

Sylhet Divisional Museum

By

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

Department of Architecture Brac University

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Declaration

It is hereby declared that

1. The thesis submitted is my/our original work while completing my 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 that has been accepted or submitted, for any other degree or diploma at a university or other institution.
4. I/We have acknowledged all main sources of help.

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Approval

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Abstract

On a larger scale, Sylhet is known for its natural beauty and topographical features, such as tilas, tea estates, haor, natural fountains, and so on. The natural feature of this Division has a significant impact on history, culture, and living patterns. A divisional museum collects and preserves important historical and cultural elements and information, then exhibits them to the public so that the public is aware of the division's importance. It is also critical to preserve culture and history through public participation. The museum will act as a platform for learning about Sylhet as well as preserving the culture with public participation in this endeavour. The nature of sustainable architecture in this region is represented by form and landscape generated from geographical and ecological studies. A courtyard that serves as a plaza connects the surrounding neighbourhood to the city, and it also includes an existing playground that might be used for community events such as village fests and folk music festivals. There are both permanent and temporary galleries within the museum. The galleries are divided into sections based on the division's history, influential personalities, liberation war, folk music, and cultural aspects.

Keywords: Nature, Public, Courtyard, Exhibit, Culture, Regional Architecture.

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Chapter 1: Introduction

1.1 Background of the project

Sylhet is one of Bangladesh's primary spiritual and social centres as it is one of the most important cities of Bangladesh, after Dhaka and Chittagong. The name of Sylhet could be the Anglicized form of the ancient Indo-Aryan term Srihatta. In 1303, the Sufi Muslim leader Shah Jalal conquered Sylhet by defeating the local Raja. Ibn Battuta visited Sylhet around the 14th century and saw Bengali Muslims transforming the region into an agricultural wonder. At that time Sylhet was a strategically significant town for the Bengal Sultanate. Into the 16th-century, Sylhet ended up being managed by the Baro-Bhuyan zamindars and became a district associated with the Mughal Empire. Then came under The British in the eighteenth century under the management of East India Company. Following its ancient naval tradition, Sylhet became an integral source of lascars into the British Empire. The Sylhet municipal board was created in 1867. Initially, area of the Bengal Presidency and later Eastern Bengal and Assam; the city was part of Colonial Assam between 1874 and 1947, following the referendum during the partition of British India, it became part of East Bengal. This indicates the rich history of Sylhet and what Sylhet offers culturally, like "Jaintapur Rajbari", Manipuri & Khyasia tribe's culture, Hasan Raja's (Bengali poet, mystic philosopher, and songwriter) ancestral. During the the1971 liberation war, Sylhet was a part of sector 5 and Colonel Muhammad Ataul Gani Osmani (Retd. As Chief of General Staffs) was born in Sylhet, who played the most vital role in leading the Bangladesh Forces as commander in chief. People are so grateful that they usually visit the city's one of the two museums that called Osmani Museum which is organized and supported by the Bangladesh National

Museum. This museum was founded to pay rich tribute to the great hero of Bangladesh for his outstanding contributions. Apart from that, there is The Museum of Raja's which holds belongings of Hasan Raja. The museum is kept by his descendants. The construction of a divisional museum will certainly create a stimulus and learning opportunity for future generations.

1.2 Project Brief

1.2.1 Name of the Project: Sylhet Divisional Museum Complex

1.2.2 Client: National Museum Bangladesh

1.2.3 Location: Kumargaon, Sylhet

1.2.4 Site Area: 6.7 Acres

1.3 Project Introduction

Sylhet is an area with a diverse lifestyle. Mughals, Zamindars and the British had a long-lasting dominance which we can realize by researching their leftovers. Though lots of the archaeological elements found in Sylhet is kept in National Museum, Dhaka due to the lack of a dedicated museum. There are two museums labelled as Osmani Museum and Museum of Raja's, but these are focused on their private lives stream. They merely carry few elements whilst the certain section of those two museums is quite small with no research facilities. Being places of interest for the locals and the tourists, the museums cannot handle the load of visitors and we noticed that few basic elements for a museum are missing which creates a lack of learning opportunities which a museum could have provided. Not only liberation war or Hason raja's leftover, but

there are also many more, for example, Copper dishes, components of Jaintapur Rajbari, Manipuri and Khyasia lifestyle, Shahjalal's Mazar, Mughal's leftover are essential historical elements to display and tell the story of Sylhet under the same roof and to commemorate Sylhet's glorious past among the compatriots, young generation, and tourists.

1.4 Aims and Objectives of the Project

The primary goal of this museum is to keep the cultural & organic heritage of the Sylhet division and collection of archaeological, anthropological, artefacts like old documents of historical and cultural heritage. The museum will act as a public domain and will mostly serve the local community. Since this city is an ancient settlement, the old artefacts will be a source of knowledge for locals and visitors to have a glimpse of the glorious past. It is going to aid the researcher to find new elements for further research as this practice is rare in Sylhet. This museum will act as a learning hub for the region and academic institutes such as Shahjalal University which is near the perimeter of the site. This project will help to gather knowledge and will create a gateway to the historical past of Sylhet.

1.5 Programs

1.5.1 Proposed Programs

Administration

Museum galleries

Archive

Research centre

Library

Auditorium

Multi-purpose hall

Cafeteria

Storage area

Curatorial space

Public space

Open exhibition area

1.6 Project rationale

The lack of a dedicated museum preserving the history and cultural identity of Sylhet is visible. There are two museums referred to as “Museum of Rajas” and “Osmani Museum” holding the private collection of raja's households and the history of General MAG Osmani. Apart from that, the demonstration and condition of those museums are not up to the standard, which is why the new generation is missing out on the opportunity to indulge themselves in the knowledge of the glorious past. There are many things to preserve and display. Sylhet has become one of the go-to areas for tourists because of all the beautiful landscapes this region offers. Plus, it is extremely important to express as a community, exactly why it has been quite significant. The true essence can be represented by a Divisional Museum Sylhet. It should be a place where folks will learn about Sylhet.

Chapter 2: Antecedent

2.1 Museum

A museum houses significant recorded relics for public review. Tracing back to Ancient Greece, early museums mainly were private, set up by affluent people, and later disclosed. There are distinct sorts of museums, like applied arts, craft, archaeology, anthropology and ethnology, history, cultural history, military history, science, technology, children's museums, natural history, numismatics, botanical and zoological gardens, and philately. Many of them transformed into famous milestones, similar to the Louver in Paris, the British Museum, and the Gemäldegalerie Alte Meister Museum in Dresden, Germany. A museum secures and monitors various antiquities that address humankind's journey, human knowledge, creates an agreement, and plunges into the astuteness of various societies worldwide.

2.1.1 Definition of Museum

The English Museum comes from the Latin word and is pluralized as "museums" or "musea". It is originally from the Greek mouseion, which denotes a place or temple dedicated to the Muses (the patron divinities in Greek mythology of the arts). Hence, a building set apart for study and the arts, especially the institute for philosophy and research at the library established at Alexandria by the Ptolemies of Egypt in the early third century B.C.E.ⁱ It was considered the earliest example of a museum.

A museum is a lasting foundation in the service of society and of its turn of events, open to the general population, which procures, rations, investigates, imparts and displays, for motivations behind examination, instruction, happiness, the substantial and immaterial proof of individuals and their current circumstance.

2.1.2 History of Museum

In old Greece, a museum, initially a spot associated with the Muses, at times from a religious perspective, however more ordinarily as where expressions of the human arts and learning were developed.

The most famous museum was Alexandria in Egypt, built near the royal palace about 280 B.C.E. by Ptolemy I Soter (ruled 323–283 B.C.E.)ⁱⁱ It was particular from the library and housed researchers upheld by the Ptolemies and, after Egypt went under Roman control, by the emperors. After the establishment of Constantinople in 324 C.E., a large number of the historical researchers are said to have withdrawn there to keep away from the philosophical debates of Alexandria.

Early museums started as the private collections of affluent people, families, or institutions of art and uncommon or inquisitive natural items and relics. These were frequently shown in alleged marvel rooms or cabinets of curiosities. Public access was frequently available for the "respectable," particularly to private art collections, yet at the whim of the proprietor and his staff.

The first public museums opened in Europe during the eighteenth century's Age of Enlightenment.



Fig 1: The Museo Sacro, the primary museum in the Vatican Museums complex, was opened in Rome in 1756



Fig 2: The British Museum in London was established in 1753 and opened to the public in 1759.



Fig 3: The Uffizi Museum in Florence was opened to general people in 1765.



Fig 4: The Belvedere Palace of the Habsburg rulers in Vienna opened with a remarkable collection of crafts in 1781.

These "public" museums, nonetheless, were regularly available exclusively by the privileged classes. It was tough to get access. In London, for instance, imminent guests to the British Museum needed to apply with a written hard copy for affirmation. Indeed, even by 1800, applicants had to hang tight fourteen days for a confirmation ticket. The first truly public museum was the Louvre in Paris, opened in 1793 during the French Revolution, enabling the first time in history free access to the former French royal collections for people of all stations and statuses.ⁱⁱⁱ The fantastic art treasures gathered by the French monarchy over hundreds of years were open to the public for three days each *décade*. The Conservatoire du Muséum National des Arts were in charge of organizing the Louver as a public museum. As Napoleon Bonaparte vanquished great Europe, seizing art objects as he went, the collections developed, and the hierarchical assignment turned out to be more convoluted. After Napoleon was defeated in 1815, many of the fortunes he had amassed were slowly returned to the proprietors. His idea of a museum as a catalyst of nationalistic intensity had a significant impact all through Europe.

American museums joined the European museum trend-driven with focuses to deliver new information in their fields of interest. In both a scholarly and actual sense, a time of extreme museum structure was acknowledged in the late nineteenth and mid 20th hundreds years. While numerous American museums, both a natural history museum and art galleries, were established fully intent on zeroing in on the logical disclosures and creative advancements in North America, many moved to imitate their European partners. It is ordinarily perceived that colleges replaced museums as the places for

innovative research in the United States before the beginning of the Second World War, in any case, museums right up 'til the present time contribute new knowledge to their fields and keep on building collections that are valuable for both research and display.

2.1.3 Purpose of Museum

Museums gather and care for objects of logical, imaginative, or chronicled significance and make them accessible for public review through displays that might be lasting or transitory. Most museums offer projects and exercises for various audiences, including grown-ups, youngsters, and families, just as those for more explicit callings. Frequently, they focus on the region's culture.

Present-day drifts in museology have expanded the range of topics and present numerous intuitive displays, which offer the opportunity to make choices and engage in activities that may vary in the experience from one individual to another. With the appearance of the web, there are increasing quantities of virtual displays, web variants of shows.

Museums work as houses that gather and show culture. The best social bookmarks, taking bits of craftsmanship, culture, history, and science and denoting their wonder in an area that the general population can see. Museums commend human culture and our capacity to comprehend our general surroundings. Numerous nations have museums celebrating human achievement, yet the achievements and history of their nation as a type of patriotism.

2.1.4 Types of Museums

There are numerous sorts of museums, from outstandingly enormous collections in major cities, covering a large number of the classifications underneath, to tiny museums covering either a specific area in an overall manner or a specific subject, a particularly singular remarkable individual.

- **History Museums:** History museums cover information on history and its importance to the present and future. Some cover specific parts of history or a specific territory; others are broader than before.
- **Art Museums:** An art museum, otherwise called an art display, is a space for the presentation of arts, typically visual arts, principally paintings, illustrations, and sculpture.
- **Science Museums:** Science museums revolve around the logical wonders and their history. A mix of shows, intuitive projects and provocative media are utilized.
- **Natural History Museums:** Museums of natural history and natural science commonly display work of the natural world. The attention lies on nature and culture. Displays may teach the visitors about dinosaurs, antiquated history, and human sciences.
- **Open-Air Museums:** Open-air museums gather and re-erect old structures at large outdoor sites, for the most part in settings of re-made scenes of the past. The first was King Oscar II's collection close to Oslo, Norway, which opened in 1881.

- Other Museums: A couple of various museums exist to exhibit a collection of themes. Music museums may praise the life and work of authors or artists, like the Rock and Roll Hall of Fame in Cleveland, Ohio.
- Mobile Museums: Mobile Museum is a term applied to museums that make shows from a vehicle, like a van.

2.3 Lighting and space quality of a museum

Lighting is a primary segment in a museum environment because space empowers guests to see objects, experience new sights and respond to the surrounding environment. Typically, the environment has two sorts of light—natural and artificial. For a museum, the job of light is a fundamental piece of making an environment prime for revelation while likewise protecting relics. Lighting can be a troublesome, challenging exercise between addressing preservation needs and framing intuitive encounters that accomplish the museum's objective to discover, investigate and learn.

2.3.1 Daylight

Museum designs incorporate daylight because humans relate to nature. "Natural Light can be used to significant effect to dramatize and enliven the design of any building."^{iv} Light characterizes a space inside a building's plan. Sunlight consistently vacillates and is frequently intertwined in intelligent spaces. Overcast cover, season, the hour of the day and a structure's position directly affect the lighting plan and how people experience the space. The sunlight entering the gallery inside should be a genuine thought to see how expected light affects the space. Factors like reflection, glare, acclimation, and

depiction in the space ought to be analyzed intently. Scale and extent are significant contemplations.

2.3.2 Artificial Illumination

A few sorts of artificial light sources are utilized in interior applications to give light to permeability, undertakings, highlight, and decoration. The mill inside artificial light sources incorporate incandescent, fluorescent, H.I.D., fibre optics, cold cathode, and L.E.D.s. Brilliant lights are utilized for surrounding and complement lighting with track luminaires. In galleries, incandescent, fibre optic, and H.I.D. are the most well-known light sources. For museums, compact fluorescents, tungsten Halogen, H.I.D. and P.A.R.s are the most widely recognized for general lighting. With indirect lighting, fluorescent lights are utilized to diffuse illumination quality.

2.3.3 Light Levels

Light levels depend on the permeability, just as the accessibility in the museum space. The quantitative estimations of light in museums are determined by the display type, collection, storage, and handling. The necessary light levels for collection storage are five footcandles, and collection handling is twenty to fifty footcandles. The sort of artefacts in the exhibition hall is necessary to establish the measure of light level and light exposure to the items. The general goal in a museum's lighting configuration is to light individual objects with thought to the object's sensitivity and how visitors will see it.

2.3.4 Styles of Luminaires

Luminaires are characterized by the way light is distributed. "Light fixtures are the luminaires that are permanently attached to the building".^v There are a few other luminaire types, including direct, indirect, diffuse, direct/indirect, asymmetric uprights, downlights and adjustable.

- Direct luminaires discharge light downward. These incorporate most sorts of recessed lighting with downlights and troffers.
- Indirect luminaires discharge light vertically that ricochets from the roof into space. Numerous styles incorporate suspended luminaires, sconces, and some portable lights.
- Diffuse luminaires produce light in every way consistently. These incorporate most bare lamps, globes, and chandeliers.
- Direct/indirect luminaires discharge light vertically and downward, however not aside. These incorporate numerous kinds of suspended luminaires, just as table lights. Direct/indirect additionally can be semi-immediate or semi-indirect, as indicated by the extent of all-over lighting.
- Asymmetric luminaires are intended for special applications. Asymmetric up lights are aberrant luminaires with more grounded conveyance one way, for example, away from a wall. Wall washers are the type of direct luminaire with more grounded circulation aside to enlighten a wall.
- Movable luminaires are immediate luminaires that can be acclimated to toss light in directions other than down: these incorporate track lights, floodlights, and accent lights.

2.3.5 Visual Adaptation and Accommodation

The natural eye is exceptionally versatile. The eye can see things and work under exceptionally splendid lighting conditions, just as adjust to moonlight and noontime daylight. Visual adaption is the measure of time it takes a natural eye to adjust to new environmental elements. The eye additionally can change shape to zero in on items and make significance out of the data got. Changes from high to low luminance can influence visitors in the museum relying upon age and visual hardships. To see an item and its subtleties, designers need to dissect how the visitors will interface with the displays to contemplate visual transformation appropriately.

2.3.6 Glare

Notwithstanding visual transformation, eyes can see conditions that are excessively splendid and cause distress. "Glare is the bright light that can interfere with visual perception".^{vi} There are two kinds of glares. Direct glare is the splendid light source that is straightforwardly affecting the field of vision. Direct glare incorporates an installation pointed in direct view. Reflective glare is the impression of an image from a light source on explicit shiny surfaces. An example of this would include a downlight aimed at the granite floor that brightens the spot.^{vii} In museums, glare can cause extreme issues and meddle with the intuitive experience. The light sources should be farther away from the case with a comprehensive flood apparatus to widely scatter the light without a direct point on the glass case.

2.4 Display and storage requirements

The proper storage for museum collections should give smooth passage to the collections even as protective the craftsmanship contraptions in a protected and loosened up manner. Primary concerns for the safe garage are sufficient security, right ecological conditions, determination of Suitable garage installations, and proper pressing and help of antiquities in the garage. Garage districts ought to be spotless, pleasantly ventilated, and enlightened. Temperature and stickiness levels and air top-notch should be observed regularly. Suitable hearth security should be set up. The light should permit staff to get passage to the social event without making hurt to the gathering. While stored, objects should be consistently inside the dark. Things inside garage areas are packed, supported and stored in manners that can be either valuable or harmful to their circumstance. The following remarks show a couple of nuts and bolts of the appropriate garage:

- Smaller items are fine saved on racks or in drawers. Steel racking or drawers with an intertwined powder covering are top alternatives. Anodized aluminum is likewise alluring. Wood and wood items are commonly no longer recommended because of the off-gassing of dangerous added substances, generally acids from wooden and formaldehyde from adhesives.
- All racking should be cushioned to pad the objects and lessen the opportunity of abrasion. Polyethylene Micro froth is the top-notch cushioning material. Residue and gentle covers need to cowl open racking units. Muslin covered with dark polyester texture makes a spot of great dirt and light cowl.
- Exhibition decorations, office realities, distributions, and distinctive non-collection material need to be kept in a different stockpiling place for security

and convenience. Photographs and archives that may be similar or more modest than document pantry drawers can be put away in Mylar (a polyester) sleeves inside acid-free organizers or envelopes. Care should be taken no longer to the area such a large number of pieces inside an envelope, inflicting them to be squashed towards one another.

- Clothing in the sound circumstance is wonderfully put away on cushioned holders in closets, or on the other hand, if delicate, in shallow, acid-free receptacles. This methodology will offer to get section to and naming, likewise, to restrict pounding and congestion.
- Raise receptacles, antiquities, gadgets, and goods off the ground. All collections' things ought to be something like six crawls over the garage floor. This saves them from bugs, dampness, and cleaning hardware.

2.5 Importance of museum

Museums give an exceptional intuitive encounter of getting up near things we generally find in books, papers or on the T.V. Seeing the Mona Lisa, for instance, is an exceptional encounter to seeing one of the large numbers of printed adaptations; the insight we get of something from a recycled source is frequently unique to the one we get when we see something with our own eyes.

2.6 Museums and exhibits

The museum changes with the show, and it characterizes diverse spaces and types of a gallery. There are a lot of choices and ways. Some of the time-space can be a piece of

the display as far as to figure and large installation in arts, a specific stature is required. These days projection assume a part in the show. Now and then, outside space can be utilized as an exhibition display. It happens when there is a significant establishment of contemporary arts. In social museums, space transforms into a merry social temperament. All the display shows in a comparative social example. In some exhibitions, the exhibits were dangled from the roof of the exhibition hall. Those were most if there should arise an occurrence of installation work of art in contemporary art.

Chapter 3: Context Analysis

NEED OF PLAYGROUND IN THE NEIGHBORHOOD

FINDINGS

- AT PRESENT SITE IS USED AS A PADDY FIELD DURING AGRICULTURAL SEASONS
- REST OF THE YEAR IT'S USED AS A PLAYGROUND BY THE NEIGHBORHOOD COMMUNITY

AREA OF KANDIGAON UNION - 35 SQUARE KM

PRESENT NO. OF POPULATION - 40988 (CENSUS 2011)

PRESENT DENSITY OF POPULATION - 1171/ SQUARE KM (CENSUS 2011)

ANNUAL CHANGE IN POPULATION - 2.2% (CENSUS 2011)

PROJECTED POPULATION BY THE YEAR 2050 - 109130 (BANGLADESH BUREAU OF STATISTIC)

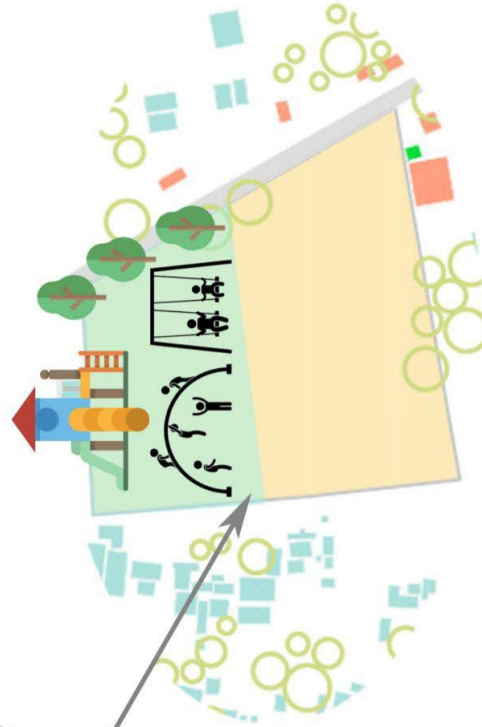
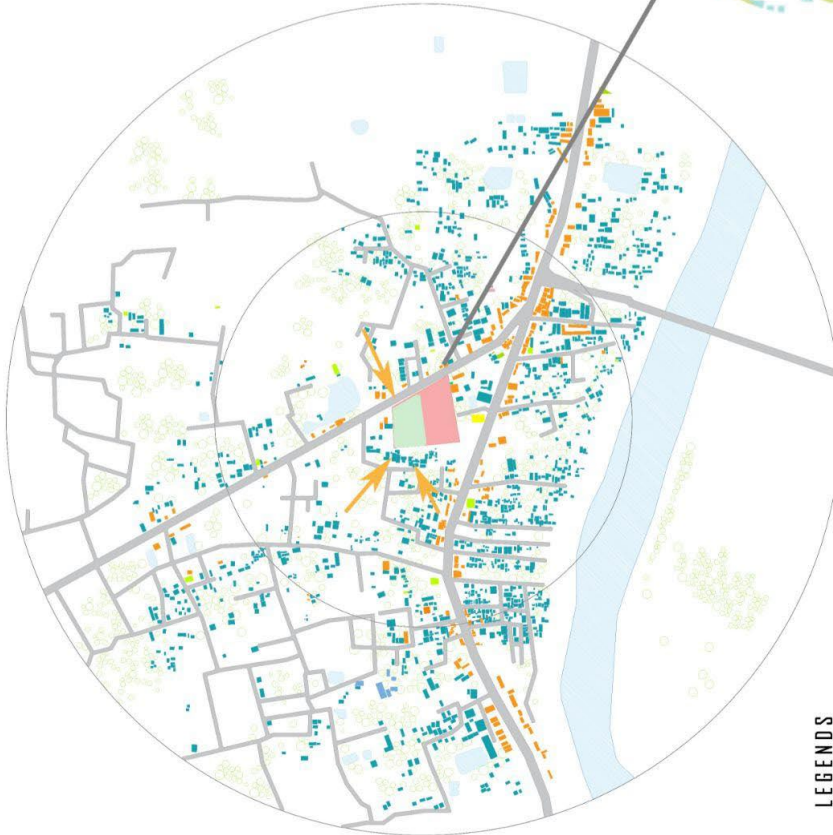
ACCORDING TO BNBC FOR 5000 PEOPLE REQUIRED PLAYGROUND SHOULD BE 400 SQM THEREFORE, FOR 109130 PEOPLE REQUIRED PLAYGROUND IS 8730 SQM

TOTAL SITE AREA OF OUR SITE - 20705 SQM

CALCULATION

$(20705 \times 50\%) = 10,352.5 \text{ SQM}$

- WE CAN ALLOCATE 50% OPEN SPACE OF OUR SITE FOR THE NEIGHBORHOOD COMMUNITY ACTIVITIES WHICH IS MORE THAN ADEQUATE



LEGENDS

- SITE
- RESIDENTIAL
- COMMERCIAL
- WATERBODY

Fig 5: Social Context

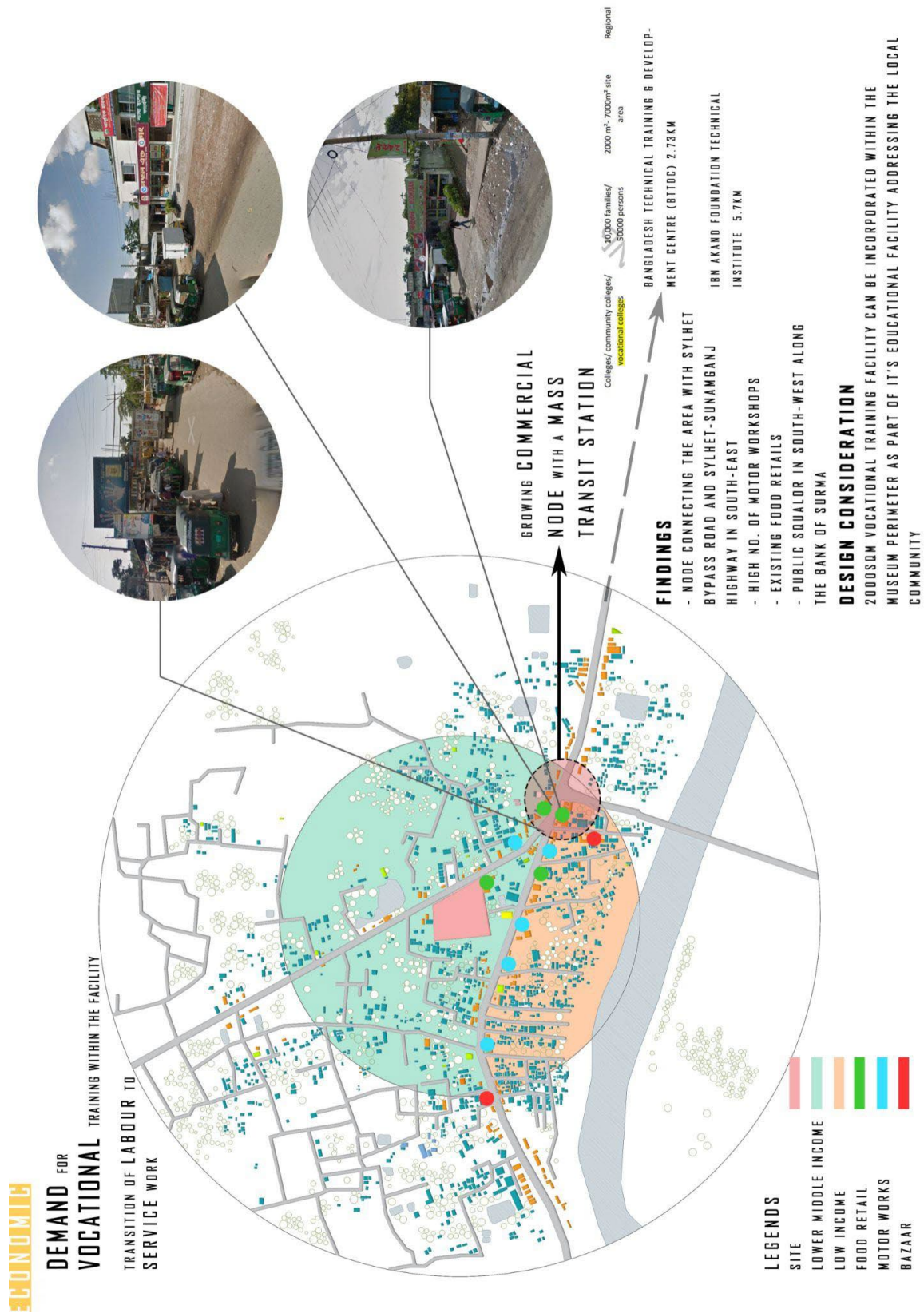
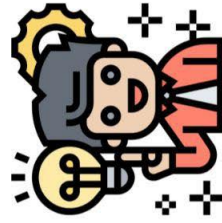


Fig 6: Economical Context

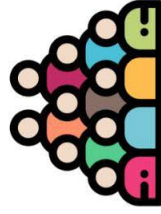
POLITICAL
CONSTRUCTION OF **POSITIVE IMAGE**
OF **SYLHET**
THE **UPLIFTMENT AND DEVELOPMENT**
OF THE **HISTORY, HERITAGE AND**
CULTURE OF SYLHET DISTRICT



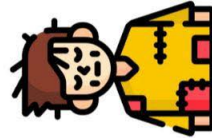
OBJECTIVES OF SYLHET DISTRICT-BRANDING AND
NECESSITY OF A DIVISIONAL MUSEUM



MUSEUM DEVELOPMENT WILL CREATE MORE
LOCAL ENTREPRENEURS



IT WILL **INVOLVE THE PEOPLE OF**
ALL WALKS. CREATING A PLACE OF
COMMON INTEREST IN THE CITY



OVERALL DEVELOPMENT OF THE SITE WILL PAVE
THE PATH FOR
ELIMINATION OF POVERTY IN THE AREA

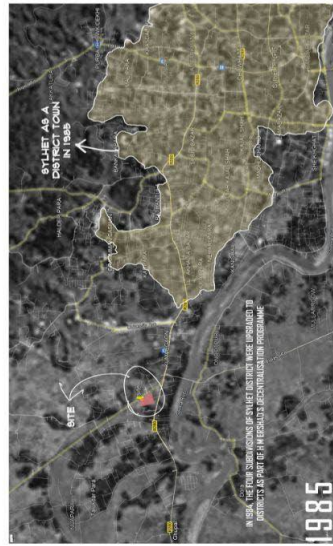


THE MUSEUM FACILITY WILL ALSO
ELIMINATE UNEMPLOYMENT
CREATING JOB OPPORTUNITIES INSIDE AND
AROUND THE SITE

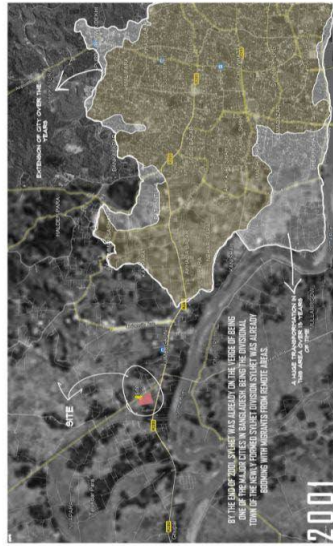
Fig 7: Political Context

HISTORICAL

THE TREND IS **DISORGANIZED EXPANSION** OF THE CITY **COMPROMISING GREEN** AND DEVELOPMENT CONCENTRATING CITY CENTRE



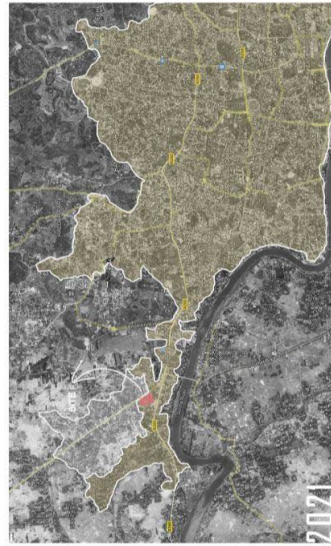
SYLHET WAS UPGRADED TO DISTRICT- CONCENTRATION OF URBAN POPULATION STARTED INCREASING



SYLHET WAS UPGRADED TO DIVISIONAL CITY IN 1995, FOLLOWING THE UPGRADE THE CITY EXPANDED TOWARD NORTH AND SOUTH



FURTHER EXPANSION WAS EMINENT BY THE YEAR 2008 AS SYLHET-SUNAMGANJ HIGHWAY WAS TO BE CONSTRUCTED



DEVELOPMENT ALONG SYLHET-SUNAMGANJ HIGHWAY IS EVIDENT HERE. THE SITE IS IN THE DEVELOPING PART OF THE CITY PERIMETER.

FINDINGS

- DISORGANIZED DEVELOPMENT OF THE EXPANDING AREAS IS A THREAT TOWARD SUSTAINABILITY OF THE CITY
- HUGE REDUCTION IN GREEN AND SWAMPS
- PUBLIC SQUALOR DEVELOPMENT ALONG THE BANK OF SURMA
- INCREASE IN SOLID STRUCTURE
- DECREASE IN AGRICULTURE LAND
- INEXISTENT SWAMPS
- THE AREA WILL BE SWARMING WITH PEOPLE BY THE END OF 2035 REDUCING CULTIVABLE LAND

DESIGN CONSIDERATION

- DEVELOPMENT OF THE DESIGN MUST BE A RESPONSE TOWARD UNORTHODOX DEVELOPMENT OF THE CITY
- DESIGN MUST BE FOCUSED ON SUSTAINING MAXIMUM AMOUNT OF GREEN
- DESIGN SOLUTION MUST CREATE A GUIDELINE FOR FURTHER DEVELOPMENT OF SITE SURROUNDINGS

Fig 8: Historical Context

ECOLOGICAL
NECESSITY OF
SOUND FRIENDLY DEVELOPMENT

FINDINGS

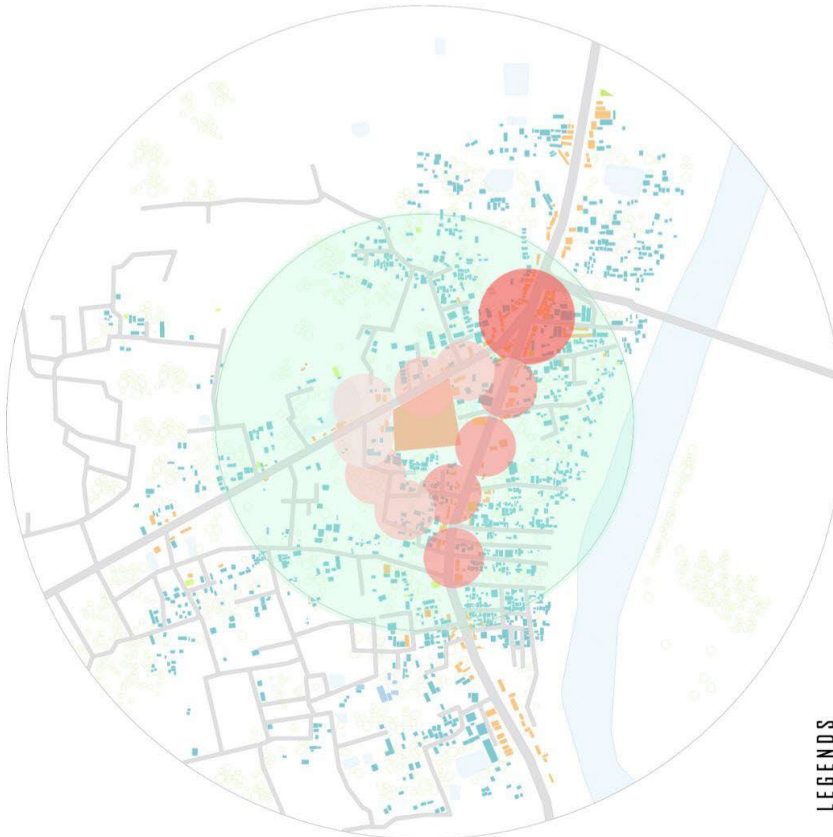
- 500M AROUND THE SITE IS PROJECTED TO BE A MIXED USE AREA
- AVERAGE SOUND LEVEL OF THE NEIGHBORHOOD IS AROUND 70-78 DB

Time Interval	0	15	30	45	60	75	90
7am-11am	78.55	74.04	69.33	65.09	60.19	55.27	50.17
11am-3pm	77.24	72.54	67.91	63.19	58.05	63.24	48.20
3pm-7pm	79.09	74.38	69.65	65.00	59.71	54.94	49.78
7pm-11pm	77.45	72.99	68.05	63.18	58.36	53.41	48.33

DESIGN CONSIDERATION

- THE SOUND LEVEL OF A MIXED USE AREA SHOULD BE 50-60 DB
- THE CURRENT SOUND LEVEL DEMANDS A SOUND FRIENDLY AREA DEVELOPMENT
- TREES AND OTHER SOUND BUFFERING ELEMENTS ARE HIGHLY RECOMMENDED TO ENHANCE THE SOUND LEVEL OF THE MUSEUM FACILITY AS WELL AS THE NEIGHBORHOOD

(SOURCE: STUDY_ON_TRAFFIC_NOISE_LEVEL_OF_SYLHET_BY_MULTIPLE_REGRESSION_ANALYSIS_ASSOCIATED_WITH_HEALTH_HAZARDS)



- LEGENDS**
- SITE
 - 70-80 DB
 - 60-70 DB
 - 50-60 DB
 - MIXED USE AREA

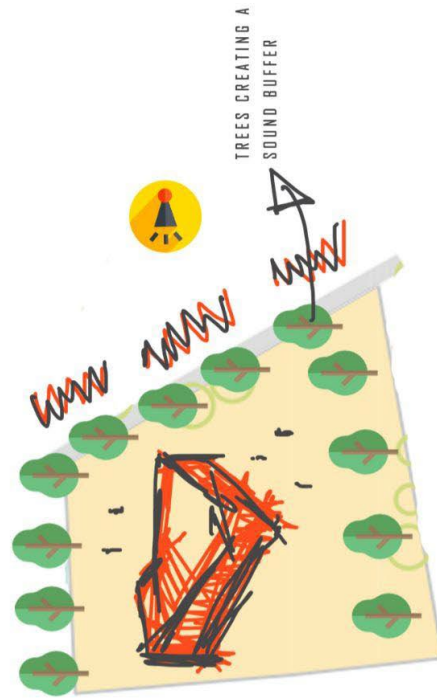


Fig 9: Ecological Context

RECYCLING GRAY WATER AND USING SOLAR PANEL TO ACHIEVE SELF SUSTAINABILITY

FINDINGS

- THERE WILL BE SIGNIFICANT AMOUNT OF GRAY WATER
- THE FACILITY WILL REQUIRE CONTINUOUS SUPPLY OF ELECTRICITY

DESIGN CONSIDERATION

- GRAY WATER MANAGEMENT SYSTEM IS TO BE INTRODUCED IN THE DESIGN SOLUTION
- USE OF SOLAR PANELS ON FACADE/ ROOF TREATMENT WILL PRODUCE ENOUGH ELECTRICITY TO RUN THE MUSEUM

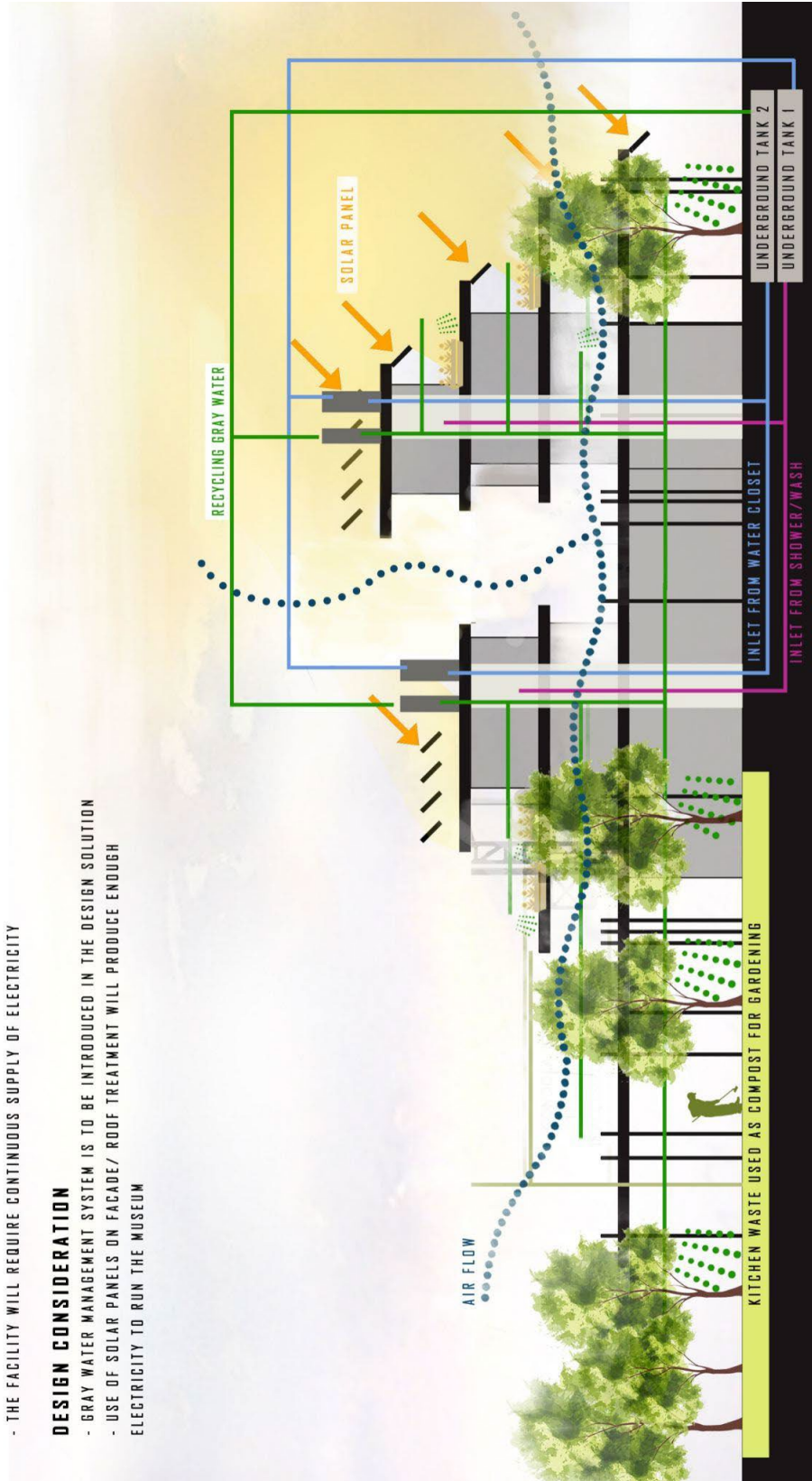


Fig 10: Scientific Context

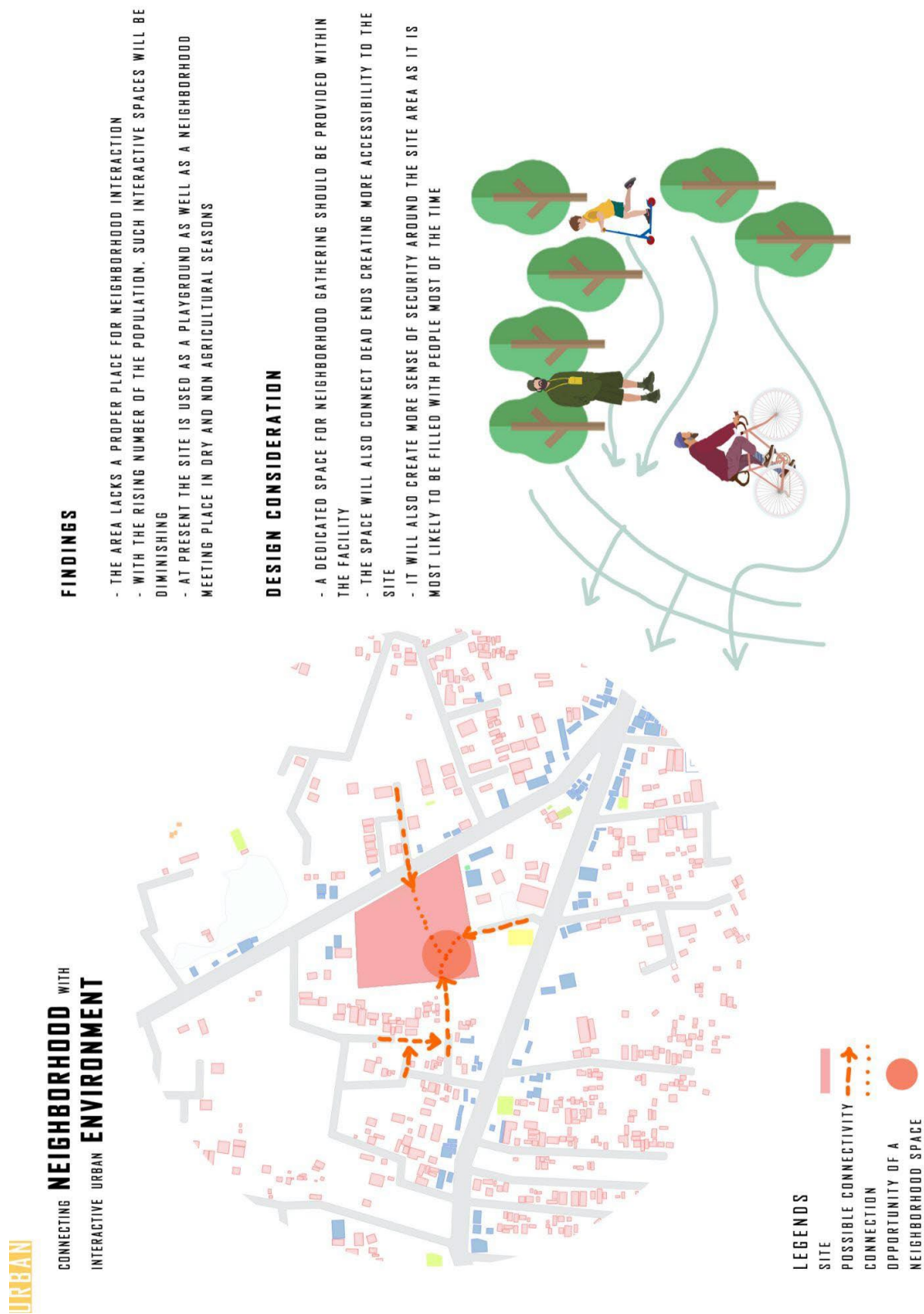
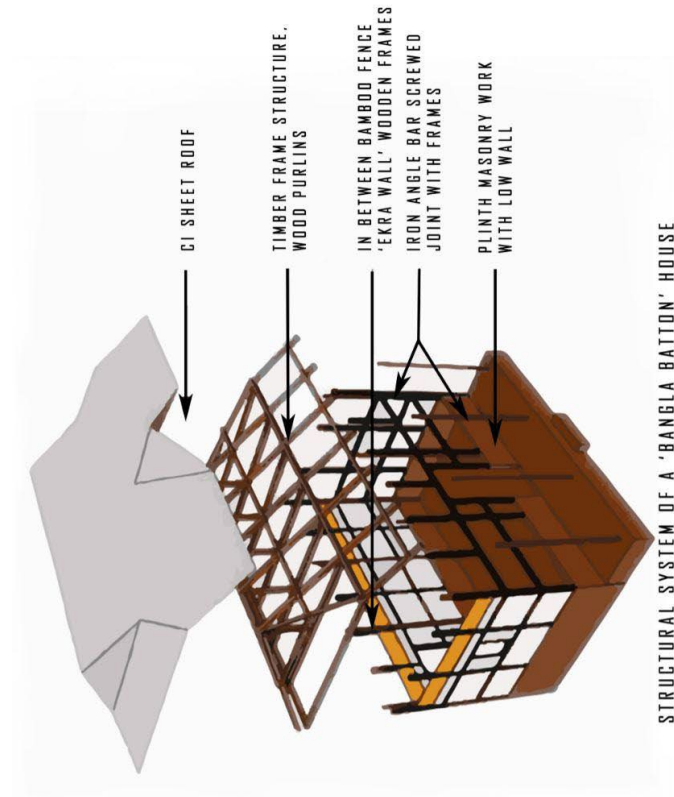
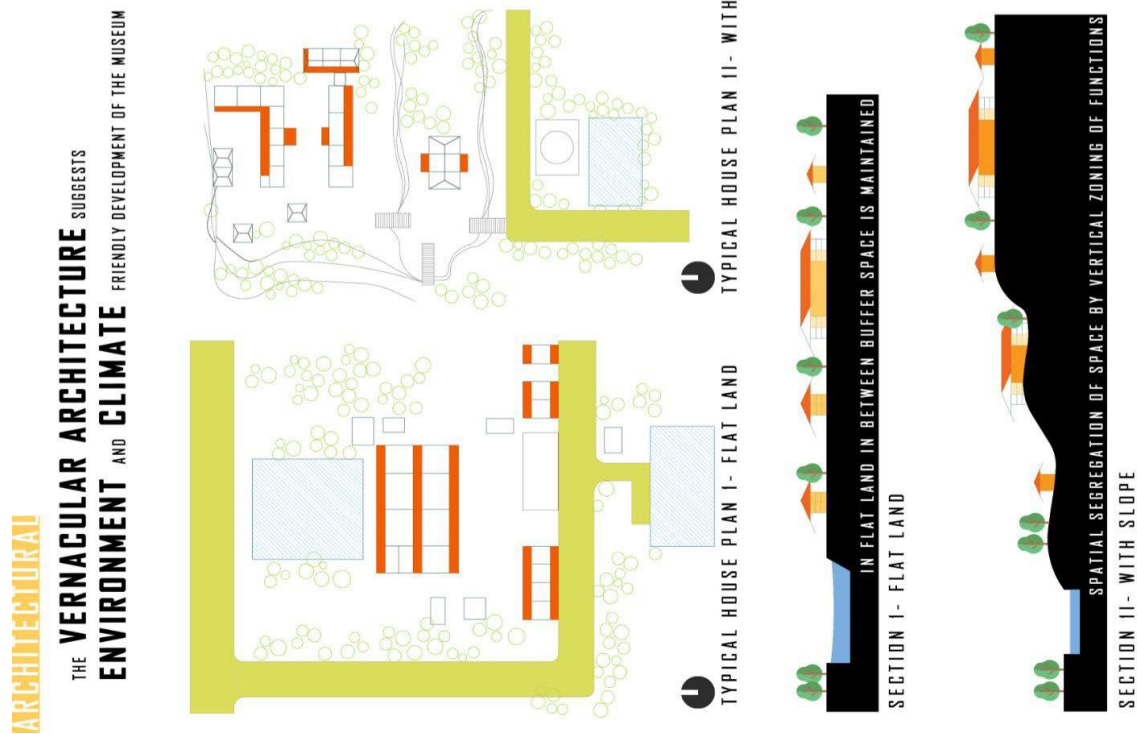


Fig 11: Urban Context



FINDINGS

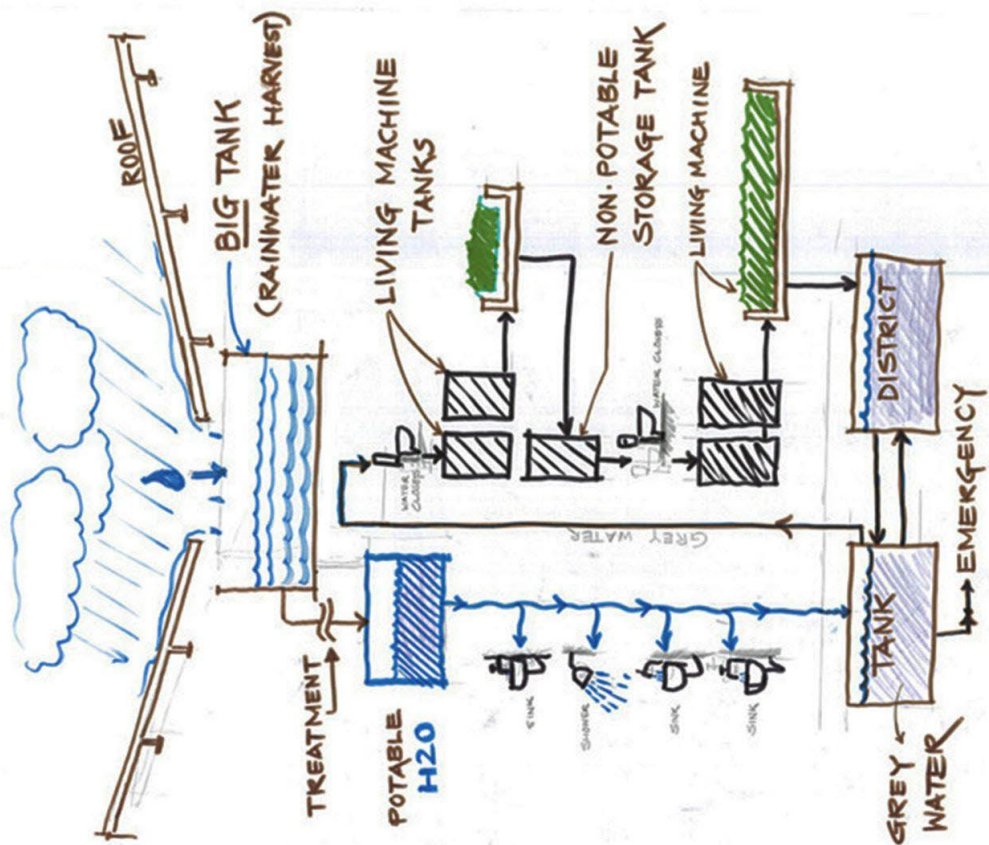
- PRESENCE OF AN INNER COURTYARD
- NORTH-EASTERN GRAPHICAL PATTERNS USED FOR ORNAMENTATION
- LIGHTWEIGHT LOW RISE STRUCTURE WITH BASE ISOLATION TO WITHSTAND AN EARTHQUAKE
- EXTENDED SEMI-OUTDOOR. THE EXTENSION OF THE ROOF ENDS WITH LONG DROP WALLS TO SAVE WALLS FROM DRIVING RAIN
- THERMAL INSULATOR WALLS
- LARGER WINDOW FOR CROSS VENTILATION
- MATERIALS USED - WOOD, CEMENT, BRICK, LIMESTONE, MUD

DESIGN CONSIDERATION

- EXTENSIVE USE OF LOCAL MATERIALS KEEPING THE REGIONAL STRUCTURAL SYSTEM CHECKED

Fig 12: Architectural Context

INSTALLATION OF RAINWATER HARVESTING



FINDINGS

ACCORDING TO BNBC

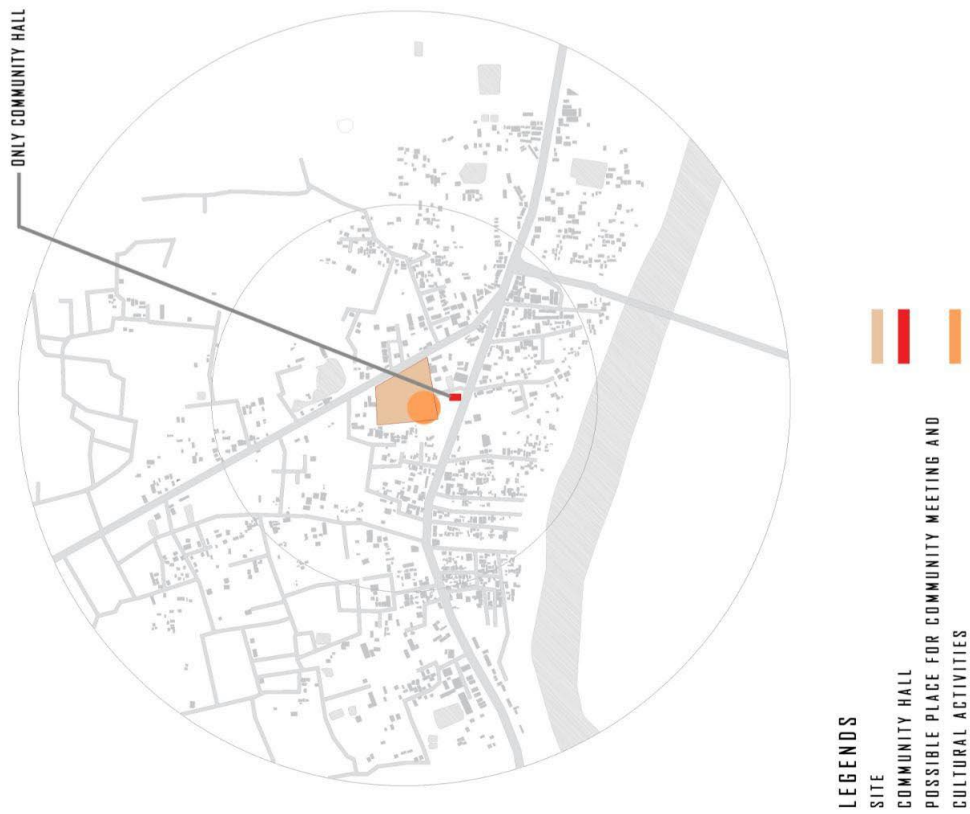
- EVERY BUILDING PROPOSED FOR CONSTRUCTION ON PLOTS HAVING EXTENT OF 300SQM OR ABOVE SHALL HAVE FACILITIES FOR CONSERVING AND HARVESTING RAINWATER
- SUSTAINABILITY MEASURES FOR EXISTING BUILDING

- RAINWATER HARVESTING CAN COLLECT ABOUT 80% OF THE ANNUAL RAIN THAT FALLS ON A CATCHMENT AREA
- THE AVERAGE 25X40 FEET HOME ROOF SHEDS ABOUT 600 GALLONS OF WATER IN 1 HOUR OF MODERATE RAINFALL
- SYLHET EXPERIENCES 5048 MM | 198.7 INCH RAINFALL ANNUALLY
- BANGLADESH MAY EXPERIENCE 5-6% INCREASE OF RAINFALL BY 2030

DESIGN CONSIDERATION

- RAINWATER HARVESTING SYSTEM SHOULD BE INSTALLED WITHIN THE MUSEUM FACILITY

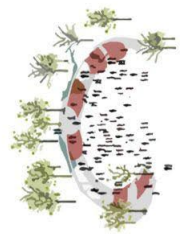
Fig 13: Geographical Context



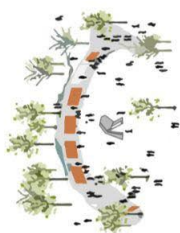
CONCERT



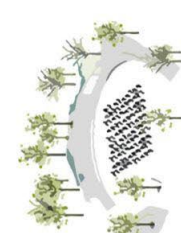
VILLAGE FÊTES



FAIR



EXHIBITION



OPEN AIR CINEMA



OPEN AIR THEATRE

FINDINGS

- ABSENCE OF COMMUNITY SPACES FOR CULTURAL ACTIVITY
- SITE ACTS AS A MEETING PLACE AND PLAYGROUND FOR THE NEIGHBORHOOD COMMUNITY IN DRY SEASONS

DESIGN CONSIDERATION

- THE INTERSECTION POINT OF PUBLIC THOROUGHFARE (REF. URBAN CONTEXT) CAN BE USED AS A PLACE FOR VARIOUS CULTURAL ACTIVITIES AS SHOWN IN THE DIAGRAM ABOVE

Fig 14: Cultural Context

Chapter 4: Case Studies

One foreign and one local Museum were investigated in this chapter. The goal is to identify essential traits and design methods that are relevant to our context. The Bihar Museum in Patna, India, is the first case study. Followed by The Bihar Museum, we will have an insight of Varendra museum is the local one. Both have some significant similarities in terms of context, purpose, and function.

4.1 The Bihar Museum

4.1.1 Project Brief

Location: Patna, Bihar, India.

Client: Department of Art, Culture and Youth (DACY), Government of Bihar.

Architect: Maki & Associates + Opolis; Lord Cultural Resources

Year: 2017

Site Area:53,480 m²

Roof Area:19,716 m²



Fig 15: The Bihar Museum, Patna, Bihar, India. (Source: Archdaily)

4.1.2 Architectural Features

The Bihar Museum's design by Maki and Associates responds to a prominent location with an ambitious, multi-faceted museum program by creating an engaging and appropriately scaled response. The Museum holds a diverse collection of regional artefacts and event and educational spaces that foster a renewed feeling of pride and connection to Bihar's illustrious past.



Fig 16: Bridge Connecting Forms (Source: Archdaily)

- With each visit, the continual presence of the natural environment within the Museum's "campus" offers a rich, distinctive experience that changes with time and seasons.



Fig 17: The ambience of interior spaces is unique for each season. (Source: Archdaily)

- Its extensive use of weathering steel distinguishes the façade of the Museum. This long-lasting material blends in with its surroundings and provides a dignified contrast to the surrounding vegetation.
- Stone, terracotta, and glass finishes round out the contemporary material palette, strong ties to Bihar's history and future.

- Each of the exhibition spaces, the children's Museum, the entry lobby, and the administrative centre has its design, with arcades and courtyards connecting them.
- As part of the land's harmony, the campus with a modest yet dynamic character has an integrated landscape of built-up and open areas.

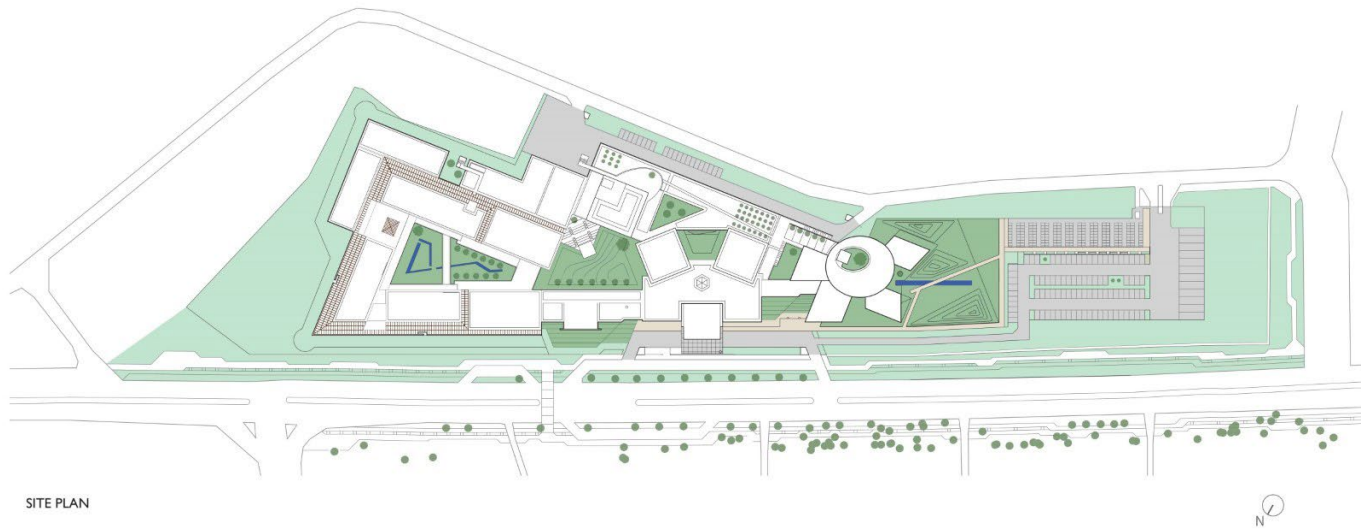


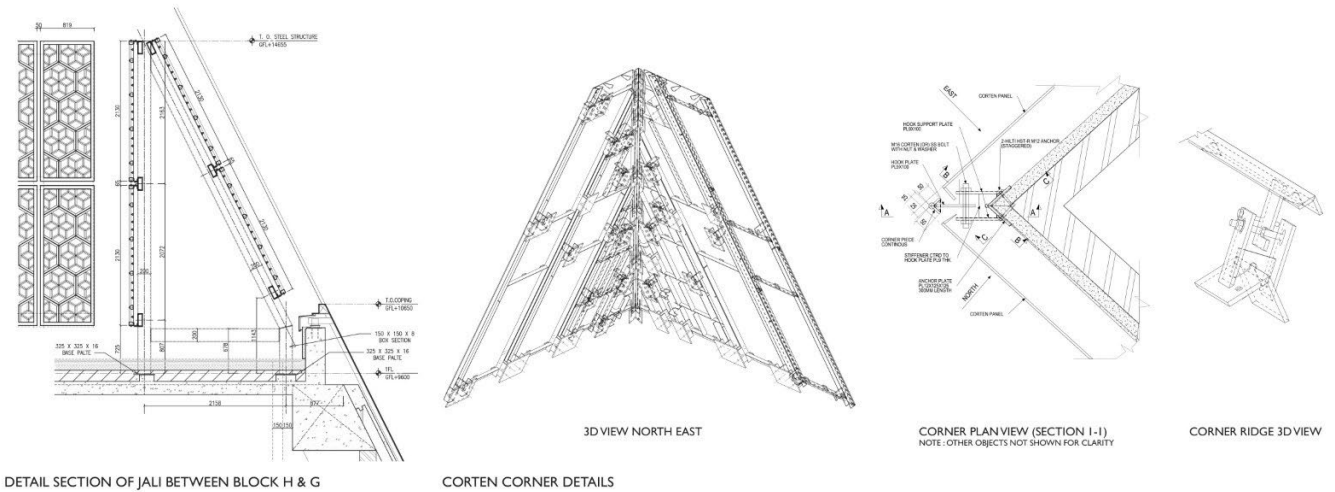
Fig 18: Site Plan showing the harmony of built forms with the landscape and courtyards location. (Source: Archdaily)

- SEVEN courtyards, all open to the sky, connect the independent and smaller-scaled wings, ensuring that all areas are connected to the surrounding nature while staying protected and pleasant throughout the year.



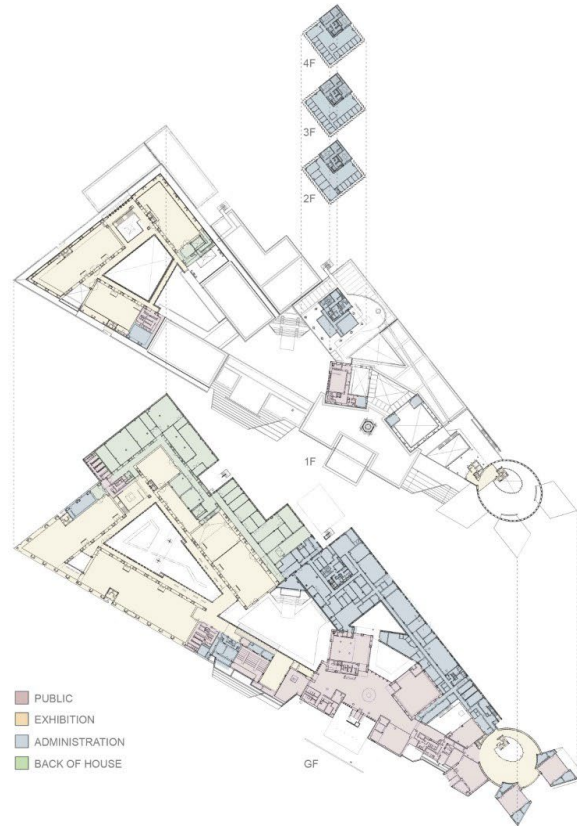
Fig 19: All the courtyards have unique characters and blends with built masses as well as nature. (Source: Archdaily)

- There is something special about each courtyard in terms of its concept, layout, and quality of space.
- The project's usage of Corten Steel, Terracotta, and indigenous materials from Bihar demonstrate the project's attention to detail.



STONE JALI AND CORTEN CORNER DETAILS

The following figure shows the functional zoning of the different types of spaces. The connection between administrative blocks with the back of the house separating them from public and exhibition spaces surrounding the courtyards shows the practical side of the architectural space arrangement. The public domain is separated from the private but connected with spatial connections while getting the most out of courtyards.



AXONOMETRIC VIEW

4.1.3 Findings

- This Museum has a relation and connection with the existing context.
- Some courtyards serve environmental issues.
- Different arrangement of courtyards creates a unique experiential journey in different seasons round the year.
- The use of local material justifies the architectonic side of the project while respecting the local indigenous culture.
- Interior complexity of functions is minimized with the linear approach in planning, totally separating administrative and back of the house activities from the public zones.

4.2 Varendra Museum

4.2.1 Project Brief

Location: Hatem khan, Rajshahi.

Client: Varendra Investigation Society

Designer: Prince Sharat Kumar Roy

Year: 1910

4.2.2 Description

As the first Museum in East Bengal, Varendra Museum opened its doors to the public in 1910. The Varendra Investigation Society began as a collection for the Museum, given its current name in 1919. There is a precious collection of sculptures and epigraphs and rare books and magazines at the oldest Museum in Bangladesh. Following is an ambitious proposal by Metropolitan Architects that attempts to conserve the colonial-era Museum and its precious collection.



Personal collections contributed by Rajahs and Nature; especially Prince Sharat Kumar Ray, formed the basis of the Varendra Museum. These treasures include 5,000 ancient manuscripts, which are housed at this Museum. More than 14,000 rare and important periodicals, journals, and books may be found in the Museum's library. Collections from the Mauryan period (322 BCE-182 BCE) are the earliest in this Museum's holdings. As well as Hindu and Buddhist images, the Museum has a significant number of them.

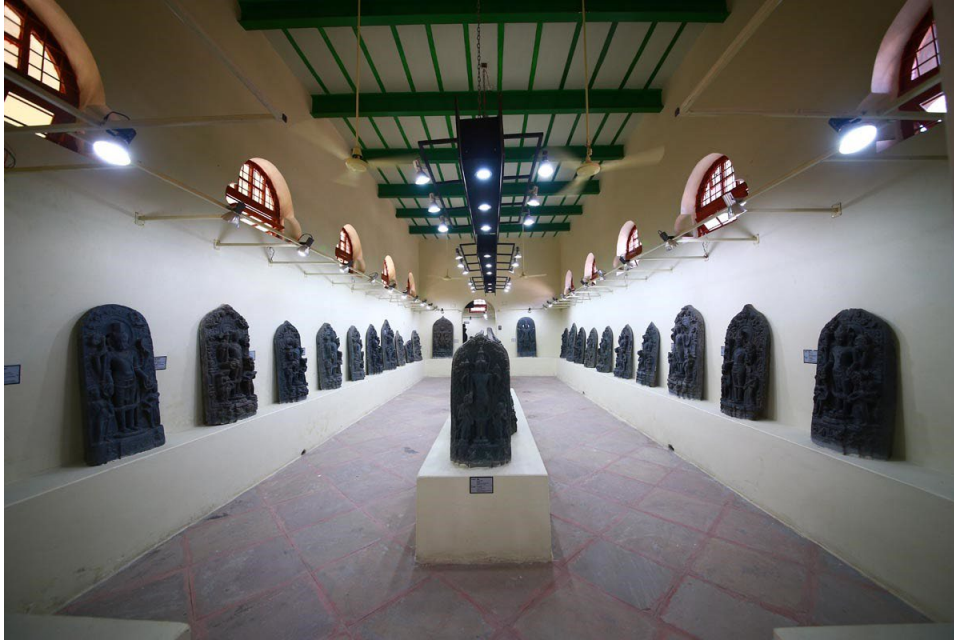


Fig 23: One of the galleries. (Source: Contextbd.com)

Collection-wise, this museum building has a lot of value. A lack of financing threatens the Bengal legacy and Varendra antiquity. The roof of this ancient structure was made out of timber beams and rafters, clay tiles, and lime mixed with brick dust that was used as plaster. The materials employed in the construction are deteriorating and losing strength day by day. For nearly a century, this Museum has been collecting and conserving Bengal's legacy and supporting higher education and research in arts, archaeology, history, culture, and literature.

As an early recipient (in 2002), the Museum received a small amount of cash to build sculpture bases and show materials. Varendra won another grant from AFCP in the fiscal year 2010. Those funds were utilized to preserve the outside and internal walls, renovate the ceiling, install lighting, electrify the entry reception area, and reorganize the display space.

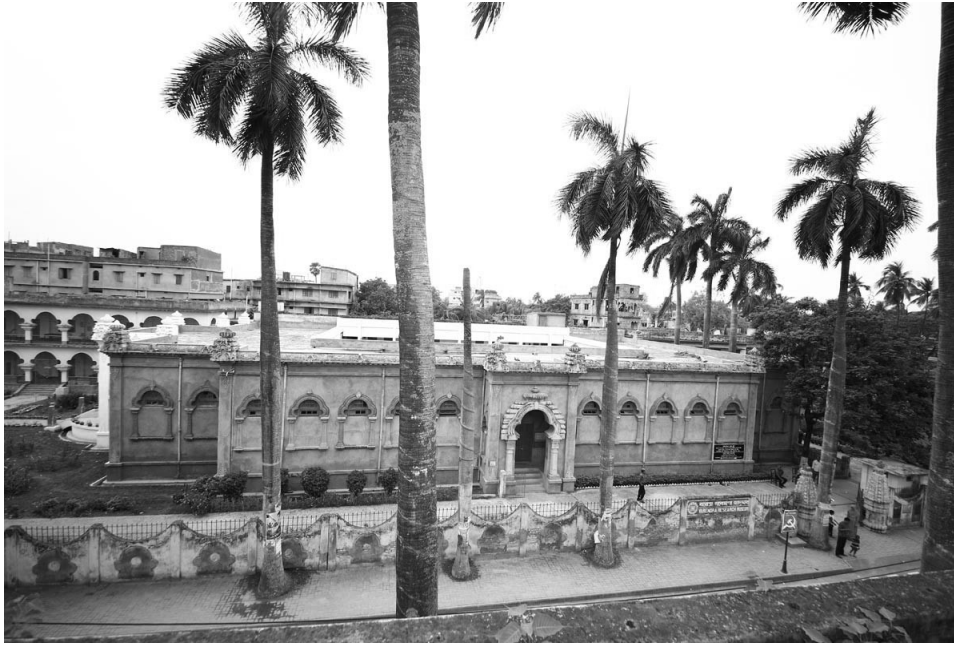


Fig 24: Present condition of exterior façade after renovation work. (Source: Contextbd.com)

Remaking the security grill for those windows according to their original design, preserving all beautiful art on the wall as soon as possible, and rearranging the power supply room with some contemporary facilities are among the tasks that need to be completed. Look at the storage system of the Varendra Museum. For a museum-like Varendra, fully-fledged storage is vital. Many artefacts and manuscripts are at risk at this heritage building's one shop, which is not correctly organized. A suitable

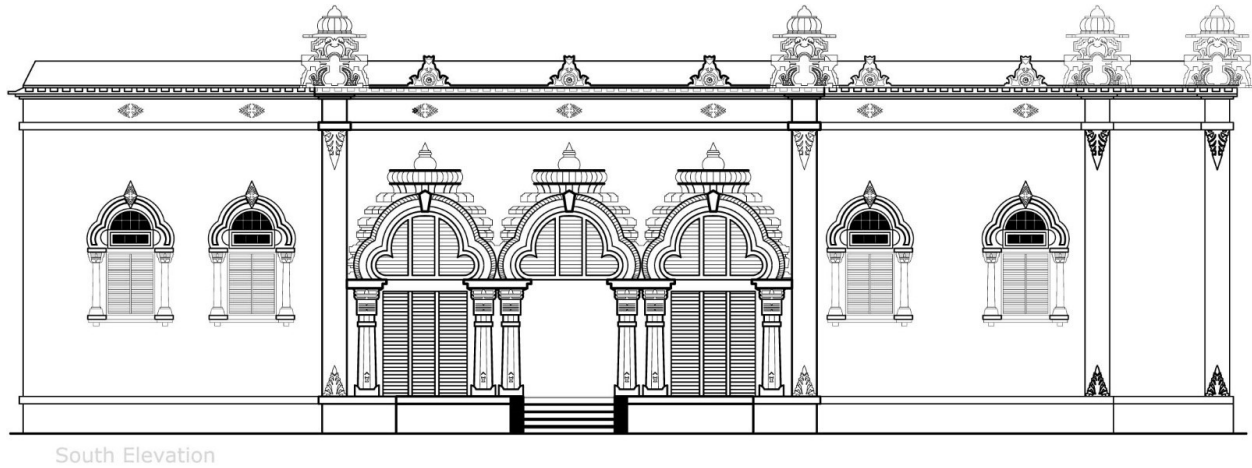


Fig 25: South Elevation showing the details of the façade. (Source: Contextbd.com)

4.2.3 Findings

- Varendra's history is encapsulated in the structure itself.
- Construction techniques from the colonial era are evident, as are local building techniques.
- Exposure to the culture and history of the place was done uniquely and effectively.
- The window and door are designed based on our climatic context.

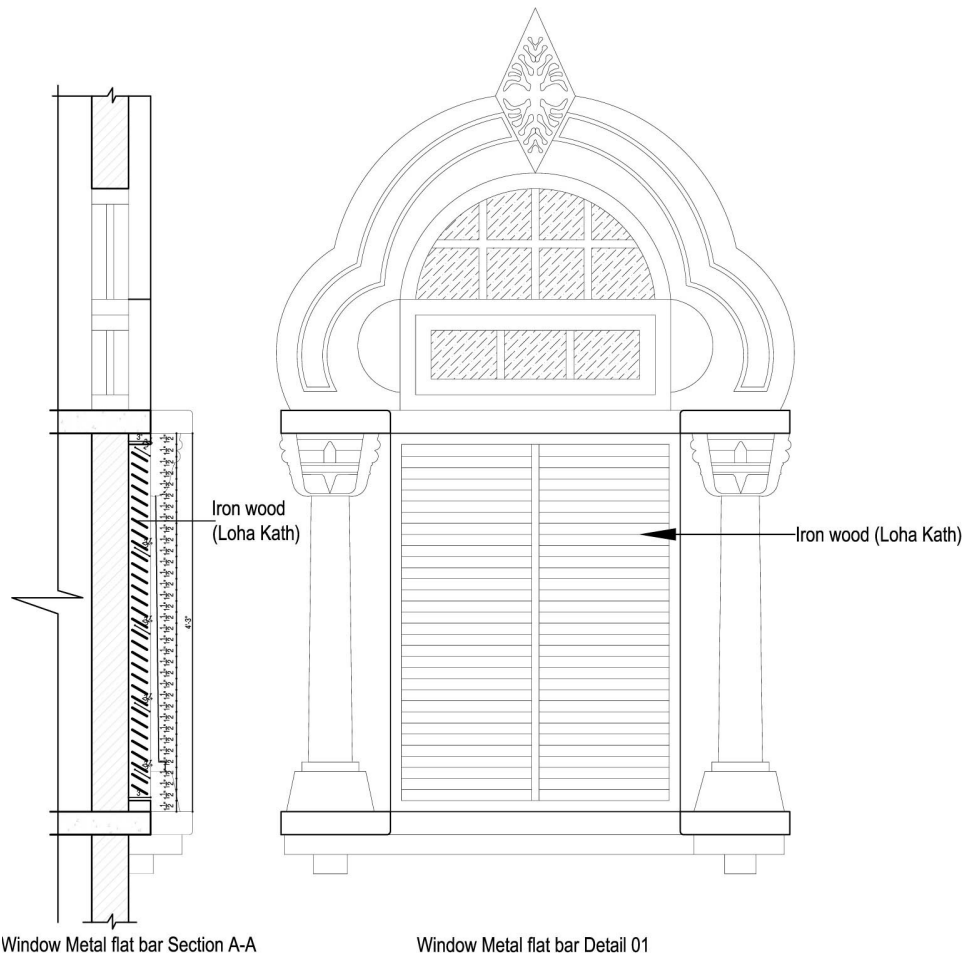


Fig 26: Section and Elevation of a window showing the structural details. (Source: Contextbd.com)

Chapter 5: Program Appraisal

5.1 Program Types and The Functional Flow

The divisional museum will display artefacts found in the region. It will also commemorate the glorious life of people like Hasan Raja, Shah Abdul Karim, General M A G Osmani and many other unsung heroes of Sylhet throughout history. The Proposed programs can be divided into four categories as the following pie chart:

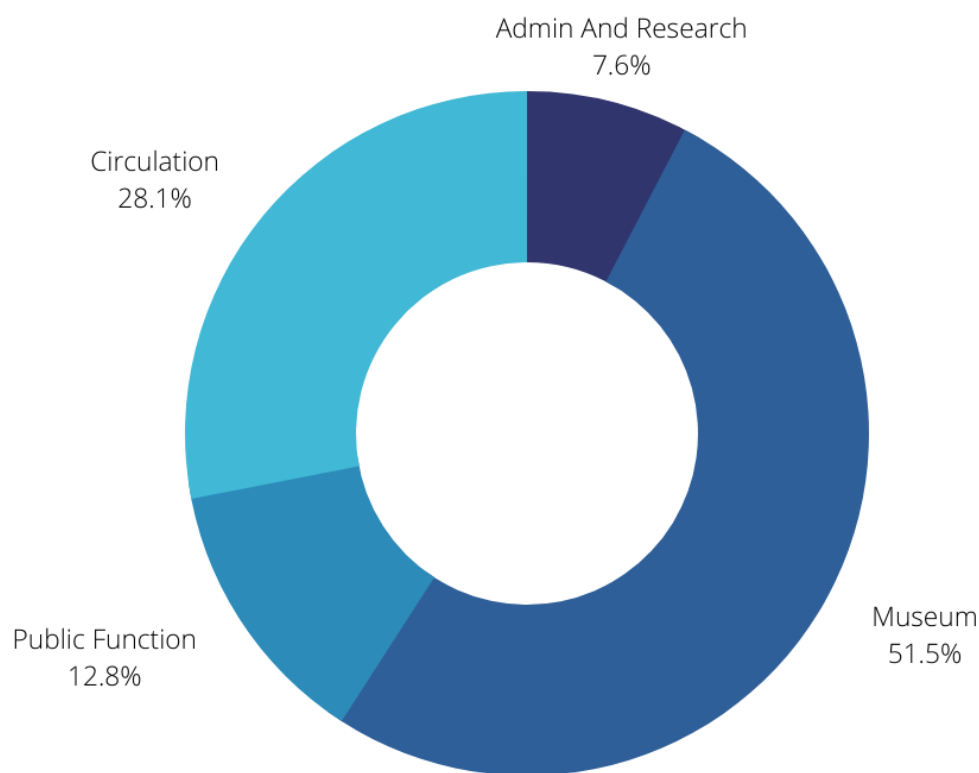
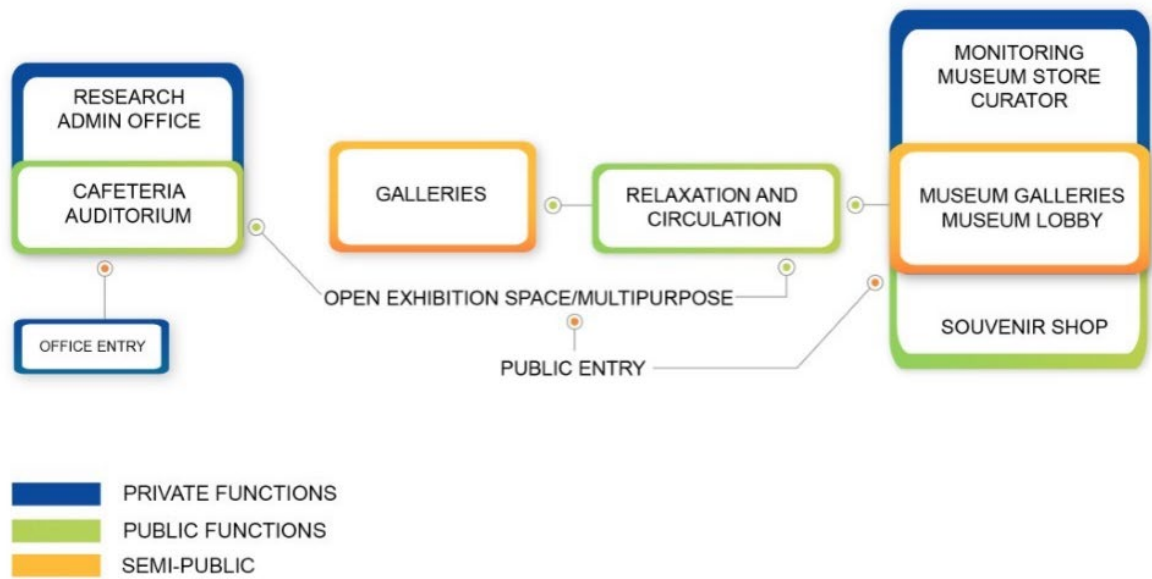


Fig 27: Typology of Functions.

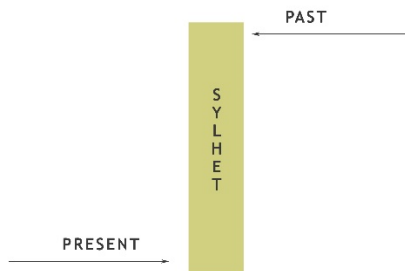
The facility will have a dedicated research facility, as well as a valid admin block. It will facilitate public activities with functions like Cafeteria and Auditorium. The exhibition spaces will be a combination of permanent, temporary and open exhibition spaces.



BLOCK	QUANTITY	SFt.
ADMIN		
Entry		
Lobby	1	1100
Reception	1	300
Toilet	4	130
Office		
Director's Room	1	200
Secretary room	1	150
Monitoring Room	4 (persons)	240
Meeting Room	12 (persons)	550
RESEARCH		
Entry		
Lobby	1	1400
Waiting Room	4 (persons)	250
Toilet	5	280
Researcher's Room	9 (persons)	300
Laboratory	1	1200
Library	12 (persons)	1400
Store	1	900
CURATORIAL SPACE		
Waiting Room	4 (persons)	100
Curator's Room	1	150
Assistant Curator's Room	1	120
Monitoring Room	2 (persons)	100
Museum Storage including internal circulation	1	4500
MUSEUM SPACE		
Lobby and Reception	25 (persons)	3500
Souvenir Shop	1	500
Permanent Galleries	10	50000
Temporary Gallery	1	10000
Open Exhibition Space		17000
Toilet	8 persons per floor of 4	1200
Museum Internal Circulation		8000
CAFETERIA		
Sitting Area	48 (persons)	1200
Kitchen	1	300
Store	1	400
Toilet	7 (persons)	280
AUDITORIUM		
Entry and Lobby	15 (persons)	800
Sitting Area	400 (persons)	6200
Toilet	12	500
OTHER		
Parking	10 Surface & 60 Basement	12500
Electrical Sub-station	1	300
Total Space Required		126,050
Total Circulation Required (30%)		37,815
Grand Total		163,865

Chapter 6: Design Development

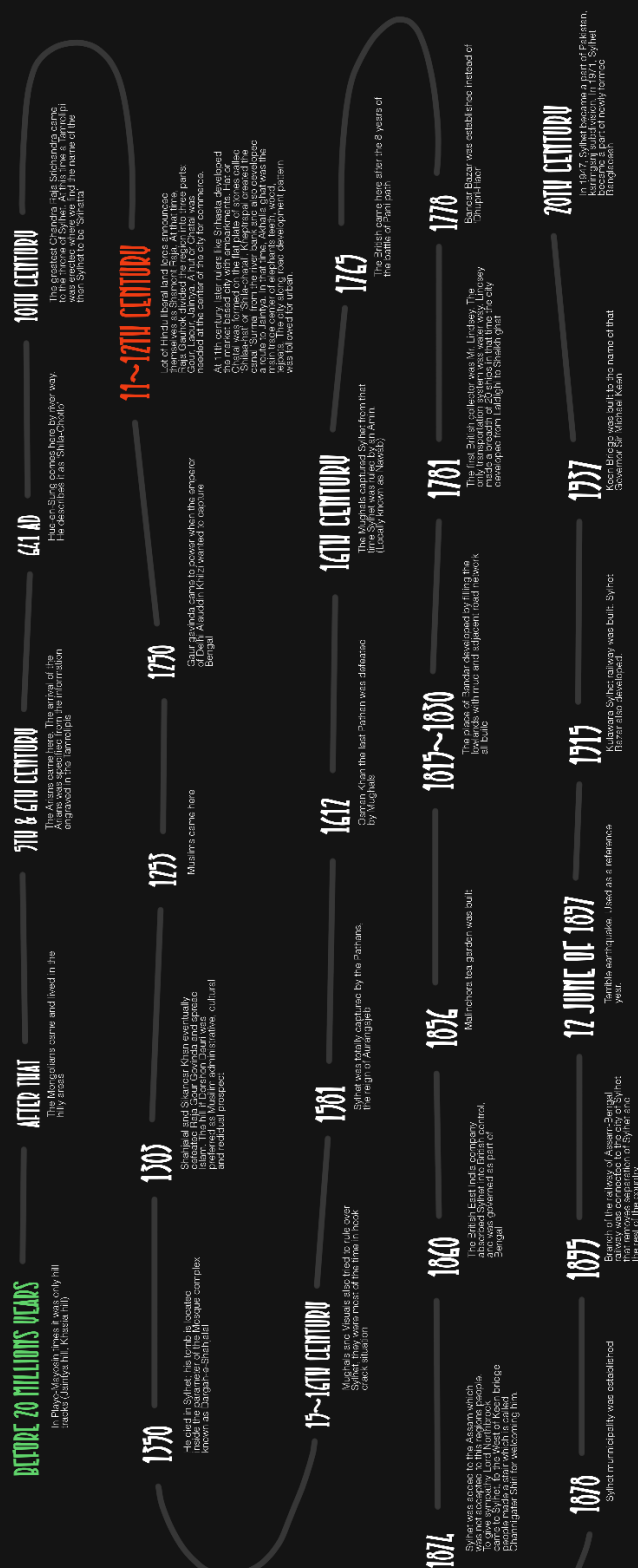
In this chapter the process of design development is described. How different programs were taken into considerations and how they were applied in design. The vision of the project is also conveyed here. From concept development to planning, all the phases are described in this chapter. The chapter includes plans, sections and perspectives of the museum.



The idea was to create a museum which will connect past and present of Sylhet using a central space which will exhibit the monolith found in Jaintapur. The monolith represents history as it has witnessed history and represents past of Sylhet. The circulation around the monolith exhibits a timeline of important events that shaped Sylhet to its present.

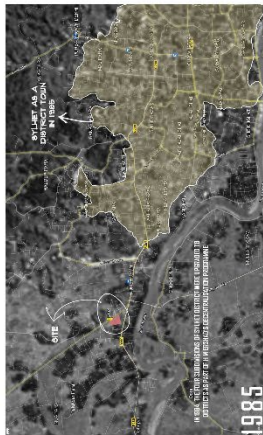
THE MOST IMPORTANT DEVELOPMENTS IN SUBJECT MATTER

A closer look at the events that have helped to shape the lives of people in sylhet



6.2 Design Considerations from Context Analysis

CHRONOLOGICAL
THE TREND IS **DISORGANIZED EXPANSION** OF THE CITY **COMPROMISING GREEN**
AND DEVELOPMENT CONCENTRATING CITY CENTRE



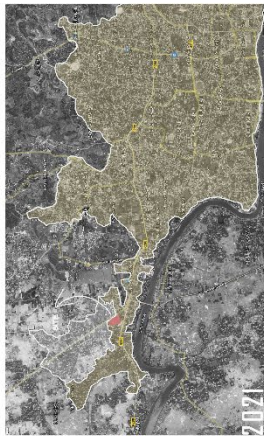
SYLHET WAS UPGRADED TO DISTRICT- CONCENTRATION OF URBAN POPULATION STARTED INCREASING



SYLHET WAS UPGRADED TO DIVISIONAL CITY IN 1995. FOLLOWING THE UPGRADE THE CITY EXPANDED TOWARD NORTH AND SOUTH



FURTHER EXPANSION WAS EMINENT BY THE YEAR 2008 AS SYLHET-SUNGANJ HIGHWAY WAS TO BE CONSTRUCTED



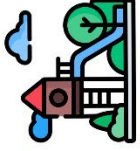
DEVELOPMENT ALONG SYLHET-SUNGANJ HIGHWAY IS EVIDENT HERE. THE SITE IS IN THE DEVELOPING PART OF THE CITY PERIMETER.

NEED OF PLAYGROUND IN THE NEIGHBORHOOD

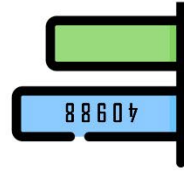
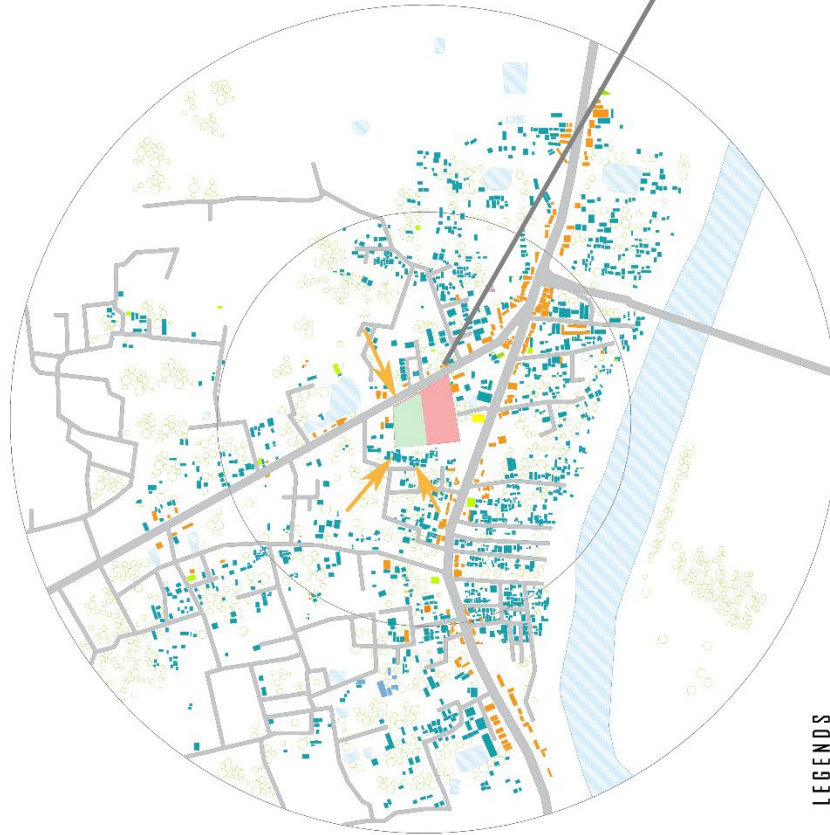
FINDINGS



DURING AGRICULTURAL SEASONS
THE SITE IS USED AS PADDY FIELD.



REST OF THE TIMES IT IS USED AS
PLAYGROUND.



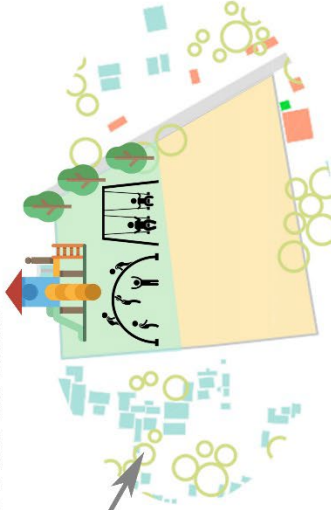
ANNUAL CHANGE IN POPULATION - 2.2%
PROJECTED POPULATION BY THE YEAR 2050- 109130

ACCORDING TO BNHC FOR 5000 PEOPLE REQUIRED PLAYGROUND SHOULD BE 400 SQM
THEREFORE, FOR 109130 PEOPLE REQUIRED PLAYGROUND IS 8730 SQM
TOTAL SITE AREA OF OUR SITE - 20705 SQM

CALCULATION

$(20705 \times 50\%) = 10352.5 \text{ SQM}$

- WE CAN ALLOCATE 50% OPEN SPACE OF OUR SITE FOR THE NEIGHBORHOOD COMMUNITY
ACTIVITIES WHICH IS MORE THAN ADEQUATE



FINDINGS



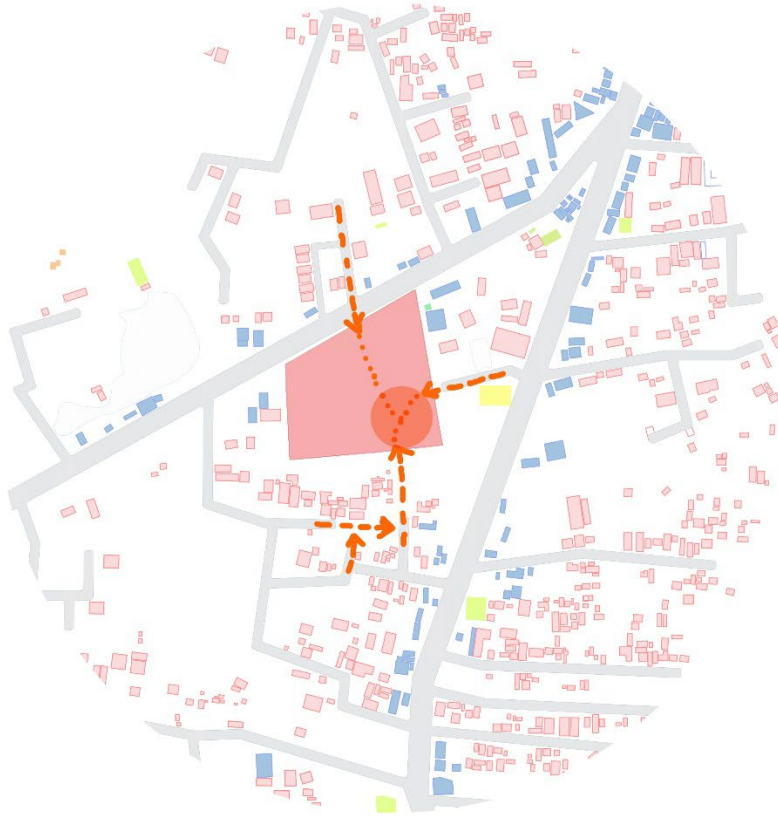
- THE AREA LACKS A PROPER PLACE FOR
NEIGHBORHOOD INTERACTION



- WITH THE RISING NUMBER OF THE POPULATION, SUCH
INTERACTIVE SPACES WILL BE DIMINISHING

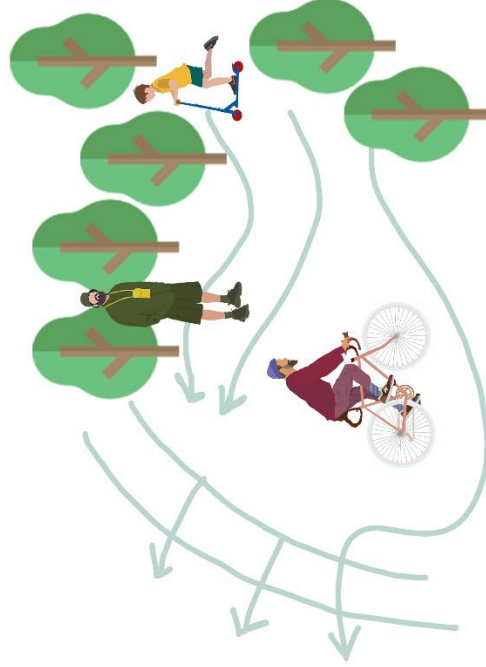
DESIGN CONSIDERATION

- A DEDICATED SPACE FOR NEIGHBORHOOD GATHERING SHOULD BE PROVIDED WITHIN
THE FACILITY
- THE SPACE WILL ALSO CONNECT DEAD ENDS CREATING MORE ACCESSIBILITY
TO THE SITE
- IT WILL ALSO CREATE MORE SENSE OF SECURITY AROUND THE SITE AREA AS IT
IS MOST LIKELY TO BE FILLED WITH PEOPLE MOST OF THE TIME



LEGENDS

- SITE
- POSSIBLE CONNECTIVITY
- CONNECTION
- OPPORTUNITY OF A
NEIGHBORHOOD SPACE

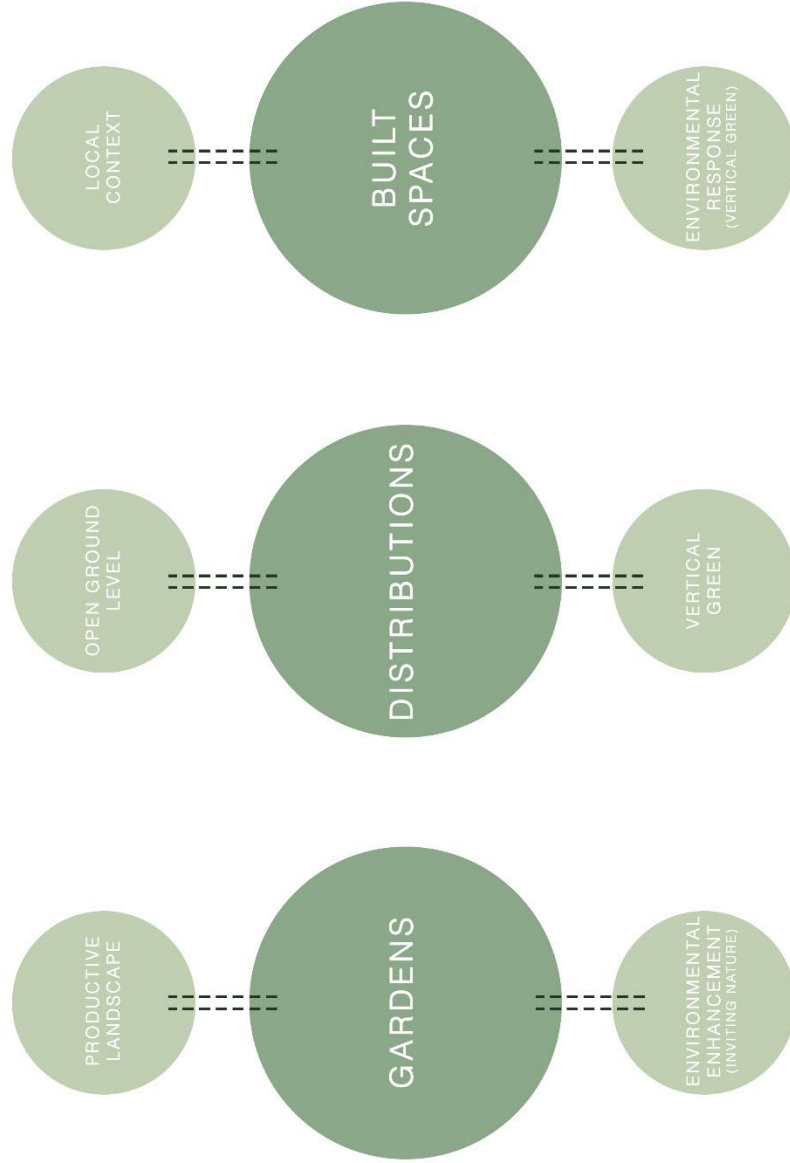


6.3 Museum Only?

The question that came in is whether it's going to be a museum only or a whole experiential space which will not only contribute in creating some green space in a constantly growing city, but create a space for knowledge gathering, recreation, history, local culture, awareness and community space. It will also grow its own food which will be served in its café.

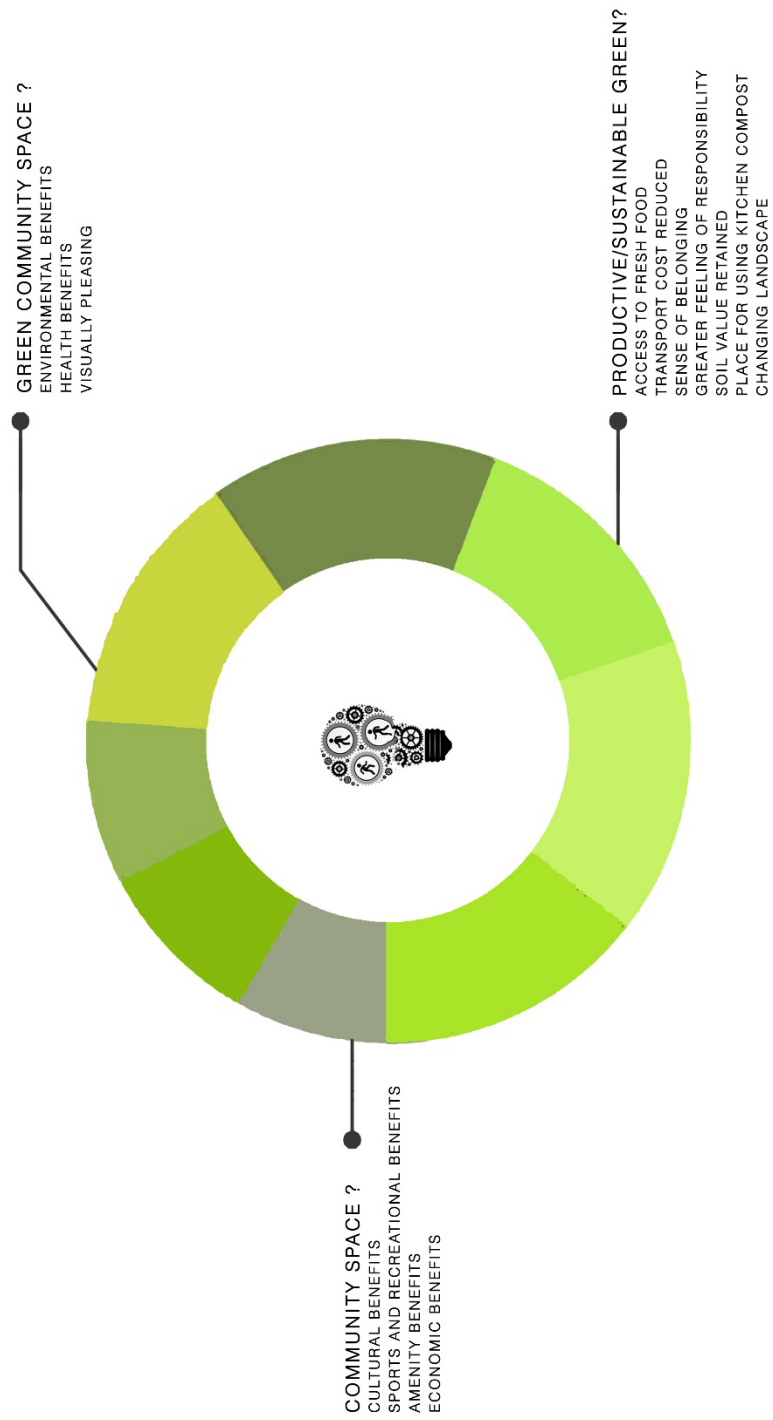
MUSEUM ONLY?

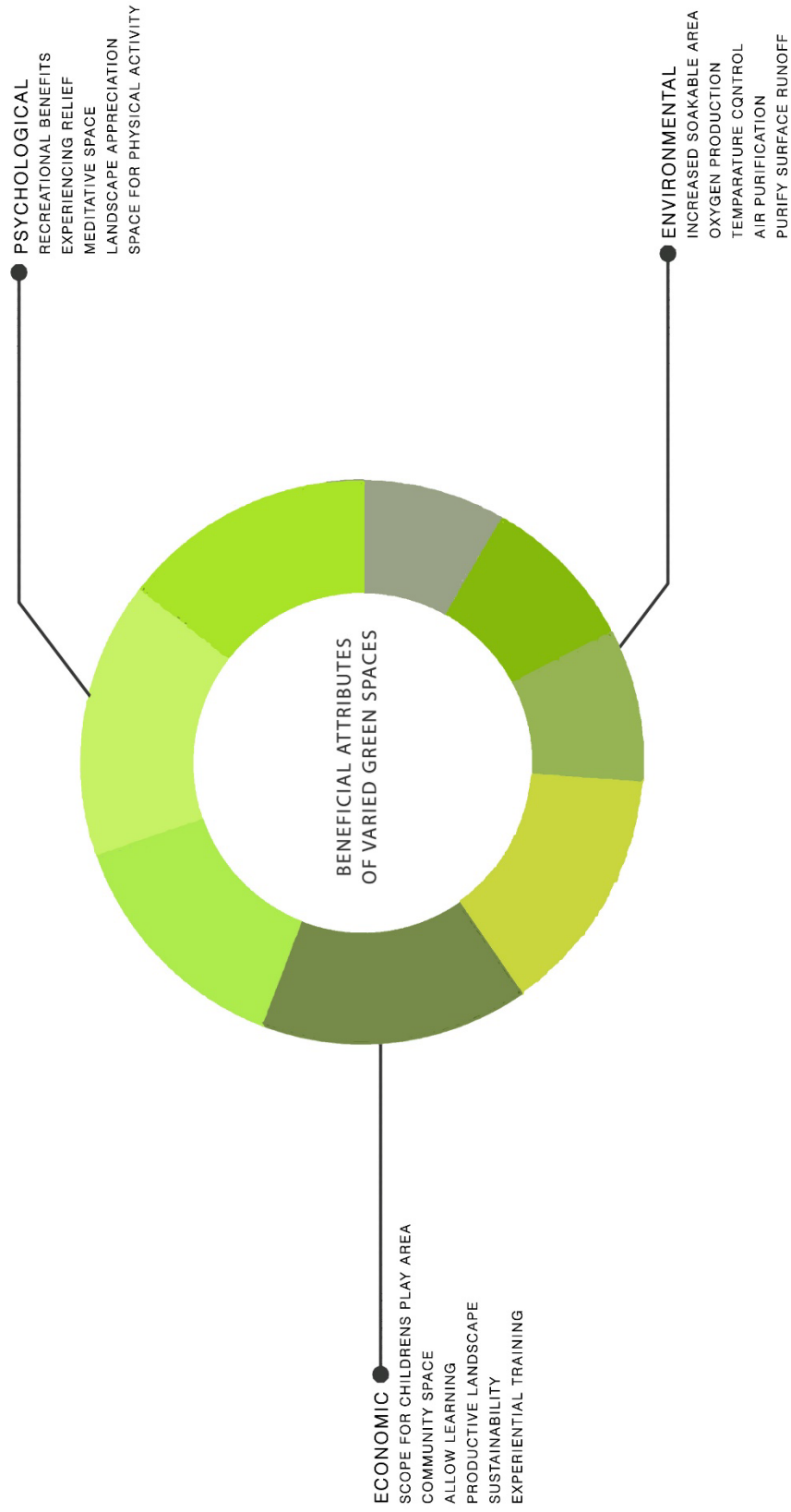




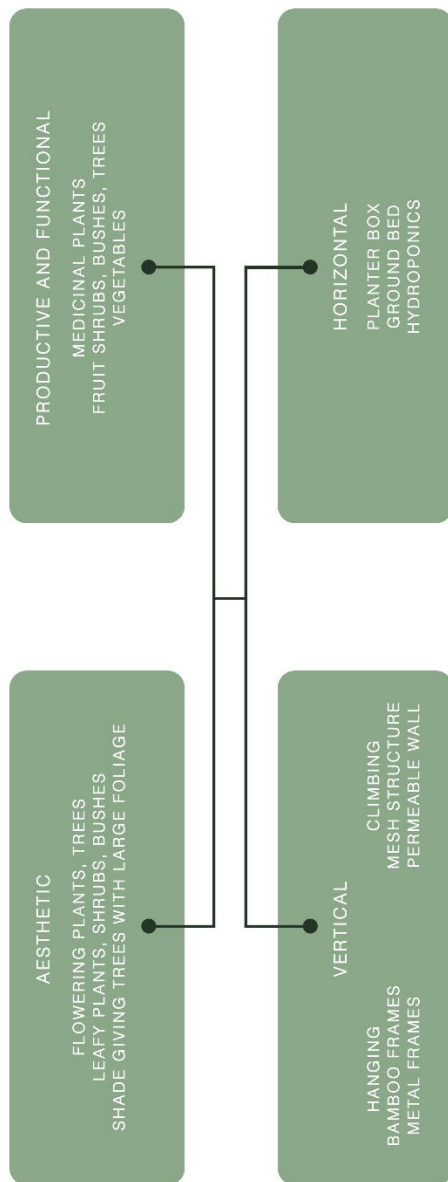
IDEA OF EXPERIENTIAL SPACES







COMPONENTS OF VEGETATION



AESTHETIC SCREENS



PUMPKIN WALK
(BAMBOO FRAMES)



CUCUMBER PLANTS
(METAL FRAMES)



TOMATO PLANTS
(MESH WORK)



MEDICINAL PLANTS
(PERMEABLE WALL)



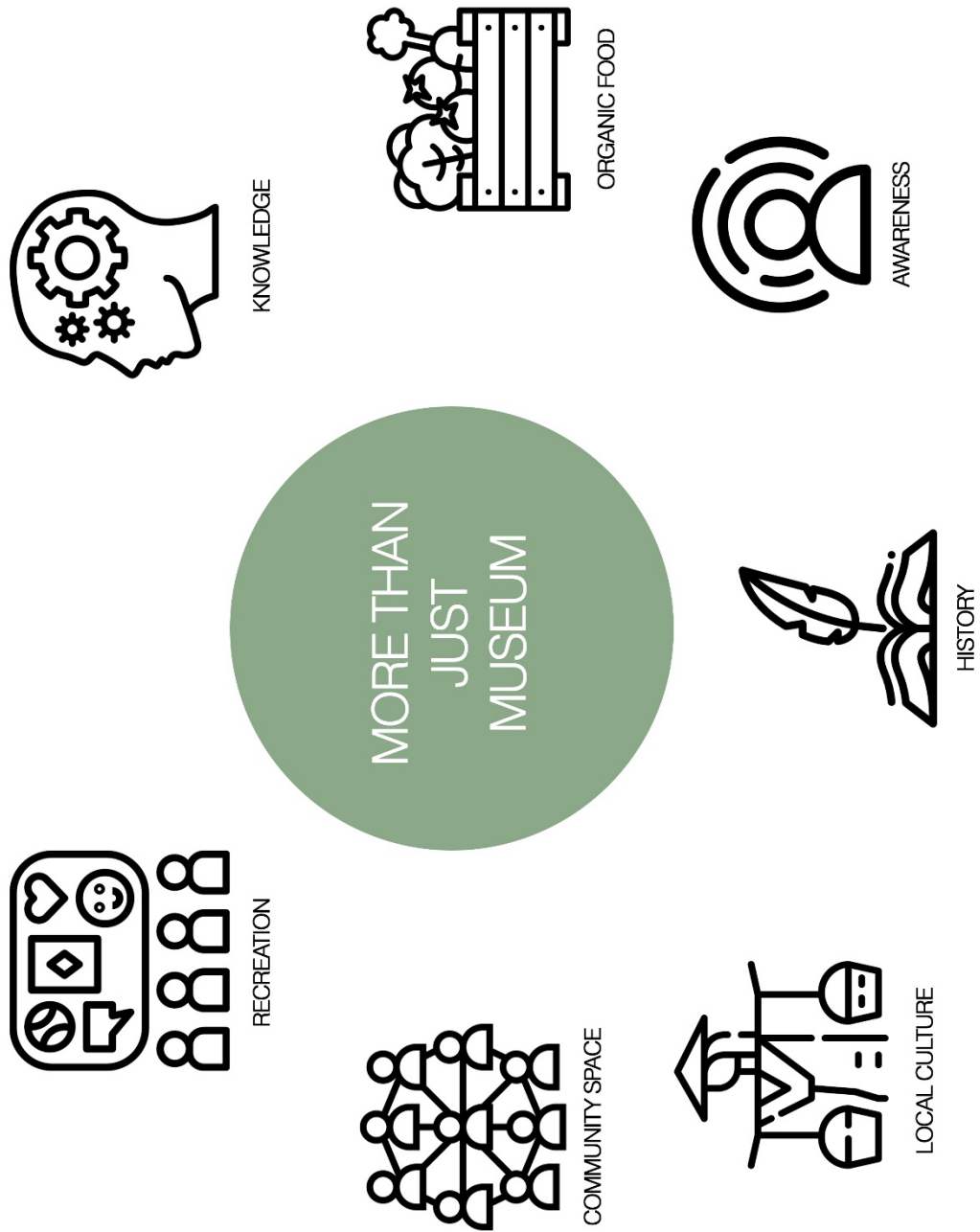
PLANTER BOX



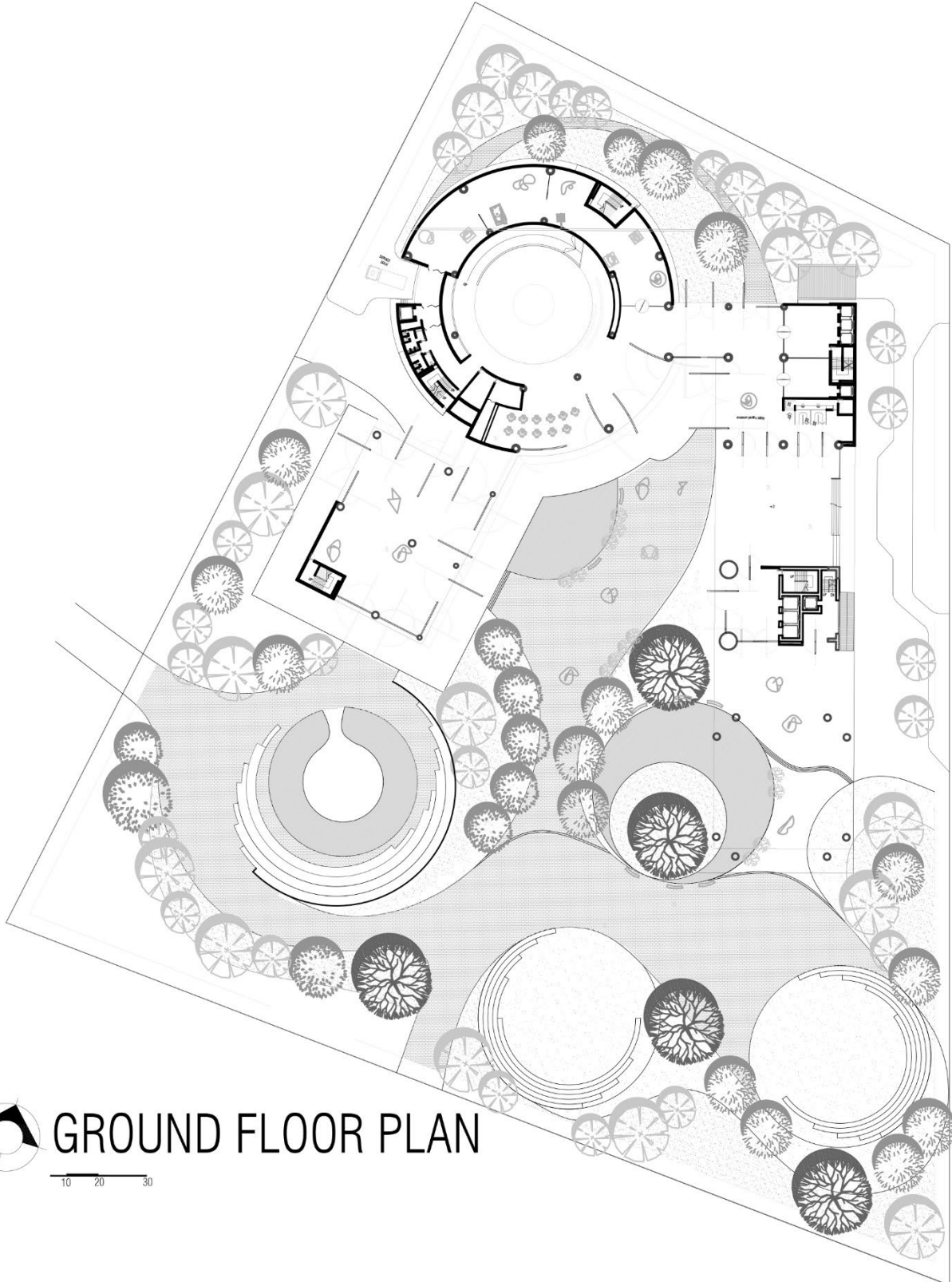
ROOF GARDEN



HYDROPONICS

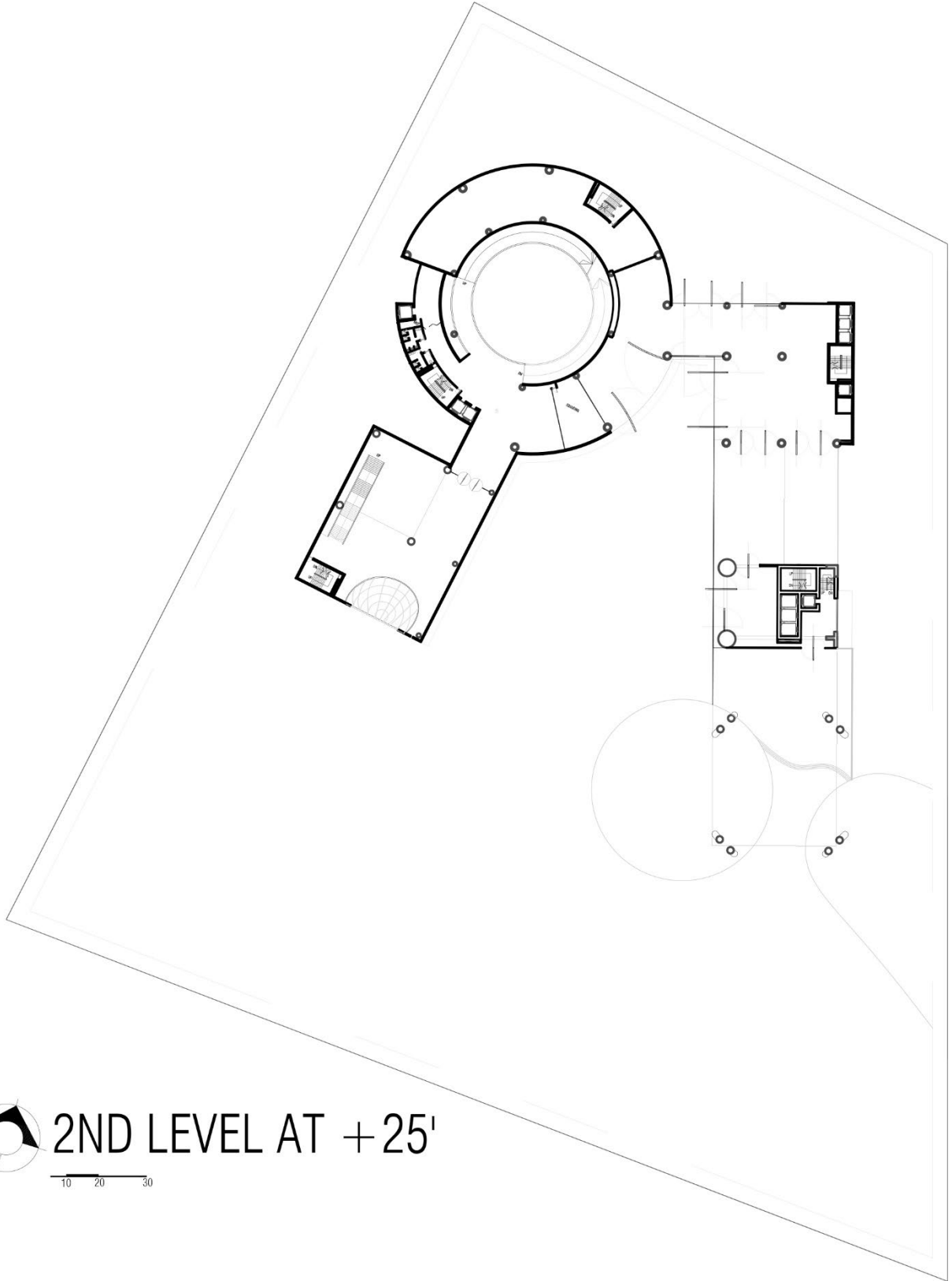


Chapter 7: Final Design



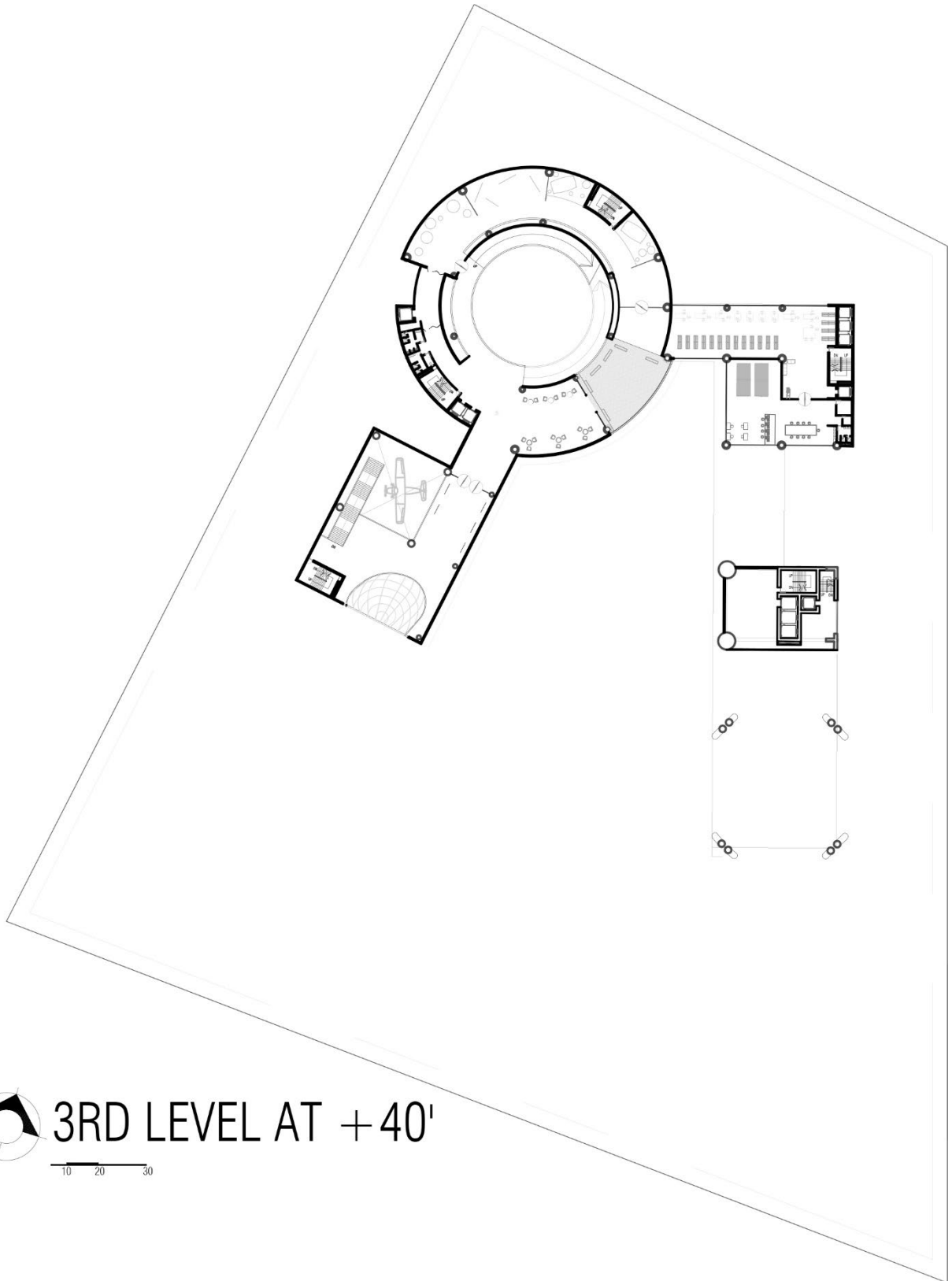
GROUND FLOOR PLAN

10 20 30



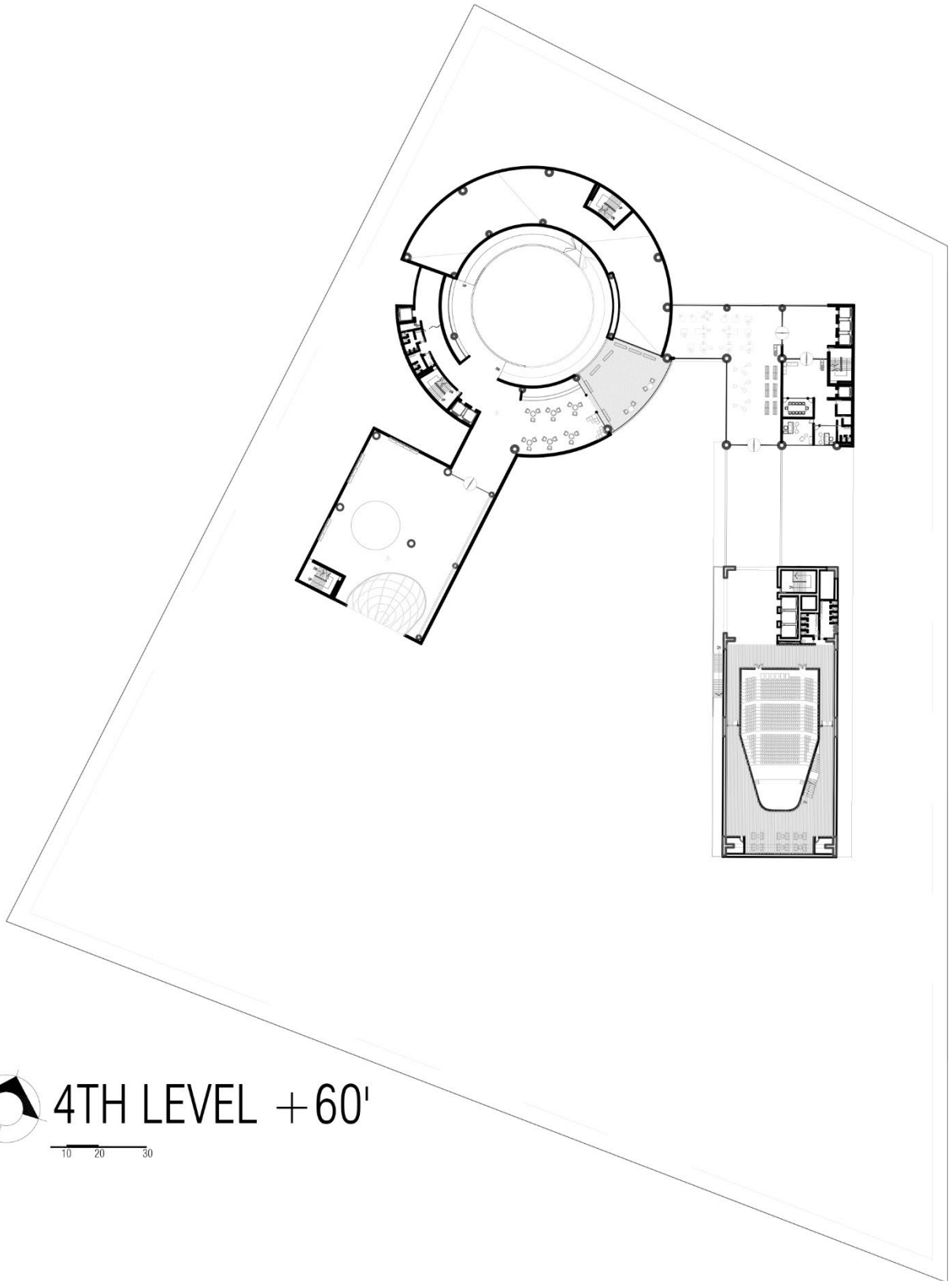
2ND LEVEL AT +25'

10 20 30



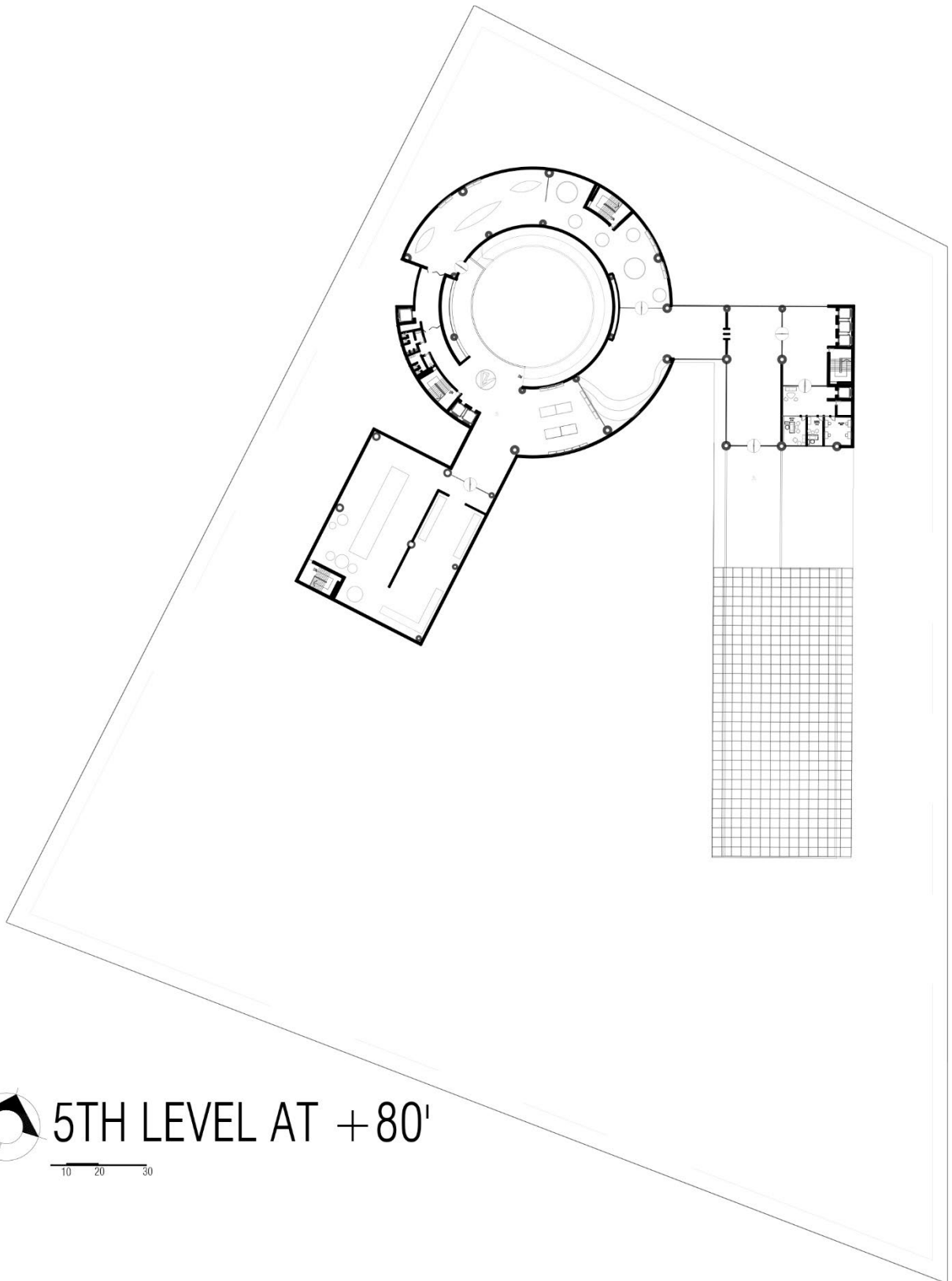
3RD LEVEL AT +40'

10 20 30



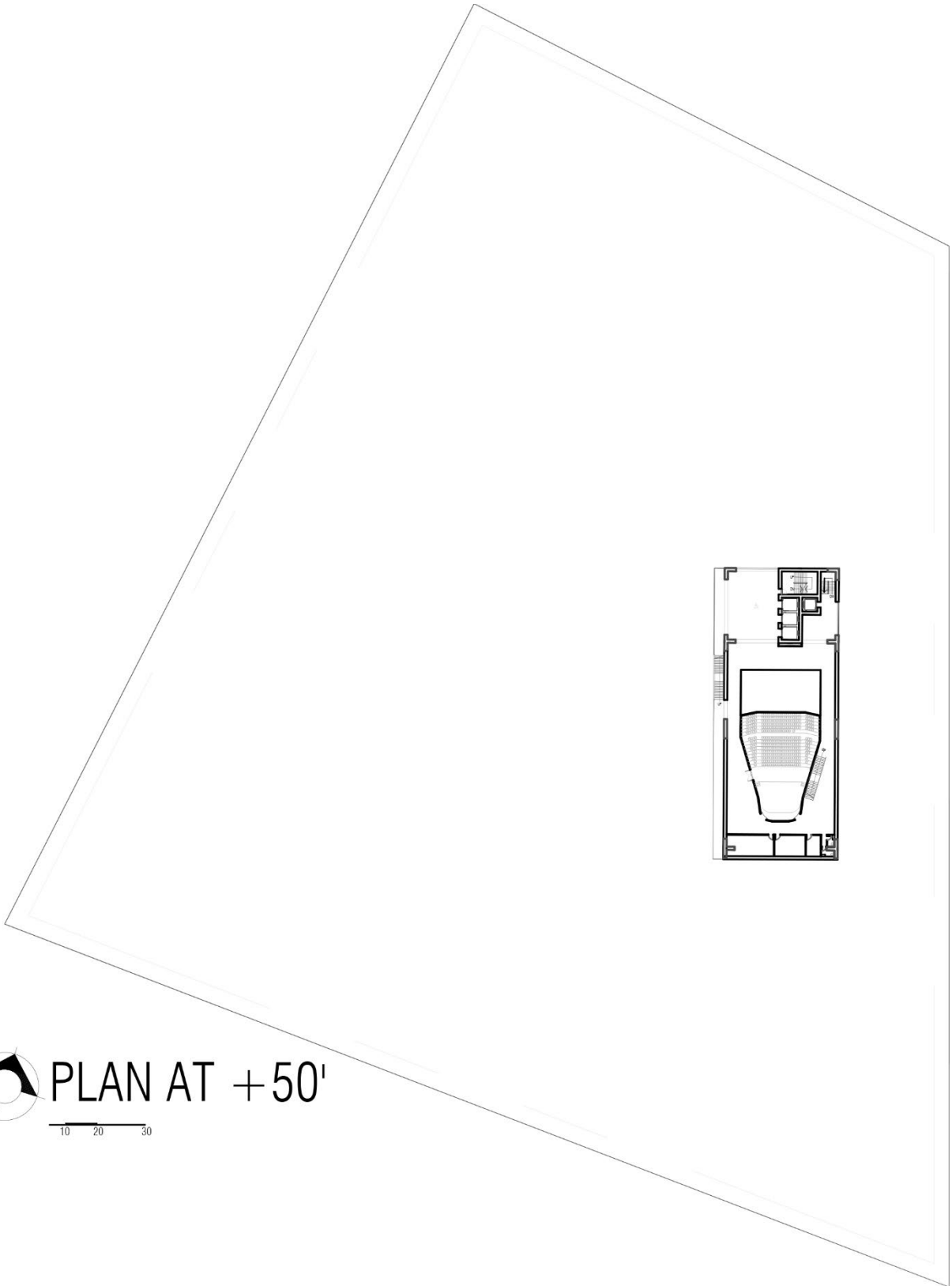
4TH LEVEL +60'

10 20 30



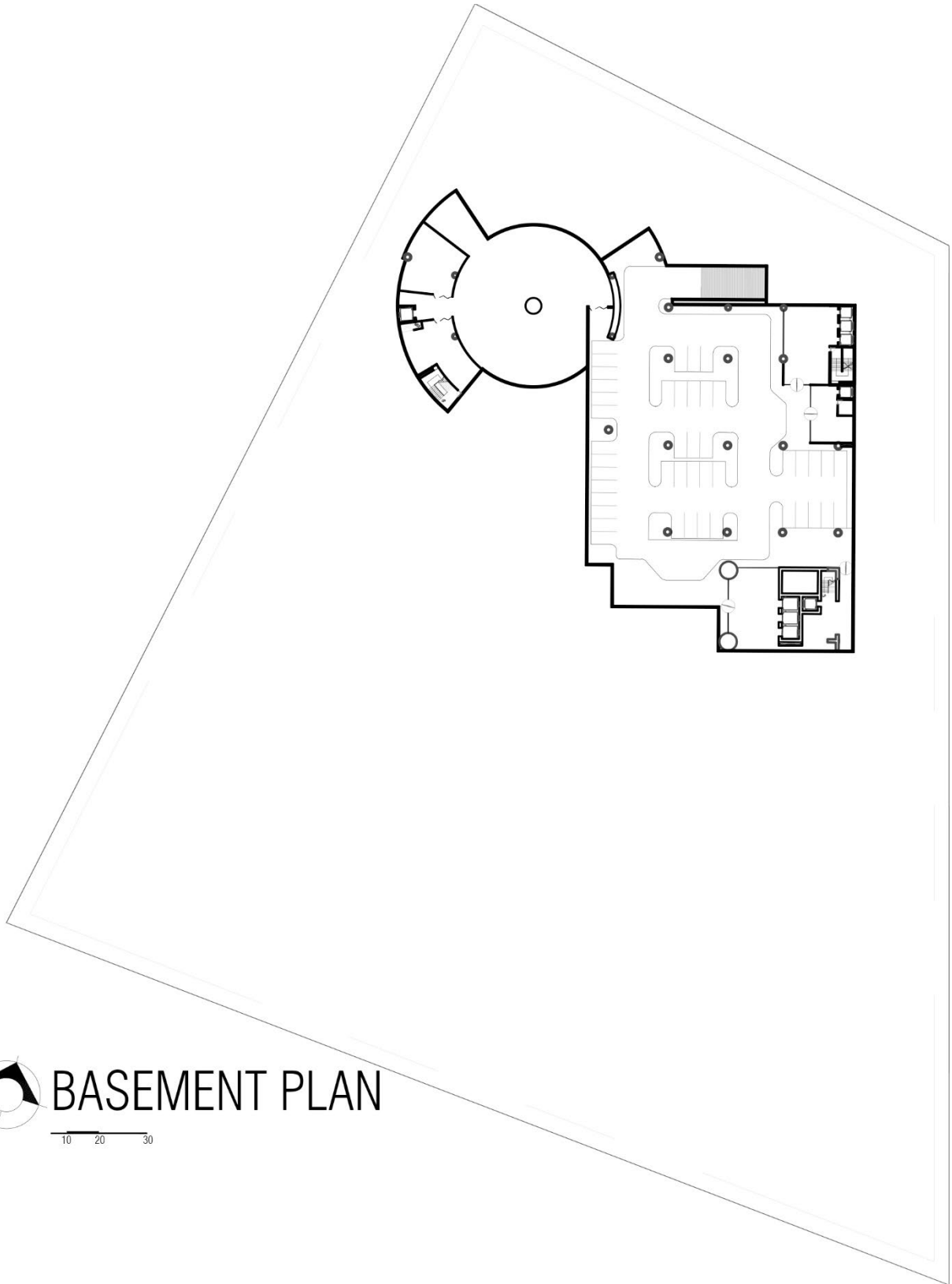
5TH LEVEL AT +80'

10 20 30



PLAN AT +50'

10 20 30



BASEMENT PLAN

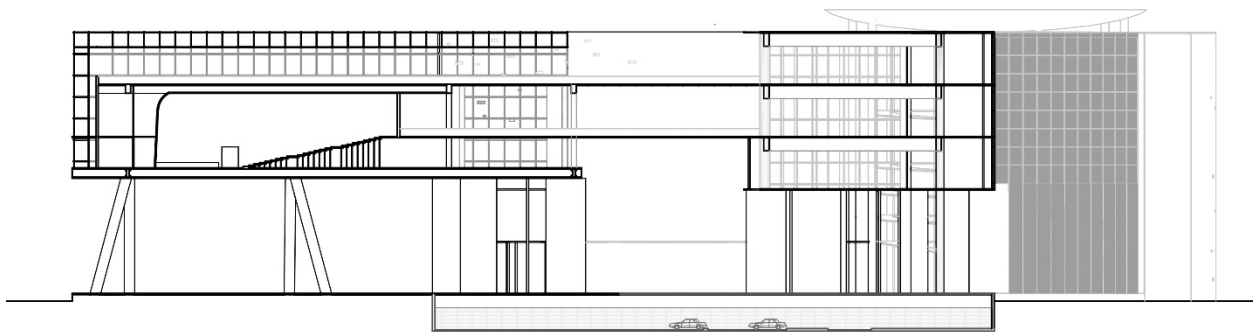
10 20 30

7.2 Sections



SECTION AA'

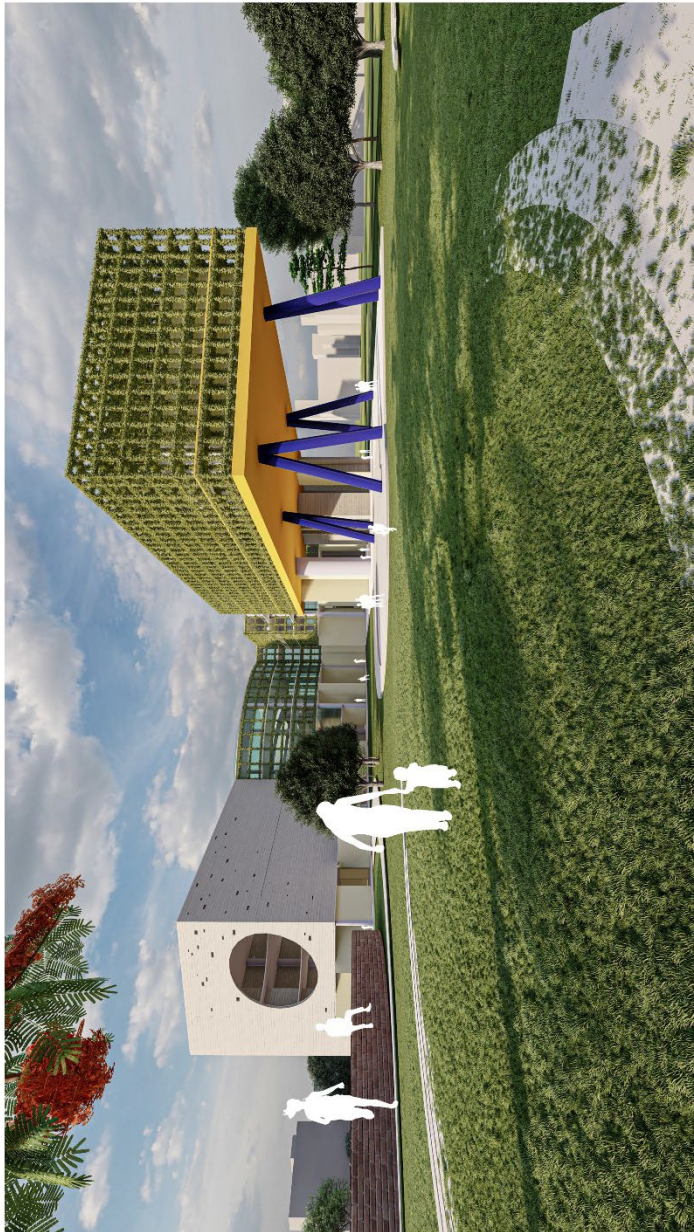
10 20 30



SECTION BB'

10 20 30

7.3 Renders



Chapter 8: Conclusion

The whole process of design along with the decisions that were taken into consideration are described in the previous chapters. This project will create a new dimension in museum design. It will be a place of knowledge and culture. People of different aspects of life will get a chance to gather up in a single space and exchange ideologies. It will turn its neighborhood into a space where Sylhet can be understood in a glance. However, the public oriented green design approach will open up window for more urban green spaces.

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