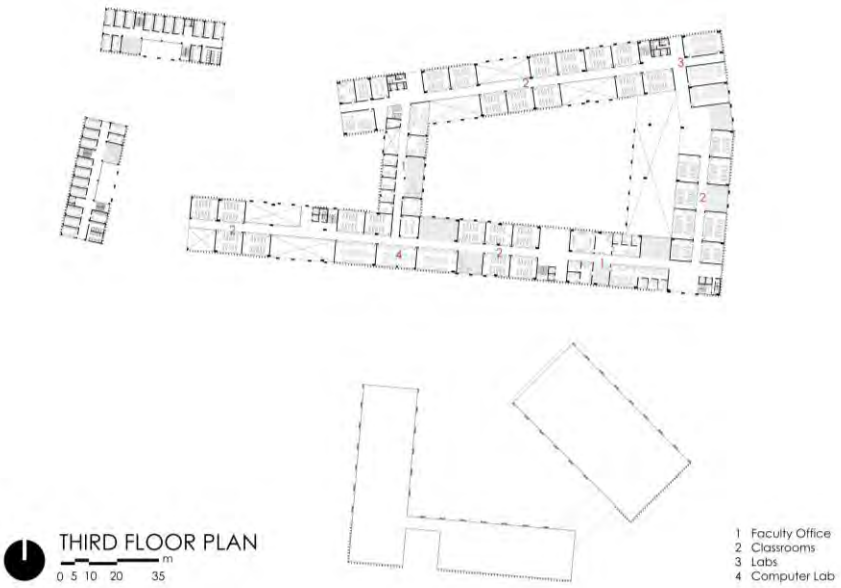

Figure 6.3.1.D: *Third floor plan*

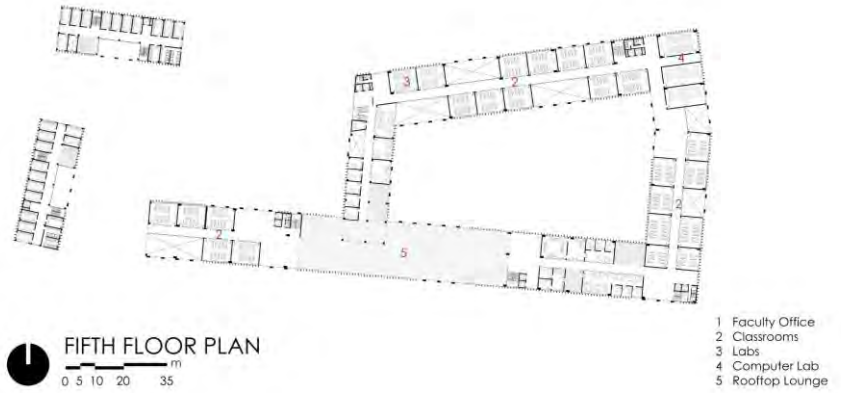

Figure 6.3.1.E: *Fifth floor plan*

Figure 6.3.1.F: *Seventh floor plan*

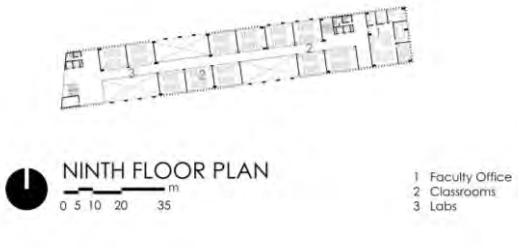

Figure 6.3.1.G: *Ninth floor plan*

6.3.2 Elevations and Sections

Figure 6.3.2.A: *South Elevation*

Figure 6.3.2.B: *East Elevation*

Figure 6.3.2.C: *Section AA'*

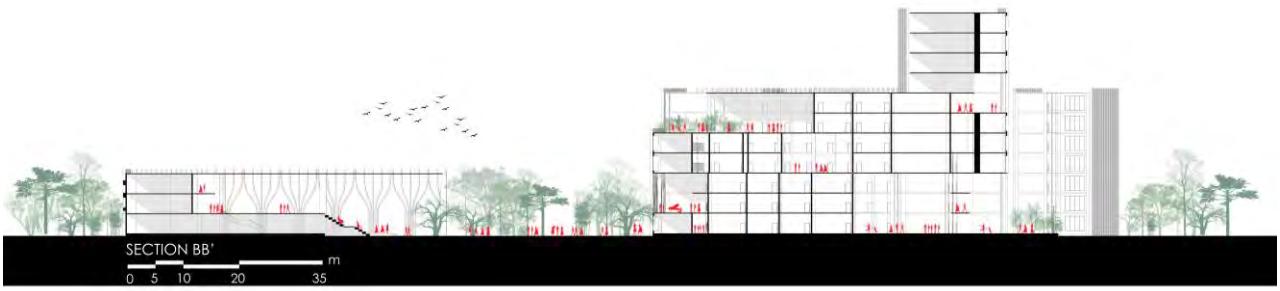

Figure 6.3.2.D: *Section BB'*

6.3.3 Rendered Images

Figure 6.3.3.A: *Perspective*

Figure 6.3.3.B: *Atrium*

Figure 6.3.3.C: *Entrance Plaza*

Figure 6.3.3.D: *Inner Courtyard*

Figure 6.3.3.E: *Main Field*

Figure 6.3.3.F: *Cafeteria*

Chapter 7: Conclusion

As time passes, the need for private universities keeps on increasing to tackle the huge number of students seeking higher education every year. However, most of the private universities in our country do not have a specific campus to their disposition and often rent out office buildings as their makeshift campus. In the scenario where most private universities barely have any extra space for their students, this AUST campus holds the opportunity to give the students the space to breathe and to interact to truly enjoy their campus life. Moreover, in a dense city like Dhaka with very little greeneries left, leaving out such huge green chunks can really let not only the students but also the neighboring residents to come and enjoy the peace of openness.

A campus with this large a site, it holds the opportunity to change the outlook of what we know and imagine a private university to be.

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