Local Government Engineering Department
Local Government Division
Ministry of Local Government, Rural Development & Co-operatives

FINAL REPORT for

Technical Assistance Project for

'My Village-My Town'

Feasibility/ Reviewing Studies on Community Space and Recreation Facilities at Upazila Level

Submitted by
VITTI STHAPATI BRINDO LTD.

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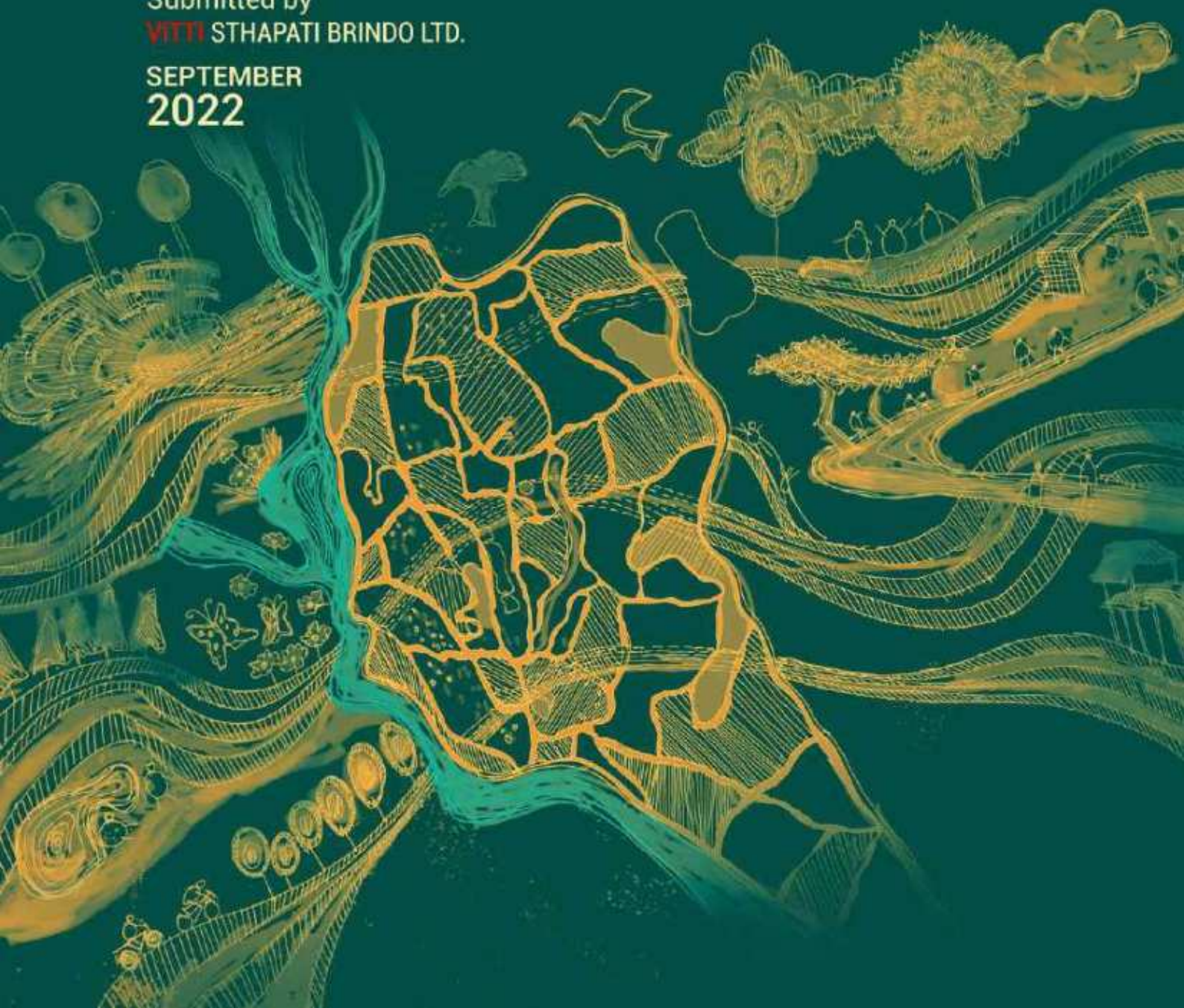

Feasibility/ Reviewing Studies on

Community Space and Recreation Facilities at Village Level under Technical Assistance Project for “My Village-My Town”

for Local Government Engineering Department (LGED).

(Package No. MVMT-S-17)

SEPTEMBER, 2022

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Table of Contents

List of Tables

List of Figures

List of Maps

Executive Summary

Village is a basic population unit of Bangladesh. In the 80s, there were 68 thousand villages in Bangladesh and now it has been estimated around 87 thousand. Village is not only the power hose of economic and cultural development of the country but also a prime source of food, nutrition, available workable manpower along with the reservoir of ecology and natural resources. Thus, the improvement of villages is crucial and planned efforts are needed to bring desired changes and facilitate graduation of Bangladesh as a middle-income country by 2021, achieve SDGs goals by 2030 and rebuild Bangladesh as a developed country by 2041 as vision by the Honorable Prime Minister Sheikh Hasina.

Honorable Prime Minister Sheikh Hasina's vision towards the village is to realize these by adopting and implementing a comprehensive plan. According to this vision, all modern civic amenities will be extended to the villages and simultaneously ecology and environment will be preserved. To enrich the natural, infrastructural and human resources of the rural areas, she stressed to follow an efficient and coordinated approach to transform villages as a center of prosperity and poverty- free, climate-resilient, the sustainable and dynamic economic hub of Bangladesh.

In this background, the extension of modern civic amenities in every village and making "My Village- My Town" reality has a number of challenges. To develop innovative solutions for the challenges LGED and DPHE did several in-house research and hosted a national workshop and after the workshop, a strategy and implementation plan has been developed to implement "My Village- My Town" countrywide. The strategy paper has recommended developing 30 guidelines, conduct 36 feasibility studies, and Pilot Village Investment Project to commence implementation within 2021.

The main objective of the assignment is to carry out the work for the Feasibility/ Reviewing Study on Community Spaces including Four Different Studies" under the Project "Technical assistance Project for My Village- My Town" which will be covering four major tasks regarding sustainable development and planning for setting up of different community spaces, parks at Upazila level.

This Final Report has been prepared as part of the requirements set out in the Terms of Reference under the project. The contents of the report are divided into eight chapters. Chapter one discusses the background and objectives of the study. Chapter two reviews the relevant acts, policies and documents. Chapter three provides a clear picture of the design development approach including case studies, design concept and design guidelines. Chapter four presents the Developed Design along with design typologies and its components and cost estimation. Chapter five analysis the study area and chapter six describe the site-specific design and estimated cost. Chapter seven presents sustainable management framework for operating and managing the community spaces and finally, chapter eight concludes the final report.

CHAPTER 1: INTRODUCTION

1.1. Background of the Study

Bangladesh lies in the northeastern part of South Asia and is bounded by India on the west, the north and the northeast, and Myanmar on the southeast and Bay of Bengal on the south.

Village is a basic unit of Bangladesh. In the 80s, Bangladesh has 68 thousand villages and now it has been estimated as around 87 thousand. Village is not only the power house of economic and cultural development of the country but also a prime source of food, nutrition, available workable manpower along with the reservoir of ecology and natural resources. Thus, the improvement of villages is crucial and planned efforts are needed to bring desired changes and facilitate graduation of Bangladesh as a middle-income country, achieve SDGs goals and rebuild Bangladesh as a developed country by 2041 as set by the Honorable Prime Minister.

The agenda of village development was one of the driving forces for the War of Independence of Bangladesh. Village was the center of development philosophy of the Father of the Nation Bangabandhu Sheikh Mujibur Rahman. To realize this vision, the Father of the Nation included article 16 in the constitution of Bangladesh which states ***"the State shall adopt effective measures to bring about radical transformation in the rural areas through the promotion of agriculture revolution, the provision of rural electrification, the development of cottage and other industries and the improvement of education, communications and public health, in those areas, so as progressively to remove the disparity in the standards of living between the urban and the rural areas."***

Honorable Prime Minister Sheikh Hasina's vision towards the village is to realize these by adopting and implementing a comprehensive plan. According to this vision, **all modern civic amenities will be extended to the** villages **and simultaneously ecology and environment will be preserved**. To enrich the natural, infrastructural and human resources of the rural areas, she stressed to follow an efficient and coordinated approach to transform villages as a center of prosperity and poverty-free, climate- resilient, the sustainable and dynamic economic hub of Bangladesh.

The villages of Bangladesh vary in size, shape as well as in population. There are villages that are various shapes such as circular, half-circular, square, rectangular, elliptical, straight lined, spotted,

L-shaped, Multi spotted, zigzag etc. The population also varies from 90 to 9000 in different villages. The size of the villages also varies similarly. Moreover, 87000 villages are positioned in different geographic areas of the country such as plain land, haor, char, beel, hills, coastal land, islands etc.

In this background, the extension of modern civic amenities in every village and making "My Village-My Town" reality has a number of challenges. To develop innovative solutions for the challenges LGED and DPHE did several in-house research and hosted a national workshop on 12 September 2019. A good number of reputed researchers, academicians, representatives from ministries, agencies, development partners, and representatives from the Institution of Engineers, Planners, and Architects participated in the workshop. After the workshop, a strategy and implementation plan has been developed to implement "My Village- My Town" countrywide. The strategy paper has recommended developing 30 guidelines, conduct 36 feasibility studies, and Pilot Village Investment Project to commence implementation within 2021. A major portion of the guidelines, feasibility study, and projects will be conducted and implemented by LGED and the rest will be implemented by DPHE.

Development of guidelines, conducting feasibility studies, and preparing specialized development projects requires some extra effort, specialized skill, and understanding as well as dedicated time. Therefore, the proposed technical assistance project has been developed to give the election manifesto commitment a firm base of anchorage that will gradually work to turn the commitment a reality.

1.2. Purpose of the Study

The main objective of the assignment is to carry out the work for the ***Feasibility/ Reviewing Study on Community Spaces including Four Different Studies" under the Project "Technical assistance Project for My Village- My Town" are*** following:

a. Increase availability of public spaces in rural areas and ensuring equal accessibility for the people of all ages, gender, people with differently able and social groups.
b. Develop mechanism to increase land availability for and ensure effective management of community space and recreational facilities in rural areas.
c. Inclusive design and planning outdoor recreational/games infrastructure to be used in Schools.
d. Review and contextualize best practices with regard to use and design of community space and also address cultural and social aspirations and differences (climatic, social, ethnographic etc.).

The Consultants have meticulously studied the scope of services as detailed in the "Terms of Reference" enclosed with the contract agreement for carrying out consultancy services, and found it comprehensive and understandable. The Consultants understand that in order to fulfill the objectives of the project, it is expected to carry out different activities set forth in the TOR, however, the nucleus or major components of the project is provided hereunder as a reference:

Task 1: Exploring the possibilities and potentialities to increase the stock of public spaces and community spaces

- Selection of one Upazila as case study with the discussion with PMO office and exploring the possibilities and potential spaces for public spaces
- Identifying the embankment areas of rivers and canals that are suitable for turning into public spaces
- Exploring the khash lands that are suitable for developing quality public spaces
- Development of guidelines and visual illustration (3-D) for protection of water channels and establishing a blue and green network in the Upazila
- Suggesting a mechanism for sustainable operation and maintenance

Task 2: Developing a framework on utilization/ management of community space on donated lands/ households at village level.

- Exploring current practices and behavior regarding community space use and recreation for different socio-economic groups (across gender, age, income, religion and ethnicity etc).
- Exploring ways of managing public space and pooling land from public and private sources.
- Selecting at least 3-4 case studies of land/building donation with the discussion with PMO office and finding an operational agreement/ mechanism for utilization of such donated properties as community spaces
- Develop sustainable framework of management for public/recreational spaces in donated/pooled land.

Task 3: Developing a number of models on using the durable outdoor games infrastructure in schools (using different volume ranges).

- Conduct case studies to identify the requirements of outdoor gaming infrastructure in schools and communities.
- Prepare several replicable designs of outdoor games infrastructure that present adequate variations and flexibility to fit under various physical, socio economic and climatic conditions.
- Develop a sustainable mechanism of operation and maintenance
- Prepare a database of schools and associated land for potential development.

Task 4: Planning for setting up of different community spaces, parks at Upazila level.

- Field level investigation in selected Upazila to find the interventions of various government agencies involved in creating of public spaces/ stadium/ auditorium, library etc. and identifying the gaps of sustainability and functionality
- Review of current policies and development activities (ongoing programs and projects) with regard to provision of public facilities in relevant agencies.
- Account for current behavior, requirements, opportunities and challenges with regard to use (or potential use) of community spaces.
- Inclusive architectural/ landscape design of youth recreation center, library, auditorium park as replicable sample

1.3. Structure of the Report

The Report is divided into Eight chapters. Chapter one discusses the background and objectives of the study. Chapter two reviews the relevant acts, policies and documents. Chapter three explores the possibilities and potentialities to increase the stock of public and community spaces. Chapter four provides a Policy Development related to Public Space which includes the definition of Public Space, the process of management for Public Spaces in Union Parishad, formation of a Preservation and Management Committee etc. Chapter five provides few practical examples and few conceptual models of public spaces with durable outdoor games infrastructure including the costing. Chapter six provides some conceptual framework for setting up of mini stadiums, parks in every Upazila

across the country with some illustrations, Chapter seven illustrates the site-specific design and cost and Chapter eight concludes the final report.

The following diagram intends to convey the structure of the report and how it organizes itself to fulfill the purpose of the final report with the support of the different sections included in it:

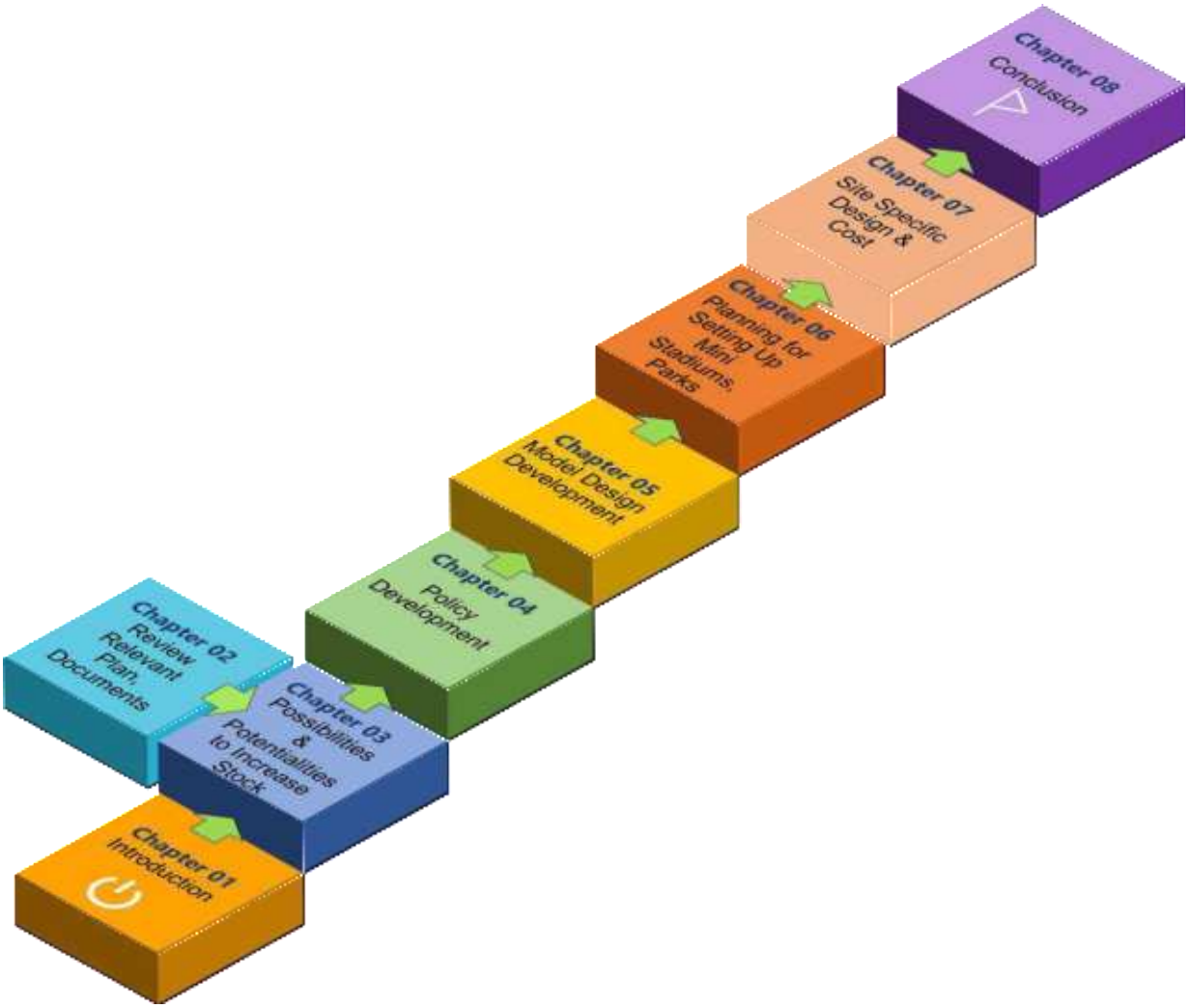


Figure 1.1: **Structure and Organization of Report**

CHAPTER 2: REVIEW OF RELEVANT LITERATURE

2.1. Background

Village is the lifeline of Bangladesh. At present there are 87,000 villages in Bangladesh. For the overall development of the country, the government is working to ensure the civic amenities of the cities in the villages by conserving the environment and nature. This section identifies and reviews existing laws and policies regarding public spaces and recreational areas in villages. A study by the Center for Law and Policy Affairs found that there is not enough recreational space in the municipalities of Bangladesh. Community recreation areas are closely linked to mental health and public health. At present about 8% of non-communicable diseases (heart disease, stroke, cancer, diabetes) die in Bangladesh. Exercise is an important factor in the prevention of all these diseases, which can be ensured through the place of recreation. Here the laws are based on the four principles of public health, environmental protection, right to recreation and equality.

2.2. Review of Relevant Legal Framework

There are a variety of legal instruments that are closely associated with public and community spaces, that is connected to entertainment of the citizen and environment of the area. Among them, the Constitution of Bangladesh and Local Government (Union Parishad) Act, 2009 are important ones. In the following sections, an overview of Constitutional Amenableness and Local Government (Union Parishad) Act, 2009 are discussed and the overview of other legal instruments are given.

2.2.1. Constitutional Amenableness

The Constitution of Bangladesh is our highest legal document. Article 15 of the Constitution calls for strong improvement in the material and cultural quality of life of the people, ensuring their right to proper rest, recreation and leisure. Article 16 of the constitution calls on the state to take effective measures to eliminate inequalities in the quality of life in rural and urban areas and to improve public health in rural areas. Article 16 (1) of the Constitution identifies the improvement of public health as one of the primary duties of the state. Article 16 (1) of the Constitution identifies the state as one of the primary duties of improving public health. Article 18 (ka) deals with the protection of the environment and biodiversity for present and future citizens, and Article 19 provides for equality of opportunity. The State has been given the responsibility to ensure equality of opportunity for all citizens.

My Village-My Town project, issues related to community-based public spaces and recreational facilities are discussed in a review of following laws and policies.

- The right of entertainment
- Public Health
- Environment and Nature Conservation
- Equality

2.2.2. Local Government (Union Parishad) Act, 2009

Local Government (Union Parishad) Act, 2009 is the law that is most closely associated with village level entertainment. The law does not explicitly state the creation of recreational areas. However, indirectly, environmental protection and public health have been mentioned. But these provisions are difficult to apply.

The powers, functions, etc. of the ward meeting are stated in the law, subject to the provisions of this law and in the prescribed manner the council has the right to advise the council to determine the location or area of the public health unit and other public welfare projects. Besides, responsibility has been given to create public awareness about cleanliness, environment protection, tree plantation and prevention of environmental pollution. Development, conservation, maintenance, etc. of rural infrastructure in the provisions relating to the formation of standing committee and its functions; Environmental development, environmental conservation and tree planting; Responsibility for culture and sports has been given.

2.2.3. Other legal instruments

As discussed earlier, issues related to exercise and sports are closely associated with public meeting places. This part of the article discusses the laws and policies in this regard. In 2013, the Department of Health and the World Health Organization (WHO) conducted an important research program on the topic. This analysis shows that there is ample opportunity to play a direct or indirect role in controlling non-communicable diseases through every existing law and policy. This policy briefing paper outlines 7 principles and 11 laws related to exercise in controlling non-communicable diseases. Existing laws and policies oblige organizations to ensure that the protection of public health, sports facilities, and recreation is a preventative measure. Preservation of playgrounds, open spaces, parks and natural reservoirs in all municipal areas of the country, including metropolitan areas, divisional cities and district municipalities, due to the urgent need to preserve infrastructure for exercise, environmental protection, quality control and accessibility. According to the Real Estate Development and Management Act 2010 and the existing law of the Urban Development Authority, there is an opportunity to create such opportunities.

Table 2.1: Relevant Plan and Policies regarding Public Spaces, Community and Recreation Facilities

Title	Description
National Health Policy 2011	Strategy 33 states that non-communicable diseases will be treated, prevented and rehabilitated in a coordinated manner. Initiatives will be taken to change the lifestyle along with awareness.
National Women Development Policy 2011	In the development of the girl child, special attention has been given to the needs of the girl child such as food, nutrition, health, education, sports, culture and non-discriminatory behavior in vocational training. Besides, it has been said to ensure the necessary rights for the proper development of the physical and mental health of the girl child.

Title	Description
National Child Policy 2011	In the chapter on child entertainment and cultural activities, steps will be taken to ensure quality recreational, sports and cultural activities for the child. Emphasis has been placed on the provision of playgrounds, play equipment, area-based children's parks for each school and inclusion of playgrounds for children in town planning. In the development of the girl child, special attention has been given to the needs of the girl child such as food, nutrition, health, education, sports, culture and non-discriminatory behavior in vocational training. Besides, it has been said to ensure the necessary rights for the proper development of the physical and mental health of the girl child.
National Education Policy 2010	Strategies to promote health and physical education include achieving the required criteria for participation in primary and secondary level public examinations, hiring trained teachers in physical education, conditions of playground for registration of new educational institutions, provision of physical education equipment in schools, introduction of indigenous sports and budget allocation. Done.
National Youth Policy 2017	To promote sports as a regular part of the main curriculum to ensure the physical and mental well-being of the youth.
Multidimensional plan for non-communicable disease control	The Department of Health has adopted a multidimensional plan for non-communicable disease control from 2016-2025. In this plan, it has been said that all the activities for physical exercise should be planned. 1. Adopt national policy on physical education. 2. Multidimensional policy aimed at increasing physical activity, where physical activity will be encouraged through travel, recreation, sports. 3. Working with urban planners to increase public space conducive to exercise. It is important to ensure safe walking and cycling facilities in urban housing. 4. Build eco-friendly infrastructure for school, university, workplace physical activity and physical activity 5. Increase publicity in the media and on social media about the benefits of exercise and physical activity. 6. Keep sidewalks suitable for pedestrian movement. 7. Create separate lanes for bicycles, open spaces like parks, lakes, ponds to encourage people to walk away from mechanical vehicles.
National Land Use Policy 2001	The main objective of the National Land Use Policy, 2001 is to ensure complete and proper use of land. Article 2 (gha) states the conservation of government khas land for future development activities. Article 3.6 mentions that lands outside the city are under the jurisdiction of Upazila Parishad. Article 13 states that for the interest of economic and social development activities of the country, it is necessary to first ensure full use of the entire land including playgrounds and then try to keep it to a minimum if additional land is required.
Non-Agricultural Khas Land Management and	According to this policy, khas land refers to only government khas lands that recorded in the name of the deputy commissioner. Other lands cannot be settled under this policy without the approval of the concerned

Title	Description
Settlement Policy, 1995	ministry. Section 3 (ka) states that non-agricultural khas land settlement will be given to any government department or organization as per government requirement subject to payment at market rate. Although the policy does not provide for the allocation of khas land for public space, recreational and sports activities, article 3 (da) states that roads, playgrounds, etc. used by the people with khas khatian records will not be allotted to anyone.
Govt. Circular Khasjami-1 Branch	There is no provision for providing non-agricultural khas land settlement at symbolic price in favor of projects for implementation of various development projects under the Non-Agricultural Khas Land Management and Settlement Policy, 1995. Pursuant to Article 3 (1), it has been stated that at the time of taking up any development project, allocation of money equal to the market value for settlement / acquisition / purchase / transfer of any land is required. The Ministry of Land has been asked to take appropriate measures for the provision of non-agricultural khas land at symbolic price in view of the logical request of the Ministry / Department in case of nationally important projects. In order to ensure maximum utilization of land, it has been suggested to take initiative to construct integrated buildings at the same place at district and upazila level.
Agricultural Khas Land Management and Settlement Policy, 1997	This policy states about the allocation of agricultural khas land for the landless. There is no mention of allocation of agricultural land in protecting public space and recreational facilities.
The Acquisition and Requisition of Immovable property Act, 2017	The law details about how the deputy commissioner will acquire real estate on behalf of the government. Pursuant to Section 4 (1), if any immovable property appears to the Deputy Commissioner in the public use or in the public interest, he is proposed to acquire the said property will issue notice at a convenient place near the property, in prescribed form and procedure. as per section 13, the acquired immovable property shall be vested in the Government without any liability and the Deputy Commissioner shall take possession of the said property and after the acquisition of any immovable property the Deputy Commissioner shall publish a notification in the prescribed Gazette within 90 (ninety) working days in the prescribed form.

Table 2.2: Relevant Acts and Rules regarding Public Spaces, Community and Recreation Facilities

Name of the Act	Description	Comments
Zila Parishad Act 2000	The Zila Parishad Act empowers the council to make regulations on various issues. Among them are exhibitions, competitive sports and public events and control issues.	The power of this law means that the district council can cooperate in organizing sports and work for the development of existing sports infrastructure.

Name of the Act	Description	Comments
Upzila Parishad Act 1998	Under this Act, the Upazila Parishad has been given the power to form standing committees on various issues at the Upazila level. The issues are communication and development of physical infrastructure; Agriculture and irrigation; Secondary and madrasa education; Primary and mass education; Health and family welfare; Youth and sports development; Women and child development; Social welfare; Environment and forest etc.	The power of this law means that the Upazila Parishad can cooperate in organizing sports and work for the development of existing sports infrastructure.
Local Government (Union Parishad) Act 2009	Under this Act, there are instructions to form more than one standing committee at the union level. The Education, Health and Family Planning, Culture and Sports Committee is one of them.	The power of this law is to provide budget for the citizens for walking and cycling, parks, swimming, field planning, construction of infrastructure and implementation of all these works.
National Sports Council Act 2018	Coordinating the development of sports and sports activities in the country as the responsibility of the council; Formulation and implementation of training and practice plans of sports organizations for participation in international sports competitions; Construction and maintenance of various sports facilities including stadiums, gymnasiums, swimming pools, playgrounds and training and practice centers; Arrange for proper training of athletes, coaches, referees, physios, nutritionists and sports physicians of all levels in the field of sports; Indigent athletes have been given the responsibility of providing financial assistance and assistance.	This organization can play an important role in ensuring increase in sports opportunities, exercise and facilities across the country.
Rights and Protection of Persons with Disabilities Act, 2013	Creating a movement environment for the disabled is the legal responsibility of the organization departments. The "accessibility" of this Act means the right of every person with disability to receive equal access and equal treatment in all facilities and services available to the public, including physical infrastructure, vehicles, communication, information, and information and communication technology. It is the responsibility of each organization to ensure easy access for persons with disabilities in each installation.	The provisions of this law have to be complied with to ensure easy access of persons with disabilities to the establishment of physical education.
Divisional Town and District Town's municipal	Playgrounds, open spaces, gardens and natural reservoirs in all municipal areas of the country including metropolitan, divisional	The law applies to the protection of playgrounds,

Name of the Act	Description	Comments
areas including country's all the municipal areas' playground, open space, park and natural water reservoir Conservation Act, 2000	cities and district towns may not be changed except in accordance with the provisions of this Act, playgrounds, open spaces, parks and natural reservoirs. Or such place may not be used in any other way or rented, leased or otherwise transferred for similar use.	open spaces, parks and natural reservoirs.
Public Park Act 1904	The Public Parks Act, 1904, gives the government the power to prohibit and control certain things in order to protect the environment of the park, the safety of the park and the preservation of the park.	This law is applicable for the safety and protection of public parks.
Waqf Ordinance, 1962	This Ordinance mentions all the powers of the administrator, responsibilities of the committee, management of waqf funds, punishment for violation of law. Section 2 (10) of the Waqf Ordinance, 1962 states that immovable or movable property by a religious person may be permanently sacrificed to any religious, religious or charitable purpose recognized under Muslim law or any donation made by a non-Muslim person for that purpose. Any immovable property belonging to the said Waqf State shall be registered in the name of Waqf in accordance with section 6(ka) and in this case**,** it will be represented in the name of Motawalli, caretaker or administrator. Under section 7 (1), the government will appoint a waqf administrator in Bangladesh who will be the chairperson of the waqf committee, which will be responsible for supervising all waqfs in Bangladesh. Under section 48, the administrator shall maintain a register containing all the information of the waqf**.**	
Waqf (Property Transfer & Development) Special Provisions Act, 2013	Section 4 describes the transfer method of Waqf Property as following: a) through Sales b) through Donations c) through Mortgage d) through Exchange e) by Lease and f) through Development Partnership basis. section 11, Transfer through Donation, whatever is different in section 5, no matter what any Waqf Property; any Waqf Estate or, not operated on a profit basis; donations may be made to religious, educational or public credit institutions. section 12 (1), transfer through development partnership basis can be made. section 13 (1), in case sales or more than 5 years' period of partnership basis development or by lease for Waqf property transfer, open tendering method must be done.	
Trust Act, 1882	This Act sets out how a trust will be managed and what will be its remedy in case of violation of the law. According to section 3 of the Trust Act, 1882, a trust is formed when a person declares his / her	

Name of the Act	Description	Comments
	trust in the immovable or movable property owned by him / her and / or for the benefit of others.	

2.2.4. The Directions of Court

Fields, parks and walks play an important role in protecting public health. His Excellency the Supreme Court has been playing a very important role in protecting the ground park. Following a writ petition filed in 2003 against the management of playgrounds and parks in Dhaka, the High Court directed the management of Dhaka playgrounds and parks.

Subsequently, in the wake of another writ case in the High Court, in 2014, the district administration was directed to protect all the fields, parks and canals in the country. In 2012, it directed to take necessary steps to stop the use of motorbikes on footpaths, and also directed to ensure Zebra crossing in all High Court areas. In another case, the Appellate Division prohibited RAJUK authorities from constructing allotted plots for land and parks and directed the citizens to develop the lands and parks by preserving them. Fields and parks in the city are being occupied despite court directives and existing laws.

2.2.5. Observations and Recommendations

Based on the literature reviewed above, the following observations are made.

- ✓ In Bangladesh, there is no specific law on the construction of recreational places or public spaces in villages.
- ✓ There is no provision for encouraging the provision of recreational space in the public interest.
- ✓ No program or activities or legal framework was found to create recreational space at the union level.

As the previous section shows that there is a small scope to increase the available stock of public and community spaces at rural level, the following recommendations are made.

- ➢ To formulate separate laws and policies for the maintenance of environment and nature in the village while creating recreational space.
- ➢ To actively consider the preservation of existing nature and animals in the village, which is important for human recreation, nature philosophy and mental space.
- ➢ Take necessary steps to encourage citizens to provide recreational space. Such as declaring all persons as socially special personalities to provide public gatherings and honoring their involvement in union level committee functions.

2.3. Review of a Relevant Master Plan

Generally, a Master Plan guides the development of an area. In this document, as an example, the proposals given by the Master Plan of a Paurashava has been examined. Monohardi Paurashava has been selected for this purpose.

2.3.1. Master Plan of Monohardi Paurashava

Master Plan of Monohardi Paurashava has been prepared following the pre-requisite of the Local Government (Paurashava) Act, 2009 guided by the LGED under Package-01 of the Upazila Towns Infrastructure Development Project (UTIDP). The Master Plan comprises of three tiers of plan in a hierarchical order which are: Structure Plan for 20 years, Urban Area Plan for 10 years and Ward Action Plan for 5 years. Urban Area Plan also comprises of three components namely; Land use plan, Traffic & Transportation Management plan and Drainage & Environmental Management Plan. This Master plan will serve as guidelines for the future infrastructure development of Monohardi Pourashava together with land use control and effective management of service facilities.

The Structure Plan sets out a long-term strategy; covering the twenty years from 2011 to 2031 for urban development and the use of land in the Paurashava Town as a whole. It extends to the entire area demarcated by the Consultant. The document sets out a series of policies to be pursued, if the broad objectives set for development of the Paurashava to be achieved. In the Structure Plan, around 148.1-acre core area, 258.7-acre fringe area, 60.0-acre new urban area and 110.4-acre peripheral area have been proposed.

The Urban Area Plan elaborates policies of the Structure Plan as far as they affect the area where urban development activity will be concentrated. The plan, therefore, is limited to the existing urban area and its immediate surroundings. It is for a period of ten years, covering the period from 2011 to 2021. In providing more detailed guidance available in the Structure Plan, it gives greater precision to the spatial dimension of the Structure Plan policies. The Urban Area Plan includes land use Plan (urban residential area 347.4-acre, circulation network 172.4-acre, education and research 33.8-acre, community facility 8.96 acre etc.), Traffic and Transportation Plan (around 60.8 km proposed road, two bus and one truck terminals), Drainage and Environmental Management Plan (around 57.2 km proposed drain) and Plan for urban Services.

The Ward Action Plan provides guidance for areas where major change or action is expected in the short-term (5 years). According to the individual Ward of the Paurashava, this plan provides further the policies and proposals of both the Structure Plan and Urban Area Plan in more detailed and guidance for the control, promotion and coordination of development.

2.3.2. Existing Land use

Existing land uses are categorized on the basis of functional activities performed in Monohardi Paurashava. From land use analysis it is found that the project area is rural in nature. Major built up part of the Paurashava area is being used for residential purpose. According to the land use survey of the study area, it has been ascertained that 347.44 acres (18.50%) of land is used as residential area. Commercial and Industrial use occupied 17.15 acres (0.91%) and acres 1.75 (0.09%) of land respectively. From the survey results, it is found that the Paurashava area is dominated by non-urban character. Mixed use occupied 2.60 acres (0.14%) of land. A large part of land which is a bulk of 1314.75 acres (69.99%) is occupied by the Agricultural land. Water bodies occupied 54.74 acres of

land (2.91%). Only 3.33 acres (0.18%) of land are used by community services and only 12.28 acres (0.65%) of land are being used for educational facilities. Most of the areas in the Paurashava are low land which needs sufficient earth filling to provide urban services. As a result, heavy construction cost is suggested to be considered to provide different urban facilities.

Only 0.184 acres of land area of Monohardi Paurashava is used as recreational facility. Some play grounds are there as recreational facilities in this Paurashava which is situated at Ward No 04.

2.3.3. Policies and Strategies for Social Amenities and Community Facilities

Monitoring the principal aspects of community facility provision in the Paurashava: Paurashava will co-operate in supplying information needs to pursue the policy. At a later stage, according to the needs of the population, the Paurashava can extend this policy to include contributions to meeting the needs such as identifying areas where demand is higher, identifying appropriate targets for provision, identifying sites and assisting in ensuring that any obstacles to the development of a site can be overcome. Until the Paurashava is in a position to devise policies which will make a positive contribution to ensuring that the supply of community facility provision is geared to the areas and the groups of the population most is need, it is recommended that the Paurashava pursue only two further policies, such as –

Assist with the identification and development of sites for public community facilities: Where needed, the Paurashava will work with the public agency responsible for the provision of community facilities to ensure that a suitable site is chosen and developed. In some instances, the Paurashava will play the lead role in the establishment of a public community facility. As an example, establishment of wholesale or retail markets to serve local communities.

Assist with the identification and development of sites for private sector community facilities: Where a private sector sponsor is encountering difficulties in providing a community facility, the Paurashava will also work with the sponsor to ensure that a suitable site is chosen and developed.

2.3.4. Required and Proposed Land Use in Urban Area Plan

(Open Space, Community Facilities and Recreational Facilities)

Open Space

Determination of Standard: The standard recommends 3 acres per 20000 populations for playground, 1 acre per 1000 population for park and 1 acre per 1000 population for Neighborhood Park.

Recommendation / Forecast: The study team recommended three play fields. At least one park is being recommended with minimum area 30.0 acres depending on availability of open land. Park with restaurant may be created on the land situated on the riverbank. Community forest and tourism development also prescribed without considering any standard. Amount of land for those components have been considered through discussion with the stakeholders.

Land Use Proposal: Total area estimated for this zone is 44.47 acres (2.44%).

Community Facilities

Community facilities include Community center, Graveyard/ Burial ground, Electric sub-station, Water supply pump, Post office, T&T office, public library, Eidgah, Mosque/Church/Temple, Police station, Police box/outpost, Fire service station, Waste disposal site, club, etc. Existing land under community facilities is 3.33 acres.

Determination of Standard: The standard suggests 1 acre per 20000 for the community center, Graveyard/ Burial ground and Eidgah. Again, 0.5 acre per 20,000 populations prescribed for Mosque/Church/Temple, Post office and T&T, 1 acre per 20,000 populations for Fire service station and 3–5 acres per Upazila Headquarters and police station.

Recommendation / Forecast: The study team recommends a new community center on one acre of land. Areas for Mosque/Church/Temple, Post office, Fire service station and T&T remain with existing areas.

Land Use Proposal: In total, 8.14 acres land (0.49% of the planning area) has been proposed for this purpose.

Recreational Facilities

Only 0.18 acres land is under recreational facility in the Paurashava.

Determination of Standard: According to the standard for recreational facilities, 1 acre of land is to be provided for every 20,000 population for cinema / theatre, 5 to 10 acres land for stadium / sports complex and 1.75 acres land per 10,000 populations for a shishu park. The study team has estimated 22254 populations for the planning area up to the year 2031. For this population total land required for cinema/theatre stands at (22254 / 20,000), means 1.1 acres land is being needed up to the year 2031, 10 acres for stadium and 3.4 acres for shishu park.

Recommendation / Forecast: The study team recommends a stadium / sports complex on 5.00 acres of land.

Land Use Proposal: About 0.19 acres area has been proposed in Monohardi Paurashava to provide recreational facilities.

CHAPTER 3: EXPLORING THE POSSIBILITIES AND POTENTIALITIES TO INCREASE THE STOCK OF PUBLIC AND COMMUNITY SPACES

3.1. Public and community spaces and their existing stock in Bangladesh

Public and Community Spaces are such kind of facilities that are accessible by everyone irrespective of age, sex and race. So, everything outside of human private property is roughly public. A public space is referred as a government-owned area outside of private ownership, not created for any financial or commercial purpose, where people of any age, caste and economic status can easily move, use and enjoy it without hindrance. These include gardens or parks, open spaces, playgrounds as well as river banks, lakes, ponds, green forests and roads. Roads are also very important public places.

Public and community places provide a variety of services including recreation, environment protection, space to be used during disaster etc. To a limited extent, government buildings which are open to the public, such as public libraries are also public spaces, although they tend to have restricted areas and greater limits upon use.

As the tenureship of land in Bangladesh is mostly private in nature, there is a lack in the stock of Public or Community spaces in Bangladesh. So, Government has given a step forward to explore the possibility of increasing the stock. Moreover, Honorable Prime Minister Sheikh Hasina urged to use every parcel of available land as our land resource is very limited.

In the Election Manifesto Awami League promised that, "Initiatives will be taken to provide every village with facilities of modern town". Besides, provision of recreational facilities was an important issue in the election manifesto. To ensure healthy recreation for the youths, one 'Youth Recreation Centre' was promised to be established in each Upazila, where there will be opportunities of different indoor games, mini cinema, library, multimedia center, literature and culture corner, mini theatre etc. Besides, one 'Youths Sports Complex' was supposed to be established in each district (Bangladesh Awami League, 2018). So, the issue of community and public spaces were sufficiently addressed in the election manifesto which is yet to be addressed.

There are a variety of lands which could be used as public spaces and community spaces. Following are the category of such lands.

3.2. Types of Lands Available for Using as Public and Community Spaces

3.2.1. Waqf Land

If a person gives up his property permanently by sacrificing his property for religious, charitable or sacred purposes and surrenders that property, then it will be considered as waqf.

The Waqf Validity Act was enacted in 1923 to legalize waqf. In 1934, the Bengal Waqf Act was enacted and under this act, the Waqf property was supervised and managed. Later in 1972 the Waqf

Ordinance was issued. Waqfs (amendment) Act, 2013 is the latest legal framework regarding Waqf Land under which such property is managed. The Waqf Administrator has an office under the Ministry of Religion to manage the Waqf property. The Deputy Commissioner has an important role in forming the steering committee and enlisting in the waqf.

According to the statistics, there are a total of 150,953 waqf estates in Bangladesh. Among them, 98,048 are registered, 45,608 are oral (unregistered) and 8,940 are practical. There are a total of 214585.46 acres of waqf property in Bangladesh out of which 200841.07 acres are agricultural land and 13634.39 acres are non-agricultural land. A recent survey shows that 1400 waqf properties in Bangladesh are being managed by waqf administrators. Mosques, madrasas, Eidgahs, cemeteries, orphanages, charitable clinics and religious festivals are being run from the income of the waqf organization. The waqf administration currently manages more than 1,500 mosques, 600 madrasas, 100 orphanages, five charitable clinics and welfare funds for new Muslims (Enayetullah, 2022).

According to section 11 and 12 of the Waqfs (Transfer and development of property) Act, 2013 Waqfs land could be transferred by donation or for development on a partnership basis. So, there are a potential of using this land for using as public and community spaces.

3.2.2. Khas Land

Sub-section 1 of section 76 of the State Acquisition and Tenancy Act of 1950 deals with khas land. The section states that if any land is vested to the Government and the lands are under the complete control of the Government, the Government may, in accordance with the procedure laid down by the Government, settle these lands or use them in any other way, are Khas land. So, Khas lands could be given to any authority following the appropriate procedure and hence, there is a scope to increase the bulk of Public and Community Space using this type of land.

There is an important issue in this regard. There are two types of Khas land, namely Agricultural and Non-Agricultural Khas land. According to the Agricultural Khas Land Management and Settlement Policy, 1997, those lands should be given to the landless people first. Besides, this type of land is closely linked with poverty and development, equality, food production and food security. So, this type of land should be avoided for such purpose.

According to the Non-agricultural Khas Land Management and Settlement Policy, 1995, these (Non-agricultural Khas Land) types of lands could be transferred to any government organizations to be used for government purpose. There are 2.07 million acres of Agricultural Khas Land and 1.78 million acres of Non-agricultural Khas Land in Bangladesh (Barkat, Suhrawardy, Shawaly, Hasan, & Rahman, 2020). So, Non-agricultural Khas Land should be the priority in increasing public and community space.

3.2.3. Roadside Unused Space or Vacant Land

Roads and Highways manages the land acquired mainly for building the National and Regional roads and highways. They have a provision of giving permission of using unused land under the "Land Use Policy of the Roads and Highways (RHD) Department, 2015. So, these types of lands could be used

for building Public and Community Space following appropriate procedure. Similarly, there are many organizations who constructs road within their jurisdiction (like LGED, City Corporation, Paurashava, Upazila Parishad, Union Parishad). Roadside unused spaces of these organizations could be used for such purpose as well.

3.2.4. Existing Playground of Various Types of Educational Institute

Most of the educational Institutes in rural area has a playground. Both of primary and secondary schools are managed by the governing bodies. The ministry of education and local government institutions has the control over the management of these institutes. Thus, the playgrounds of these educational institutes can be used as community space for designated time with the permission of concerned authority.

3.2.5. Different Government Institutional Land

Without the authorities listed above, there are various government organizations who have ample land which are currently not in use. There is no preventing legal obligation of using that land if any government organization wish to use them. As for example, Bangladesh Railway, BIWTA, Paurashava etc. have a lot of unused land which can be used as community space. in Bangladesh, there are ample examples of this kind.

3.2.6. Existing Public Space, Park, Eidgah and Rural Marketplace

Existing public space, park, Eidgah and rural marketplaces are being used as public spaces but in most of the cases, they are underutilized. They are supposed to be community and public spaces. So, utilizing them in a more fruitful manner should be a priority. As for example, the space for Eidgah or rural market place remains busy at certain time of the day. They could be designed in such a way which may increase the rate of utilization of such spaces.

3.2.7. Riverfront, Edge of Waterbodies and Ponds

Bangladesh has a huge number of waterbodies including river, khal, marshland, haor and ponds. As they are not designed, a lion's share of them is underutilized. If designed, these spaces could be used as public and community space. Most of the waterbodies listed above are owned by different government organizations and hence they could be used with prior permission from the concerned authorities. The waterbodies which are private in nature, could be used through mutual understanding. A draft policy guideline of such arrangements is detailed out in the following chapter.

3.2.8. Existing Libraries, Theatre or Cinema Halls

There are many public and private libraries, theatre and cinema halls in Bangladesh which have space but not designed and organized well. There were some 1,235 cinema halls in Bangladesh in 1998. In two decades, that number dropped to 120. Almost 1000 theatre and cinema halls are unused. Some of them are demolished. These can create new avenue if designed properly. These can support local theater groups, as well. Local cultural groups can arrange various cultural functions like singing

competition, drawing competition etc. Functions for senior citizens like reunion, old movie shows can also be arranged there.

3.2.9. Existing Playgrounds and Open Spaces of Community Clubs etc.

There are a lot of community clubs in Bangladesh. Among them, some of the community clubs has their own fields and playgrounds. They could be used too, to provide outdoor recreational facilities at rural level.

3.3. Findings

Though the stock of public and community space in rural area is larger than urban areas, there is serious lack in public and community space all over Bangladesh. The public and community spaces that are existing until today, are not properly designed which can bring maximum benefit to the citizens of the community. But there is a scope for upgrading the situation. If well planned and well designed, existing stock of available land can play a crucial role in promoting the situation. It will improve the environment, support the communities by providing recreational facilities, provide better services for people irrespective of age, sex and race, and importantly support the government to fulfil the promises of the government provided in the election manifesto.

Upzila/ District	Types- Land Tenureship \ Public/ Community Space			Public Courtyard (গণপ্রাঙ্গণ)	Public Centre (গণকেন্দ্র)	Open Space (গণপরিসর)	Outdoor Playscape (উন্মুক্ত খেলাধুলা)	Park (উদ্যান)	Riverfront (নদীতীর)	Waterfront (জলাধার)	Market Place (বাজারের স্থান)
				01	02	03	04	05	06	07	07
Upazila Name/ District Name	a	Waqf Land	Availability								
			Area								
			Location								
	b	Khas Land	Availability			√		√	√	√	√
			Area								
			Location								
	c	Vested Land	Availability								
			Area								
			Location								
	d	Donated Land	Availability								
			Area								
			Location								
	e	Institutional Land	Availability								
			Area								
			Location								
	f	Private Land	Availability								
			Area								
			Location								

Figure 3.1: **Sample Inventory of Identification of Public and Community Spaces at Upazila Level**

CHAPTER-4: DEVELOPMENT OF A FRAMEWORK ON UTILIZATION/ MANAGEMENT OF COMMUNITY SPACE ON DONATED LANDS/ HOUSEHOLDS AT VILLAGE LEVEL

The government has adopted My Village My Town program to improve the living standards of the people of the village. Under this program, plans have been taken to create public meeting place, recreation, community space and open space for the people of the village. Social meeting place, recreation, exercise, and open spaces are important for both mental health and physical well-being. But due to various reasons, the number of community space for public gatherings, recreation, exercise and open space in the village is decreasing day by day. In this situation, it is the high time to think of a policy for the purpose of preserving and increasing the stock of public meeting places at village level.

4.1. Existing Policy for Utilization of public and community space and Policy Gap

Increasing the stock of public spaces and community spaces is the preliminary task of providing a sustainable environment for the inhabitants of a locality. Rather, it is important to develop a framework for its governance. A public space may be created at a land provided by both government or private owner and consequently, every public and community space require a policy guideline for its governance.

Section 51 of Local Government (Union Parishad) Act, 2009 has a provision under which a person can donate a land to Union Parishad. Government too, can transfer land to the Union Parishad within its jurisdiction in accordance with the relevant laws or regulations and such transferred property shall remain under Union Parishad's control (Section 52). But, there is no policy framework for utilization of that land to be used as public and community space.

In this backdrop, a draft policy guideline for managing such properties (to be used as public and community space) has been prepared. It is assumed that, as a local government institution, the Union Parishads will take the lead in governing such spaces. Government may impose the following guideline as a guiding principle for governing of such spaces. The guideline is given below.

4.2. A Draft Policy Related to Public Space

Content:

7. Guidelines for the management and maintenance of public space
8. Activities in Public Spaces
9. Budget and finance
10. Effectiveness and Removal of ambiguity

1. Introduction

i. Article 15 of the Constitution of Bangladesh calls for strong improvement in the physical and cultural quality of life of the people, ensuring their right to reasonable rest, recreation and leisure. Article 16 of the Constitution calls for the state to take effective measures to eliminate inequalities in the quality of life in rural and urban areas and for the development of public welfare in rural areas.

ii. Every year 572,600 people in Bangladesh die due to non-communicable diseases like diabetes, heart disease, stroke, cancer, which is 67% of the total deaths in the country and about 22% of these deaths are premature deaths. People suffer for a long time from non-communicable diseases, which harms the individual and the family physically and financially. This premature death can be prevented by having a healthy diet, exercising, controlling the use of tobacco and environmental pollution.

iii. People in Bangladesh do not exercise enough. According to Bangladesh NCD Risk Factor Survey of 2018, 29.13% of the population is not exercising as recommended by the World Health Organization (The World Health Organization recommends 150 minutes of endless sweating per week). On the other hand, in 2016, 20.5% of the adult population in the country (25.1% women and 16.0% men) were suffering from overweight problem. About 26% of the people in our country do not get enough exercise and 13% of men and 22% of women are overweight. In 1980, overweight was a problem for 7% of adults and 3% of children on the total population of Bangladesh. In 2013, it increased to 17% for adults and 4.5% for children. In addition, 18% of married women are overweight.

iv. Unconsciousness and a lack of adequate investment have not yet made the world a better place to expand bodybuilding opportunities. With the goal of reducing inadequate physical activity by 15% within 2030, the World Health Organization (WHO) has formulated a comprehensive plan named 'Global action plan on physical activity 2018-2030'. It is important to take integrated planned steps to create opportunities for exercise.

v. The government has adopted 'My Village-My Town' project to improve the living standards of the people of the village. Under this project, there is a plan to create public gatherings, recreation, exercise and open space for the people of the village.

vi. Public gatherings, recreation, exercise, and open spaces are important for mental well-being and physical well-being. Due to various reasons, the number of public gatherings, recreation, exercise and open space in the village is decreasing day by day. Therefore, this document has been formulated for preserving and increasing the number of public gathering places at the village level.

2. Public Spaces

i. 'Grameen Gana Parishad/ Public/ Community Space' means public recreation areas, fields, parks, open spaces, ponds, reservoirs, places for sports, exercise and physical activity and open spaces used by the people collectively.

3. Developing Public Spaces in Union parishads and Preservation Committee

i. The Deputy Commissioners will form a following standing committee in each Upazila to create and preserve the public spaces at the village level.

A. Upazila Nirbahi Officer (UNO) - President
B. Upazila Education Officer - Member
C. Upazila Health Education Officer - Member
D. Union Land Assistant Officer - Member
E. Union Chairman - Member
F. Assistant Commissioner (Land)- Member Secretary

ii. The activities of Public Spaces in Union parishads and Preservation Committee will be as follows:

A. Making a list of the existing public, private spaces. Storing information about the amount of such places, existing condition, type of use, etc.
B. To determine the needs and possibilities of creating public space in each ward in Union Parishad area.
C. To take overall steps to provide settlement for creation of state khas land (agriculture and non-agricultural) as public space.
D. If necessary, identify unused lands of other organizations and obtain and arrange permits for permanent / temporary use as public places.
E. Encourage Union Parishads, Zila Parishads, Upazila Parishads, villagers to provide private land for conservation of public spaces and environment.
F. Provide overall assistance to the Union Parishad in the purchase and development of land in relevant matters.
G. Ensuring environment by preserving social norms in creating an environment for women's exercise and physical labor in the union
H. Ensuring that the public spaces are not under the control of any particular person, group or organization.
I. Ensuring guidance of existing policies in development of public spaces and participation of local citizens including protection of environment.
J. To take steps for the preservation, reform and development of public space in the Union.
K. Any other responsibility assigned by the government.

4. Donation of land for Public Spaces of the citizens

i. Union public meeting places, development of open spaces, members of the Conservation Committee will provide regular campaigns and incentives to the citizens to donate their unused non-agricultural land.
ii. The benefactor has to donate the land to the Union Parishad.
iii. Such land will never be used other than the purpose described in this policy.
iv. Dignity of land donor for public space

A. Citizens who donate their land for recreation will be identified as Social Important Persons (SIPs).
B. The Social Important Person (SIP) will be in all events of Union Parishad / Upazila Parishad.

C. The person donating the land and in his absence his successor or their representative will be a member of the donated public area management committee.
D. If the donor wishes, he can name the public premises after him.
E. In the absence of the land donor, one of his heirs will inherit the same status.

5. Conservation of Environment and Biodiversity

i. Abandoned lands / shrubs inhabited by reservoirs, forests, wildlife will not be identified or allotted for public space.
ii. No land will be allocated / used / developed in such a way that the environment is destroyed or damaged.
iii. No public recreation areas will be destroyed or shrunk through permanent installations
iv. No Public space will be identified in violation of Environmental Protection Act 1995, Wildlife (Conservation and Security) Act, 2012, Bangladesh Water Act, 2013 or any other law

6. Public Spaces Management Committee

i. The Union Parishad Chairman will form a public place management committee and make each member of the union council as the president of that committee.
ii. A committee of not more than 9 members will be formed consisting of local sports organizers, athletes, social and cultural activists, teachers, media, youth organizations, women organizers. The composition of the committee can be as follow:

A. Concerned Ward Member	**- Chairperson**
B. Donor of the land	**- Member**
C. Children Representative (upto 12 years) residing in the ward	**- Members**
D. Women Representative residing in the ward	**- Members**
E. Disable People Representative residing in the ward	**- Members**
F. Young People Representative residing in the ward	**- Members**
G. Civil Society Representative residing in the ward	**- Members**
H. Representative from poor community	**- Member**
I. Secretary of Union Parishad	**- Member Secretary**

iii. Tobacco users, smokers and drug addicted person will not be considered eligible as members of the committee.
iv. The person giving land as public spaces will be an ex officio member of this committee.
v. The Public Space Management Committee shall conduct the proceedings following the guidelines laid down in Policy (7)
vi. The Union parishad will monitor the Standing Committee for Culture and Sports according to Union Parishad Act-2009 and will make recommendations on the work to be done and present them in the meeting of the council

7. Guidelines for the management and maintenance of public space

i. Public recreation areas will be reserved for activities like sports, exercise, gymnastics etc. For any other type of event, the public meeting place for sports, exercise, exercise, etc. will not be closed. However, this obligation will not be applicable in case of disaster and state needs

ii. Public recreation areas may not be rented or used for commercial purposes.
iii. Existing forests, fruits, medicinal plants, herbs, grasses, flowers etc. that have existence in approved design of parks and playgrounds can be regularly maintained.
iv. It is important to ensure that the recreational area of the people maintains the highest natural environment.
v. Necessary arrangements can be made to keep the power lines, uninterrupted supply system and other electrical equipment in place of public recreation through regular maintenance.
vi. Regular cleaning of parks and playgrounds should be conducted and arrangements should be ensured for proper disposal of solid waste.
vii. Toilets (washing centers) can be provided in public places if required and cleanliness must be ensured
viii. Arrangements should be made to maintain a safe environment for visitors or park and playground users
ix. Public spaces will not be used for any purpose such as destroying the individualism of the premises or causing infrastructural damage.
x. No permanent infrastructure will be built by occupying the playground.
xi. The public recreation area management committee will be able to take necessary decisions as per the need. However, if it is in any way contrary to the provisions of this policy, it will be considered void.
xii. The government / district administration will be able to provide guidelines on public place management if required.
xiii. No person may be barred from entering these institutions due to race, religion, caste, occupation or social status.
xiv. It must be ensured that women, people with disabilities and the elderly can easily enter and participate.
xv. If there is any obstacle or need in conducting the existing activities, the chairman of the union will present id to the 'Developing Public Spaces in Union parishads and Preservation Committee' to resolve the issue.

7.1 Time span of the public space

i. As the supply of public or community space is very limited, it would be better if all of the lands available for various time spans could be used. Since land can be available for different spans of time, i.e: short, mid or long term, these complexes should also incorporate temporal flexibility in design.
ii. If a land is available for a short time (say 6- 12 months), material or design considerations would be based on this duration/ time span factor
iii. If a land is available for a longer time (say 1-5 years), more durable material could be used for planning, design and construction.

7.2 Opening Schedule for using the public space

iv. There will be a specified schedule for public use. The time will be determined by the Public Area Management Committee. However, public use will be open from sunrise to 08.00 pm. Access to public space will be reserved at times other than the above.

v. Notices regarding access to the park and playground should be posted at all entrances for the specified period of the "Management Committee" for public renovation work

7.3 Use

vi. Appropriate use of designated space should be ensured as per approved design of public spaces.

vii. Public spaces cannot be used for any purpose such as destroying the individuality of the premises or causing infrastructural damage

viii. Public spaces cannot be used or facilitated in exchange for money without approval.

7.4 Cleanliness and waste management

i. Sufficient number of cleaners should be employed to conduct regular cleaning activities and to remove solid waste properly from Public Spaces.

ii. Garbage containers should be disposed of at the end of shift and kept in proper place by the cleaning staff.

iii. Proper use with all facilities should be ensured by cleaning every toilet (washing center) by every hour break.

7.5 Safety

i. There must be a certain number of security personnel / arrangements in public spaces to maintain a safe environment for users and provide them with security.

ii. Public Management Committee will ensure appropriate clothing and tools (sticks, bamboo or flutes) for security guards at the time of their duty.

8. Activities in Public Spaces

i. These facilities can be used for sports, exercise, walking, exercise, running, swimming, social and cultural events.

ii. Sports, bodybuilding, walking, exercise, running, swimming or other indigenous sports will be given priority.

iii. Local children, adolescents, youth and individuals will be given priority in the recreation areas of the people of the Union.

iv. The public recreation area management committee will be able to make special arrangements for women's exercise. Or reserved for women at certain times.

v. Gambling, betting and any such activities like housing are strictly prohibited

9. Budget and finance

i. Local people will be able to collect donations from organizations for the management of public recreation areas. However, the money must be spent through a bank account approved at the meeting of the Union Parishad.

ii. Money from Individuals and organizations selling drugs, tobacco, unhealthy beverages or products may not be received directly or indirectly.

10. Effectiveness and Removal of ambiguity

i. In case of any ambiguity regarding this policy, the Chairman of the Union Parishad will take written instructions from the District Administration / Upazila Executive.

This policy will be effective immediately.

4.3. Findings and Recommendation

Local Government (Union Parishad) act has given local government the power of gaining and maintaining land. The source of such land may be both public and private. It is important to understand that there is a dire need for all LGIs to provide services and facilities to its citizens. However, at present, there exists no policy framework to guide the LGIs with regard to gain, implement and monitor such land as public and community space. Given that, the said document will serve that purpose.

CHAPTER-5: DEVELOPING A NUMBER OF MODELS OF DURABLE OUTDOOR GAMES INFRASTRUCTURE IN SCHOOLS

Outdoor games are undoubtedly beneficial for health. There is numerous evidence of positive correlation between health and physical activity. Using cross-sectional studies Bize, et.al. showed that, there is a consistently positive association between self-reported physical activity and health-related quality of life (Bize, Johnson, & Plotnikoff, 2007). Mental health scores are higher and depression scores are lower with increased physical activity (Brown, Ford, Burton, Marshall, & Dobson, 2005). It is evident that physical activity enhances the feelings of well-being in various population groups (World Health Organization, 2004). Outdoor games usually take place in public and community space which help make communities livable for people of all ages. They are spaces that belong to everyone, regardless of age, gender, ethnicity, religion or income.

Outdoor games advances child's problem-solving abilities and initiates creative thinking among them. It also develops social skills in them and encourages listening habits when they interact with their friends. Gradually their communication and behavior skills develop. Haug, et.al. examined the association between physical environmental characteristics and the students' participation in daily physical activity during school breaks. They found that, the rate of daily recess physical activity together is low, when the facilities available are few for students in secondary schools (Haug, Torsheim, Sallis, & Samdal, 2008). They suggested for improvements of the situation. It is to be noted that, all over the world provision of health-promoting services such as parks and recreational facilities are found to be reduced in areas of economic and social deprivation (McNeill, Kreuter, & Subramanian, 2006). Bangladesh is not an exception. Being disadvantaged, the rural areas including schools are suffering from lack of such facilities.

In the manifesto of last election, among others commitment, the present government committed to **"Create Community Space and Recreational Facilities for People of All Ages at Upazila level".**

Keeping all of these in mind, the initiative of developing outdoor games infrastructure in schools has been thought. The infrastructures will provide cost effective and durable solutions which will benefit the users across age groups.

The size, capacity and facilities available at the schools or elsewhere in rural areas of Bangladesh has a wide variation. So, a single model would not be enough to fit in or replicate at those wide variations. Nevertheless, an attempt has been made in the following section which will provide a conceptual framework for building/installing durable outdoor games infrastructure in schools. In addition, this section will provide a methodology of thinking for building such type of facilities including sufficient number of illustrations. At the end of this report, Annex 3 will provide a step-by-step guide for providing/ designing community space and recreation facilities at village Level.

Figure 5.1: Benefit of Quality Public Spaces

In a nutshell, public space and outdoor games provides the following benefits:

- *IMPROVE PHYSICAL HEALTH:* Community space and recreational facility help raise the physical activity levels of users, reduce their obesity rates, increase vitamin D levels and improve blood pressure, bone density and cardiorespiratory fitness.
- *PROVIDE MENTAL HEALTH BENEFITS:* Access to such space and natural areas has been shown to reduce stress, anger and aggression; improve coping abilities; lessen social isolation; enhance relationship skills; and improve cognitive function. For children, learning in natural environments can boost reading, math, science and social studies skills. Time spent in quality outdoor spaces can enhance creativity and problem-solving; reduce hyperactivity; and improve focus, attention and behavior.
- *CREATE CLEANER AIR AND WATER:* Community space, recreational facility, green spaces and trees play a vital role in overall ecosystem health by reducing storm water runoff and absorbing pollutants.
- *ENHANCE COMMUNITY CONNECTIONS:* Great and successful public spaces build community pride, bring people together, and increase civic engagement and the sense of belonging.
- *ADD VALUE AND SAVE MONEY:* Across the city, the community spaces and recreational facility provide both direct economic value and cost saving benefits to municipalities. The impact is seen

and can be measured by looking at factors like; Increased property values (which bring increased tax revenue); Recreational facility related spending by users and tourists and a sense of community cohesion (which, by building social bonds, can help prevent problems that would otherwise incur costs for law enforcement or fire protection)

5.1. Outdoor Games Infrastructure

Outdoor games are typically those which must be played outside, or they require a large area. The most important consideration in this regard is that, a large playground can be designed in such a way where a single play field can be used by different age groups of people for recreational purposes. Equipment used in most outside games may be creatively designed to accommodate a large variety of activities. Another important thing is that, these facilities can be provided at any place where there is a scope and not limited to the schools.

There are a lot of considerations for designing such a facility. There should have some guiding principles for designing them. The following section will give a detailed idea regarding the guiding principles for designing such a facility.

5.2. Guiding Principles for Designing Outdoor Recreational Facilities

Good public space (including provision of outdoor games infrastructure in schools) management goes beyond routine maintenance, such as emptying trash cans and repairing works. The first step for any county, city, town or neighborhood that's looking to improve its community space or build new ones is to take a holistic view of what a community space is and what different stakeholder can and should be doing. That means, looking strategically at existing assets, how to connect the community to those assets and how to identify potential new resources that can create opportunities for interaction. In all of these strategies, employing a focus on creativity- paired with bringing diverse user groups together. So, during designing the public or community space, following issues should be considered.

5.2.1. Sustainability of Community Space or Recreational Facilities

Sustainability should be considered first while designing a public or community space. Usually, sustainability criteria include environmental, economic and social dimension. In a nutshell, following issues should be considered.

i. Equity

Social inequality, economic inequality, gender inequality is some of the issues faced by the population through spatial segregation of the population. Economic inequalities are often seen that concentrate wealth and poverty through segregation of resources, limiting access to goods and service. A sustainable approach should tackle these inequalities and provide equal opportunities for all citizens.

ii. Adaptability and Scalability

The infrastructure for the community space and recreational facilities should be developed for the growing needs and economic background of the region. Facilities should be affordable, economical, inclusive and should be adequately designed to respect the culture, context, and environment. Infrastructure should aim to be light on earth and should utilize alternative material, technique as well as the renewable resource of energy. System should be adaptable with further scalability potential.

iii. Ecosystem

Ecosystem conservation within the capacity of land use is not only important for the ecological biodiversity but also to provide clean air, reduced temperatures, drainage, and flood control. A good balance and symbiotic relationship between built-environment and ecosystem ensures recreational locations for the citizens. Maintaining a balance ecosystem is very important for sustainability resource.

iv. Pollution

Since the industrial revolution, air, and water pollution in cities has increased exponentially. Cities contribute to 55% of total world pollution (World Bank, 2022) and are major contributors to waste generation. To curb this, new development needs to be designed to reduce greenhouse gas emissions, amount of waste generated & switch to cleaner resources. Program should encourage using local material, low energy consumption, alternative construction method, adopting technology that could reduce energy demand & emission of various harmful particulates.

v. Resilience

Resilience is the ability of the built environment and facilities to safeguard the population & survive during times of stress, shocks, and disasters. Also defined as "measurable ability of any urban or rural system, with its in habitants, to maintain continuity through all shocks & stresses, while positively adopting & transforming towards sustainability." Resilience building among the community, its infrastructure & disaster risk reduction will lead to a better life & prosperity for people. The resilience should achieve through community participation, better planning, and responsive facilities in times of disaster.

vi. Community Engagement

Community engagement involves Informing (letting the community know the basic information); Consulting (asking community members for advice); Involving (working directly with community members to provide input); Collaborating (partnering with community members in each part of the project); and Empowering (final decision-making that is created by community members). Building relationships with people about the project, in a manner that creates a welcoming atmosphere, considers barriers to participation (language, age, gender, physical abilities, location, time, transportation, childcare etc.), provides alternative

methods for engagement (visual, audio, interactive) and provides ways to be involved in an ongoing manner.

vii. Reduced Barriers to Local Commerce

In the Neighborhood Activation process, focus groups and meetings, community stakeholders frequently raised the need for more local business opportunity, especially street vending or new form of micro-entrepreneurship. Well-managed street vending or following different design and implementation mechanism can be an important path for the development of new form of local entrepreneurs while bringing spaces to life.

In addition, these spaces need to be inclusive to all walks of people in the community. To achieve these the following criteria, need to be addressed in the design-

i. Physical Capabilities

Design should be done in such a way that it aims to allow access to those with limited capabilities. But design should not be divided between the normal users and the end-users as it will create a sense of division. The design approach should be such that people should not be reminded of their physical disabilities. And we should try to provide the same means to all users, identical whenever possible but equitable when not.

ii. Age and gender

Architecture especially the inclusive spaces should be designed in a way that it meets the needs of people of all age and gender groups. New spaces nowadays tend to have disproportionately high rates of attention for the middle-aged and the young while On the Contrary children and senior citizens are often neglected by the practice of contemporary public space design.

iii. Cultural Belief

When Architecture uses symbols and design languages, we understand that it influences and reflects culture simultaneously. Architecture should be such so that it can evoke culture and context by embedding stronger and enduring means. The current inhumane structure is making the cities more generic and does not reflect one's identity.

iv. Mental Health

An inclusive public space influences people's senses, mood as well as wellbeing. In order to create healthier and more productive environments we need to give more robust attention to the design-based circumstances and think about designing spaces keeping mental health in mind.

v. Viability & Affordability

Inclusive design should be affordable so that people of all economic backgrounds could get its benefits. Design either creates barrier or open doors, and inclusive design open doors for

all. Economic weaker section people are mostly devoid of basic needs, by affordable inclusive built environments we as architects can help them get their basic needs.

vi. Tolerance of errors

The minimization of hazards and adverse consequences of accidents through design is necessary. Inclusive design is for all, not for a particular type of person so we need to provide warnings for errors and hazards which is simple and intuitive. Also, we need to design a space in such a way that it discourages unconscious actions in works which require attentiveness.

vii. Maintenance

Maintenance is as important as all the above criteria. If the design or the built environment is not low maintenance, then it will become a burden of everyone. Low maintenance has a positive economic impact on the communities. Low maintenance can maintain the quality of the architecture and can also maintain higher property values. Spaces should have a purpose to serve everybody and accommodate people of all types. In order to support every member of the community.

5.2.2. Technical aspects

i. Location

The location of a public space is one of the most important factors for designing. It should primarily locate at the intersection of several pedestrian networks to create a hub for people who can pass that place regularly. The location should already have people coming for different activities so that the public space can act as a tool to facilitate the existing life of the place. It should have multiple entrance, from middle of the square or the edge, but such way that is welcoming to people.

ii. Form of the space

The form of a public space has been widely studied with a common objective in mind- a sense of enclosure. As far as shapes are concerned, they can take any physical shape like square, rectangle, circular but a public space is large driven by the surrounding built forms and can be classified as- closed, dominated, nuclear, grouped and amorphous space.

iii. Size

The size of a public space or facilities hugely dominated by factors like–the activities, possible number of users, and the surrounding built forms. There is a general theory to maintain a ratio of 1:2 between building height and space width to create a sense of defined space. Space should be such that people can perform their activities amongst themselves, at the same time can read others' facial expression and their emotional state.

iv. Surroundings

A crucial part of a public space are its edges, which are defined by the surrounding buildings. These play a major role in attractive & keeping people within that zone. This can be achieved with various, small-scale activities rather than one, single business. A space with cafes and retail stores attracts visitors & helps in making the place livelier. The facilities should have visual connectivity with people through large openings and walls can be treated with different features to create a balance between order and complexity.

v. Activities

A public space is meant to bring people together, irrespective of their activities and interests. Henceforth, public open space should be able to cater to a crowd of people at once. This may be the reason why shopping malls/ market place are hugely popular today since people prefer to be at a place where multiple needs are served. Historical public space has also been classified based on the function that is – internal function, associated function, arterial node function, and multiple functions.

vi. Street furniture

Street furniture includes dustbins, light posts, signboards, seating and so on. They are selected based on functionality and the context of the surrounding. Seating arrangements can make or break the social aspect of a public space. The seating should be provided in both forms- fixed and loose. Fixed seating can not only be thought of as fixed benches but also staircases as they are often used for sitting and leisure activities. Therefore, a wider span of stairs can be noted. Loose furniture gives people the liberty to select their zone in the square.

vii. Landscaping

Paving materials should consider the durability, aesthetic appeal, reflection, glare of the sun, friction. They should also respond to the color & material palette of the surroundings & can be used to demarcate zones. The types of trees play a huge role in the microclimate. Often, during summer or daytime, the square gets heated up turning into a heat island. While flowering shrubs can be used to visually soften the overall hardness of the paving materials, trees can seasonally act as shade givers. Water elements can be introduced for regulating the temperature of the square as well as creating a tranquil environment.

5.2.3. Environmental and Manmade Vulnerability

Bangladesh, due to its unique geographic, socio-economic, and physical characteristics, is extremely vulnerable to the impacts of climate change. Bangladesh's water and agricultural resources (and thus economic activities) and coastal infrastructure are particularly vulnerable. Saltwater intrusion threatens Bangladeshi freshwater resources; changing temperatures, precipitation, and sea level rise could reduce agricultural productivity; and sea level rise, storm surge, and extreme events could damage or destroy coastal infrastructure.

Here are a few key things to consider while designing the site:

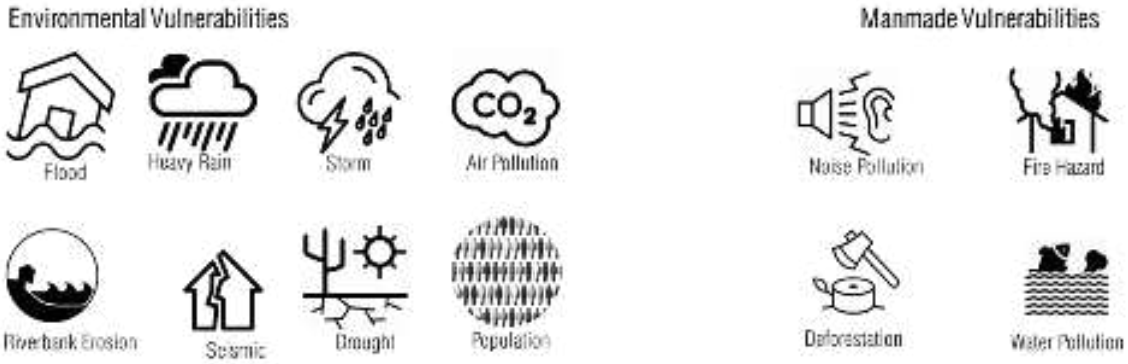


Figure 5.2: Environmental and Manmade Vulnerability Considerations

5.2.4. SDG Goals, Vision 2041, and Five-Year Plans

Before designing a public or community Space, the existing situation must be analyzed against the visions and commitments of the government. The vision and commitments include but not limited to the SDG Goals, Vision 2041, and Five-Year Plans. This endeavor (building public or community Space) fits directly with Goal 3 and Goal 11 of SDG. Besides, it fits with government vision of 2041 and as well as the vision set in 8th FYP. In addition, this satisfies the government's commitment given in the election manifesto, too.

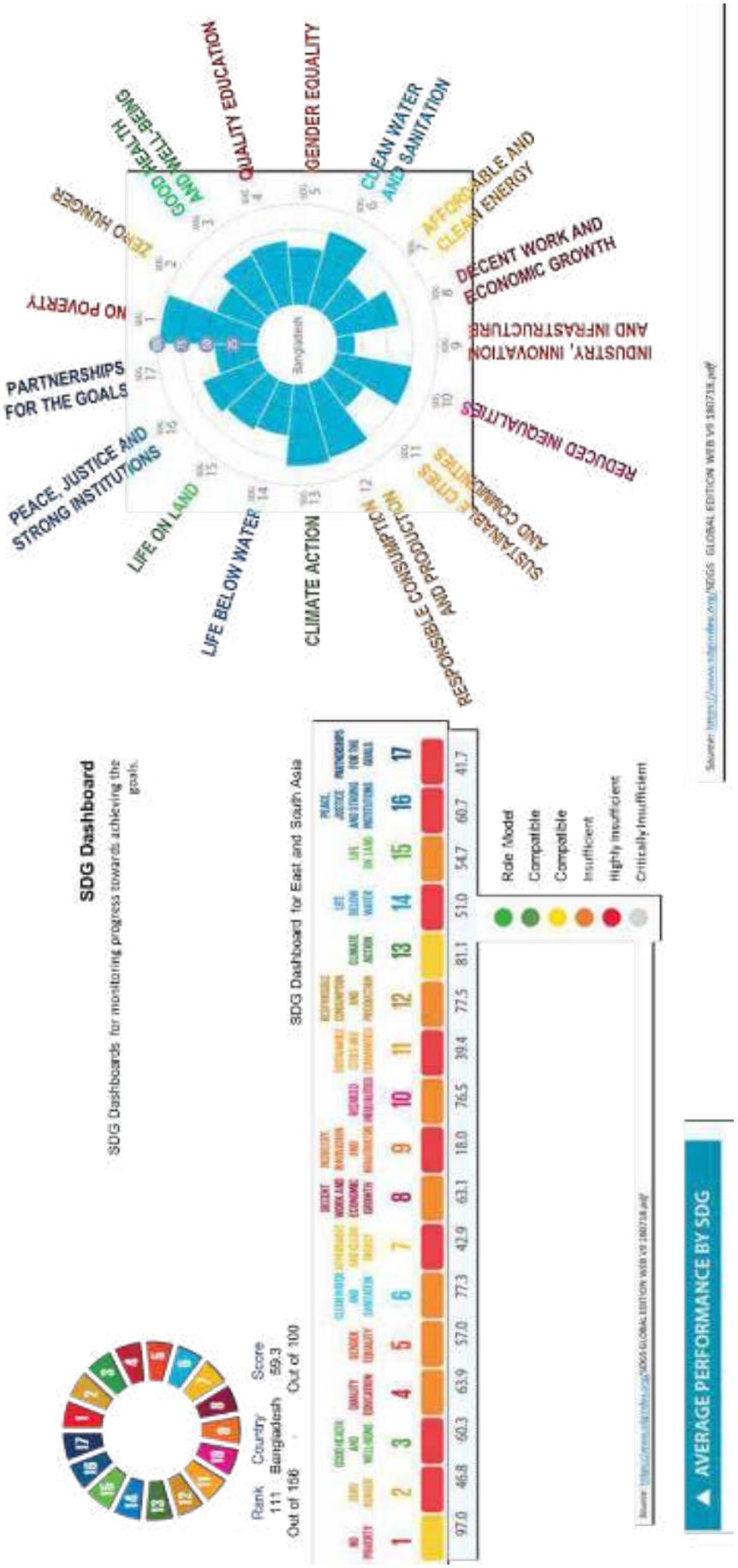


Figure 5.3: SDG Goals and Performance Index

5.3. Example of Community and Public Spaces and Play Equipment

There are over hundred million people inhibiting rural areas of Bangladesh. Most of the country is low lying flat land with numerous rivers crisscrossing the plane. Historically, people of Bengal delta have built houses with natural and sustainable materials like mud, thatch, wood and bamboo. These materials can be locally sourced as well as local knowledge and workforce are readily available. The construction process is also highly organized; it includes the manufacturers of building products and systems, the craftsmen who assemble them on the building site, the contractors who employ and coordinate the work of the craftsmen, and consultants who specialize in such aspects as construction management, quality control, and insurance. The history of this construction is marked by a number of trends. One is the increasing durability of the materials used. Early building materials were perishable, such as leaves, branches, and animal hides. Later, more durable natural materials such as clay, stone, and timber and, finally, synthetic materials such as brick, concrete, metals, and plastics were used. There are many sets of construction materials in the world. It differs time to time and place to place and that is why a perfect volume of 'construction materials' is difficult to make. In the southern part of our country, people use leaf like material a lot and in north Bengal, people use bark and mud at a great extent. In the center, bamboo is the solution for such task. The use of construction materials depends on its availability. The thing, which is abundant, can be used abundantly. So, low-cost alternative play equipment and play scape could be built using such locally available resource and materials.

Figure 5.4: Various Example of play equipment using locally resource material

Few Bamboo playscapes were designed and built by Paraa, a multidisciplinary architecture firm in Dhaka. The playscape had a central open space where children can play or organize festivals and performances. The structure can accommodate around 200 people at three different levels. Specific

features were designed to include therapeutic exercises for children. There are play features for younger children where adults can supervise. Older children gravitate to the more adventurous zone. The semi-shaded decks offer flexible space for workshops and places to hang out. Elements have been placed in a way to allow easy maintenance or replacement of any element. It has been left 'unfinished' to allow the users of the space to personalize as necessary without any institutionalized guidance.

Figure 5.5: Bamboo Playscape at Basila by Paraa, Dhaka (source: Internet)

5.4. Outdoor Playscape Infrastructure and Play Equipment

The word "Playscape" refers to a play area that considers the larger environmental setting and enables opportunities of free, unstructured play for children. A playscape is placed in a natural setting and usually blends landscape elements such as plantation, landform etc. with man-made enticing structures.

As a part of this project, mainly two kinds of playscape infrastructure have been designed. These are-

a. Open Playscapes
b. Play Equipment

5.4.1 Open Playscapes

Open playscapes are designed with locally available, low-cost materials and facilitate free, unobstructed play for children of different ages. These playscapes are adaptable, as they are designed in different volume ranges to be placed in different sizes of land. In addition, they can

perform both in dry and wet seasons. They are designed to be durable yet easy-to-build. These playscapes can be placed in different types and sizes of lands as they are replicable and flexible.

i. Design Elements of Playscape

The modular open playscape is designed in many variations according to land size, shape and context. For the sake of discussion, a generic playscape is explained below:

The main structural components of the open playscape are the bamboo framework structure and the multi-level bamboo platforms. The platforms and the structural elements are joined with lashings and bamboo joinery.

The different levels of bamboo platforms are accessed through bamboo ladders. Different play equipment has been incorporated in the design of the playscape to further enhance the playing experience of children.

There is a hammock made of ropes, two tire traverses, a bamboo climbing wall and a slipper. The equipment is made using natural and low-cost materials and are easily replaceable. The multi-level platforms can accommodate a wide range of activities. The diagonally placed ladders pave the way to an interesting journey for children.

The platforms of the playscape are raised so that it can perform both in dry and wet seasons. During the wet seasons, children can dive from the different levels into the surrounding puddles. All the structural members of the bamboo frame are treated and weather-coated for sustainability.

ii. Scalability of Playscape

The entire structure is adaptable, replicable, scalable and flexible. It can be designed in a number of different ways for varying site conditions. The generic playscape structure can be designed in four different sizes: Small, Medium, Large and Extra Large for different sizes of land.

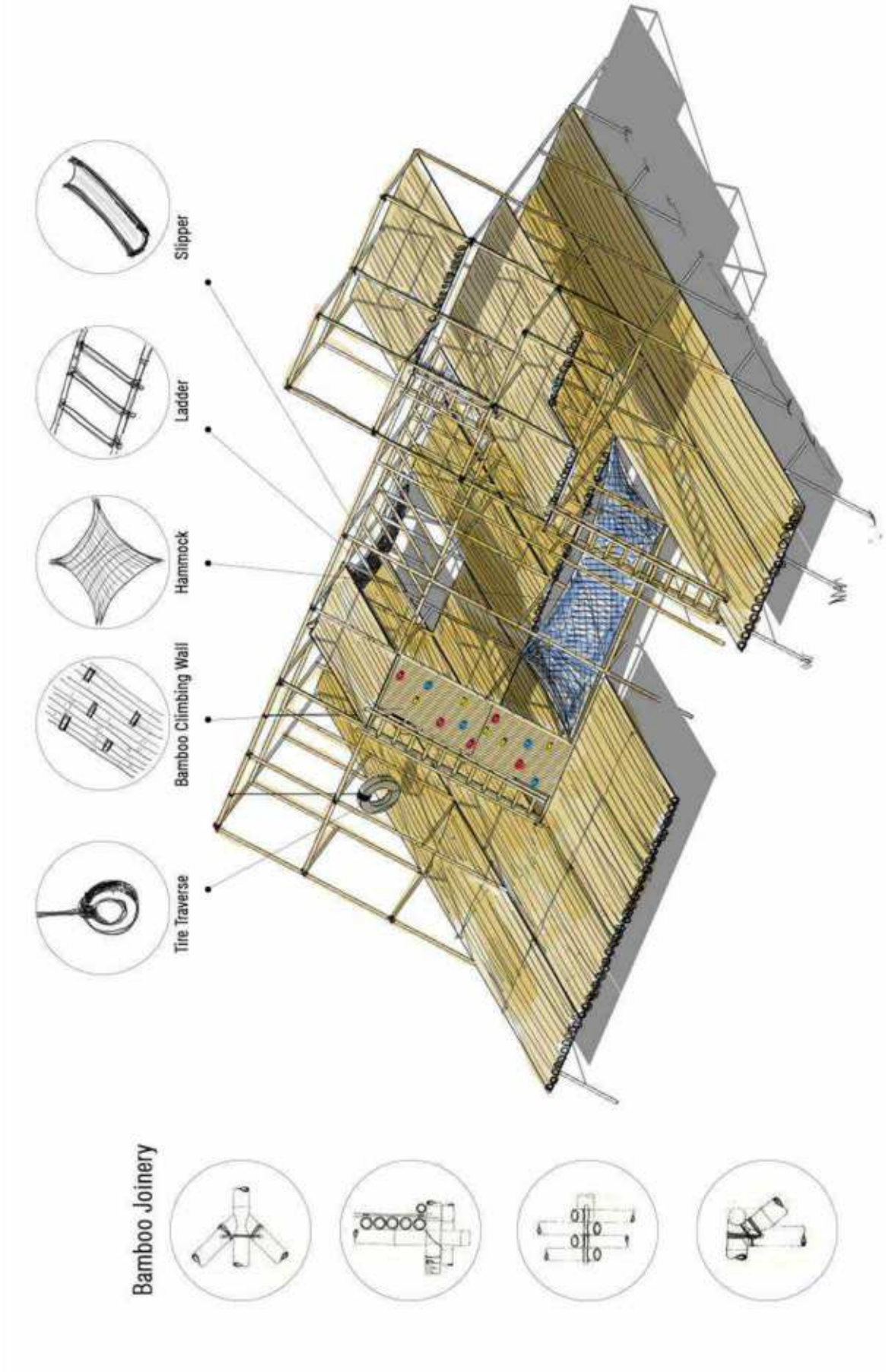


Figure 5.6: Detailed Components of Open Playscape

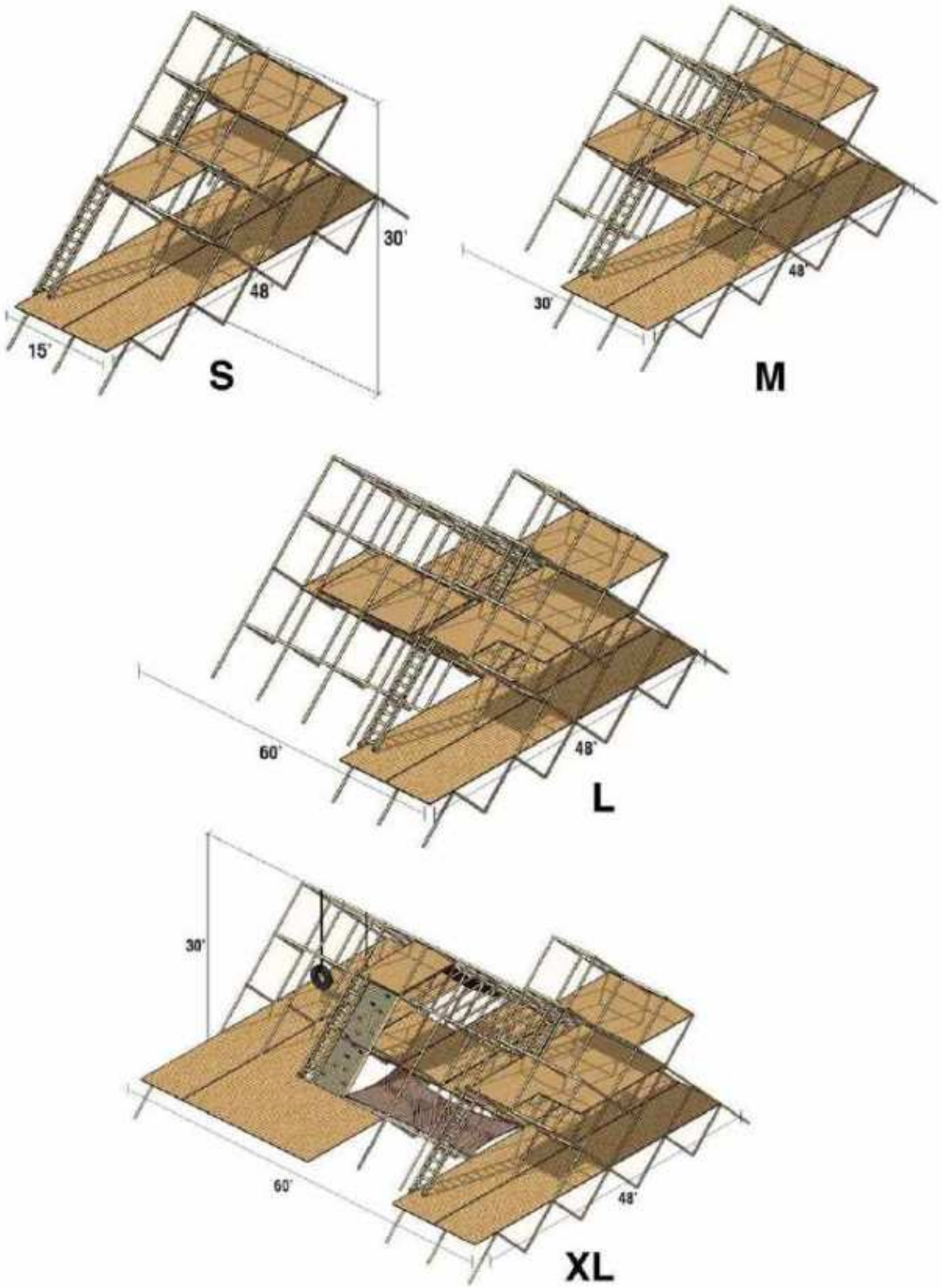


Figure 5.7: Scalability of Playscape

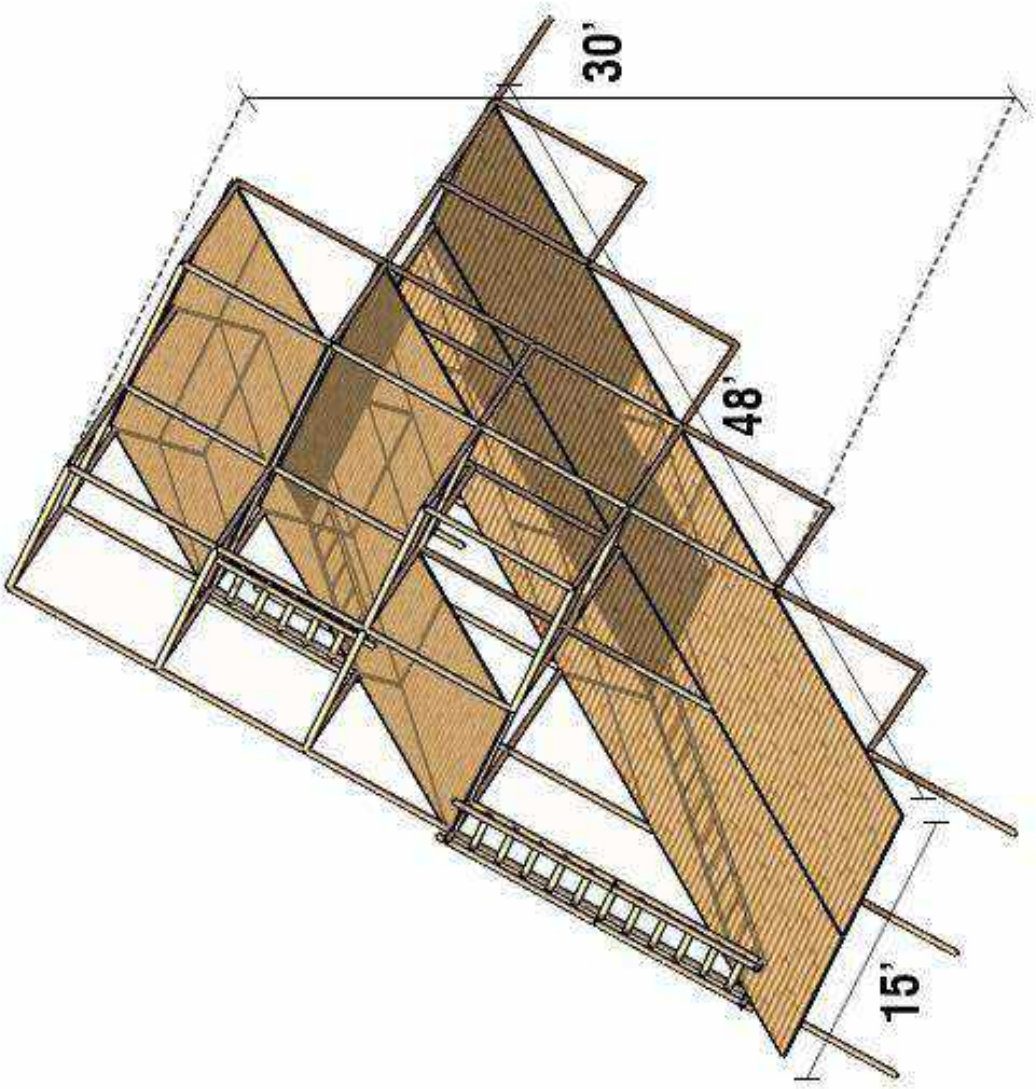


Figure 5.8: Small Playscape

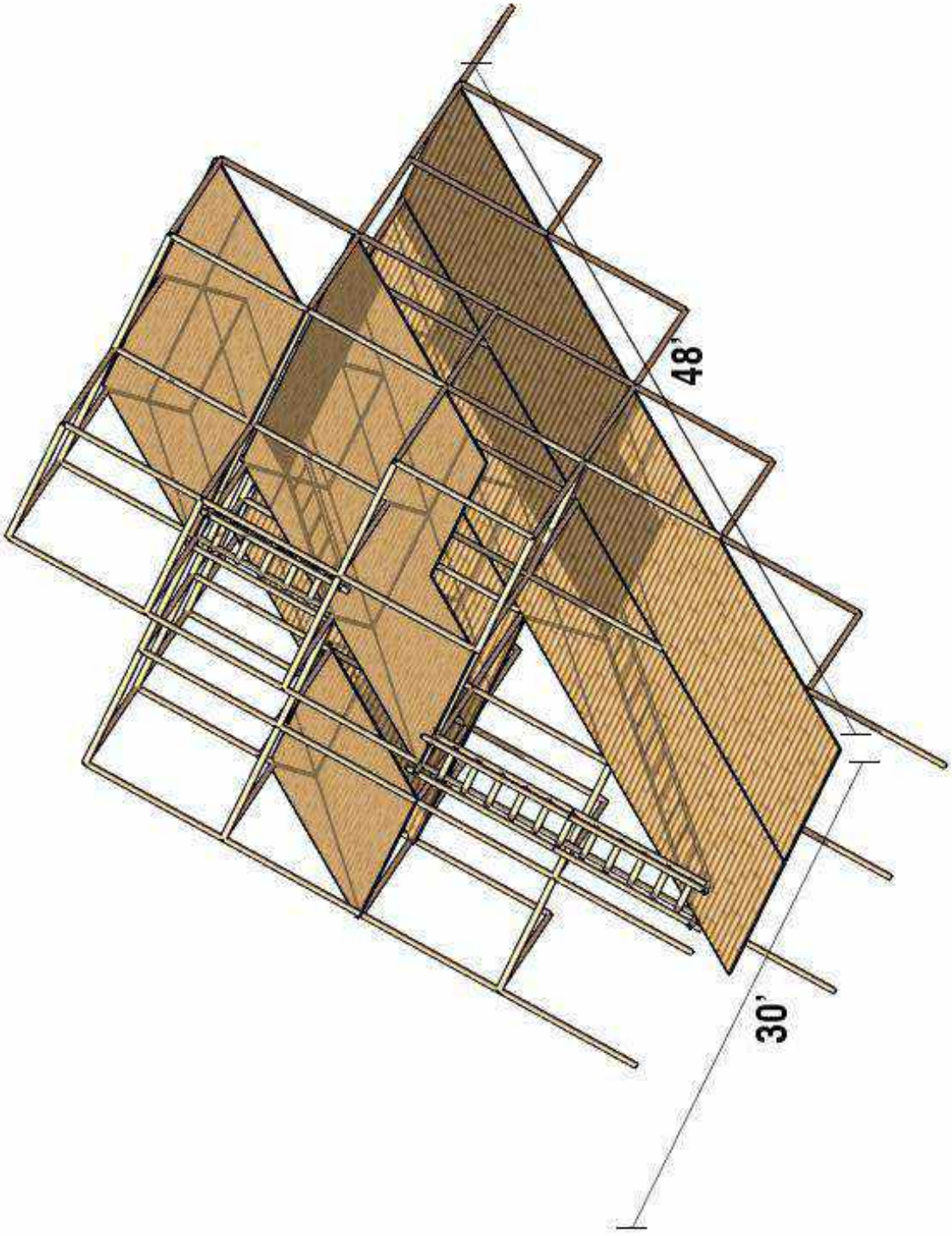


Figure 5.9: Medium Sized Playscape

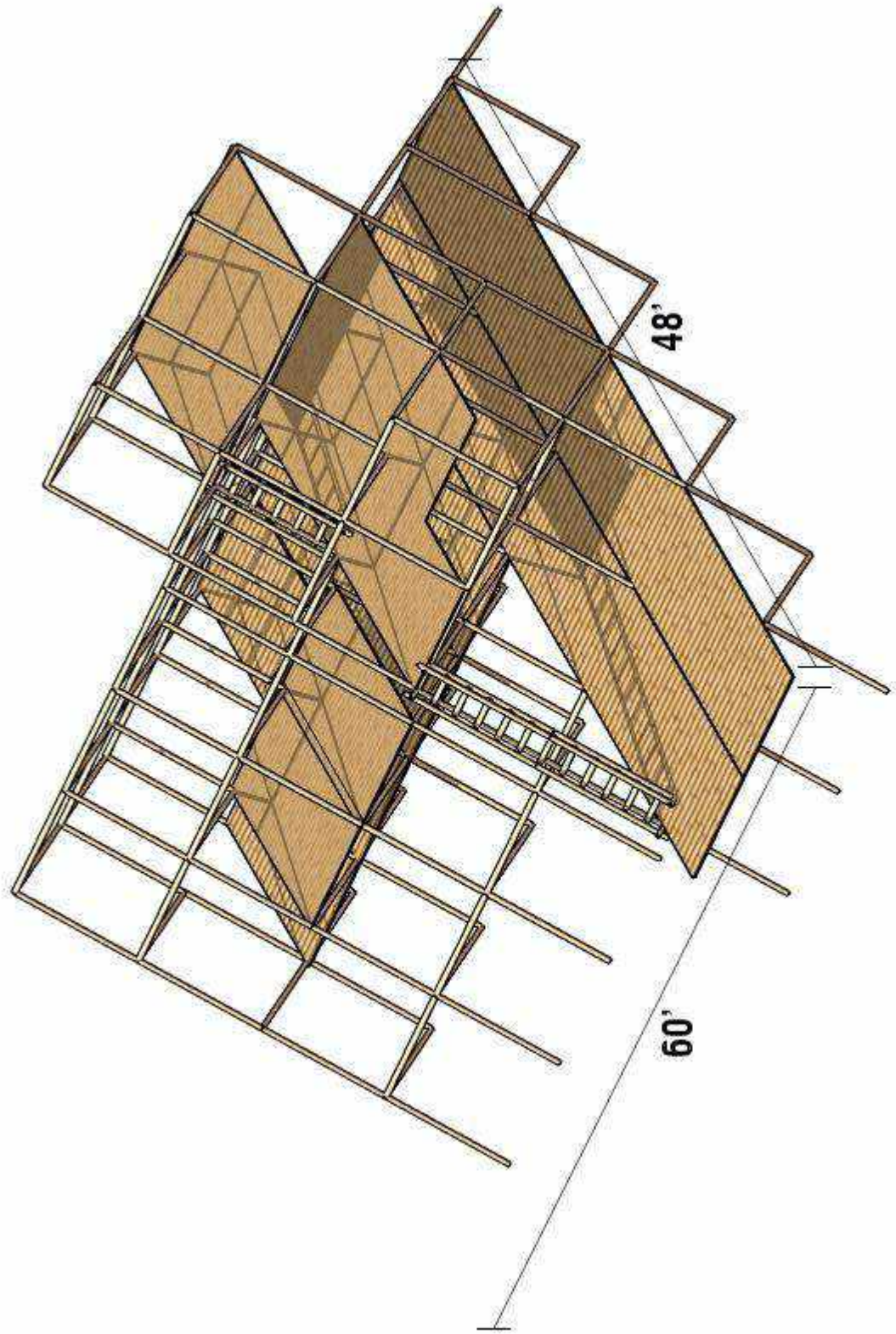


Figure 5.10: Large Sized Playscape

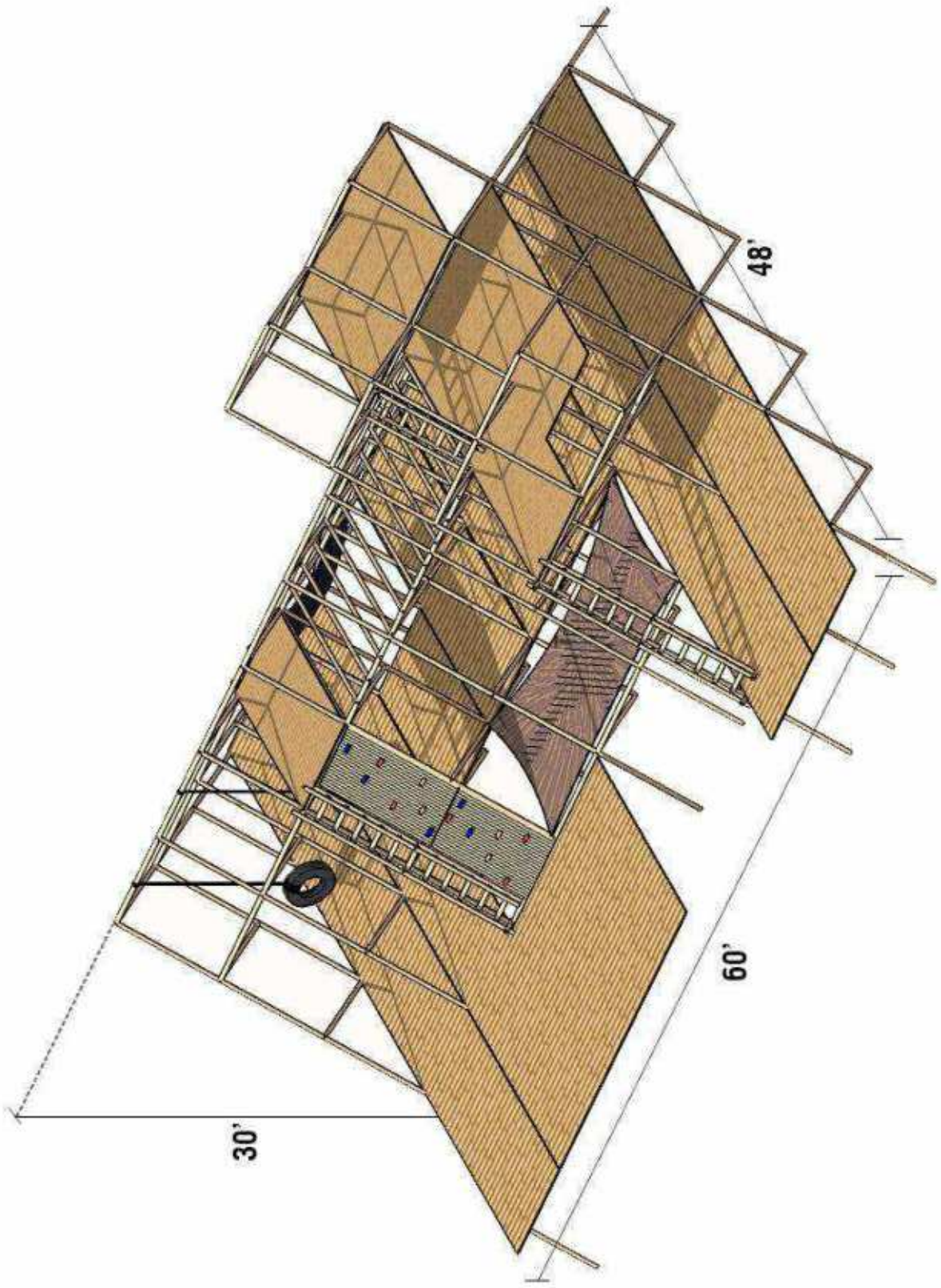


Figure 5.11: Extra Large Sized Playscape

iii. Time span of using a land as public or community space

Land can be available for various spans of time, e.g.; for a short, mid or long term. As the supply of public or community space is very limited, it would be better if all of the lands available for various time spans could be used. If there is a provision of using a land for even few months, that land could be used to accommodate different kinds of playscapes and play equipment. The material or design considerations has also been based on this factor. A land may be available only for a limited period of time therefore these playscape structures has been designed with bamboo, wood etc. For example. If a land is available only for 5-7 years to be used to accommodate public playscapes, it can serve children who are 3-5 years old at the time. After 5 years, these children will outgrow this equipment and their need for these structures will diminish or change.

Playscapes can also be scaled according to the time factor. In case, a small portion of a land is available during construction, a small playscape can be constructed. If adjacent lands are acquired eventually, the playscape can be scaled to bigger sizes to accommodate more activities. The inverse scenario can also be imagined, where a large portion of land is available in the beginning, and later only a smaller part can be retained for playscapes. In this scenario, a large playscape can be reduced in size to a small sized playscape.

Therefore, time is an important factor in the design of outdoor playscapes.

iv. Variations for Site Context

These playscapes can perform in different sizes and shapes of lands, set in a wide array of conditions. Some of them are described below:

A playscape beside a vehicular road on a narrow land will be linear in shape and will incorporate different climbing blocks adjoined by small connective bridges. These blocks can be accompanied by a range of colorful reinforced concrete pipes of 1.5-meter diameter where children will be able to sit and play.

A playscape beside a paddy field will be larger in size and more transparent, made up principally of diagonally joined bamboos and bamboo platforms on different levels. The children will journey through an array of diagonally placed bamboo ladders taking them to different levels. The platform is designed to be raised on stilts to perform in both dry and wet seasons.

A playscape on an irregular shaped land beside residential buildings is designed with a minimalistic arrangement of nine reinforced concrete pipes in different colors, and two climbing blocks. The play area can be raised on a mound to further enhance the playing experience.

A playscape on a linear patch of land will have linearly placed reinforced concrete pipes where children will climb, sit and play, adjoined by a linear ramp block. The ramp is placed inside a bamboo framework. The linear ramp is envisioned to encourage children to explore the playscape.

A playscape beside a small school will be minimalistic in design, with a few reinforced concrete pipes adjoined by two climbing blocks for young children. A large shading tree should be incorporated in the design to provide shading for children.

A playscape beside an open public space will be comparatively larger and more transparent. The playscape will incorporate multiple bamboo platforms on different levels and linearly placed reinforced concrete pipes.

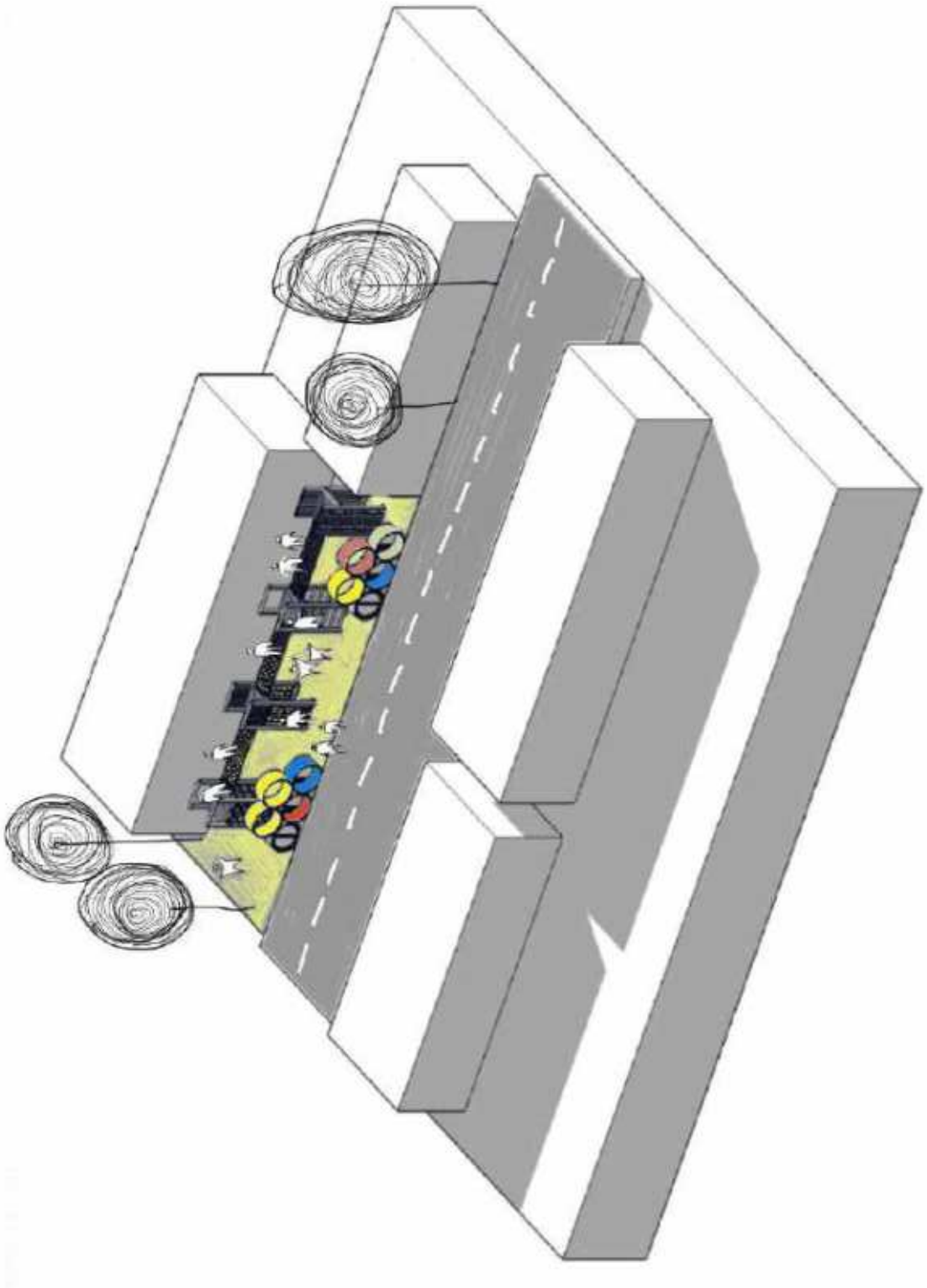


Figure 5.12: Playscape beside a road on a linear patch of land

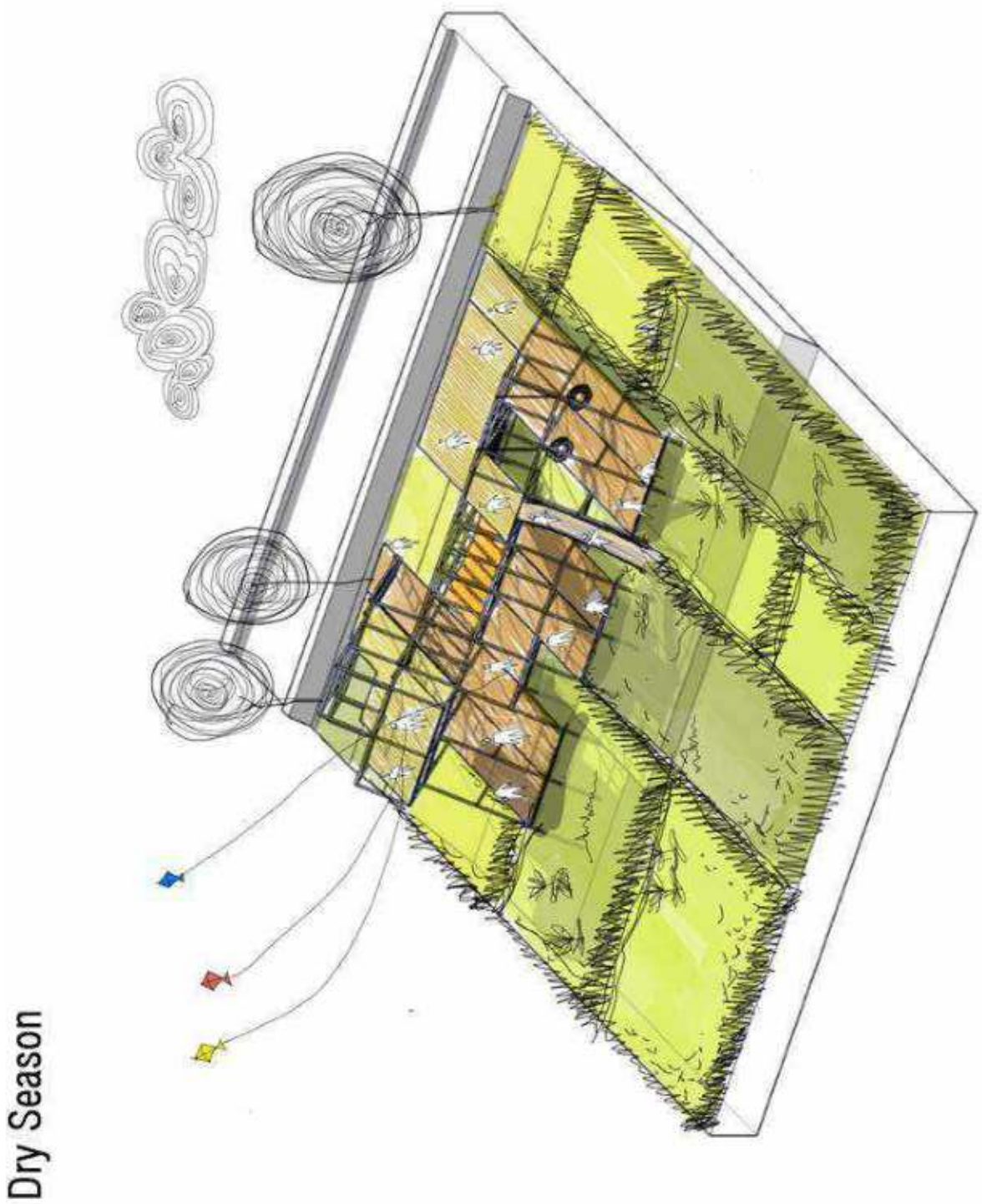


Fig 5.13: Playscape beside a paddy field in dry season

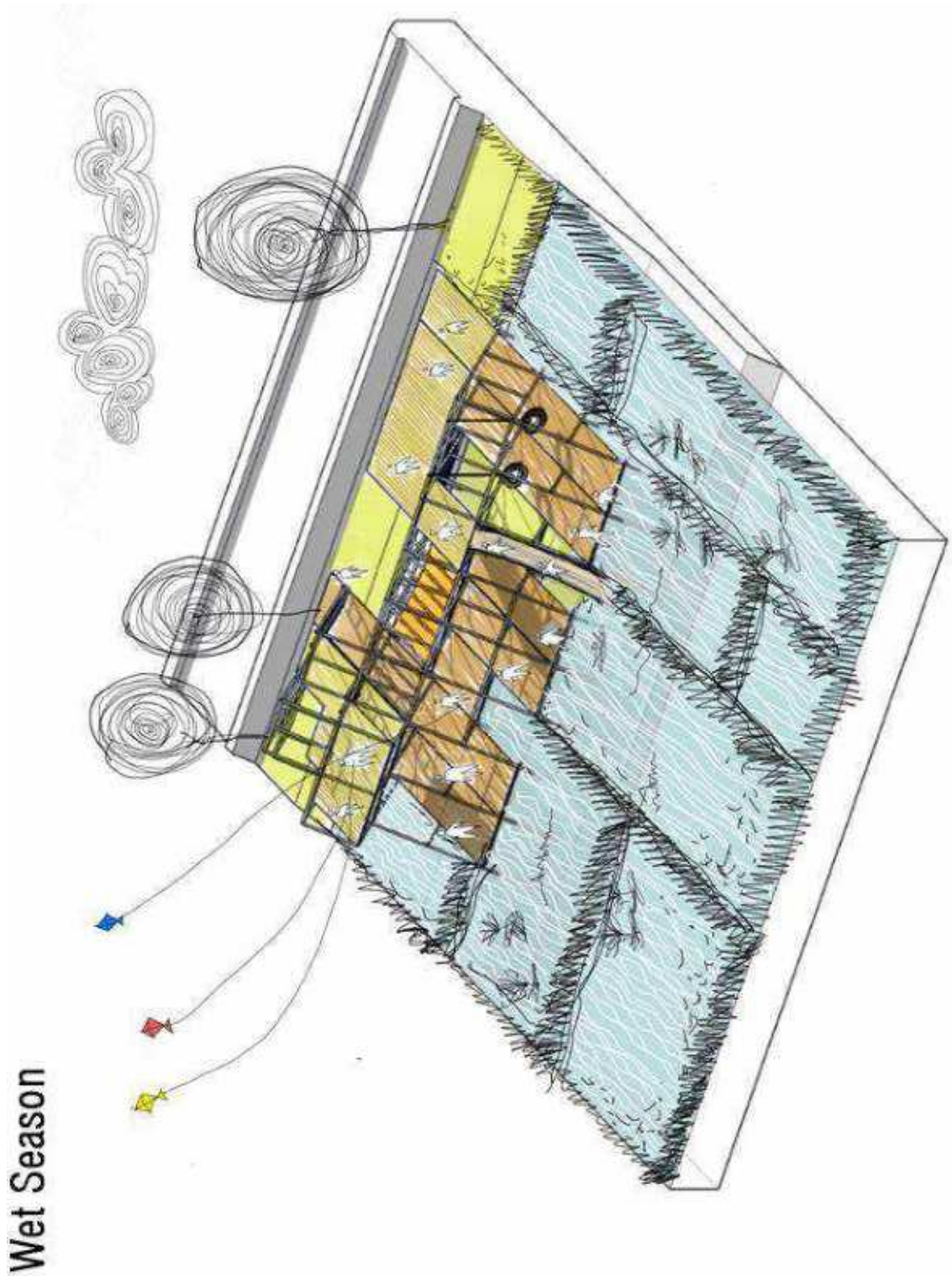


Fig 5.14: Playscape beside a paddy field in dry season

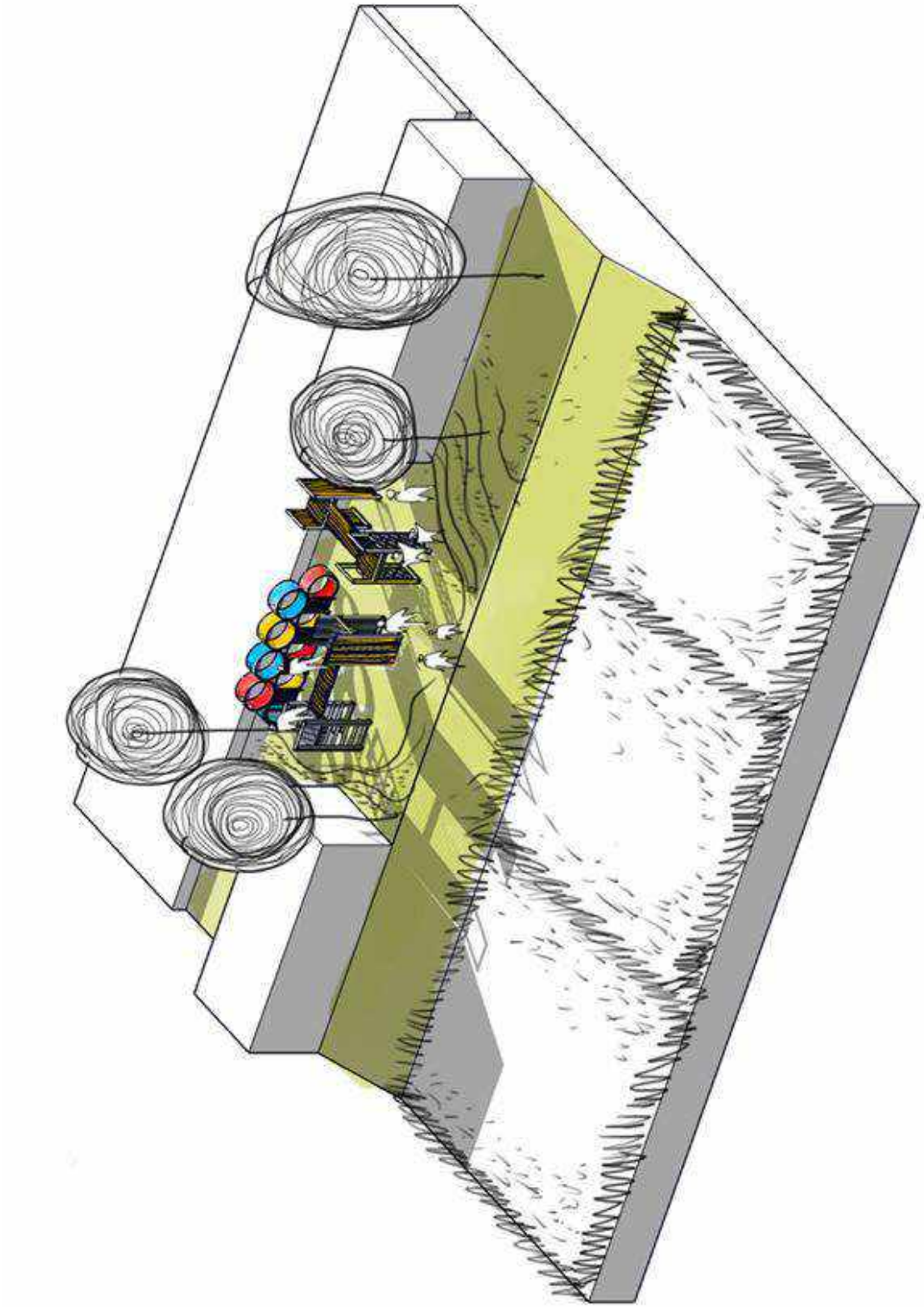


Fig 5.15: Playscape beside a road on a linear patch of land

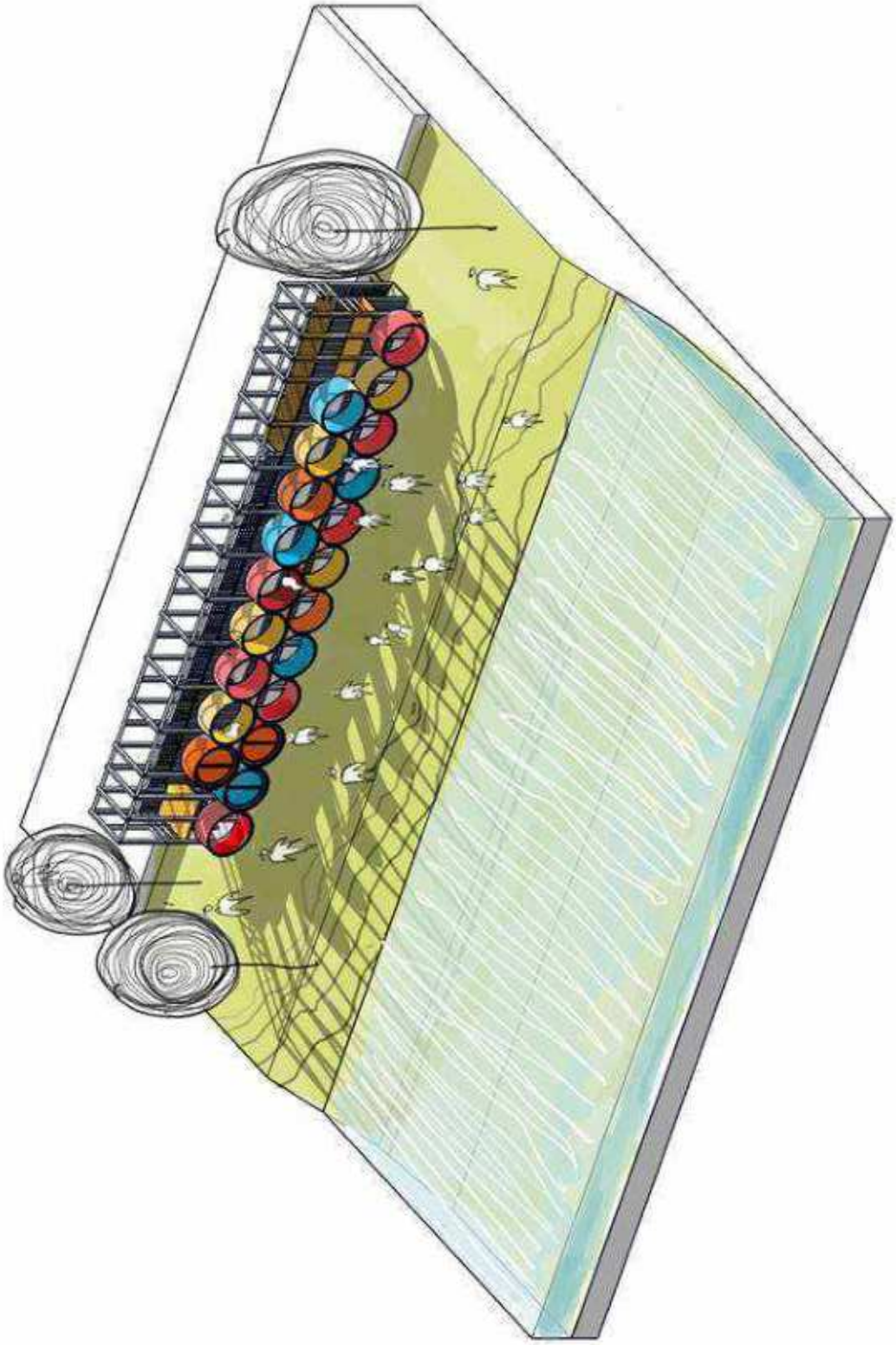


Fig 5.16: Playscape beside a road on a linear patch of land

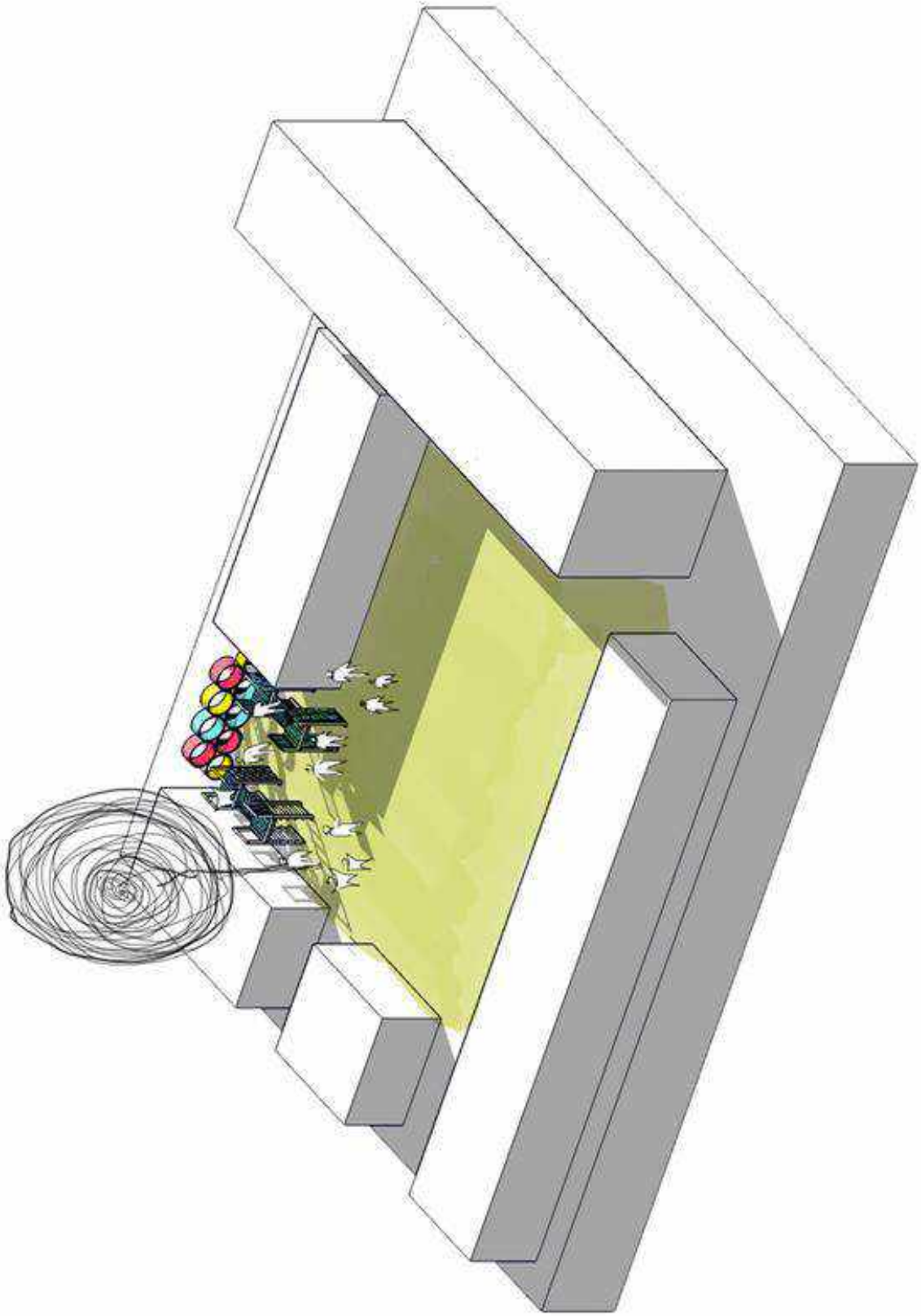


Fig 5.17: Playscape in a small school

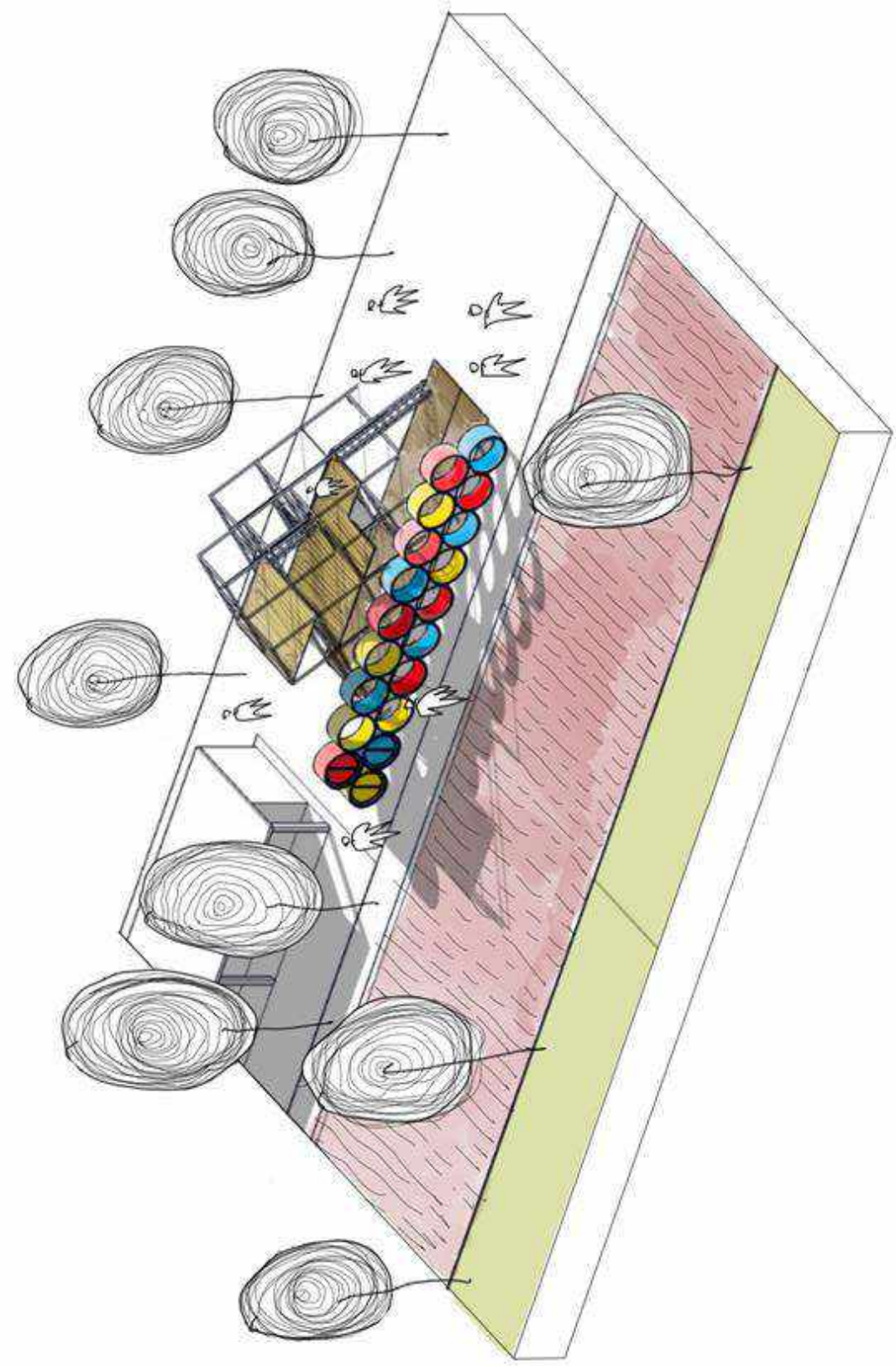


Fig 5.18: Playscape beside an open public space

v. Variations in Shape

The playscapes can be changed in shape according to availability of land. Three examples are illustrated below where the playscapes are in circular, rectangular and pyramid shape.

The circular playscape has three overlapping circular platforms, accessible through a flight of steps. The platforms are made of bamboo. Three tire traverse equipment are incorporated in the design.

The rectangular playscape consists of bamboo climbing blocks and adjoining bridges and platform with small interconnected, earthen tunnels.

The pyramid shaped block has two pyramid shaped bamboo huts in opposite directions adjoined by a rope bridge.

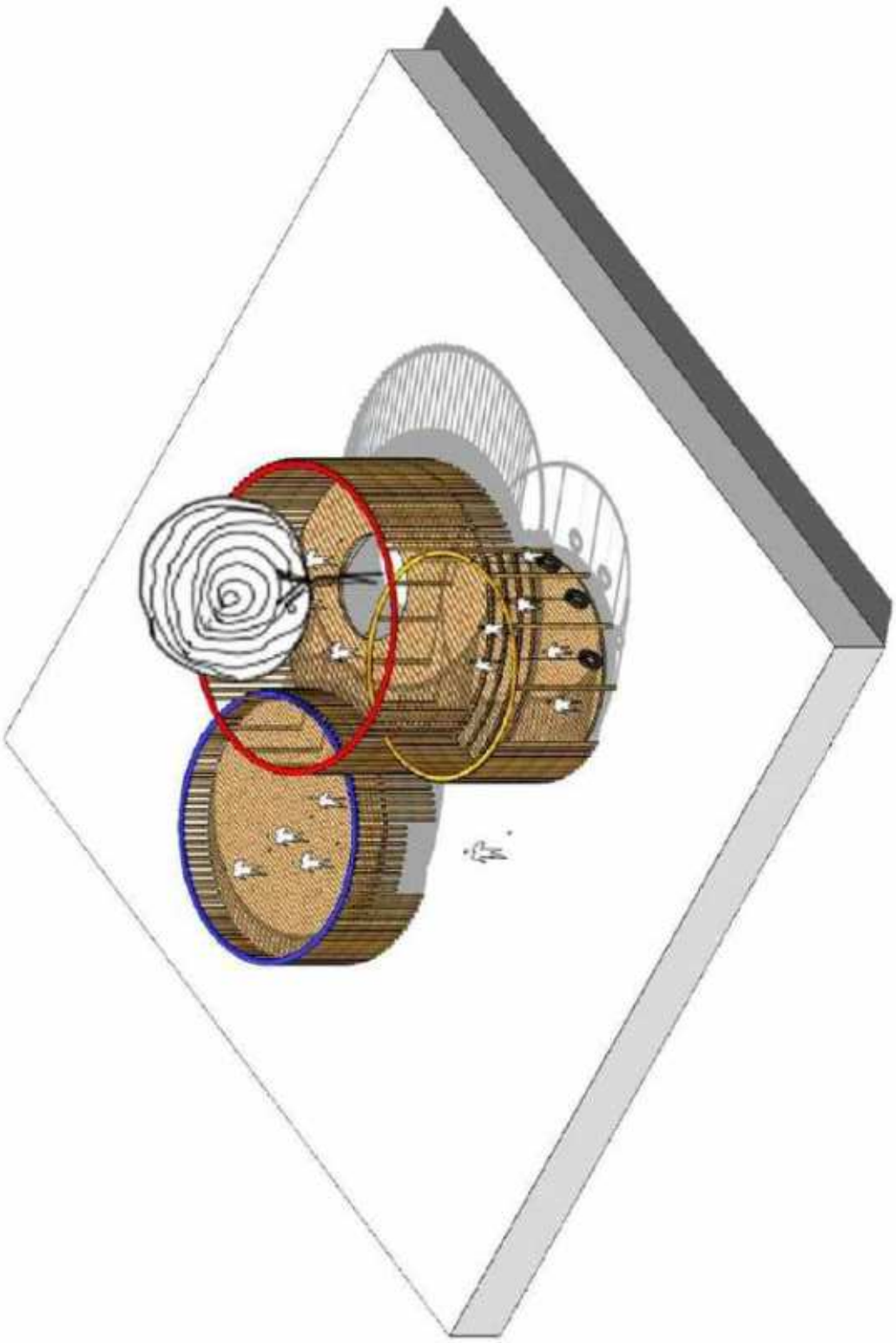


Fig 5.19: Circular Playscape

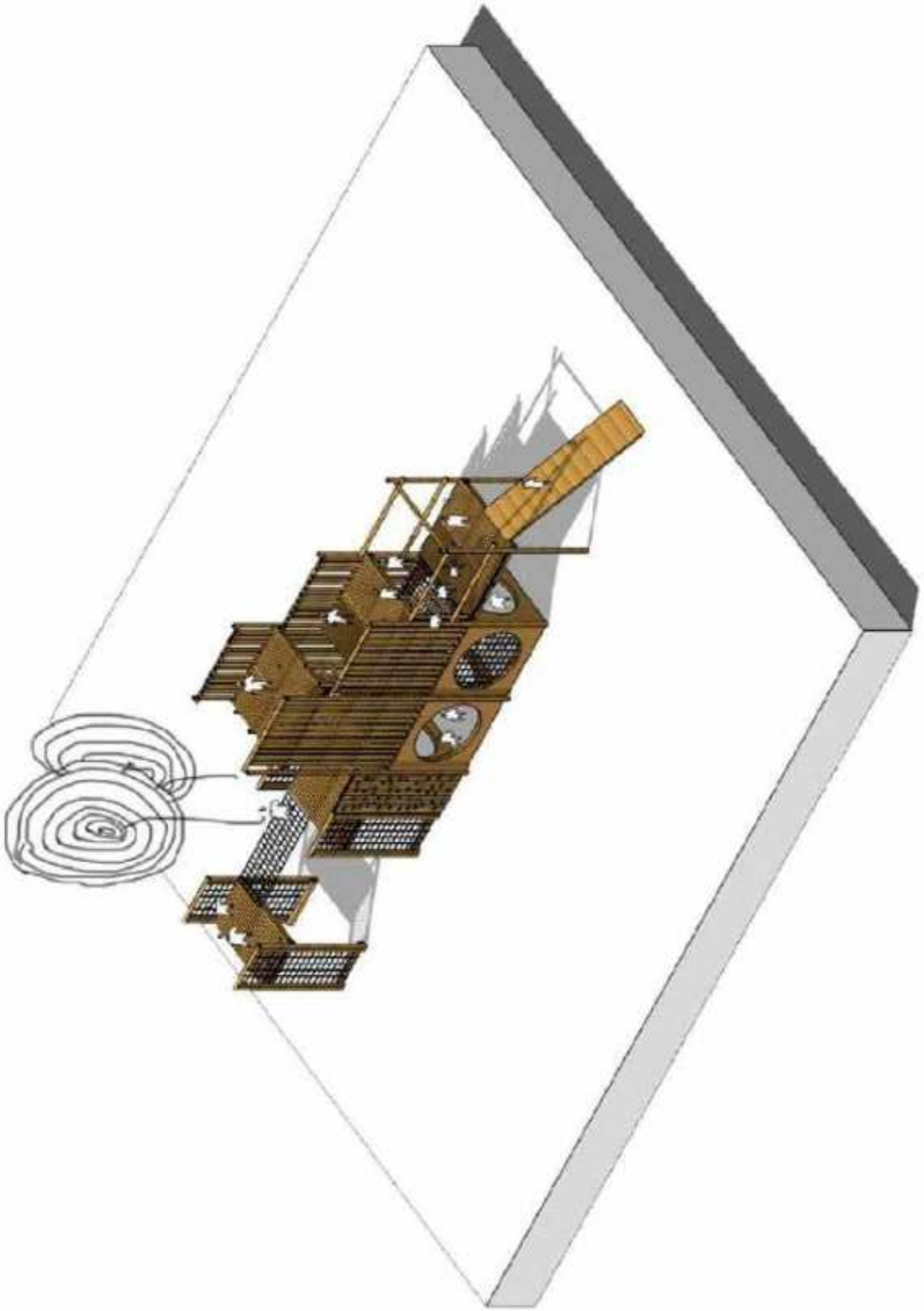


Fig 5.20: Rectangular Playscape

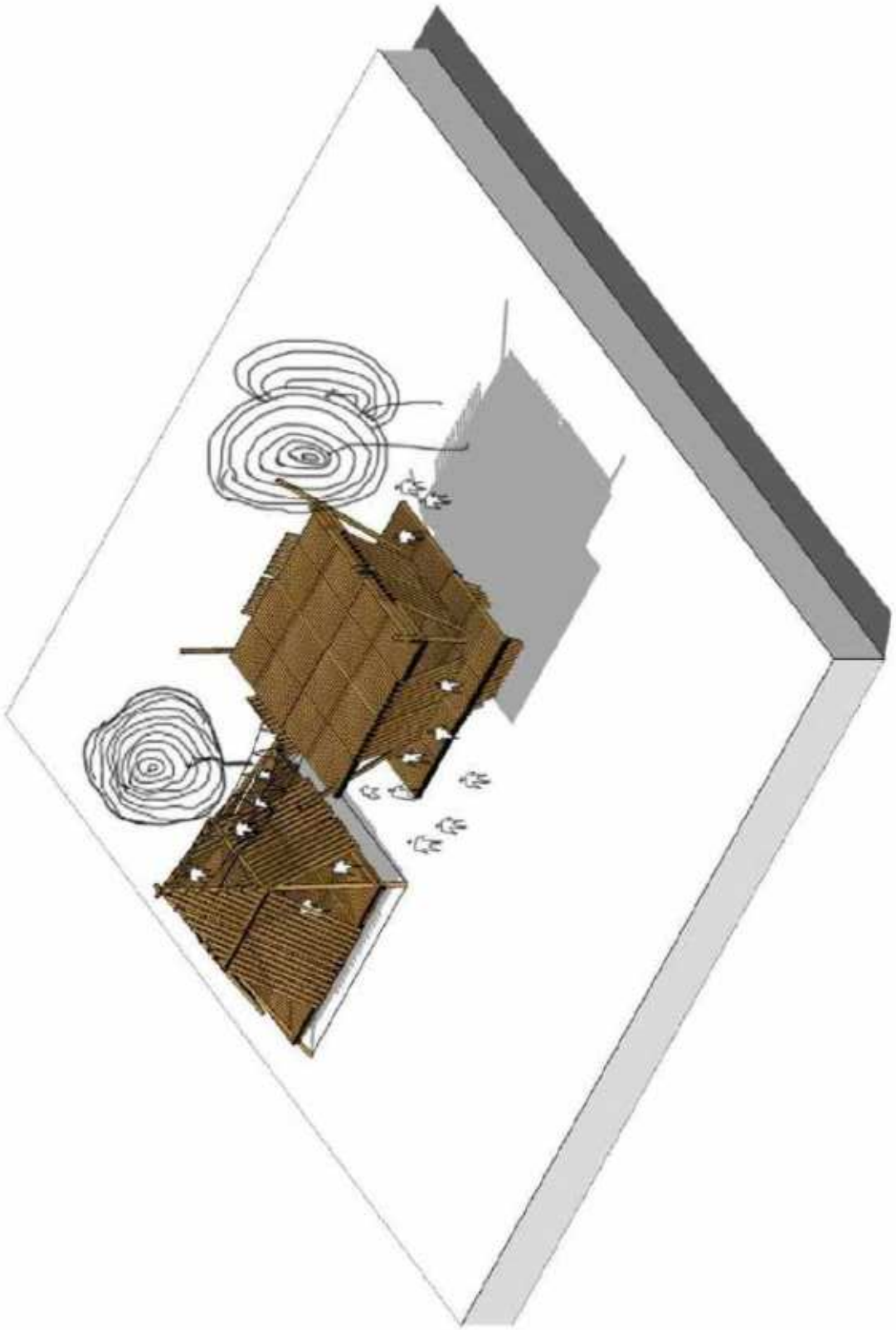


Fig 5.21: Pyramidal Playscape

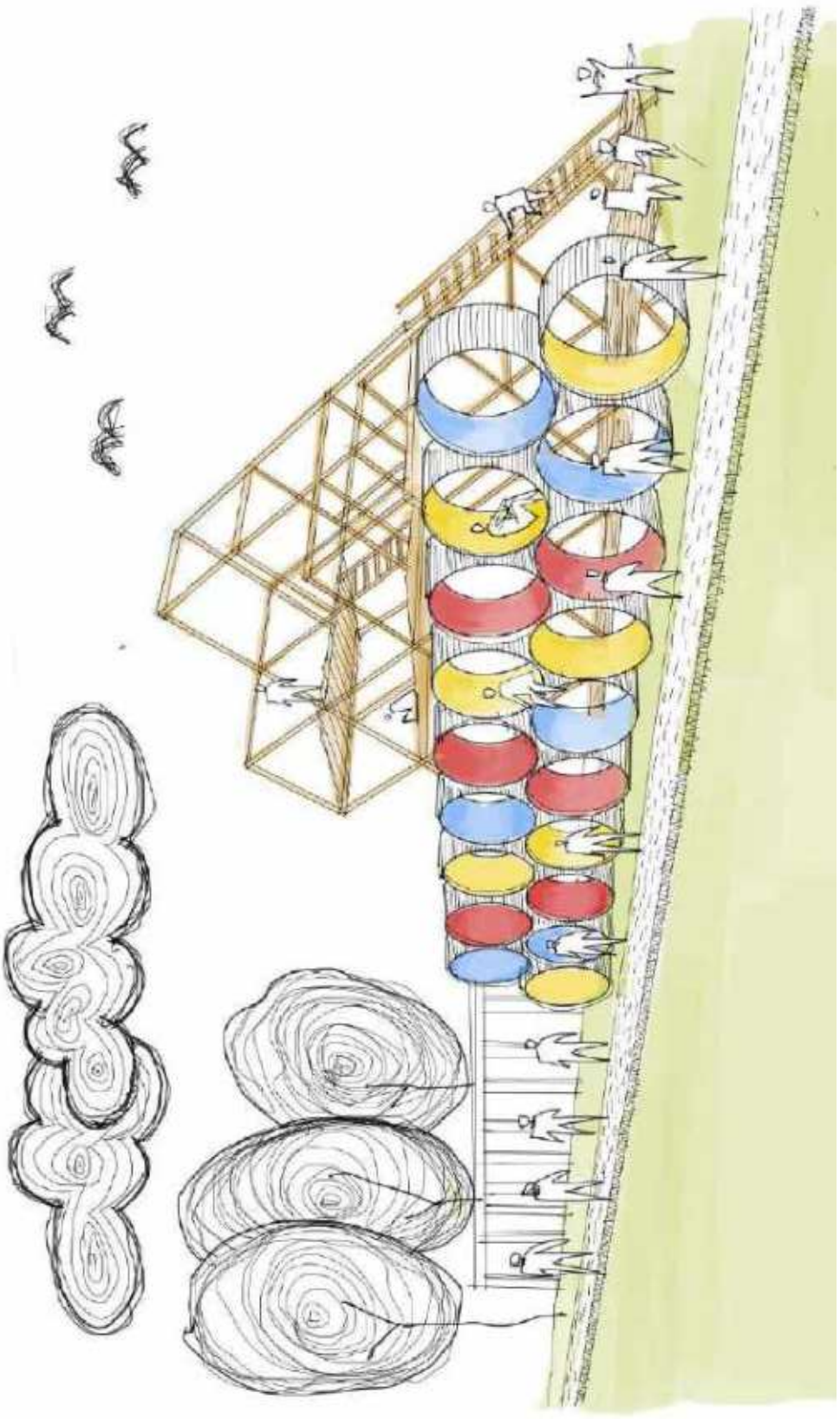


Fig 5.22: Visualization of Outdoor Playscape

vi. Ballpoint Cost Estimation

The cost of building and installing a playscape would depend on the materials and items used. For an example, the estimated cost for a circular bamboo playscape is given below:

Supply & installation BAMBOO PLAY SPACE circular block									
	Considering : Each								
(a)	**Cost of materials**								
1	Bamboo 5% wastage	1500.00	rm	@	49.20	Per Meter	=	Tk.	73,800.00
2	bamboo for platform	690.00	rm	@	49.20	Per Meter	=	Tk.	33,948.00
3	Bamboo treatment	2190.00	rm	@	30.00	Per Meter	=	Tk.	65,700.00
4	Water resistant wood sealer matt finish for Bamboo	515.75	Sqm	@	450.00	Per Sqm	=	Tk.	232,085.25
5	PU Paint	15.00	Sqm	@	640.00	Per Sqm	=	Tk.	9,600.00
6	Labour charge for making & installation	1.00	ls	@	50,000.00	ls	=	Tk.	50,000.00
7	16mm dia rope	12.00	rm	@	350.00	Per rm	=	Tk.	4,200.00
8	500 mm dia Round tyre	3.00	no	@	6,500.00	per no	=	Tk.	19,500.00
9	Galvanized nut bolt of varying dia ASTM 325 rate taken from PWD 2018 sl no 222	20.00	Kg	@	250.00	Per Kg	=	Tk.	5,000.00
						Total	=	**Tk.**	**493,833.25**
					Profit	10.00%	=	Tk.	49,383.33
					Overhead	3.50%	=	Tk.	17,284.16
						Total	=	Tk.	560,500.74
	Add VAT				1.08	7.50%	=	Tk.	42,037.56
						Total	=	**Tk.**	**602,538.29**
10	Earth work in excavation	9.36	Cum	@	234.00	Per Cum	=	Tk.	2,190.24
11	Earth filling in foundation	9.36	Cum	@	183.00	Per Cum	=	Tk.	1,712.88
12	cement concrete (1:1.5:3) with stone chips	4.68	Cum	@	7,643.00	Per Cum	=	Tk.	35,769.24
13	75 mm dia M.S pipe	52.00	rm	@	1,281.00	per no	=	Tk.	66,612.00
						Total	=	**Tk.**	**106,284.36**
				Say,	**708,823.00**	**.00 Per each**			

The estimated cost for a linear bamboo playscape is given below:

Supply & installation BAMBOO PLAY SPACE linear block									
	Considering : Each								
(a)	**Cost of materials**								
1	Bamboo 5% wastage	1780.00	rm	@	49.20	Per Meter	=	Tk.	87,576.00
2	Bamboo ramp & platform	585.00	rm	@	49.20	Per Meter	=	Tk.	28,782.00
4	Bamboo treatment	2365.00	rm	@	30.00	Per Meter	=	Tk.	70,950.00
3	16mm dia rope	650.00	rm	@	20.00	Per Meter	=	Tk.	13,000.00
5	Machine made 1200 mm dia (Tongute & Groove joint) 100 mm thick RCC pipe (Double reinforcement; 1:1.5:3)	42.00	rm	@	9,500.00	Per Meter	=	Tk.	399,000.00
6	Water resistant wood sealer matt finish for Bamboo	580.00	Sqm	@	450.00	Per Sqm	=	Tk.	261,000.00
7	Labour charge for making & installation	1.00	ls	@	50,000.00	s	=	Tk.	50,000.00
8	Galvanized nut bolt of varying dia ASTM 325 rate taken from PWD 2018 sl no.222	20.00	Kg	@	250.00	Per Kg	=	Tk.	5,000.00
9	Painting work	150.00	Sqm	@	238.00	Per Sqm	=	Tk.	35,700.00
						Total	=	**Tk.**	**951,008.00**
					Profit	10.00%	=	Tk.	95,100.80
					Overhead	3.50%	=	Tk.	33,285.28
						Total	=	Tk.	1,079,394.08
	Add VAT				7.09	7.50%	=	*Tk.*	80,954.56
						Total	=	**Tk.**	**1,160,348.64**
10	Earth work in excavation	8.00	Cum	@	234.00	Per Cum	=	Tk.	1,872.00
11	Earth filling in foundation	8.00	Cum	@	183.00	Per Cum	=	Tk.	1,464.00
12	Reinforced cement concrete (1:1.5:3) with stone chips	1.00	Cum	@	11,500.00	Per Cum	=	Tk.	11,500.00
13	Reinforcement works	1.20	Qtl	@	8,054.00	Per Qtl	=	Tk.	9,664.80
						Total	=	**Tk.**	**24,500.80**
				Say,	**1,184,849.00**	**.00 Per each**			

The estimated cost for a triangular bamboo playscape is given below:

Supply & installation BAMBOO PLAY SPACE TRIANGULAR block								
	Considering : Each							
(a)	**Cost of materials**							
1	Bamboo 5% wastage	780.00	rm	@	49.20	Per Meter	=	Tk. 38,376.00
2	Bamboo for platform	3350.00	rm	@	49.20	Per Meter	=	Tk. 164,820.00
3	Bamboo treatment	4130.00	rm	@	30.00	Per Meter	=	Tk. 123,900.00
4	Water resistant wood sealer matt finish for Bamboo	980.00	Sqm	@	450.00	Per Sqm	=	Tk. 441,000.00
5	Labour charge for making & installation	1.00	Ls	@	75,000.00	ls	=	Tk. 75,000.00
6	16mm dia rope	8.00	rm	@	350.00	Per rm	=	Tk. 2,800.00
7	500 mm dia Round tyre	2.00	no	@	6,500.00	per no	=	Tk. 13,000.00
8	Tent	24.00	sqm	@	3,500.00	per sqm	=	Tk. 84,000.00
9	Galvanized nut bolt of varying dia ASTM 325 rate taken from PWD 2018 sl no.222	20.00	Kg	@	250.00	Per Kg	=	Tk. 5,000.00
						Total	=	**Tk. 947,896.00**
					Profit	10.00%	=	Tk. 94,789.60
					Overhead	3.50%	=	Tk. 33,176.36
						Total	=	Tk. 1,075,861.96
	Add VAT				1.08	7.50%	=	Tk. 80,689.65
						Total	=	**Tk. 1,156,551.61**
10	Earth work in excavation	3.00	Cum	@	234.00	Per Cum	=	Tk. 702.00
11	Earth filling in foundation	3.00	Cum	@	183.00	Per Cum	=	Tk. 549.00
12	cement concrete (1:1.5:3) with stone chips	1.80	Cum	@	7,643.00	Per Cum	=	Tk. 13,757.40
						Total	=	**Tk. 15,008.40**
				Say,	**1,171,560.00**	**.00 Per each**		

5.4.2 Play Equipment

Play equipment are made primarily with low-cost environment-friendly materials. This equipment is designed to be placed in different sizes of schools for children. Twelve different kinds of equipment have been chosen to be placed in different lands. These are described below.

i. V-Shaped Net

This equipment is made with 2nos 100x100 mm 2m& sorted Shal log vertical members &1no 2m length 100x100mm horizontal member properly joined with 16mm dia galvanized 300mm long double ended and threaded stud bolt and nut. Bottom of vertical logs will be housed in 6mm thick minimum 1200mm high cylindrical M.S casing. The casing will be embedded in an R.C.C concrete base with a fork joint made of 50x50mmx6mm M.S angel. The joint has one 450 mm long and 2nos 200mm long legs.

Joining specified welding conforming to AWS D1.4 by electric arc welding including highly oxidized electrodes with galvanized M.S surface. Mild steel should be, grade 250 with minimum fy = 250 MPa, 250 mm x250 mm or approved shape 16mm dia nylon combination rope net bolted to shal log inclined in design.16mm dia nylon combination rope (Steel + PP PET) with breaking load of LB 8666 use for rope net & proper bolt. Water resistant wood sealer matt finish for shal log.

Workshop charges, electricity and labor for fittings, fixing, curing etc. earth work in excavation with back fill, one layer brick flat soling, cum R.C.C work in 1:1.5:3 in/c. Reinforcement work etc. will be done as per design, drawing & Instruction of the architect.

Shal Log Treatment: Seasoning in a recognized mechanical timber seasoning plant up to a moisture content of 12% - 16% by weight as measured by an electric moisture meter.

This equipment costs **BDT 151,118**.

ii. Tire Hopscotch

Made with used standard passenger car tires of 22" dia and short wooden posts. The cost for this equipment is **BDT 25,350**.

iii. Chain Bridge

Made with 120mm dia seasoned & sorted Shal log. 8 horizontal & 4 vertical members properly joined with16mm dia galvanized 300mm length double ended and threaded stud bolt and nut. Bottom of vertical logs will be housed in 6mm thick minimum 900mm high cylindrical M.S. casing. The casing will be embedded in a RCC concrete base with a fork joint made of 50x50mmx6mm M.S. angle. The joint has one 450 mm long and 2nos 200mm long legs. Joining specified welding conforming to AWS D1.4 by electric arc welding including highly oxidized electrodes with galvanized M.S surface, Mild steel should be, grade 250 with minimum fy = 250 MPa, 16mm dia nylon combination rope (Steel + PP PET) with breaking load of LB 8666 hanging with shal log including standard hooking arrangement & proper bolt. 8 mm dia S.S chain link connecting 6 nos 800mm long horizontal shal log by suitable hook. Water resistant wood sealer, matt finish for shal log.

Workshop charges, electricity and labor for fittings, fixing, curing etc. earth work in excavation with back fill, one-layer brick flat soling, cum R.C.C work in 1:1.5:3 in/c. Reinforcement work etc. will be done as per design, drawing & Instruction of the architect. Shal Log Treatment: Seasoning in a recognized mechanical timber seasoning plant up to a moisture content of 12% - 16% by weight as measured by an electric moisture meter.

The cost for this equipment is **BDT 99,781**.

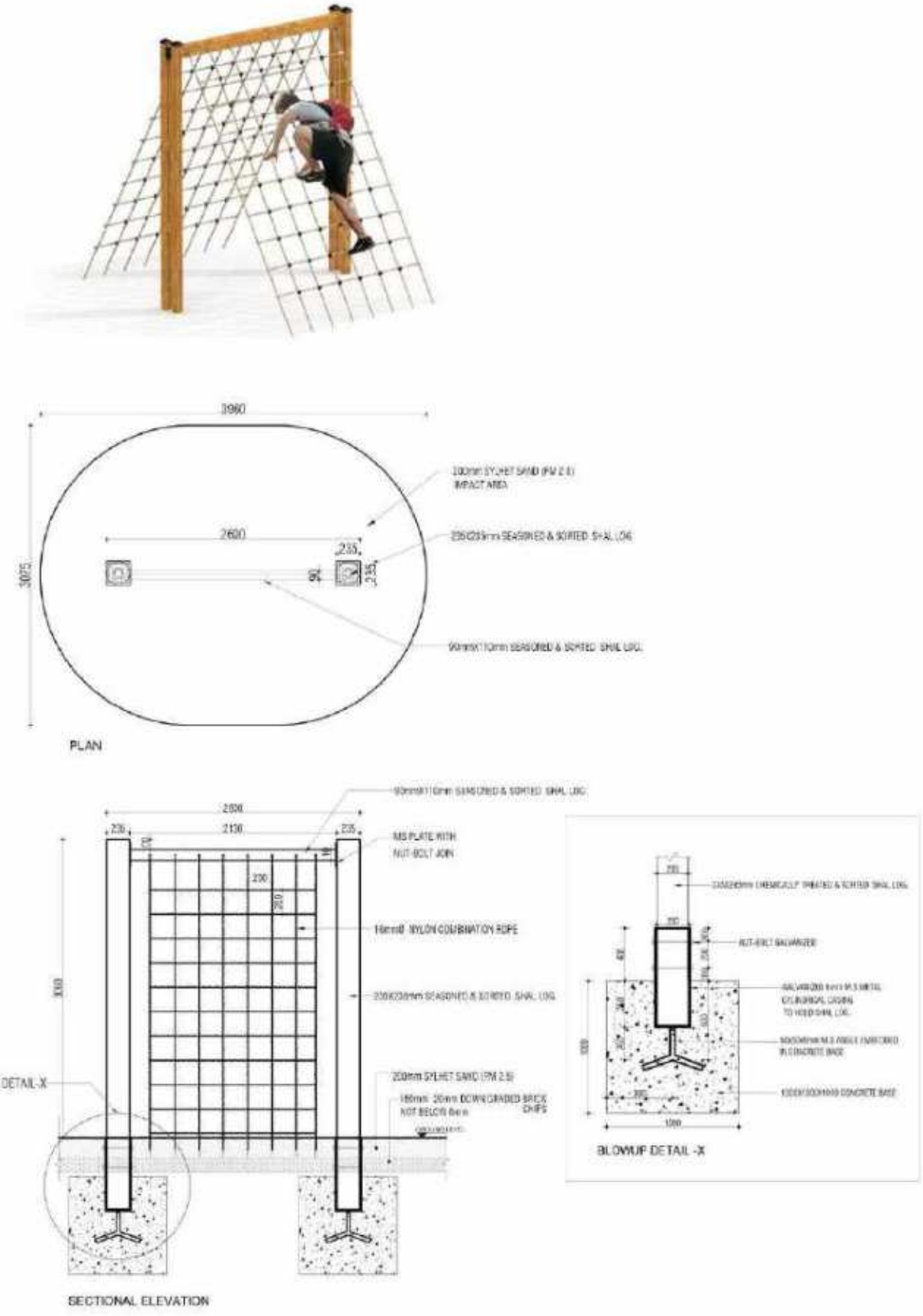


Figure 5.23: V-Shaped Net

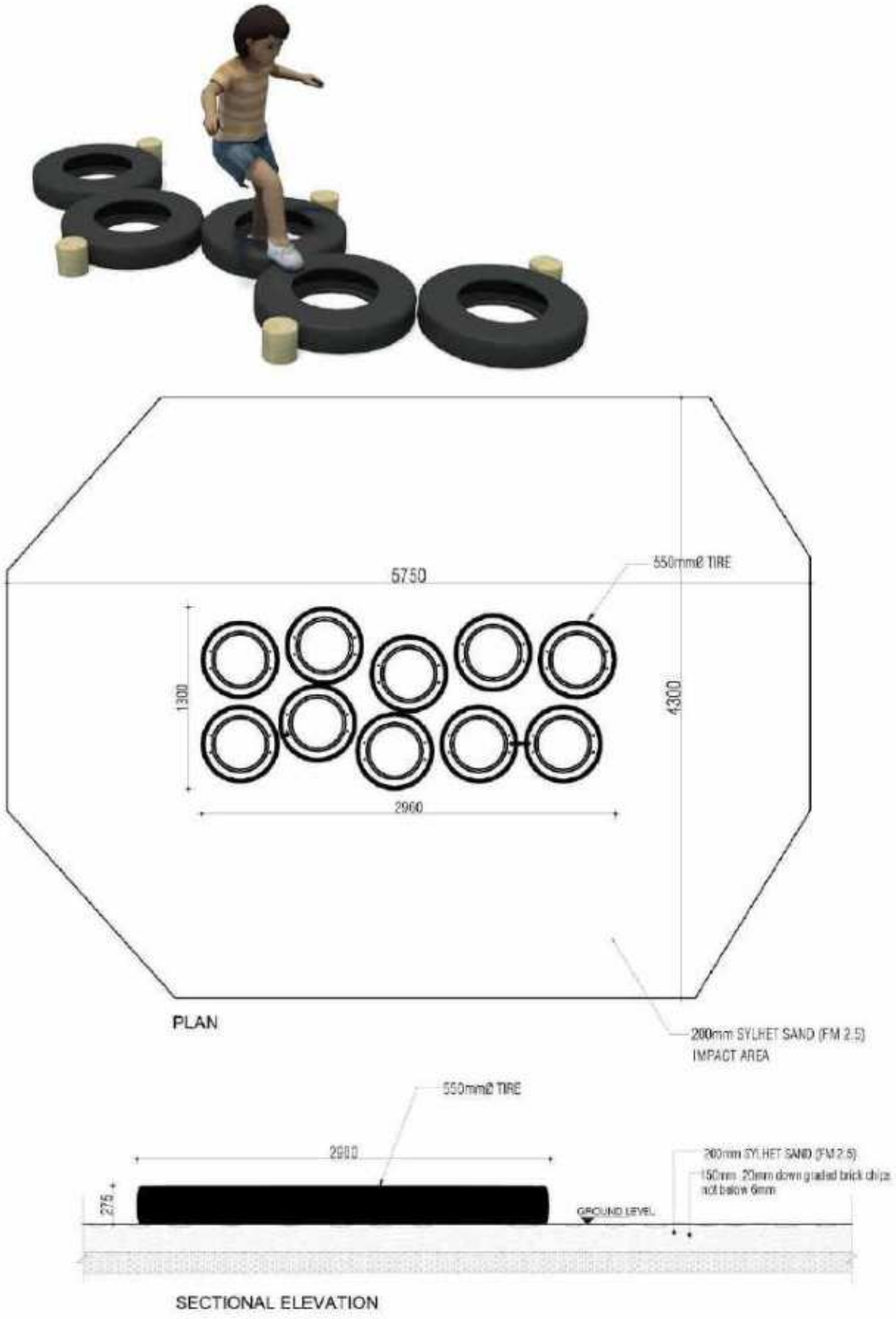


Figure 5.24: Tire Hopscotch

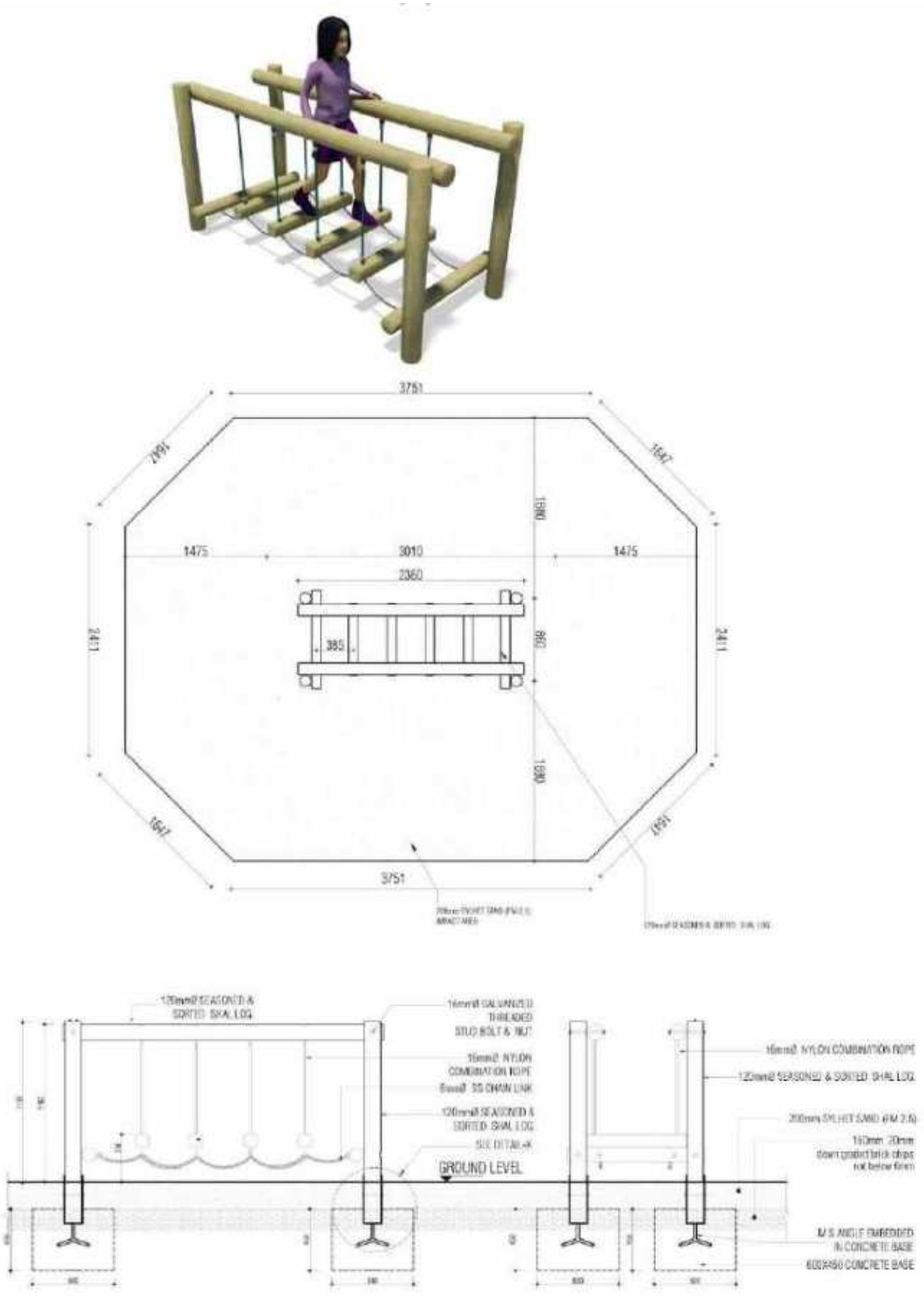


Figure 5.25: Chain Bridge

iv. Log Frame

Made with 120 mm dia Seasoned & sorted 4 nos inclined average 2600mm long & 8no 2000 mm horizontal shal log with proper joining with 16mm dia galvanized 300mm long double ended and threaded stud bolt and nut. Bottom of vertical logs will be housed in 6mm thick minimum 900mm high cylindrical M.S. casing. The casing will be embedded in an RCC concrete base with a fork joint made of 50x50mmx6mm M.S. angle. The joint has one 450 mm long and 2nos 200mm long legs. Joining specified welding conforming to AWS D1.4 by electric arc welding including highly oxidized electrodes with galvanized M.S surface, Mild steel should be, grade 250 with minimum fy = 250 MPa.

Workshop charges, electricity and labor for fittings, fixing, curing etc. earth work in excavation with back fill, one layer brick flat soling, cum R.C.C work in 1:1.5:3 in/c. Reinforcement work etc. will be done as per design, drawing & Instruction of the architect.

Shal Log Treatment: Seasoning in a recognized mechanical timber seasoning plant up to a moisture content of 12% - 16% by weight as measured by an electric moisture meter.

The cost for this equipment is **BDT 1,28,807**.

v. Double Swing

Made with 120mm dia seasoned & sorted Shal log. 1 horizontal & 4 inclined members properly joined with 16mm dia galvanized 300mm long double ended and threaded stud bolt and nut. Bottom of vertical logs will be housed in 6mm thick minimum 900mm high cylindrical M.S. casing. The casing will be embedded in an RCC concrete base with a fork joint made of 50x50mmx6mm M.S. angle. The joint has one 450 mm long and 2nos 200mm long legs. Joining specified welding conforming to AWS D1.4 by electric arc welding including highly oxidized electrodes with galvanized M.S surface, Mild steel should be, grade 250 with minimum fy = 250 MPa.

4 nos 2000mm long 8 mm dia Stainless Steel chain link with breaking load 0.53 MT hanging with shal log by suitable frictionless hook hanging with bearing system with 2nos M.S. swing including rubber covering.

Workshop charges, electricity and labor for fittings, fixing, curing etc. earth work in excavation with back fill, one layer brick flat soling, cum R.C.C work in 1:1.5:3 in/c. Reinforcement work etc. will be done as per design, drawing & Instruction of the architect.

Shal Log Treatment: Seasoning in a recognized mechanical timber seasoning plant up to a moisture content of 12% - 16% by weight as measured by an electric moisture meter.

The cost for this equipment is **BDT 1,28,807.**

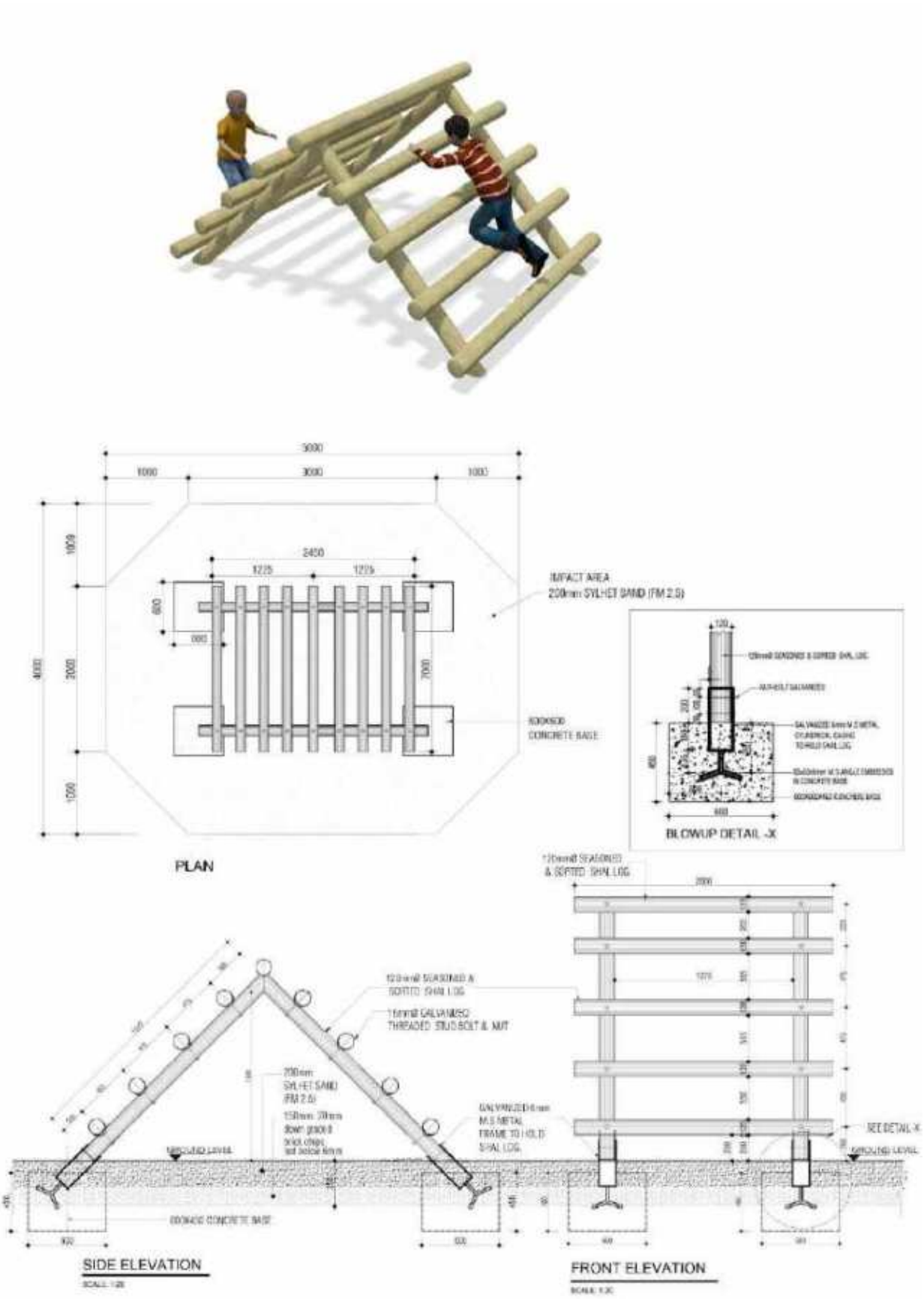


Figure 5.26: Log Frame

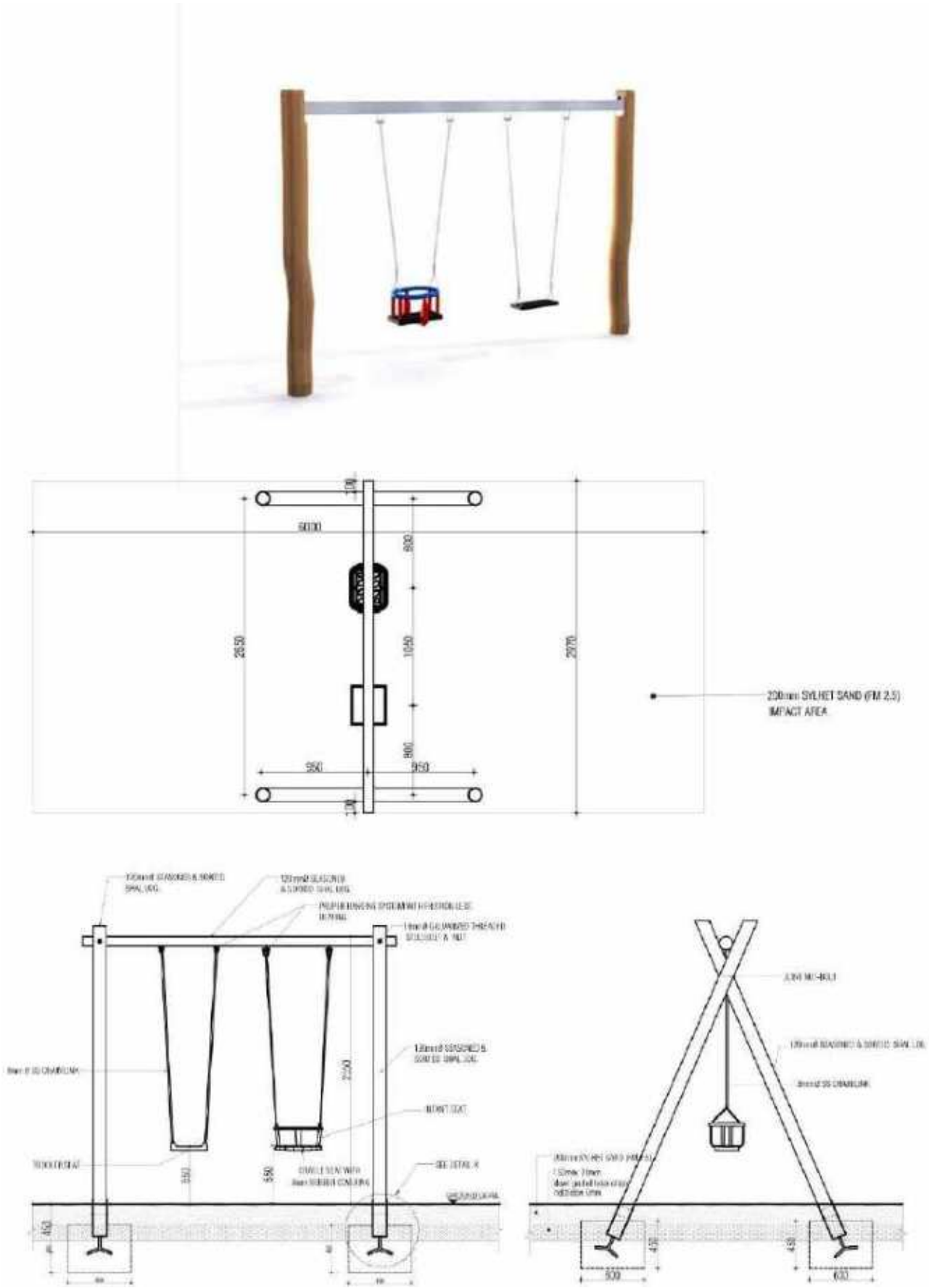


Figure 5.27: Double Swing

vi. Tire Traverse

Made with 120mm dia seasoned & sorted Shal log. 1 horizontal & 2 vertical members properly joined with 16mm dia galvanized 300mm long double ended and threaded stud bolt and nut. Bottom of vertical logs will be housed in 6mm thick minimum 900mm high cylindrical M.S. casing. The casing will be embedded in a RCC concrete base with a fork joint made of 50x50mmx6mm M.S. angle. The joint has one 450 mm long and 2nos 200mm long legs. Joining specified welding conforming to AWS D1.4 by electric arc welding including highly oxidized electrodes with galvanized M.S surface. Mild steel should be, grade 250 with minimum fy = 250 MPa,

540 mm external dia tire binding with 16mm dia nylon combination rope (Steel + PP PET) with breaking load of LB 8666 hanging with shal log with suitable frictionless hook hanging with bearing system & proper bolt. Water resistant wood sealer matt finish for shal log.

The cost for this equipment is **BDT 1,07,746**.

vii. Zigzag Stilts

Made with 120mm dia Seasoned & sorted Shal log. 8 vertical members properly joined with 16mm dia galvanized 300mm length double ended and threaded stud bolt and nut. Bottom of vertical logs will be housed in 6mm thick minimum 900mm high cylindrical M.S. casing. The casing will be embedded in an RCC concrete base with a fork joint made of 50x50mmx6mm M.S. angle. The joint has one 450 mm long and 2nos 200mm long legs. Joining specified welding conforming to AWS D1.4 by electric arc welding including highly oxidized electrodes with galvanized M.S surface, Mild steel should be, grade 250 with minimum fy = 250 MPa.

The cost for this equipment is **BDT 1,25,060.**

viii. Trapeze Walk

Made with 120mm dia chemically treated & sorted Shal log. 1 horizontal & 2 vertical member proper joined with16mm dia galvanized 300mm length double ended thread stud bolt and nut. Bottom of vertical logs will be housed in 6mm thick minimum 900mm high cylindrical M.S. casing. The casing will be embedded in an RCC concrete base with a fork joint made of 50x50mmx6mm M.S. angle. The joint has one 450 mm long and 2nos 200mm long legs. Joining specified welding conforming to AWS D1.4 by electric arc welding including highly oxidized electrodes with galvanized M.S surface, Mild steel should be, grade 250 with minimum fy = 250 MPa,

5 nos 400mm long 8 mm dia Stainless Steel chain link with breaking load 0.53 MT. hanging with shal log by suitable frictionless hook hanging. Water resistant wood sealer ensuring matt finish for shal log.

The cost for this equipment is **BDT 80,703.**

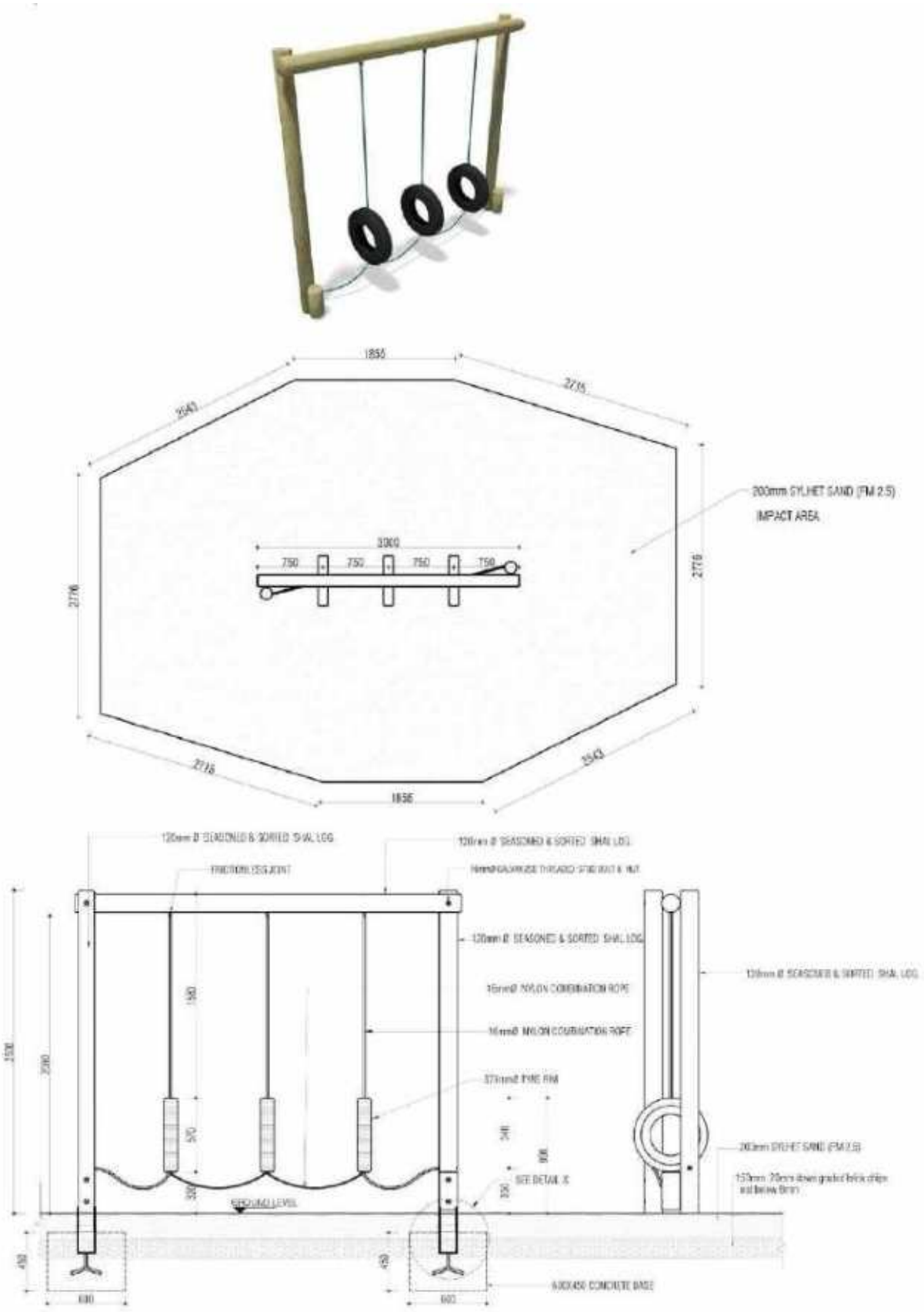


Figure 5.28: Tire Traverse

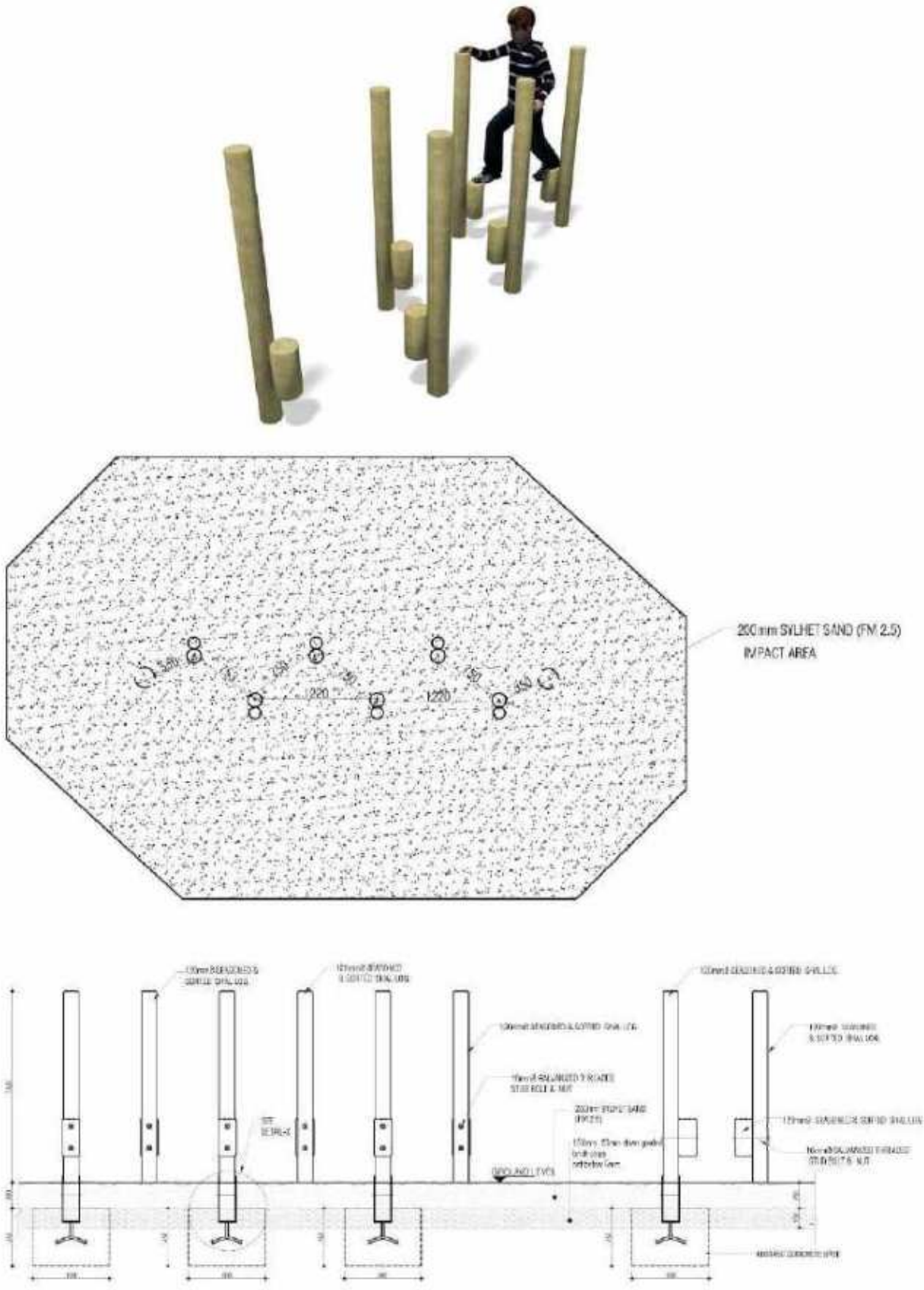


Figure 5.29: Zigzag Stilts

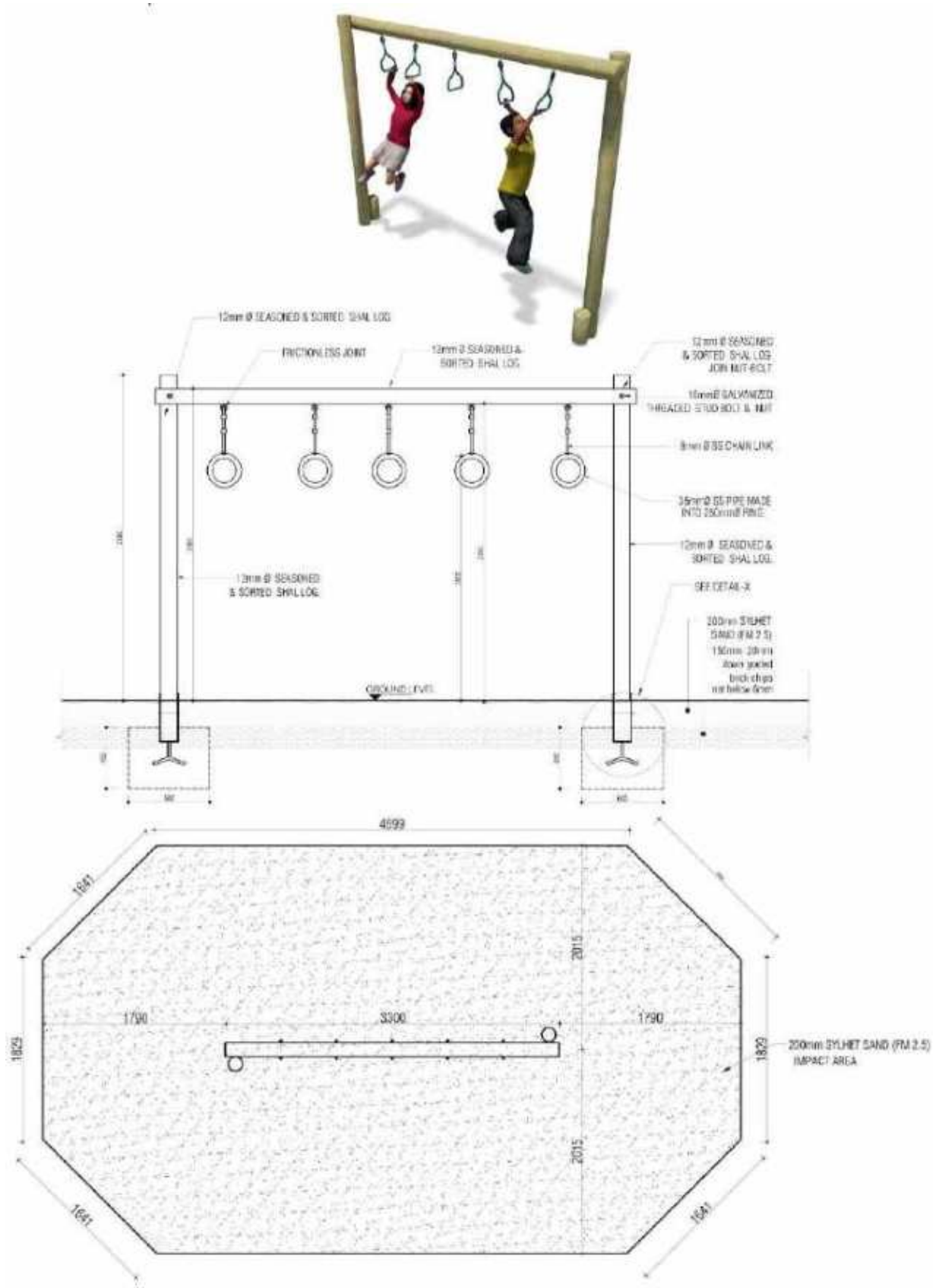


Figure 5.30: Trapeze Walk

ix. Jumping Pegs

Made with 90mm dia seasoned & sorted Shal log. 10 nos different height (900mm to 600m) vertical members. Bottom of vertical logs will be housed in 6mm thick minimum 600mm high cylindrical M.S casing. The casing will be embedded in an RCC concrete base with a fork joint made of 50x50mmx6mm M.S angle. The joint has one 450 mm long and 2nos 200mm long legs. Mild steel should be, grade 250 with minimum fy = 250 MPa.

The cost for this equipment is **BDT 1,13,000**.

x. Somersault

Made with seasoned and sorted 100 X 100 mm, vertical shal wood log with proper joining. The shal logs are connected with 33.4 mm dia, 3 nos MS pipe. All Pipe and log connection should have a 6 mm thick MS plate and threaded stud bolt and nut. All nut, bolts to be galvanized. Bottom of vertical logs will be housed in 6mm thick minimum 1200mm high cylindrical M.S casing. The casing will be embedded in an RCC concrete base with a fork joint made of 50x50mmx6mm M.S angle. The joint has one 450 mm long and 2nos 200mm long legs. Mild steel should be, grade 250 with minimum fy = 250 MPa.

The cost for this equipment is **BDT 69,589.**

xi. See-saw

Made with 150x150mm thick wooden log with 50mm dia S.S pipe, 6mm thick M.S plate & box, fitting with 20mm dia nut bolt with 32mm dia solid iron shaft, 2mm thick 20mm dia M.S pipe for handle. 38mm x 6mm size MS bracket, heavy duty bearing for sawing, 8mm thick rubber covering for handle and proper welding with powder coted heat paint on M.S surface. Also earth work in excavation with back fill, one layer brick flat soling, R.C.C work in 1:1.5:3 in/c. Reinforcement work etc.

The cost for this equipment is **BDT 89,261.**

xii. Climbing Block

Made with a Bamboo wall and wooden climbing clamps. The climbing wall will be embedded in the ground with a fork joint made of 50x50mmx6mm M.S. angle.

The cost for this equipment is **BDT 97,587.**

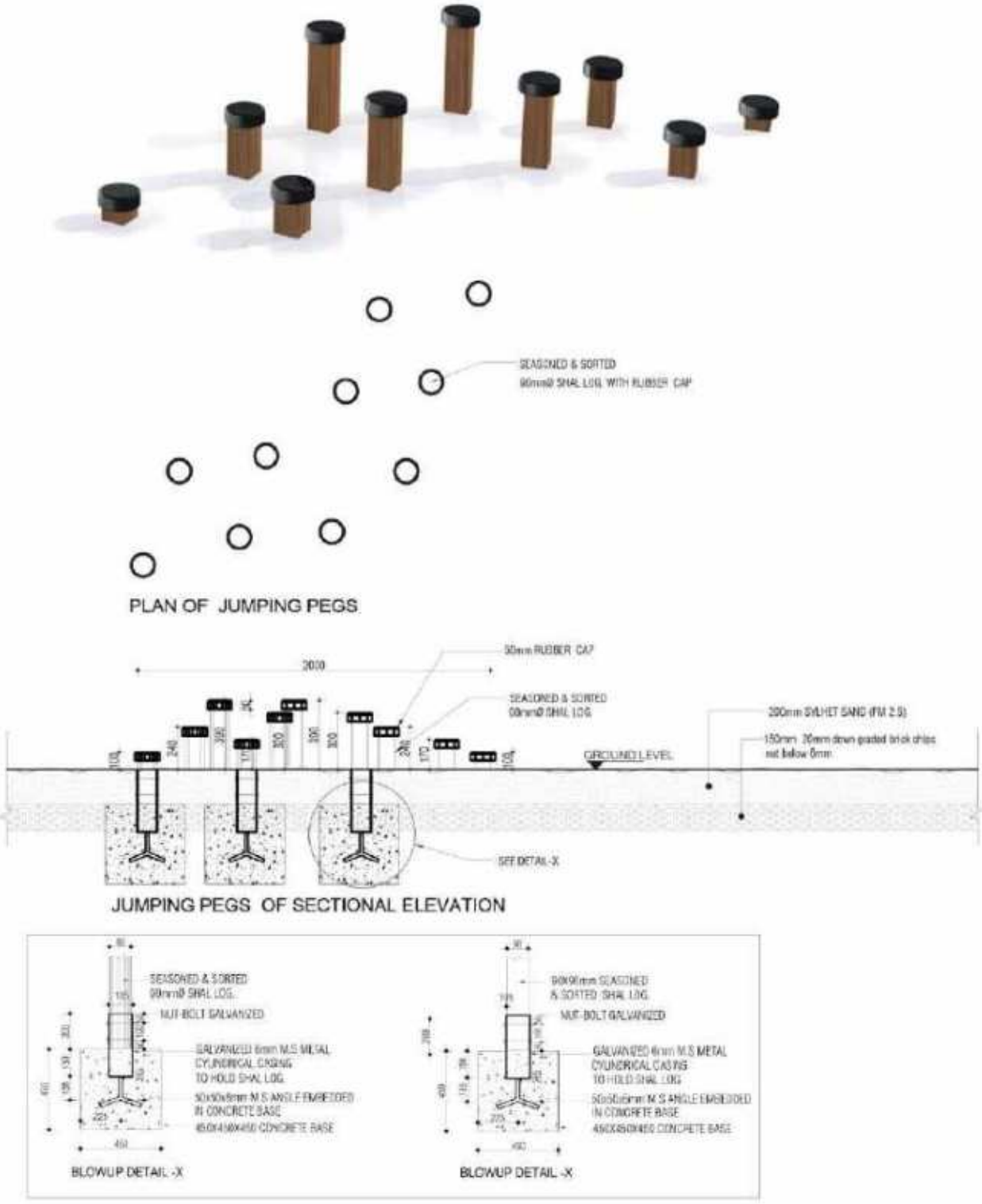


Figure 5.31: Jumping Pegs

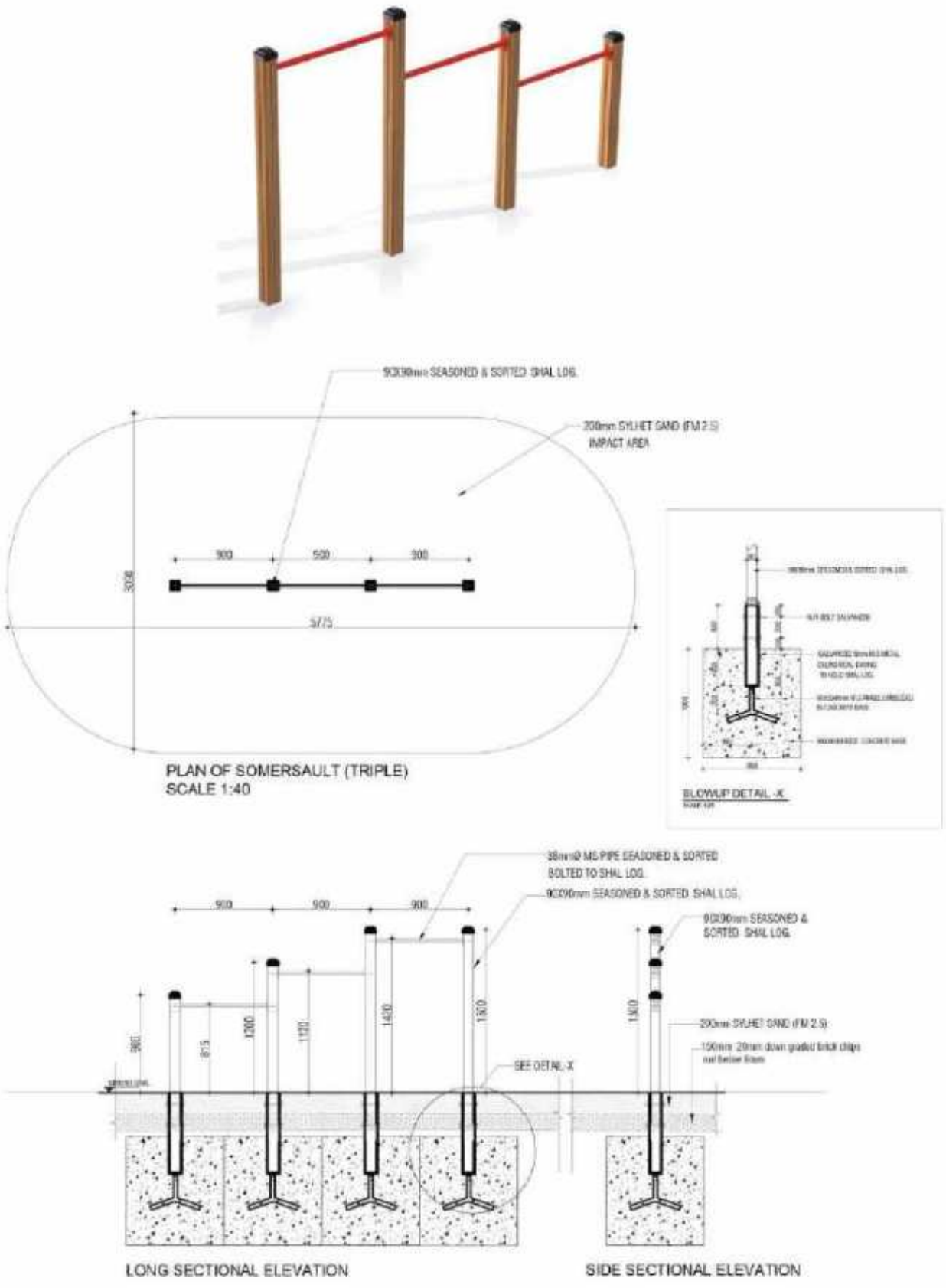


Figure 5.32: Somersault

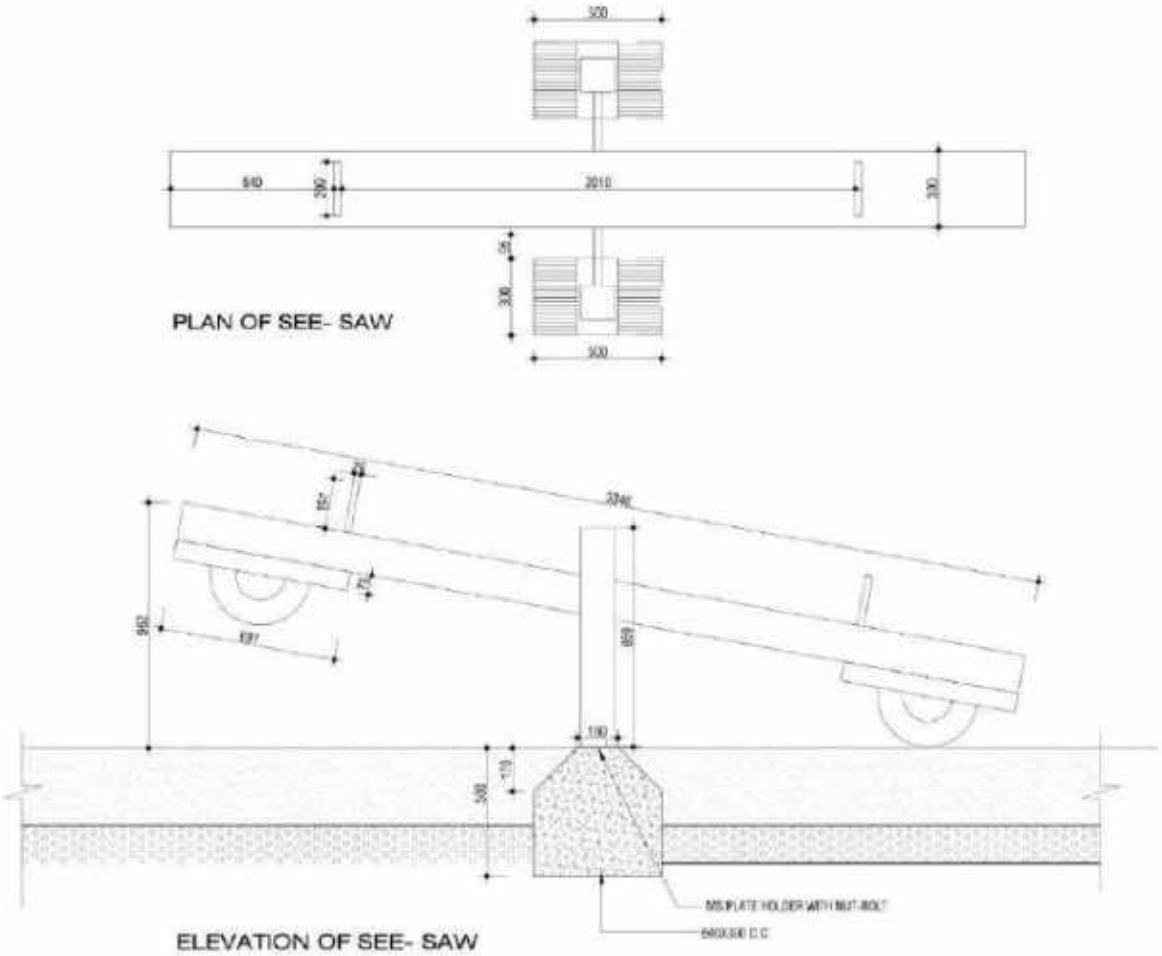


Figure 5.33: See-saw

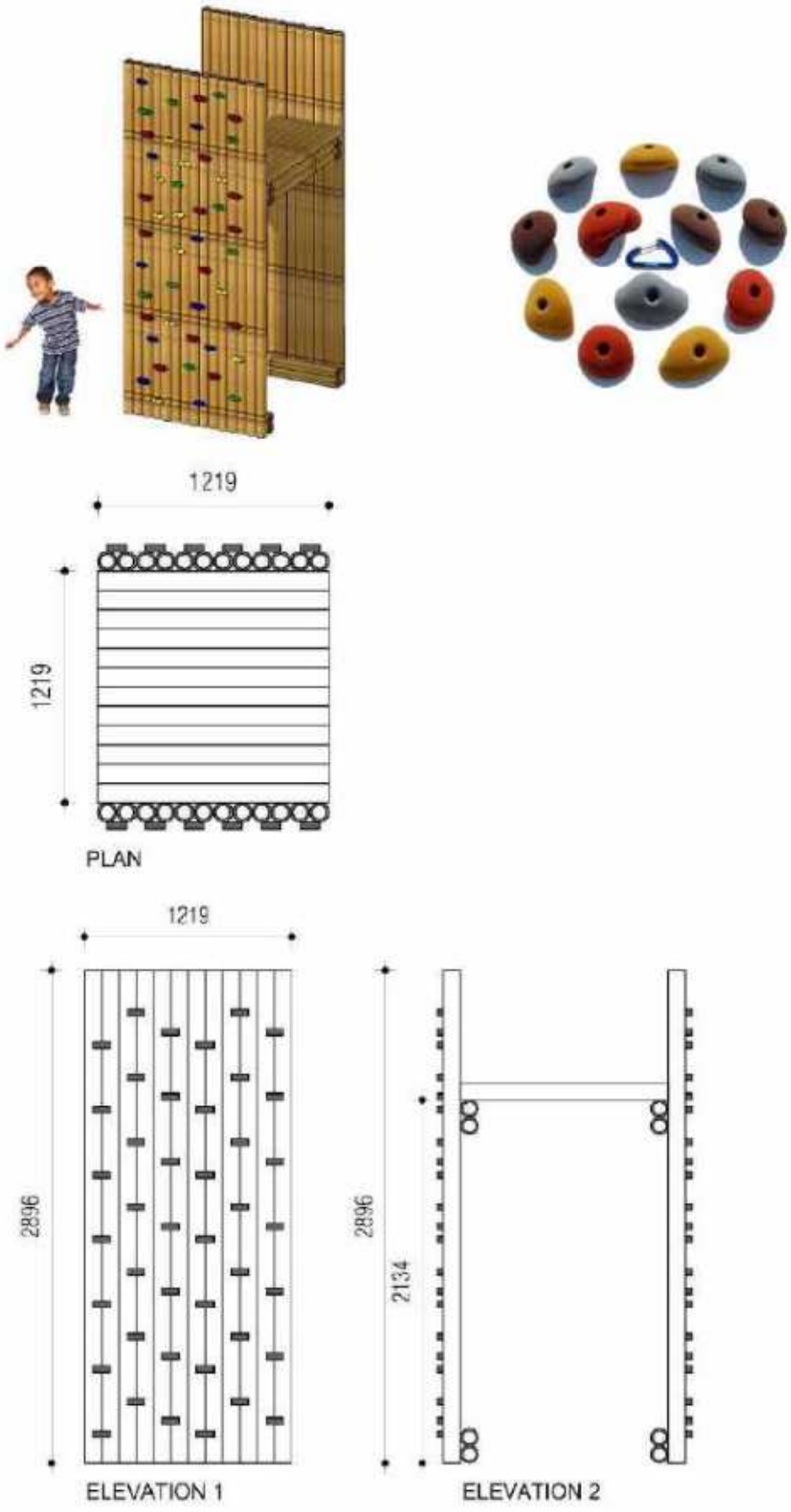


Figure 5.34: Climbing Block

CHAPTER-6: PLANNING FOR SETTING UP OF MINI STADIUMS, PARKS IN EVERY UPAZILA ACROSS THE COUNTRY

Outdoor games and physical exercise are beneficial to health. A detailed discussion regarding this has been made in the previous chapters. Besides, in the last election manifesto present government declared to expand the facilities of urban areas into rural areas. The endeavor of setting up of mini stadiums, parks in every Upazila across the country will support fulfilling the commitment. In this chapter, few examples of public and community space would be given and after that, in the context of Bangladesh, how the left-over places could be utilized including space available for small time would be discussed and at the end, few sites which are selected for detailed design, would be described.

Proposed Conceptual Outdoor Recreational Facilities in Context of Bangladesh

From the literatures, figures and illustrations above, it is evident that there is a huge potentiality of place making (public and community space) in Bangladesh. The places may be parks, play-lots, fields, water-edges, waterbodies etc. Based on these typologies, following sections are an attempt to exemplify making of such places.

6.1 Water-edges

Different sizes of lands along the water-edge can be used for generating vibrant and inclusive community spaces. Water-edge development has the potential to protect natural waterbodies as well as increasing the stock of public spaces. Different scales of public spaces can be accommodated according to the availability of land and natural context. Water-edge places include Ghats, Pedestrian bridges, Walkways etc. Some examples are shared below:

i. Ghat

Ghats can serve the purpose of activating otherwise neglected lakes and rivers. Not only are they used for a transit, but they also act as spontaneous places of interaction and socialization. Moreover, ghats can be generators of economic activity. Since it has a heavy foot traffic throughout the day, different shops and vendor activities also grow spontaneously beside it.

Ghats can be designed as termination points or around important nodes. It is essential to consider the variety and volume of users in the design so that it can be used as a successful community space.

Figure 6.1: Plan of a Ghat

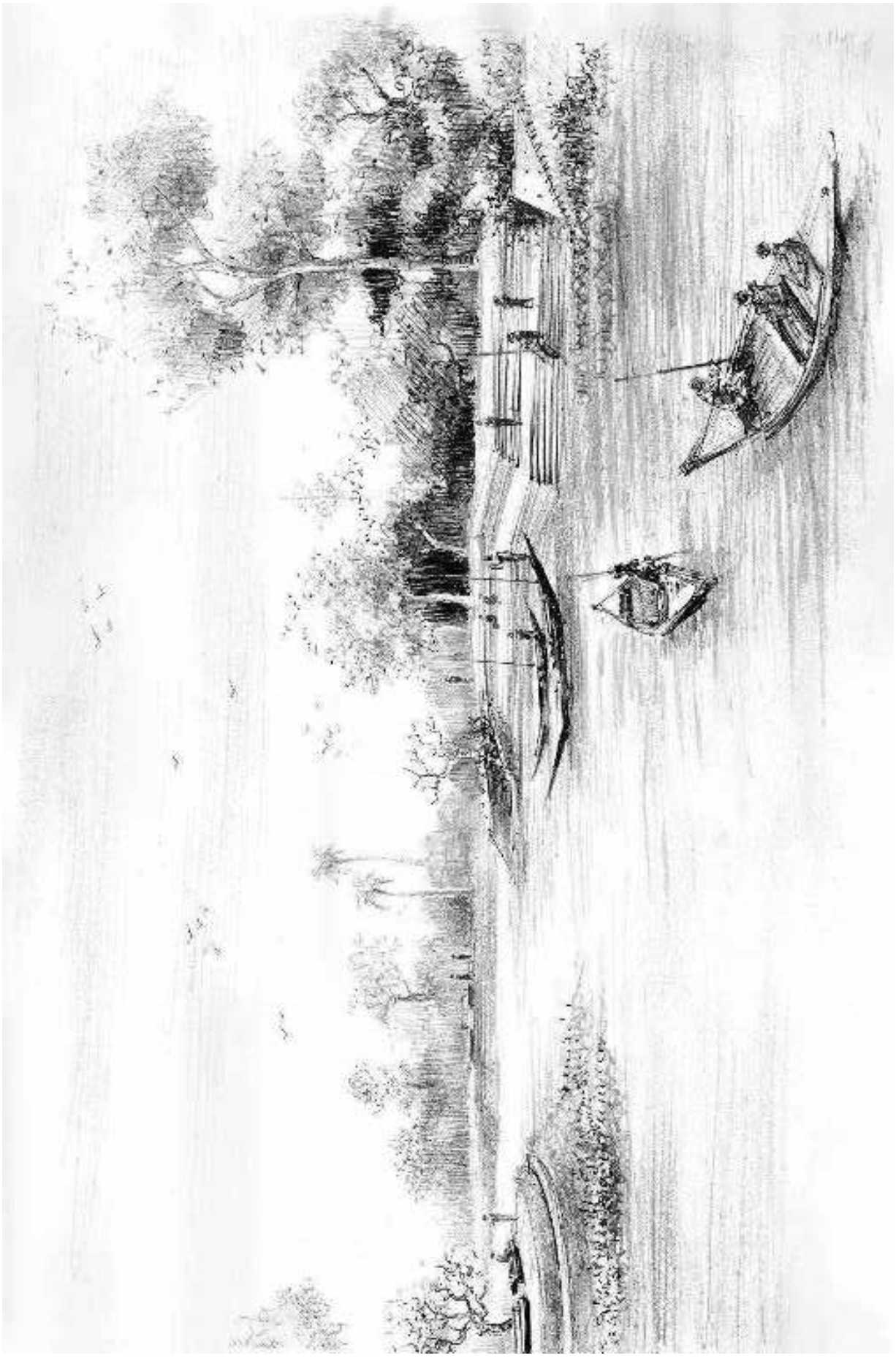


Fig 6.2: Visualization of a Ghat

ii. Socio-cultural Activity Space

Water-edges can be spaces for cultural and social events and gatherings. Where sufficient land is available, stepped seating areas with/without performance spaces can be provided to hold various events. The scale of these social spaces should be determined according to the context and user demand. In rural settings, a semi-circular ghat with plantations and sitting areas can substitute large amphitheaters. The benefit of these spaces is that they can accommodate both cultural events and leisure gatherings of users.

iii. Walkway

Walkways or trails can be designed along the edges of waterbodies to ensure better connectivity as well as creating interactive spaces. In addition, walkways can enhance shore protection, demarcate and protect the boundary of waterbody and prevent encroachment. Walkways can be situated on the ground where the edge permits, or become causeways and float on the water.

iv. Bamboo Bridge

Bamboo foot bridges are an upgrade of the locally used *shaako*s. These bridges can be designed to perform as calm and quiet community spaces apart from means of connectivity across waterbodies. Bamboo bridges are inexpensive and easy to build, which make them the ideal option to build in rural settings. These bridges can be designed incorporating small pockets of social spaces to serve adjacent neighborhoods.

V. Pocket Parks

Small pocket parks with plantation and shaded seating areas can be provided where the water-edge is sufficiently wide. These parks can be small neighborhood-scale gathering spaces. They can also enhance bio-diversity of the area by attracting different species of birds and small animals.

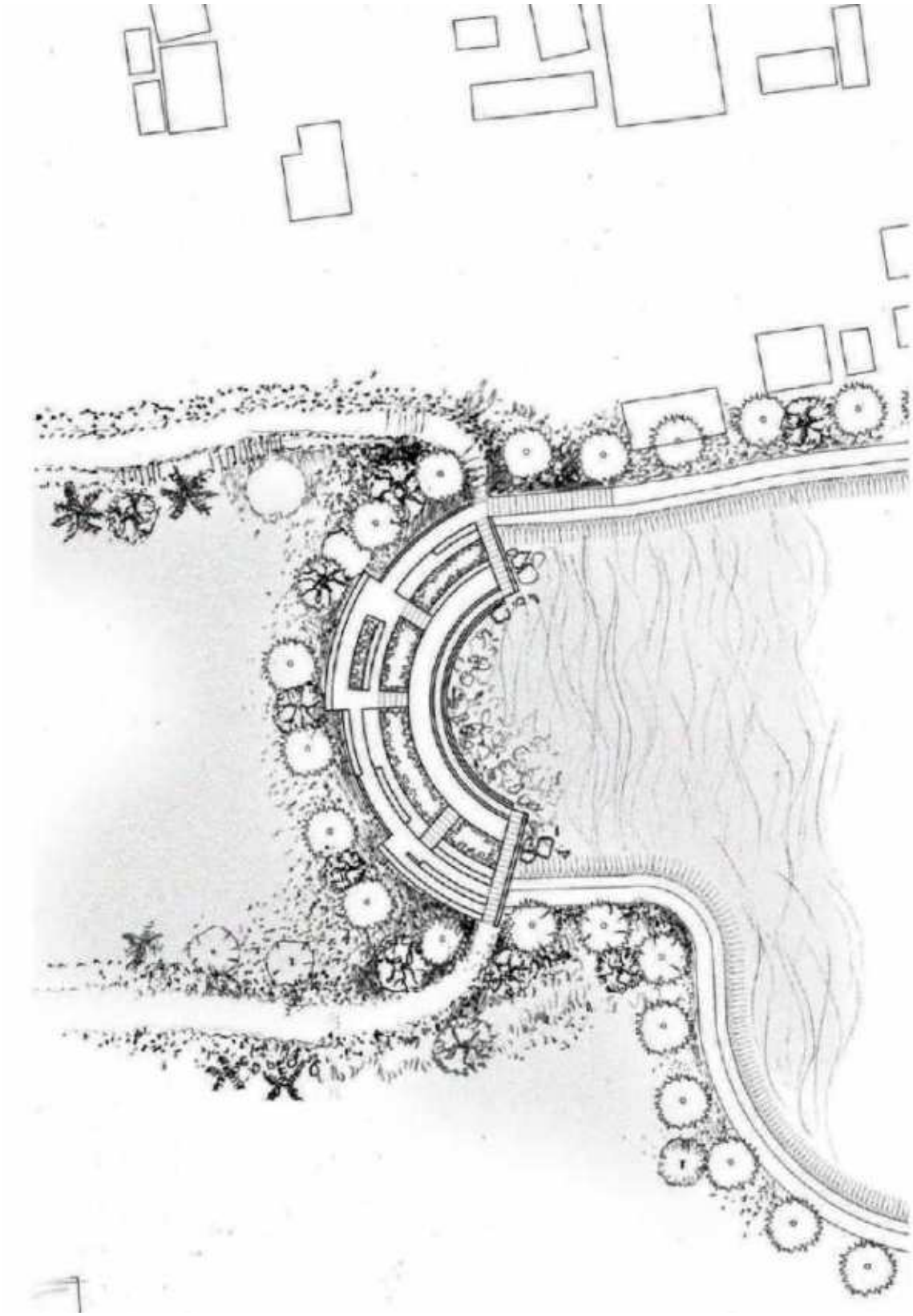


Figure 6.3: Socio-cultural Activity Space

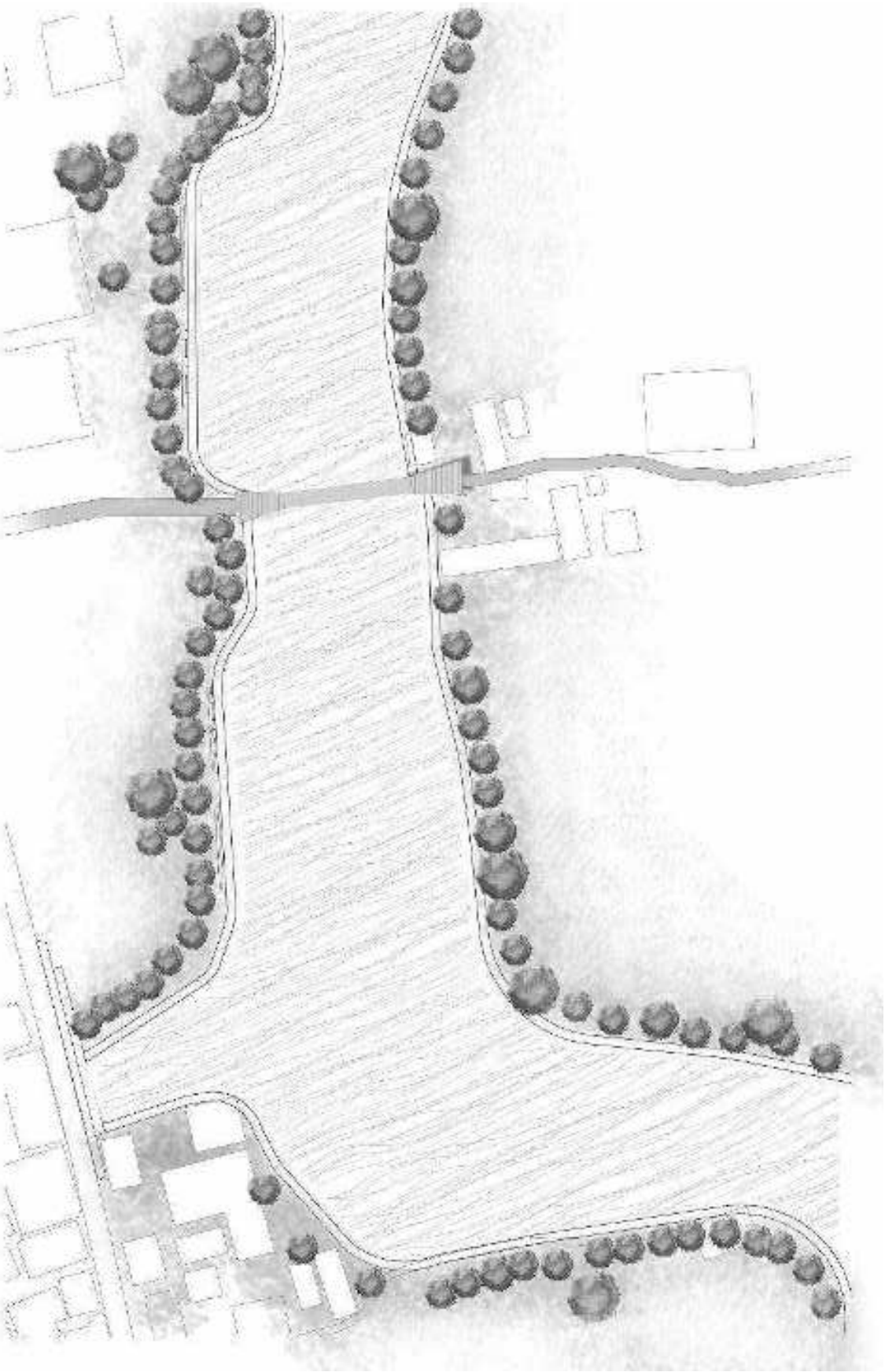


Figure 6.4: **Water-edge Walkway**

Figure 6.5: Water-edge Walkway

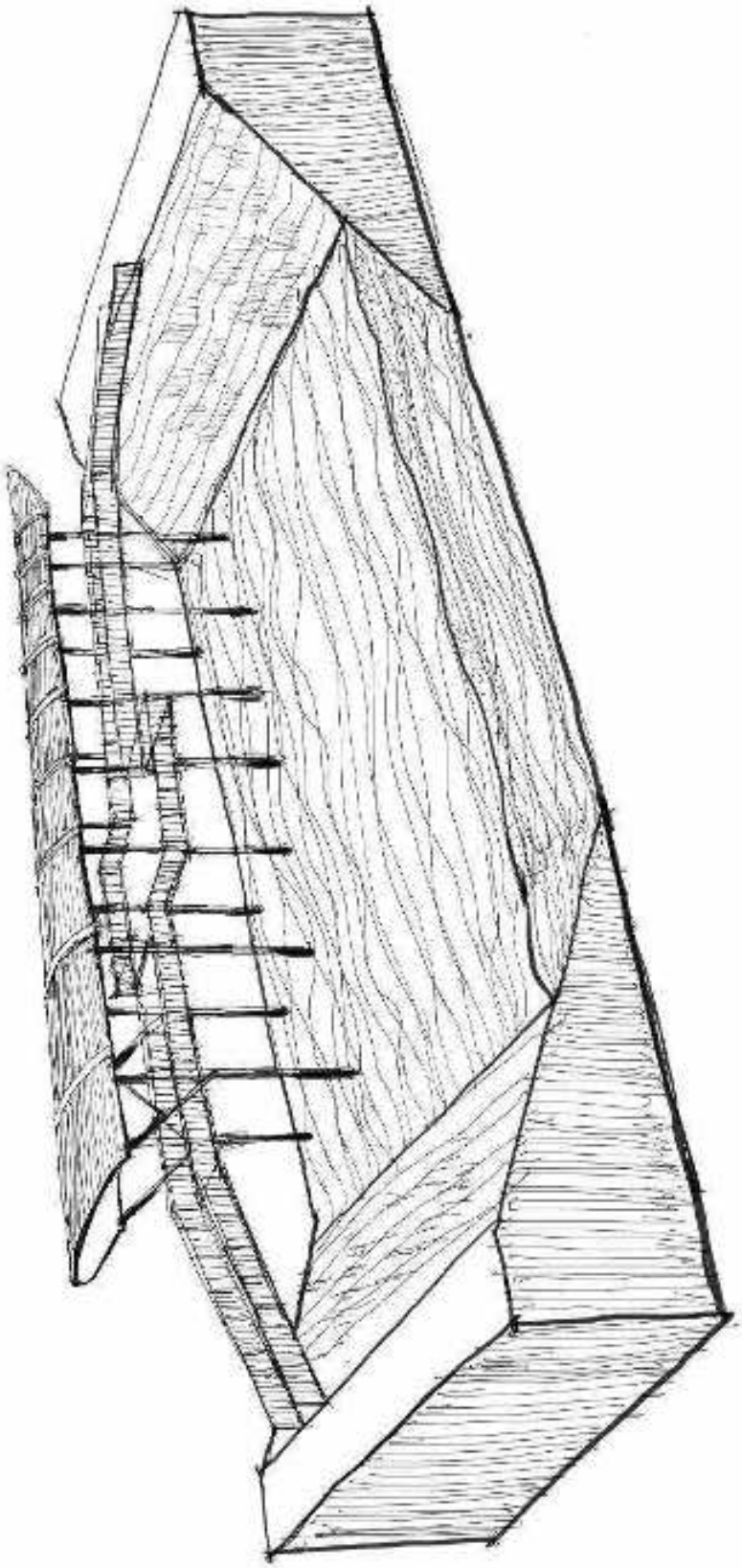


Figure 6.6: **Bamboo Foot-bridge**

Figure 6.7: Pocket Park

vi. Sitting Area

Different kinds of durable and modular outdoor furniture can be designed along water-edge walkways to create interactive resting areas. The design of sitting furniture can incorporate plantation to provide shading. Sittings can be placed facing each other to facilitate interaction, or they can be arranged in an extroverted fashion facing the view of the waterbody.

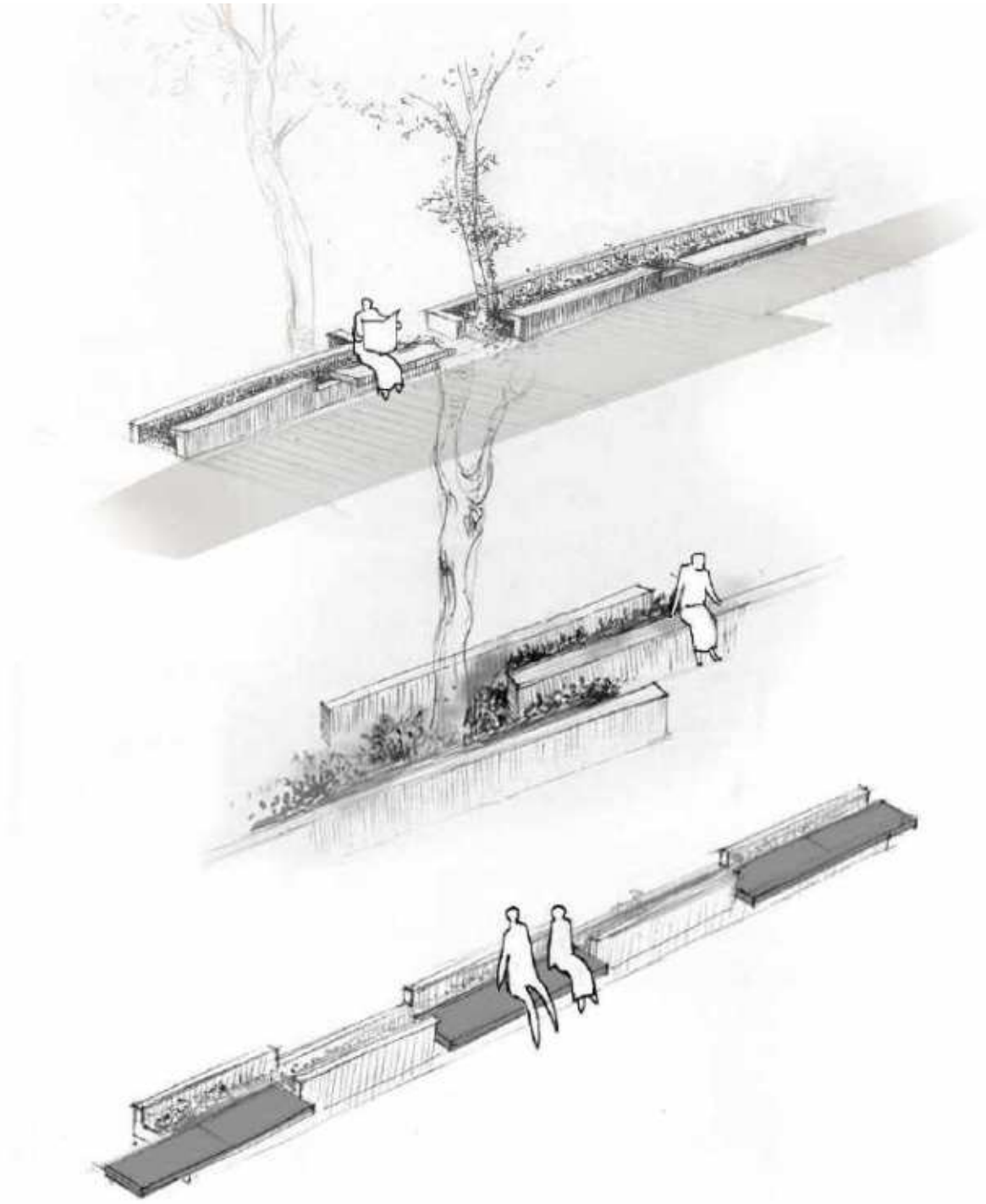


Figure 6.8: Outdoor Sitting Area

6.2 Public Courtyard (Gonoprangon)

The Public Courtyard is an open community complex that contains a regulation size (5-a-side) football field in the center, and functional volumes around it. The functional spaces have been determined following the Chapter 3.11 of the Election Mandate. The central field is encircled by a walkway. The complex has 4 principal blocks around it: (i) Economic Block (ii) Service and Management Block (iii) Shelter Block and (iv) Engagement block. The economic block consists of the gallery of the mini stadium and shops underneath. The Service and Management block consists of a management office and a utility space. The shelter block consists of a waiting space and public toilets. The Engagement block is a transformative volume that consists of spaces like library, café, youth training center etc. This volume will incorporate different functions according to varying needs of the users in different regions. The complex opens up towards its surroundings through the corners.

i. Conceptual Development

The Public Courtyard has been developed in a few steps. The core concept behind this complex is developing a community center with an open space in the heart and surrounding functional blocks to contain it. The design of the complex was inspired by an age-old proverb prevalent in Bengali vernacular culture- a poem by Khona, a philosopher from west Bengal. The poem is as follows-

" দক্ষিণ দুয়ারী ঘরের রাজা,

পুব দুয়ারী তাহার প্রজা

পশ্চিম দুয়ারীর মুখে ছাই,

উত্তর দুয়ারীর খাজনা নাই"

This simple poem sums up the core principle of arranging buildings in a compound in our context. The poem dictates that south-facing orientation for buildings is the most suitable in our context, while west and north facing orientation are the most disadvantageous. The form of Gonoprangon has been carefully designed to have openings in the corners, so that it can perform climatically in any context by having partial openings towards the south.

The form has been derived in a few steps. These are as follows:

Firstly, the functional volumes are placed along the edges of the site to contain a central open space.

Secondly, the corners of the functional blocks have been cut to open up the complex towards its surroundings.

Thirdly, the central open space is transformed into a regulation sized playground with a walkway encircling it. The walkway connects the interior space to the approach road and marks the entry to the complex.

Finally, different functional blocks are incorporated within the complex and the engagement block is designed according to the site context. In addition, trees and gardens are added to encourage public activity and engagement with the complex.

Figure 6.9: Conceptual Development of Public Courtyard

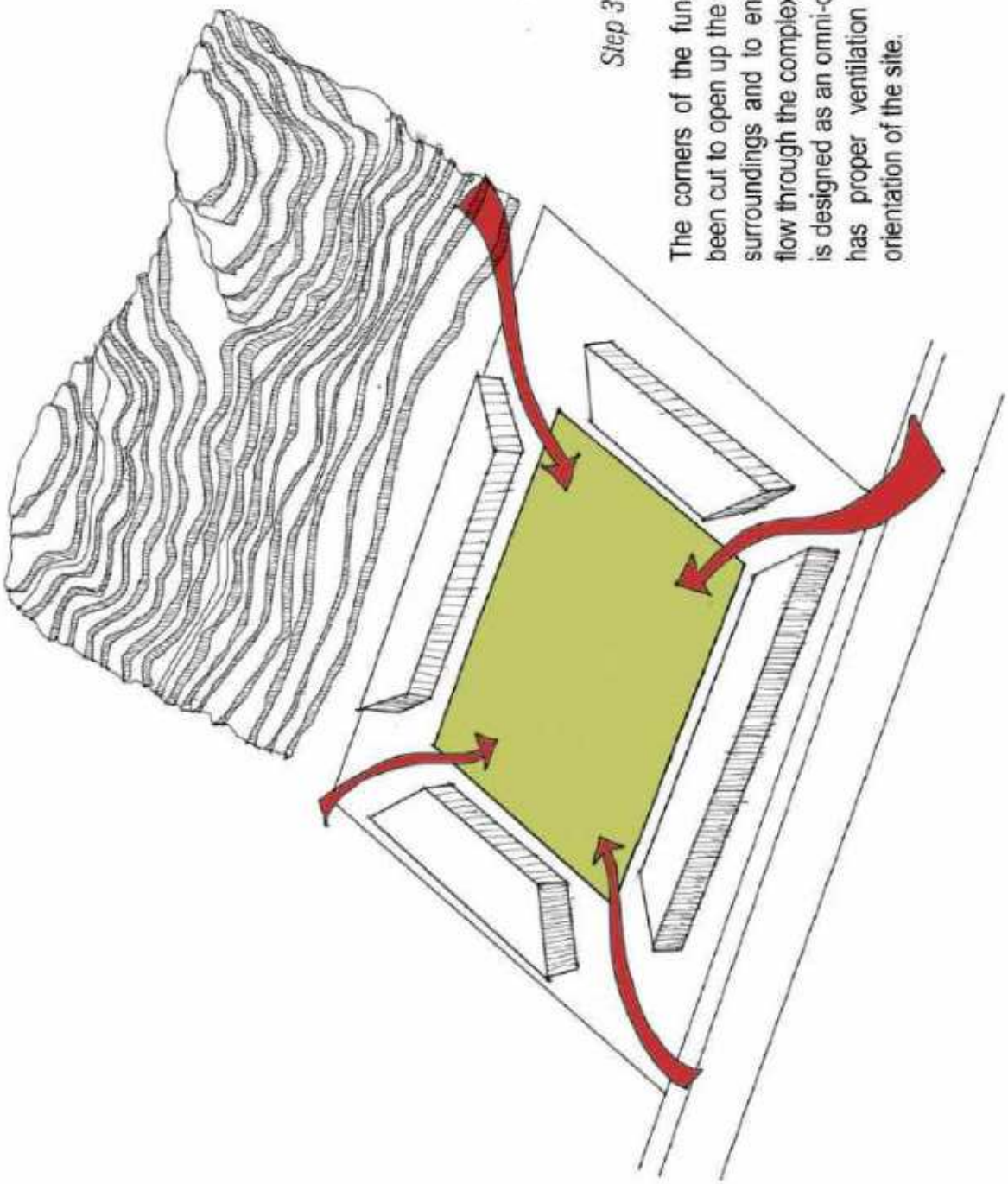


Figure 6.10: **Conceptual Development of Public Courtyard**

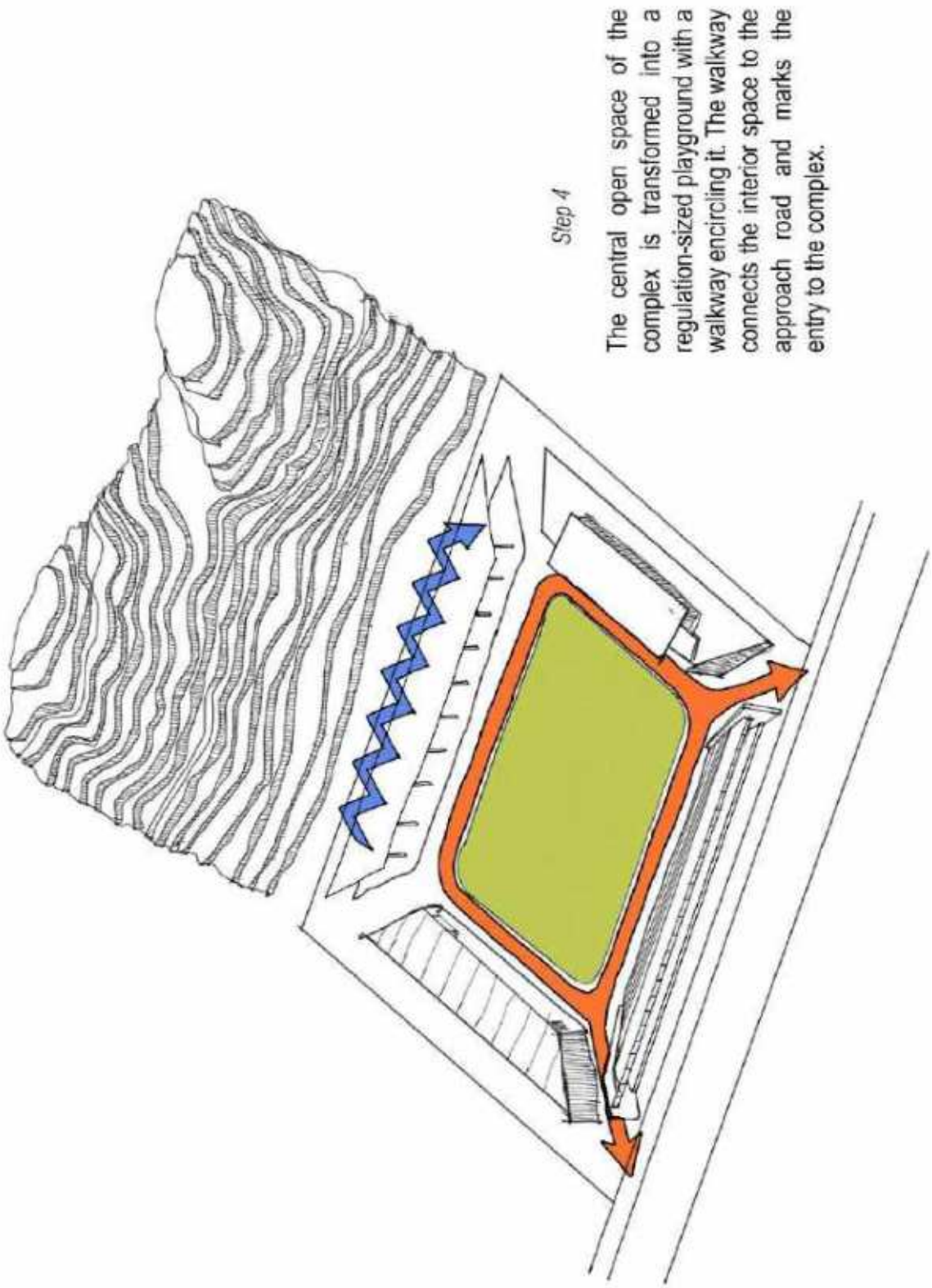


Figure 6.11: Conceptual Development of Public Courtyard

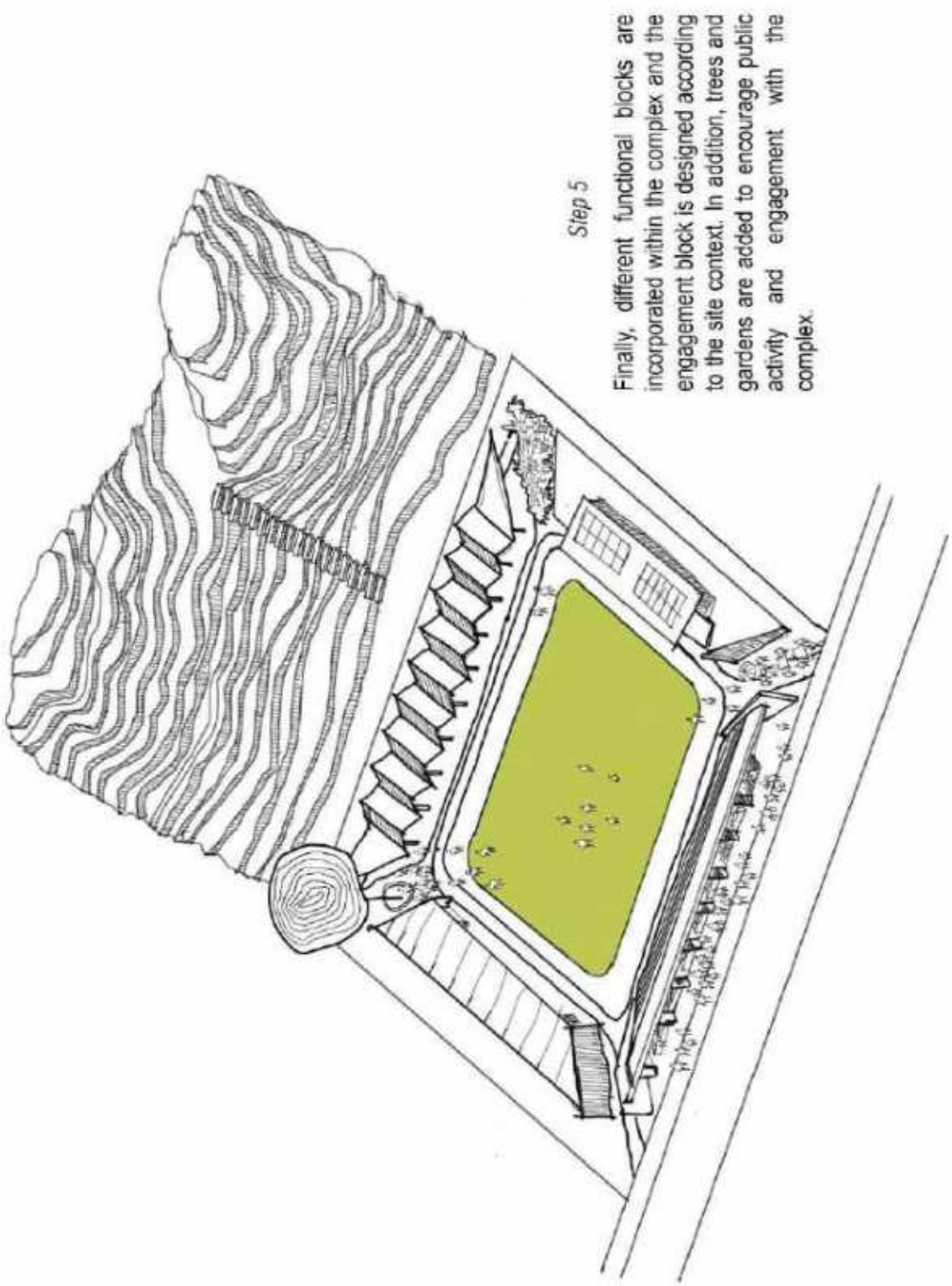


Figure 6.12: **Conceptual Development of Public Courtyard**

ii. Design Elements

Retaining the core concept of the Public Courtyard, it can be designed in a number of different ways according to site context, site shape etc. For the sake of discussion, a Public Courtyard with a youth training center is described below:

a. Youth Training Center: The Youth Training Center is placed on one side of the central field, opposite to the approach road. The training center can be a rentable space that generates revenue to facilitate the smooth operation and maintenance of the complex.

b. Management Office: The management office block sits on one side of the playground. It consists of an office space, a waiting area and a utility room.

c. Waiting Area and Public Toilet: The waiting area consists of a shaded sitting area and a public toilet block.

d. **Gallery and Marketplace:** The gallery is placed along the approach road, facing the playground. Underneath the gallery, facing the road, is a marketplace to accommodate different kinds of shops.

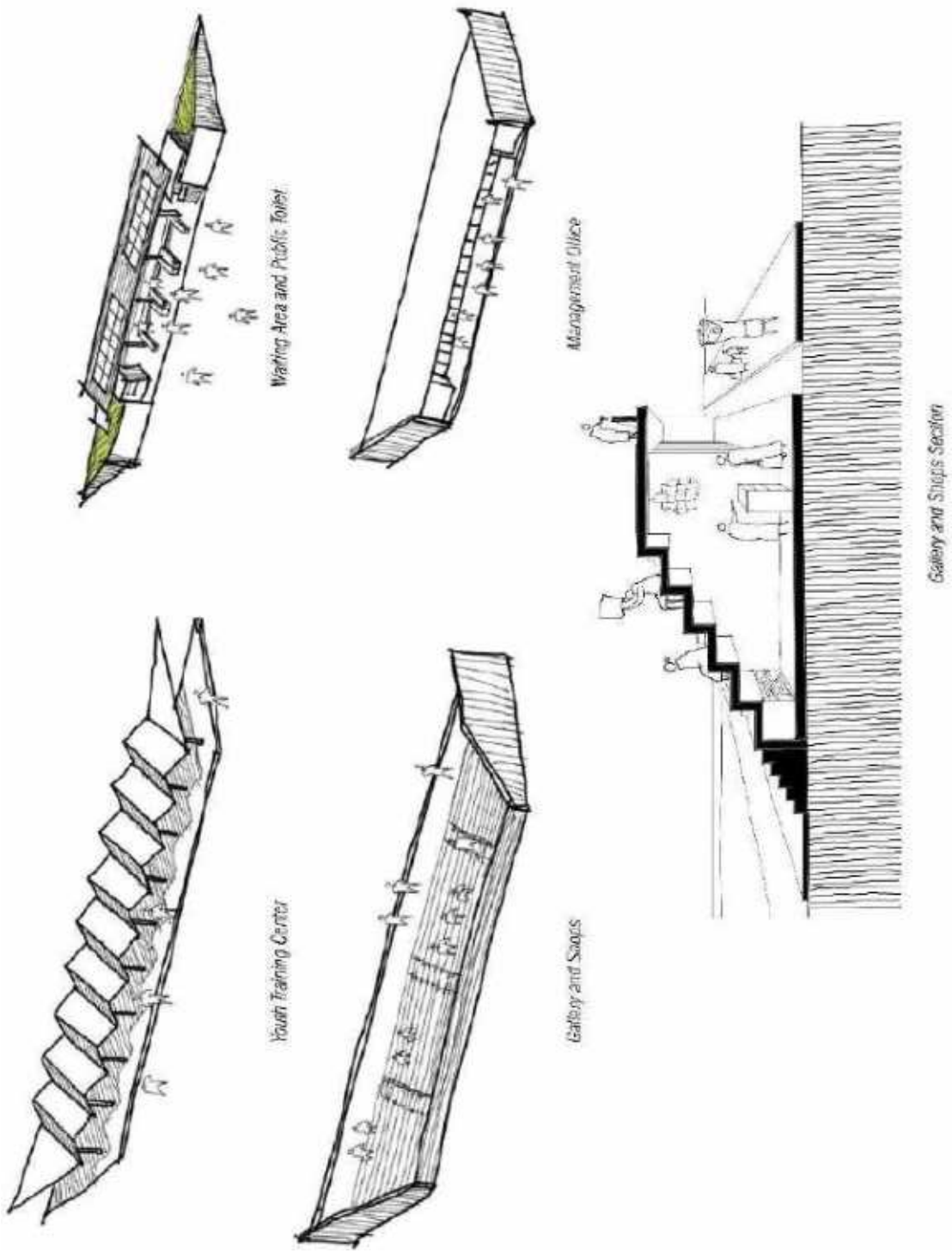


Fig 6.13: Conceptual Development of Public Courtyard

iii. Variations

The complex will be transformed following certain criteria, keeping the core concept intact. These criteria are as follows:

a. Site Context
b. Site Shape

a. Site Context

The complex will change according to its site context. For example, when it is designed beside a paddy field, the engagement block will be single storied to maintain harmony with the horizontality of the surrounding landscape. When the complex is designed in a hilly context, the engagement block will be

comparatively perforable and transparent to facilitate views towards the surrounding landscape. When the complex is placed beside a forest, the volume can be a two storied stilted volume with a ramp. Similarly, in case it is placed beside a waterbody, the engagement block will have a large aperture in the center leading up to a ghat or a stepped landing for boats.

b. Site Shape

The complex can retain its integrity in different shapes of lands. By keeping the concept of a centrally contained space intact, the complex may change its form in different kinds of lands. For example, the design has been demonstrated in three different shapes of lands (Trapezoidal, linear, square) Figure 6.18.

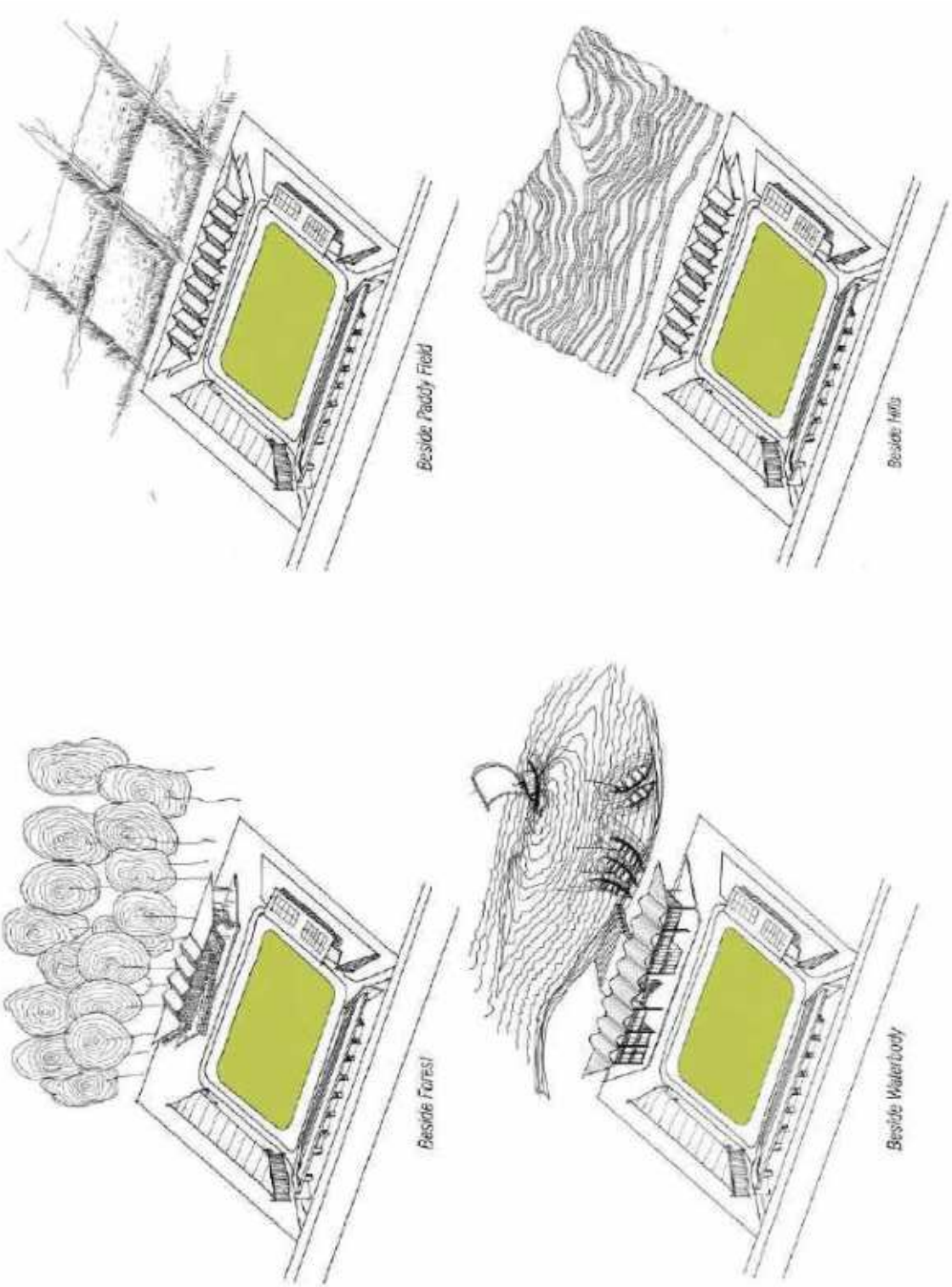


Figure 6.14: Design Variation according to Site Context

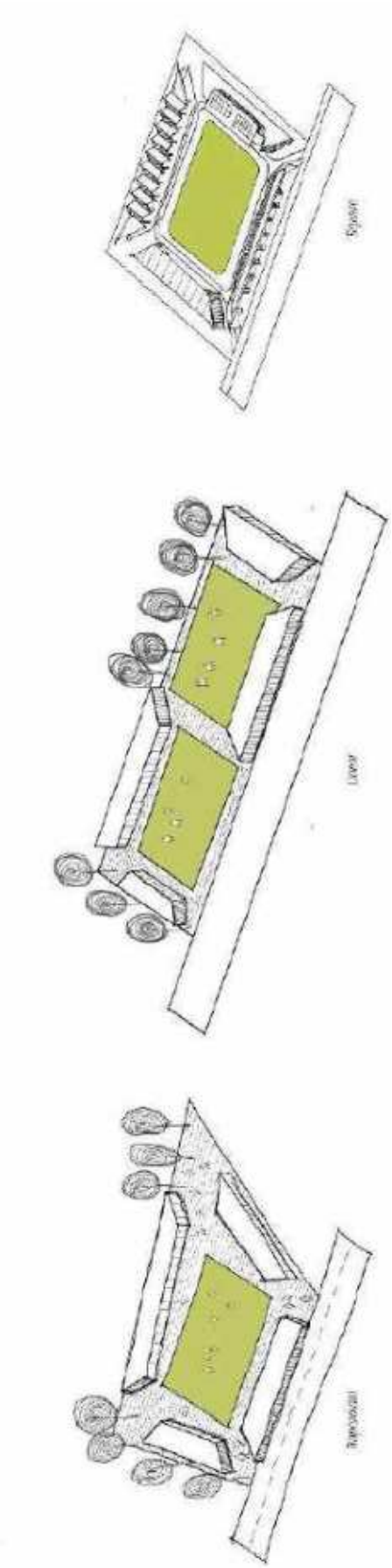


Figure 6.15: Design Variation according to Site Shape

iv. Sustainable Features

The public courtyard complex is designed considering the three principal sustainability goals. These are:

a. Equity

b. Environment

c.Economy

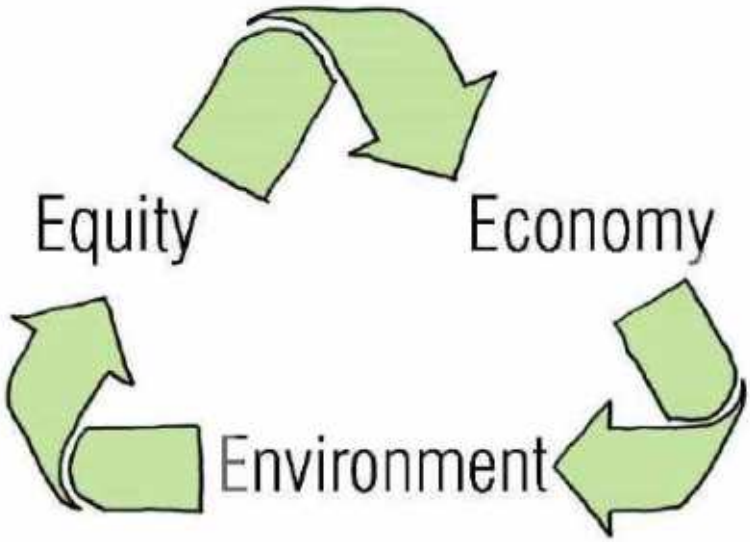


Figure 6.16: Consideration of Sustainability Goals

a. Equity

The complex is accessible to and serves five different groups of people: (i) Children, (ii) Youth, (iii) Elderly, (iv) Differently Abled People (v) Women. Having inclusiveness in the heart of its concept, the entire complex has been designed considering universal accessibility. The different functions are accommodated with a wide spectrum of user group in mind.

b. Economy

The complex is economically envisioned with two different aspects: 1) Use of Economic Construction Materials 2) Revenue Generation.

The complex has been designed to be constructed using locally available and cheap construction materials like brick, concrete blocks, bamboo, timber, C.I. sheets etc. In addition, the complex has a rentable space (Youth Center) which will generate revenue to ensure the management and maintenance of the entire complex.

c. Environment

The complex is environmentally sustainable with the following considerations integrated within its design:

1. Waste Management
2. Electricity Generation
3. Rainwater Harvesting
4. Productive Landscape

The complex is equipped with a Bio-gas Plant attached to the public toilet that can fulfil the need of gas of the adjacent engagement block as well as treat the organic waste of the complex.

The entire complex is powered by solar panels attached to the roof of the waiting area; thus, it is completely self-sustainable.

Moreover, the complex is designed with a rainwater harvesting system with water reservoirs under all functional blocks. In addition, the walkway is designed to be perforable and connected to the central drainage system.

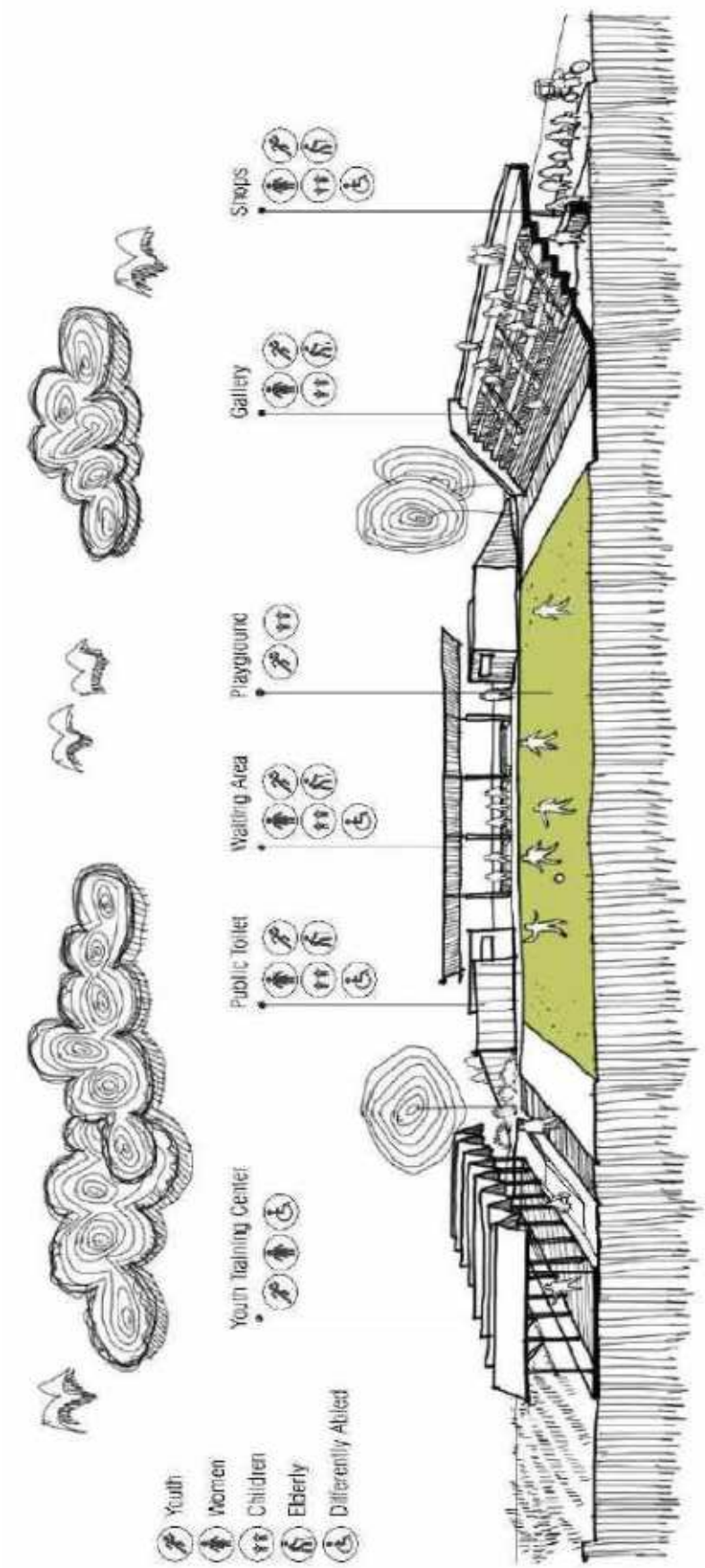


Figure 6.17: Equitable use of Public Courtyard Complex

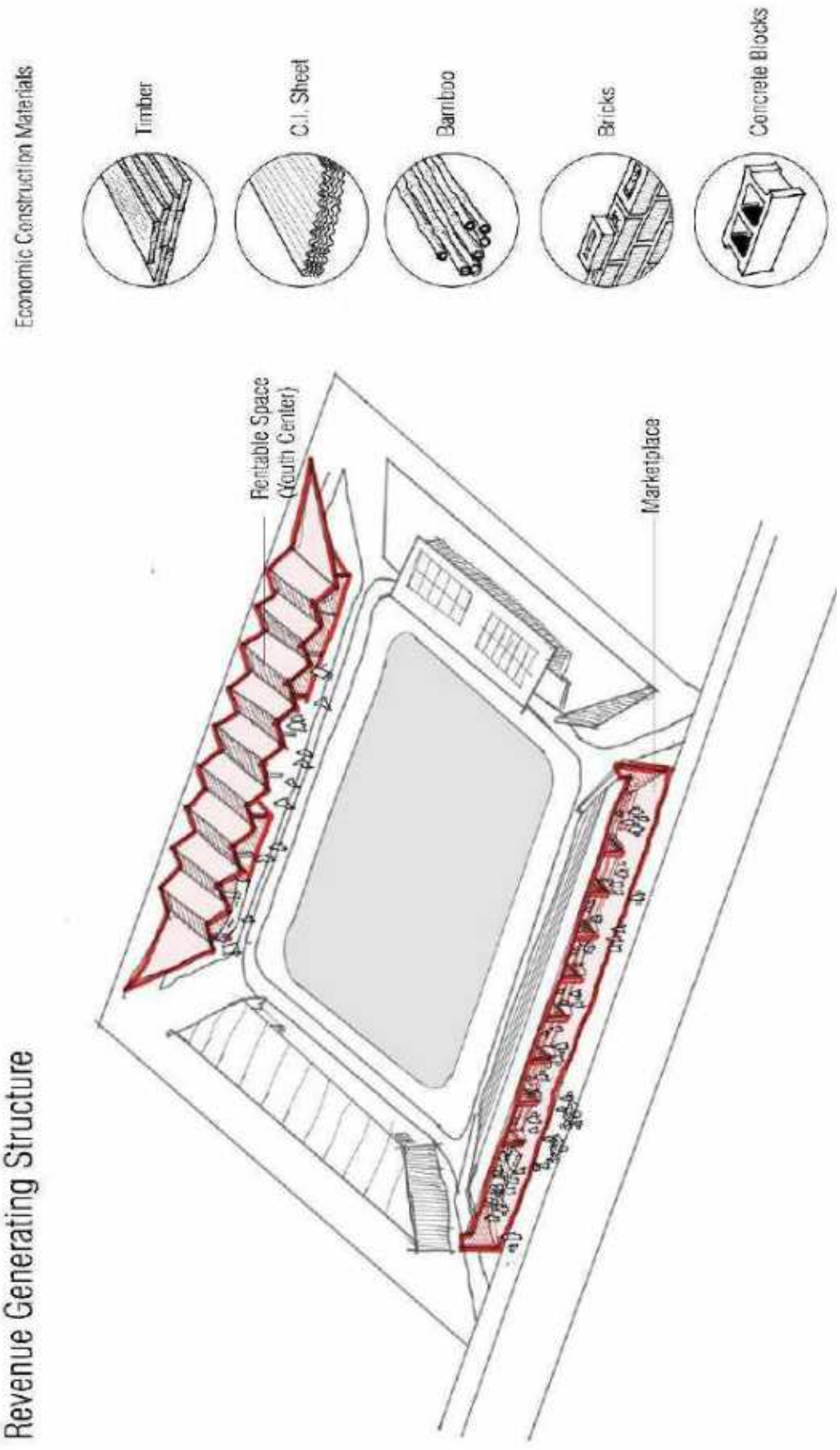


Figure 6.18: Economical Considerations of Public Courtyard Complex

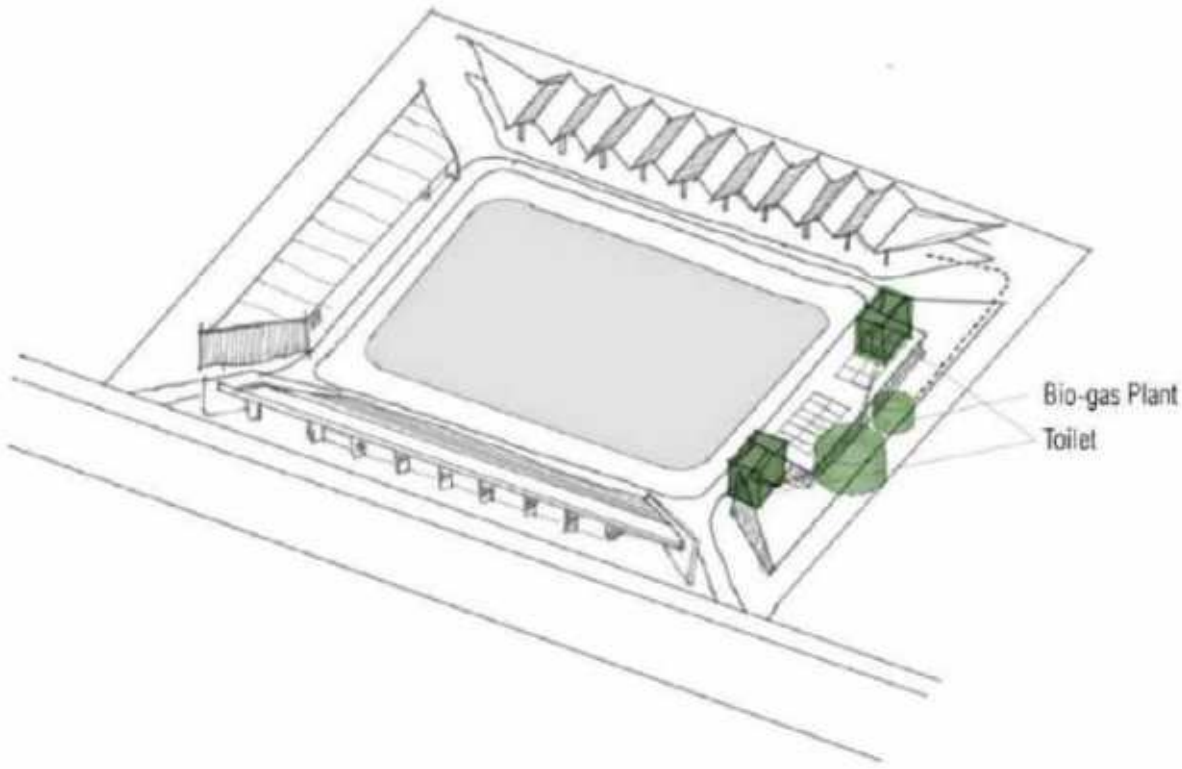


Figure 6.19: **Waste Management in Public Courtyard Complex**

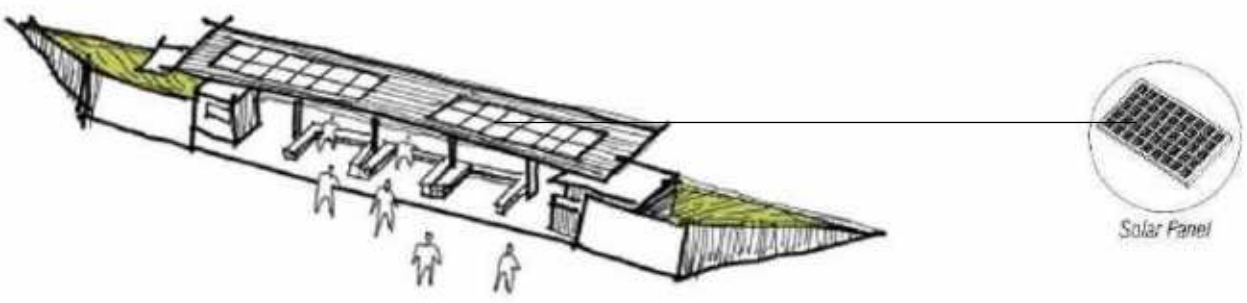


Figure 6.20: Power Efficiency (Solar Power) in Public Courtyard Complex

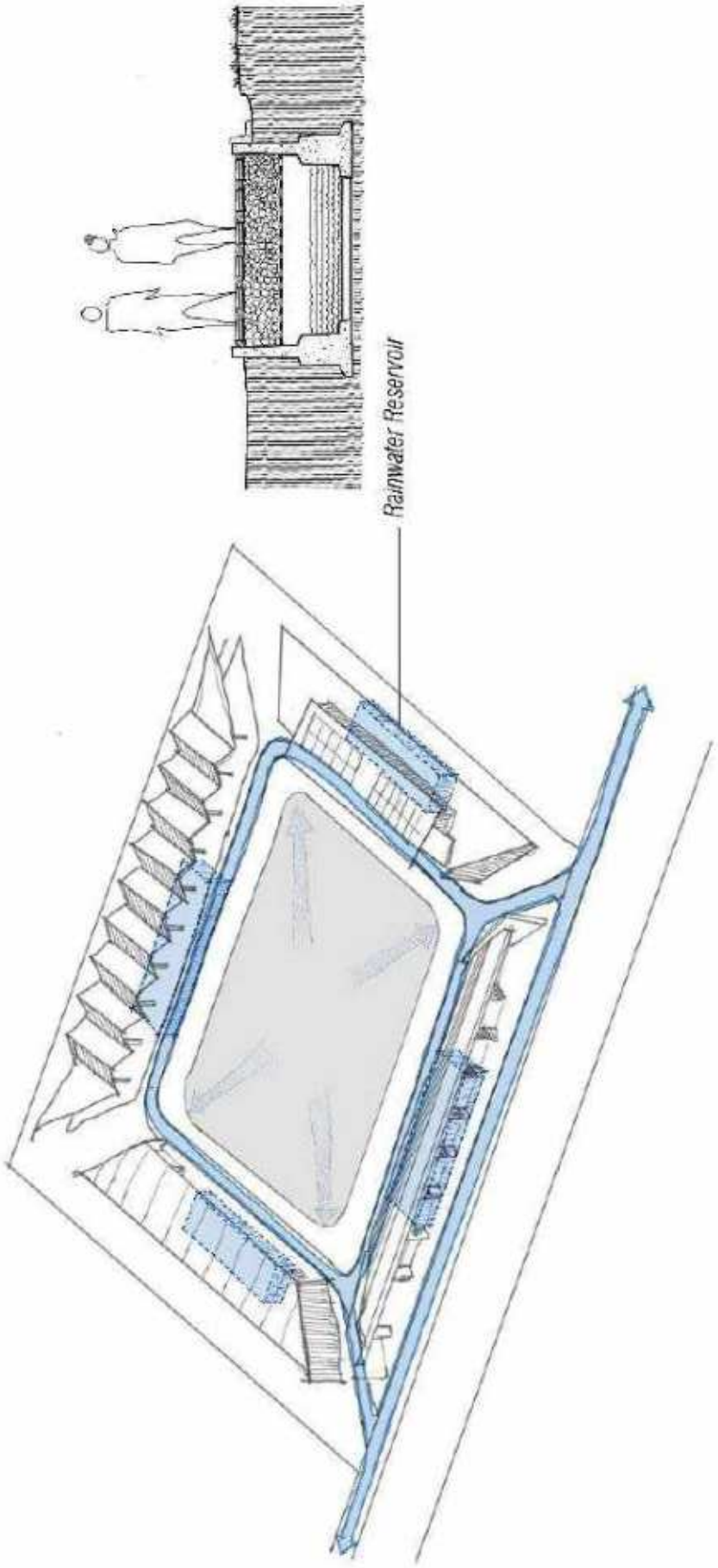


Figure 6.21: Water Efficiency in Public Courtyard Complex

Figure 6.22: View from gallery of Public Courtyard Complex

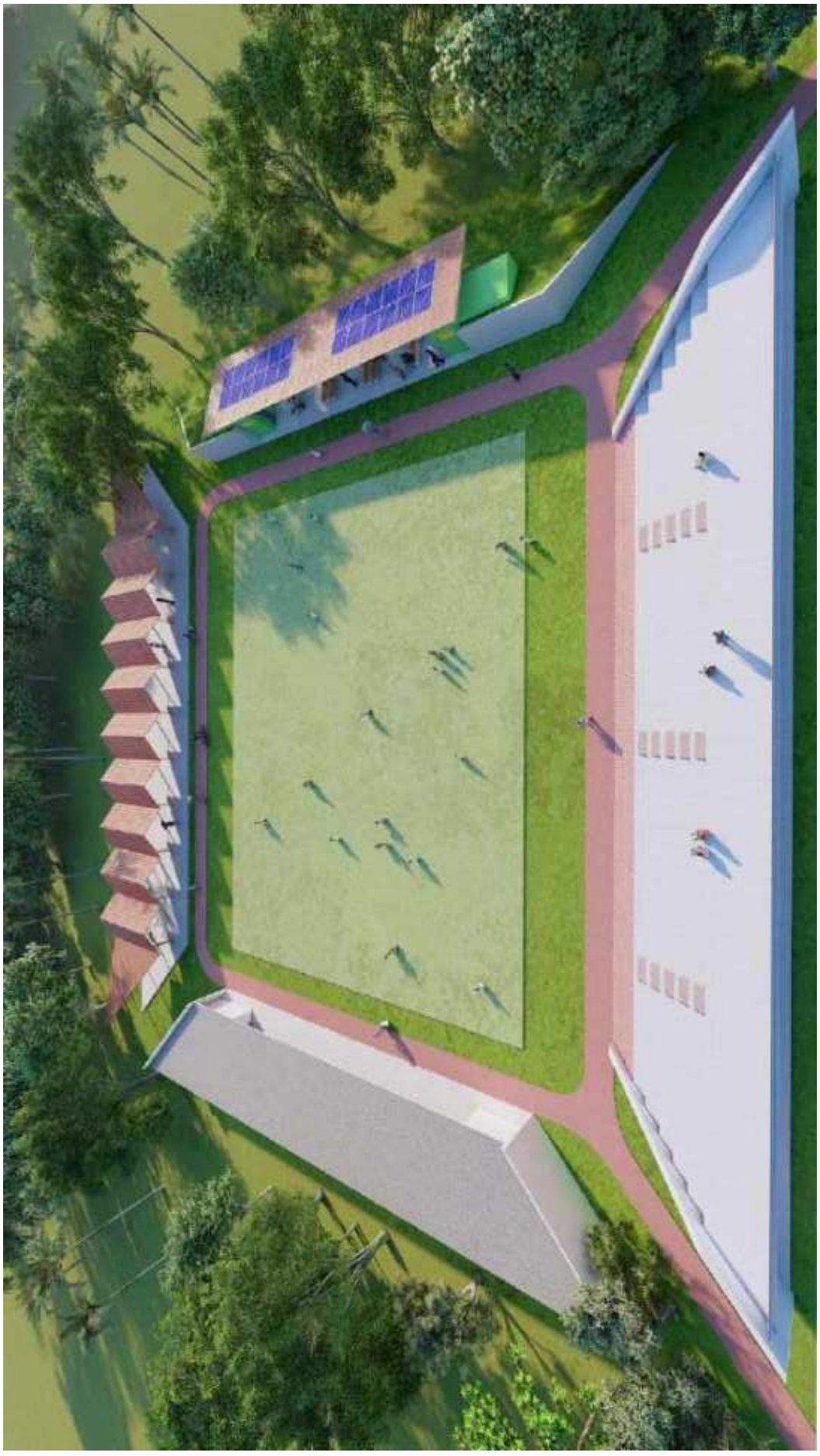


Figure 6.23: Aerial View of Public Courtyard Complex

Figure 6.24: View of Youth Training Center and Playfield of Public Courtyard

6.3 Public Haat Complex

The Public Haat Complex is a dispersed community space that comprises of some multipurpose shaded spaces loosely attached radially from a central tree. These spaces can accommodate a number of different functions. For example: it can be used for weekly markets or haats. The spaces can also be used as waiting and interaction spaces, children's temporary schools, libraries etc. The complex is inspired from the vernacular characteristic of boats being tied radially to a central pole.

i. Conceptual Development

The idea of The Public Haat complex consists of a central force and radial axes surrounding it. The concept was derived from rural practice of tying boats radially around a central pole. The infinite feeling of the rural landscape is a core influence behind this complex. While the other community complexes aim to contain an interior courtyard space in various ways, the Public Haat Complex aims to disperse people's visions panoramically towards the horizon. The resulting space is a loosely arranged, flowing space that accommodates a variety of activities.

The structures in this complex are designed flexibly around a central interaction space under the shade of a tree. Some sitting arrangements are provided to encourage conversation among the users. The complex is intended to accommodate the activities of a rural bazar or haat. Because of its flexibility in arrangement and construction, it can be placed in various contexts and sizes of lands.

The structure is also amphibian in character. It mainly consists of bamboo platforms raised on stilts and a central raised earth mound. Therefore, it can be used both in dry seasons and during monsoon.

Figure 6.25: Boats tied up radially (Photographer: Shamim Sharif Susom)

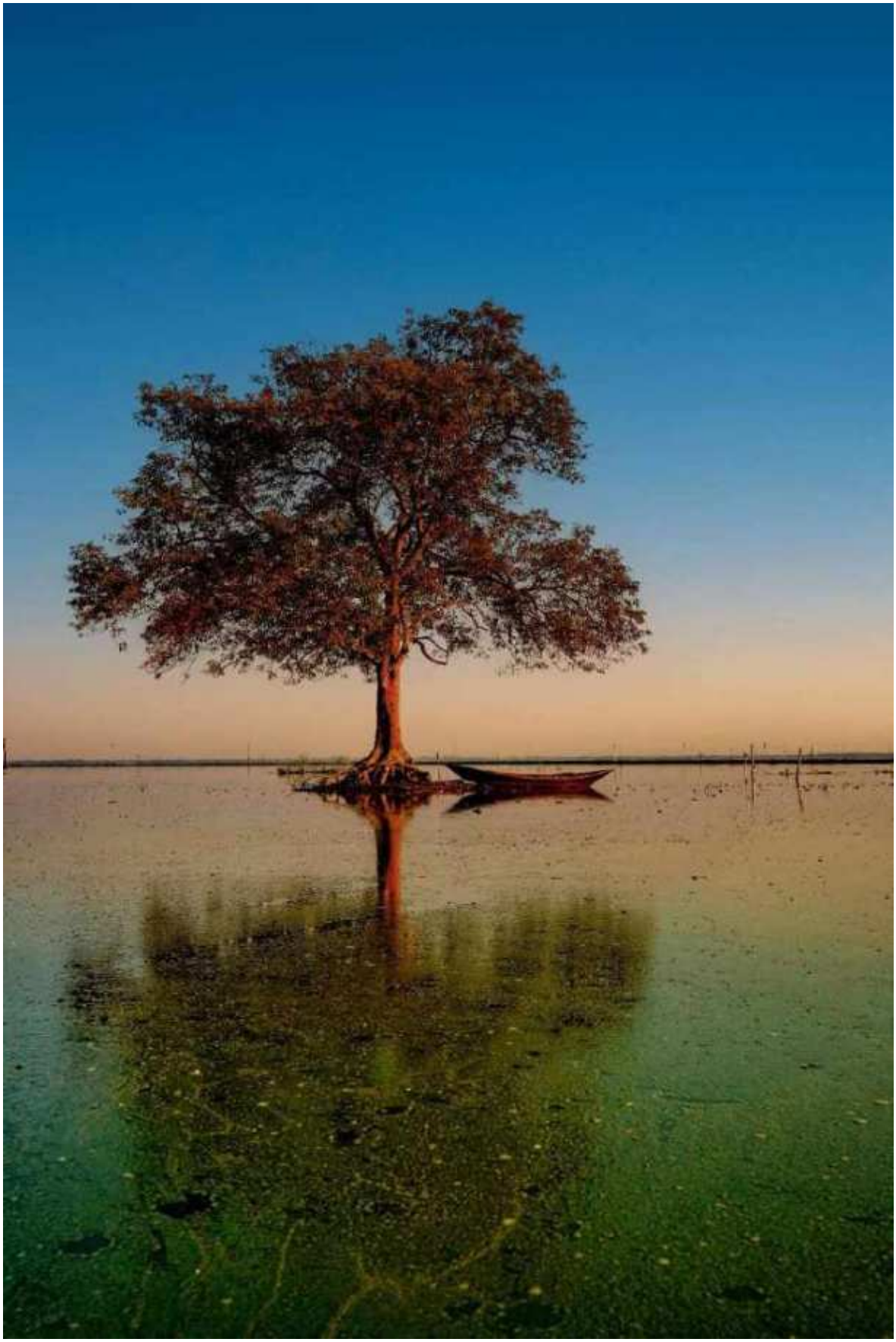


Figure 6.26: Boat docked under a tree (Photographer: Sujon Adhikary)

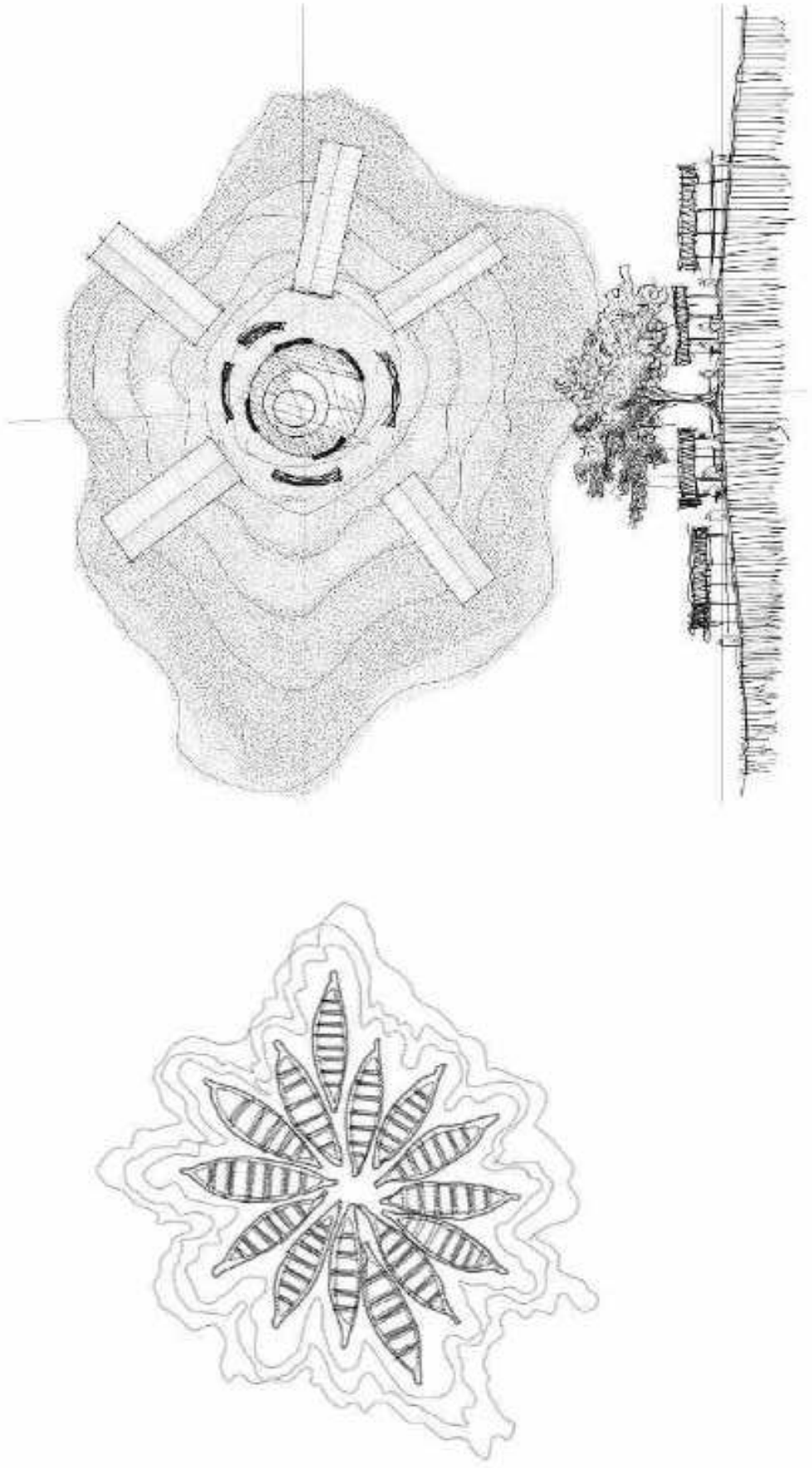


Figure 6.27: Conceptual Development of Public Haat Complex

ii. Design Elements

The Public Haat is designed in a minimalistic arrangement, drawing inspiration from the traditional loosely arranged clusters of rural Bangladesh. The elements are described below:

a. **Interactive Shaded Sitting Area:** The center of the complex is adorned with a large shading tree like Banyan, Ashwattha etc. The tree is surrounded by a radial sitting area with wooden benches. The sitting arrangement is designed in facing tiers to encourage conversation and interaction among the users. The center of the complex is on higher ground than its surroundings as an earth mound is designed in the center.

b. **Library (Engagement Block):** The Haat complex consists of radially arranged shaded *macha*s or flexible platforms that can accommodate a wide range of functions. A small library is incorporated in the complex. The library is enveloped by bamboo mat panels. Since most of these shaded platforms are flexible and can house multiple activities, this library can also be substituted to school local children or train the local youth.

c. **Public Toilet:** One of the blocks of the Haat complex is designed as a public toilet and waiting area. The Toilet is covered on all sides by bamboo panels. In front of the toilet, there is an open waiting area.

d. **Marketplace:** The core function of the Haat complex is the marketplace. The flexible Building blocks can be used to accommodate shops, or they can perform as a stage for the weekly haat.

iii. Climatic Performance

The Public Haat is designed sensitively considering the climatic challenges of our country. The climatic considerations are described below:

a. **Ventilation:** The pavilion-like configuration of the Public Haat Complex enables it to be naturally ventilated. The structures are mostly open or perforated, with projected roofs, which lessens the solar heat gain and maintains a cool and airy environment inside.

b. **Disaster Resiliency:** The structures are designed sustainably to withstand disasters such as cyclone, flood, storm etc. The vaulted roofs of the structure and the openness prevents wind pressure buildup around the buildings. In addition, the floors of the buildings are raised above ground and situated on stilts, which makes it ideal for flood protection. During floods, these structures can be used as shelters, since the height of the floor from the ground can be changed, making the structure adaptable.

c. **Amphibian Character:** Since the buildings are raised on stilts, they can perform in both dry and wet seasons.

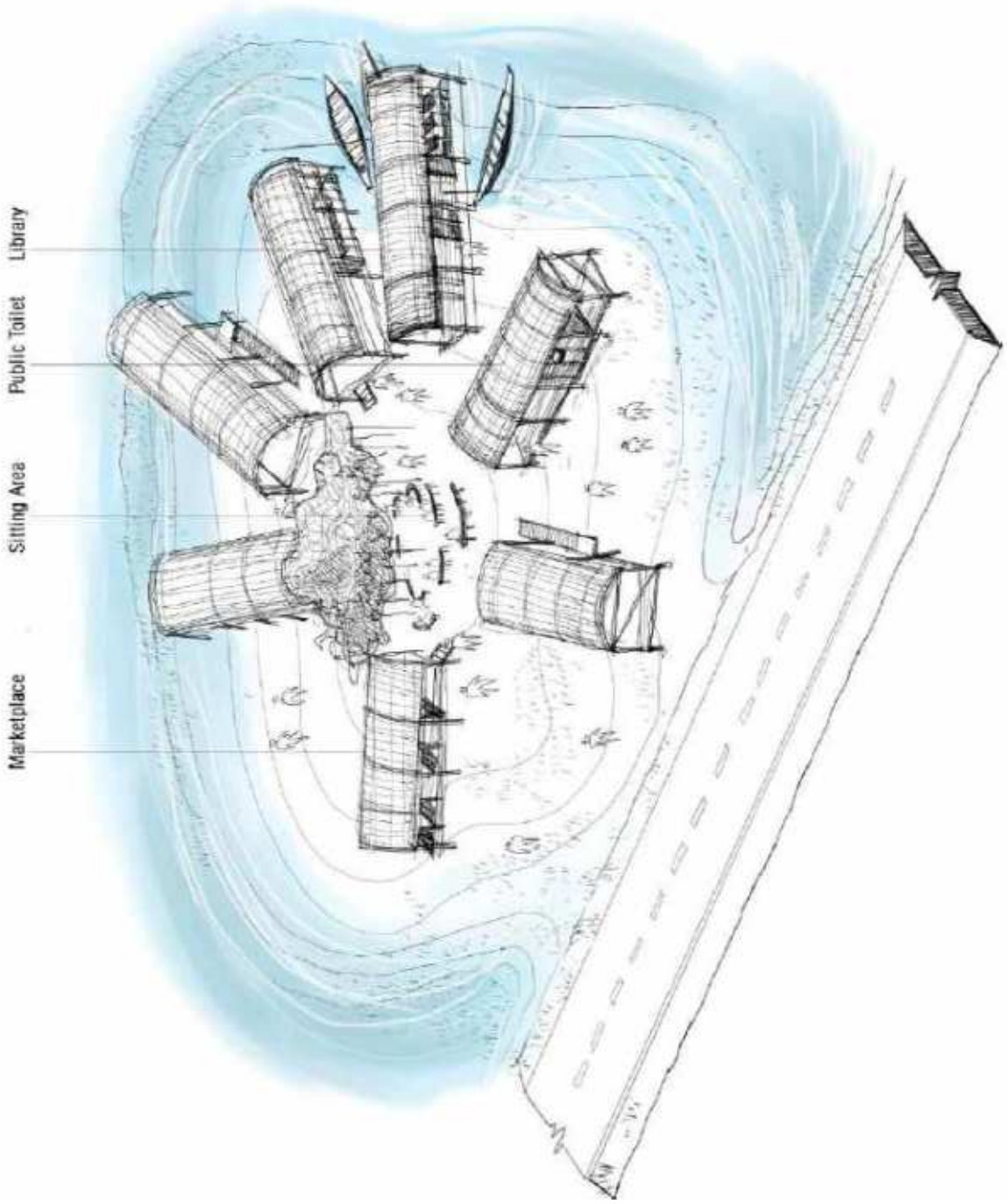


Figure 6.28: Design Elements of Public Haat Complex

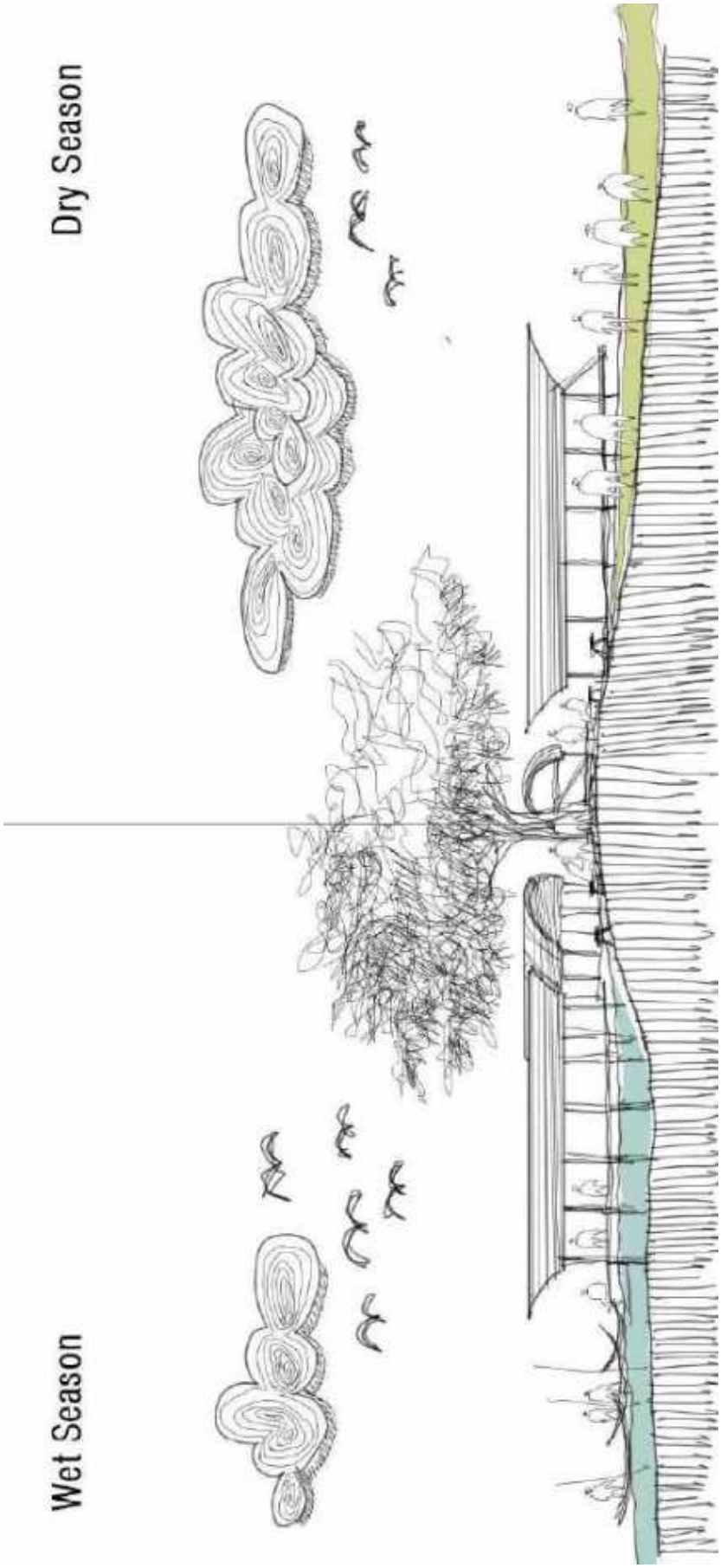


Figure 6.29: Amphibian Character of Public Haat Complex

Figure 6.30: View of Public Haat Complex during dry season

Figure 6.31: View of Public Haat Complex during wet season

6.4 Encompassed Complex (Gonokendro)

The Encompassed Complex is a walled and enclosed community complex inspired from the historic Viharas or Monasteries of our country. This complex has a central monumental volume surrounded by an interactive plaza.

Different functions have been incorporated within the walls of this complex following the Chapter 3.11 of the Election Mandate. The central volume is elevated from the ground to create an open and interactive sitting/performance area underneath. In the volume above public functions like mini cinema hall/ auditorium/ multipurpose hall etc. can be designed. Complimentary functions like Youth Recreation Center, Café, Management Office, Public Toilets etc. are placed along the protective walls. The entire complex is held together with a raised plaza that can be accessed by ramps or steps. The plaza terminates in a ghat or a stepped sitting area facing a water reservoir or a natural body of water around the site. The walled complex opens up towards its surroundings through a variation of apertures.

i. Conceptual Development

The character of the ancient Buddhist viharas or monasteries is the inspiration behind this complex.

The form of the complex has been derived in 4 steps. These are as follows:

Firstly, the entire complex is protected with a thick wall with varying openings towards the outside, inspired from the protective walls of the Vihara.

Secondly, the center of the complex is adorned with a monumental volume that incorporates the central function (i.e.: multipurpose hall, auditorium, mini cinema hall etc.). inspired from the architecture of the vihara itself.

Thirdly, secondary functional spaces are inserted along the walls following the architecture of the cells of the vihara and the plaza is designed with public facilities.

Finally, the plaza is terminated on one side with a stepped sitting area or a ghat that is inspired from the traditional step-well or Kund of the subcontinent.

Figure 6.32: Inspiration for a Community Center: Paharpur Vihar (Photographer: Sujon Adhikary)

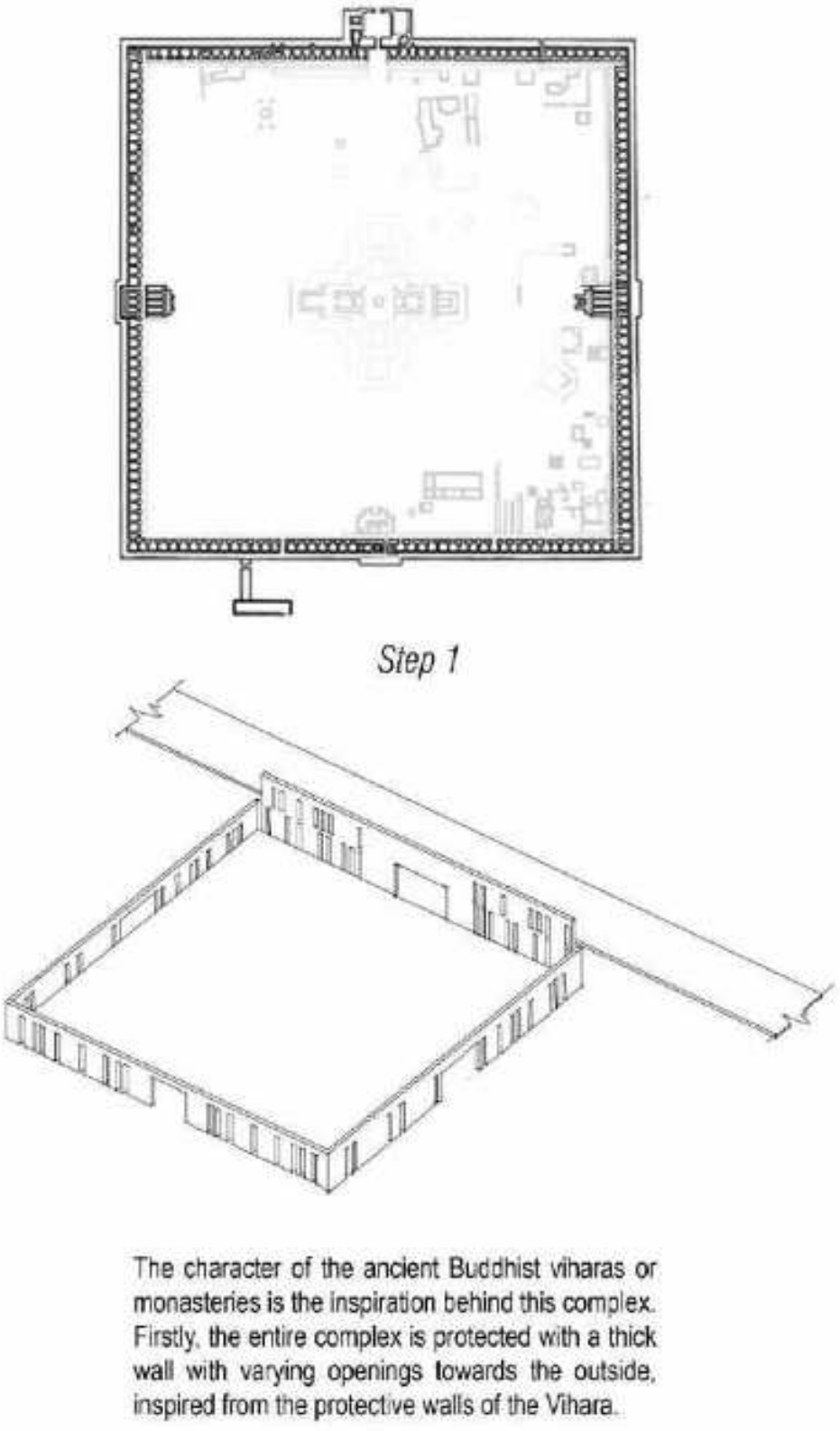
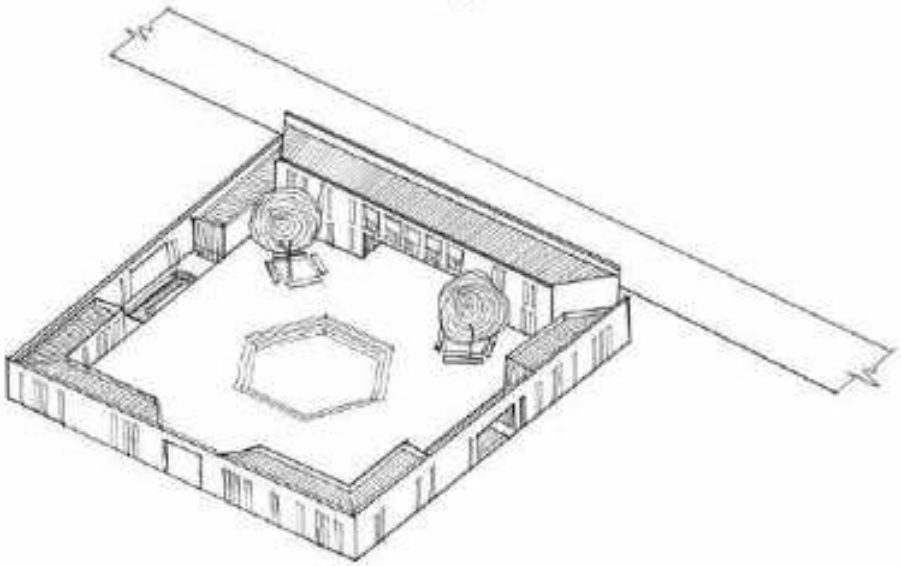


Figure 6.33: Conceptual Development of Encompassed Complex

Step 2



Secondly, the center of the complex is adorned with a monumental volume that incorporates the central function (i.e.: multipurpose hall, auditorium, mini cinema hall etc.). inspired from the architecture of the vihara itself.

Figure 6.34: Conceptual Development of Encompassed Complex

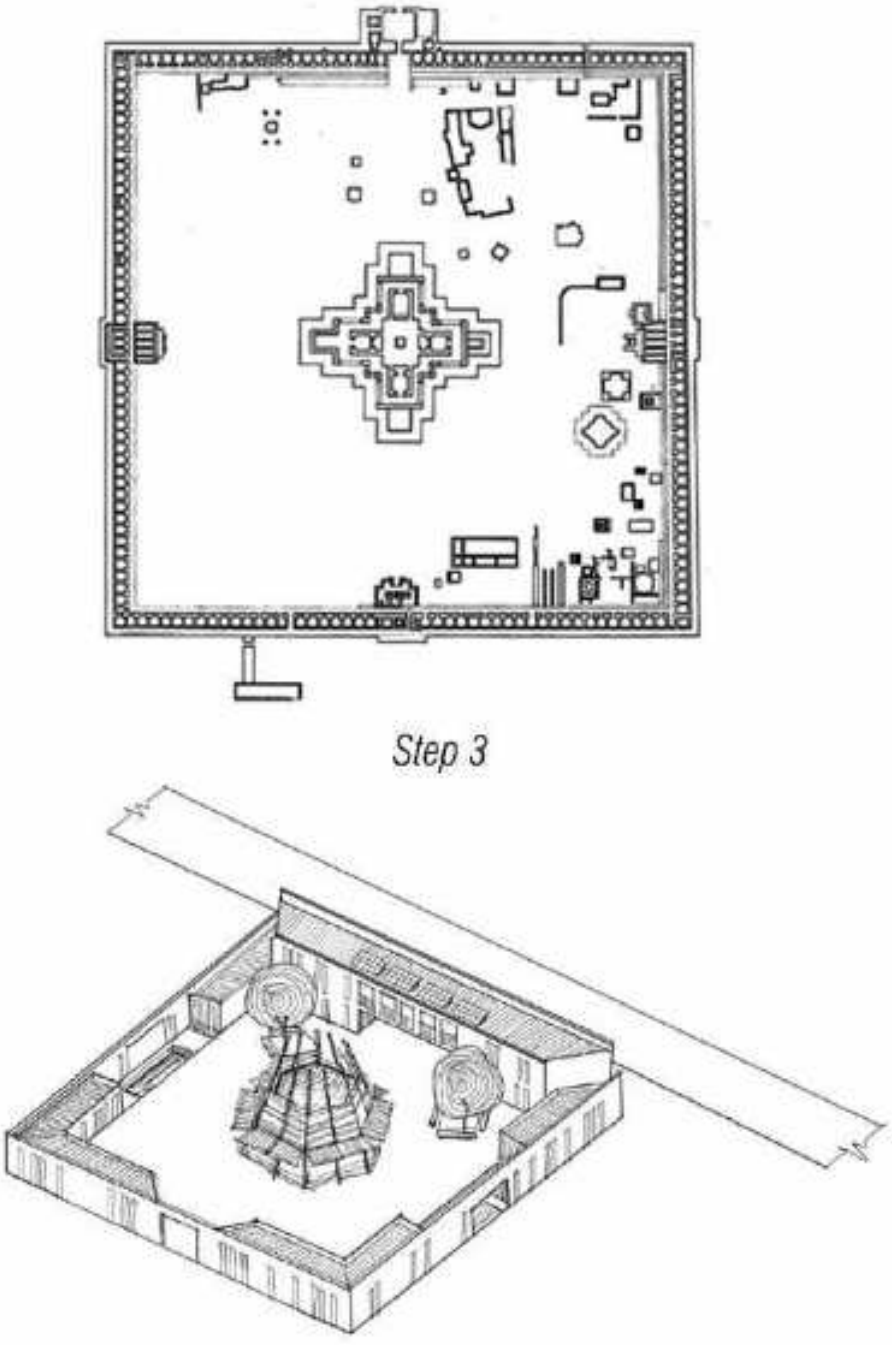


Figure 6.35: Conceptual Development of Encompassed Complex

Figure 6.36: Inspiration for a Community Center: Panna Meena ka Kund (Photograph: Internet)

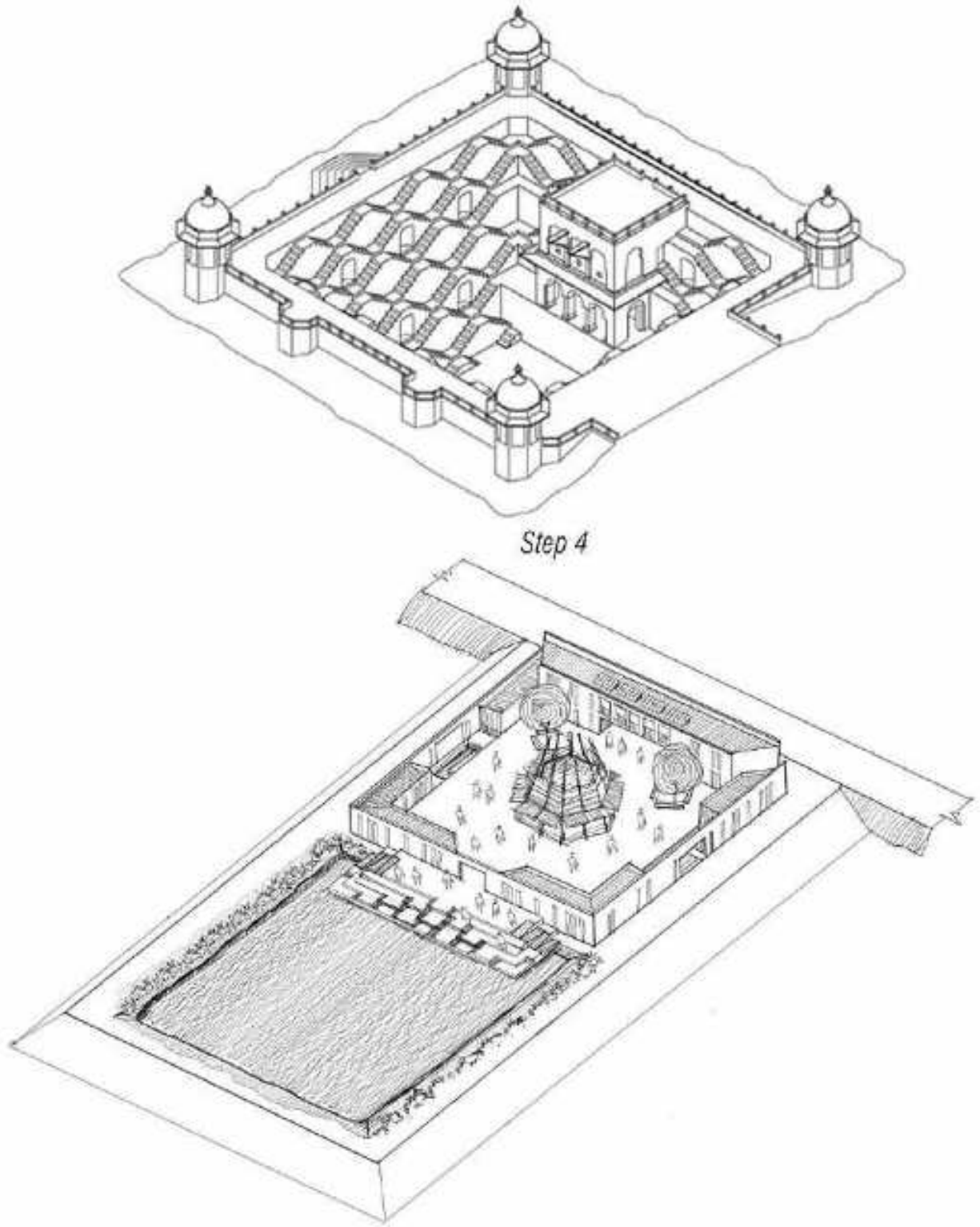


Figure 6.37: Conceptual Development of Encompassed Complex

ii. Design Elements

Preserving the core concept of the Encompassed Complex, it can be designed in a number of variations with different grouping of functions. For the sake of explanation, an Encompassed Complex with a central multipurpose hall has been illustrated and described below:

I. **Multipurpose Hall:** The multipurpose hall is placed in the center in a conical bamboo structure. The building is accessed through a spiraling staircase below. The volume is omnidirectional and interactive, as the surface of the structure is divided into small operable window panels that open up towards the outside. Underneath the structure, there is a stepped circular sitting area and a performance space. The central volume is designed in a skeletal and perforable manner so that it does not disrupt the flow of public realm throughout the complex.

II. **Gymnasium:** A small gymnasium or indoor games room is incorporated within the functional spaces along the walls. This space serves the purpose of including the youth within the user group of the complex. The structures along the wall are comparatively humble with pitched roofs that harvest rainwater.

III. **Library & Multimedia Center:** The complex has a library and a multimedia center that will serve people of all ages but are mostly designed keeping children in mind. The library is placed on the upper floor with a balcony facing towards the plaza. The multimedia center is placed in the lower floor.

IV. **Waiting Area:** The complex has an open waiting area for people of all ages. This space can also be used for weekly markets or *haat*s since it has adjustable furniture.

V. **Restaurant:** The complex has a restaurant or a rentable space that will generate revenue for the maintenance and governance of the complex.

VI. **Management Office & Public Toilet:** The complex has a management office and a public toilet to serve the users.

VII. **Reservoir:** The entire complex has multiple rain water reservoirs to collect and harvest water to be used in the entire complex.

A poem by Khona, the Bengali rural philosopher is an inspiration behind the arrangement of the design elements. The poem is as follows-

"পুবে হাঁস পশ্চিমে বাঁশ

উত্তরে বেড়ে (কলা) দক্ষিনে ছেড়ে

ঘর করগে পুতা জুড়ে। "

The age-old Bengali poem gives specific directions in arranging built structures and landscape elements in a complex for the most suitable climatic performance.

iii. Variations

The complex will be transformed following certain criteria, keeping the core concept intact. These criteria are as follows-

a. Site Context
b. Site Shape
c. Available Construction Materials

a. Site Context

The complex will change according to its site context. For example, when it is designed beside a paddy field, the complex will have a stepped sitting area leading towards a large rainwater tank. When it is designed beside a river, the stepped sitting will work as a landing for the boats or a ghat.

b. Site Shape

The complex can retain its integrity in different shapes of lands. By keeping the concept of a protective wall, a plaza and a central volume intact, the complex may transform into a circular, a triangular or a free-form shape.

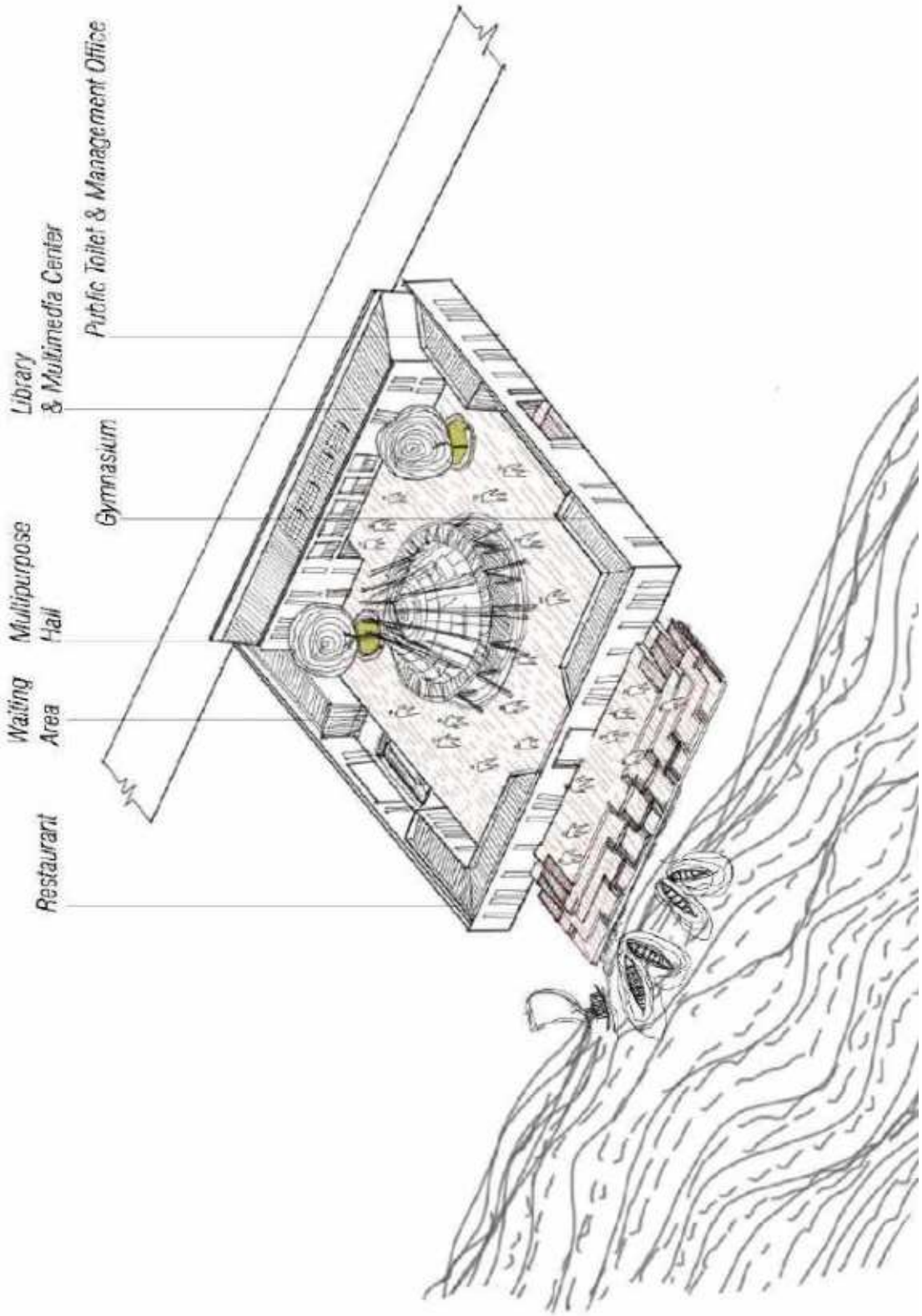


Figure 6.38: Design Elements of the Encompassed Complex

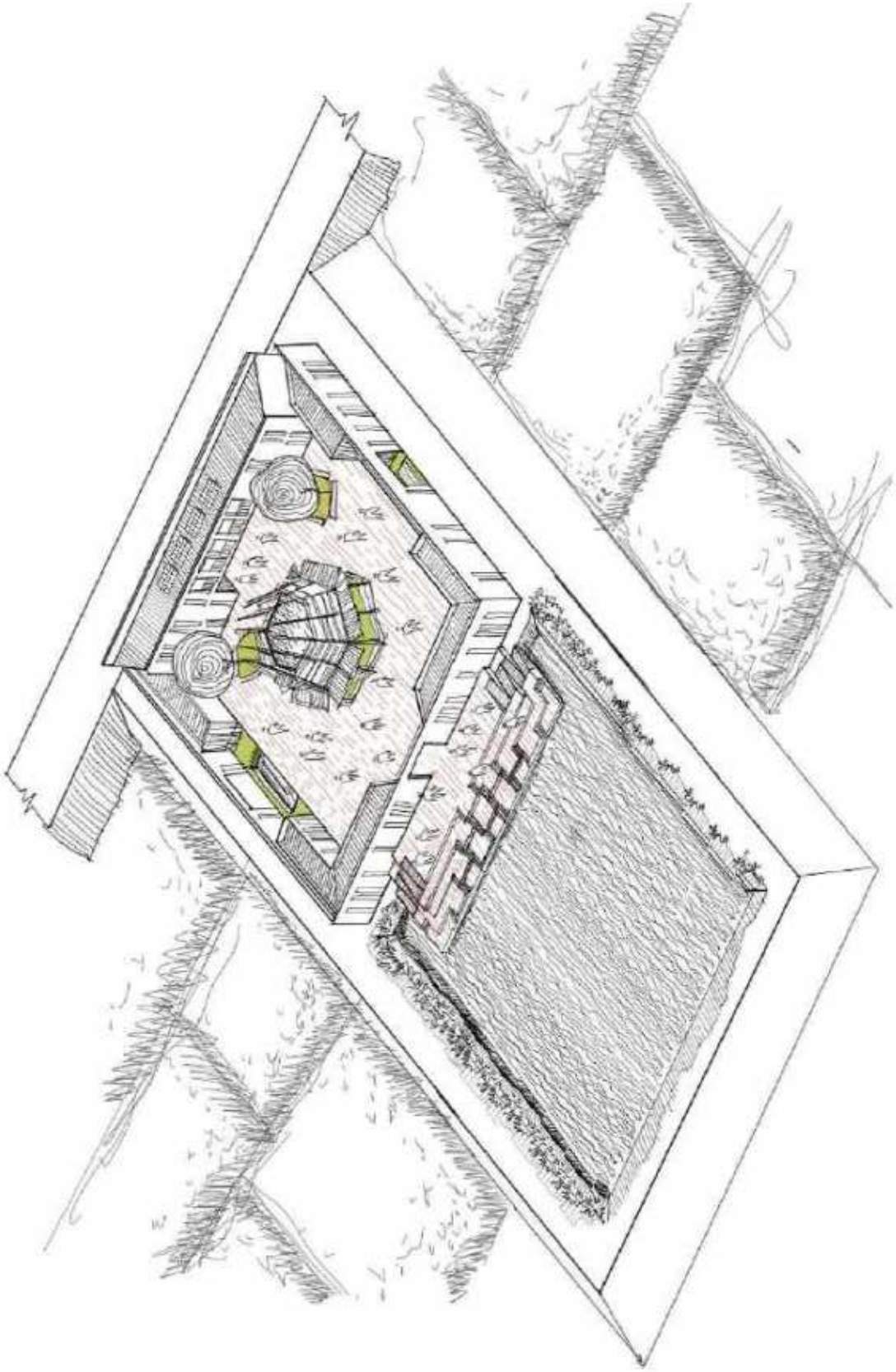


Figure 6.39: Design Variation according to Site Context (Beside Paddy Field)

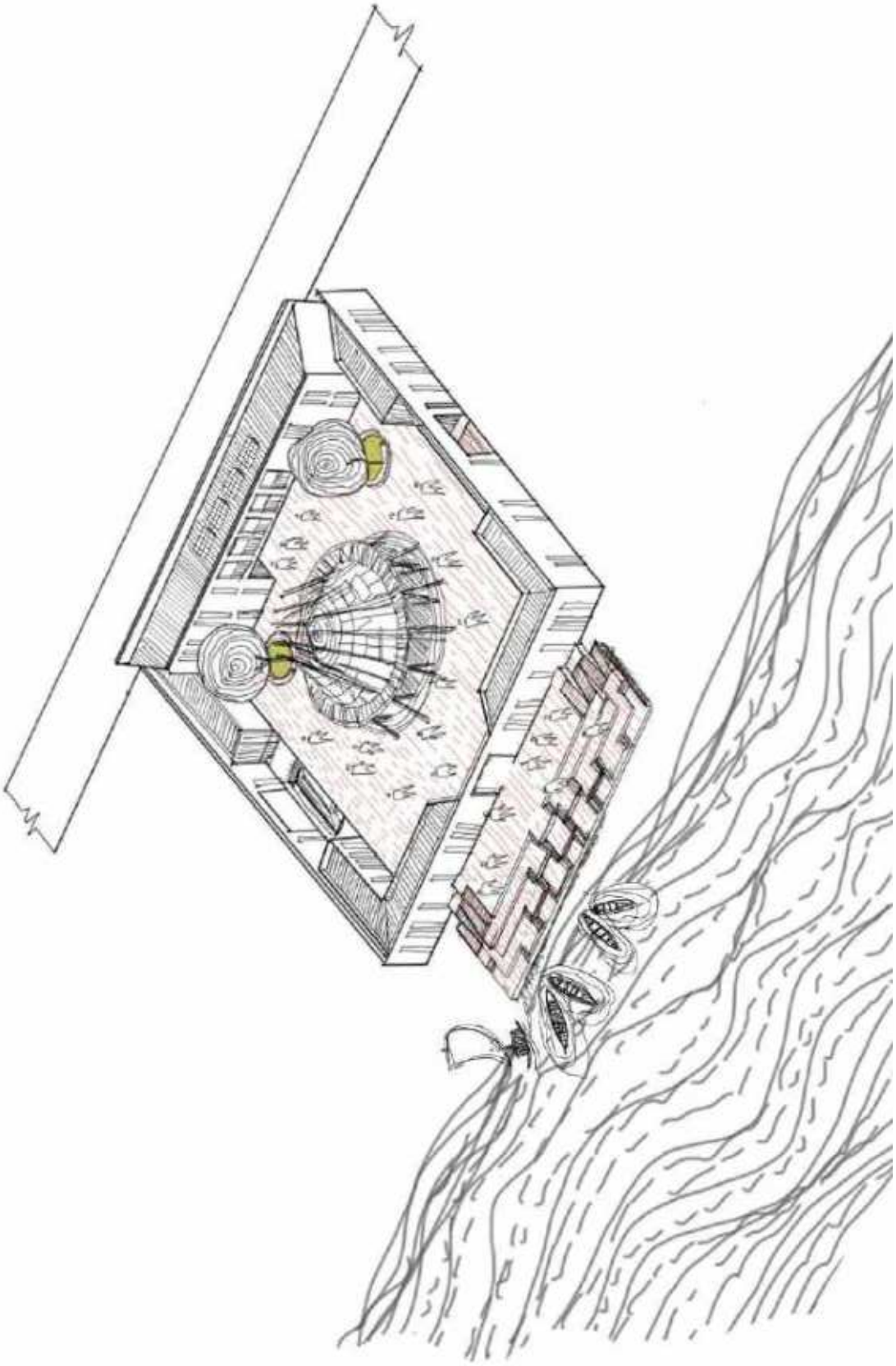


Figure 6.40: **Design Variation according to Site Context (Beside Paddy Field)**

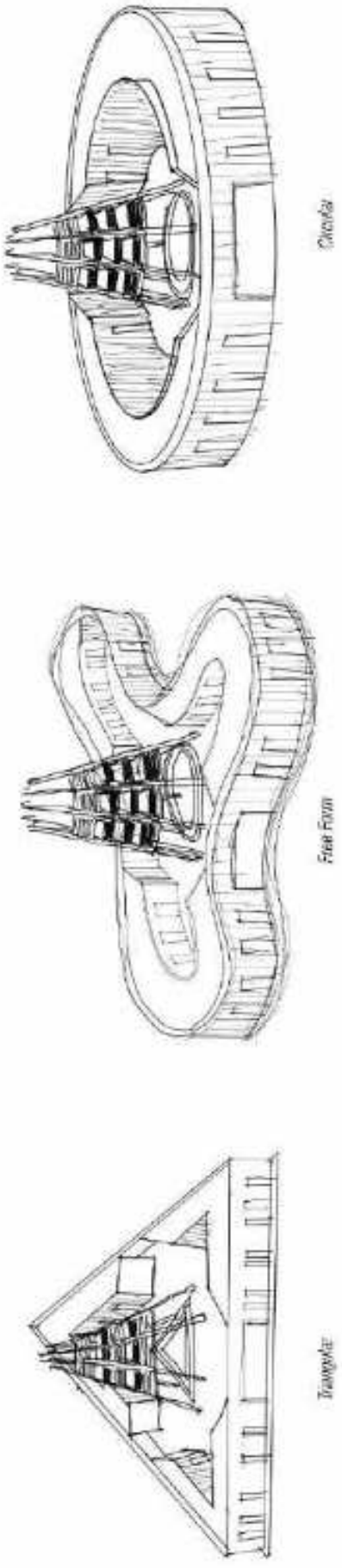


Figure 6.41: Design Variation according to Site Shape

c. Available Construction Materials

The complex will change in form according to the available construction materials of a region. The entire complex can be constructed using a number of construction materials in different regions.

For example: in regions where earth is the prevalent vernacular material, the complex may be constructed with adobe walls and thatch or C.I. Sheet roofs. In this case, the roof overhangs will project over the walls to protect the walls from driving rain.

In places where timber and bamboo structures are commonly practiced, the structure maybe entirely built using these materials.

In other places, it may be built with conventional brick walls with or without rough plastering on its surface. The complex can also be painted according to a region's cultural context. In brick structures, the walls will be the prevalent characteristic and the roof will rest between opposing walls.

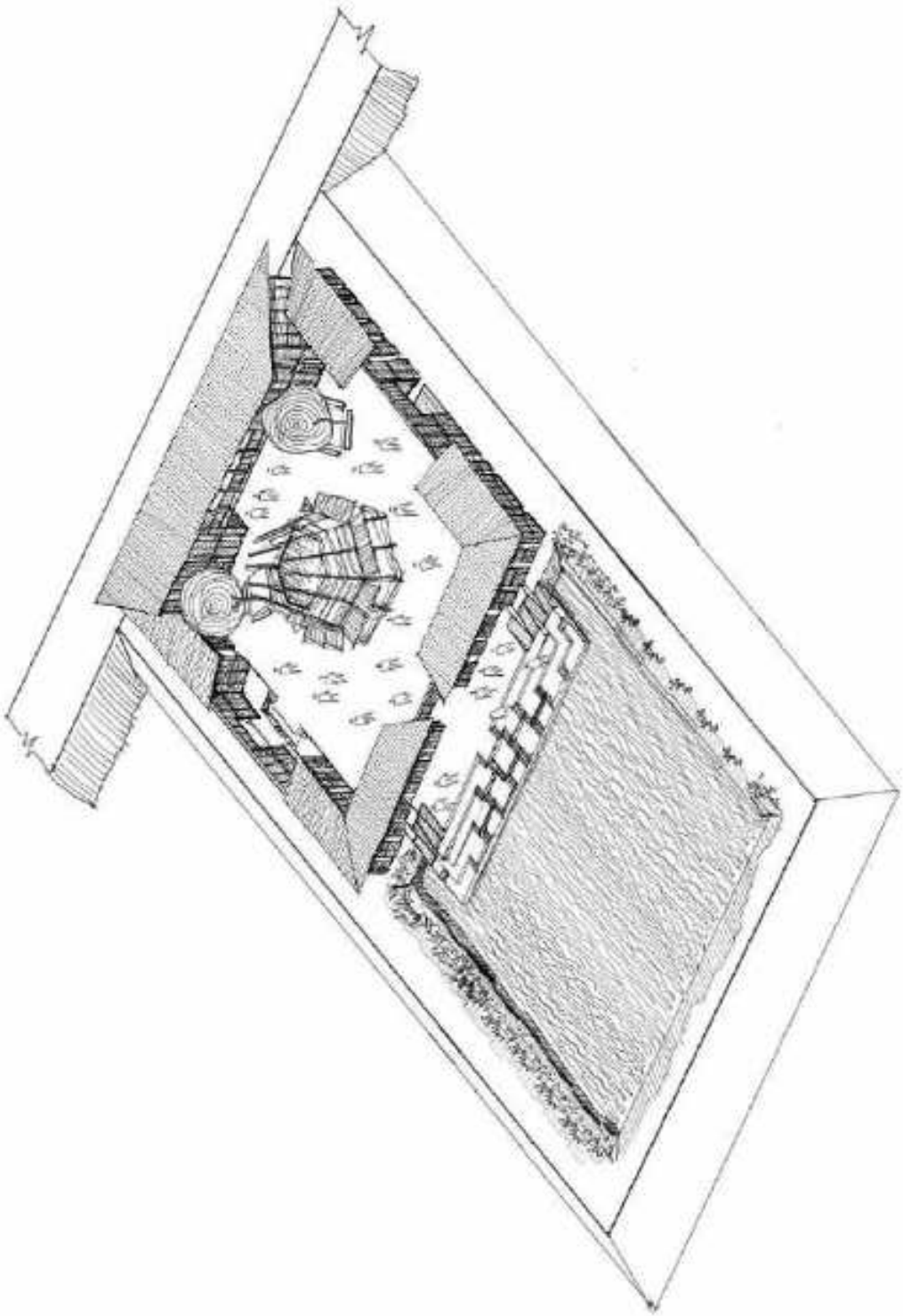


Figure 6.42: **Timber and Bamboo Structure (Design Variation according to Construction Materials)**

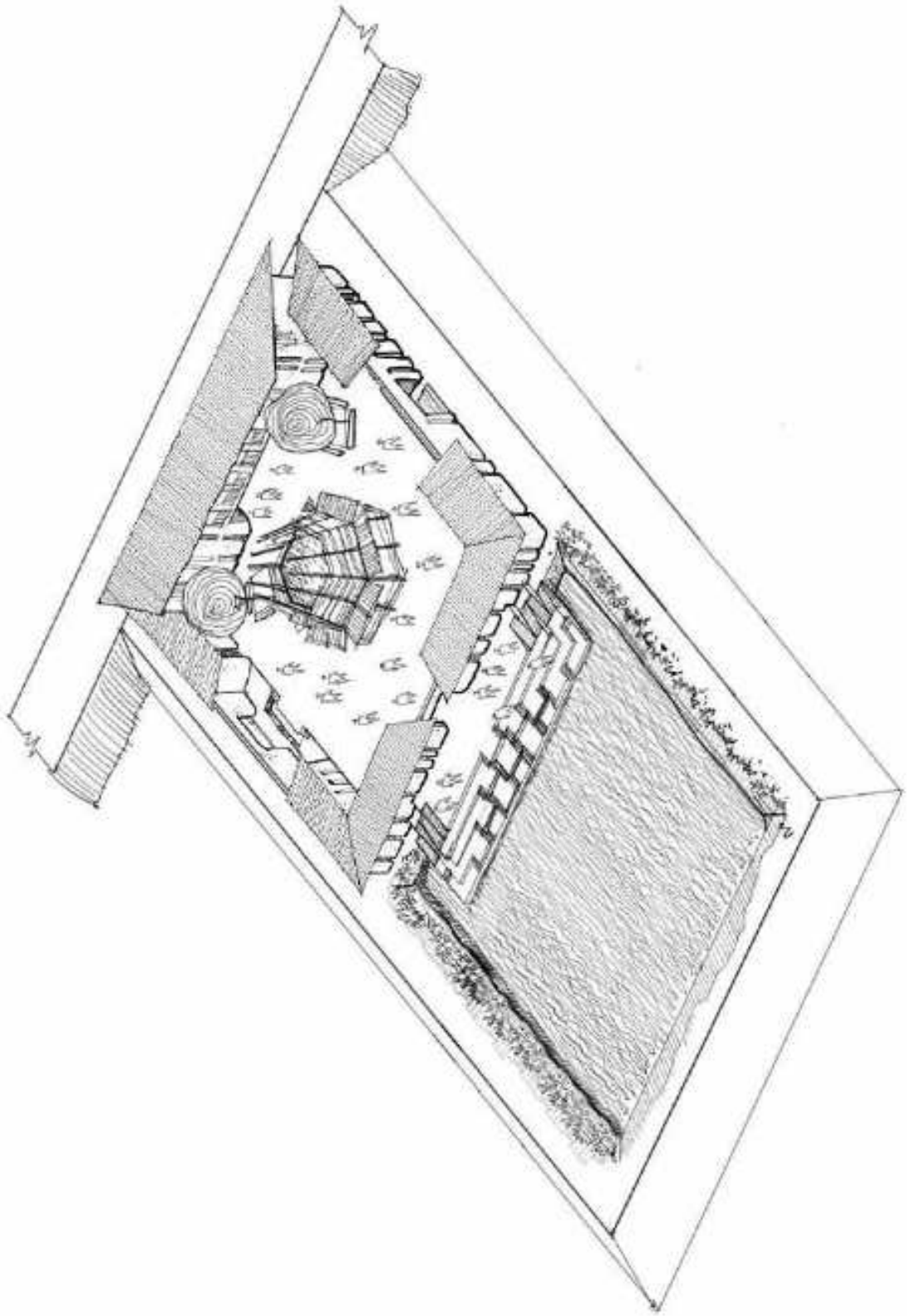


Figure 6.43: Earthen Structure (Design Variation according to Construction Materials)

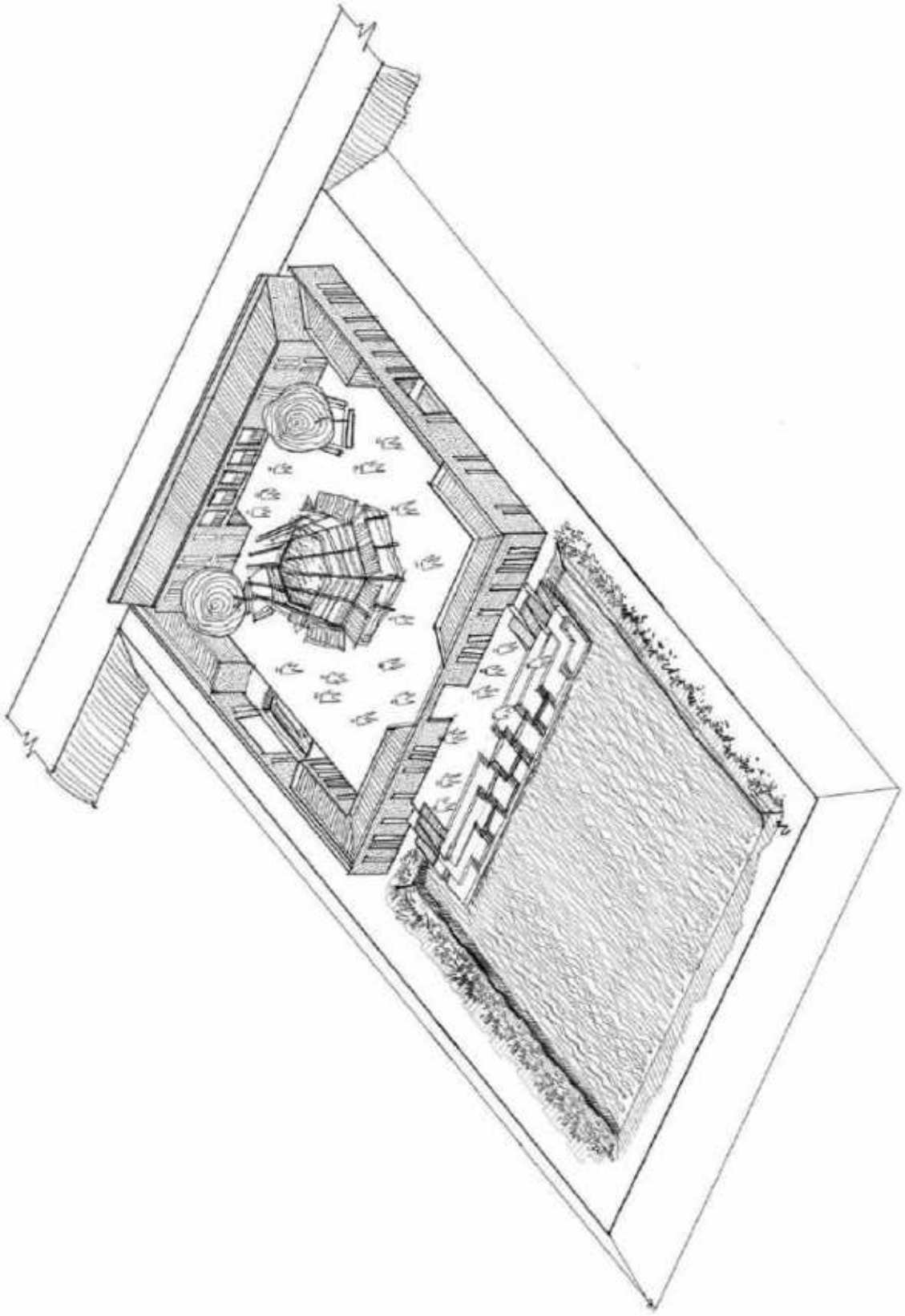


Figure 6.44: Brick Structure (Design Variation according to Construction Materials)

iv. Sustainable Features

The complex is designed considering three principal sustainability goals. These are:

a. Equity
b. Environment
c. Economy

a. Equity

The complex is designed considering a wide spectrum of users, including (i) Children, (ii) Youth, (iii) Elderly, (iv) Differently Abled People (v) Women. Different functions have been accommodated within the complex to serve all these different groups of people. The entire complex has been designed considering universal accessibility on the ground level. Even the landscape features are accessible through ramps. The design and maintenance of the complex relies on participation and collaboration of all interest groups of the society.

b. Economy

The complex is economically envisioned with two different aspects: 1) Use of Economic Construction Materials 2) Revenue Generation.

The complex has a café and a rentable multipurpose hall which will generate revenue for governance and maintenance through the years. The governance will be ensured by the management office. Besides, the complex is envisioned using cheap, locally available materials which make the complex easy to build and replicable all over the country. As visualized in the earlier article, the complex can be made using a wide array of materials and it will transform accordingly.

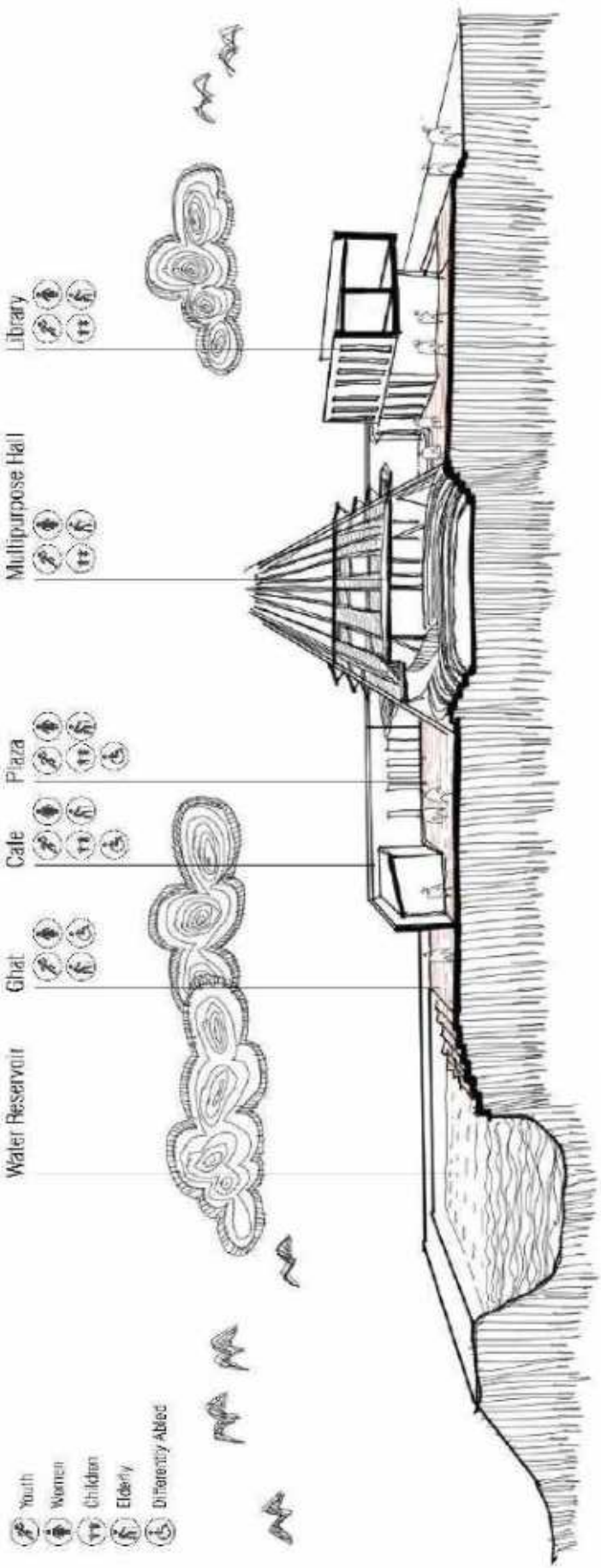


Figure 6.45: Equitable Use of Encompassed Complex

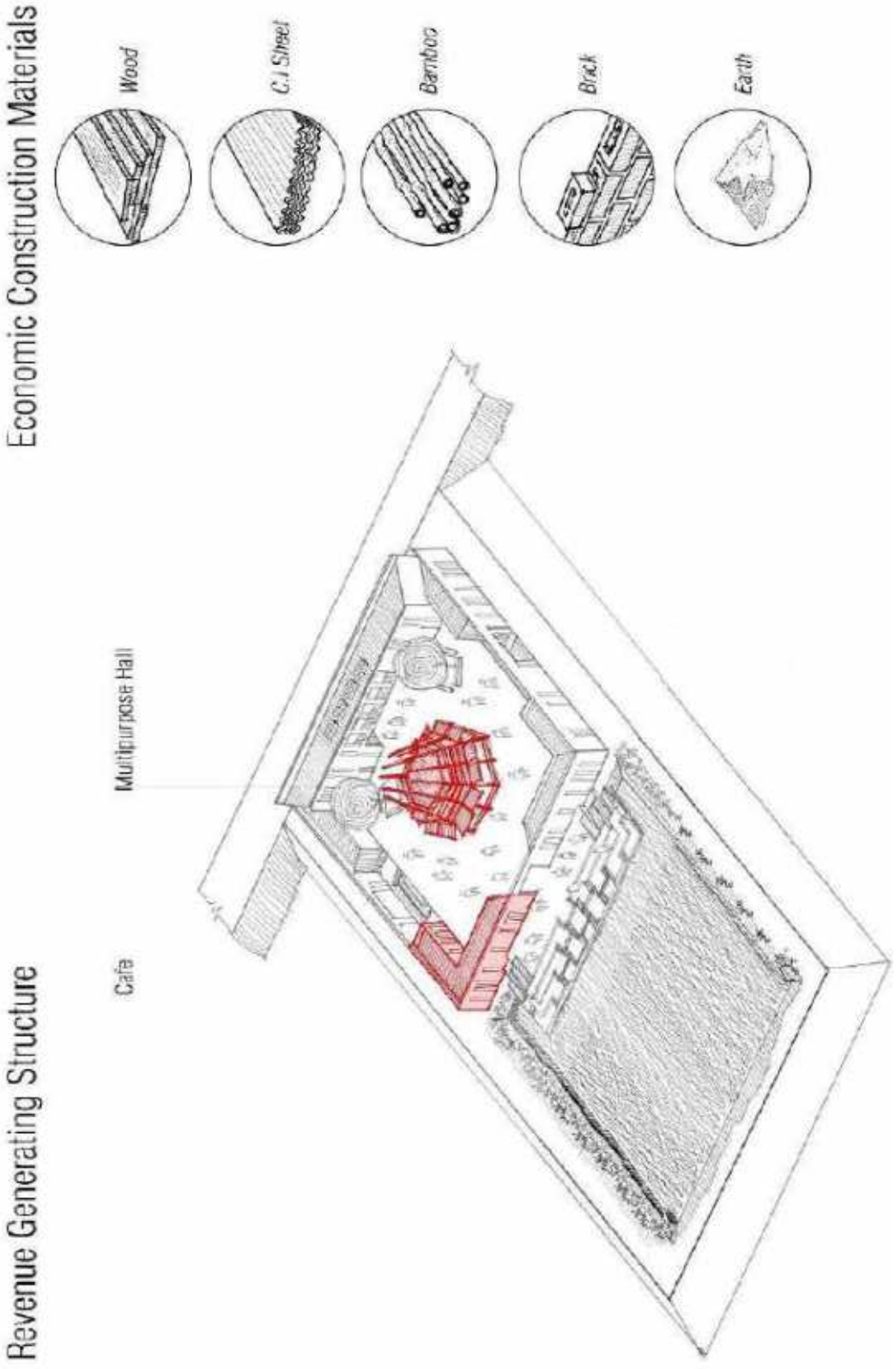


Figure 6.46: Economical Considerations of Encompassed Complex

c. Environment

The complex is environmentally sustainable with the following considerations integrated within its design:

- Waste Management
- Electricity Generation
- Rainwater Harvesting
- Productive Landscape

The complex is equipped with a Bio-gas Plant attached to the public toilet that can fulfil the need of gas of the adjacent cafeteria as well as treat the organic waste of the complex.

In addition, the entire complex is electrified using solar power from solar panels set on the roof of the structures. Thus, the entire complex is envisioned as a self-sustainable unit independent of external energy source.

Moreover, the complex is designed with a rainwater harvesting system with pitched roofs that collect the rain water and reservoirs that store it. Thus, the entire complex's demand for water can be successfully fulfilled by itself. The large water reservoir also serves as a landscape component with an adjacent ghat.

The complex is adorned with a productive landscaping along the edge of the water reservoir. The users can grow different vegetables on stilts or *Macha* to fulfil the need of nutrition of the community. Thus, the complex can pave the way to a healthier community that participates in its growth and welfare.

In conclusion, it can be said that the entire complex is envisioned to be self-sufficient and sustainable having fulfilled the different parameters of sustainability through its design.

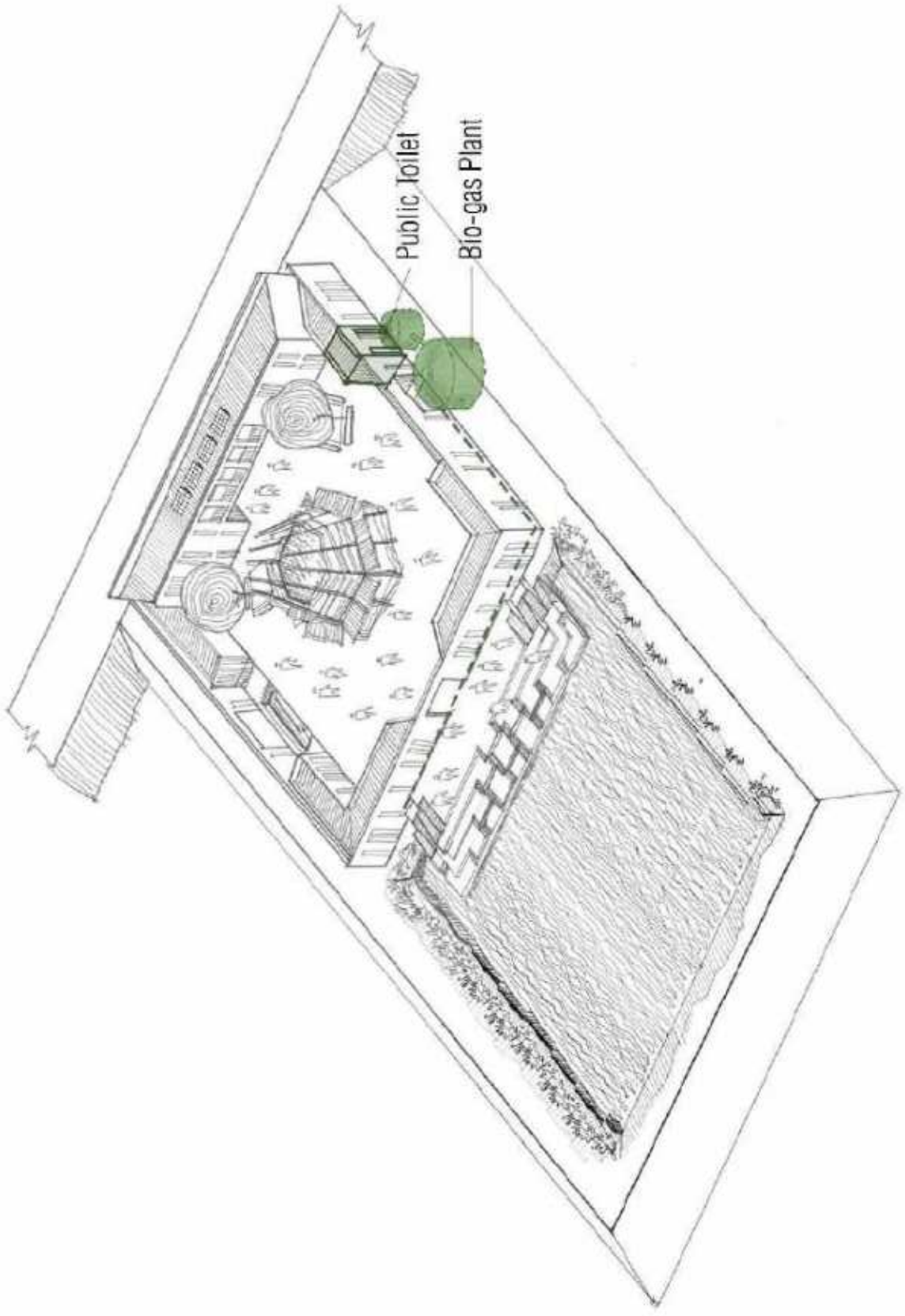


Figure 6.47: Waste Management of Encompassed Complex

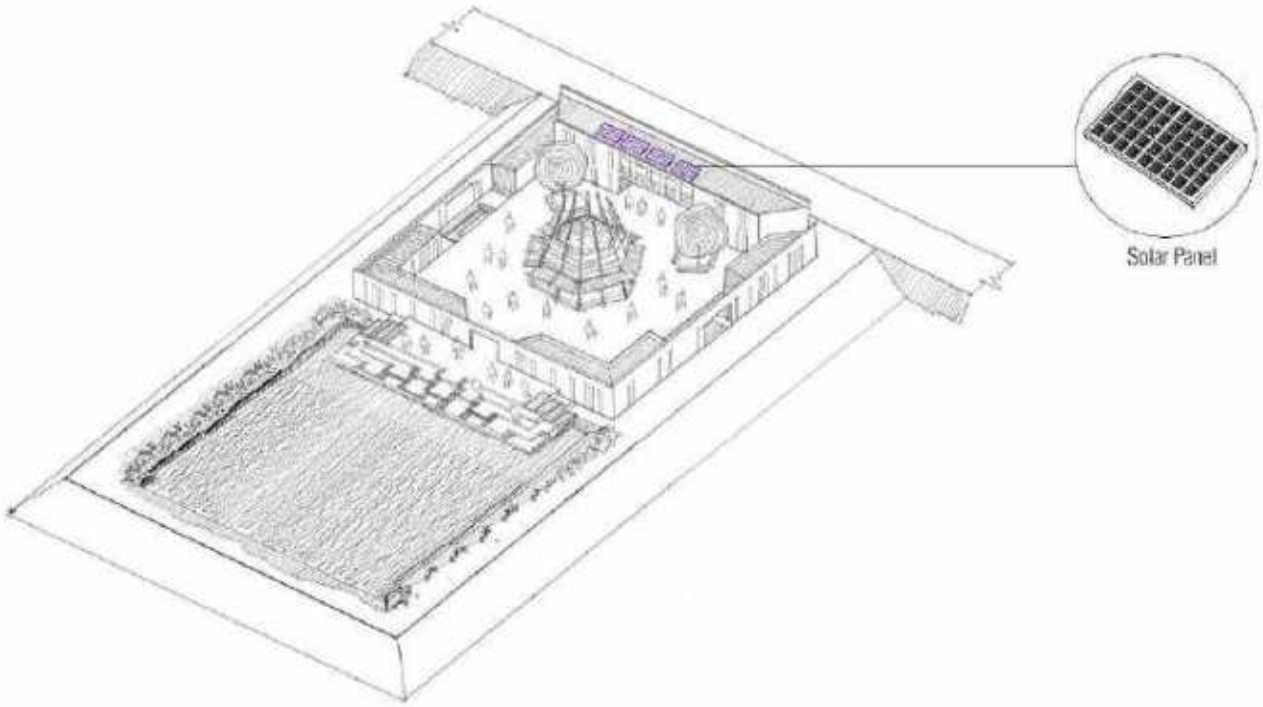


Figure 6.48: Power Efficiency in Complex

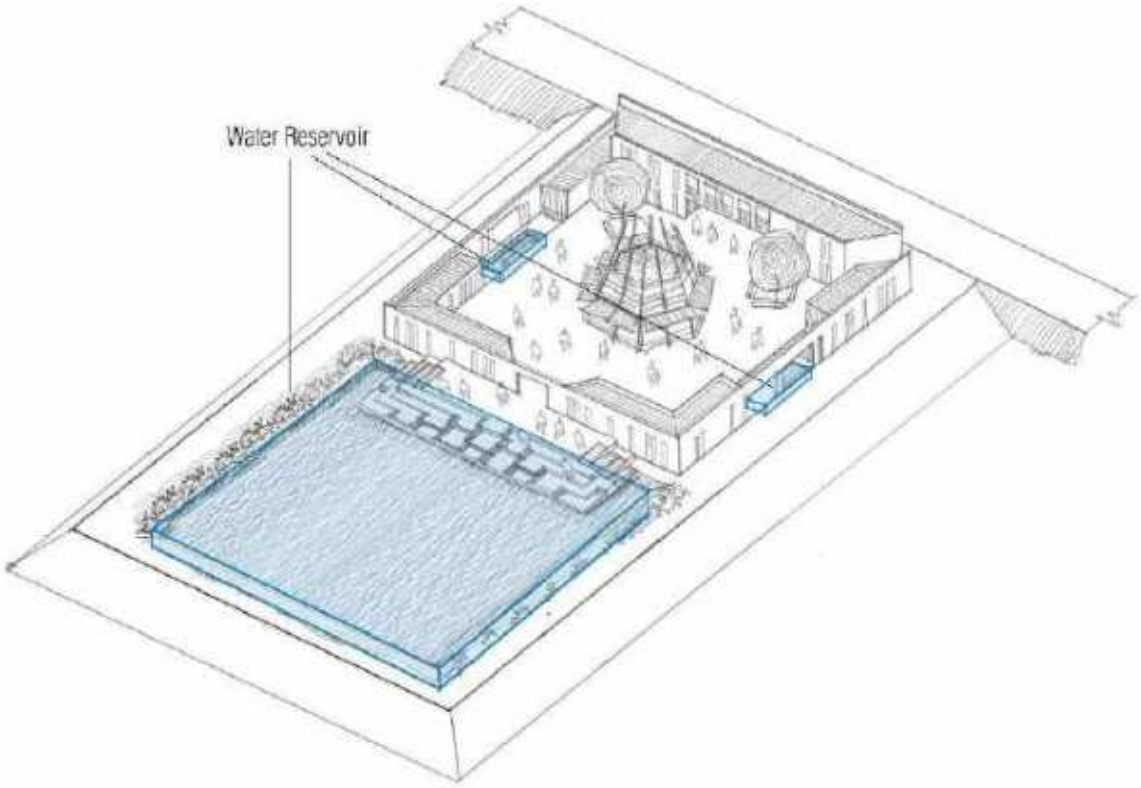


Figure 6.49: Rain Water Harvesting System in Complex

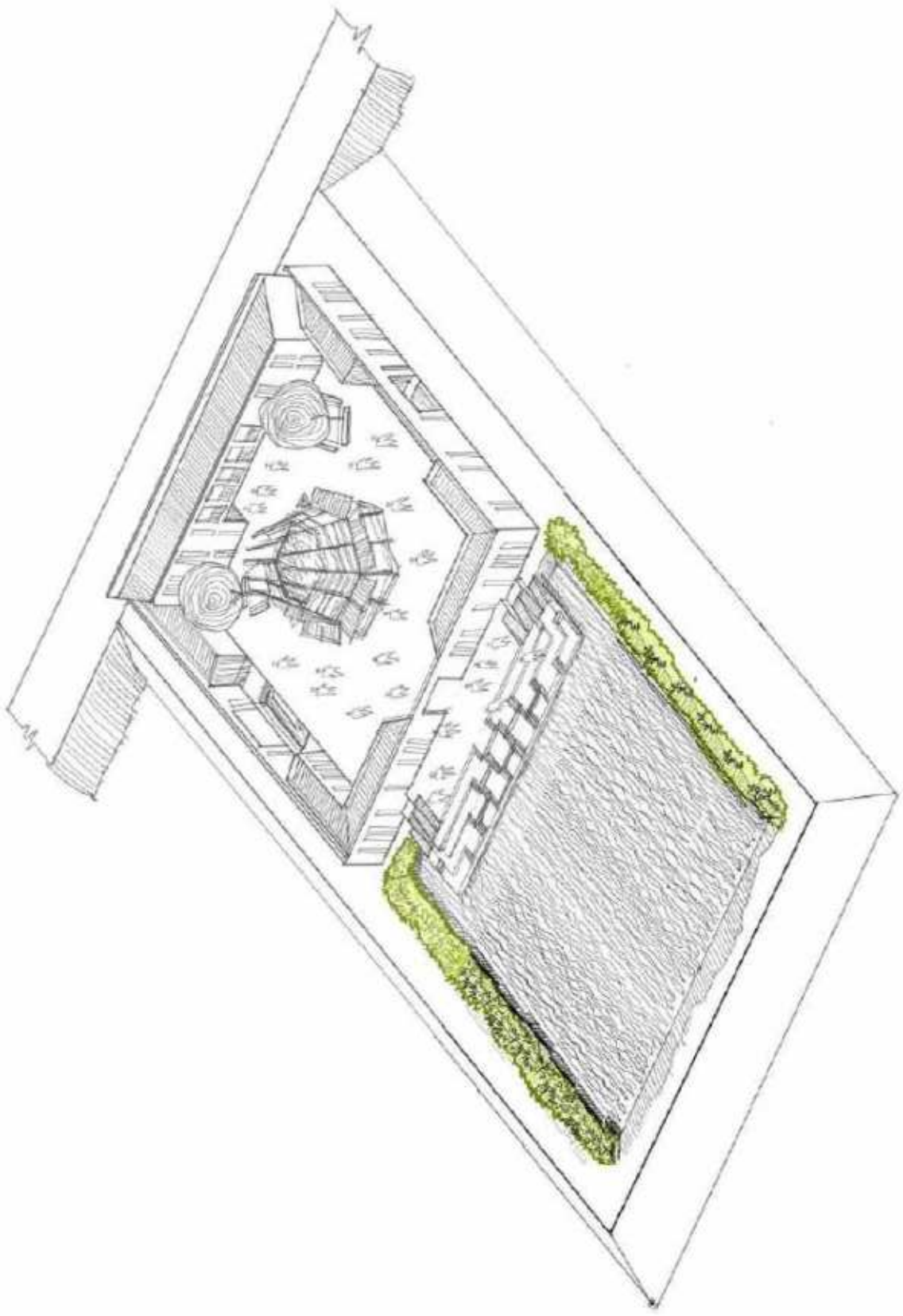


Figure 6.50: **Productive Landscape in Complex**

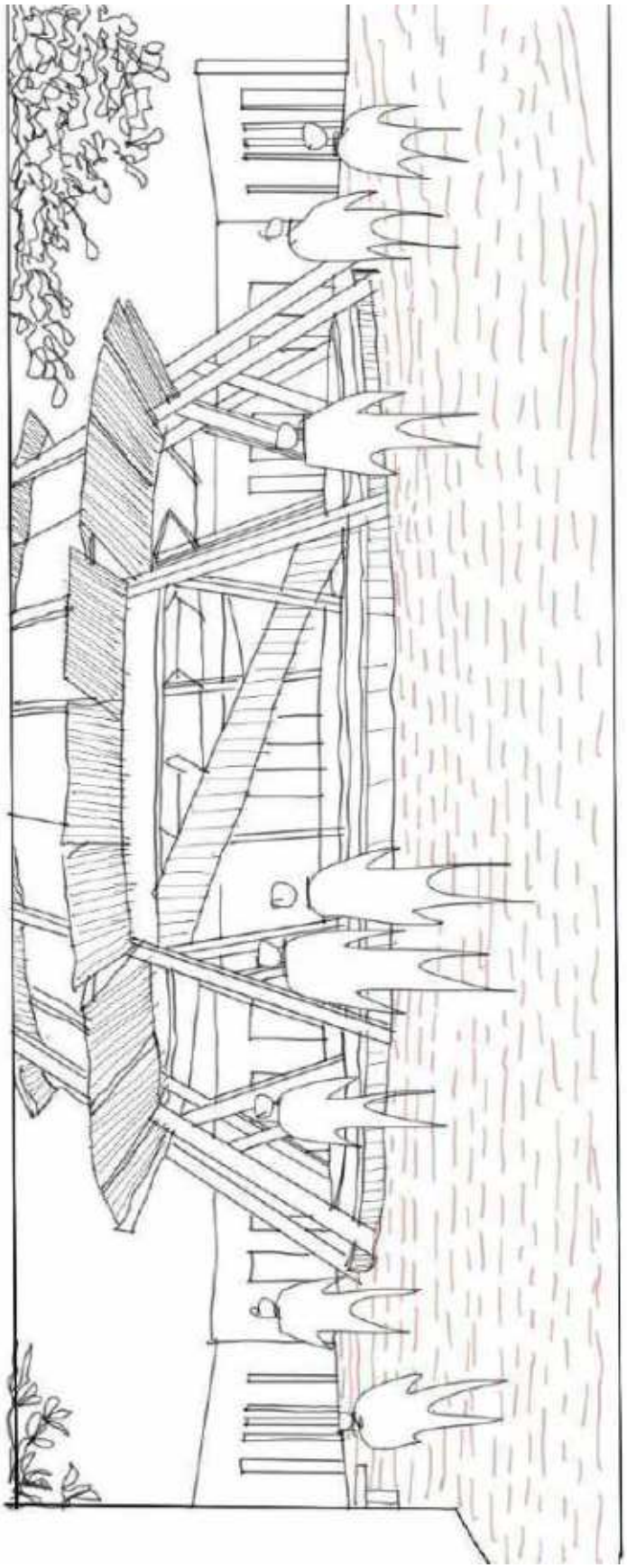


Figure 6.51: Sketchy view from Entry of Encompassed Complex

Figure 6.52: Aerial View of Gonokendro

Figure 6.53: View of Multipurpose Hall and Surrounding Plaza of Gonokendro

Figure 6.54: Aerial View of Gonokendro

6.5 Combined Complex

The Combined Complex is the combination of the Public Park Complex and the Encompassed Complex. This wide and dynamic public space is entered through the corner of the Park Complex. The engagement block of the park complex is replaced by a stepped plaza which leads to the Encompassed complex. The combination of two diverse public complexes, paves the way to a wide array of activities in a large space and can attract crowds of different categories.

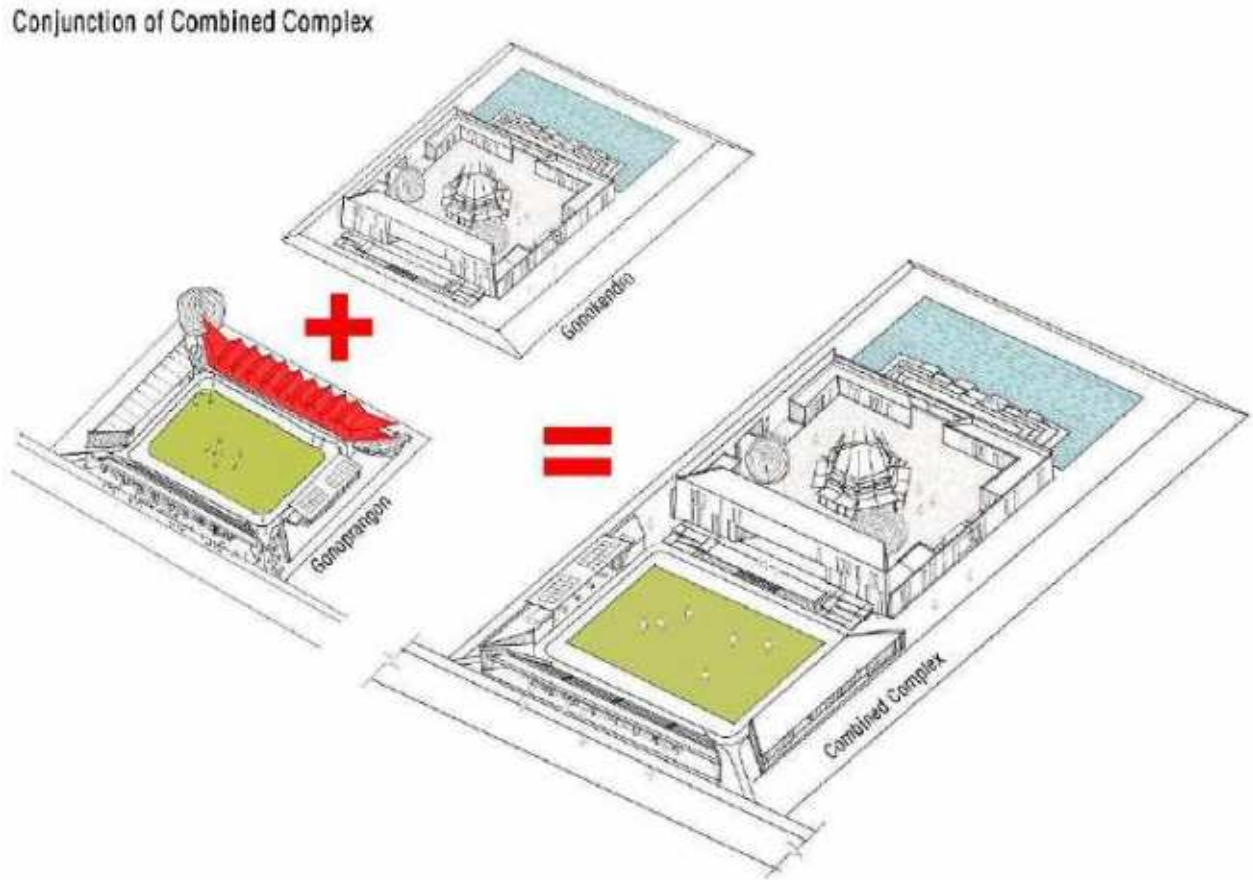


Figure 6.55: Conjunction of Combined Complex

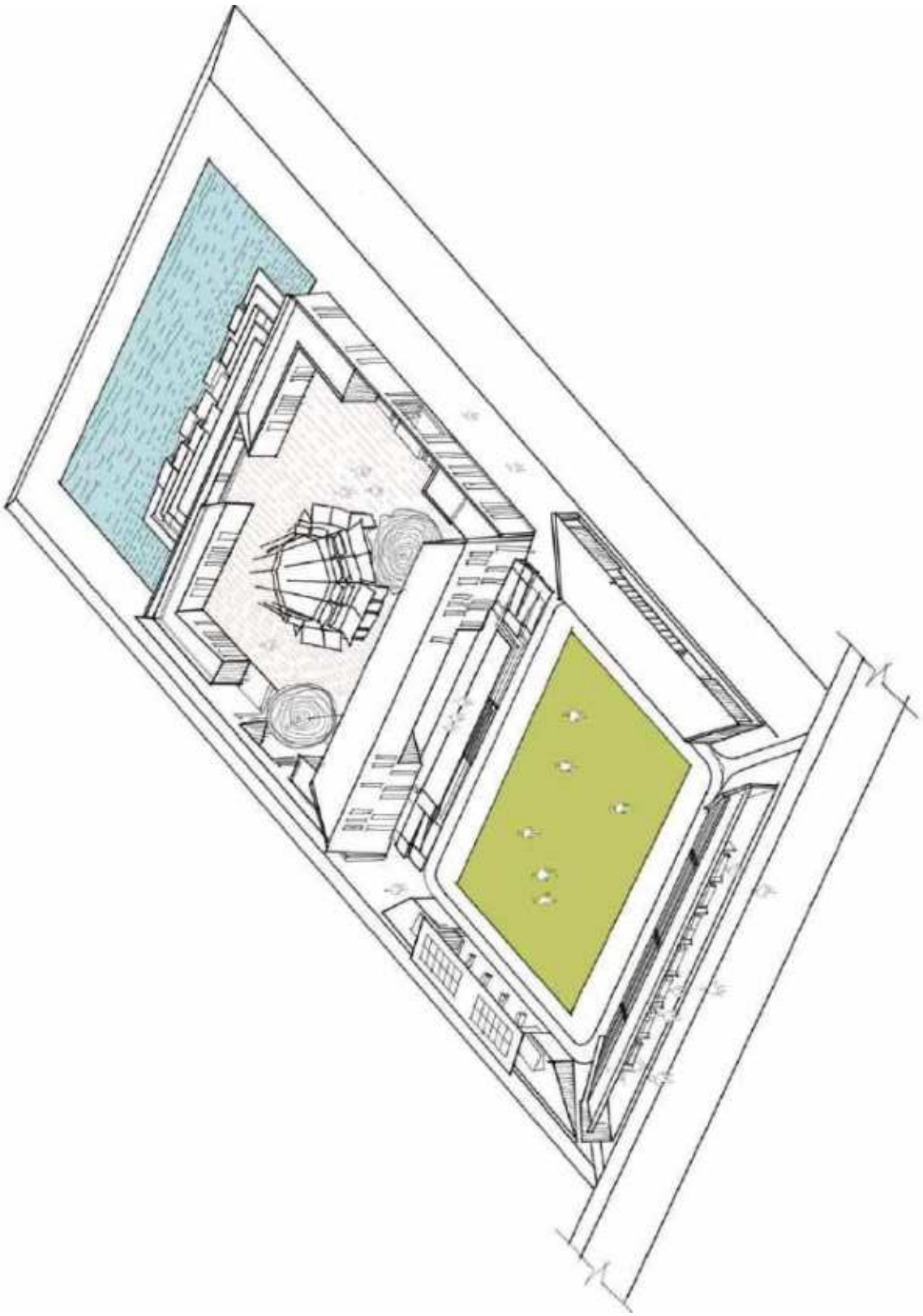


Figure 6.56: **View from Entry of Combined Complex**

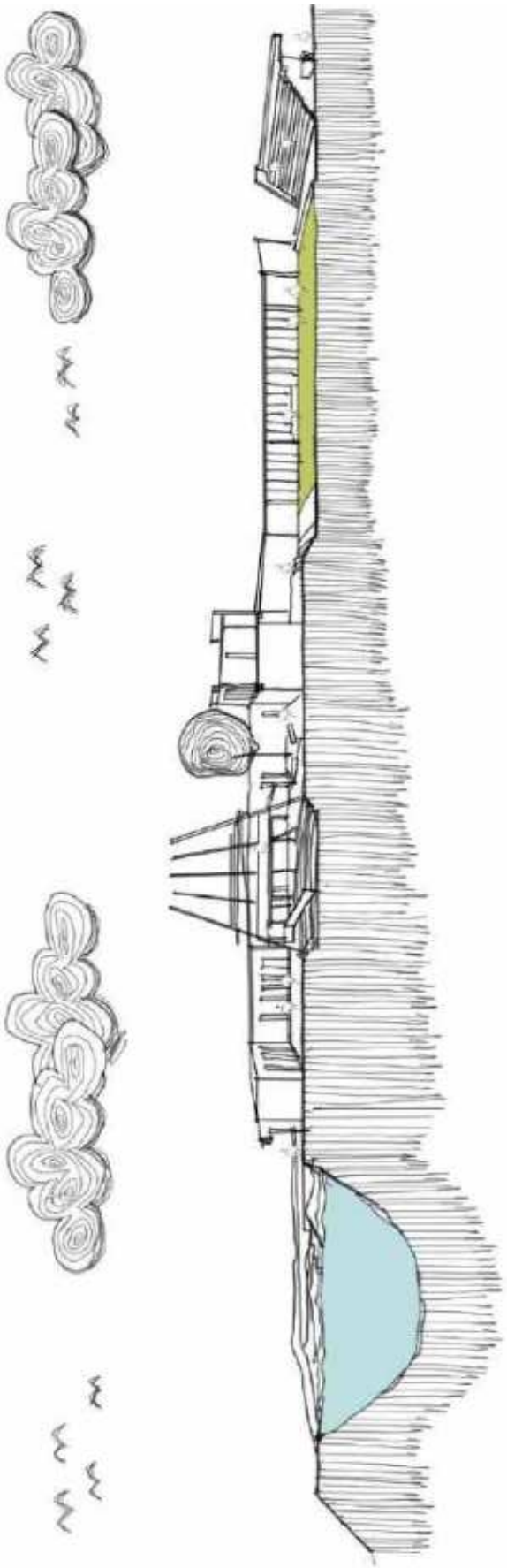


Figure 6.57: Sectional Perspective of Combined Complex

Figure 6.58: Aerial View of Combined Complex

Figure 6.59: Roadside View of Combined Complex

Figure 6.60: Aerial View of Gallery and Playground of Combined Complex

Figure 6.61: View of Plaza and Multipurpose Hall of Combined Complex

Figure 6.62: View of Combined Complex from Ghat-side Entry

Figure 6.63: View of Waterbody and Ghat of Combined Complex

6.6 Time as a Parameter in Design

Time can be a crucial parameter in the design of community complexes. Since land can be available for different spans of time, i.e: short, mid or long term, these complexes should also incorporate temporal flexibility in design. As the supply of public or community space is very limited, it would be better if all of the lands available for various time spans could be used. If there is a provision of using a land for even few years, that land could be used as public or community space. The material or design considerations would be based on this factor, too. If a land is available for a short time, temporary structures could be built with bamboo, straw, wood etc. and if a land is available for a longer time, more durable material could be used for planning, design and construction.

6.7 Materials and Component Palette for Community Complexes

The design of Community Complexes may vary according to the availability of materials in the region. However, a certain palette of materials should be followed in design to ensure a common language in visual expression. For example, an Encompassed Complex should be either constructed with permanent materials such as: brick, concrete etc., or temporary materials such as timber, bamboo, mud etc., but never a combination of both. In addition, temporary roofing materials such as thatch should not be used in a brick/concrete structure.

It is another common feature of the community complexes to change in size following the availability of land. Despite the scalability of these complexes, it should be kept in mind that certain features should always be incorporated in design of these complexes to retain their characteristic. For example, in case of Public Courtyard Complex, there should always be a regulation-sized playground contained by surrounding structures including a spectator gallery. In case of Encompassed Complex, there should always be a central volume incorporating the auditorium or multipurpose hall, surrounded by a public plaza and fortified activity spaces.

In case of Dispersed Complex, there should always be a central shading tree, accompanied by a loosely arranged sitting arrangement, followed by radial pavilions. The number and distribution of these structures may change but the basic characteristic should be maintained.

6.8 Ballpoint Cost Estimation

6.8.1 Cost Estimation for Public Courtyard Complex (*Gonoprangon)*

The cost estimation for a Public Courtyard complex (*Gonoprangon*) is given below:

Item No	Description	Amount in Taka	Remarks
1	Walkway	16,02,011.31	
2	Play Field	9,62,196.80	
3	Management Office	1,36,35,051.00	
4	Public Toilet	17,92,102.00	
5	Library	36,01,758.92	
6	Sitting Pavilion	20,21,574.15	
7	Gallery	67,48,479.31	
8	Rain Water Harvesting	3,75,000.00	
9	Water Supply System	5,55,000.00	
10	Drainage System	4,37,500.00	
11	Solar System	12,73,752.00	
12	Sewage Disposal System	4,66,520.00	
13	External Electrical Works	7,87,500.00	
	Grand Total =	3,42,58,445.49	

For detail estimation please see the annex B.

6.7.2 Cost Estimation for Public Haat Complex (*Unmukto Porishor)*

The cost estimation for a Public Haat Complex (*Unmukto Porishor*) is given below:

Item No	Description	Amount in Taka	Remarks
1	Shed-6 nos	11,39,049.00	
2	Mound	1,84,801.47	
3	Sitting-7 nos	20,475.00	
4	Tree plantation	5,000.00	
5	Electrical works	5,00,000.00	
	Grand Total =	18,49,325.47	

For detail estimation please see the annex B

6.8.3 Cost Estimation for Encompassed Complex (*Gonokendro)*

The cost estimation for Gonokendro is given below:

Item No	Description	Amount in Taka	Remarks
1	Boundary Wall	10,20,246.59	
2	Structures (Building)	1,64,83,759.61	
3	Plaza	68,84,118.78	
4	Pond Excavation	16,17,194.20	
5	Ghat Construction	78,11,312.39	
6	Water Body	47,583.00	
7	Multipurpose Hall	77,64,330.89	
8	Landscaping	1,48,501.17	
9	Rain Water Harvesting	5,50,000.00	
10	Water Supply System	13,60,000.00	
11	Drainage Sorks	1,55,275.20	
12	Sewage Disposal System	4,66,520.00	
13	External Electrical Works	16,51,125.00	
	Grand Total =	4,59,59,966.83	

For detail estimation please see the annex B

6.8.4 Cost Estimation for Combined Complex

The cost estimation for Combined Complex is given below:

Item No	Description	Amount in Taka	Remarks
1	Structures (Building)	1,64,83,759.61	
2	Multipurpose Hall	77,64,330.89	
3	Management Office	1,36,35,051.00	
4	Public Toilet	17,92,102.00	
5	Sitting Pavilion	20,21,574.15	
6	Gallarey	67,48,479.31	
7	Plaza	68,84,118.78	
8	Boundary Wall	10,20,246.59	
9	Walkway	16,02,011.31	
10	Play Field	9,62,196.80	
11	Pond Excavation	16,17,194.20	
12	Ghat Construction	78,11,312.39	
13	Water Body	47,583.00	
14	Rain Water Harvesting	9,25,000.00	
15	Water Supply System	19,15,000.00	
16	Drainage System	5,92,775.20	
17	Sewage Disposal System	9,33,040.00	
18	External Electrical Works	24,38,625.00	
19	Solar System	12,73,752.00	
20	Landscaping	1,48,501.17	
	Grand Total =	7,66,16,653.40	

For detail estimation please see the annex B

CHAPTER-7: SITE SPECIFIC DESIGN APPROACH

7.1 Design Placement in Selected Sites

The consultants were given few sites to demonstrate the placement and functioning of the designed public spaces. The method for accomplishment of this task was as follow:

- **Reconnaissance Survey**

On the outset of the task, a Reconnaissance Survey was conducted in the sites to have an idea regarding the subject sites. It helped in designing the following works.

- **Public Consultation**

Public consultation is to ensure that a participatory approach takes place, which in turn documents concerns of stakeholder groups and makes sure that such concerns are considered, responded to, and incorporated into the decision-making process of the development. It needs to be a two-way communication process that imparts information to stakeholders, but also obtains additional and on-the-ground information from them.

The specific objectives of the consultations are:

- ✓ Share information with stakeholders on proposed study activities and expectation of them regarding the study objectives;
- ✓ Understand stakeholders' concerns regarding various aspects of the study, including the existing condition of the community spaces, potential spaces, upgrading requirements etc.;
- ✓ Provide an opportunity to the public to influence project design in a positive manner;
- ✓ Obtain local and traditional knowledge, before decision making;
- ✓ Create a sense of ownership of the proposal in the mind of the stakeholders; and
- ✓ Develop the proposal which is truly sustainable.

- **Detailed Survey**

After the Reconnaissance Survey, detailed survey was conducted to gather the data and information for designing the public and community spaces and play equipment.

- **Design of the Site**

After gathering all of the data, the design of the site was performed. The following sections will provide the details regarding the designs.

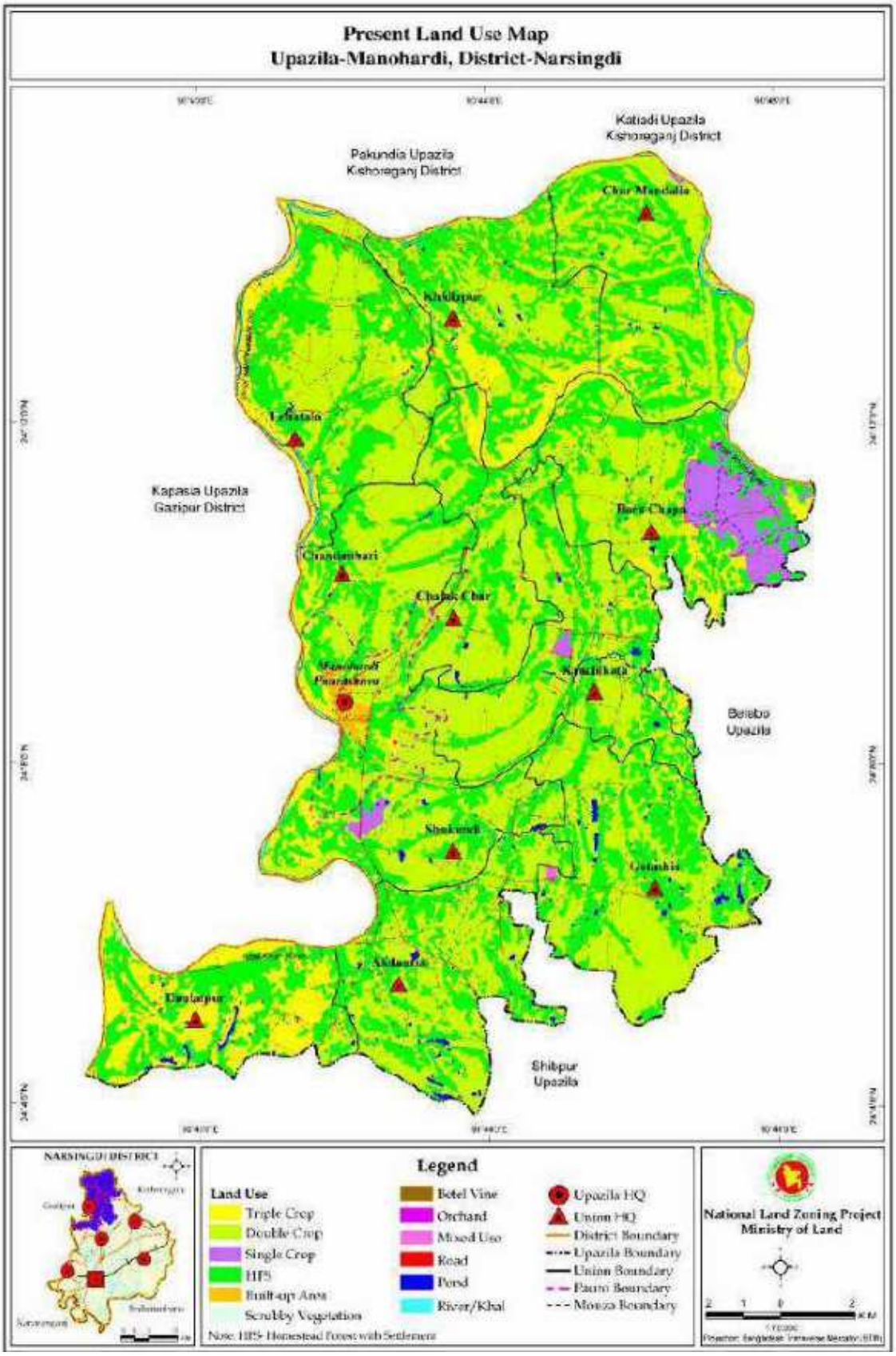
A. General description of the Study Area (Monohardi Upazila, Narsingdi)

Monohardi came into existence as a Thana in 1904 and was upgraded to Upazila in 1984. There is a general belief that the present area of the Upazila was once an attractive (meaning manohar in bangla) island. It is believed that the Upazila had derived its name as Monohardi from the above two words. The Upazila occupies an area of 193.87 sq. km. including 1.97 sq. km river area. It is located between 24004' and 24015' north latitudes and between 90038' and 90049' east longitudes. The Upazila is bounded on the north by Old Brahmaputra River, Pakundia Upazila and Katiadi Upazila of Kishoreganj Zila, east by Belabo Upazila and Katiadi Upazila, south by Shibpur Upazila and west by Kapasia Upazila of Gazipur Zila. The Upazila consists of 1 Paurashava, 9 wards, 12 mahallas, 11 unions, 124 populated mauza and 165 villages. The average population of each ward and mahallas are 1959 and 1470 respectively. On the other hand, the average size of population of each union, mauza and village are 23407, 2076 and 1560 respectively. In this Upazila there are 63385 households. Distribution of household by type shows that there are 99.57% general unit, 0.07% institutional and 0.36% other unit. The average household size (General) for the Upazila is 4.3 persons, for rural area the size is also 4.3 and for urban area the size is slightly lower i.e., 4.2. In the Upazila, 3.3% general household live in pucca house, 21.0% in semi-pucca house, 74.6% in kutcha house and the remaining 1.1% live in jhupri. *(Source: Banglapedia, Bangladesh Totthobatayon, LGED)*

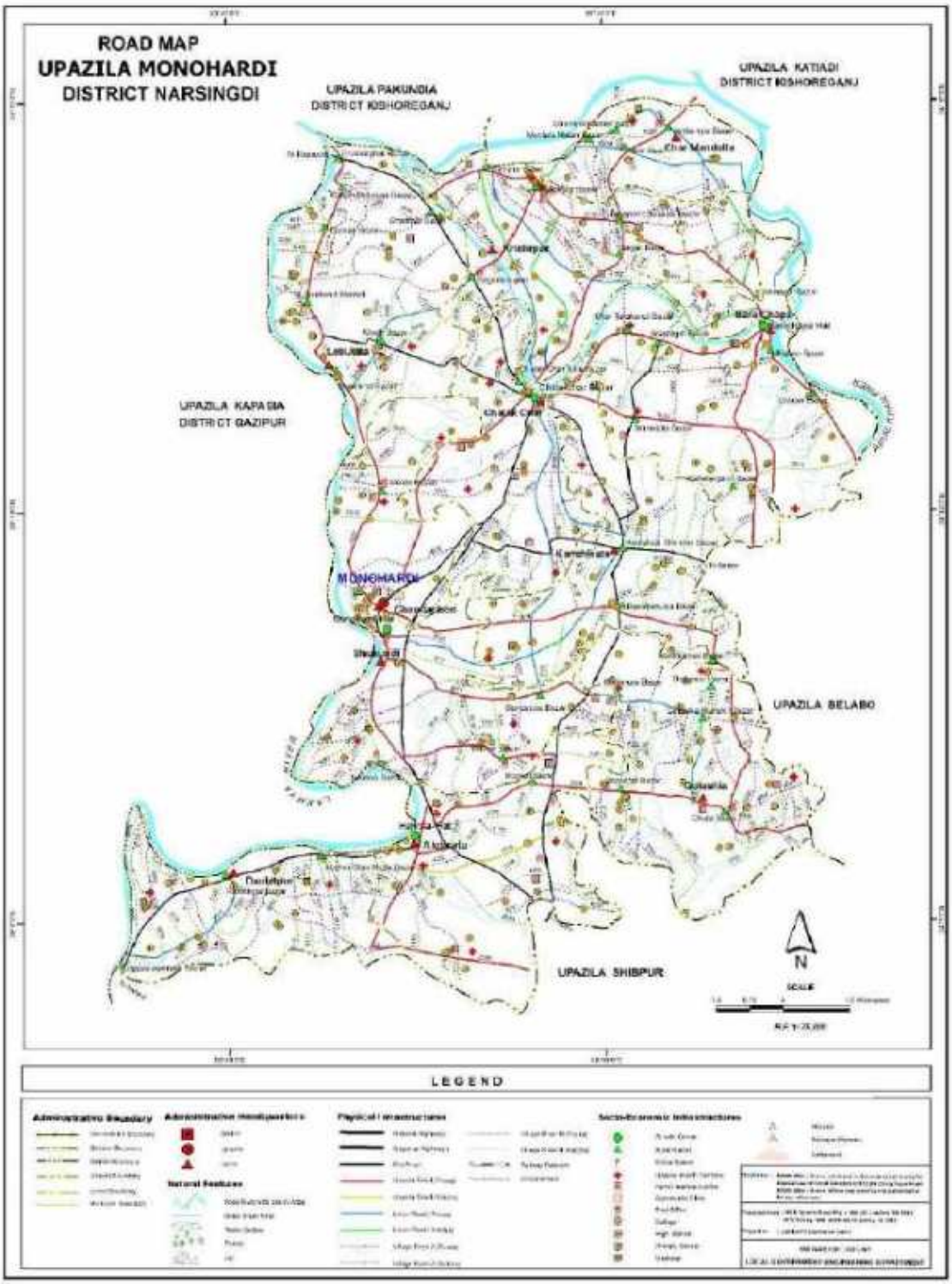
Area	193.60 sq.km.
Population	Approx. 2,84,563
Village	172 nos.
Union	12 nos.
Municipality	01 nos.
River	4 nos.
Khas Land	462.38 acres
Hat-Bazar	23 nos
Govt. Primary School	143 nos.
Non-Govt primary School	31 nos.
High School	29 nos.
High School (Girls)	14 nos.
Madrasa	26 nos.
College	08 nos.
Technical College	03 nos

(Source: LGED)

Table 7.1: Monohardi Upazila at a Glance



Map 7.1: Land Use Map of Monohardi Upazila (source: Ministry of Land, GoB)



Map 7.2: Road Network Map of Monohardi (source: LGED)

B. Methodology of the task

Survey Work

The survey work was conducted in December 2021 - January 2022. During survey, demographic data, socioeconomic data, economic data, data regarding the physical features etc. were collected.

Public Consultation

At initial stage, interview with the local stakeholder's and project officials are made to identify stakeholder's opinion about the study. As a Upazila Town, Monohardi has limited allocation of community spaces which are mainly based on the Upazila town center centric. No designated public spaces have been found in the Upazila.

Figure 7.1: Consultation with Paurashava Mayor and Union Parishad Chairmans, Monohardi

All the stakeholders attend in the consultation perceives that the project will help in providing sustained recreational opportunities to the community people at Upazila level which revitalize the physical and mental health especially for youth, children and elderly people. Sustainable green structures development is also their desire. The major proposals made by the stakeholder were:

i) involve local communities in all stages of project planning and development;
ii) emphasis the recreational facilities accessible for children, youth, women and elderly people;
iii) development at government khas land though the amount of khas land at Monohardi Upazila are less compared to other Upazila and scattered by locations;
iv) use of local sustainable cost-effective materials for construction.

C. Inventory of Public and Community Spaces at Monohardi Upazila

Before selecting a site for design, an inventory of the Public and Community Spaces of the area should be made. For the present study, such an inventory has been developed as if an idea regarding the stock of public and community spaces at Upazila level can be acquired at a glimpse. The chart for Monohardi Upazila is as follow.

Types- Land Tenureship		Public/ Community Space	Public Courtyard (প্রাঙ্গণ)	Encompassed Complex (পরিবেষ্টিত)	Public Haat Complex (উন্মুক্ত পরিসর)	Outdoor Playscape (উন্মুক্ত খেলাধুলা)	Riverfront (নদীতীর)	Waterfront (জলাধার)
			01	02	03	04	06	07
a	Waqf Land	Availability						
		Area						
		Location						
b	Khas Land	Availability	√		√		√	√
		Area	1.66 Acre		0.4 Acre			0.80 Acre
		Location	Hasordia		Monohordi Cow Haat		40m Bridge at Brahmaputra River	Upazila Parishad Pond
c	Vested Land	Availability						
		Area						
		Location						
d	Donated Land	Availability						
		Area						
		Location						
e	Institutional Land (High School)	Availability				√		
		Area				0.34 Acre		
		Location				Hafizpur High School		
f	Institutional Land (Primary School)	Availability				√		
		Area				0.04 Acre		
		Location				Udayan Academy Monohordi		
g	Private Land	Availability		√				
		Area		1.13 Acre				
		Location		Char Kshirati				

Table 7.2: Inventory of Public Spaces in Monohardi Upazila

D. Existing Condition of Community Space

As a Upazila Town, Monohardi has limited allocation of community spaces which are mainly based on the upzalia town center centric. No designated public spaces have been found in the upazila level. Monohardi Pourashava master plan has been proposed some open and public spaces but no feasibility of those proposed facilities has been done yet. However, consultants have been found some options in this category during the field visit. Among them, existing Upazila Parishad pond has a great potentiality to be a public space. Besides, playgrounds of primary, secondary and colleges, road side vacant land, riverside areas are also found promising aspects in this case. Government khas land would be a good source for developing community and open spaces but those are scattered all over the upazila so a required minimum standard size of land cannot be found for these purposes.

Figure 7.2: Existing Condition of Informal Community Spaces and Playgrounds

Figure 7.3: Existing Condition of Upazila Parishad Pond

Figure 7.4: Riverside Vacant Land

Figure 7.5: Open Space beside Market Area

Figure 7.6: Existing Condition of Playground of Hafizpur High School

Figure 7.7: Existing Condition of Playground of Different Primary School

Figure 7.8*:* Existing Condition of Upazila Auditorium

E. Plan and Proposals

1. Outdoor Play Area in Hafizpur High School, Monohardi

In Hafizpur High School, there is a large playfield and an abundance of unused land around the corners of the field.

In another side, near the primary school building, small play equipment for primary school students can be placed to include a wide array of children. The selected play equipment for the Hafizpur High School Field are three see-saws, one tire traverse, one set of jumping pegs, a V-shaped net, a Trapeze Walk, three Double Swings, and one set of zigzag stilts.

Figure 7.9*:* Existing Condition of Hafizpur High School Field

The idea was to create an inclusive play area for children of different age groups. To ensure this, firstly, the playground has been secured, and the remaining unused areas in the corners are selected for placement of play equipment of different kind.

The play area is defined using a free-formed sand pool. The play equipment is placed along an axis in this sand pool. The play area is then divided into several small zones to accommodate different activities, such as: jumping zone, swing zone, balancing zone, climbing zone, hopping zone etc. The play equipment is placed accordingly maintaining standard space requirements.

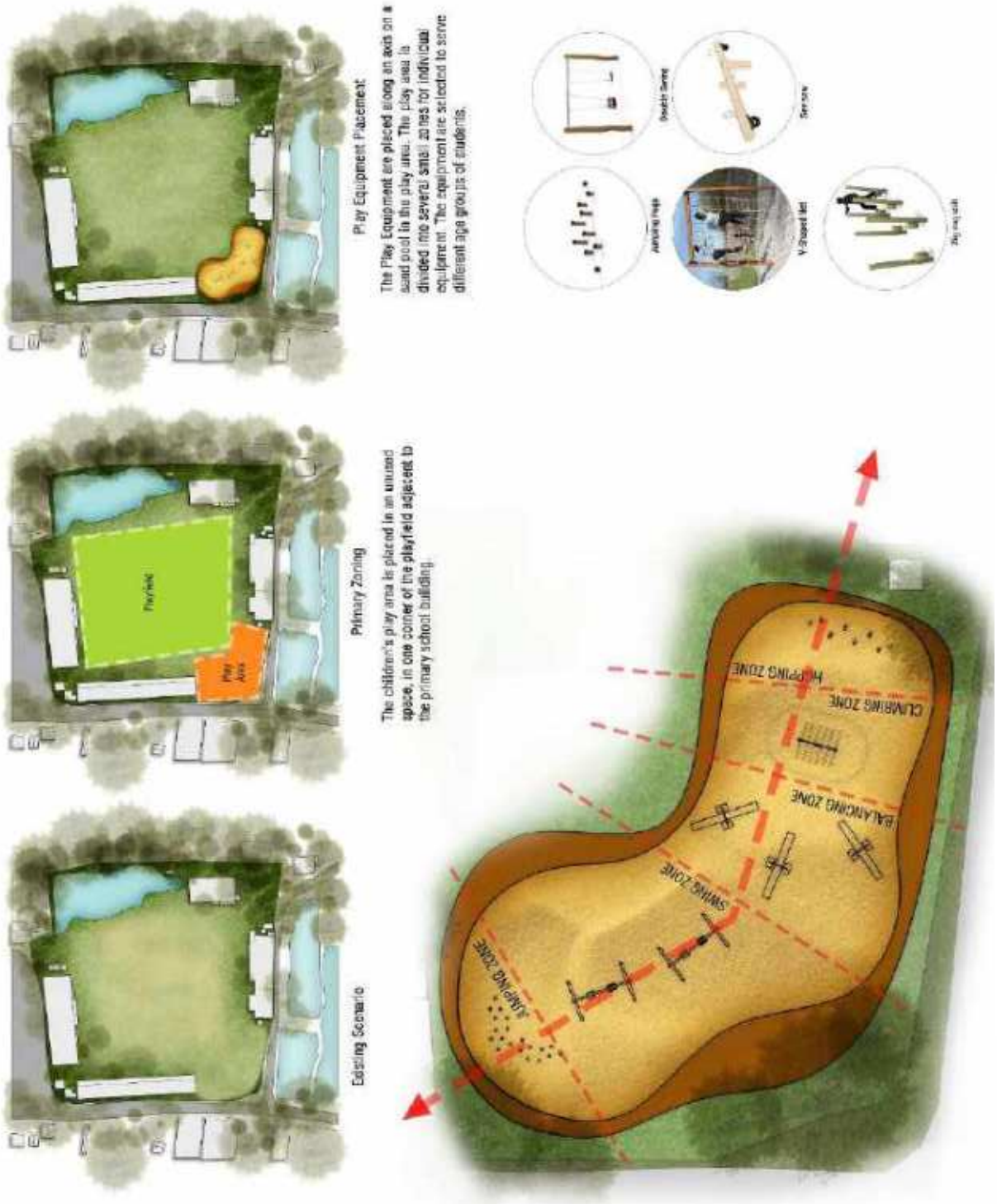


Figure 7.10: Concept behind Play Equipment Placement in Hafizpur High School

Figure 7.11: Play Equipment Layout in Hafizpur High School

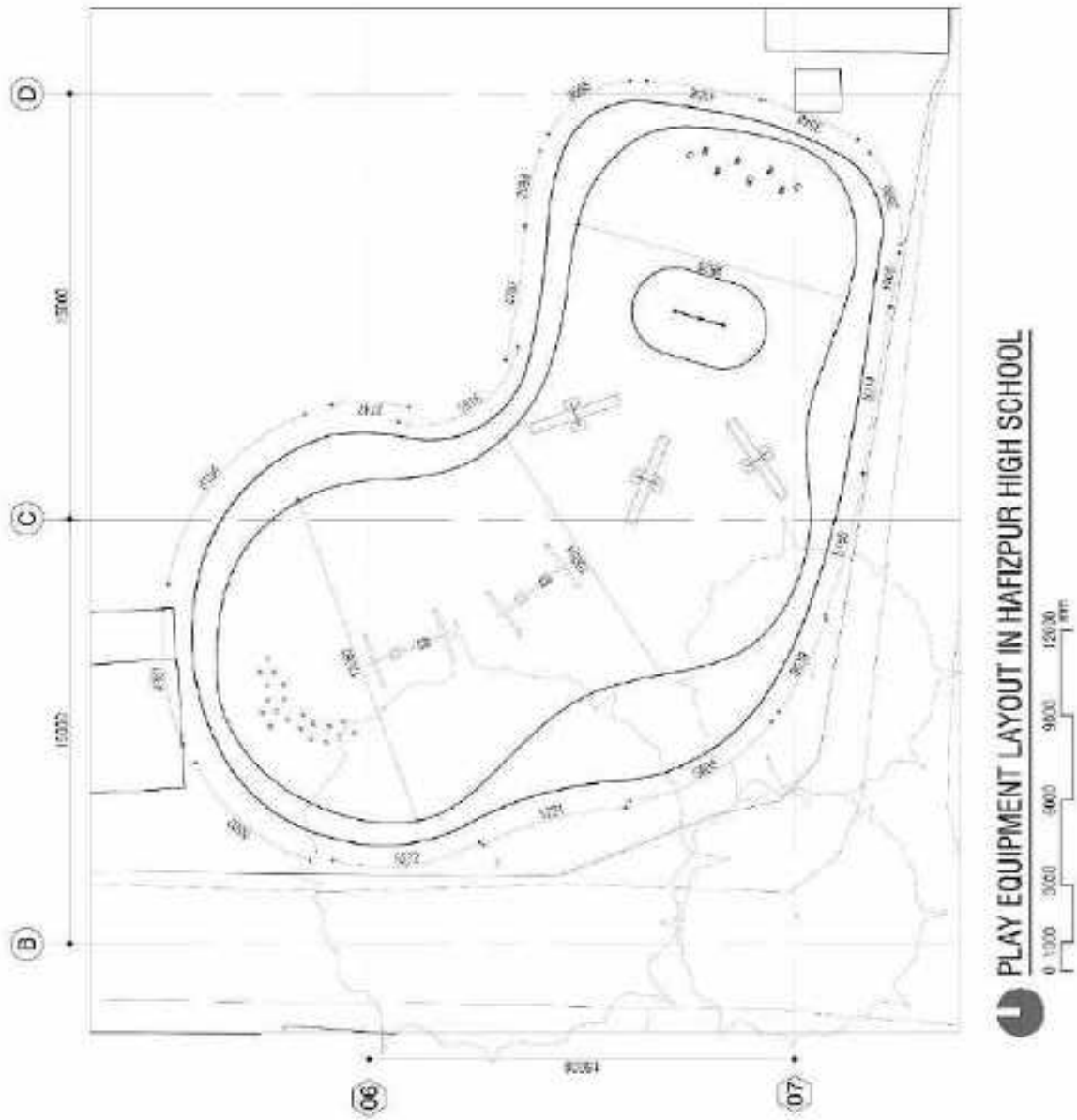


Figure 7.12: Play Equipment Layout in Hafizpur High School

Figure 7.13: Aerial View of Play Area of Hafizpur High School

Figure 7.14: Aerial View of Play Area of Hafizpur High School

Figure 7.15: View from Street of Play Area of Hafizpur High School

Figure 7.16: View from Street of Play Area of Hafizpur High School

Figure 7.17: Close-up view of Play Area of Hafizpur High School

Figure 7.18: Close-up view of Play Area of Hafizpur High School

Figure 7.19: Close-up view of Play Area of Hafizpur High School

The ball-point cost estimation for the play equipment has been given below:

Sl no.	Item	Unit Price (BDT)	Number of Units	Total Price (BDT)
1	See-saw	89,261	3	2,67,783
2	Tire Traverse	1,07,746	1	1,07,746
3	Jumping Pegs	1,13,000	1	1,13,000
4	V-Shaped Net	95,902	1	95,902
5	Trapeze Walk	80,703	1	80,703
6	Double Swing	1,13,929	3	3,41,787
7	Zigzag Stilts	1,25,060	1	1,25,060
			Total	**11,31,981**

2. Outdoor Play Area in Saikchail Government Primary School, Monohorgonj

Another school in a different context has been selected to demonstrate outdoor Play Equipment placement. This school, Saikchail Government Primary School is located in Monohorgonj, Cumilla.

This school has a smaller playground. Beside the academic building, just around the entry gate there is an unused patch of land which is selected for placement of outdoor play equipment. The selected play equipment for the Saikchail Government Primary School Field is one set of tire hopscotch, two double swings and a clatter bridge. The play area is defined by a rectangular sand pool and an adjacent walkway leading to a shaded seating area.

Figure 7.20*:* Existing Condition of Saikchail Government Primary School, Monohorgonj

Like Hafizpur High School play area, this play area has also been designed by dividing the area into different activity zones such as hopping, swinging, balancing and sitting zones and placing play equipment accordingly.

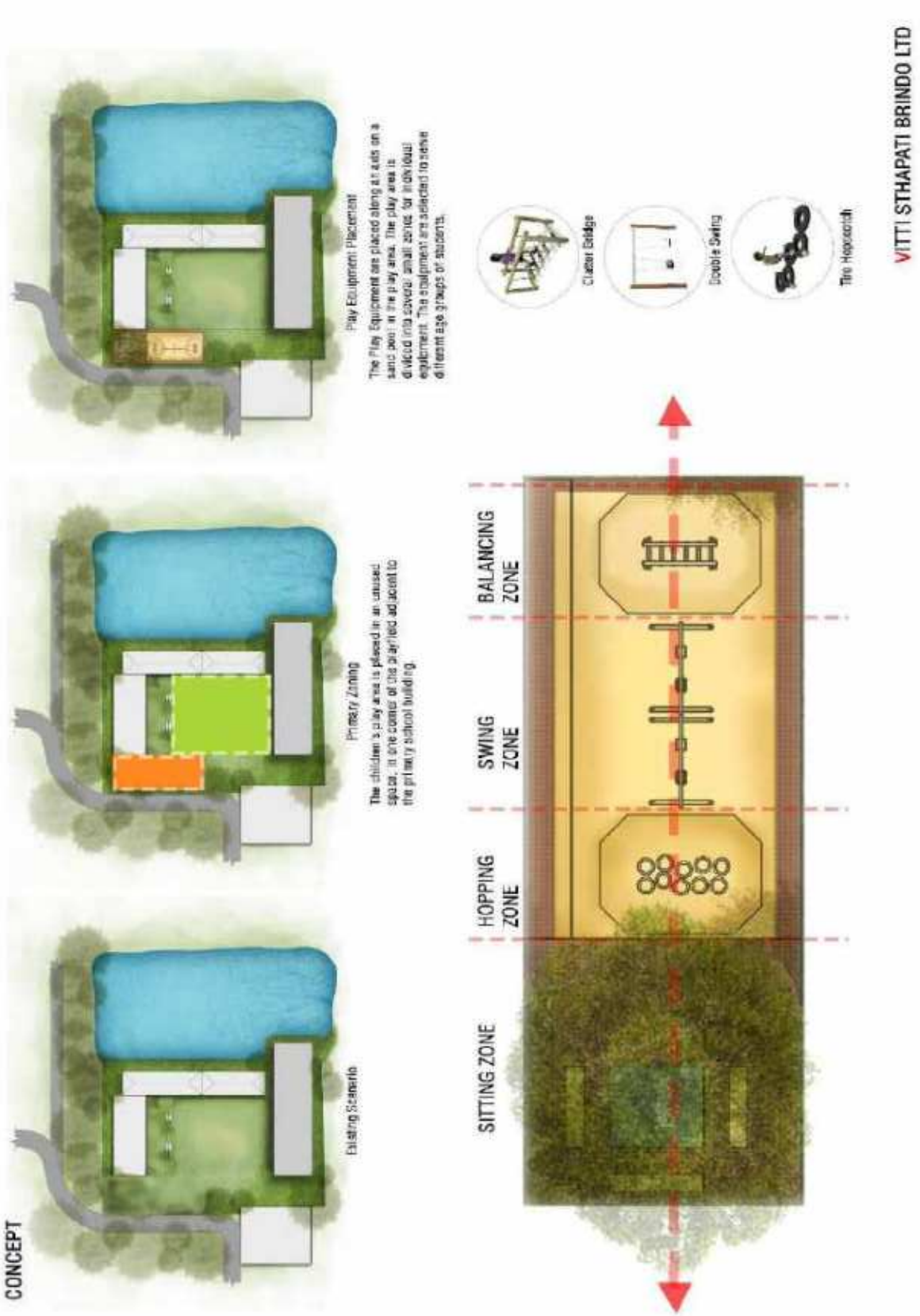


Figure 7.21: Concept behind Play Equipment Placement in Saikchail Govt. Primary School

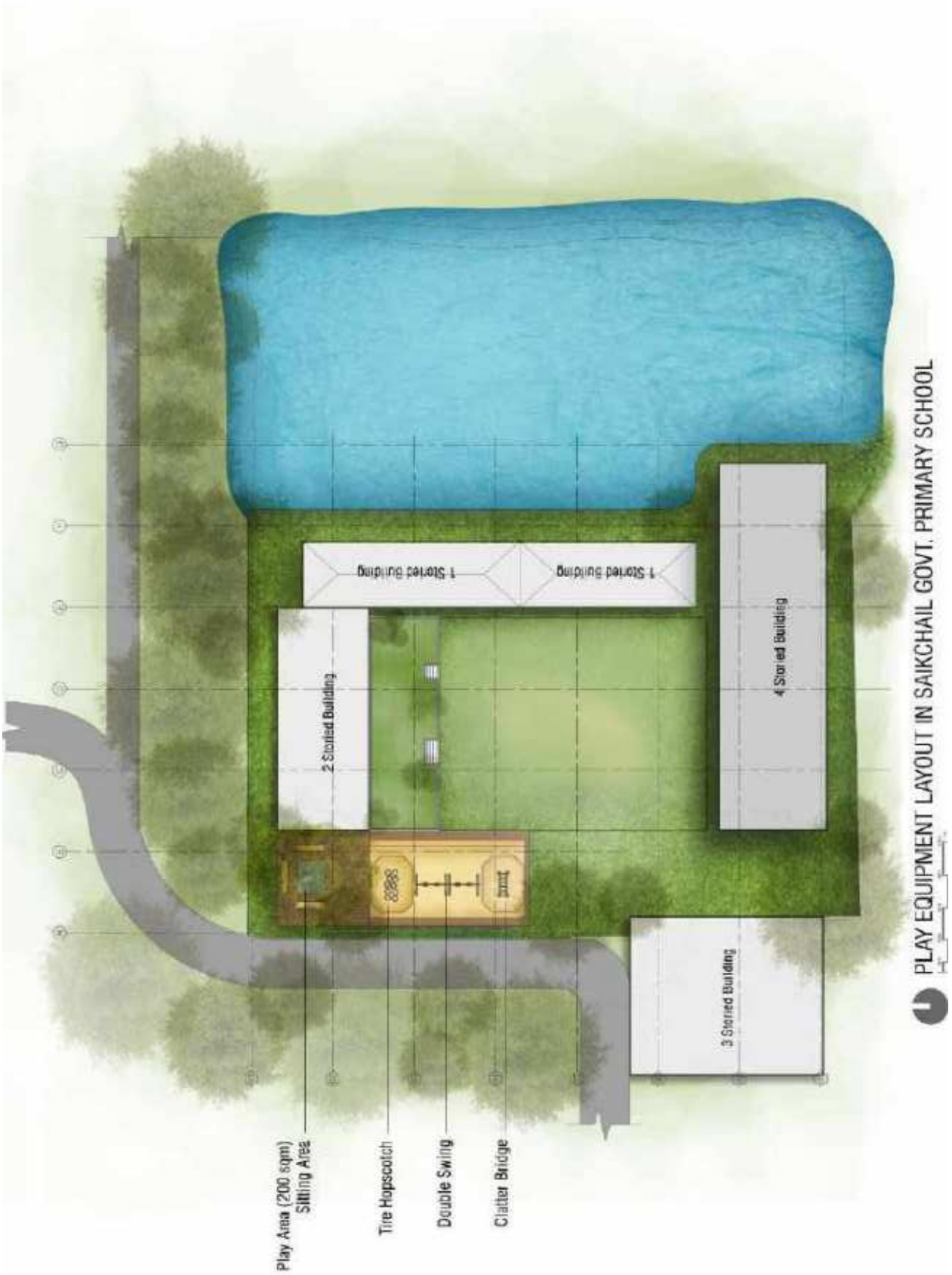


Figure 7.22: Play Equipment Layout in Saikchail Govt. Primary School

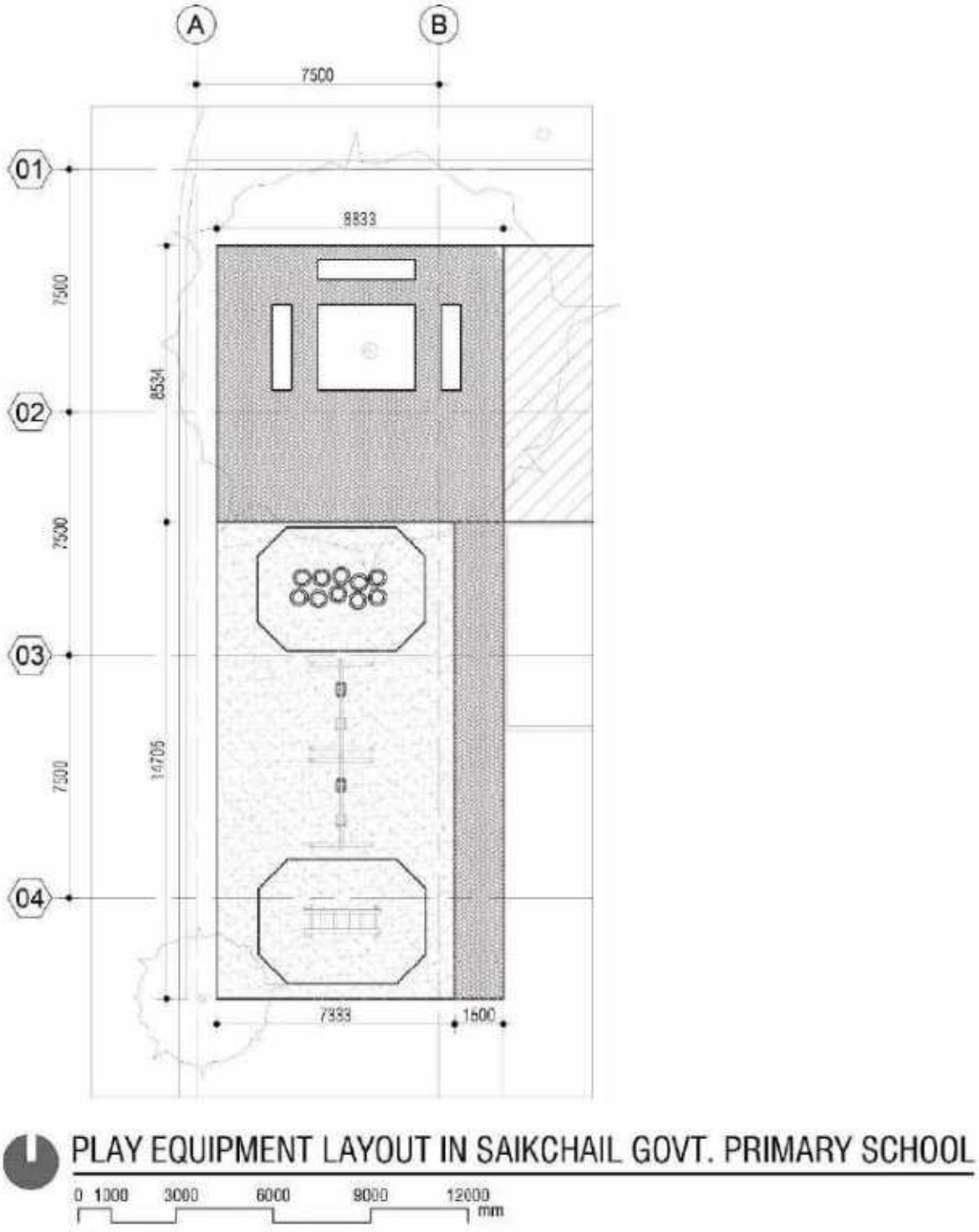


Figure 7.23*:* Play Equipment Layout in Saikchail Govt. Primary School

Figure 7.24: Aerial View of Play Area of Saikchail Govt. Primary School

Figure 7.25: Aerial View of Play Area of Saikchail Govt. Primary School

Figure 7.26: Aerial view of Play Area of Saikchail Govt. Primary School

Figure 7.27: View from Entry of Play Area of Saikchail Govt. Primary School

Figure 7.28: Aerial view of Play Area of Saikchail Govt. Primary School

Figure 7.29: View of Sitting Area of Saikchail Govt. Primary School

Figure 7.30: Close-up view of Play Area of Saikchail Govt. Primary School

The ball-point cost estimation for the play equipment has been given below:

Sl no.	Item	Unit Price (BDT)	Number of Units	Total Price (BDT)
1	Clatter Bridge	99,781	1	99,781
2	Tire Hopscotch	25,350	1	25,350
3	Double Swing	1,13,929	2	227858
			Total	**352989**

3. Water-edge Placemaking

The Upazila pond has been selected for designing water-edge activities. The different components of the design are described below:

- Walkway: A light weight walkway encircles the entire pond, facilitating users to experience a calm and quiet public space.
- Sitting Area: Outdoor furniture have been designed to create inclusive sitting areas around the pond.
- Ghat: On one edge of the pond, there is a ghat with a shading, that enables users to sit and converse by the pond side.
- Plantation: The edge of the pond is adorned with different species of trees like Hijal, Tamal etc.
- Public Toilet: A public toilet has been designed on one corner of the pond for the users.

Figure 7.31: Conceptual Drawing of Pond side Placemaking (Monohardi Upazila Pond)

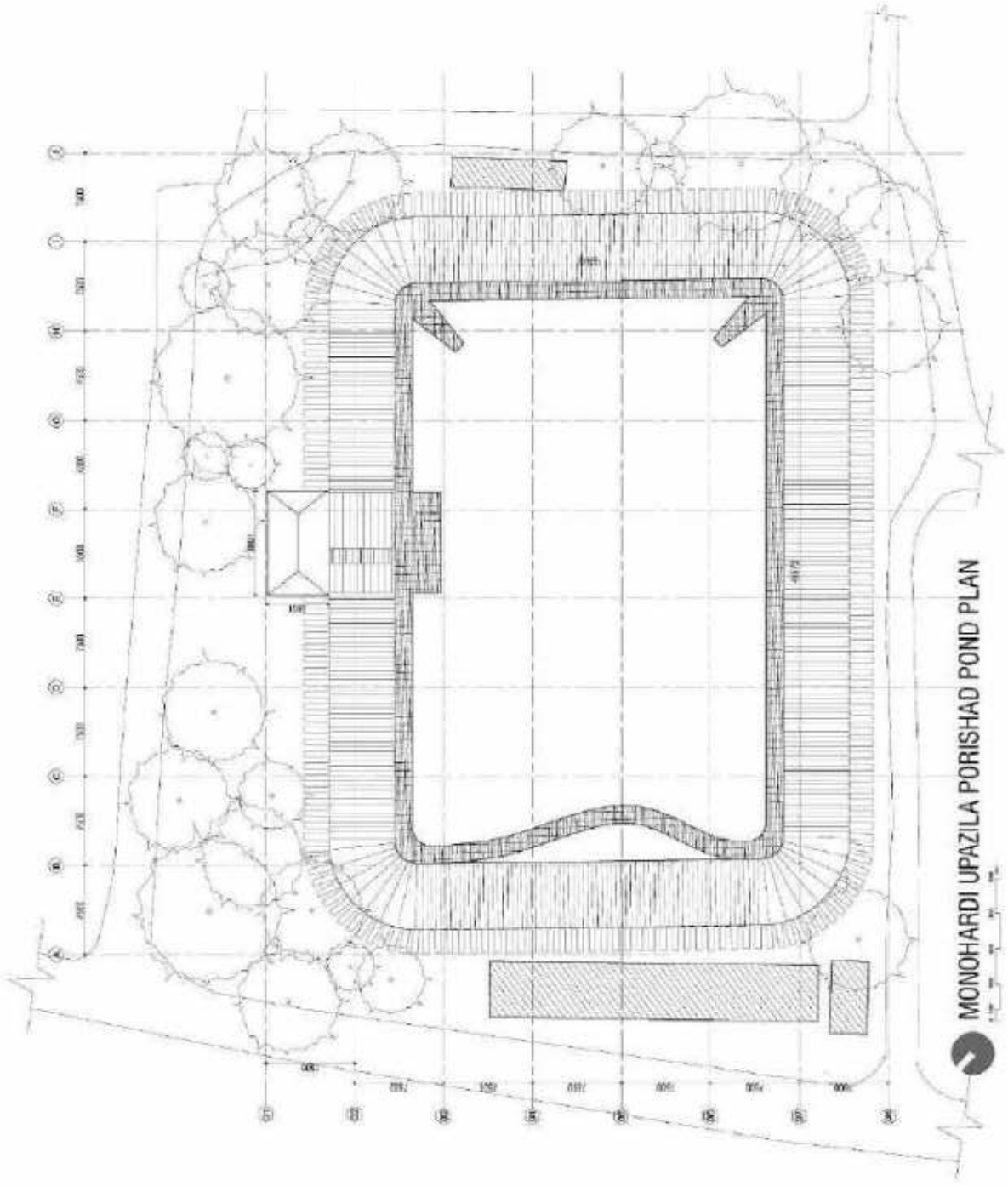


Figure 7.32: Plan of Monohardi Upazila Parishad Pond

Figure 7.33: View of Monohardi Upazila Parishad Pond

Figure 7.34: Aerial View of Monohardi Upazila Parishad Pond

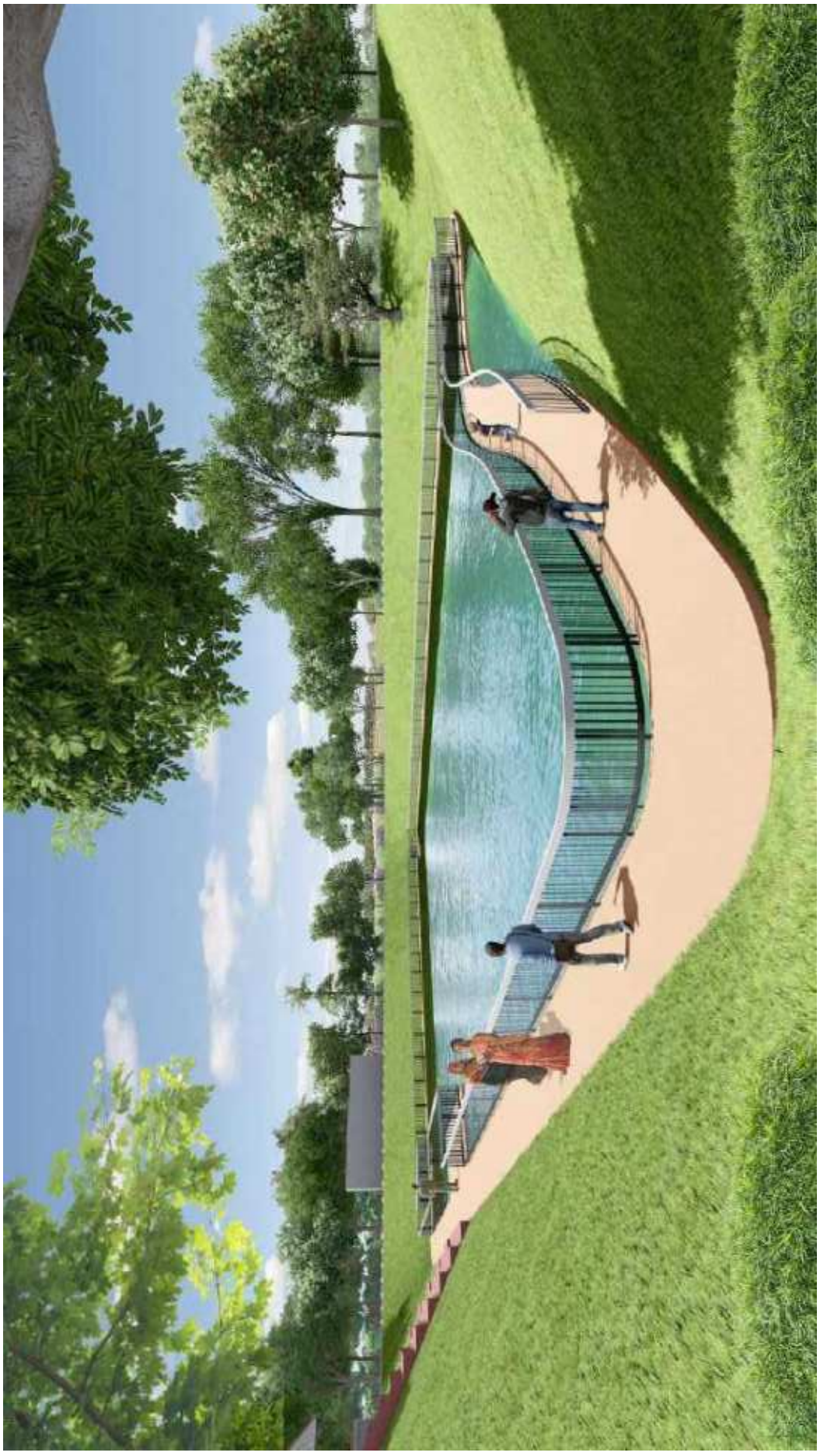


Figure 7.35: View of Monohardi Upazila Parishad Pond

Figure 7.36: View of Ghat of Monohardi Upazila Parishad Pond

Figure 7.37: View from Ghat of Monohardi Upazila Parishad Pond

Figure 7.38: View of Ghat of Monohardi Upazila Parishad Pond

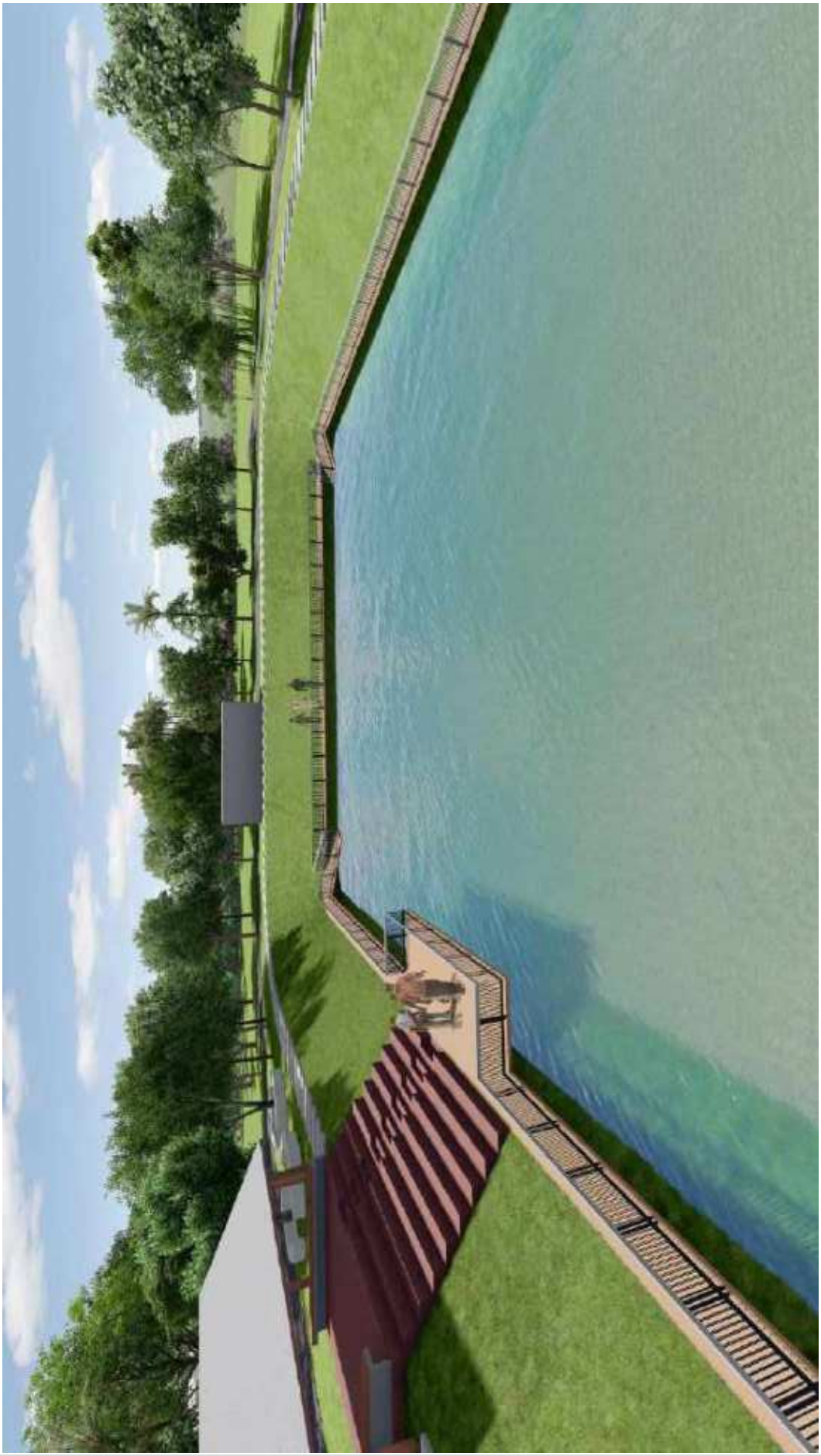


Figure 7.39: View of Ghat of Monohardi Upazila Parishad Pond

Additionally, a pedestrian bamboo bridge has been designed on one side of the Brahmaputra River near the Monohardi Thana. The multipurpose bamboo bridge is not only for ensuring connectivity but also performs as a public space with projected interaction pockets on both sides.

Figure 7.40: Pedestrian Bamboo Bridge beside Monohardi Thana

4. Public Courtyard Complex (Gonoprangon) at Harordia, Monohardi

A Public Courtyard complex has been designed in Harordia, beside Monohardi Road. The land is situated beside a vast paddy field. The shape of the site is trapezoidal. The complex has a Youth Training Center, a Co-management Office, a Shops and Gallery Block, and a Shaded Seating Area with Public Toilet.

Total land area is 1.66 Acre and estimated cost will be approximately BDT 5.46 crore.

Figure 7.41: Conceptual Drawing of Public Courtyard (Gonoprangon) at Harordia

The area of the functional spaces are as follows:

Function	Area in sqm
Waiting Area	100
Youth Training Center	430
Gallery and Shops	340
Co-management Office	260
Playfield	1520
Total Area	2710

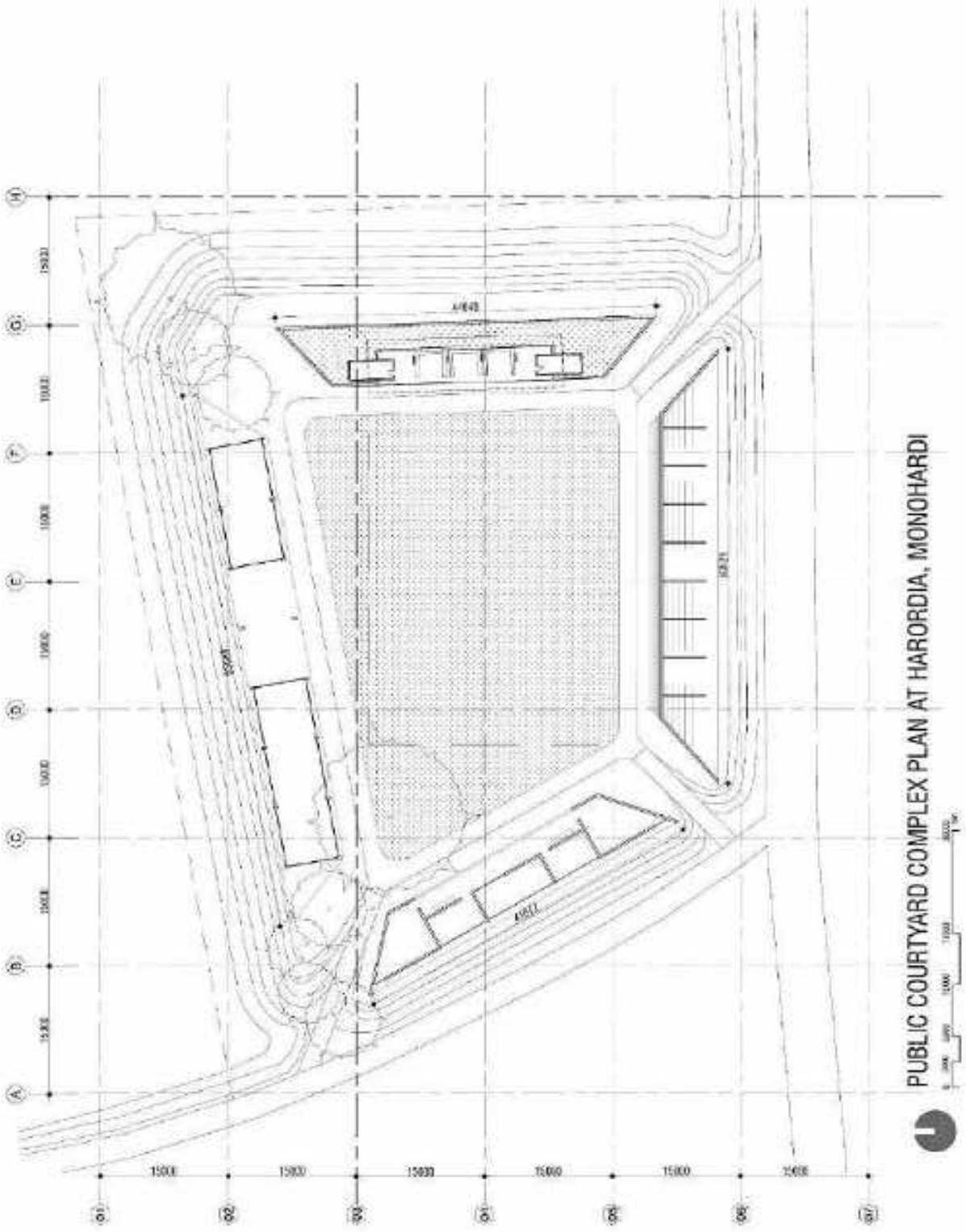


Figure 7.42: Plan of Gonoprangon at Harordia, Monohardi

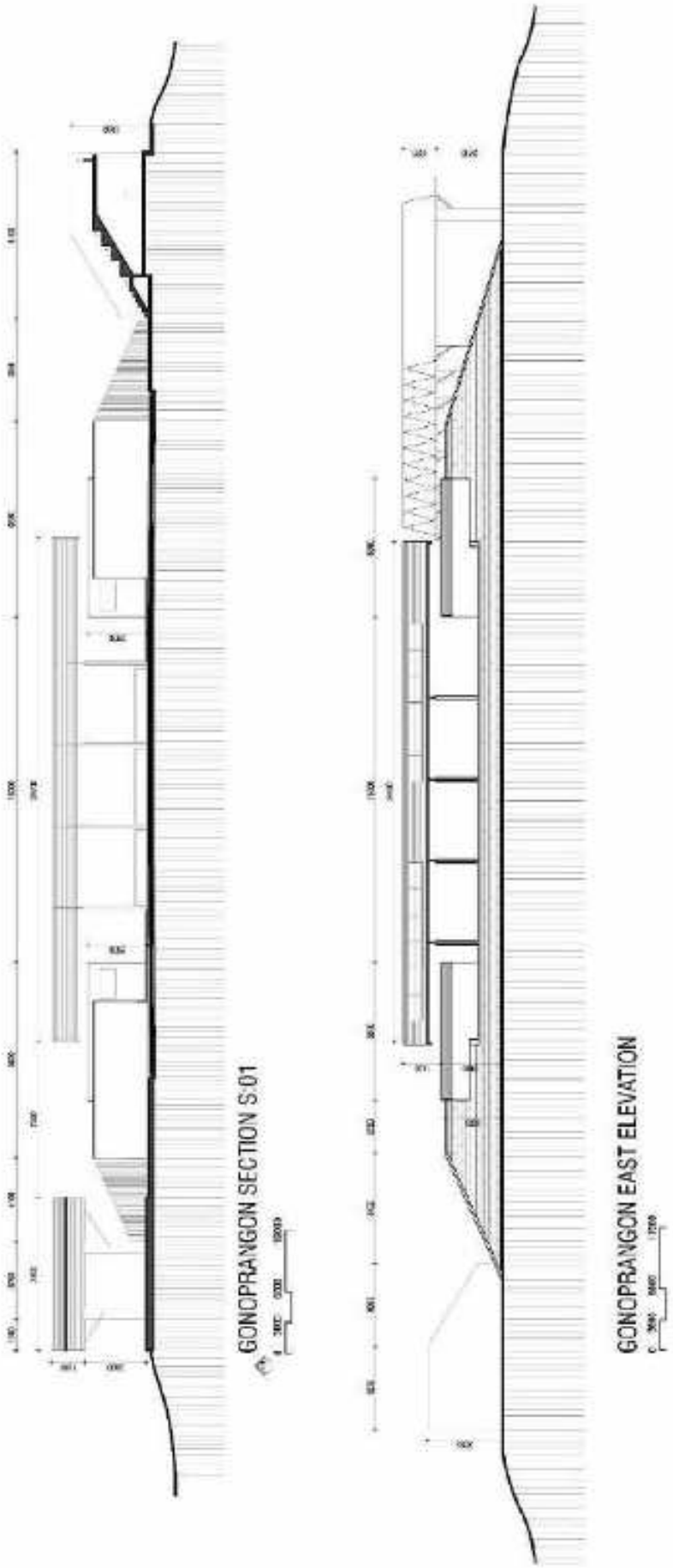


Figure 7.43: Elevation and Section of Gonoprangon at Harordia, Monohardi

Figure 7.44: View of Playfield of Gonoprangon

Figure 7.45: View of Youth Training Center of Gonoprangon

Figure 7.46: View of Streetside Shops of Gonoprangon

5. Public Haat Complex at Monohardi Gorur Haat

A Public Haat complex has been designed in Monohardi Gorur Haat Area, beside Narshingdi Road. The land is situated in a peri-urban context. The complex has six bamboo structures. These incorporate functions of Public Toilet, Library and Market place. The center of the Haat Complex surrounds a Tree and is situated on an earth mound. There is an interactive central sitting area.

Total land area is 0.4 Acre and estimated cost will be approximately BDT 18.06 Lakh.

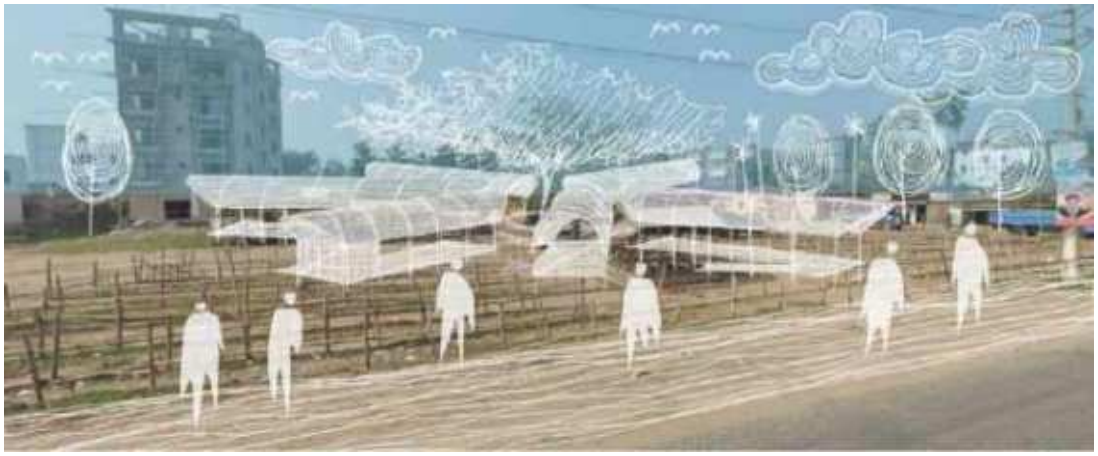


Figure 7.47: Conceptual Drawing of Public Haat Complex at Monohardi Gorur Haat Area

The area breakdown of this complex is given below:

Function	Area in sqm
Shaded Sitting Area	200
Library	145
Public Toilet	50
Marketplace	630
Total Area	2710

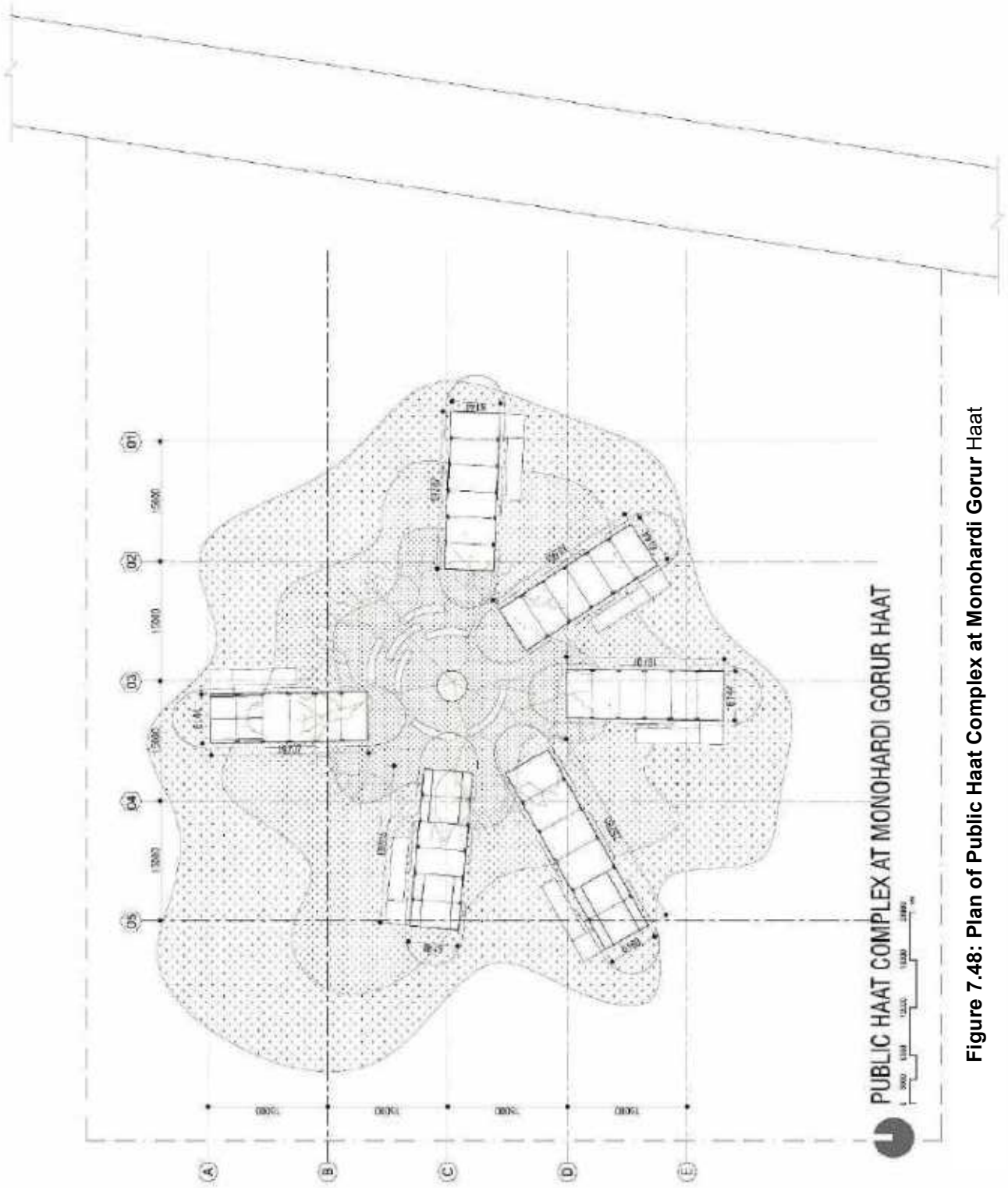


Figure 7.48: Plan of Public Haat Complex at Monohardi Gorur Haat

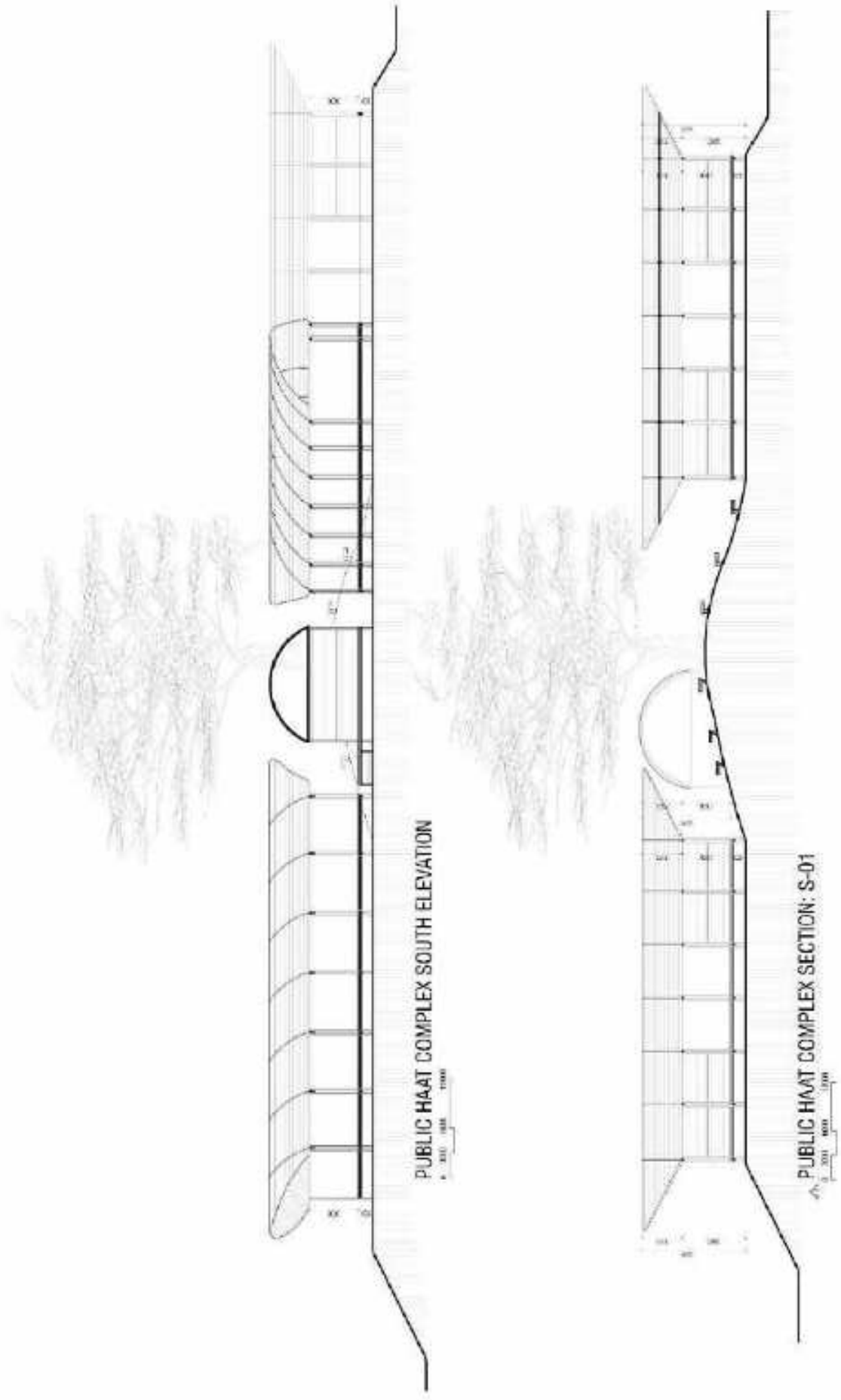


Figure 7.49: Elevation and Section of Public Haat Complex at Monohardi Gorur Haat

Figure 7.50: Aerial View of Public Haat Complex at Monohardi Gorur Haat

Figure 7.51: View of Public Haat Complex from Street at Monohardi Gorur Haat

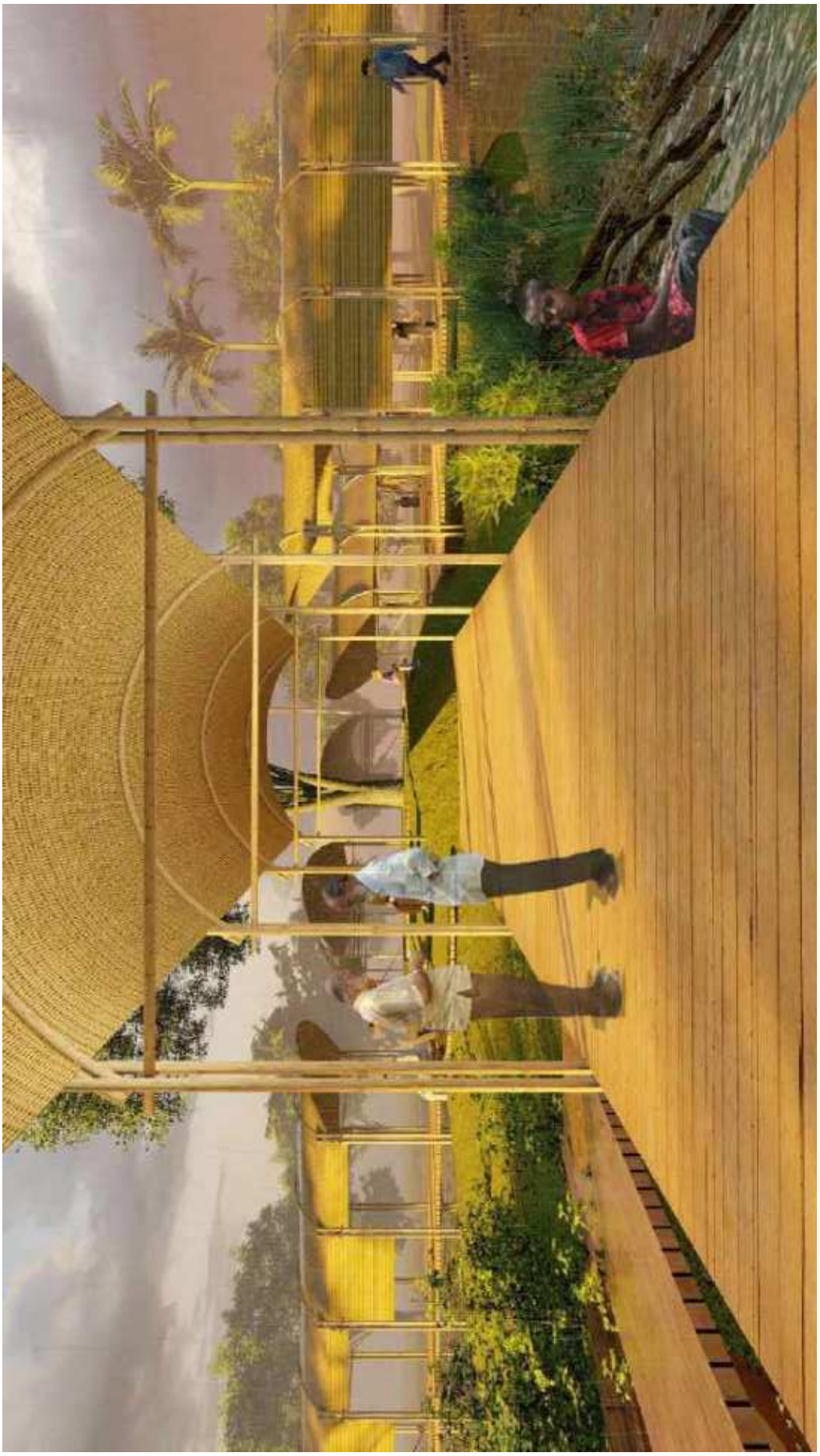


Figure 7.52: View of Public Haat Complex during Monsoon

6. Encompassed Complex (Gonokendro) at Char Kshirati Area

An Encompassed complex has been designed in Char Kshirati Area, beside the Brahmaputra River. The land is situated beside a paddy field. The complex has a library and multimedia building, a café, a management office and a public toilet.

Total land area is 1.13 Acre and estimated cost will be approximately BDT 4.68 Crore.

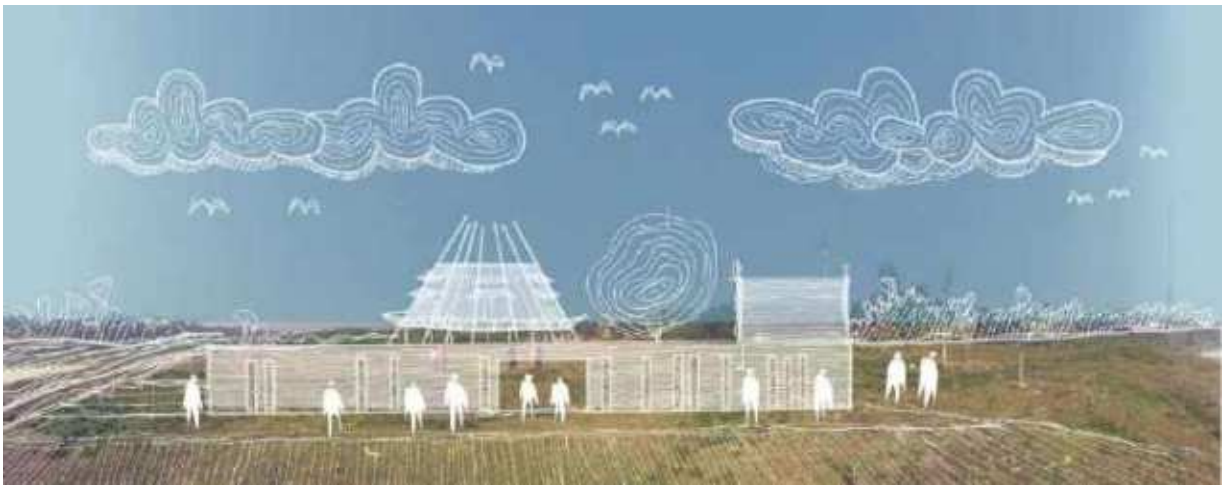


Figure 7.53: Conceptual Drawing of Encompassed Complex at Kshirati Char Area

The area breakdown of the Encompassed Complex is given below:

Function	Area in sqm
Gymnasium	280
Restaurant	210
Multipurpose Hall	285
Waiting Area	115
Co-Management Office	65
Library & Multimedia Center	620
Plaza Area	1660
Total Area	**3235**

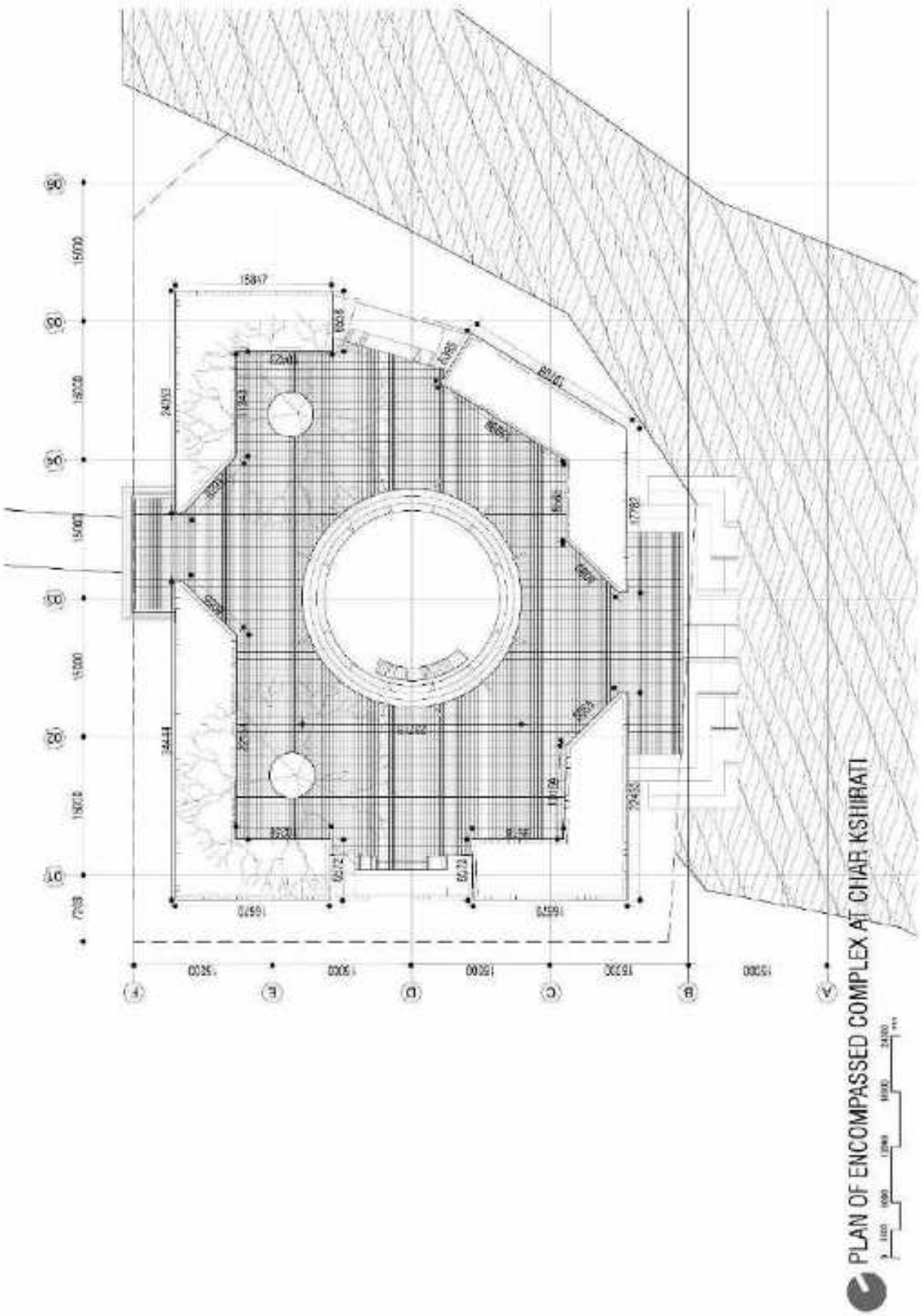


Figure 7.54: Plan of Encompassed Complex at Char Kshirati

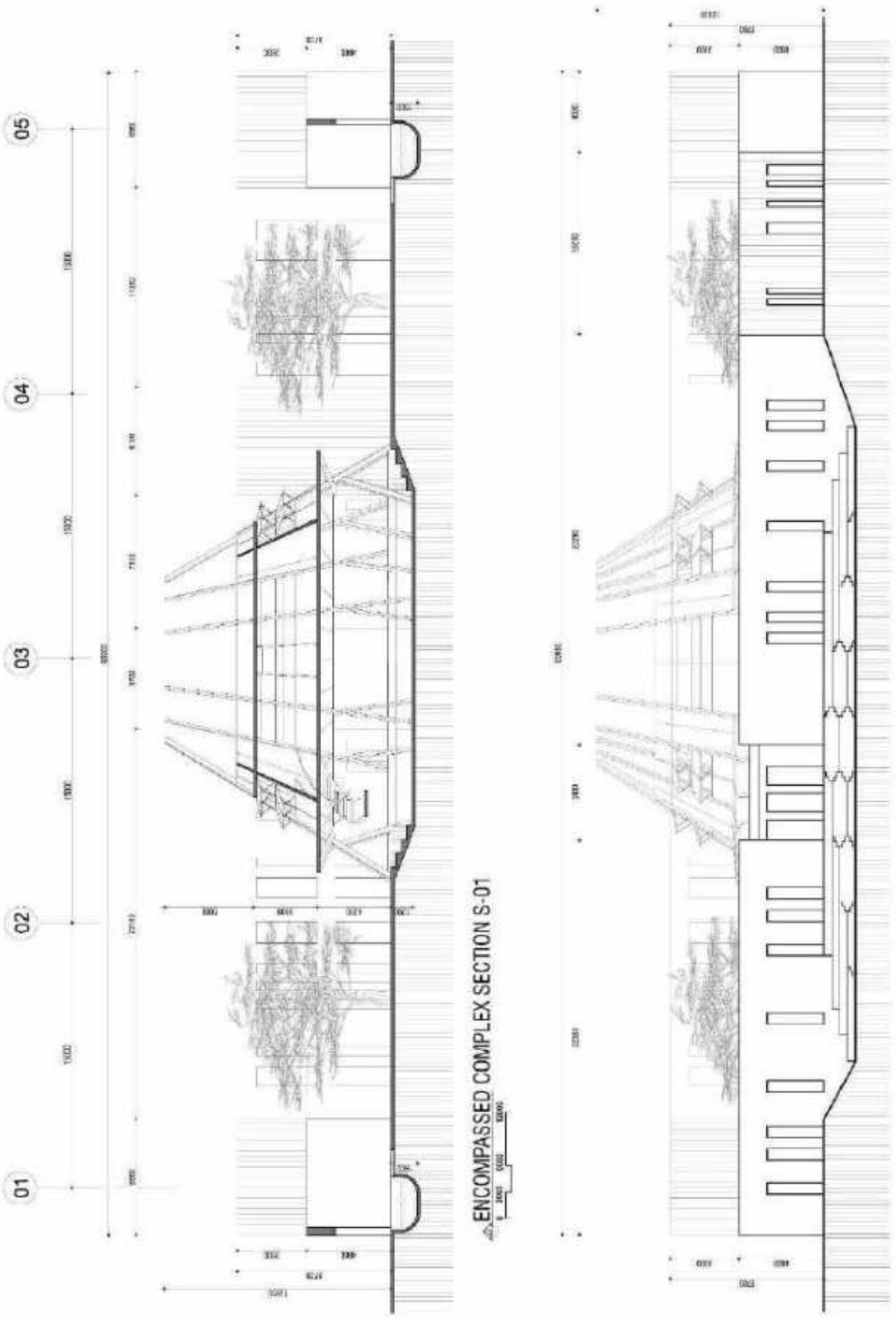


Figure 7.55: Section and Elevation of Encompassed Complex at Char Kshirati

Figure 7.56: View from Entry of Encompassed Complex

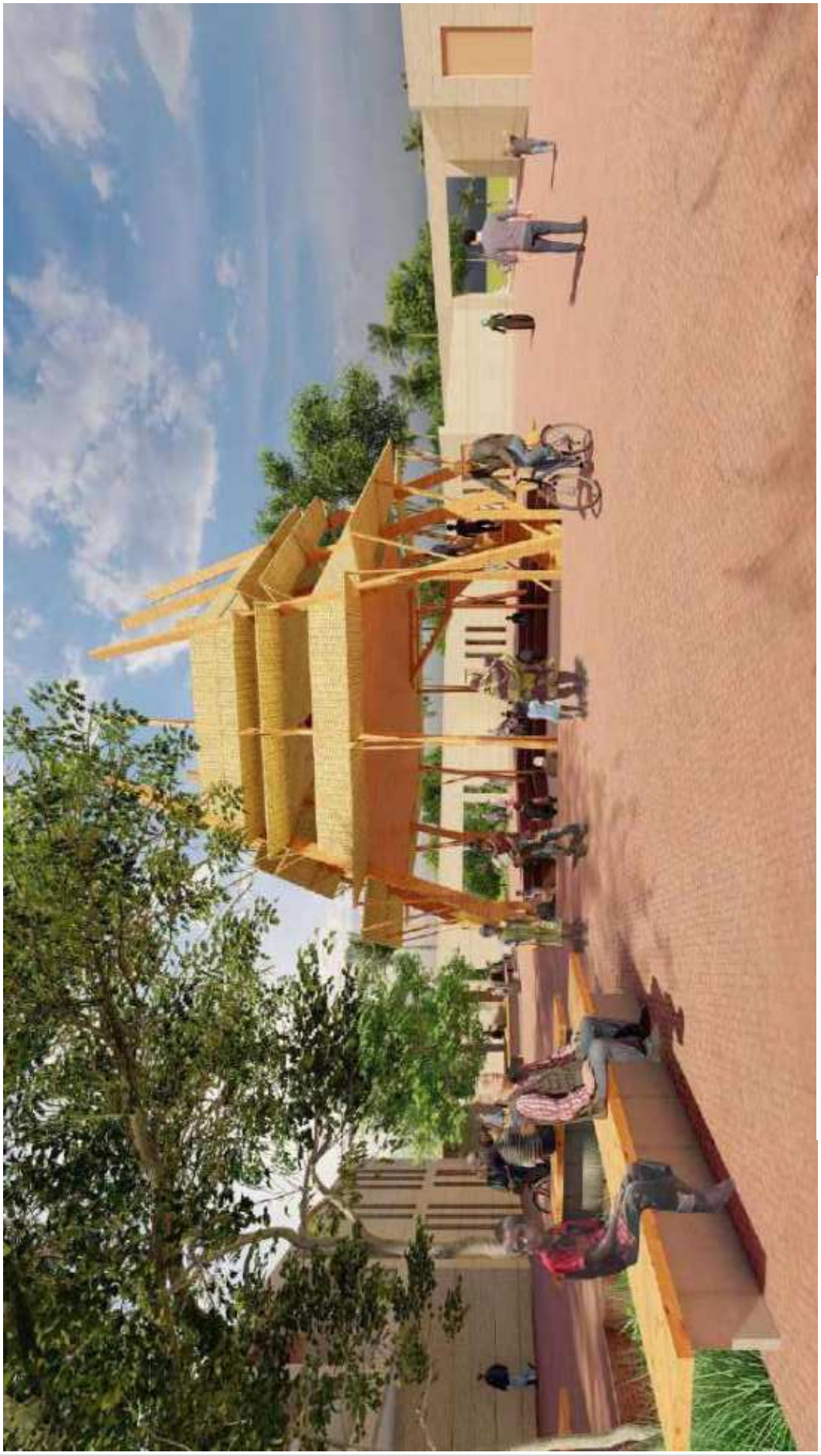


Figure 7.57: View of Plaza and Multipurpose Hall of Encompassed Complex

7. Combined Complex

A Combined Complex has been designed beside College Gate Road and Narsingdi Road in Monohardi. The complex is situated on a raised earth mound beside a vast paddy field. The complex is the combination of a Gonoprangon and Gonokendro. It is entered through the openings beside the Gallery and shops building. The entry opens up to a regulation-sized playground. The playground is encircled by a walkway. The walkway leads up to the entry plaza to the Gonokendro. Inside the Gonokendro, there is a Multipurpose Hall, surrounded by Library and Multipurpose Building, Gymnasium, Restaurant and a Co-management Office.

The total land area of this complex is 2.90 Acre and estimated cost will be approximately BDT 7.79 crores.

Figure 7.58: Conceptual Drawing of Combined Complex beside College Gate Road

The area breakdown for the Combined Complex is given below:

Function	Area in sqm
Gymnasium	115
Restaurant	115
Multipurpose Hall	130
Waiting Area	60
Co-Management Office	275
Sitting Area and Public Toilets	110
Library	300
Multimedia Center	300
Gallery and Shops	340
Plaza Area	1500
Waterbody	1350
Playfield	1400
Total Area	**5995**

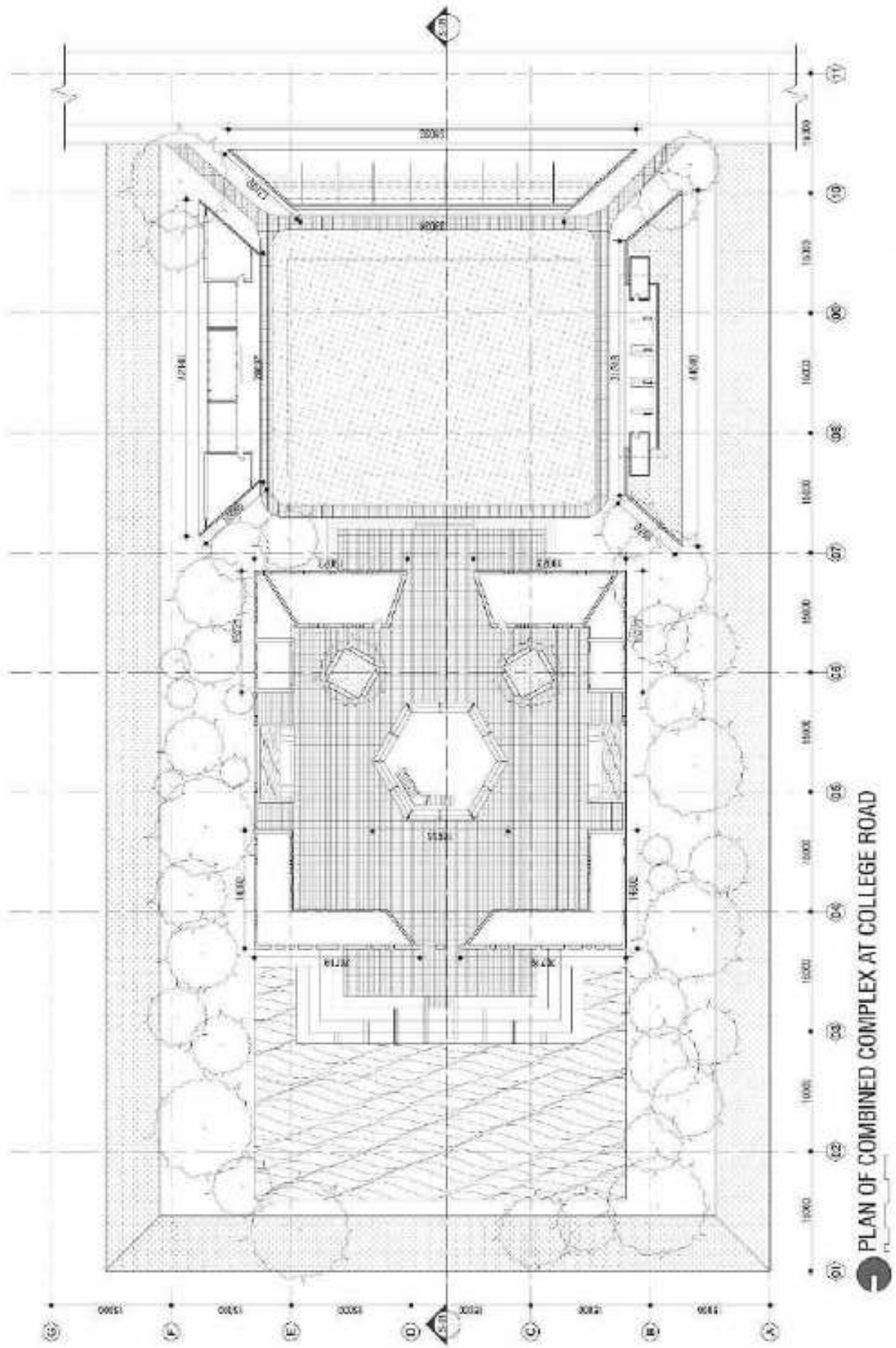


Figure 7.59: Plan of Combined Complex

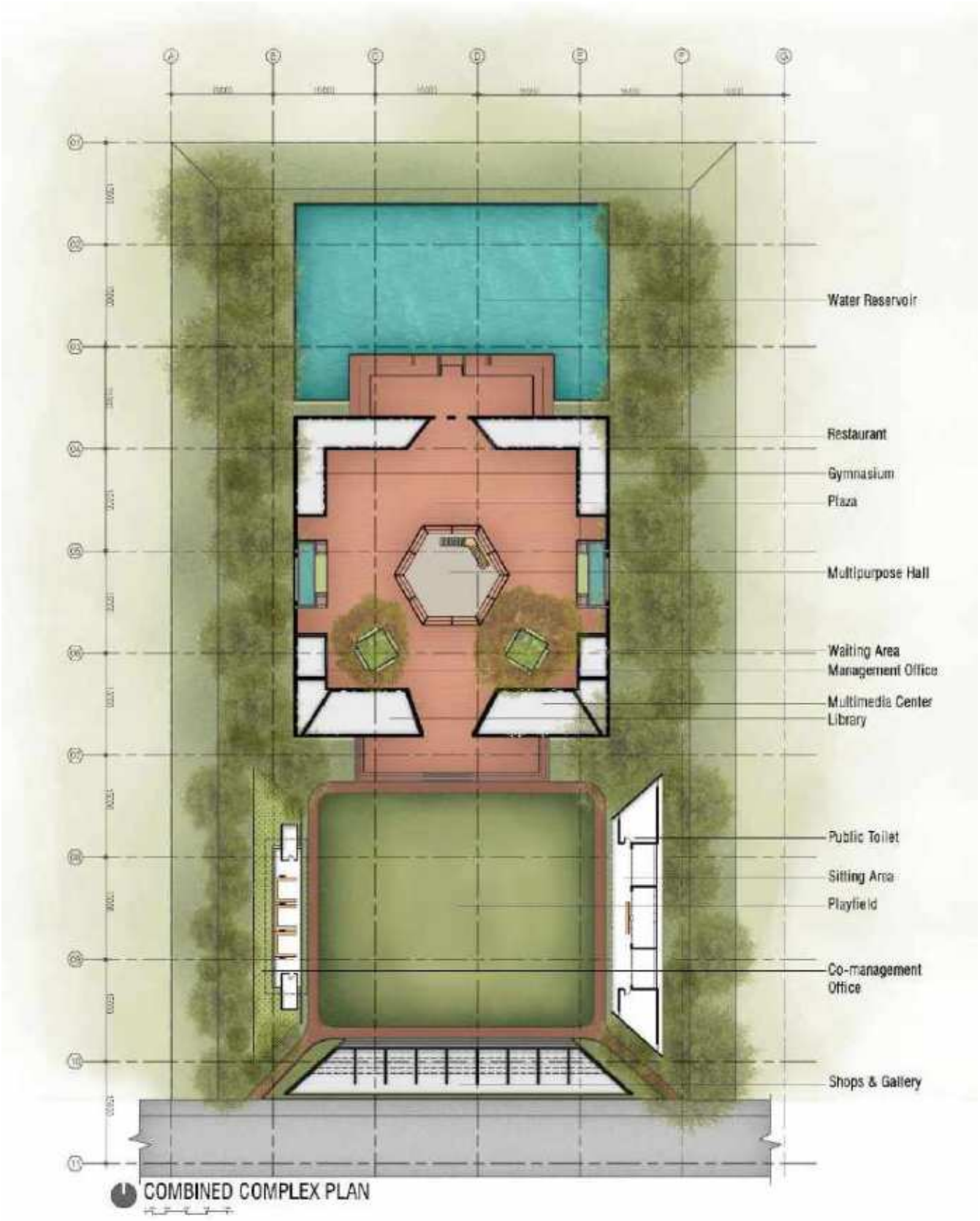


Figure 7.60: Combined Complex Rendered Plan

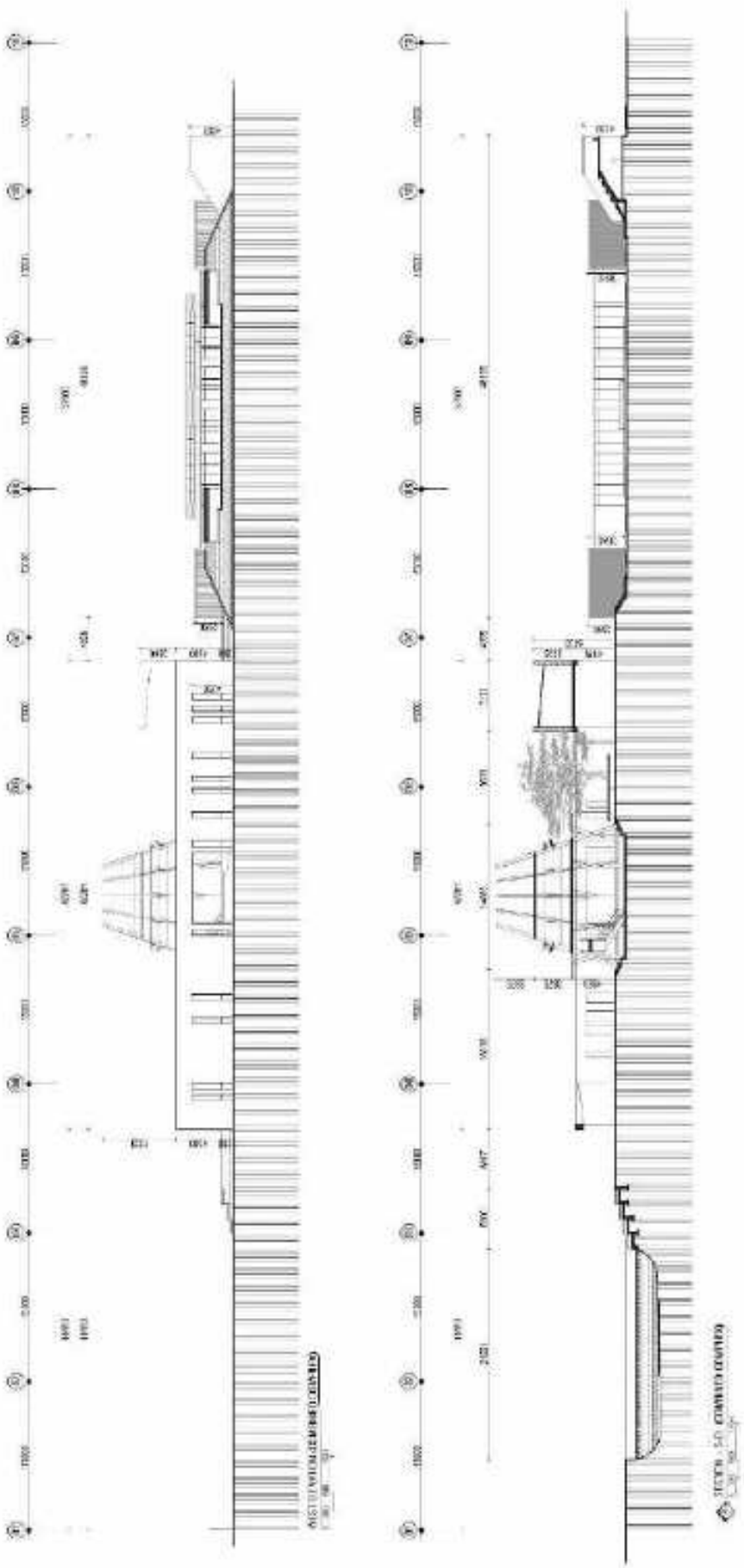


Figure 7.61: Elevation and Section of Combined Complex

Figure 7.61: Aerial View of Combined Complex

Figure 7.62: View of Playfield and Gallery of Combined Complex

Figure 7.63: View of Playfield from the Gallery of Combined Complex

Figure 7.64: View of Playfield and Gallery of Combined Complex

Figure 7.65: View of Plaza and Auditorium of Combined Complex

Chapter-8: Conclusion

Village development agenda was one of the driving forces of the War of Independence of Bangladesh. Village was the center of development philosophy of the Father of the Nation Bangabandhu Sheikh Mujibur Rahman. To realizing this vision, Honorable Prime Minister Sheikh Hasina's vision towards the village is to realize these by adopting and implementing a comprehensive plan. According to this vision, all modern civic amenities will be extended to the villages and simultaneously ecology and environment will be preserved. To enrich the natural, infrastructural and human resources of the rural areas, she stressed to follow an efficient and coordinated approach to transform villages as a center of prosperity and poverty- free, climate- resilient, the sustainable and dynamic economic hub of Bangladesh.

The proposed study is a magnificent attempt identify and prepared a roadmap for implementation of community services and recreational facilities at the village level based on state-of-the-art features which are not only economical and environment friendly but also sustainable with the village environment.

Based on the consultation with the different stakeholders, consultant develop the different models and design approaches which will be fitted to develop community spaces at Upazila level with a sustainable manner. The design model includes Public Courtyard, Public Centre, Outdoor Playscapes, Riverfront and Waterfront Development along with play equipment design and ball point cost estimation. Besides, based on the study area (Monohardi Upazila) analysis, consultant also develop different community space design modules according to the space context of the study area including the estimated cost.

Operational management and maintenance are the integral parts for sustainable community space development. Operational management and maintenance guidelines are absent for the community spaces in Bangladesh. As a result, most of the cases, developed community spaces is not sustainable and lost its functionality for the community users within a short period of time. To resolve this, consultants proposed policy framework of operation and maintenance guidelines for sustainable management of the community spaces by analyzing the existing rules, regulations and laws.

Development of guidelines, conducting feasibility studies, and preparing specialized development projects requires some extra effort, specialized skill, and understanding as well as dedicated time. Therefore, the proposed design and policy framework under the technical assistance of feasibility study of community spaces will gradually work to turn the commitment a reality.

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Annexure-A: Sample DPP Format

বছর ভিত্তিক আর্থিক ও বাস্তব পরিকল্পনা

বাস্তবায়নকারী সংস্থা/বিভাগ/মন্ত্রণালয়ঃ **স্থানীয় সরকার প্রকৌশল অধিদপ্তর**

ইকনমিক কোড	ইকনমিক সাব-কোড	ইকনমিক সাব-কোড বর্ণনা (বিস্তারিত)	মোট ও আর্থিক বাস্তবায়ন পরিকল্পনা					বছর -১		
								জুলাই ..... - জুন		
			একক	একক দর	পরিমান	মোট ব্যয় (লক্ষ টাকা)	ওজন (Weight)	আর্থিক পরিমাণ (লক্ষ টাকা)	বাস্তব	
									অঙ্গের শতকরা হার	প্রকল্পের শতকরা হার
১	২	৩	৪	৫	৬	৭	৮	৯	১০	১১
(ক) আবর্তক										
		সরবরাহ এবং সেবা								
৩২১১১	৩২১১১১৬	কুরিয়ার	থোক	০.০৩	১.০০	০.০৩	০.০০০০৫	০.০৩	১০০.০০%	০.০০৫%
৩২১১১	৩২১১১১৯	ডাক	থোক	০.০৩	১.০০	০.০৩	০.০০০০৫	০.০৩	১০০.০০%	০.০০৫%
৩২১১১	৩২১১১২৫	প্রচার ও বিজ্ঞাপন ব্যয়	থোক	০.২৫	১.০০	০.২৫	০.০০০৪৬	০.২৫	১০০.০০%	০.০৪৬%
৩২২১১	৩২২১১০৫	টেস্টিং ফি	থোক	০.২০	১.০০	০.২০	০.০০০৩৭	০.২০	১০০.০০%	০.০৩৭%
৩২২১১	৩২২১১০৭	অনুলিপি ব্যায়	থোক	০.১০	১.০০	০.১০	০.০০০১৮	০.১০	১০০.০০%	০.০১৮%
৩২৪৩১	৩২৪৩১০১	পেট্রোল, ওয়েল এন্ড লুব্রিকেন্ট	থোক	০.৫০	১.০০	০.৫০	০.০০০৯১	০.৫০	১০০.০০%	০.০৯১%
৩২৫৫১	৩২৫৫১০১	কম্পিউটার সামগ্রী	থোক	০.০১	১.০০	০.০১	০.০০০০১	০.০১	১০০.০০%	০.০০১%
৩২৫৫১	৩২৫৫১০২	মুদ্রণ ও বাধাই	থোক	২০.০০	১.০০	২০.০০	০.০৩৬৫০	২০.০০	১০০.০০%	৩.৬৫০%
৩২৫৫১	৩২৫৫১০৪	স্ট্যাম্প ও সীল এবং স্টেশনারী	থোক	০.০১	১.০০	০.০১	০.০০০০২	০.০১	১০০.০০%	০.০০২%
৩২৫৫১	৩২৫৫১০৫	অন্যান্য মনিহারী	থোক	০.১০	১.০০	০.১০	০.০০০১৮	০.১০	১০০.০০%	০.০১৮%
৩২৫৭১	৩২৫৭১০১	পরামর্শ সেবা (বিস্তারিত ডিজাইন ড্রইং প্রণয়ন এবং বিস্তারিত সুপারভিশন)-পূর্ত কাজের ৭.০০%	প্যাকেজ	৩২.১৩	১.০০	৩২.১৩	০.০৫৮৬৫	৩২.১৩	১০০.০০%	৫.৮৬৫%
৩২৫৭১	৩২৫৭১০৪	জরিপ	থোক	১.০০	১.০০	১.০০	০.০০১৮৩	১.০০	১০০.০০%	০.১৮৩%
৩২৫৭২	৩২৫৭২০৬	সম্মানী / পারিতোষিক	থোক	০.২৫	১.০০	০.২৫	০.০০০৪৬	০.২৫	১০০.০০%	০.০৪৬%
৩২৫৭৩	৩২৫৭৩০১	ইভেন্ট ম্যানেজমেন্ট	থোক	০.৫০	১.০০	০.৫০	০.০০০৯১	০.৫০	১০০.০০%	০.০৯১%
		উপ-মোট সরবরাহ এবং সেবা (৩২০০) =				**৫৫.১০**	**০.১০০৫৭**	**৫৫.১০**	**১০০.০০%**	**১০.০৫৭%**
		মেরামত এবং সংরক্ষণ								
৩২৫৮১	৩২৫৮১০৩	কম্পিউটার মেরামত	থোক	০.০২	১.০০	০.০২	০.০০০০৪	০.০২	১০০.০০%	০.০০৪%
৩২৫৮১	৩২৫৮১০৪	অফিস সরঞ্জামাদি মেরামত	থোক	০.০৩	১.০০	০.০৩	০.০০০০৫	০.০৩	১০০.০০%	০.০০৫%
		উপ-মোট মেরামত এবং সংরক্ষণ (৩২৫৮) =				**০.০৫**	**০.০০০০৮**	**০.০৫**	**১০০.০০%**	**০.০০৮%**
(ক) উপ-মোট (আবর্তক)						**৫৫.১৪**	**০.১০০৬৫**	**৫৫.১৪**	**১০০.০০%**	**১০.০৬৫%**

ইকনমিক কোড	ইকনমিক সাব-কোড	ইকনমিক সাব-কোড বর্ণনা (বিস্তারিত)	মোট ও আর্থিক বাস্তবায়ন পরিকল্পনা					বছর -১		
								জুলাই ..... - জুন		
			একক	একক দর	পরিমান	মোট ব্যয় (লক্ষ টাকা)	ওজন (Weight)	আর্থিক পরিমাণ (লক্ষ টাকা)	বাস্তব	
									অঙ্গের শতকরা হার	প্রকল্পের শতকরা হার
(খ) মূলধন										
		সম্পদ সংগ্রহ								
৪১১২২	৪১১২২০২	কম্পিউটার সরঞ্জাম	সংখ্যা	০.৫০	১.০০	০.৫০	০.০০০৯১	০.৫০	১০০.০০%	০.০৯১%
৪১১২৩	৪১১২৩১০	অফিস সরঞ্জাম	থোক	০.২০	১.০০	০.২০	০.০০০৩৭	০.২০	১০০.০০%	০.০৩৭%
৪১১২৩	৪১১২৩১৪	অফিস আসবাব পত্র	সংখ্যা	০.১৩	৬.০০	০.৭৭	০.০০১৪০	০.৭৭	১০০.০০%	০.১৪০%
		নির্মাণ কাজ								
৪১১১২	৪১১১২০১	**গণকেন্দ্র নির্মাণ** (বাউন্ডারী দেওয়াল নির্মাণ, অনাবাসিক ভবন, প্লাজা, পুকুর খনন, ঘাট নির্মাণ, ওয়াটার বডি খনন, মাল্টিপারপাস হল নির্মাণ, ল্যান্ডস্কেপ , রেইন ওয়াটার হারভেস্টিং, ড্রেনেজ ব্যবস্থা , পানি সরবরাহ ব্যবস্থা, পয়ঃনিষ্কাসন ব্যবস্থা এবং বৈদ্যুতিক সুবিধা সম্বলিত)	সংখ্যা	৪৫৯.০৩	১	৪৫৯.০৩	০.৮৩৭৮৪	৪৫৯.০৩	১০০.০০%	৮৩.৭৮৪%
(খ) উপ-মোট (মূলধন)						**৪৬০.৪৯**	**০.৮৪০৫২**	**৪৬০.৪৯**	**১০০.০০%**	**৮৪.০৫%**
		মোট (ক+খ)				**৫১৫.৬৪**	**০.৯৪১১৬**	**৫১৫.৬৪**	**১০০.০০%**	**৯৪.১২%**
(গ) ফিজিক্যাল কনটিনজেন্সি (২%)						৯.২১	০.০১৬৮১	৯.২১	১০০.০০%	১.৬৮%
(ঘ) প্রাইস কনটিনজেন্সি (৫%)						২৩.০২	০.০৪২০৩	২৩.০২	১০০.০০%	৪.২০%
সর্বমোট (ক+খ+গ+ঘ)						**৫৪৭.৮৭**	**১.০০০০০**	**৫৪৭.৮৭**	**১০০.০০%**	**১০০.০০%**

বছর ভিত্তিক আর্থিক ও বাস্তব পরিকল্পনা

বাস্তবায়নকারী সংস্থা/বিভাগ/মন্ত্রণালয়ঃ **স্থানীয় সরকার প্রকৌশল অধিদপ্তর**

ইকনমিক কোড	ইকনমিক সাব-কোড	ইকনমিক সাব-কোড বর্ণনা (বিস্তারিত)	মোট ও আর্থিক বাস্তবায়ন পরিকল্পনা					বছর -১		
								জুলাই ……. - জুন …….		
			একক	একক দর	পরিমান	মোট ব্যয় (লক্ষ টাকা)	ওজন (Weight)	আর্থিক পরিমাণ (লক্ষ টাকা)	বাস্তব	
									অঙ্গের শতকরা হার	প্রকল্পের শতকরা হার
১	২	৩	৪	৫	৬	৭	৮	৯	১০	১১
(ক) আবর্তক										
		সরবরাহ এবং সেবা								
৩২১১১	৩২১১১১৬	কুরিয়ার	থোক	০.০১	১.০০	০.০১	০.০০০৪৩	০.০১	১০০.০০%	০.০৪৩%
৩২১১১	৩২১১১১৯	ডাক	থোক	০.০১	১.০০	০.০১	০.০০০৪৩	০.০১	১০০.০০%	০.০৪৩%
৩২১১১	৩২১১১২৫	প্রচার ও বিজ্ঞাপন ব্যয়	থোক	০.১০	১.০০	০.১০	০.০০৪২৬	০.১০	১০০.০০%	০.৪২৬%
৩২২১১	৩২২১১০৫	টেস্টিং ফি	থোক	০.২০	১.০০	০.২০	০.০০৮৫২	০.২০	১০০.০০%	০.৮৫২%
৩২২১১	৩২২১১০৭	অনুলিপি ব্যায়	থোক	০.০২	১.০০	০.০২	০.০০০৬৪	০.০২	১০০.০০%	০.০৬৪%
৩২৪৩১	৩২৪৩১০১	পেট্রোল, ওয়েল এন্ড লুব্রিকেন্ট	থোক	০.১৫	১.০০	০.১৫	০.০০৬৩৯	০.১৫	১০০.০০%	০.৬৩৯%
৩২৫৫১	৩২৫৫১০১	কম্পিউটার সামগ্রী	থোক	০.০১	১.০০	০.০১	০.০০০২১	০.০১	১০০.০০%	০.০২১%
৩২৫৫১	৩২৫৫১০২	মুদ্রণ ও বাধাই	থোক	০.০১	১.০০	০.০১	০.০০০৪৩	০.০১	১০০.০০%	০.০৪৩%
৩২৫৫১	৩২৫৫১০৪	স্ট্যাম্প ও সীল এবং স্টেশনারী	থোক	০.০১	১.০০	০.০১	০.০০০২১	০.০১	১০০.০০%	০.০২১%
৩২৫৫১	৩২৫৫১০৫	অন্যান্য মনিহারী	থোক	০.০৩	১.০০	০.০৩	০.০০১০৬	০.০৩	১০০.০০%	০.১০৬%
৩২৫৭১	৩২৫৭১০১	পরামর্শ সেবা (বিস্তারিত ডিজাইন ড্রইং প্রণয়ন এবং বিস্তারিত সুপারভিশন)-পূর্ত কাজের ৭.০০%	প্যাকেজ	১.২৯	১.০০	১.২৯	০.০৫৫১৪	১.২৯	১০০.০০%	৫.৫১৪%
৩২৫৭১	৩২৫৭১০৪	জরিপ	থোক	০.৫০	১.০০	০.৫০	০.০২১৩০	০.৫০	১০০.০০%	২.১৩০%
৩২৫৭২	৩২৫৭২০৬	সম্মানী / পারিতোষিক	থোক	০.১০	১.০০	০.১০	০.০০৪২৬	০.১০	১০০.০০%	০.৪২৬%
৩২৫৭৩	৩২৫৭৩০১	ইভেন্ট ম্যানেজমেন্ট	থোক	০.১০	১.০০	০.১০	০.০০৪২৬	০.১০	১০০.০০%	০.৪২৬%
		উপ-মোট সরবরাহ এবং সেবা (৩২০০) =				**২.৫২**	**০.১০৭৫৩**	**২.৫২**	**১০০.০০%**	**১০.৭৫৩%**
		মেরামত এবং সংরক্ষণ								
৩২৫৮১	৩২৫৮১০৩	কম্পিউটার মেরামত	থোক	০.০১	১.০০	০.০১	০.০০০৪৩	০.০১	১০০.০০%	০.০৪৩%
৩২৫৮১	৩২৫৮১০৪	অফিস সরঞ্জামাদি মেরামত	থোক	০.০২	১.০০	০.০২	০.০০০৮৫	০.০২	১০০.০০%	০.০৮৫%
		উপ-মোট মেরামত এবং সংরক্ষণ (৩২৫৮) =				**০.০৩**	**০.০০১২৮**	**০.০৩**	**১০০.০০%**	**০.১২৮%**
(ক) উপ-মোট (আবর্তক)						**২.৫৫**	**০.১০৮৮১**	**২.৫৫**	**১০০.০০%**	**১০.৮৮১%**

ইকনমিক কোড	ইকনমিক সাব-কোড	ইকনমিক সাব-কোড বর্ণনা (বিস্তারিত)	মোট ও আর্থিক বাস্তবায়ন পরিকল্পনা					বছর -১		
								জুলাই ……. - জুন …….		
			একক	একক দর	পরিমান	মোট ব্যয় (লক্ষ টাকা)	ওজন (Weight)	আর্থিক পরিমাণ (লক্ষ টাকা)	বাস্তব	
									অঙ্গের শতকরা হার	প্রকল্পের শতকরা হার
(খ) মূলধন										
		সম্পদ সংগ্রহ								
৪১১২২	৪১১২২০২	কম্পিউটার সরঞ্জাম	সংখ্যা	০.৫০	১.০০	০.৫০	০.০২১৩০	০.৫০	১০০.০০%	২.১৩০%
৪১১২৩	৪১১২৩১০	অফিস সরঞ্জাম	থোক	০.০৫	১.০০	০.০৫	০.০০২১৩	০.০৫	১০০.০০%	০.২১৩%
৪১১২৩	৪১১২৩১৪	অফিস আসবাব পত্র	সংখ্যা	০.১৩	৪.০০	০.৫১	০.০২১৭৬	০.৫১	১০০.০০%	২.১৭৬%
		নির্মাণ কাজ								
৪১১১২	৪১১১২০১	**উন্মুক্ত কেন্দ্র নির্মাণ** (সেড নির্মাণ-৬ টি, মাউন্টেন নির্মাণ, বসার আসন-৭ টি, বৃক্ষ রোপন ও বৈদ্যুতিক সুবিধা সম্বলিত)	সংখ্যা	১৮.৪৯	১	১৮.৪৯	০.৭৮৭৭০	১৮.৪৯	১০০.০০%	৭৮.৭৭০%
(খ) উপ-মোট (মূলধন)						**১৯.৫৫**	**০.৮৩২৮৯**	**১৯.৫৫**	**১০০.০০%**	**৮৩.২৯%**
		মোট (ক+খ)				**২২.১১**	**০.৯৪১৭০**	**২২.১১**	**১০০.০০%**	**৯৪.১৭%**
(গ) ফিজিক্যাল কনটিনজেন্সি (২%)						০.৩৯	০.০১৬৬৬	০.৩৯	১০০.০০%	১.৬৭%
(ঘ) প্রাইস কনটিনজেন্সি (৫%)						০.৯৮	০.০৪১৬৪	০.৯৮	১০০.০০%	৪.১৬%
সর্বমোট (ক+খ+গ+ঘ)						**২৩.৪৮**	**১.০০০০০**	**২৩.৪৮**	**১০০.০০%**	**১০০.০০%**

বছর ভিত্তিক আর্থিক ও বাস্তব পরিকল্পনা

বাস্তবায়নকারী সংস্থা/বিভাগ/মন্ত্রণালয়ঃ **স্থানীয় সরকার প্রকৌশল অধিদপ্তর**

ইকনমিক কোড	ইকনমিক সাব-কোড	ইকনমিক সাব-কোড বর্ণনা (বিস্তারিত)	মোট ও আর্থিক বাস্তবায়ন পরিকল্পনা					বছর -১ জুলাই ..... - জুন		
			একক	একক দর	পরিমান	মোট ব্যয় (লক্ষ টাকা)	ওজন (Weight)	আর্থিক পরিমাণ (লক্ষ টাকা)	বাস্তব	
									অঙ্গের শতকরা হার	প্রকল্পের শতকরা হার
১	২	৩	৪	৫	৬	৭	৮	৯	১০	১১
(ক) আবর্তক										
		সরবরাহ এবং সেবা								
৩২১১১	৩২১১১১৬	কুরিয়ার	থোক	০.০৩	১.০০	০.০৩	০.০০০০৬	০.০৩	১০০.০০%	০.০০৬%
৩২১১১	৩২১১১১৯	ডাক	থোক	০.০৩	১.০০	০.০৩	০.০০০০৬	০.০৩	১০০.০০%	০.০০৬%
৩২১১১	৩২১১১২৫	প্রচার ও বিজ্ঞাপন ব্যয়	থোক	০.২৫	১.০০	০.২৫	০.০০০৬৩	০.২৫	১০০.০০%	০.০৬৩%
৩২২১১	৩২২১১০৫	টেস্টিং ফি	থোক	০.২০	১.০০	০.২০	০.০০০৫১	০.২০	১০০.০০%	০.০৫১%
৩২২১১	৩২২১১০৭	অনুলিপি ব্যায়	থোক	০.১০	১.০০	০.১০	০.০০০২৫	০.১০	১০০.০০%	০.০২৫%
৩২৪৩১	৩২৪৩১০১	পেট্রোল, ওয়েল এন্ড লুব্রিকেন্ট	থোক	০.৫০	১.০০	০.৫০	০.০০১২৭	০.৫০	১০০.০০%	০.১২৭%
৩২৫৫১	৩২৫৫১০১	কম্পিউটার সামগ্রী	থোক	০.০১	১.০০	০.০১	০.০০০০১	০.০১	১০০.০০%	০.০০১%
৩২৫৫১	৩২৫৫১০২	মুদ্রণ ও বাধাই	থোক	০.০২	১.০০	০.০২	০.০০০০৫	০.০২	১০০.০০%	০.০০৫%
৩২৫৫১	৩২৫৫১০৪	স্ট্যাম্প ও সীল এবং স্টেশনারী	থোক	০.০১	১.০০	০.০১	০.০০০০৩	০.০১	১০০.০০%	০.০০৩%
৩২৫৫১	৩২৫৫১০৫	অন্যান্য মনিহারী	থোক	০.১০	১.০০	০.১০	০.০০০২৫	০.১০	১০০.০০%	০.০২৫%
৩২৫৭১	৩২৫৭১০১	পরামর্শ সেবা (বিস্তারিত ডিজাইন ড্রইং প্রণয়ন এবং বিস্তারিত সুপারভিশন)-পূর্ত কাজের ৭.০০%	প্যাকেজ	২৩.৯৭	১.০০	২৩.৯৭	০.০৬০৬৯	২৩.৯৭	১০০.০০%	৬.০৬৯%
৩২৫৭১	৩২৫৭১০৪	জরিপ	থোক	১.০০	১.০০	১.০০	০.০০২৫৩	১.০০	১০০.০০%	০.২৫৩%
৩২৫৭২	৩২৫৭২০৬	সম্মানী / পারিতোষিক	থোক	০.২৫	১.০০	০.২৫	০.০০০৬৩	০.২৫	১০০.০০%	০.০৬৩%
৩২৫৭৩	৩২৫৭৩০১	ইভেন্ট ম্যানেজমেন্ট	থোক	০.৫০	১.০০	০.৫০	০.০০১২৭	০.৫০	১০০.০০%	০.১২৭%
		উপ-মোট সরবরাহ এবং সেবা (৩২০০) =				**২৬.৯৬**	**০.০৬৮২৫**	**২৬.৯৬**	**১০০.০০%**	**৬.৮২৫%**
		মেরামত এবং সংরক্ষণ								
৩২৫৮১	৩২৫৮১০৩	কম্পিউটার মেরামত	থোক	০.০২	১.০০	০.০২	০.০০০০৫	০.০২	১০০.০০%	০.০০৫%
৩২৫৮১	৩২৫৮১০৪	অফিস সরঞ্জামাদি মেরামত	থোক	০.০৩	১.০০	০.০৩	০.০০০০৬	০.০৩	১০০.০০%	০.০০৬%
		উপ-মোট মেরামত এবং সংরক্ষণ (৩২৫৮) =				**০.০৫**	**০.০০০১১**	**০.০৫**	**১০০.০০%**	**০.০১১%**
(ক) উপ-মোট (আবর্তক)						**২৭.০০**	**০.০৬৮৩৬**	**২৭.০০**	**১০০.০০%**	**৬.৮৩৬%**

ইকনমিক কোড	ইকনমিক সাব-কোড	ইকনমিক সাব-কোড বর্ণনা (বিস্তারিত)	মোট ও আর্থিক বাস্তবায়ন পরিকল্পনা					বছর -১		
								জুলাই ..... - জুন		
			একক	একক দর	পরিমান	মোট ব্যয় (লক্ষ টাকা)	ওজন (Weight)	আর্থিক পরিমাণ (লক্ষ টাকা)	বাস্তব	
									অঙ্গের শতকরা হার	প্রকল্পের শতকরা হার
(খ) মূলধন										
		সম্পদ সংগ্রহ								
৪১১২২	৪১১২২০২	কম্পিউটার সরঞ্জাম	সংখ্যা	০.৫০	১.০০	০.৫০	০.০০১২৭	০.৫০	১০০.০০%	০.১২৭%
৪১১২৩	৪১১২৩১০	অফিস সরঞ্জাম	থোক	০.২০	১.০০	০.২০	০.০০০৫১	০.২০	১০০.০০%	০.০৫১%
৪১১২৩	৪১১২৩১৪	অফিস আসবাব পত্র	সংখ্যা	০.১৩	৬.০০	০.৭৭	০.০০১৯৪	০.৭৭	১০০.০০%	০.১৯৪%
		নির্মাণ কাজ								
৪১১১২	৪১১১২০১	**গণপ্রাঙ্গণ নির্মাণ** (ওয়াকওয়ে, খেলার মাঠ, ম্যানেজমেন্ট আফিস, গণ প্রক্ষালণ কেন্দ্র, লিইব্রেরী, সিটিং প্যাভেলিয়ন, গ্যালারী, ল্যান্ডস্কেপ, রেইন ওয়াটার হারভেস্টিং, ড্রেনেজ ব্যবস্থা, পানি সরবরাহ ব্যবস্থা, পয়ঃনিষ্কাসন ব্যবস্থা নির্মাণ এবং বৈদ্যুতিক সুবিধা সম্বলিত)	সংখ্যা	৩৪২.৪৫	১	৩৪২.৪৫	০.৮৬৬৯৮	৩৪২.৪৫	১০০.০০%	৮৬.৬৯৮%
(খ) উপ-মোট (মূলধন)						**৩৪৩.৯১**	**০.৮৭০৬৯**	**৩৪৩.৯১**	**১০০.০০%**	**৮৭.০৭%**
		মোট (ক+খ)				**৩৭০.৯২**	**০.৯৩৯০৫**	**৩৭০.৯২**	**১০০.০০%**	**৯৩.৯১%**
(গ) ফিজিক্যাল কনটিনজেন্সি (২%)						৬.৮৮	০.০১৭৪১	৬.৮৮	১০০.০০%	১.৭৪%
(ঘ) প্রাইস কনটিনজেন্সি (৫%)						১৭.২০	০.০৪৩৫৩	১৭.২০	১০০.০০%	৪.৩৫%
সর্বমোট (ক+খ+গ+ঘ)						**৩৯৪.৯৯**	**১.০০০০০**	**৩৯৪.৯৯**	**১০০.০০%**	**১০০.০০%**

সংযোজনী-৪

বছর ভিত্তিক আর্থিক ও বাস্তব পরিকল্পনা

বাস্তবায়নকারী সংস্থা/বিভাগ/মন্ত্রণালয়ঃ **স্থানীয় সরকার প্রকৌশল অধিদপ্তর**

ইকনমিক কোড	ইকনমিক সাব-কোড	ইকনমিক সাব-কোড বর্ণনা (বিস্তারিত)	মোট ও আর্থিক বাস্তবায়ন পরিকল্পনা					বছর -১		
								জুলাই ..... - জুন		
			একক	একক দর	পরিমান	মোট ব্যয় (লক্ষ টাকা)	ওজন (Weight)	আর্থিক পরিমাণ (লক্ষ টাকা)	বাস্তব	
									অঙ্গের শতকরা হার	প্রকল্পের শতকরা হার
১	২	৩	৪	৫	৬	৭	৮	৯	১০	১১
(ক) আবর্তক										
		সরবরাহ এবং সেবা								
৩২১১১	৩২১১১১৬	কুরিয়ার	থোক	০.০৫	১.০০	০.০৫	০.০০০০৬	০.০৫	১০০.০০%	০.০০৬%
৩২১১১	৩২১১১১৯	ডাক	থোক	০.০৫	১.০০	০.০৫	০.০০০০৬	০.০৫	১০০.০০%	০.০০৬%
৩২১১১	৩২১১১২৫	প্রচার ও বিজ্ঞাপন ব্যয়	থোক	০.৫০	১.০০	০.৫০	০.০০০৫৫	০.৫০	১০০.০০%	০.০৫৫%
৩২২১১	৩২২১১০৫	টেস্টিং ফি	থোক	০.৪০	১.০০	০.৪০	০.০০০৪৪	০.৪০	১০০.০০%	০.০৪৪%
৩২২১১	৩২২১১০৭	অনুলিপি ব্যায়	থোক	০.২০	১.০০	০.২০	০.০০০২২	০.২০	১০০.০০%	০.০২২%
৩২৪৩১	৩২৪৩১০১	পেট্রোল, ওয়েল এন্ড লুব্রিকেন্ট	থোক	১.০০	১.০০	১.০০	০.০০১১১	১.০০	১০০.০০%	০.১১১%
৩২৫৫১	৩২৫৫১০১	কম্পিউটার সামগ্রী	থোক	০.০১	১.০০	০.০১	০.০০০০১	০.০১	১০০.০০%	০.০০১%
৩২৫৫১	৩২৫৫১০২	মুদ্রণ ও বাধাই	থোক	২০.০২	১.০০	২০.০২	০.০২২২০	২০.০২	১০০.০০%	২.২২০%
৩২৫৫১	৩২৫৫১০৪	স্ট্যাম্প ও সীল এবং স্টেশনারী	থোক	০.০২	১.০০	০.০২	০.০০০০২	০.০২	১০০.০০%	০.০০২%
৩২৫৫১	৩২৫৫১০৫	অন্যান্য মনিহারী	থোক	০.২০	১.০০	০.২০	০.০০০২২	০.২০	১০০.০০%	০.০২২%
৩২৫৭১	৩২৫৭১০১	পরামর্শ সেবা (বিস্তারিত ডিজাইন ড্রইং প্রণয়ন এবং বিস্তারিত সুপারভিশন)-পূর্ত কাজের ৭.০০%	প্যাকেজ	৫৩.৫৮	১.০০	৫৩.৫৮	০.০৫৯৪২	৫৩.৫৮	১০০.০০%	৫.৯৪২%
৩২৫৭১	৩২৫৭১০৪	জরিপ	থোক	২.০০	১.০০	২.০০	০.০০২২২	২.০০	১০০.০০%	০.২২২%
৩২৫৭২	৩২৫৭২০৬	সম্মানী / পারিতোষিক	থোক	০.৫০	১.০০	০.৫০	০.০০০৫৫	০.৫০	১০০.০০%	০.০৫৫%
৩২৫৭৩	৩২৫৭৩০১	ইভেন্ট ম্যানেজমেন্ট	থোক	১.০০	১.০০	১.০০	০.০০১১১	১.০০	১০০.০০%	০.১১১%
		উপ-মোট সরবরাহ এবং সেবা (৩২০০) =				**৭৯.৫৩**	**০.০৮৮১৯**	**৭৯.৫৩**	**১০০.০০%**	**৮.৮১৯%**
		মেরামত এবং সংরক্ষণ								
৩২৫৮১	৩২৫৮১০৩	কম্পিউটার মেরামত	থোক	০.০৪	১.০০	০.০৪	০.০০০০৪	০.০৪	১০০.০০%	০.০০৪%
৩২৫৮১	৩২৫৮১০৪	অফিস সরঞ্জামাদি মেরামত	থোক	০.০৫	১.০০	০.০৫	০.০০০০৬	০.০৫	১০০.০০%	০.০০৬%
		উপ-মোট মেরামত এবং সংরক্ষণ (৩২৫৮) =				**০.০৯**	**০.০০০১০**	**০.০৯**	**১০০.০০%**	**০.০১০%**
(ক) উপ-মোট (আবর্তক)						**৭৯.৬২**	**০.০৮৮২৯**	**৭৯.৬২**	**১০০.০০%**	**৮.৮২৯%**

ইকনমিক কোড	ইকনমিক সাব-কোড	ইকনমিক সাব-কোড বর্ণনা (বিস্তারিত)	মোট ও আর্থিক বাস্তবায়ন পরিকল্পনা					বছর -১		
								জুলাই ..... - জুন		
			একক	একক দর	পরিমান	মোট ব্যয় (লক্ষ টাকা)	ওজন (Weight)	আর্থিক পরিমাণ (লক্ষ টাকা)	বাস্তব	
									অঙ্গের শতকরা হার	প্রকল্পের শতকরা হার
(খ) মূলধন										
		সম্পদ সংগ্রহ								
৪১১২২	৪১১২২০২	কম্পিউটার সরঞ্জাম	সংখ্যা	১.০০	১.০০	১.০০	০.০০১১১	১.০০	১০০.০০%	০.১১১%
৪১১২৩	৪১১২৩১০	অফিস সরঞ্জাম	থোক	০.৪০	১.০০	০.৪০	০.০০০৪৪	০.৪০	১০০.০০%	০.০৪৪%
৪১১২৩	৪১১২৩১৪	অফিস আসবাব পত্র	সংখ্যা	০.১৩	১২.০০	১.৫৩	০.০০১৭০	১.৫৩	১০০.০০%	০.১৭০%
		নির্মাণ কাজ								
৪১১১২	৪১১১২০১	**কম্বাইন্ড কমপ্লেক্স নির্মাণ** (অনাবাসিক ভবন, মাল্টিপারপাস হল নির্মাণ, ম্যানেজমেন্ট আফিস, প্রক্ষালণ কেন্দ্র, সিটিং প্যাভেলিয়ন, গ্যালারী, প্লাজা, বাউন্ডারী দেওয়াল, ওয়াকওয়ে, খেলার মাঠ, পুকুর খনন, ঘাট নির্মান, ওয়াটার বডি খনন, রেইন ওয়াটার হারভেস্টিং, ড্রেনেজ ব্যবস্থা, পানি সরবরাহ ব্যবস্থা, ল্যান্ডস্কেপ ,পয়ঃনিষ্কাসন ব্যবস্থা, ল্যান্ডস্কেপ এবং বৈদ্যুতিক সুবিধা সম্বলিত)	সংখ্যা	৭৬৫.৪৬	১	৭৬৫.৪৬	০.৮৪৮৮১	৭৬৫.৪৬	১০০.০০%	৮৪.৮৮১%
(খ) উপ-মোট (মূলধন)						**৭৬৮.৩৯**	**০.৮৫২০৬**	**৭৬৮.৩৯**	**১০০.০০%**	**৮৫.২১%**
		মোট (ক+খ)				**৮৪৮.০১**	**০.৯৪০৩৬**	**৮৪৮.০১**	**১০০.০০%**	**৯৪.০৪%**
(গ) ফিজিক্যাল কনটিনজেন্সি (২%)						১৫.৩৭	০.০১৭০৪	১৫.৩৭	১০০.০০%	১.৭০%
(ঘ) প্রাইস কনটিনজেন্সি (৫%)						৩৮.৪২	০.০৪২৬০	৩৮.৪২	১০০.০০%	৪.২৬%
সর্বমোট (ক+খ+গ+ঘ)						**৯০১.৮০**	**১.০০০০০**	**৯০১.৮০**	**১০০.০০%**	**১০০.০০%**

Annexure-B: Detail Cost Estimation

Feasibility/Reviewing Study on Community Space and Recreation Facilities at Village Level under Technical Assistance Project for "My Village-My Town" for Local Government Engineering Department (LGED)

ABSTRACT OF COST SUMMARY

For

GONO PRANGON

Item No	Description	Amount in Taka	Remarks
1	Walkway	16,02,011.31	
2	Play Field	9,62,196.80	
3	Management Office	1,36,35,051.00	
4	Public Toilet	17,92,102.00	
5	Library	36,01,758.92	
6	Sitting Pavilian	20,21,574.15	
7	Gallary	67,48,479.31	
8	Rain Water Harvesting	3,75,000.00	
9	Water Supply System	5,55,000.00	
10	Drainage System	4,37,500.00	
11	Solar System	12,73,752.00	
12	Sewage Disposal System	4,66,520.00	
13	External Electrical Works	7,87,500.00	
	Grand Total =	3,42,58,445.49	

COST ESTIMATION FOR GONO PRANGON

Items # 01

Walkway- 1.68 meter wide

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
1	3.01.2	BC(150mm): Earth work in box cutting on road crest up to 150mm depth, maintaining proper grade, camber and alignment, super elevation on curves, removing soil to a safe distance, watering, if necessary, spreading the excavated earth on road flanks and slopes uniformly including leveling, dressing, manual compacting, etc. all complete as per direction of the E-I-C.	sqm	320.88	33.85	10,861.79
		1 x 191 x 1.68 = 320.88	sqm			
2	3.07.04	KS(RW): Manufacturing, Supplying and Fixing of cement concrete kerb stone with top and bottom thickness 120mm and 150mm respectively, width 380mm and height 550mm as per approved drawing for side of footpath/median/road island etc. using steel shutter, with 6mm downgraded Stone Chips of LAA value ≤35%, sand (FM>=2.2) and minimum cement conforming to BDS EN 197-1 : 2003 CEM-II/A-M 42.5N content relates to mix ratio 1:2:4 satisfying specified minimum required average strength, f'cr = 28.5 MPa and satisfying a compressive strength f'c = 20 MPa at 28 days on standard cylinders, including grading, washings stone chips, mixing in standard mixture machine, casting in forms, making shutter water-tight properly, compacting by vibrator machine and curing for at least 28 days, including preparation kerb foundation, true to level, maintaining alignment and height, including carrying and placing kerb stone, filling interstices of kerb stone tightly with cement mortar (1:4), raking out joints, cleaning and soaking kerb stone at least for 24 hours before use, curing for requisite period, etc. all complete as per drawing and direction of the E-I-C.	meter	382.00	1,177.11	4,49,656.02
		2 x 191 = 382.00	meter			
3	5.03.05	Providing **single layer polythene sheet** (0.18mm thick) weighing one kilogram per 6.5 square meter in floor or any where in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.	sqm	320.88	47.00	15,081.36
		1 x 191 x 1.68 = 320.88	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
4	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.	cum	26.36	10,063.81	2,65,261.90
		1 x 191 x 1.38 x 0.1 = 26.36	cum			
		Total = 26.36	cum			
4	5.04.22	Klinker paving brick works in floor or pavement with machine made pressed bricks of approved quality with cement sand (F.M. 1.2) mortar (1:4) on minimum 12 mm thick cement sand (F.M. 1.2) mortar (1:4) including raking out joints, cutting the bricks to required size, soaking the same for 24 hours before use wherever necessary including high class flush pointing in cement mortar (1:2), cleaning, curing at least for 7 days etc. including washing and screening of sand, cost of water, electricity and other charges complete and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.22)				
	5.04.22.1	100 mm thick flat brick pavement with 200 mm x 100 mm x 50 mm size klinker facing bricks. (PWD 04.22.1)	sqm	275.04	3,131.00	8,61,150.24
		1 x 191 x 1.44 = 275.04	sqm			
		Total = 275.04	sqm			
					Total	**16,02,011.31**
Items # 02 **Play field**						
1	4.06.01	Sand filling on the prepared foundation bed with sand of specified FM in layers not more than 150mm thick including necessary carriage, leveling, watering and ramming to achieve minimum dry density (MDD) of 95% STD compaction with optimum moisture content (OMC) by ramming each layer up to finished level as per direction of E-I-C.				
	4.06.01.01	Sand of Minimum FM 0.8	cum	306.23	1,074.50	3,29,044.56
		1 x 37.2 x 27.44 x 0.300 = 306.23	cum			
2	5.26.04	Alluvial loamy silty soil supplying cost by any means of approved local best quality including cost of labour for loading, unloading at both ends with properly stacking at site with cost of tools and plants etc. all complete and accepted by the Engineer	cum	76.56	913.00	69,897.09
		1 x 37.2 x 27.44 x 0.075 = 76.5576	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
3	5.26.06	Spreading the alluvial loamy silty soil from the stacks at site on the lawn surface including cost labour for carring, spreading, leveling, dressing the same etc. all complete as per direction of the E-I-C.	cum	76.56	194.00	14,852.17
		1 x 37.2 x 27.44 x 0.075 = 76.5576	cum			
4	5.26.03	lawn area Preparation with leveling and dressing to proper slope and grade by spading the earth up to 150 mm thickness including cost tools and plants etc. all complete and accepted by the Engineer	sqm	1,020.77	8.00	8,166.14
		1 x 37.2 x 27.44 = 1,020.77	sqm			
5	5.26.08	Lawn grass supplying by truck or any other means of approved best quality and size including sorting the grass to proper size and quality with washing the grass, dibbling the grass @ 10 mm to 50 mm distance in both ways, water spreading the lawn area till the grass grown at least for two months after plantation, weeding the undesirable grass, mowing the lawn grass by lawn mower up to two months after plantation, applying urea fertilizer on the lawn surface @ 1 kg per 9.29 sqm including cost of tools and plants etc. all complete as per direction of the E-I-C.	sqm	1,020.77	67.00	68,391.46
		1 x 37.2 x 27.44 = 1,020.77	sqm			
6	MR	Drainge work (Installation of PVC pipe)	LS	1.00	1,00,000.00	1,00,000.00
7	5.02.06	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C.. Dry density after compaction shall not be less than 90% of MDD (STD).	cum	714.54	520.40	3,71,845.37
		1 x 37.2 x 27.44 x 0.7 = 714.54	cum			
					Total	**9,62,196.80**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description		Unit	Quantity	Rate in Tk.	Amount in Tk.
		Plinth area basis rate as per PWD schedule of rates 2022					
		Items # 03 : Management Office					
		Structures (Building)					
		Building type :Non Residential Building Category : Special Type of structure : Single storied Masonry structure Foundation :Single storied building with Masonary foundation Plinth Area : 243 sqm Site : Other than coastal area					
1		**SOIL INVESTIGATION**					
(i)		Soil Investigation : LS or Actual cost (BH Nos. as primary, say)	2	BH	38,821.00	/BH	77,642.00
					"A"	**=**	**77,642.00**
2		**CONSTRUCTION OF BUILDING**					
A		**FOUNDATION COST**					
(i)		Foundation cost : For single storied portion From PLAR Table - 1, Plinth area 243.00 sqm @ 75% (For masonry foundation) of Tk. 7532.00 per sqm, So Tk 5649.00 per sqm	243	Sqm	9,440.00	/sqm	22,93,920.00
					"B1"	**=**	**22,93,920.00**
B		**SUPER STRUCTURE COST**					
I.		(i) Ground floor- (from PLAR Table-2). 243.00sqm @ 70% cost of 21555.00, So, Rate per sqm Tk Tk.15089.00 per sqm	243	Sqm	32,567.00	/sqm	79,13,781.00
					"B2"	**=**	**79,13,781.00**
C		**ADDITIONAL SUPER STRUCTURE COST**					
(i)	17.1.1	Supply and application of non-toxic two omponents acrylic polymer modified cementitious coating (minimum 1.5 mm thickness) for water proofing of roof/ roof garden/ swimmimg pool which consists of powder and liquid acrylic emulsion; under a protective cover of plaster/ cement concrete/ tiles etc. as per standard specification and accepted by the Engineer-in-charge. (Rate is excluding the cost of protective cover)	243	Sqm	781.00	/sqm	1,89,783.00
					"B3"	**=**	**1,89,783.00**
					Sub Total, "B"= (B1+B2+B3)		**1,03,97,484.00**
		OTHER BUILDING COST					
3	(i)	Internal Sanitary & Water Supply (From additional cost chart, item-6): 243.00 sqm @ Tk. 2125.00 per sqm		Sqm	243	2,125.00	5,16,375.00
4	(i)	Internal Electrification (From additional cost chart, item-7): 243.00 sqm @ Tk. 2140.00 per sqm		Sqm	243	2,140.00	5,20,020.00

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
5	**External water supply**					
	(i)	Construction of underground reservoir (From additional cost chart, item-9-i-a) :				
	(ii)	Sinking of deep tube well/arranging water from WASA, Municipality or Public Health Engineering sources, WASA/Municipal charge as per requirement. Actual cost	LS	1	5,00,000.00	5,00,000.00
	(iii)	Laying of distribution pipe lines as per requirement.				
	(iv)	Laying of distribution pipe lines as per requirement.				
	(v)	Construction of pump house as per requirement.				
	(vi)	Supplying and installation of pumps as per requirement.				
	(vii)	Installation of Sewage Treatment Plant (STP) and Water Treatment Plant (WTP) as per requirement.				
	(viii)	Installation of Rain water harvesting system as per requirement. Actual cost				
6	**External Electrification**					
	(i)	Sub-station building-Not required	LS	1	10,00,000.00	10,00,000.00
	(ii)	Sub-station Equipment/Transformer				
	(iii)	Pump & Motor set in/c installation				
	(iv)	H.T./L.T. Line				
	(v)	PDB /DESA /DESCO /REB Charge				
	(vi)	Standby Power & Source				
	(vii)	Earthing System				
	(viii)	Overhead Transmission-Not required				
	(ix)	Underground cable laying				
	(x)	Compound light. Wiring system & other safety system				
	(xi)	Solar PV system				
	(viii)	Installation of Rain water harvesting system as per requirement. Actual cost				
	(ix)	Solar PV system				
7	**Electro-mechanical Component**					
	(i)	Lift. Not required				
	(ii)	Air Condition Not required				
8	**Gas Connection**					
	(i)	Ground Floor. (From additional cost chart item-8-i)	sqm	0	350.00	-
9	**Construction of Compound drain**		meter	50	5,614.00	2,80,700.00
10	**Culvert- Not required**					
11	Approach Road As per requirement. (From additional cost chart item-13-i/ii)		sqm	50	3,163.00	1,58,150.00
12	Site improvement- Considered separately					
13	Arboriculture /Landscape		cum	243	760.00	1,84,680.00
					Total "C"	**31,59,925.00**
					Sub-Total "P"	**1,36,35,051.00**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description		Unit	Quantity	Rate in Tk.	Amount in Tk.
		Plinth area basis rate as per PWD schedule of rates 2018					
		Items # 04 : Public Toilet-2 nos					
		Building type :Non Residential					
		Building Category : Special					
		Type of structure : Single storied Masonry structure					
		Foundation :Single storied building with Masonary foundation					
		Plinth Area : 13.50 sqm x2= 27.00 sqm					
		Site : Other than coastal area					
1		**SOIL INVESTIGATION**					
(i)		Soil Investigation : LS or Actual cost (BH Nos. as primary, say)		1	BH	38,821.00	/BH	38,821.00
					"A"	**=**	**38,821.00**
2		**CONSTRUCTION OF BUILDING**					
A		**FOUNDATION COST**					
(i)		Foundation cost : For single storied portion From PLAR Table - 1, Plinth area 27.00 sqm @ 60% (For masonry foundation) of Tk. 7532.00 per sqm, So Tk 4520.00 per sqm		27	Sqm	9,440.00	/sqm	2,54,880.00
					"B1"	**=**	**2,54,880.00**
B		**SUPER STRUCTURE COST**					
I.		(i)	Ground floor- (from PLAR Table-2). 27.00sqm @ 80% cost of 21555.00, So, Rate per sqm Tk Tk.17244.00 per sqm	27	Sqm	32,567.00	/sqm	8,79,309.00
					"B2"	**=**	**8,79,309.00**
C		**ADDITIONAL SUPER STRUCTURE COST**					
(i)	17.1.1	Supply and application of non-toxic two omponents acrylic polymer modified cementitious coating (minimum 1.5 mm thickness) for water proofing of roof/ roof garden/ swimmimg pool which consists of powder and liquid acrylic emulsion; under a protective cover of plaster/ cement concrete/ tiles etc. as per standard specification and accepted by the Engineer-in-charge. (Rate is excluding the cost of protective cover)		27	Sqm	781.00	/sqm	21,087.00
					"B3"	**=**	**21,087.00**
				Sub Total, "B"= (B1+B2+B3)			**11,55,276.00**
		OTHER BUILDING COST					
3	(i)	Internal Sanitary & Water Supply (From additional cost chart, item-6): 27.00 sqm @ Tk. 2125.00 per sqm			Sqm	27	2,125.00	57,375.00
4	(i)	Internal Electrification (From additional cost chart, item-7):27.00 sqm @ Tk. 2140.00 per sqm			Sqm	27	2,140.00	57,780.00

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
5	**External water supply**					
	(i)	Construction of underground reservoir (From additional cost chart, item-9-i-a) :	0	0	106.00	-
	(ii)	Sinking of deep tube well/arranging water from WASA, Municipality or Public Health Engineering sources, WASA/Municipal charge as per requirement. Actual cost	LS	1	50,000.00	50,000.00
	(iii)	Laying of distribution pipe lines as per requirement.				
	(iv)	Laying of distribution pipe lines as per requirement.				
	(v)	Construction of pump house as per requirement.				
	(vi)	Supplying and installation of pumps as per requirement.				
	(vii)	Installation of Sewage Treatment Plant (STP) and Water Treatment Plant (WTP) as per requirement.				
	(viii)	Installation of Rain water harvesting system as per requirement. Actual cost				
6	**External Electrification**					
	(i)	Sub-station building-Not required	LS	1	1,00,000.00	1,00,000.00
	(ii)	Sub-station Equipment/Transformer				
	(iii)	Pump & Motor set in/c installation				
	(iv)	H.T./L.T. Line				
	(v)	PDB /DESA /DESCO /REB Charge				
	(vi)	Standby Power & Source				
	(vii)	Earthing System				
	(viii)	Overhead Transmission-Not required				
	(ix)	Underground cable laying				
	(x)	Compound light. Wiring system & other safety system				
	(xi)	Solar PV system				
	(viii)	Installation of Rain water harvesting system as per requirement. Actual cost				
	(ix)	Solar PV system				
7	**Electro-mechanical Component**					
	(i)	Lift. Not required				
	(ii)	Air Condition Not required				
8	**Gas Connection**					
	(i)	Ground Floor. (From additional cost chart item-8-i)	sqm	0	455.00	-
9	**Construction of Compound drain**		meter	50	5,614.00	2,80,700.00
10	**Culvert- Not required**					
11	Approach Road As per requirement. (From additional cost chart item-13-i/ii) Ramp		sqm	10	3,163.00	31,630.00
12	Site improvement- Considered separately					
13	Arboriculture /Landscape		cum	27	760.00	20,520.00
14	Fire fighting		LS		-	-
					Total "C"	**5,98,005.00**
					Sub-Total "P"	**17,92,102.00**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
Items # 05						
Library building						
A	**Foundation cost**					
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	97.20	168.00	16,329.60
		20 x 1.8 x 1.8 x 1.5 = 97.20	cum			
		Total = 97.20	cum			
2	5.03.05	**Providing single layer polythene sheet** (0.18mm thick) weighing one kilogram per 6.5 square meter in floor or any where in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.	sqm	1.80	47.00	84.60
		20 x 1.8 x 1.8 = 1.80	sqm			
		Total = 1.80	sqm			
3	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.	cum	30.74	10,063.81	3,09,311.20
		20 x 1.5 x 1.5 x 0.075 = 3.38	cum			
		1 x 48 x 7.6 x 0.075 = 27.36	cum			
		Total = 30.74	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
4	5.05.01	**RCC:**1:2:4, 17MPa, Brick Chips (BC): Reinforced cement concrete works with minimum cement content relates to mix ratio (tentative 1:2:4) and maximum water cement ratio 0.45 having minimum required average strength, f'cr = 24 Mpa and satisfied a specified compressive strength f'c = 17 Mpa at 28 days on standard cylinders as per standard practice of Code AASHTO/ ASTM and Portland Composite Cement conforming to BDS EN 197-1 :2003 CEM-II 42.5N sand of minimum FM 1.8 and 20mm down well graded picked brick chips (LAA value and maximum water absorption not exceeding 38 and 15% respectively) conforming to ASTM C 33 or Aggregate Grading Appendix-3 LGED Schedule of Rates or any other International recognized envelop in/c breaking chips and screening through proper sieves, centering, shuttering in position, making shuttering fully leak proof & shuttering with plain 16 BWG steel sheet fitted over 38mm thick wooden plank panels and Standard size Bamboo Props suitably braced, placing of reinforcement in position, mixing the aggregates with standard mixer machine with hoper, fed by standard measuring boxes, maintaining allowable slump of 50mm (without plasticizer) & 75mm to 100mm (when plasticizer use), pouring, casting, compacting by mechanical vibrator machine and curing at least for 28 days, removing centering-shuttering after approved specified time period, i/c cost of additional testing charges of materials and cylinders required. Excluding the cost of reinforcement and its fabrication, welding, coupling, placing, binding etc. Additional quantity of cement and Plasticizer i.e. Water reducing chemical admixture of complying type A under ASTM C 494 to reduce mixing water required for normal workability and to maintain low water-cement (W/C) ratio (Doses of admixture to be fixed by the mix design from approved laboratory instruction by the Engineer) Additional quantity of cement to be added if required to attain the strength at the contractor's own cost) etc. all complete as per direction and approval of the Engineer in charge. Note : Using Concrete Mixer.				
4.1	5.05.01.01	In individual and continuous footing of column, raft and floor slab at plinth level	cum	7.81	8,673.00	67,757.81
		20 x 1.25 x 1.25 x 0.25 = 7.81	cum			
		Total = 7.81	cum			
4.2	5.05.01.02	In pedestal, column, capital lift wall and wall	cum	2.16	9,032.00	19,509.12
		20 x 0.3 x 0.3 x 1.2 = 2.16	cum			
		Total = 2.16	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
	5.05.11	FORM WORK (Steel) :Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for: (PWD 07.12)				
	5.05.11.01	In individual and continuous footing of column, raft and floor slab at plinth level	Sqm	25.00	582.00	14,550.00
		20 x 5.0 x 0 x 0.25 = 25.00	Sqm			
		Total = 25.00	Sqm			
	5.05.11.04	In pedestal, column, capital lift wall and wall	Sqm	28.80	522.00	15,033.60
		20 x 1.2 x 0 x 1.2 = 28.80	Sqm			
		Total = 28.80	Sqm			
5	5.06.01.02	**Grade 400 (RB 400/ 400W):** Ribbed or Deformed bar produced and marked as per BDS ISO 6935-2:2006 with minimum yield strength, fy (ReH) = 400 MPa, but the tested yield strength shall not exceed fy by more than the 125 MPa and the ratio of tested ultimate strength, fu (Re) to tested yield strength (fy) shall be at least 1.25 and minimum elongation after fracture (A5.65) & minimum total elongation at maximum force (Agt) is 14% and 2.5% respectively.	kg	1,957.10	100.00	1,95,710.31
		2.50% = 1957.10	kg			
6	5.02.11	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C.. Dry density after compaction shall not be less than 90% of MDD (STD).	cum	97.20	207.00	20,120.40
7	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1)	cum	10.94	7,529.00	82,329.62
	Up to GL	1 x 97.200 x 0.25 x 0.45 = 10.94	cum			
		Total = 10.94	cum			
					Sub Total	**7,40,736.26**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
B	**Superstructure**														
1	PWD 2022-10.2	Supply, fabrication and installation of built-up sections i.e. columns, beams, rafters, bracings etc. from steel plates conforming to ASTM A572, with a minimum yield strength of 345 MPa, including the cost of testing of plates, applicaton of red/grey-oxide primer etc. all complete as per drawing, specification and direction of Engineer-in-charge.										KG	11,369.94	137.00	15,57,681.78
	Post	20	x	3.04	x	0.45	x	0.01	=	2147.76					
	Central Post	20	x	10.67	x	0.45	x	0.01	=	7538.36					
	Roofing Truss	22	x	13	x	0.15	x	0.005	=	1683.83					
								Total	=	11369.94		KG			
2	MR	Supply and installation of GI purlin & girt of any size conforming to "ASTM A653" grade 45, with a minimum yield strength of 310 MPa, including the cost of testing of materials, all complete as per drawing, specification and direction of Engineer-in-charge.										KG	1,865.16	137.00	2,55,526.92
	Roofing Truss	44	x	9	x	0.1	x	0.006	=	1865.16					
3	MR	PUPAINT										sqm	448.26	238.00	1,06,685.88
	Post	20	x	3.04	x	0.75	x	2	=	91.20					
	Central Post	20	x	10.67	x	0.45	x	2	=	192.06					
	Roofing TRUSS	22	x	13	x	0.15	x	2	=	85.80					
	Roofing TRUSS	44	x	9	x	0.1	x	2	=	79.20					
								Total	=	448.26		sqm			
4	10.21	Supply and installation of 0.457 mm thick corrugated galvanized iron sheet (Bangladesh made) having min weight 63-65 kg per bundle (2'-6" width, 70 – 72 foot long) fitted and fixed on M.S. sections with 'J' hook or wooden purlin with screws, limpet washers and putty etc. all complete and accepted by the Engineer-in-charge.										sqm	455.12	578.00	2,63,056.47
		9	x	7.6	x	5.23			=	357.73		sqm			
		2	x	11.35	x	4.29			=	97.38		sqm			
								Total	=	455.12		sqm			
5	22.4	Supplying, fitting and fixing 10 mm thick clear tempered glass door including all accessories, 1 set floor mounted auto door closure, special quality 2 nos. clamping devices, 1 set locking device, top hinge and handle etc. complete in all respect as per drawing and direction of the Engineer-in-charge.										sqm	7.20	15,816.00	1,13,875.20
		2	x	1.5	x	2.4			=	7.20		sqm			
								Total	=	7.20		sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
6	4.31	38 mm thick artificial patent stone (1:1.5:3) flooring with cement, best quality coarse sand (50% quantity of Sylhet sand or coarse sand of equivalent F.M. 2.2 and 50% best quality local sand of FM 1.2) and 12 mm down well graded stone chips, laying the concrete in alternate panels, compacting and finishing the top with neat cement and curing at least for 7 days in all floors including cost of water, electricity and other charges etc. all complete and accepted by the Engineer-in-charge.(Cement: CEM-II/A-M) In ground floor									sqm	311.60	741.00	2,30,895.60
		1	x	41	x	7.6			=	311.60	sqm			
								Total	=	311.60	sqm			
7	4.16	125 mm brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:4) and making bond with connected walls including necessary scaffolding, raking out joints, cleaning and soaking the bricks for at least 24 hours before use and washing of sand, curing at least for 7 days in all floors including cost of water, electricity and other charges etc. all complete and accepted by the Engineer-in-charge. (Cement: CEM-II/A-M) In ground floor									sqm	42.48	1,185.00	50,334.06
		4	x	3.7	x	2.87			=	42.48	sqm			
8	15.1.1	Providing minimum 12 mm thick cement sand (F.M. 1.2) plaster (1:4) with fresh cement to both inner and outer surface of wall, finishing the corner and edges including washing of sand, cleaning the surface, curing at least for 7 days, cost of water, electricity, scaffolding and other charges etc. all complete in all respect as per drawing and accepted by the Engineer-in-charge. (Cement: CEM-II/A-M) ground floor.									sqm	42.48	299.00	12,700.32
		4	x	3.7	x	2.87			=	42.48	sqm			
9	16.1.1	Exterior standard acrylic emulsion paint of approved best quality and color having water resisting properties and resistance properties against fungi, fading & flaking delivered from authorized local agent of the manufacturer (Berger weather coat smooth/ Elite smooth exterior/ Asian apex weather coat or equivalent brand) in a sealed container; applying to exterior surface with surface preparation including cleaning, drying, making free from dirt, grease, wax, removing all chalked and scaled materials, fungus, mending good the surface defects using sand paper and necessary scaffolding; applying 1 coat of exterior sealer of specified brand on prepared surface; then applying 1 coat of exterior putty of specified brand for levelling, spot filling, crack filling and cutting by sand paper/zero water paper; finally applying 2 coats of exterior emulsion paint by spreading with brush/roller/spray machine & necessary scaffolding etc. upto desired finishing, elapsing specified time for drying or recoating; all complete in all floors and accepted by the Engineer-in-charge.									sqm	42.48	274.00	11,638.42
		4	x	3.7	x	2.87			=	42.48	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
10		**Electrical Works**				
	PLAR	Internal Electrification (From additional cost chart, item-7): 311.6 sqm @ Tk. 830.00 per sqm	sqm	311.60	830.00	2,58,628.00
					Sub Total	**28,61,022.66**
					Total	**36,01,758.92**
Items # 06						
Sitting pavilion						
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	42.18	168.00	7,086.08
		2 x 1.275 x 0.375 x 0.75 = 0.72	cum			
		1 x 29.5 x 0.375 x 0.75 = 8.30	cum			
		1 x 20.65 x 0.3 x 0.75 = 4.65	cum			
		2 x 9.5 x 0.375 x 0.75 = 5.34	cum			
		2 x 7 x 0.375 x 0.75 = 3.94	cum			
	Pillar	4 x 0.9 x 0.875 x 0.75 = 2.36	cum			
	sitting	3 x 10 x 0.75 x 0.75 = 16.88	cum			
		Total = 42.18	cum			
2	4.06.02	**Single layer brick flat soling with 1st class** or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	169.74	478.76	81,264.12
		2 x 1.275 x 0.375 = 0.96	sqm			
		1 x 29.5 x 0.375 = 11.06	sqm			
		1 x 20.65 x 0.3 = 6.20	sqm			
		2 x 9.5 x 0.375 = 7.13	sqm			
		2 x 7 x 0.375 = 5.25	sqm			
	Floor	1 x 29.5 x 4 = 118.00	sqm			
	Pillar	4 x 0.9 x 0.875 = 3.15	sqm			
	Sitting	3 x 10 x 0.6 = 18.00	sqm			
		Total = 169.74	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
3	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.										cum	12.73	10,063.81	1,28,116.39
		2	x	1.275	x	0.375	x	0.075	=	0.07		cum			
		1	x	29.5	x	0.375	x	0.075	=	0.83		cum			
		1	x	20.65	x	0.3	x	0.075	=	0.46		cum			
		2	x	9.5	x	0.375	x	0.075	=	0.53		cum			
		2	x	7	x	0.375	x	0.075	=	0.39		cum			
		1	x	29.5	x	4	x	0.075	=	8.85		cum			
	Pillar	4	x	0.9	x	0.875	x	0.075	=	0.24		cum			
	sitting	3	x	10	x	0.6	x	0.075	=	1.35		cum			
								Total	=	12.73		cum			
4	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1)										cum	14.43	7,529.00	1,08,608.18
		2	x	1.275	x	0.375	x	0.15	=	0.14		cum			
		2	x	1.275	x	0.25	x	0.45	=	0.29		cum			
		1	x	29.500	x	0.375	x	0.15	=	1.66		cum			
		1	x	29.500	x	0.25	x	0.45	=	3.32		cum			
		1	x	20.650	x	0.25	x	0.45	=	2.32		cum			
		2	x	9.500	x	0.375	x	0.15	=	1.07		cum			
		2	x	9.500	x	0.25	x	0.45	=	2.14		cum			
		2	x	7.000	x	0.375	x	0.15	=	0.79		cum			
		2	x	7.000	x	0.25	x	0.45	=	1.58		cum			
	Pillar	12	x	0.25	x	0.25	x	1.5	=	1.13		cum			
								Total	=	14.43		cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
5	5.04.04	Brick work with Kiln 1st class bricks/automatic machine made first class bricks in cement mortar (1:4) in exterior walls with Portland Composite cement (CEM II/AM, 42.5N) and best quality sand (minimum FM1.2) with uniform width and depth joints, true to vertical and horizontal lines, in/c filling the interstices tightly with mortar, racking out joints, cleaning and soaking bricks at least for 24 hours before use, washing of sand, necessary scaffolding, curing for requisite period, etc. all complete as per direction of the E-I-C										cum			
		Ground Floor										cum	30.26	9,197.00	2,78,344.33
		2	x	1.275	x	0.25	x	1.25	=	0.80		cum			
		1	x	29.500	x	0.25	x	1.25	=	9.22		cum			
		1	x	20.650	x	0.25	x	0.225	=	1.16		cum			
		1	x	9.500	x	0.25	x	2.85	=	6.77		cum			
		2	x	7.000	x	0.25	x	2.85	=	9.98		cum			
		12	x	0.250	x	0.25	x	3.125	=	2.34		cum			
								Total	=	30.26		cum			
6	5.02..14	Site improvement/earth filling in foundation trenches and plinth with specified soil in/c supplying, carrying, filling by throwing earth in 150mm layers with carted earth carried by truck or any other means to be supplied at the contractor's own cost etc. all complete as per direction of the E-I-C. (Carried from a distance beyond 200m).										cum			
	5.02.14.1	Outside municipal area.										cum	312.73	760.00	2,37,673.47
		0.5	x	2.850	x	7.3	x	38.5	=	400.50		cum			
		1	x	20.700	x	4	x	1.06	=	-87.77		cum			
								Total	=	312.73		cum			
7	5.12.05	Minimum 12 mm thick cement sand (F.M. 1.2) plaster (1:6) having with fresh cement to both inner and outer surface of wall, finishing the edges and corners including washing of sand, cleaning the surface, curing at least for 7 days, cost of water, electricity, scaffolding and other charges etc. all complete in all respect as per drawing and accepted by the Engineer-in-charge. (Cement: CEM-II/BM) ground floor.[PWD 15.4]										sqm	167.31	291.00	48,686.85
		2	x	1.275			x	1.25	=	3.19		sqm			
		2	x	29.500			x	1.25	=	73.75		sqm			
		1	x	20.650			x	0.225	=	4.65		sqm			
		1	x	9.500			x	2.85	=	27.08		sqm			
		2	x	7.000			x	2.85	=	39.90		sqm			
		12	x	0.250			x	3.125	=	9.38		sqm			
		12	x	0.250			x	3.125	=	9.38		sqm			
								Total	=	167.31		sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
8	16.1.1	Exterior standard acrylic emulsion paint of approved best quality and color having water resisting properties and resistance properties against fungi, fading & flaking delivered from authorized local agent of the manufacturer (Berger weather coat smooth/ Elite smooth exterior/ Asian apex weather coat or equivalent brand) in a sealed container; applying to exterior surface with surface preparation including cleaning, drying, making free from dirt, grease, wax, removing all chalked and scaled materials, fungus, mending good the surface defects using sand paper and necessary scaffolding; applying 1 coat of exterior sealer of specified brand on prepared surface; then applying 1 coat of exterior putty of specified brand for levelling, spot filling, crack filling and cutting by sand paper/zero water paper; finally applying 2 coats of exterior emulsion paint by spreading with brush/roller/spray machine & necessary scaffolding etc. upto desired finishing, elapsing specified time for drying or recoating; all complete in all floors and accepted by the Engineer-in-charge.	sqm	166.14	274.00	45,522.36
		1 x 1.275 x 1.25 = 1.59	sqm			
		1 x 29.500 x 1.25 = 36.88	sqm			
		1 x 20.650 x 0.225 = 4.65	sqm			
		1 x 9.500 x 2.85 = 27.08	sqm			
		1 x 7.000 x 2.85 = 19.95	sqm			
		2 x 29.500 x 1.25 = 73.75	sqm			
		2 x 0.900 x 1.25 = 2.25	sqm			
		Total = 166.14	sqm			
9	5.02.08.1	**Sand filling** in foundation trenches and inside plinth with sand (minimum FM 0.50) in 150mm layers in/c leveling, watering and consolidating each layer up to finished level etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 95% of MDD (STD)	cum	17.70	1,088.00	19,257.60
		1 x 29.5 x 4 x 0.15 = 17.70	cum			
10	5.13.02	38mm thick artificial patent stone floor (1:2:4) with Portland Composite cement (CEM II/AM, 42.5N), best quality coarse sand (minimum FM1.8) and 10mm down graded picked brick chips (LAA value not exceeding 38) in/c breaking chips, screening, mixing, laying the concrete in alternate panels, compacting and finishing the top with neat cement, curing for requisite period, etc. all complete as per direction of the E-I-C	sqm	118.00	594.00	70,092.00
		1 x 29.500 x 4 = 118.00	sqm			
		Total = 118.00	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
11	6.05.02	Supply of MS work in plates, angles, channels, flat bars, Tees etc. with minimum yield strength, fy (ReH) = 300 MPa, including fabricating, machining, cutting, bending, welding, forging drilling, riveting, embedding anchor bars, staging and fitting, fixing, local handling etc including energy consumption etc. all complete as per design, specification and direction of the Engineer-In-charge										kg	3,566.52	138.46	4,93,820.98
		6	x	23.200	x	0.15	x	0.004	=	655.63		kg			
		6	x	6.350	x				=	2286.00		kg			
		12	x	1.500					=	536.58		kg			
		6	x	0.250	x	0.375	x	0.02	=	88.31		kg			
								Total	=	3566.52		kg			
12	MR	Painting M.S section										kg	3,566.52	15.00	53,497.87
13	10.21	Supply and installation of 0.457 mm thick corrugated galvanized iron sheet (Bangladesh made) having min weight 63-65 kg per bundle (2'-6" width, 70 – 72 foot long fitted and fixed on M.S. sections with 'J' hook or wooden purlin with screws, limpet washers and putty etc. all complete and accepted by the Engineer-in-charge.										sqm	84.68	578.00	48,945.04
		1	x	23.2	x	3.65			=	84.68		sqm			
								Total	=	84.68		sqm			
14	5.05.01	RCC:1:2:4, 17MPa, Brick Chips (BC): Reinforced cement concrete works with minimum cement content relates to mix ratio (tentative 1:2:4) and maximum water cement ratio 0.45 having minimum required average strength, f'cr = 24 Mpa and satisfied a specified compressive strength f'c = 17 Mpa at 28 days on standard cylinders as per standard practice of Code AASHTO/ ASTM and Portland Composite Cement conforming to BDS EN 197-1 :2003 CEM-II 42.5N sand of minimum FM 1.8 and 20mm down well graded picked brick chips (LAA value and maximum water absorption not exceeding 38 and 15% respectively) conforming to ASTM C 33 or Aggregate Grading Appendix-3 LGED Schedule of Rates or any other International recognized envelop in/c breaking chips and screening through proper sieves, centering, shuttering in position, making shuttering fully leak proof & shuttering with plain 16 BWG steel sheet fitted over 38mm thick wooden plank panels and Standard size Bamboo Props suitably braced, placing of reinforcement in position, mixing the aggregates with standard mixer machine with hoper, fed by standard measuring boxes, maintaining allowable slump of 50mm (without plasticizer) & 75mm to 100mm (when plasticizer use), pouring, casting, compacting by mechanical vibrator machine and curing at														

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
		least for 28 days, removing centering-shuttering after approved specified time period, i/c cost of additional testing charges of materials and cylinders required Excluding the cost of reinforcement and its fabrication, welding, coupling, placing, binding etc. Additional quantity of cement and Plasticizer i.e. Water reducing chemical admixture of complying type A under ASTM C 494 to reduce mixing water required for normal workability and to maintain low water-cement (W/C) ratio (Doses of admixture to be fixed by the mix design from approved laboratory instruction by the Engineer) Additional quantity of cement to be added if required to attain the strength at the contractor's own cost) etc. all complete as per direction and approval of the Engineer in charge. Note : Using Concrete Mixer.												
14.1	5.05.01.01	In individual and continuous footing of column, raft and floor slab at plinth level									cum	5.98	8,673.00	51,875.38
		6	x	1.25	x	1.25	x	0.35	=	3.28	cum			
		3	x	10	x	0.6	x	0.15	=	2.70	cum			
								Total	=	5.98	cum			
14.2	5.05.01.03.01	In pedestal, column, capital lift wall and wall									cum	8.09	9,032.00	73,091.46
		6	x	0.375	x	0.3	x	1.25	=	0.84	cum			
		6	x	0.25	x	0.25	x	3.13	=	1.17	cum			
		3	x	10	x	0.15	x	0.9	=	4.05	cum			
		3	x	10	x	0.45	x	0.15	=	2.03	cum			
								Total	=	8.09	cum			
	5.05.11	FORM WORK (Steel) :Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for: (PWD 07.12)												
	5.05.11.01	In individual and continuous footing of column, raft and floor slab at plinth level									sqm	20.04	582.00	11,663.28
		6	x	5	x	0	x	0.35	=	10.50	sqm			
		3	x	21.2	x	0	x	0.15	=	9.54	sqm			
								Total	=	20.04	sqm			
	5.05.11.04	Pedestal, column, column capital, lift wall and wall up to ground floor (PWD 07.12.4)									sqm	93.12	522.00	48,608.64
		6	x	1.35	x	0	x	1.25	=	10.13	sqm			
		6	x	1.00	x	0	x	3.13	=	18.78	sqm			
		3	x	20.30	x	0	x	0.9	=	54.81	sqm			
		3	x	20.90	x	0	x	0.15	=	9.41	sqm			
								Total	=	93.12	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
15	5.06.01.02	**Grade 400 (RB 400/ 400W):** Ribbed or Deformed bar produced and marked as per BDS ISO 6935-2:2006 with minimum yield strength, fy (ReH) = 400 MPa, but the tested yield strength shall not exceed fy by more than the 125 MPa and the ratio of tested ultimate strength, fu (Re) to tested yield strength (fy) shall be at least 1.25 and minimum elongation after fracture (A5.65) & minimum total elongation at maximum force (Agt) is 14% and 2.5% respectively.	kg	1,785.68	100.00	1,78,567.88
		2.00% = 1785.68	kg			
16	5.02.11	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C.. Dry density after compaction shall not be less than 90% of MDD (STD).	cum	42.18	207.00	8,731.07
17	25.26.3	**Leveling and dressing** of lawn area to proper slope and grade by spading the same up to 150 mm including supplying tools and plants etc. all complete and accepted by the Engineer-in-charge.	sqm	193.28	8.00	1,546.26
		1 x 38.500 x 7.3 = 281.05	sqm			
		1 x 20.700 x 4 x 1.06 = -87.77	sqm			
		Total = 193.28	cum			
18	25.26.04	Supply of best and approved quality **alluvial loamy silty soil** including loading, unloading at both ends, properly stacking at site including supply of tools and plants etc. all complete and accepted by the Engineer-in-charge.	cum	21.08	913.00	19,244.90
		1 x 38.500 x 7.3 x 0.075 = 21.07875	cum			
		1 x 20.700 x 4 x 0.075 = -6.21	sqm			
		Total = 14.87	cum			
19	25.26.06	Labour charge for spreading the alluvial **loamy silty soil** from the stacks at site on the lawn surface, leveling, dressing the same including supply all necessary tools and plants etc. all complete and accepted by the Engineer-in-charge.	cum	14.87	194.00	2,884.54
		1 x 38.500 x 7.3 x 0.075 = 21.07875	cum			
		1 x 20.700 x 4 x 0.075 = -6.21	sqm			
		Total = 14.87	cum			
20	24.3	Creating turf on the side slopes and top of embankment with good quality turf not less than 225 mm square chunk, watering till the grass grown including all leads and lifts etc. complete and accepted by the Engineer-in-charge.	sqm	193.28	23.00	4,445.49
		1 x 38.500 x 7.3 = 281.05	sqm			
		1 x 20.700 x 4 x 1.06 = -87.77	sqm			
		Total = 193.28	sqm			
					Total	**20,21,574.15**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
Items # 07						
Structures (Gallery)						
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	101.25	168.00	17,010.00
		30 x 1.5 x 1.5 x 1.5 = 101.25	cum			
2	5.02.11	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C.. Dry density after compaction shall not be less than 90% of MDD (STD).	cum	101.25	207.00	20,958.75
		30 x 1.5 x 1.5 x 1.5 = 101.25	cum			
3	4.06.02	**Single layer brick flat soling with 1st class** or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	67.50	478.76	32,316.30
		30 x 1.5 x 1.5 = 67.50	sqm			
4	5.05.01	RCC:1:2:4, 17MPa, Brick Chips (BC): Reinforced cement concrete works with minimum cement content relates to mix ratio (tentative 1:2:4) and maximum water cement ratio 0.45 having minimum required average strength, f'cr = 24 Mpa and satisfied a specified compressive strength f'c = 17 Mpa at 28 days on standard cylinders as per standard practice of Code AASHTO/ ASTM and Portland Composite Cement conforming to BDS EN 197-1 : 2003 CEM-II 42.5N sand of minimum FM 1.8 and 20mm down well graded picked brick chips (LAA value and maximum water absorption not exceeding 38 and 15% respectively) conforming to ASTM C 33 or Aggregate Grading Appendix-3 LGED Schedule of Rates or any other International recognized envelop in/c breaking chips and screening through proper sieves, centering, shuttering in position, making shuttering fully leak proof & shuttering with plain 16 BWG steel sheet fitted over 38mm thick wooden plank panels and Standard size Bamboo Props suitably braced, placing of reinforcement in position, mixing the aggregates with standard mixer machine with hoper, fed by standard measuring boxes, maintaining allowable slump of 50mm (without plasticizer) & 75mm to 100mm (when plasticizer use), pouring, casting,				

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
		compacting by mechanical vibrator machine and curing at least for 28 days, removing centering-shuttering after approved specified time period, i/c cost of additional testing charges of materials and cylinders required. Excluding the cost of reinforcement and its fabrication, welding, coupling, placing, binding etc. Additional quantity of cement and Plasticizer i.e. Water reducing chemical admixture of complying type A under ASTM C 494 to reduce mixing water required for normal workability and to maintain low water-cement (W/C) ratio (Doses of admixture to be fixed by the mix design from approved laboratory instruction by the Engineer) Additional quantity of cement to be added if required to attain the strength at the contractor's own cost) etc. all complete as per direction and approval of the Engineer in charge. Note : Using Concrete Mixer.				
4.1	5.05.01.01	In individual and continuous footing of column, raft and floor slab at plinth level	cum	27.00	8,673.00	2,34,171.00
		30 x 1.5 x 1.5 x 0.4 = 27.00	cum			
	5.05.01.03	**In Tie Beam and Lintel :**				
4.2	5.05.01.03	Below Plinth Level and in Ground Floor	cum	51.30	8,817.00	4,52,312.10
		3 x 36.5 x 0.375 x 0.3 = 12.32	cum			
		20 x 6 x 0.375 x 0.3 = 13.50	cum			
		3 x 35.5 x 0.375 x 0.3 = 11.98	cum			
		20 x 6 x 0.375 x 0.3 = 13.50	cum			
		Total = 51.30	cum			
4.3	5.05.01.02	column,Wall	cum	9.72	9,032.00	87,791.04
		30 x 0.3 x 0.3 x 3.6 = 9.72	cum			
4.5	5.05.01.03	Floor	cum	75.94	8,817.00	6,69,547.55
	roof	1 x 36.5 x 2.6 x 0.175 = 16.61	cum			
	W/S	1 x 36.5 x 5.86 x 0.175 = 37.43	cum			
	Step	5 x 36.5 x 0.75 x 0.15 = 20.53	cum			
	Step	1 x 36.5 x 0.25 x 0.15 = 1.37	cum			
		Total = 75.94	cum			
	5.05.11	FORM WORK (Steel) :Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for: (PWD 07.12)				
	5.05.11.01	In individual and continuous footing of column, raft and floor slab at plinth level	Sqm	72.00	582.00	41,904.00
		30 x 6.0 x 0 x 0.4 = 72.00	Sqm			
	5.05.11.05	**In Tie Beam and Lintel :**				
		Below Plinth Level and in Ground Floor	sqm	444.60	543.00	2,41,417.80
		3 x 36.5 x 0 x 0.975 = 106.76	sqm			
		20 x 6 x 0 x 0.975 = 117.00	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
		3	x	35.5	x	0	x	0.975	=	103.84	sqm			
		20	x	6	x	0	x	0.975	=	117.00	sqm			
								Total	=	444.60	sqm			
	5.05.11.04	Pedestal, column, column capital, lift wall and wall up to ground floor									sqm	129.60	522.00	67,651.20
		30	x	1.2	x	0	x	3.6	=	129.60	sqm			
	5.05.11.07	Floor and roof slab up to ground floor (PWD 07.12.7)									sqm	551.28	597.00	3,29,111.77
	roof	1	x	36.85	x	0	x	2.95	=	108.71	sqm			
	W/S	1	x	36.85	x	0	x	6.21	=	228.84	sqm			
	Step	5	x	36.85	x	0	x	1.05	=	193.46	sqm			
	Step	1	x	36.85	x	0	x	0.55	=	20.27	sqm			
								Total	=	551.28	sqm			
5	5.06.01.02	**Grade 400 (RB 400/ 400W):** Ribbed or Deformed bar produced and marked as per BDS ISO 6935-2:2006 with minimum yield strength, fy (ReH) = 400 MPa, but the tested yield strength shall not exceed fy by more than the 125 MPa and the ratio of tested ultimate strength, fu (Re) to tested yield strength (fy) shall be at least 1.25 and minimum elongation after fracture (A5.65) & minimum total elongation at maximum force (Agt) is 14% and 2.5% respectively.									kg	32,176.81	100.00	32,17,680.66
									=	32176.81	kg			
6	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1)									cum	41.37	7,529.00	3,11,441.79
	Up to GL	8	x	3.350	x	0.375	x	0.375	=	3.77	cum			
		8	x	3.350	x	0.25	x	0.25	=	1.68	cum			
	GL to Roof	8	x	3.350	x	0.25	x	3	=	20.10	cum			
	Incliend wall	2	x	8.300	x	0.375	x	0.375	=	2.33	cum			
		2	x	8.300	x	0.25	x	0.25	=	1.04	cum			
		2	x	8.300	x	0.25	x	3	=	12.45	cum			
								Total	=	41.37	cum			
7	5.02.08.1	**Sand filling** in foundation trenches and inside plinth with sand (minimum FM 0.50) in 150mm layers in/c leveling, watering and consolidating each layer up to finished level etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 95% of MDD (STD)									cum	26.95	1,088.00	29,326.22
		1	x	43.3	x	8.3	x	0.075	=	26.95	cum			
								Total	=	26.95	cum			
8	4.06.02	**Single layer brick flat soling with 1st class** or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.									sqm	359.39	478.76	1,72,061.56
		1	x	43.3	x	8.3			=	359.39	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
9	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.	cum	26.95	10,063.81	2,71,262.45
		1 x 43.3 x 8.3 x 0.075 = 26.95	cum			
		Total = 26.95	cum			
10	5.13.02	38mm thick artificial patent stone floor (1:2:4) with Portland Composite cement (CEM II/AM, 42.5N), best quality coarse sand (minimum FM1.8) and 10mm down graded picked brick chips (LAA value not exceeding 38) in/c breaking chips, screening, mixing, laying the concrete in alternate panels, compacting and finishing the top with neat cement, curing for requisite period, etc. all complete as per direction of the E-I-C.	sqm	718.78	594.00	4,26,955.32
		1 x 43.3 x 8.3 = 359.39	sqm			
		1 x 43.3 x 8.3 = 359.39	sqm			
		Total = 718.78	sqm			
11	5.12.05	Minimum 12 mm thick cement sand (F.M. 1.2) plaster (1:6) having with fresh cement to both inner and outer surface of wall, finishing the edges and corners including washing of sand, cleaning the surface, curing at least for 7 days, cost of water, electricity, scaffolding and other charges etc. all complete in all respect as per drawing and accepted by the Engineer-in-charge. (Cement: CEM-II/BM) ground floor.[PWD 15.4]	sqm	160.80	291.00	46,792.80
	GL to Roof	8 x 3.350 x 2 x 3 = 160.80	cum			
		Total = 160.80	sqm			
12		**Electrical Works**				
	PLAR	Internal Electrification (From additional cost chart, item-7): 94.90 sqm @ Tk. 830.00 per sqm	sqm	94.90	830.00	78,767.00
					Total	**67,48,479.31**
Items # 08						
	Rain water Harvesting					
1	PLAR-Annex-A 9	Submersible pump with tube well	LS	1.00	3,00,000.00	3,00,000.00
	MR	Pipe line	Ls	1.00	75,000.00	75,000.00
					Total	**3,75,000.00**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
Items # 09						
	Water supply system					
1	PLAR-Annex-A 9	Underground Water Reservoir :	gal	5,000.00	106.00	5,30,000.00
2	MR	Laying pipe for water received	Ls	1.00	25,000.00	25,000.00
					Total	**5,55,000**
Items # 10						
	Drainage system					
1	MR	Drainage system	sqm	1,750.00	250.00	4,37,500.00
					Total	**4,37,500**
Items # 11						
	Solar System					
1		OFF- GRID SOLAR PANEL SYSTEM : S upplying, installation, testing & commissioning of following capacity solar system (off grid) for 2 Hrs backup with required quantities of mono / poly crystalline silicon solar PV modules, Solar suited Deep Cycle Lead Acid battery (12V), with required size maximum power point tracking (MPPT)/PWM charge-controller & inverter as per relevant international standards & certification such as IEC / CE / UL as per following specification to produce AC- 220V, 50Hz pure sine wave for suitable use of all standard AC appliances with battery racks /cabinet, solar PV mounting structure, combiner box, fuse box, meter etc. system includes compatible solar cables, equipotential bonded and earthed with the building earth electrode which is conventional and / or chemical electrode system and all accessories as required to complete the installation with one year free operation & maintenance of the system which shall have the following features:S OLAR PV MODULES/PANEL:I . Parameters for PV Panel should be at Standard Test Condition of solar irradiance of 1000 W/m2, Cell Temperature of 25 degree Celsius and AM of 1.5g.I I. II. Solar PV module / panel shall be inconformity with the requirement of BDS IEC 61215, IEC 61730 (latest edition) along with VDE/NEMA/JIS/BS standards. Certificate issued by the internationally recognized	KWp	7.2	1,76,910.00	12,73,752.00

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
		authority such as CE / TUV /DNV or equivalent certifying body shall have to be submitted by the bidder for the above mentioned international standard. Manufacturing facility should be ISO9001, ISO14001 quality management system certified.I II. III. Solar panels shall be installed pointing to the right direction to capture most of the solar energy to transform it into electricity with the facility to be adjusted from the horizontal to 12 degree in summer and to 35 degree in winter to get the maximum efficiency and must face the true south in our country. For fixed panel mounting system, the panels must be tilted (22.5 ± 1) degree with horizontal and must face the true south in BANGLADESH.I V. The average efficiency of PV module should be minimum 17%.V . The complete PV module shall be diode protected at junction box to protect reverse current. V I. Operating temperature range should be - 40 to 85 Degree Celsius. V II. Power de-rating allowed should be not more than (-0.41%)/Degree CelsiusV III. Panels should be constructed with anti-reflective glass, anti Potential Induced Degradation(PID), IEC 61701I X. Modules fitted with anodized aluminum frames or, if without frame, two-glass modules.X . Resistance to a maximum pressure load of 5400 Pa and vacuum of 2400 Pa (according to BDS IEC 61215)X I. Each module will be provided with a clearly visible identifier bearing the name, the model of the module and a visual identification or a serial number which allows the traceability of the date of manufacture in accordance with standard NF EN 50380 XII. Each combiner box of PV module shall be diode protected to ensure any back flow current to the PV array and may have fuse of adequate ratings in DC positive line of the PV array and wire terminals. The main combiner box shall have lightning surge protective device of as per nominal voltage of the combiner box both in positive and negative line in order to ensure the bypass diode always function even in thunder storm. The fuse, if exists, shall also have disconnection switch .The box shall be completely water proof according to IP 68. X III. Product warranty against manufacturing defects : minimum 12 years and their replacement during this period. XIV. Performance warranty: linear degradation, minimum 98% at 1 year, then linear with minimum 90% at 10 years, and 80% at 25 yearsS olar panel from Sunpro/Vikram/Saronic/Suntech /ULICA/Canadian Solar/JA Solar/Trina Solar/Longi or equivalent. CHARGE CONTROLLER:M PPT / PWM (Pulse Wave Modulator) solar charge controller shall be protected from: I)Overcharge protection (adjustable) II)Over discharge protection (for DC load and less than 200 Wp system)				

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
		III)Battery reverse current protection IV)Overloading protection V)Temperature compensated chargingV I)Short circuit protection V II)Reverse polarity connection protectionV III)Lightning induced surge current protectionP ower consumption should be less than 20 mw. T he controller should be microprocessor controlled with wide input range, cooling fan temperature compensation (-3 to 7mV /cell / Celsius), more than one-step charging to provide quick and safe charging for battery, 7 modes timer control (on / off DC load) selectable, automatic etc. as required.I X .Power conversion efficiency: 90% INVERTER: The Inverter is specially designed for DC to AC power which provides pure sine wave. Supplier is allowed to use Off Grid Inverter for designing the system keeping in mind that, utility grid cannot be used for battery charging, they may use battery bank for reference input. T he inverter(s) shall comply with the following requirements: I. Adopt power frequency transformed, pure sine wave output, adapt to different load. II. Excellent protection design against output short circuit, working reliably.I II. High inverting efficiency, energy saving and environmental protection. IV. LCD +LED display show the working status clearly.V . Design, manufacturing, performance, testing, safety, quality and environmental management shall be in accordance to the BDS IEC 62109/BS/VDE or equivalent international standards.V I. Should conform to ISO 9001, 14001 & 45001 standard. V II. The Inverter manufacturer shall have at least 05 (five) years of experience, nominal input voltage: 24/48V DC, output : 220V AC, output waveform : pure / modified sine wave, self consumption : less than 1 (one) watt, Efficiency : 97% or higher at operating load range from 10% to 100% rated load, Energy source : Priority to solar then battery. VIII. The Inverter shall be protected from lightning induced current by surge protective device of adequate rating both in DC and AC side in parallel at the entry and exit terminal of the inverter. The inverter shall also be protected for overload and over current protection from both DC and AC side. I X. Frequency ranges: 50-60 Hz, Relative humidity: 0- 95%, non- condensing, Operating temperature range: 0- 55°C, Cooling method: Natural Convention, Topology -Transformerless , Noise - <30dB , Protection – IP65.X . Brand: Solar Inverter from SAJ/Solis/Huawei or equivalent BATTERY: Solar suited Deep Cycle Lead Acid battery(12V)C ompliance : ISO9001 & ROHS (Restriction of Hazardous Substances) certified company. ENERGY METER:S upplying and installation of energy meters with following features: I.Single phase / three phase (as per requirement) II. Energy meter to be provided to record the				

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
		amount of solar e nergy provided from the solar system. G ENERAL GUIDELINE/CRITERIA:I . The bidder shall examine the site before the design of solar system & its componentsI I. The bidder shall have facilities and proper tools and machineries for installing, testing & commissioning of solar panel. I II. Adequate space & height shall be provided in the rows of panels for easy air flow to avoid excessive heat generation in the panel and to provide access for rain water drainage and damage to protect from dirty water. Minimum air gap between two panels shall be 25 mm. IV.All frames of the PV module, combiner box, inverter etc. shall be equipotential bonded and earthed with the building earth electrode which is conventional and /or chemical electrode system with soil conductivity enhancing material that the earth resistance must be less than 1 Ohm as per related standard and code of practice. V. The solar panel mounting shall be of galvanized iron or equivalent to ensure rust protection of the installation. All nut bolts shall be of stainless steel (SS) or galvanized mild steel (MS) materials. VI. After successful completion, testing & commissioning of the whole system the contractor shall have to train nominated person(s) of the user for a period of at least 2 days.V II. After completion of whole system and before handing over the system to the concerned authority, the contractor must have to provide minimum 30 days' satisfactory operation for performance evaluation. VIII. Technical specification with catalogue of PV module, inverter must be submitted with technical offer.I X. Only approved cable shall be used for wiring.X . Sufficient AC and DC circuit breakers shall be used to ensure proper safety of the system.[PWD-12.1]				
					Total	**12,73,752.00**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
Items # 12						
Sewage disposal system						
1	7.75	Construction of non electric Eco STP of different sizes (as per detail drawing attached in annexure) with 250 mm walls of brick work in cement mortar (1:4) having a brick flat soling and 125 mm thick reinforced cement concrete flooring (1:2:4) with 125 mm thick walls (1:4) in partition and flush pointing (1:2) on inside wall surface and 12 mm thick cement plaster (1:4) with N.C.F. on floor and slab surface including supplying, fitting and fixing of upvc pipes & Tees and providing 450 mm dia water sealed heavy type C.I. manhole cover with locking/unlocking arrangement and 100 mm thick R.C.C (1:2:4) top slab, including centering, shuttering, fabricating, casting and curing etc. complete up to required depth including necessary earth work in excavation and shoring, bailing out water and side filling, dressing, inside cleaning, cow dung or old septic tank liquied for charging/start up including the cost of all materials, operations and incidental charges. etc. all complete as per type plan approved and accepted by the Engineer-in-charge (Rate is including cost of reinforcement and its fabrication, binding and placing).				
1.1	7.75.2	300 users (PWD BW 26.75.2)	each	1.00	4,66,520.00	4,66,520.00
		1 = 1.00	each			
					Total	**4,66,520.00**
Items # 13						
External Electrical						
1	MR	External electrical and lighting works	sqm	2,250.00	350.00	7,87,500.00
		1 x 2250 x = 2250.00	sqm			
					Total	**7,87,500.00**

Feasibility/Reviewing Study on Community Space and Recreation Facilities at Village Level under Technical Assistance Project for "My Village-My Town" for Local Government Engineering Department (LGED)

ABSTRACT OF COST SUMMARY

For

UNMUKTO KENDRO

Item No	Description	Amount in Taka	Remarks
1	Shed-6 nos	11,39,049.00	
2	Mountain	1,84,801.47	
3	Sitting-7 nos	20,475.00	
4	Tree plantation	5,000.00	
5	Electrical works	5,00,000.00	
	Grand Total =	18,49,325.47	

Feasibility/Reviewing Study on Community Space and Recreation Facilities at Village Level under Technical Assistance Project for "My Village-My Town" for Local Government Engineering Department (LGED)

COST ESTIMATION FOR UNMUKTO KENDRO

Items # 01

Shed-6 Nos

Item No	Ref. to LGED Dhaka Division SoR. 2019	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
1	3.11.17	BP(Ø75mm): Supplying of straight & strong bamboo posts of minimum 75mm dia (at all sections) and driving the same vertically in the ground upto required depth by any means, all complete in all respect as per approved drawing, specification and direction of the Engineer-in-charge. The rate is for single pin. (Total length embedded and above ground shall be considered towards payment)									m	396.00	90.00	35,640.00
	Shed	72	x	4					=	288.00	m			
	Ramp	72	x	1.5					=	108.00	m			
								Total	=	396.00	m			
2	Basic rate, SL 293 in/c, Labour, VAT, TAX, Profit	50mm dia borak bambo as tie beam and roofing tie in/c labour charges									m	6,283.20	55.00	3,45,576.00
	Beam	36	x	3.35	x				=	120.60	meter			
	Beam	12	x	18	x				=	216.00	meter			
	Roof	36	x	5					=	180.00	m			
	Floor	1440	x	3.35					=	4824.00	m			
	Ramp	228	x	1.5					=	342.00	m			
	Ramp	546	x	1.1					=	600.60	m			
								Total	=	6283.20	m			
3	Basic rate, SL 294 in/c, Labour, VAT, TAX, Profit	75mm dia borak bambo as tie beam for floor in/c labour charges									m	336.60	55.00	18,513.00
	Short Beam	36	x	3.35	x				=	120.60	meter			
	Long Beam	18	x	12					=	216.00	m	528.00	65.00	34,320.00
								Total	=	336.60	m			
4	MR	Bambo mats roofing work with necessary bambo splits and rope, hard ware etc complete in all respect as per design and direction of Engineer in Charge									sqm	528.00	1,250.00	6,60,000.00
		6	x	88	x				=	528.00	sqm			
								Total	=	528.00	sqm			
5	MR	Supplying hard ware									Each	6.00	7,500.00	45,000.00
													Total	**11,39,049.00**

Item No	Ref. to LGED Dhaka Division SoR. 2019	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
Items # 02						
Mountain						
1	5.02.14	Site development/Improvement by carted earth or dredged sand,sandy silt (free from any organic, foreign, environmental hazardous substances) carried by head or truck or any other means including cost of cutting or by dredging of sand, sandy silt, all; including local carrying, placing the earth/sand, sandy silt in the designated area, maintaining slopes, breaking lumps, levelling and dressing in layers up to finished level etc. all complete as per direction and accepted by the engineer in charge.				
1.1	5.02.14.1	By other method/means than dredgeing. [PWD 02.16.1	cum	166.18	760.00	1,26,293.00
		1 x 144.5 x 1.15 = 166.18	cum			
		Total = 166.18	cum			
2	5.02.15	Mechanical compaction of earth beyond plinth area, required for preapproved specific engineering purpose in 150 mm layers including levelling, watering and consolidation each layer with chain dozer, grader, roller etc. to achieve minimum dry density of 95% with optimum moisture content (modified proctor test) up to finished level all complete and accepted by the engineer-in-charge subjected to submission of the method statement. [PWD 02.17]	cum	166.18	222.00	36,890.85
		1 x 144.5 x 1.15 = 166.18	cum			
		Total = 166.18	cum			
3	2.05.1	Leveling and dressing the embankment crown, road flanks, etc. in maintenance work by earth cutting and filling as necessary with maintaining proper slope and camber including compaction etc. all complete as per direction of the E-I-C.	cum	262.00	15.51	4,063.62
		1 x 262 x 1 = 262.00	cum			
		Total = 262.00	cum			
4	5.26.08	Supply of lawn grass of approved quality by truck or by any other means, sorting the grass to proper size, washing the grass, dibbling the grass 6 mm to 50 mm apart, irrigation of lawn area till the grass grown at least for two months after plantation, weeding the undesirable grass, mowing the lawn grass by lawn mower up to two months after plantation, applying urea fertilizer on the lawn surface @ 1 kg per 9.29 sqm including supply of tools and plants etc. all complete and accepted by the Engineer-in-charge.[PWD 25.8]	sqm	262.00	67.00	17,554.00
		1 x 262 x 1 = 262.00	sqm			
					Total	**1,84,801.47**

Item No	Ref. to LGED Dhaka Division SoR. 2019	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
Items # 03														
Sitting-7 Nos														
1	3.11.17	BP(Ø75mm): Supplying of straight & strong bamboo posts of minimum 75mm dia (at all sections) and driving the same vertically in the ground upto required depth by any means, all complete in all respect as per approved drawing, specification and direction of the Engineer-in-charge. The rate is for single pin. (Total length embedded and above ground shall be considered towards payment)									m	63.00	90.00	5,670.00
	Post	42	x	1.5					=	63.00	m			
							Total		=	63.00	m			
2	Basic rate, SL 293 in/c, Labour, VAT, TAX, Profit	50mm dia borak bambo as tie beam and roofing tie in/c labour charges									m	231.00	55.00	12,705.00
	cross Tie	21	x	0.5	x				=	10.50	meter			
	Seat	70	x	3.15	x				=	220.50	meter			
							Total		=	231.00	m			
3	MR	Supplying hard ware									Each	7.00	300.00	2,100.00
													Total	**20,475.00**
Items # 04														
Tree plantation														
1	MR	Supplying and planting Banyan Tree of minimum 2.0m height, free from any diseases, collected from approved nurseries & carrying the same to the worksite; preparation of pit prior to minimum 10 days of plantation by earthwork in excavation of 100mm x 1000mm x1000mm size for plantation, applying 0.015 cum cow dung and 0.15 kg TSP mixed with excavated earth properly; planting the plants, tightened by jute rope with 2.0m long bamboo split/stick, sharpened at one end and placing it into the ground up to 0.50m depth, watering for minimum 07 days including supplying of tools etc. all complete as per direction of the E-I-C.									each	1.00	5,000.00	5,000.00
		1							=	1.00	each			
							Total		=	1.00	each			
													Total	**5,000.00**
Items # 05														
External Electrical														
1	MR	External electrical and lighting works									LS	1.00	5,00,000.00	5,00,000.00
													Total	**5,00,000.00**

Feasibility/Reviewing Study on Community Space and Recreation Facilities at Village Level under Technical Assistance Project for "My Village-My Town" for Local Government Engineering Department (LGED)

ABSTRACT OF COST SUMMARY

For

GONO KENDRO

Item No	Description	Amount in Taka	Remarks
1	Boundary Wall	10,20,246.59	
2	Structures (Building)	1,64,83,759.61	
3	Plaza	68,84,118.78	
4	Pond Excavation	16,17,194.20	
5	Ghat Construction	78,11,312.39	
6	Water Body	47,583.00	
7	Multipurpose Hall	77,64,330.89	
8	Landscaping	1,48,501.17	
9	Rain Water Harvesting	5,50,000.00	
10	Water Supply System	13,60,000.00	
11	Drainage Sorks	1,55,275.20	
12	Sewage Disposal System	4,66,520.00	
13	External Electrical Works	16,51,125.00	
	Grand Total =	4,59,59,966.83	

COST ESTIMATION FOR GONO KENDRO

Items # 01

Boundary wall

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	38.00	168.00	6,384.00
		1 x 38 x 1 x 1 = 38.00	cum			
2	4.06.02	**Single layer brick flat soling with 1st class** or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	38.00	478.76	18,192.88
		1 x 38 x 1 = 38.00	sqm			
3	5.05.01	RCC:1:2:4, 17MPa, Brick Chips (BC): Reinforced cement concrete works with minimum cement content relates to mix ratio (tentative 1:2:4) and maximum water cement ratio 0.45 having minimum required average strength, f'cr = 24 Mpa and satisfied a specified compressive strength f'c = 17 Mpa at 28 days on standard cylinders as per standard practice of Code AASHTO/ ASTM and Portland Composite Cement conforming to BDS EN 197-1 :2003 CEM-II 42.5N sand of minimum FM 1.8 and 20mm down well graded picked brick chips (LAA value and maximum water absorption not exceeding 38 and 15% respectively) conforming to ASTM C 33 or Aggregate Grading Appendix-3 LGED Schedule of Rates or any other International recognized envelop in/c breaking chips and screening through proper sieves, centering, shuttering in position, making shuttering fully leak proof & shuttering with plain 16 BWG steel sheet fitted over 38mm thick wooden plank panels and Standard size Bamboo Props suitably braced, placing of reinforcement in position, mixing the aggregates with standard mixer machine with hoper, fed by standard measuring boxes, maintaining allowable slump of 50mm (without plasticizer) & 75mm to 100mm (when plasticizer use), pouring, casting, compacting by mechanical vibrator machine and curing at least for 28 days, removing centering-shuttering after				

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
		approved specified time period, i/c cost of additional testing charges of materials and cylinders required Excluding the cost of reinforcement and its fabrication, welding, coupling, placing, binding etc. Additional quantity of cement and Plasticizer i.e. Water reducing chemical admixture of complying type A under ASTM C 494 to reduce mixing water required for normal workability and to maintain low water-cement (W/C) ratio (Doses of admixture to be fixed by the mix design from approved laboratory instruction by the Engineer) Additional quantity of cement to be added if required to attain the strength at the contractor's own cost) etc. all complete as per direction and approval of the Engineer in charge. Note : Using Concrete Mixer.				
3.1	5.05.01.01	In individual and continuous footing of column, raft and floor slab at plinth level	cum	11.40	8,673.00	98,872.20
		1 x 38 x 1 x 0.3 = 11.40	cum			
3.2	5.05.11	FORM WORK (Steel) :Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for: (PWD 07.12)				
	5.05.11.01	In individual and continuous footing of column, raft and floor slab at plinth level	sqm	22.80	582.00	13,269.60
		2 x 38 x 0.3 = 22.80	sqm			
4	5.06.01.02	**Grade 400 (RB 400/ 400W):** Ribbed or Deformed bar produced and marked as per BDS ISO 6935-2:2006 with minimum yield strength, fy (ReH) = 400 MPa, but the tested yield strength shall not exceed fy by more than the 125 MPa and the ratio of tested ultimate strength, fu (Re) to tested yield strength (fy) shall be at least 1.25 and minimum elongation after fracture (A5.65) & minimum total elongation at maximum force (Agt) is 14% and 2.5% respectively.	kg	1,342.35	100.00	1,34,235.00
		1.50% = 1342.35	kg			
5	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/ interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1)	cum	64.17	7,529.00	4,83,122.94
	Up to GL	1 x 38.000 x 0.375 x 0.8 = 11.40	cum			
	SS	1 x 48.000 x 0.375 x 5.25 = 94.50	cum			
	Ded					
		1 x 20.6 x 0.375 x 4.06 = -31.36	cum			
		3 x 1.07 x 0.375 x 4.06 = -4.89	cum			
		6 x 0.6 x 0.375 x 4.06 = -5.48	cum			
		Total = 64.17	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
6	5.02.11	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C.. Dry density after compaction shall not be less than 90% of MDD (STD).	cum	7.60	207.00	1,573.20
		0.2 x 38 x 1 x 1 = 7.60	cum			
7	5.05.01.03	**In Tie Beam and Lintel :**				
7.1	5.05.01.03	Below Plinth Level and in Ground Floor	cum	2.63	8,817.00	23,144.63
		1 x 21 x 0.5 x 0.25 = 2.63	cum			
	5.05.11	FORM WORK (Steel) :Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for: (PWD 07.12)				
	5.05.11.05	**In Tie Beam and Lintel :**	sqm	10.50	543.00	5,701.50
		2 x 21 x 0.25 = 10.50	sqm			
8	5.12.05	Minimum 12 mm thick cement sand (F.M. 1.2) plaster (1:6) having with fresh cement to both inner and outer surface of wall, finishing the edges and corners including washing of sand, cleaning the surface, curing at least for 7 days, cost of water, electricity, scaffolding and other charges etc. all complete in all respect as per drawing and accepted by the Engineer-in-charge. (Cement: CEM-II/BM) ground floor. [PWD 15.4]	sqm	410.72	291.00	1,19,518.18
		2 x 48.000 x 5.25 = 504.00	sqm			
		1 x 48.000 x 0.375 = 18.00	sqm			
	Ded	1 x 20.6 x 4.06 = -83.64	sqm			
	Ded	3 x 1.07 x 4.06 = -13.03	sqm			
	Ded	6 x 0.6 x 4.06 = -14.62	sqm			
		Total = 410.72	sqm			
9	5.16.03.2	Interior premium acrylic emulsion painting (silky finish) of approved best quality and colour delivered from authorized local agent of the manufacturer in a sealed container; applying to interior wall and ceiling with surface preparation including cleaning drying, making free from dirt, grease, wax, removing all chalked and scaled materials, fungus, mending good the surface defects using sand paper and necessary scaffolding; applying necessary interior sealer of specified brand on prepared surface; then applying necessary interior putty of specified brand for levelling, spot filling, crack filling and cutting by sand paper/zero water paper; finally applying 2 coats of interior emulsion paint spreading by brush/roller/spray & necessary scaffolding etc. upto desired finishing, elapsing specified time for drying or recoating; all complete in all floors and accepted by the Engineer-in-charge [PWD 16.2.2]	sqm	410.72	283.00	1,16,232.46
		2 x 48.000 x 5.25 = 504.00	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
		1	x	48.000	x	0.375			=	18.00	sqm			
	Ded	1	x	20.6	x	4.06			=	-83.64	sqm			
	Ded	3	x	1.07	x	4.06			=	-13.03	sqm			
	Ded	6	x	0.6	x	4.06			=	-14.62	sqm			
								Total	=	410.72	sqm			
												Sub Total	**Tk**	**10,20,246.59**
Items # 02 **Structures (Building)**														
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.									cum	275.72	168.00	46,320.96
		4	x	68.93	x	1	x	1	=	275.72	cum			
2	4.06.02	**Single layer brick flat soling with 1st class** or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.									sqm	275.72	478.76	1,32,003.71
		4	x	68.93	x	1			=	275.72	sqm			
3	5.05.01	RCC:1:2:4, 17MPa, Brick Chips (BC): Reinforced cement concrete works with minimum cement content relates to mix ratio (tentative 1:2:4) and maximum water cement ratio 0.45 having minimum required average strength, f'cr = 24 Mpa and satisfied a specified compressive strength f'c = 17 Mpa at 28 days on standard cylinders as per standard practice of Code AASHTO/ ASTM and Portland Composite Cement conforming to BDS EN 197-1 : 2003 CEM-II 42.5N sand of minimum FM 1.8 and 20mm down well graded picked brick chips (LAA value and maximum water absorption not exceeding 38 and 15% respectively) conforming to ASTM C 33 or Aggregate Grading Appendix-3 LGED Schedule of Rates or any other International recognized envelop in/c breaking chips and screening through proper sieves, centering, shuttering in position, making shuttering fully leak proof & shuttering with plain 16 BWG steel sheet fitted over 38mm thick wooden plank panels and Standard size Bamboo Props suitably braced, placing of reinforcement in position, mixing the aggregates with standard mixer machine with hoper, fed by standard measuring boxes, maintaining allowable slump of 50mm (without plasticizer) & 75mm to 100mm (when plasticizer use), pouring, casting, compacting by mechanical vibrator machine and curing at													

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
		least for 28 days, removing centering-shuttering after approved specified time period, i/c cost of additional testing charges of materials and cylinders required. Excluding the cost of reinforcement and its fabrication, welding, coupling, placing, binding etc. Additional quantity of cement and Plasticizer i.e. Water reducing chemical admixture of complying type A under ASTM C 494 to reduce mixing water required for normal workability and to maintain low water-cement (W/C) ratio (Doses of admixture to be fixed by the mix design from approved laboratory instruction by the Engineer) Additional quantity of cement to be added if required to attain the strength at the contractor's own cost) etc. all complete as per direction and approval of the Engineer in charge. Note : Using Concrete Mixer.													
3.1	5.05.01.01	In individual and continuous footing of column, raft and floor slab at plinth level										cum	82.72	8,673.00	7,17,395.87
		4	x	68.93	x	1	x	0.3	=	82.72		cum			
	5.05.11.01	steel shuttering										sqm	165.43	582.00	96,281.42
		8	x	68.93	x			0.3	=	165.43		sqm			
4	5.05.01.03	**In Tie Beam and Lintel :**													
4.1		Below Plinth Level and in Ground Floor										cum	17.39	8,817.00	1,53,292.36
		4	x	36	x	0.375	x	0.2	=	10.80		cum			
		4	x	32.93	x	0.25	x	0.2	=	6.59		cum			
								Total	=	17.39		cum			
	5.05.11.05	steel shuttering										sqm	220.58	543.00	1,19,772.77
		8	x	36	x			0.4	=	115.20		sqm			
		8	x	32.93	x			0.4	=	105.38		sqm			
5	5.06.01.02	**Grade 400 (RB 400/ 400W):** Ribbed or Deformed bar produced and marked as per BDS ISO 6935-2:2006 with minimum yield strength, fy (ReH) = 400 MPa, but the tested yield strength shall not exceed fy by more than the 125 MPa and the ratio of tested ultimate strength, fu (Re) to tested yield strength (fy) shall be at least 1.25 and minimum elongation after fracture (A5.65) & minimum total elongation at maximum force (Agt) is 14% and 2.5% respectively.										kg	2,730.10	100.00	2,73,009.83
									=	2730.10		kg			
6	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1)										cum	428.37	7,529.00	32,25,198.86
	Up to GL	4	x	36.000	x	0.375	x	0.8	=	43.20		cum			
	SS	4	x	32.930	x	0.375	x	5.65	=	279.08		cum			
	Up to GL	4	x	32.930	x	0.25	x	0.8	=	26.34		cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
	SS	4	x	32.930	x	0.25	x	3.88	=	127.77	cum			
	Ded													
		48	x	0.6	x	0.375	x	2.54	=	-27.43	cum			
		32	x	0.6	x	0.25	x	2.54	=	-12.19	cum			
		16	x	1	x	0.25	x	2.1	=	-8.40	cum			
								Total	=	428.37	cum			
7	5.02.11	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C.. Dry density after compaction shall not be less than 90% of MDD (STD).									cum	55.14	207.00	11,414.81
		0.8	x	68.93	x	1	x	1	=	55.14	cum			
8	5.02.08.1	**Sand filling** in foundation trenches and inside plinth with sand (minimum FM 0.50) in 150mm layers in/c leveling, watering and consolidating each layer up to finished level etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 95% of MDD (STD)									cum	674.10	1,088.00	7,33,420.80
		2	x	177	x	1	x	1.05	=	371.70	cum			
		2	x	144	x	1	x	1.05	=	302.40	cum			
								Total	=	674.10	cum			
9	4.06.02	**Single layer brick flat soling** with 1st class or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.									sqm	642.00	478.76	3,07,363.92
		2	x	177	x	1			=	354.00	sqm			
		2	x	144	x	1			=	288.00	sqm			
								Total	=	642.00	sqm			
10	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.									cum	48.15	10,063.81	4,84,572.45
		2	x	177	x	1	x	0.075	=	26.55	cum			
		2	x	144	x	1	x	0.075	=	21.60	cum			
								Total	=	48.15	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
11	5.13.02	38mm thick artificial patent stone floor (1:2:4) with Portland Composite cement (CEM II/AM, 42.5N), best quality coarse sand (minimum FM1.8) and 10mm down graded picked brick chips (LAA value not exceeding 38) in/c breaking chips, screening, mixing, laying the concrete in alternate panels, compacting and finishing the top with neat cement, curing for requisite period, etc. all complete as per direction of the E-I-C.										sqm	642.00	594.00	3,81,348.00
		2	x	177	x	1			=	354.00		sqm			
		2	x	144	x	1			=	288.00		sqm			
								Total	=	642.00		sqm			
12	5.12.05	Minimum 12 mm thick cement sand (F.M. 1.2) plaster (1:6) having with fresh cement to both inner and outer surface of wall, finishing the edges and corners including washing of sand, cleaning the surface, curing at least for 7 days, cost of water, electricity, scaffolding and other charges etc. all complete in all respect as per drawing and accepted by the Engineer-in-charge. (Cement: CEM-II/BM) ground floor.[PWD 15.4]										sqm	2,321.03	291.00	6,75,418.92
	SS	4	x	36.000			x	5.65	=	813.60		sqm			
	SS	4	x	36.000			x	4.45	=	640.80		sqm			
	SS	8	x	32.930			x	3.88	=	1022.15		sqm			
	Ded														
		48	x	0.6			x	2.54	=	-73.15		sqm			
		32	x	0.6			x	2.54	=	-48.77		sqm			
		16	x	1			x	2.1	=	-33.60		sqm			
								Total	=	2321.03		sqm			
13	5.16.03.2	Interior premium acrylic emulsion painting (silky finish) of approved best quality and colour delivered from authorized local agent of the manufacturer in a sealed container; applying to interior wall and ceiling with surface preparation including cleaning drying, making free from dirt, grease, wax, removing all chalked and scaled materials, fungus, mending good the surface defects using sand paper and necessary scaffolding; applying necessary interior sealer of specified brand on prepared surface; then applying necessary interior putty of specified brand for levelling, spot filling, crack filling and cutting by sand paper/zero water paper; finally applying 2 coats of interior emulsion paint spreading by brush/roller/spray & necessary scaffolding etc. upto desired finishing, elapsing specified time for drying or recoating; all complete in all floors and accepted by the Engineer-in-charge [PWD 16.2.2]										sqm	2,321.03	283.00	6,56,850.70
	SS	4	x	36.000			x	5.65	=	813.60		sqm			
	SS	4	x	36.000			x	4.45	=	640.80		sqm			
	SS	8	x	32.930			x	3.88	=	1022.15		sqm			
	Ded														
		48	x	0.6			x	2.54	=	-73.15		sqm			
		32	x	0.6			x	2.54	=	-48.77		sqm			
		16	x	1			x	2.1	=	-33.60		sqm			
								Total	=	2321.03		sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
14	5.07.08.2	Supplying, fitting and fixing M.S. flat bar clamp of 150 mm x 38 mm x 6 mm size having bifurcated ends to door and window frames with necessary rowel plug, screws etc. including cutting grooves in chowkat if necessary etc. all complete and accepted by the Engineerin- charge. [PWD 11.2.2]	each	96.00	131.00	12,576.00
15	5.07.01	Supplying and making **door and window frame**s with seasoned wood of required size in/c painting two coats of coal tar to the surface in contact with wall, fitted and fixed in position and mending good any damage (All sizes of wood are finished) for all floors etc. all complete as per direction of the E-I-C.	cum	1.25	1,35,509.00	1,69,115.23
	5.07.01.1.1	Mehagoni/Shishu wood				
		16 x 5.2 x 0.15 x 0.1 = 1.25	cum			
16	5.08.01	Supplying, fitting and fixing 38mm thick well matured natural seasoned **solid wooden door shutter** (minimum 250mm wide plank) having top rail style of sections (100mmx38mm) lock rail (125mmx38mm) and bottom rail (225mmx38mm), closed joints and provided with best quality 4 nos. 100mm iron hinges, 2 nos. best quality 12mm dia 300mm and 225mm long iron tower and socket bolts, 2 nos. heavy type nickel plated handle, hinge cleats, buffer blocks and finished with sand papering for all floors etc. all complete as per direction of the E-I-C. (Single leaf door. All sizes of wood are finished).				
	5.08.01.4	Gamari (SS Fittings) [PWD 12.1.2.1]	sqm	30.24	8,296.00	2,50,871.04
		16 x 0.9 x 2.1 = 30.24	sqm			
17	5.08.10	Manufacturing and supplying fitting fixing **well matured natural seasoned wooden** fixed louver shutters (min 250mm wide plank) having frame (62mmx125mm) and inner horizontal wooden louver (150mmx20mm) spaced @75mm c/c fixed with frame in grooves in/c cost of screws, nails, wooden bit, preparing the surface by sand papering for all floors etc complete in all respect as per drawing and direction of the E-I-C (All sizes of wood are finished).				
	5.08.10.1	Gamari [PWD 12.10.1]	sqm	121.92	11,567.00	14,10,248.64
		48 x 0.6 x 2.54 = 73.15	sqm			
		32 x 0.6 x 2.54 = 48.77	sqm			
		Total = 121.92	sqm			
18	6.05.02	Supply of **MS work** in plates, angles, channels, flat bars, Tees etc. with minimum yield strength, fy (ReH) = 300 MPa, including fabricating, machining, cutting, bending, welding, forging drilling, riveting, embedding anchor bars, staging and fitting, fixing, local handling etc including energy consumption etc. all complete as per design, specification and direction of the Engineer-In-charge	cum	3,653.98	138.46	5,05,929.74
	C channel	2 x 360 x 0.075 x 0.006 = 2543.40	kg			
	Purline	20 x 8.23 x 0.04 x 0.004 = 206.74	kg			
	Purline	32 x 20 x 0.04 x 0.004 = 803.84	kg			
	Cleat	= 100.00	kg			
		Total = 3653.98	kg			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
19	PWD SoR 2022, SL no 10.21	Supply and installation of 0.457 mm thick corrugated **galvanized iron sheet** (Bangladesh made) having min weight 63-65 kg per bundle (2'-6" width, 70 – 72 rft long) fitted and fixed on M.S. sections with 'J' hook or wooden purlin with screws, limpet washers and putty etc. all complete and accepted by the Engineer-in-charge.	sqm	642.00	578.00	3,71,076.00
		2 x 177.000 x 1 = 354.00	sqm			
		2 x 144.000 x 1 = 288.00	sqm			
		Total = 642.00	sqm			
20	5.16.10.01	Standard French polishing to Wooden board surface by three coats over a coat of priming including putty, cleaning, finishing and polishing with sand paper etc. all complete in all floors and accepted by the Engineer-in-charge. [PWD 16.9.1]	sqm	564.96	432.00	2,44,064.79
		40 x 0.9 x 2.1 = 75.60	sqm			
		120 x 0.6 x 2.54 = 182.88	sqm			
		80 x 0.6 x 2.54 = 121.92	sqm			
		2 x 360 x 0.158 = 113.76	sqm			
		20 x 8.23 x 0.088 = 14.48	sqm			
		32 x 20 x 0.088 = 56.32	sqm			
		Total = 564.96	sqm			
21	(i)	Internal Sanitary & Water Supply (From additional cost chart, item-6): 642.00 sqm @ Tk. 850.00 per sqm	Sqm	642	2,125.00	13,64,250.00
22	(i)	Internal Electrification (From additional cost chart, item-7):642.00 sqm @ Tk. 1300.00 per sqm	Sqm	642	2,140.00	13,73,880.00
23	**External water supply**					
	(i)	Construction of underground reservoir (From additional cost chart, item-9-i-a) :	0	0	106.00	-
	(ii)	Sinking of deep tube well/arranging water from WASA, Municipality or Public Health Engineering sources, WASA/Municipal charge as per requirement. Actual cost	LS	1	1,00,000.00	1,00,000.00
	(iii)	Laying of distribution pipe lines as per requirement.				
	(iv)	Laying of distribution pipe lines as per requirement.				
	(v)	Construction of pump house as per requirement.				
	(vi)	Supplying and installation of pumps as per requirement.				
	(vii)	Installation of Sewage Treatment Plant (STP) and Water Treatment Plant (WTP) as per requirement.				
	(viii)	Installation of Rain water harvesting system as per requirement. Actual cost				
24	**External Electrification**					
	(i)	Sub-station building-Not required	LS	1	5,00,000.00	5,00,000.00
	(ii)	Sub-station Equipment/Transformer				
	(iii)	Pump & Motor set in/c installation				
	(iv)	H.T./L.T. Line				
	(v)	PDB /DESA /DESCO /REB Charge				
	(vi)	Standby Power & Source				
	(vii)	Earthing System				
	(viii)	Overhead Transmission-Not required				
	(ix)	Underground cable laying				
	(x)	Compound light. Wiring system & other safety system				

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
	(xi)	Solar PV system				
	(viii)	Installation of Rain water harvesting system as per requirement. Actual cost				
	(ix)	Solar PV system				
25	**Electro-mechanical Component**					
	(i)	Lift. Not required				
	(ii)	Air Condition Not required				
26	**Gas Connection**					
	(i)	Ground Floor. (From additional cost chart item-8-i)	sqm	0	455.00	-
27	**Construction of Compound drain** Cost on meter basis (From additional cost chart item-15-i/ii/iii)		meter	50	3,196.00	1,59,800.00
28	**Culvert- Not required**					
28.1	Approach Road As per requirement. (From additional cost chart item-13-i/ii) Ramp		sqm	50	2,886.00	1,44,300.00
29	Site improvement- Considered separately		cum	2321.03	760.00	17,63,982.80
30	Arboriculture /Landscape		LS	1	1,00,000.00	1,00,000.00
					Total "C"	**1,64,83,759.61**
Items # 03						
Plaza						
A	**Masonry guide wall**					
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	7.09	168.00	1,190.70
		1 x 42 x 0.375 x 0.45 = 7.09	cum			
2	5.03.05	**Providing single layer polythene sheet** (0.18mm thick) weighing one kilogram per 6.5 square meter in floor or any where in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.	sqm	15.75	47.00	740.25
		1 x 42 x 0.375 = 15.75	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
3	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.	cum	0.79	10,063.81	7,925.25
		1 x 42 x 0.25 x 0.075 = 0.79	cum			
4	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/ interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1)	cum	16.54	7,529.00	1,24,510.84
	FF	1 x 42 x 0.25 x 0.375 = 3.94	cum			
	SF	1 x 42 x 0.25 x 1.2 = 12.60	cum			
		Total = 16.54	cum			
5	5.02.11	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C.. Dry density after compaction shall not be less than 90% of MDD (STD).	cum	1.42	207.00	293.42
		0.2 x 42 x 0.375 x 0.45 = 1.42	cum			
					Sub Total	**1,34,660.46**
B	**Main Plaza works**					
1	5.02.08.1	**Sand filling** in foundation trenches and inside plinth with sand (minimum FM 0.50) in 150mm layers in/c leveling, watering and consolidating each layer up to finished level etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 95% of MDD (STD)	cum	165.60	1,088.00	1,80,172.80
		1 x 1104 x 1 x 0.15 = 165.60	cum			
2	5.03.05	**Providing single layer polythene sheet** (0.18mm thick) weighing one kilogram per 6.5 square meter in floor or any where in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.	sqm	1,104.00	47.00	51,888.00
		1 x 1104 x 1 = 1104.00	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
3	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.	cum	110.40	10,063.81	11,11,044.62
		1 x 1104 x 1 x 0.1 = 110.40	cum			
4	5.04.22	Klinker paving brick works in floor or pavement with machine made pressed bricks of approved quality with cement sand (F.M. 1.2) mortar (1:4) on minimum 12 mm thick cement sand (F.M. 1.2) mortar (1:4) including raking out joints, cutting the bricks to required size, soaking the same for 24 hours before use wherever necessary including high class flush pointing in cement mortar (1:2), cleaning, curing at least for 7 days etc. including washing and screening of sand, cost of water, electricity and other charges complete and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.22)				
	5.04.22.1	100 mm thick flat brick pavement with 200 mm x 100 mm x 50 mm size klinker facing bricks. (PWD 04.22.1)	sqm	1,104.00	3,131.00	34,56,624.00
		1 x 1104 x 1 x 1 = 1104.00	sqm			
		Total = 1104.00	sqm			
				Sub Total	**Tk**	**47,99,729.42**
C	**Central Masonry steps**					
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	27.10	168.00	4,552.00
		1 x 51.61 x 3.5 x 0.15 = 27.10	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
2	5.02.08.1	**Sand filling** in foundation trenches and inside plinth with sand (minimum FM 0.50) in 150mm layers in/c leveling, watering and consolidating each layer up to finished level etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 95% of MDD (STD)	cum	11.61	1,088.00	12,634.13
		1 x 51.61 x 3 x 0.075 = 11.61	cum			
		Total = 11.61	cum			
3	4.06.02	**Single layer brick flat soling** with 1st class or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	154.83	478.76	74,126.41
		1 x 51.61 x 3 = 154.83	sqm			
		Total = 154.83	sqm			
4	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.	cum	11.61	10,063.81	1,16,863.48
		1 x 51.61 x 3 x 0.075 = 11.61	cum			
		Total = 11.61	cum			
5	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1	cum	50.32	7,529.00	3,78,857.40
		1 x 51.61 x 0.325 x 3 = 50.32	cum			
		Total = 50.32	cum			
6	5.04.22	Klinker paving brick works in floor or pavement with machine made pressed bricks of approved quality with cement sand (F.M. 1.2) mortar (1:4) on minimum 12 mm thick cement sand (F.M. 1.2) mortar (1:4) including raking out joints, cutting the bricks to required size, soaking the same for 24 hours before use wherever necessary including high class flush pointing in cement mortar (1:2), cleaning, curing at least for 7 days etc. including washing and screening of sand, cost of water, electricity and other charges complete and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.22)				

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
	5.04.22.1	100 mm thick flat brick pavement with 200 mm x 100 mm x 50 mm size klinker facing bricks. (PWD 04.22.1)										sqm	193.54	3,131.00	6,05,965.91
		1	x	51.61	x	3			=	154.83		sqm			
		1	x	51.61	x	0.75			=	38.71		sqm			
								Total	=	193.54		sqm			
													Sub Total	**Tk**	**11,92,999.33**
D	**Entry Masonry step-2 nos**														
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.										cum	3.04	168.00	511.43
		2	x	5.66	x	0.375	x	0.15	=	0.64		cum			
		4	x	1.5	x	0.375	x	0.15	=	0.34		cum			
		4	x	2.3	x	1.5	x	0.15	=	2.07		cum			
								Total	=	3.04		cum			
2	5.02.08.1	**Sand filling** in foundation trenches and inside plinth with sand (minimum FM 0.50) in 150mm layers in/c leveling, watering and consolidating each layer up to finished level etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 95% of MDD (STD)										cum	1.52	1,088.00	1,656.07
		2	x	5.66	x	0.375	x	0.075	=	0.32		cum			
		4	x	1.5	x	0.375	x	0.075	=	0.17		cum			
		4	x	2.3	x	1.5	x	0.075	=	1.04		cum			
								Total	=	1.52		cum			
3	4.06.02	**Single layer brick flat soling** with 1st class or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.										sqm	37.28	478.76	17,845.78
		2	x	5.66	x	0.375			=	4.25		sqm			
		4	x	1.5	x	0.375			=	2.25		sqm			
		4	x	2.3	x	1.5			=	13.80		sqm			
		2	x	5.66	x	1.5			=	16.98		sqm			
								Total	=	37.28		sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
4	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.									cum	2.29	10,063.81	23,005.87
		2	x	10.16	x	1.5	x	0.075	=	2.29	cum			
								Total	=	2.29	cum			
5	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1)									cum	7.73	7,529.00	58,206.70
		4	x	2.28	x	1.5	x	0.15	=	2.05	cum			
		4	x	2.03	x	1.5	x	0.15	=	1.83	cum			
		4	x	1.78	x	1.5	x	0.15	=	1.60	cum			
		4	x	1.75	x	1.5	x	0.15	=	1.58	cum			
		4	x	0.5	x	1.5	x	0.15	=	0.45	cum			
		4	x	0.25	x	1.5	x	0.15	=	0.23	cum			
								Total	=	7.73	cum			
6	5.04.22	Klinker paving brick works in floor or pavement with machine made pressed bricks of approved quality with cement sand (F.M. 1.2) mortar (1:4) on minimum 12 mm thick cement sand (F.M. 1.2) mortar (1:4) including raking out joints, cutting the bricks to required size, soaking the same for 24 hours before use wherever necessary including high class flush pointing in cement mortar (1:2), cleaning, curing at least for 7 days etc. including washing and screening of sand, cost of water, electricity and other charges complete and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.22)												
	5.04.22.1	100 mm thick flat brick pavement with 200 mm x 100 mm x 50 mm size klinker facing bricks. (PWD 04.22.1)									sqm	35.88	3,131.00	1,12,340.28
		2	x	10.16	x	1.5			=	30.48	sqm			
		24	x	1.5	x	0.15			=	5.40	sqm			
								Total	=	35.88	sqm			
													Sub Total	**2,13,566.13**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
E	**External Masonry step**					
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	12.01	168.00	2,017.58
		1 x 15.25 x 4.5 x 0.175 = 12.01	cum			
		Total = 12.01	cum			
2	5.02.08.1	**Sand filling** in foundation trenches and inside plinth with sand (minimum FM 0.50) in 150mm layers in/c leveling, watering and consolidating each layer up to finished level etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 95% of MDD (STD)	cum	5.15	1,088.00	5,599.80
		1 x 15.25 x 4.5 x 0.075 = 5.15	cum			
		Total = 5.15	cum			
3	4.06.02	**Single layer brick flat soling** with 1st class or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	68.63	478.76	32,854.91
		1 x 15.25 x 4.5 = 68.63	sqm			
		Total = 68.63	sqm			
4	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.	cum	5.15	10,063.81	51,797.17
		1 x 15.25 x 4.5 x 0.075 = 5.15	cum			
		Total = 5.15	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
5	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints /interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1									cum	13.83	7,529.00	1,04,104.42
		1	x	33.5	x	0.25	x	1.075	=	9.00	cum			
		1	x	15.24	x	0.25	x	0.15	=	0.57	cum			
		1	x	14.64	x	0.25	x	0.15	=	0.55	cum			
		1	x	14.04	x	0.25	x	0.15	=	0.53	cum			
		1	x	13.44	x	0.25	x	0.15	=	0.50	cum			
		1	x	12.84	x	0.25	x	0.15	=	0.48	cum			
		1	x	12.24	x	0.25	x	0.15	=	0.46	cum			
		2	x	4.6	x	0.25	x	0.15	=	0.35	cum			
		2	x	4.3	x	0.25	x	0.15	=	0.32	cum			
		2	x	4	x	0.25	x	0.15	=	0.30	cum			
		2	x	3.7	x	0.25	x	0.15	=	0.28	cum			
		2	x	3.4	x	0.25	x	0.15	=	0.26	cum			
		2	x	3.1	x	0.25	x	0.15	=	0.23	cum			
								Total	=	13.83	cum			
6	5.04.22	Klinker paving brick works in floor or pavement with machine made pressed bricks of approved quality with cement sand (F.M. 1.2) mortar (1:4) on minimum 12 mm thick cement sand (F.M. 1.2) mortar (1:4) including raking out joints, cutting the bricks to required size, soaking the same for 24 hours before use wherever necessary including high class flush pointing in cement mortar (1:2), cleaning, curing at least for 7 days etc. including washing and screening of sand, cost of water, electricity and other charges complete and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.22)												
	5.04.22.1	100 mm thick flat brick pavement with 200 mm x 100 mm x 50 mm size klinker facing bricks. (PWD 04.22.1)									sqm	110.76	3,131.00	3,46,789.56
		1	x	15.25	x	4.5			=	68.63	sqm			
		1	x	12.2	x	1.5			=	18.30	sqm			
		1	x	24.5	x	0.15			=	3.68	sqm			
		1	x	23.9	x	0.15			=	3.59	sqm			
		1	x	23.3	x	0.15			=	3.50	sqm			
		1	x	22.7	x	0.15			=	3.41	sqm			
		1	x	22.1	x	0.15			=	3.32	sqm			
		1	x	21.5	x	0.15			=	3.23	sqm			
		1	x	20.9	x	0.15			=	3.14	sqm			
								Total	=	110.76	sqm			
													Sub Total	**5,43,163.44**
												Total	**Tk**	**68,84,118.78**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
Items # 04						
Pond excavation						
1	6.01.20.01	**Earthwork in excavation** of canals/Khals, ponds, drains etc. by excavating earth to lines, grades and elevation in all types of soils exceprt rocky, gravelly, slushy or organic soil as shown in the drawings, filling buskets, carrying and disposing all excavated materials at a safe distance including levelling, dressing etc all complete all for an initial excavation depth upto 2m and lead not exceeding 20m including arranging for and supplying all necessary tools and equipments etc., all complete as per direction of the Engineer-in-Charge.	cum	2,636.00	170.41	4,49,200.76
		1 x 1318 x 1 x 2 = 2636.00	cum			
2	6.01.19	**Earthwork in excavation** of canals/Khals, ponds, drains etc. by excavating earth to the lines, grades and elevation as shown in the drawings, filling baskets, carrying & disposing of all excavated materials at a safe distance designated by the Engineer-in-Charge in all types of soil except rocky, gravelly, slushy or organic soil, levelling, dressing etc all complete for an initial excavation depth of each meter or part thereof beyond the initial 2m depth and an initial lead not exceeding 20m including arranging for & supplying all necessary tools & equipment at work site etc., all complete as per direction of the Engineer-in-Charge	cum	1,318.00	108.88	1,43,503.84
		1 x 1318 x 1 x 1 = 1318.00	cum			
3	6.01.02	**Earthwork in excavation** of canals/Khals, ponds, drains etc. by excavating earth to the lines, grades and elevation as shown in the drawings, filling baskets, carrying & disposing of all excavated materials at a safe distance designated by the Engineer-in-Charge in all types of soil except rocky, gravelly, slushy or organic soil, levelling, dressing etc all complete for an initial excavation depth of each meter or part thereof beyond the initial 2m depth and an initial lead not exceeding 20m including arranging for & supplying all necessary tools & equipment at work site etc., all complete as per direction of the Engineer-in-Charge	cum	856.70	142.03	1,21,677.10
		1 x 1318 x 1 x 0.65 = 856.70	cum			
4	Present rates	**Slope protection works**	cum	722.25	1,250.00	9,02,812.50
		1 x 107 x 6.75 = 722.25	sqm			
				Total	**Tk**	**16,17,194.20**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
Items # 05						
Ghat construction						
A	**RCC guide wall**					
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	211.41	168.00	35,516.25
		1 x 56.375 x 3.000 x 1.250 = 211.41	cum			
2	5.03.05	**Providing single layer polythene sheet** (0.18mm thick) weighing one kilogram per 6.5 square meter in floor or any where in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.	sqm	160.67	47.00	7,551.43
		1 x 56.375 x 2.850 = 160.67	sqm			
3	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.	cum	12.05	10,063.81	1,21,270.48
		1 x 56.375 x 2.850 x 0.075 = 12.05	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
4	5.05.03	RCC WORKS: 1:1.5:3(measured on gross concrete section) (f'c =25MPa, minimum f'cr = 33.5 MPa in nominal mix 1 : 1.5 : 3), with stone chips (100% sand of F.M. 2.2) Reinforced cement concrete works with minimum cement content relates to mix ratio 1:1.5:3 having maximum water cement ratio = 0.40 and minimum f'cr = 33.5 MPa, satisfying a specified compressive strength f'c = 25 MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type – I, best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down well graded stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), conducting necessary tests, making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; mixing with standard mixer machine with hopper, fed by standard measuring boxes, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, other charges etc. all complete, approved and accepted by the Engineer-incharge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing,binding etc. and the cost of shuttering & centering) (PWD 07.3)				
4.1	5.05.03.01	Individual & combined footing, pile cap, raft/mat, floor slab and foundation beam up to plinth level (PWD 07.3.1)	cum	25.37	13,842.00	3,51,154.24
		1 x 56.375 x 1.500 x 0.300 = 25.37	cum			
4.2	5.05.03.02	Pedestals, column, column capital, lift wall and RCC wall up to ground floor (PWD 07.3.2)	cum	60.25	14,201.00	8,55,621.34
		1 x 56.375 x 2.850 x 0.375 = 60.25	cum			
4.3		FORM WORK (Steel) :Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for: (PWD 07.12)				
	5.05.11.01	Individual and combined footing (PWD 07.12.1)	sqm	17.36	582.00	10,104.98
		1 x 57.875 x 0.300 = 17.36	sqm			
	5.05.11.04	Pedestal, column, column capital, lift wall and wall up to ground floor (PWD 07.12.4)	sqm	363.62	522.00	1,89,808.99
		2 x 56.375 x 3.225 = 363.62	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
5	5.06.01.02	**Grade 400 (RB 400/ 400W):** Ribbed or Deformed bar produced and marked as per BDS ISO 6935-2:2006 with minimum yield strength, fy (ReH) = 400 MPa, but the tested yield strength shall not exceed fy by more than the 125 MPa and the ratio of tested ultimate strength, fu (Re) to tested yield strength (fy) shall be at least 1.25 and minimum elongation after fracture (A5.65) & minimum total elongation at maximum force (Agt) is 14% and 2.5% respectively.										kg	10,081.70	100.00	10,08,169.98
		1.50%								=	10081.70	kg			
6	5.04.03	**Brick work with 1st class bricks** in cement mortar (1:4) in foundation and plinth with Portland Composite cement (CEM II/AM, 42.5N) and best quality sand (minimum FM1.2), filling the interstices tightly with mortar, raking out joints, cleaning and soaking bricks at least for 24 hours before use, washing of sand, curing for requisite period, etc. all complete as per direction of the E-I-C.										cum	12.68	8,419.00	1,06,789.75
		1	x	56.375	x	0.250	x	0.900		=	12.68	cum			
								Total		=	12.68	cum			
7	5.02.13	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C.. Dry density after compaction shall not be less than 90% of MDD (STD).										cum	847.43	709.00	6,00,830.65
		1	x	36.575	x	9.900	x	1.200		=	434.51	cum			
		1	x	33.528	x	8.380	x	0.450		=	126.43	cum			
		1	x	30.480	x	9.150	x	0.450		=	125.50	cum			
		1	x	27.432	x	7.620	x	0.450		=	94.06	cum			
		1	x	24.380	x	6.100	x	0.450		=	66.92	cum			
8	5.12.04	Minimum **12mm thick cement plaster** (1:4) to dado and plinth wall upto 150mm below ground level with neat cement finishing including washing of sand and added Denso-01, finishing the edges and corners and curing for the requisite period etc. all complete as per direction of the Engineer-in-Charge. (Sand minimum FM. 1.2 to be used)										sqm	50.74	373.00	18,925.09
		1	x	56.375			x	0.900		=	50.74	sqm			
B	**Platform**														
1	5.03.05	**Providing single layer polythene sheet** (0.18mm thick) weighing one kilogram per 6.5 square meter in floor or any where in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.										sqm	432.23	47.00	20,314.85
		1	x	24.380	x	6.100				=	148.72	sqm			
		1	x	39.620	x	1.525				=	60.42	sqm			
		1	x	45.730	x	1.525				=	69.74	sqm			
		1	x	47.240	x	1.525				=	72.04	sqm			
		1	x	53.320	x	1.525				=	81.31	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
2	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.									cum	32.42	10,063.81	3,26,241.61
		1	x	24.380	x	6.100		0.075	=	11.15	cum			
		1	x	39.620	x	1.525		0.075	=	4.53	cum			
		1	x	45.730	x	1.525		0.075	=	5.23	cum			
		1	x	47.240	x	1.525		0.075	=	5.40	cum			
		1	x	53.320	x	1.525		0.075	=	6.10	cum			
3	5.05.01	RCC:1:2:4, 17MPa, Brick Chips (BC): Reinforced cement concrete works with minimum cement content relates to mix ratio (tentative 1:2:4) and maximum water cement ratio 0.45 having minimum required average strength, f'cr = 24 Mpa and satisfied a specified compressive strength f'c = 17 Mpa at 28 days on standard cylinders as per standard practice of Code AASHTO/ ASTM and Portland Composite Cement conforming to BDS EN 197-1 :2003 CEM-II 42.5N sand of minimum FM 1.8 and 20mm down well graded picked brick chips (LAA value and maximum water absorption not exceeding 38 and 15% respectively) conforming to ASTM C 33 or Aggregate Grading Appendix-3 LGED Schedule of Rates or any other International recognized envelop in/c breaking chips and screening through proper sieves, centering, shuttering in position, making shuttering fully leak proof & shuttering with plain 16 BWG steel sheet fitted over 38mm thick wooden plank panels and Standard size Bamboo Props suitably braced, placing of reinforcement in position, mixing the aggregates with standard mixer machine with hoper, fed by standard measuring boxes, maintaining allowable slump of 50mm (without plasticizer) & 75mm to 100mm (when plasticizer use), pouring, casting, compacting by mechanical vibrator machine and curing at least for 28 days, removing centering-shuttering after approved specified time													

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description											Unit	Quantity	Rate in Tk.	Amount in Tk.
		period, i/c cost of additional testing charges of materials and cylinders required. Excluding the cost of reinforcement and its fabrication, welding, coupling, placing, binding etc. Additional quantity of cement and Plasticizer i.e. Water reducing chemical admixture of complying type A under ASTM C 494 to reduce mixing water required for normal workability and to maintain low water-cement (W/C) ratio (Doses of admixture to be fixed by the mix design from approved laboratory instruction by the Engineer) Additional quantity of cement to be added if required to attain the strength at the contractor's own cost) etc. all complete as per direction and approval of the Engineer in charge. Note : Using Concrete Mixer.														
3.1	5.05.01.01	In individual and continuous footing of column, raft and floor slab at plinth level											cum	54.03	8,673.00	4,68,592.16
		1	x	24.380	x	6.100	x	0.125	=	18.59			cum			
		1	x	39.620	x	1.525	x	0.125	=	7.55			cum			
		1	x	45.730	x	1.525	x	0.125	=	8.72			cum			
		1	x	47.240	x	1.525	x	0.125	=	9.01			cum			
		1	x	53.320	x	1.525	x	0.125	=	10.16			cum			
3.2	5.05.11	FORM WORK (Steel) :Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for: (PWD 07.12)											sqm	55.62	582.00	32,372.30
	5.05.11.01	Individual and combined footing (PWD 07.12.1)														
		1	x	60.960	x	0.125			=	7.62			sqm			
		1	x	82.290	x	0.125			=	10.29			sqm			
		1	x	94.510	x	0.125			=	11.81			sqm			
		1	x	97.530	x	0.125			=	12.19			sqm			
		1	x	109.690	x	0.125			=	13.71			sqm			
4	5.06.01.02	**Grade 400 (RB 400/ 400W):** Ribbed or Deformed bar produced and marked as per BDS ISO 6935-2:2006 with minimum yield strength, fy (ReH) = 400 MPa, but the tested yield strength shall not exceed fy by more than the 125 MPa and the ratio of tested ultimate strength, fu (Re) to tested yield strength (fy) shall be at least 1.25 and minimum elongation after fracture (A5.65) & minimum total elongation at maximum force (Agt) is 14% and 2.5% respectively.											kg	6,361.90	100.00	6,36,189.64
		1.50%							=	6361.90			kg			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
5	5.04.22.2	Klinker paving brick works in floor or pavement with machine made pressed bricks of approved quality with cement sand (F.M. 1.2) mortar (1:4) on minimum 12 mm thick cement sand (F.M. 1.2) mortar (1:4) including raking out joints, cutting the bricks to required size, soaking the same for 24 hours before use wherever necessary including high class flush pointing in cement mortar (1:2), cleaning, curing at least for 7 days etc. including washing and screening of sand, cost of water, electricity and other charges complete and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.22) 50 mm thick brick pavement with 200 mm x 50 mm x 50 mm klinker facing bricks. (PWD 04.22.3)										sqm	432.23	2,823.00	12,20,187.41
		1	x	24.380	x	6.100	x		=	148.72		sqm			
		1	x	39.620	x	1.525	x		=	60.42		sqm			
		1	x	45.730	x	1.525	x		=	69.74		sqm			
		1	x	47.240	x	1.525	x		=	72.04		sqm			
		1	x	53.320	x	1.525	x		=	81.31		sqm			
C	**Sitting construction**														
1	5.03.05	**Providing single layer polythene sheet** (0.18mm thick) weighing one kilogram per 6.5 square meter in floor or any where in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.										sqm	81.15	47.00	3,813.87
		1	x	30.480	x	0.375	x		=	11.43		sqm			
		1	x	39.620	x	0.375	x		=	14.86		sqm			
		1	x	45.730	x	0.375	x		=	17.15		sqm			
		1	x	47.240	x	0.375	x		=	17.72		sqm			
		1	x	53.320	x	0.375	x		=	20.00		sqm			
3	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.										cum	6.09	10,063.81	61,248.03
		1	x	30.480	x	0.375	x	0.075	=	0.86		cum			
		1	x	39.620	x	0.375	x	0.075	=	1.11		cum			
		1	x	45.730	x	0.375	x	0.075	=	1.29		cum			
		1	x	47.240	x	0.375	x	0.075	=	1.33		cum			
		1	x	53.320	x	0.375	x	0.075	=	1.50		cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
4	5.04.03	**Brick work with 1st class bricks** in cement mortar (1:4) in foundation and plinth with Portland Composite cement (CEM II/AM, 42.5N) and best quality sand (minimum FM1.2), filling the interstices tightly with mortar, raking out joints, cleaning and soaking bricks at least for 24 hours before use, washing of sand, curing for requisite period, etc. all complete as per direction of the E-I-C.									cum	40.57	8,419.00	3,41,585.14
		1	x	30.480	x	0.750	x	0.250	=	5.72	cum			
		1	x	39.620	x	0.750	x	0.250	=	7.43	cum			
		1	x	45.730	x	0.750	x	0.250	=	8.57	cum			
		1	x	47.240	x	0.750	x	0.250	=	8.86	cum			
		1	x	53.320	x	0.750	x	0.250	=	10.00	cum			
5	5.05.01	RCC:1:2:4, 17MPa, Brick Chips (BC): Reinforced cement concrete works with minimum cement content relates to mix ratio (tentative 1:2:4) and maximum water cement ratio 0.45 having minimum required average strength, f'cr = 24 Mpa and satisfied a specified compressive strength f'c = 17 Mpa at 28 days on standard cylinders as per standard practice of Code AASHTO/ ASTM and Portland Composite Cement conforming to BDS EN 197-1 :2003 CEM-II 42.5N sand of minimum FM 1.8 and 20mm down well graded picked brick chips (LAA value and maximum water absorption not exceeding 38 and 15% respectively) conforming to ASTM C 33 or Aggregate Grading Appendix-3 LGED Schedule of Rates or any other International recognized envelop in/c breaking chips and screening through proper sieves, centering, shuttering in position, making shuttering fully leak proof & shuttering with plain 16 BWG steel sheet fitted over 38mm thick wooden plank panels and Standard size Bamboo Props suitably braced, placing of reinforcement in position, mixing the aggregates with standard mixer machine with hoper, fed by standard measuring boxes, maintaining allowable slump of 50mm (without plasticizer) & 75mm to 100mm (when plasticizer use), pouring, casting, compacting by mechanical vibrator machine and curing at least for 28 days, removing centering-shuttering after approved specified time period, i/c cost of additional testing charges of materials and cylinders required. Excluding the cost of reinforcement and its fabrication, welding, coupling, placing, binding etc. Additional quantity of cement and Plasticizer i.e. Water reducing chemical admixture of complying type A under ASTM C 494 to reduce mixing water required for normal workability and to maintain low water-cement (W/C) ratio (Doses of admixture to be fixed by the mix design from approved laboratory instruction by the Engineer) Additional quantity of cement to be added if required to attain the strength at the contractor's own cost) etc. all complete as per direction and approval of the Engineer in charge. Note : Using Concrete Mixer.												

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
5.1	5.05.01.03	In Stair case slab and step									cum	7.54	8,817.00	66,513.68
		20	x	0.900	x	1.524	x	0.150	=	4.11	cum			
		60	x	0.250	x	1.524	x	0.150	=	3.43	cum			
	5.05.11	FORM WORK (Steel) :Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for: (PWD 07.12)									sqm	13.72	551.00	7,557.52
	5.05.11.10	Stair case slab and steps up to ground floor (PWD 07.12.10)												
		60	x	1.524	x	0.150			=	13.72	sqm			
6	5.06.01.02	**Grade 400 (RB 400/ 400W):** Ribbed or Deformed bar produced and marked as per BDS ISO 6935-2:2006 with minimum yield strength, fy (ReH) = 400 MPa, but the tested yield strength shall not exceed fy by more than the 125 MPa and the ratio of tested ultimate strength, fu (Re) to tested yield strength (fy) shall be at least 1.25 and minimum elongation after fracture (A5.65) & minimum total elongation at maximum force (Agt) is 14% and 2.5% respectively.									kg	9,666.91	100.00	9,66,690.51
		2.00%							=	9666.91	kg			
7	5.04.22.2	Klinker paving brick works in floor or pavement with machine made pressed bricks of approved quality with cement sand (F.M. 1.2) mortar (1:4) on minimum 12 mm thick cement sand (F.M. 1.2) mortar (1:4) including raking out joints, cutting the bricks to required size, soaking the same for 24 hours before use wherever necessary including high class flush pointing in cement mortar (1:2), cleaning, curing at least for 7 days etc. including washing and screening of sand, cost of water, electricity and other charges complete and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.22) 50 mm thick brick pavement with 200 mm x 50 mm x 50 mm klinker facing bricks. (PWD 04.22.3)									sqm	125.49	2,823.00	3,54,262.50
		60	x	1.524	x	0.150			=	13.72	sqm			
		10	x	3.200	x	0.450			=	14.40	sqm			
		1	x	30.480	x	0.450			=	13.72	sqm			
		1	x	39.620	x	0.450			=	17.83	sqm			
		1	x	45.730	x	0.450			=	20.58	sqm			
		1	x	47.240	x	0.450			=	21.26	sqm			
		1	x	53.320	x	0.450			=	23.99	sqm			
													Sub Total	**78,11,312.39**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
Items # 06						
Water Body Construction						
A	**Masonry guide wall**					
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	1.77	168.00	297.68
		2 x 5.25 x 0.375 x 0.45 = 1.77	cum			
2	6.01.20.01	**Earthwork in excavation** of canals/khals, ponds, drains, etc. by excavating earth to the lines, grades and elevation as shown in the drawing, filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of rocky, gravelly, slushy or organic soil, leveling, dressing, etc. all complete for an initial excavation depth upto 2m and an initial lead not exceeding 20m, including arranging for and supplying all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	60.00	170.41	10,224.60
		2 x 30 x 1 x 1 = 60.00	cum			
3	5.04.03	**Brick work with 1st class bricks** in cement mortar (1:4) in foundation and plinth with Portland Composite cement (CEM II/AM, 42.5N) and best quality sand (minimum FM1.2), filling the interstices tightly with mortar, raking out joints, cleaning and soaking bricks at least for 24 hours before use, washing of sand, curing for requisite period, etc. all complete as per direction of the E-I-C.	cum	2.63	8,419.00	22,099.88
	FF	2 x 5.25 x 0.25 x 1 = 2.63	cum			
		Total = 2.63	cum			
4	5.02.13	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 90% of MDD (STD).	cum	0.35	709.00	251.25
		0.4 x 5.25 x 0.375 x 0.45 = 0.35	cum			
5	5.03.01	**Single layer brick flat soling** with 1st class or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	3.94	518.00	2,039.63
		2 x 5.25 x 0.375 = 3.94	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
6	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.									cum	0.30	10,063.81	2,971.97
		2	x	5.25	x	0.375	x	0.075	=	0.30	cum			
7	5.12.04	Minimum **12mm thick cement plaster** (1:4) to dado and plinth wall upto 150mm below ground level with neat cement finishing including washing of sand and added Denso-01, finishing the edges and corners and curing for the requisite period etc. all complete as per direction of the Engineer-in-Charge. (Sand minimum FM. 1.2 to be used)									sqm	26.00	373.00	9,698.00
		1	x	26			x	1	=	26.00	sqm			
													Sub Total	**47,583.00**
Items # 07														
Multipurpose Hall														
A	**Foundation cost**													
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.									cum	198.00	168.00	33,264.00
		12	x	4	x	2	x	2	=	192.00	cum			
		1	x	1.5	x	2	x	2	=	6.00	cum			
								Total	=	198.00	cum			
2	5.03.05	**Providing single layer polythene sheet** (0.18mm thick) weighing one kilogram per 6.5 square meter in floor or any where in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.									sqm	100.00	47.00	4,700.00
		12	x	4	x	2			=	96.00	sqm			
		1	x	2	x	2			=	4.00	sqm			
								Total	=	100.00	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
3	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.	cum	7.50	10,063.81	75,478.58
		12 x 4 x 2 x 0.075 = 7.20	cum			
		1 x 2 x 2 x 0.075 = 0.30	cum			
		Total = 7.50	cum			
4	5.05.01	**RCC:**1:2:4, 17MPa, Brick Chips (BC): Reinforced cement concrete works with minimum cement content relates to mix ratio (tentative 1:2:4) and maximum water cement ratio 0.45 having minimum required average strength, f'cr = 24 Mpa and satisfied a specified compressive strength f'c = 17 Mpa at 28 days on standard cylinders as per standard practice of Code AASHTO/ ASTM and Portland Composite Cement conforming to BDS EN 197-1 :2003 CEM-II 42.5N sand of minimum FM 1.8 and 20mm down well graded picked brick chips (LAA value and maximum water absorption not exceeding 38 and 15% respectively) conforming to ASTM C 33 or Aggregate Grading Appendix-3 LGED Schedule of Rates or any other International recognized envelop in/c breaking chips and screening through proper sieves, centering, shuttering in position, making shuttering fully leak proof & shuttering with plain 16 BWG steel sheet fitted over 38mm thick wooden plank panels and Standard size Bamboo Props suitably braced, placing of reinforcement in position, mixing the aggregates with standard mixer machine with hoper, fed by standard measuring boxes, maintaining allowable slump of 50mm (without plasticizer) & 75mm to 100mm (when plasticizer use), pouring, casting, compacting by mechanical vibrator machine and curing at				

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
		least for 28 days, removing centering-shuttering after approved specified time period, i/c cost of additional testing charges of materials and cylinders required. Excluding the cost of reinforcement and its fabrication, welding, coupling, placing, binding etc. Additional quantity of cement and Plasticizer i.e. Water reducing chemical admixture of complying type A under ASTM C 494 to reduce mixing water required for normal workability and to maintain low water-cement (W/C) ratio (Doses of admixture to be fixed by the mix design from approved laboratory instruction by the Engineer) Additional quantity of cement to be added if required to attain the strength at the contractor's own cost) etc. all complete as per direction and approval of the Engineer in charge. Note : Using Concrete Mixer.				
4.1	5.05.01.01	In individual and continuous footing of column, raft and floor slab at plinth level	cum	75.00	8,673.00	6,50,475.00
		12 x 4 x 2 x 0.75 = 72.00	cum			
		1 x 2 x 2 x 0.75 = 3.00	cum			
		Total = 75.00	cum			
4.2	5.05.01.02	In pedestal, column, capital lift wall and wall	cum	2.72	9,032.00	24,528.65
		24 x 0.375 x 0.3 x 0.975 = 2.63	cum			
		1 x 0.3 x 0.3 x 0.925 = 0.08	cum			
		Total = 2.72	cum			
4.3	5.05.01.01	In foundation beam	cum	12.15	8,673.00	1,05,376.95
		2 x 54 x 0.3 x 0.375 = 12.15	cum			
	5.05.11	FORM WORK (Steel) :Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for: (PWD 07.12)				
	5.05.11.01	Footing	sqm	114.00	582.00	66,348.00
		12 x 12 x 0.75 = 108.00	sqm			
		1 x 8 x 0.75 = 6.00	sqm			
		Total = 114.00	sqm			
	5.05.11.04	Column	sqm	32.70	522.00	17,069.40
		24 x 1.35 x 0.975 = 31.59	sqm			
		1 x 1.2 x 0.925 = 1.11	sqm			
		Total = 32.70	sqm			
	5.05.11.03	Foundation Beam	sqm	113.40	493.00	55,906.20
		2 x 54 x 1.05 = 113.40	sqm			
5	5.06.01.02	**Grade 400 (RB 400/ 400W):** Ribbed or Deformed bar produced and marked as per BDS ISO 6935-2:2006 with minimum yield strength, fy (ReH) = 400 MPa, but the tested yield strength shall not exceed fy by more than the 125 MPa and the ratio of tested ultimate strength, fu (Re) to tested yield strength (fy) shall be at least 1.25 and minimum elongation after fracture (A5.65) & minimum total elongation at maximum force (Agt) is 14% and 2.5% respectively.	kg	17,636.15	100.00	17,63,615.34
		2.50% = 17636.15	kg			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
6	5.02.11	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C.. Dry density after compaction shall not be less than 90% of MDD (STD).										cum	192.00	207.00	39,744.00
		12	x	4	x	2	x	2	=	192.00		cum			
														Sub Total	**28,36,506.12**
B	**Superstructure**														
1	DNCC-2019-32.76.9	Loha wooden post										cum	29.20	1,12,664.00	32,89,274.77
	Post	12	x	0.2	x	0.2	x	16	=	7.68		cum			
	Central Post	1	x	0.07	x	1	x	5.85	=	0.41		cum			
		12	x	0.15	x	0.2	x	5	=	1.80		cum			
	Tie	4	x	12	x	0.2	x	0.2	=	1.92		cum			
	Beam	20	x	8	x	0.2	x	0.3	=	9.60		cum			
	Floor	1	x	150	x	1	x	0.025	=	3.75		cum			
	Roofing	20	x	8	x	0.1	x	0.15	=	2.40		cum			
	Beam	2	x	15	x	0.1	x	0.15	=	0.45		cum			
	Planks	24	x	1.2	x	0.625	x	0.05	=	0.90		cum			
	Railing	0.25	x	15	x	1.25	x	0.025	=	0.12		cum			
	Baten	3	x	15	x	0.05	x	0.075	=	0.17		cum			
								Total	=	29.20		cum			
2	MR	Metal section, plates, anchor bolt etc										each	12.00	5,000.00	60,000.00
									=	12.00		each			
3	MR	Metal section, plates, anchor bolt etc for central post										each	12.00	7,500.00	90,000.00
									=	12.00		each			
4	MR	Hardware										LS	1.00	35,000.00	35,000.00
									=	1.00		LS			
5	MR	Painting wood in/c treatment										LS	1.00	1,50,000.00	1,50,000.00
									=	1.00		LS			
6	MR	Bamboo mats roofing and wall in/c painting										sqm	387.50	1,500.00	5,81,250.00
		1	x	150	x	1			=	150.00		sqm			
		13	x	5.5	x	2			=	143.00		sqm			
		27	x	1.75	x	2			=	94.50		sqm			
								Total	=	387.50		sqm			
7	5.16.10.1	Standard French polishing to Wooden board surface by three coats over a coat of priming including putty, cleaning, finishing and polishing with sand paper etc. all complete in all floors and accepted by the Engineer-in-charge. [PWD 16.9.1]										sqm	775.00	432.00	3,34,800.00
		2	x	150	x	1			=	300.00		sqm			
		26	x	5.5	x	2			=	286.00		sqm			
		54	x	1.75	x	2			=	189.00		sqm			
								Total	=	775.00		sqm			
8	MR	Water proofing works										sqm	387.50	1,000.00	3,87,500.00
		1	x	150	x	1			=	150.00		sqm			
		13	x	5.5	x	2			=	143.00		sqm			
		27	x	1.75	x	2			=	94.50		sqm			
								Total	=	387.50		sqm			
														Sub Total	**49,27,824.77**
														Total	**77,64,330.89**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
Items # 08						
Landscaping (Planter with tree plantation)						
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	6.08	168.00	1,020.60
		2 x 18 x 0.375 x 0.45 = 6.08	cum			
2	5.02.08.1	**Sand filling** in foundation trenches and inside plinth with sand (minimum FM 0.50) in 150mm layers in/c leveling, watering and consolidating each layer up to finished level etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 95% of MDD (STD)	cum	1.01	1,088.00	1,101.60
		2 x 18 x 0.375 x 0.075 = 1.01	cum			
		Total = 1.01	cum			
3	5.03.05	**Providing single layer polythene sheet** (0.18mm thick) weighing one kilogram per 6.5 square meter in floor or any where in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.	sqm	13.50	47.00	634.50
		2 x 18 x 0.375 = 13.50	sqm			
		Total = 13.50	sqm			
4	4.06.02	**Single layer brick flat soling** with 1st class or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	13.50	478.76	6,463.26
		2 x 18 x 0.375 = 13.50	sqm			
		Total = 13.50	sqm			
5	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.	cum	1.01	10,063.81	10,189.61
		2 x 18 x 0.375 x 0.075 = 1.01	cum			
		Total = 1.01	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
6	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1)	cum	5.40	7,529.00	40,656.60
		2 x 18 x 0.25 x 0.6 = 5.40	cum			
		Total = 5.40	cum			
7	MR	Tree plantation	each	2.00	500.00	1,000.00
		2 = 2.00	each			
		Total = 2.00	each			
8	5.26.03	**Leveling and dressing** of lawn area to proper slope and grade by spading the same up to 150 mm including supplying tools and plants etc. all complete and accepted by the Engineer-in-charge.	sqm	100.00	8.00	800.00
		1 x 100 x 1 = 100.00	sqm			
9	5.26.04	Supply of best and approved quality **alluvial loamy silty soil** including loading, unloading at both ends, properly stacking at site including supply of tools and plants etc. all complete and accepted by the Engineer-in-charge.	cum	67.50	913.00	61,627.50
		1 x 100 x 1 x 0.675 = 67.5	cum			
10	5.26.05	Supply **well decomposed cow dung** carried by trucks or any other means including loading, unloading at both ends, stacking the same at site including supply of tools and plants etc. all complete and accepted by the Engineer-in-charge	cum	7.50	1,703.00	12,772.50
		1 x 100 x 1 x 0.075 = 7.5	cum			
11	5.26.09	**Labour charge** for mixing well decomposed cow dung with alluvial loamy silty soil and excavated earth, removing the excess earth to safe distance including supply of tools and plants etc. all complete and accepted by the Engineer-in-charge.	cum	15.00	175.00	2,625.00
	Loam soil	1 x 100 x 1 x 0.075 = 7.5	cum			
	Cow dung	1 x 100 x 1 x 0.075 = 7.5	cum			
		Total = 15	cum			
12	5.26.06	Labour charge for spreading the alluvial **loamy silty soil** from the stacks at site on the lawn surface, leveling, dressing the same including supply all necessary tools and plants etc. all complete and accepted by the Engineer-in-charge.	cum	15.00	194.00	2,910.00
	Loam soil	1 x 100 x 1 x 0.075 = 7.5	cum			
	Cow dung	1 x 100 x 1 x 0.075 = 7.5	cum			
		Total = 15	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
13	5.26.08	Supply of lawn grass of approved quality by truck or by any other means, sorting the grass to proper size, washing the grass, dibbling the grass 6 mm to 50 mm apart, irrigation of lawn area till the grass grown at least for two months after plantation, weeding the undesirable grass, mowing the lawn grass by lawn mower up to two months after plantation, applying urea fertilizer on the lawn surface @ 1 kg per 9.29 sqm including supply of tools and plants etc. all complete and accepted by the Engineer-in-charge.[PWD 25.8]	sqm	100.00	67.00	6,700.00
		1 x 100 x 1 = 100.00	sqm			
					Sub Total	**1,48,501.17**
Items # 09						
	Rain water Harvesting					
	PLAR-Annex-A 9	Submersible pump with tube well	LS	1.00	3,00,000.00	3,00,000.00
	MR	Pipe line	Ls	1.00	2,50,000.00	2,50,000.00
					Sub Total	**5,50,000.00**
Items # 10						
	Water supply system					
	PLAR-Annex-A 9	Underground Water Reservoir :	gal	10,000.00	106.00	10,60,000.00
	MR	Laying pipe for water received	Ls	1.00	3,00,000.00	3,00,000.00
					Sub Total	**13,60,000**
Items # 11						
Drainage works						
1	6.10.01	Supplying and laying of uPVC pipes of different diameter and wall thickness for at least 3.25 bar (32.00 m head) working pressure in accordance with ISO-4422 and ISO-4065, including placing in position, connecting and leak proof O-ring jointing using best quality elastomeric sealing gaskets, etc. completed including costs of all materials, labors, etc and costs of testing for complete leak proofness and repair and/or replacement of leaking joints , if any but excluding costs of earthworks in trench cutting & filling as per design drawings, specifications and as per Direction of Engineer-in-Charge.				
1.1	6.10.01.03	For PVC Pipe: 200mm Dia, Wall Thickness 4.0mm	m	60.00	1,063.42	63,805.20
		1 x 60 = 60.00	m			
2	7.70	Construction of masonry **inspection pit** with 250 mm thick brick work in cement mortar (1:4) including necessary earth work side filling and one layer brick flat soling, 75 mm thick (1:3:6) base concrete for making invert channel and 12 mm thick (1:2) cement plaster with neat finishing up to a depth of 700 mm etc. all complete and as per direction of the E-I-C (minimum sand F.M. 1.2)				
2.1	7.70.3	Clear 600x600 mm and depth 750 to 900 mm average 825 mm for single 300 mm dia R.C.C pipes and 375 mm and 400 mm PVC pipe	each	10.00	8,259.00	82,590.00
		2 = 2.00	each			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
3	7.72	Construction and placing of R.C.C **inspection pit cover** (100 mm thick RCC slab) in (1:2:4) (of item no-5.05.01.01) with 1% reinforcement (of item no-5.06.01.01) excluding M.H cover with locking/ unlocking arrangement including necessary earth work, side filling, shuttering, curing, cement plaster (1:4) (of item no-5.12.01) with neat finishing on edges and top etc. all complete and as per direction of the E-I-C				
3.1	7.72.3	1100 x 1100 x 75 mm R.C.C pit cover	each	2.00	2,440.00	4,880.00
		2 = 2.00	each			
4	MR	Gratings etc	each	2.00	2,000.00	4,000.00
		2 = 2.00	each			
					Total	**1,55,275.20**
Items # 12						
Sewage disposal system						
1	7.75	Construction of non electric Eco STP of different sizes (as per detail drawing attached in annexure) with 250 mm walls of brick work in cement mortar (1:4) having a brick flat soling and 125 mm thick reinforced cement concrete flooring (1:2:4) with 125 mm thick walls (1:4) in partition and flush pointing (1:2) on inside wall surface and 12 mm thick cement plaster (1:4) with N.C.F. on floor and slab surface including supplying, fitting and fixing of upvc pipes & Tees and providing 450 mm dia water sealed heavy type C.I. manhole cover with locking/unlocking arrangement and 100 mm thick R.C.C (1:2:4) top slab, including centering, shuttering, fabricating, casting and curing etc. complete up to required depth including necessary earth work in excavation and shoring, bailing out water and side filling, dressing, inside cleaning, cow dung or old septic tank liquied for charging/start up including the cost of all materials, operations and incidental charges. etc. all complete as per type plan approved and accepted by the Engineer-in-charge (Rate is including cost of reinforcement and its fabrication, binding and placing).				
1.1	7.75.02	300 users (PWD BW 26.75.2)	each	1.00	4,66,520.00	4,66,520.00
Items # 13						
External Electrical						
1	MR	External electrical and lighting works	sqm	4,717.50	350.00	16,51,125.00
		1 x 2250 x = 2250.00	sqm			
					Total	**16,51,125.00**

Feasibility/Reviewing Study on Community Space and Recreation Facilities at Village Level under Technical Assistance Project for "My Village-My Town" for Local Government Engineering Department (LGED)

ABSTRACT OF COST SUMMARY
For
COMBINED COMPLEX

Item No	Description	Amount in Taka	Remarks
1	Structures (Building)	1,64,83,759.61	
2	Multipurpose Hall	77,64,330.89	
3	Management Office	1,36,35,051.00	
4	Public Toilet	17,92,102.00	
5	Sitting Pavilion	20,21,574.15	
6	Gallarey	67,48,479.31	
7	Plaza	68,84,118.78	
8	Boundary Wall	10,20,246.59	
9	Walkway	16,02,011.31	
10	Play Field	9,62,196.80	
11	Pond Excavation	16,17,194.20	
12	Ghat Construction	78,11,312.39	
13	Water Body	47,583.00	
14	Rain Water Harvesting	9,25,000.00	
15	Water Supply System	19,15,000.00	
16	Drainage System	5,92,775.20	
17	Sewage Disposal System	9,33,040.00	
18	External Electrical Works	24,38,625.00	
19	Solar System	12,73,752.00	
20	Landscaping	1,48,501.17	
	Grand Total =	7,66,16,653.40	

COST ESTIMATION FOR COMBINED COMPLEX

Items # 01

Structures (Building)

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	275.72	168.00	46,320.96
		4 x 68.93 x 1 x 1 = 275.72	cum			
2	4.06.02	**Single layer brick flat soling with 1st class** or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	275.72	478.76	1,32,003.71
		4 x 68.93 x 1 = 275.72	sqm			
3	5.05.01	RCC:1:2:4, 17MPa, Brick Chips (BC): Reinforced cement concrete works with minimum cement content relates to mix ratio (tentative 1:2:4) and maximum water cement ratio 0.45 having minimum required average strength, f'cr = 24 Mpa and satisfied a specified compressive strength f'c = 17 Mpa at 28 days on standard cylinders as per standard practice of Code AASHTO/ ASTM and Portland Composite Cement conforming to BDS EN 197-1 : 2003 CEM-II 42.5N sand of minimum FM 1.8 and 20mm down well graded picked brick chips (LAA value and maximum water absorption not exceeding 38 and 15% respectively) conforming to ASTM C 33 or Aggregate Grading Appendix-3 LGED Schedule of Rates or any other International recognized envelop in/c breaking chips and screening through proper sieves, centering, shuttering in position, making shuttering fully leak proof & shuttering with plain 16 BWG steel sheet fitted over 38mm thick wooden plank panels and Standard size Bamboo Props suitably braced, placing of reinforcement in position, mixing the aggregates with standard mixer machine with hoper, fed by standard measuring boxes, maintaining allowable slump of 50mm (without plasticizer) & 75mm to 100mm (when plasticizer use), pouring, casting, compacting by mechanical vibrator machine and curing at				

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
		least for 28 days, removing centering-shuttering after approved specified time period, i/c cost of additional testing charges of materials and cylinders required. Excluding the cost of reinforcement and its fabrication, welding, coupling, placing, binding etc. Additional quantity of cement and Plasticizer i.e. Water reducing chemical admixture of complying type A under ASTM C 494 to reduce mixing water required for normal workability and to maintain low water-cement (W/C) ratio (Doses of admixture to be fixed by the mix design from approved laboratory instruction by the Engineer) Additional quantity of cement to be added if required to attain the strength at the contractor's own cost) etc. all complete as per direction and approval of the Engineer in charge. Note : Using Concrete Mixer.				
3.1	5.05.01.01	In individual and continuous footing of column, raft and floor slab at plinth level	cum	82.72	8,673.00	7,17,395.87
		4 x 68.93 x 1 x 0.3 = 82.72	cum			
	5.05.11.01	steel shuttering	sqm	165.43	582.00	96,281.42
		8 x 68.93 x 0.3 = 165.43	sqm			
4	5.05.01.03	**In Tie Beam and Lintel :**				
4.1		Below Plinth Level and in Ground Floor	cum	17.39	8,817.00	1,53,292.36
		4 x 36 x 0.375 x 0.2 = 10.80	cum			
		4 x 32.93 x 0.25 x 0.2 = 6.59	cum			
		Total = 17.39	cum			
	5.05.11.05	steel shuttering	sqm	220.58	543.00	1,19,772.77
		8 x 36 x 0.4 = 115.20	sqm			
		8 x 32.93 x 0.4 = 105.38	sqm			
5	5.06.01.02	**Grade 400 (RB 400/ 400W):** Ribbed or Deformed bar produced and marked as per BDS ISO 6935-2:2006 with minimum yield strength, fy (ReH) = 400 MPa, but the tested yield strength shall not exceed fy by more than the 125 MPa and the ratio of tested ultimate strength, fu (Re) to tested yield strength (fy) shall be at least 1.25 and minimum elongation after fracture (A5.65) & minimum total elongation at maximum force (Agt) is 14% and 2.5% respectively.	kg	2,730.10	100.00	2,73,009.83
		= 2730.10	kg			
6	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1)	cum	428.37	7,529.00	32,25,198.86
	Up to GL	4 x 36.000 x 0.375 x 0.8 = 43.20	cum			
	SS	4 x 32.930 x 0.375 x 5.65 = 279.08	cum			
	Up to GL	4 x 32.930 x 0.25 x 0.8 = 26.34	cum			
	SS	4 x 32.930 x 0.25 x 3.88 = 127.77	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
	Ded													
		48	x	0.6	x	0.375	x	2.54	=	-27.43	cum			
		32	x	0.6	x	0.25	x	2.54	=	-12.19	cum			
		16	x	1	x	0.25	x	2.1	=	-8.40	cum			
								Total	=	428.37	cum			
7	5.02.11	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C.. Dry density after compaction shall not be less than 90% of MDD (STD).									cum	55.14	207.00	11,414.81
		0.8	x	68.93	x	1	x	1	=	55.14	cum			
8	5.02.08.1	**Sand filling** in foundation trenches and inside plinth with sand (minimum FM 0.50) in 150mm layers in/c leveling, watering and consolidating each layer up to finished level etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 95% of MDD (STD)									cum	674.10	1,088.00	7,33,420.80
		2	x	177	x	1	x	1.05	=	371.70	cum			
		2	x	144	x	1	x	1.05	=	302.40	cum			
								Total	=	674.10	cum			
9	4.06.02	**Single layer brick flat soling** with 1st class or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.									sqm	642.00	478.76	3,07,363.92
		2	x	177	x	1			=	354.00	sqm			
		2	x	144	x	1			=	288.00	sqm			
								Total	=	642.00	sqm			
10	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.									cum	48.15	10,063.81	4,84,572.45
		2	x	177	x	1	x	0.075	=	26.55	cum			
		2	x	144	x	1	x	0.075	=	21.60	cum			
								Total	=	48.15	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
11	5.13.02	38mm thick artificial patent stone floor (1:2:4) with Portland Composite cement (CEM II/AM, 42.5N), best quality coarse sand (minimum FM1.8) and 10mm down graded picked brick chips (LAA value not exceeding 38) in/c breaking chips, screening, mixing, laying the concrete in alternate panels, compacting and finishing the top with neat cement, curing for requisite period, etc. all complete as per direction of the E-I-C.										sqm	642.00	594.00	3,81,348.00
		2	x	177	x	1			=	354.00		sqm			
		2	x	144	x	1			=	288.00		sqm			
								Total	=	642.00		sqm			
12	5.12.05	Minimum 12 mm thick cement sand (F.M. 1.2) plaster (1:6) having with fresh cement to both inner and outer surface of wall, finishing the edges and corners including washing of sand, cleaning the surface, curing at least for 7 days, cost of water, electricity, scaffolding and other charges etc. all complete in all respect as per drawing and accepted by the Engineer-in-charge. (Cement: CEM-II/BM) ground floor.[PWD 15.4]										sqm	2,321.03	291.00	6,75,418.92
	SS	4	x	36.000			x	5.65	=	813.60		sqm			
	SS	4	x	36.000			x	4.45	=	640.80		sqm			
	SS	8	x	32.930			x	3.88	=	1022.15		sqm			
	Ded														
		48	x	0.6			x	2.54	=	-73.15		sqm			
		32	x	0.6			x	2.54	=	-48.77		sqm			
		16	x	1			x	2.1	=	-33.60		sqm			
								Total	=	2321.03		sqm			
13	5.16.03.2	Interior premium acrylic emulsion painting (silky finish) of approved best quality and colour delivered from authorized local agent of the manufacturer in a sealed container; applying to interior wall and ceiling with surface preparation including cleaning drying, making free from dirt, grease, wax, removing all chalked and scaled materials, fungus, mending good the surface defects using sand paper and necessary scaffolding; applying necessary interior sealer of specified brand on prepared surface; then applying necessary interior putty of specified brand for levelling, spot filling, crack filling and cutting by sand paper/zero water paper; finally applying 2 coats of interior emulsion paint spreading by brush/roller/spray & necessary scaffolding etc. upto desired finishing, elapsing specified time for drying or recoating; all complete in all floors and accepted by the Engineer-in-charge [PWD 16.2.2]										sqm	2,321.03	283.00	6,56,850.70
	SS	4	x	36.000			x	5.65	=	813.60		sqm			
	SS	4	x	36.000			x	4.45	=	640.80		sqm			
	SS	8	x	32.930			x	3.88	=	1022.15		sqm			
	Ded														
		48	x	0.6			x	2.54	=	-73.15		sqm			
		32	x	0.6			x	2.54	=	-48.77		sqm			
		16	x	1			x	2.1	=	-33.60		sqm			
								Total	=	2321.03		sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
14	5.07.08.2	Supplying, fitting and fixing M.S. flat bar clamp of 150 mm x 38 mm x 6 mm size having bifurcated ends to door and window frames with necessary rowel plug, screws etc. including cutting grooves in chowkat if necessary etc. all complete and accepted by the Engineerin- charge. [PWD 11.2.2]	each	96.00	131.00	12,576.00
15	5.07.01	Supplying and making **door and window frame**s with seasoned wood of required size in/c painting two coats of coal tar to the surface in contact with wall, fitted and fixed in position and mending good any damage (All sizes of wood are finished) for all floors etc. all complete as per direction of the E-I-C.	cum	1.25	1,35,509.00	1,69,115.23
	5.07.01.1.1	Mehagoni/Shishu wood				
		16 x 5.2 x 0.15 x 0.1 = 1.25	cum			
16	5.08.01	Supplying, fitting and fixing 38mm thick well matured natural seasoned **solid wooden door shutter** (minimum 250mm wide plank) having top rail style of sections (100mmx38mm) lock rail (125mmx38mm) and bottom rail (225mmx38mm), closed joints and provided with best quality 4 nos. 100mm iron hinges, 2 nos. best quality 12mm dia 300mm and 225mm long iron tower and socket bolts, 2 nos. heavy type nickel plated handle, hinge cleats, buffer blocks and finished with sand papering for all floors etc. all complete as per direction of the E-I-C. (Single leaf door. All sizes of wood are finished).				
	5.08.01.4	Gamari (SS Fittings) [PWD 12.1.2.1]	sqm	30.24	8,296.00	2,50,871.04
		16 x 0.9 x 2.1 = 30.24	sqm			
17	5.08.10	Manufacturing and supplying fitting fixing **well matured natural seasoned wooden** fixed louver shutters (min 250mm wide plank) having frame (62mmx125mm) and inner horizontal wooden louver (150mmx20mm) spaced @75mm c/c fixed with frame in grooves in/c cost of screws, nails, wooden bit, preparing the surface by sand papering for all floors etc complete in all respect as per drawing and direction of the E-I-C (All sizes of wood are finished).				
	5.08.10.1	Gamari [PWD 12.10.1]	sqm	121.92	11,567.00	14,10,248.64
		48 x 0.6 x 2.54 = 73.15	sqm			
		32 x 0.6 x 2.54 = 48.77	sqm			
		Total = 121.92	sqm			
18	6.05.02	Supply of **MS work** in plates, angles, channels, flat bars, Tees etc. with minimum yield strength, fy (ReH) = 300 MPa, including fabricating, machining, cutting, bending, welding, forging drilling, riveting, embedding anchor bars, staging and fitting, fixing, local handling etc including energy consumption etc. all complete as per design, specification and direction of the Engineer-In-charge	cum	3,653.98	138.46	5,05,929.74
	C channel	2 x 360 x 0.075 x 0.006 = 2543.40	kg			
	Purline	20 x 8.23 x 0.04 x 0.004 = 206.74	kg			
	Purline	32 x 20 x 0.04 x 0.004 = 803.84	kg			
	Cleat	= 100.00	kg			
		Total = 3653.98	kg			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
19	PWD SoR 2022, SL no 10.21	Supply and installation of 0.457 mm thick corrugated **galvanized iron sheet** (Bangladesh made) having min weight 63-65 kg per bundle (2'-6" width, 70 – 72 rft long) fitted and fixed on M.S. sections with 'J' hook or wooden purlin with screws, limpet washers and putty etc. all complete and accepted by the Engineer-in-charge.									sqm	642.00	578.00	3,71,076.00
		2	x	177.000			x	1	=	354.00	sqm			
		2	x	144.000			x	1	=	288.00	sqm			
								Total	=	642.00	sqm			
20	5.16.10.01	Standard French polishing to Wooden board surface by three coats over a coat of priming including putty, cleaning, finishing and polishing with sand paper etc. all complete in all floors and accepted by the Engineer-in-charge. [PWD 16.9.1]									sqm	564.96	432.00	2,44,064.79
		40	x	0.9			x	2.1	=	75.60	sqm			
		120	x	0.6			x	2.54	=	182.88	sqm			
		80	x	0.6			x	2.54	=	121.92	sqm			
		2	x	360			x	0.158	=	113.76	sqm			
		20	x	8.23			x	0.088	=	14.48	sqm			
		32	x	20			x	0.088	=	56.32	sqm			
								Total	=	564.96	sqm			
21	(i)	Internal Sanitary & Water Supply (From additional cost chart, item-6): 642.00 sqm @ Tk. 2125.00 per sqm									Sqm	642	2,125.00	13,64,250.00
22	(i)	Internal Electrification (From additional cost chart, item-7):642.00 sqm @ Tk. 2140.00 per sqm									Sqm	642	2,140.00	13,73,880.00
23	**External water supply**													
	(i)	Construction of underground reservoir (From additional cost chart, item-9-i-a) :									0	0	106.00	-
	(ii)	Sinking of deep tube well/arranging water from WASA, Municipality or Public Health Engineering sources, WASA/Municipal charge as per requirement. Actual cost									LS	1	1,00,000.00	1,00,000.00
	(iii)	Laying of distribution pipe lines as per requirement.												
	(iv)	Laying of distribution pipe lines as per requirement.												
	(v)	Construction of pump house as per requirement.												
	(vi)	Supplying and installation of pumps as per requirement.												
	(vii)	Installation of Sewage Treatment Plant (STP) and Water Treatment Plant (WTP) as per requirement.												
	(viii)	Installation of Rain water harvesting system as per requirement. Actual cost												
24	**External Electrification**													
	(i)	Sub-station building-Not required									LS	1	5,00,000.00	5,00,000.00
	(ii)	Sub-station Equipment/Transformer												
	(iii)	Pump & Motor set in/c installation												
	(iv)	H.T./L.T. Line												
	(v)	PDB /DESA /DESCO /REB Charge												
	(vi)	Standby Power & Source												
	(vii)	Earthing System												
	(viii)	Overhead Transmission-Not required												
	(ix)	Underground cable laying												
	(x)	Compound light. Wiring system & other safety system												
	(xi)	Solar PV system												

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
	(viii)	Installation of Rain water harvesting system as per requirement. Actual cost				
	(ix)	Solar PV system				
25	**Electro-mechanical Component**					
	(i)	Lift. Not required				
	(ii)	Air Condition Not required				
26	**Gas Connection**					
	(i)	Ground Floor. (From additional cost chart item-8-i)	sqm	0	455.00	-
27	**Construction of Compound drain** Cost on meter basis (From additional cost chart item-15-i/ii/iii)		meter	50	3,196.00	1,59,800.00
28	**Culvert- Not required**					
28.1	Approach Road As per requirement. (From additional cost chart item-13-i/ii) Ramp		sqm	50	2,886.00	1,44,300.00
29	Site improvement- Considered separately		cum	2321.03	760.00	17,63,982.80
30	Arboriculture /Landscape		LS	1	1,00,000.00	1,00,000.00
					Total "C"	**1,64,83,759.61**

Items # 02

Multipurpose Hall

A Foundation cost

1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.										cum	198.00	168.00	33,264.00
		12	x	4	x	2	x	2	=	192.00	cum			
		1	x	1.5	x	2	x	2	=	6.00	cum			
								Total	=	198.00	cum			
2	5.03.05	**Providing single layer polythene sheet** (0.18mm thick) weighing one kilogram per 6.5 square meter in floor or any where in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.										sqm	100.00	47.00	4,700.00
		12	x	4	x	2			=	96.00	sqm			
		1	x	2	x	2			=	4.00	sqm			
								Total	=	100.00	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
3	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.									cum	7.50	10,063.81	75,478.58
		12	x	4	x	2	x	0.075	=	7.20	cum			
		1	x	2	x	2	x	0.075	=	0.30	cum			
								Total	=	7.50	cum			
4	5.05.01	**RCC:**1:2:4, 17MPa, Brick Chips (BC): Reinforced cement concrete works with minimum cement content relates to mix ratio (tentative 1:2:4) and maximum water cement ratio 0.45 having minimum required average strength, f'cr = 24 Mpa and satisfied a specified compressive strength f'c = 17 Mpa at 28 days on standard cylinders as per standard practice of Code AASHTO/ ASTM and Portland Composite Cement conforming to BDS EN 197-1 :2003 CEM-II 42.5N sand of minimum FM 1.8 and 20mm down well graded picked brick chips (LAA value and maximum water absorption not exceeding 38 and 15% respectively) conforming to ASTM C 33 or Aggregate Grading Appendix-3 LGED Schedule of Rates or any other International recognized envelop in/c breaking chips and screening through proper sieves, centering, shuttering in position, making shuttering fully leak proof & shuttering with plain 16 BWG steel sheet fitted over 38mm thick wooden plank panels and Standard size Bamboo Props suitably braced, placing of reinforcement in position, mixing the aggregates with standard mixer machine with hoper, fed by standard measuring boxes, maintaining allowable slump of 50mm (without plasticizer) & 75mm to 100mm (when plasticizer use), pouring, casting, compacting by mechanical vibrator machine and curing at least for 28 days, removing centering-shuttering after approved specified time period,													

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
		i/c cost of additional testing charges of materials and cylinders required. Excluding the cost of reinforcement and its fabrication, welding, coupling, placing, binding etc. Additional quantity of cement and Plasticizer i.e. Water reducing chemical admixture of complying type A under ASTM C 494 to reduce mixing water required for normal workability and to maintain low water-cement (W/C) ratio (Doses of admixture to be fixed by the mix design from approved laboratory instruction by the Engineer) Additional quantity of cement to be added if required to attain the strength at the contractor's own cost) etc. all complete as per direction and approval of the Engineer in charge. Note : Using Concrete Mixer.				
4.1	5.05.01.01	In individual and continuous footing of column, raft and floor slab at plinth level	cum	75.00	8,673.00	6,50,475.00
		12 x 4 x 2 x 0.75 = 72.00	cum			
		1 x 2 x 2 x 0.75 = 3.00	cum			
		Total = 75.00	cum			
4.2	5.05.01.02	In pedestal, column, capital lift wall and wall	cum	2.72	9,032.00	24,528.65
		24 x 0.375 x 0.3 x 0.975 = 2.63	cum			
		1 x 0.3 x 0.3 x 0.925 = 0.08	cum			
		Total = 2.72	cum			
4.3	5.05.01.01	In foundation beam	cum	12.15	8,673.00	1,05,376.95
		2 x 54 x 0.3 x 0.375 = 12.15	cum			
	5.05.11	FORM WORK (Steel) :Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for: (PWD 07.12)				
	5.05.11.01	Footing	sqm	114.00	582.00	66,348.00
		12 x 12 x 0.75 = 108.00	sqm			
		1 x 8 x 0.75 = 6.00	sqm			
		Total = 114.00	sqm			
	5.05.11.04	Column	sqm	32.70	522.00	17,069.40
		24 x 1.35 x 0.975 = 31.59	sqm			
		1 x 1.2 x 0.925 = 1.11	sqm			
		Total = 32.70	sqm			
	5.05.11.03	Foundation Beam	sqm	113.40	493.00	55,906.20
		2 x 54 x 1.05 = 113.40	sqm			
5	5.06.01.02	**Grade 400 (RB 400/ 400W):** Ribbed or Deformed bar produced and marked as per BDS ISO 6935-2:2006 with minimum yield strength, fy (ReH) = 400 MPa, but the tested yield strength shall not exceed fy by more than the 125 MPa and the ratio of tested ultimate strength, fu (Re) to tested yield strength (fy) shall be at least 1.25 and minimum elongation after fracture (A5.65) & minimum total elongation at maximum force (Agt) is 14% and 2.5% respectively.	kg	17,636.15	100.00	17,63,615.34
		2.50% = 17636.15	kg			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
6	5.02.11	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C.. Dry density after compaction shall not be less than 90% of MDD (STD).										cum	192.00	207.00	39,744.00
		12	x	4	x	2	x	2	=	192.00		cum			
														Sub Total	**28,36,506.12**
B	**Superstructure**														
1	DNCC-2019-32.76.9	Loha wooden post										cum	29.20	1,12,664.00	32,89,274.77
	Post	12	x	0.2	x	0.2	x	16	=	7.68		cum			
	Central Post	1	x	0.07	x	1	x	5.85	=	0.41		cum			
		12	x	0.15	x	0.2	x	5	=	1.80		cum			
	Tie	4	x	12	x	0.2	x	0.2	=	1.92		cum			
	Beam	20	x	8	x	0.2	x	0.3	=	9.60		cum			
	Floor	1	x	150	x	1	x	0.025	=	3.75		cum			
	Roofing	20	x	8	x	0.1	x	0.15	=	2.40		cum			
	Beam	2	x	15	x	0.1	x	0.15	=	0.45		cum			
	Planks	24	x	1.2	x	0.625	x	0.05	=	0.90		cum			
	Railing	0.25	x	15	x	1.25	x	0.025	=	0.12		cum			
	Baten	3	x	15	x	0.05	x	0.075	=	0.17		cum			
								Total	=	29.20		cum			
2	MR	Metal section, plates, anchor bolt etc										each	12.00	5,000.00	60,000.00
									=	12.00		each			
3	MR	Metal section, plates, anchor bolt etc for central post										each	12.00	7,500.00	90,000.00
									=	12.00		each			
3	MR	Hardware										LS	1.00	35,000.00	35,000.00
									=	1.00		LS			
4	MR	Painting wood in/c treatment										LS	1.00	1,50,000.00	1,50,000.00
									=	1.00		LS			
5	MR	Bamboo mats roofing and wall in/c painting										sqm	387.50	1,500.00	5,81,250.00
		1	x	150	x	1			=	150.00		sqm			
		13	x	5.5	x	2			=	143.00		sqm			
		27	x	1.75	x	2			=	94.50		sqm			
								Total	=	387.50		sqm			
6	5.16.10.1	Standard French polishing to Wooden board surface by three coats over a coat of priming including putty, cleaning, finishing and polishing with sand paper etc. all complete in all floors and accepted by the Engineer-in-charge. [PWD 16.9.1]										sqm	775.00	432.00	3,34,800.00
		2	x	150	x	1			=	300.00		sqm			
		26	x	5.5	x	2			=	286.00		sqm			
		54	x	1.75	x	2			=	189.00		sqm			
								Total	=	775.00		sqm			
7	MR	Water proofing works										sqm	387.50	1,000.00	3,87,500.00
		1	x	150	x	1			=	150.00		sqm			
		13	x	5.5	x	2			=	143.00		sqm			
		27	x	1.75	x	2			=	94.50		sqm			
								Total	=	387.50		sqm			
														Sub Total	**49,27,824.77**
														Total	**77,64,330.89**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.

Plinth area basis rate as per PWD schedule of rates 2022

Items # 03 : Management Office

Structures (Building)

Building type :Non Residential
Building Category : Special
Type of structure : Single storied Masonry structure
Foundation :Single storied building with Masonary foundation
Plinth Area : 243 sqm
Site : Other than coastal area

1		**SOIL INVESTIGATION**						
(i)		Soil Investigation : LS or Actual cost (BH Nos. as primary, say)		2	BH	38,821.00	/BH	77,642.00
						"A"	**=**	**77,642.00**
2		**CONSTRUCTION OF BUILDING**						
A		**FOUNDATION COST**						
(i)		Foundation cost : For single storied portion From PLAR Table - 1, Plinth area 243.00 sqm @ 75% (For masonry foundation) of Tk. 7532.00 per sqm, So Tk 5649.00 per sqm		243	Sqm	9,440.00	/sqm	22,93,920.00
						"B1"	**=**	**22,93,920.00**
B		**SUPER STRUCTURE COST**						
I.		(i)	Ground floor- (from PLAR Table-2). 243.00sqm @ 70% cost of 21555.00, So, Rate per sqm Tk Tk.15089.00 per sqm	243	Sqm	32,567.00	/sqm	79,13,781.00
						"B2"	**=**	**79,13,781.00**
C		**ADDITIONAL SUPER STRUCTURE COST**						
(i)	17.1.1	Supply and application of non-toxic two omponents acrylic polymer modified cementitious coating (minimum 1.5 mm thickness) for water proofing of roof/ roof garden/ swimmimg pool which consists of powder and liquid acrylic emulsion; under a protective cover of plaster/ cement concrete/ tiles etc. as per standard specification and accepted by the Engineer-in-charge. (Rate is excluding the cost of protective cover)		243	Sqm	781.00	/sqm	1,89,783.00
						"B3"	**=**	**1,89,783.00**
						Sub Total, "B"= (B1+B2+B3)		**1,03,97,484.00**
		OTHER BUILDING COST						
3	(i)	Internal Sanitary & Water Supply (From additional cost chart, item-6): 243.00 sqm @ Tk. 2125.00 per sqm			Sqm	243	2,125.00	5,16,375.00
4	(i)	Internal Electrification (From additional cost chart, item-7): 243.00 sqm @ Tk. 2140.00 per sqm			Sqm	243	2,140.00	5,20,020.00

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
5	**External water supply**					
	(i)	Construction of underground reservoir (From additional cost chart, item-9-i-a) :				
	(ii)	Sinking of deep tube well/arranging water from WASA, Municipality or Public Health Engineering sources, WASA/Municipal charge as per requirement. Actual cost	LS	1	5,00,000.00	5,00,000.00
	(iii)	Laying of distribution pipe lines as per requirement.				
	(iv)	Laying of distribution pipe lines as per requirement.				
	(v)	Construction of pump house as per requirement.				
	(vi)	Supplying and installation of pumps as per requirement.				
	(vii)	Installation of Sewage Treatment Plant (STP) and Water Treatment Plant (WTP) as per requirement.				
	(viii)	Installation of Rain water harvesting system as per requirement. Actual cost				
6	**External Electrification**					
	(i)	Sub-station building-Not required	LS	1	10,00,000.00	10,00,000.00
	(ii)	Sub-station Equipment/Transformer				
	(iii)	Pump & Motor set in/c installation				
	(iv)	H.T./L.T. Line				
	(v)	PDB /DESA /DESCO /REB Charge				
	(vi)	Standby Power & Source				
	(vii)	Earthing System				
	(viii)	Overhead Transmission-Not required				
	(ix)	Underground cable laying				
	(x)	Compound light. Wiring system & other safety system				
	(xi)	Solar PV system				
	(viii)	Installation of Rain water harvesting system as per requirement. Actual cost				
	(ix)	Solar PV system				
7	**Electro-mechanical Component**					
	(i)	Lift. Not required				
	(ii)	Air Condition Not required				
8	**Gas Connection**					
	(i)	Ground Floor. (From additional cost chart item-8-i)	sqm	0	350.00	-
9	**Construction of Compound drain**		meter	50	5,614.00	2,80,700.00
10	**Culvert- Not required**					
11	Approach Road As per requirement. (From additional cost chart item-13-i/ii) Ramp		sqm	50	3,163.00	1,58,150.00
12	Site improvement- Considered separately					
13	Arboriculture /Landscape		cum	243	760.00	1,84,680.00
					Total "C"	**31,59,925.00**
					Sub-Total "P"	**1,36,35,051.00**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.

Plinth area basis rate as per PWD schedule of rates 2018

Items # 04 : Public Toilet-2 nos

Building type :Non Residential
Building Category : Special
Type of structure : Single storied Masonry structure
Foundation :Single storied building with Masonary foundation

Plinth Area : 13.50 sqm x2= 27.00 sqm
Site : Other than coastal area

1		**SOIL INVESTIGATION**						
(i)		Soil Investigation : LS or Actual cost (BH Nos. as primary, say)		1	BH	38,821.00	/BH	38,821.00
						"A"	**=**	**38,821.00**
2		**CONSTRUCTION OF BUILDING**						
A		**FOUNDATION COST**						
(i)		Foundation cost : For single storied portion From PLAR Table - 1, Plinth area 27.00 sqm @ 60% (For masonry foundation) of Tk. 7532.00 per sqm, So Tk 4520.00 per sqm		27	Sqm	9,440.00	/sqm	2,54,880.00
						"B1"	**=**	**2,54,880.00**
B		**SUPER STRUCTURE COST**						
I.		(i)	Ground floor- (from PLAR Table-2). 27.00sqm @ 80% cost of 21555.00, So, Rate per sqm Tk Tk.17244.00 per sqm	27	Sqm	32,567.00	/sqm	8,79,309.00
						"B2"	**=**	**8,79,309.00**
C		**ADDITIONAL SUPER STRUCTURE COST**						
(i)	17.1.1	Supply and application of non-toxic two omponents acrylic polymer modified cementitious coating (minimum 1.5 mm thickness) for water proofing of roof/ roof garden/ swimmimg pool which consists of powder and liquid acrylic emulsion; under a protective cover of plaster/ cement concrete/ tiles etc. as per standard specification and accepted by the Engineer-in-charge. (Rate is excluding the cost of protective cover)		27	Sqm	781.00	/sqm	21,087.00
						"B3"	**=**	**21,087.00**
						Sub Total, "B"= (B1+B2+B3)		**11,55,276.00**
		OTHER BUILDING COST						
3	(i)	Internal Sanitary & Water Supply (From additional cost chart, item-6): 27.00 sqm @ Tk. 2125.00 per sqm			Sqm	27	2,125.00	57,375.00
4	(i)	Internal Electrification (From additional cost chart, item-7):27.00 sqm @ Tk. 2140.00 per sqm			Sqm	27	2,140.00	57,780.00

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
5	**External water supply**					
	(i)	Construction of underground reservoir (From additional cost chart, item-9-i-a) :	0	0	106.00	-
	(ii)	Sinking of deep tube well/arranging water from WASA, Municipality or Public Health Engineering sources, WASA/Municipal charge as per requirement. Actual cost	LS	1	50,000.00	50,000.00
	(iii)	Laying of distribution pipe lines as per requirement.				
	(iv)	Laying of distribution pipe lines as per requirement.				
	(v)	Construction of pump house as per requirement.				
	(vi)	Supplying and installation of pumps as per requirement.				
	(vii)	Installation of Sewage Treatment Plant (STP) and Water Treatment Plant (WTP) as per requirement.				
	(viii)	Installation of Rain water harvesting system as per requirement. Actual cost				
6	**External Electrification**					
	(i)	Sub-station building-Not required	LS	1	1,00,000.00	1,00,000.00
	(ii)	Sub-station Equipment/Transformer				
	(iii)	Pump & Motor set in/c installation				
	(iv)	H.T./L.T. Line				
	(v)	PDB /DESA /DESCO /REB Charge				
	(vi)	Standby Power & Source				
	(vii)	Earthing System				
	(viii)	Overhead Transmission-Not required				
	(ix)	Underground cable laying				
	(x)	Compound light. Wiring system & other safety system				
	(xi)	Solar PV system				
	(viii)	Installation of Rain water harvesting system as per requirement. Actual cost				
	(ix)	Solar PV system				
7	**Electro-mechanical Component**					
	(i)	Lift. Not required				
	(ii)	Air Condition Not required				
8	**Gas Connection**					
	(i)	Ground Floor. (From additional cost chart item-8-i)	sqm	0	455.00	-
9	**Construction of Compound drain**		meter	50	5,614.00	2,80,700.00
10	**Culvert- Not required**					
11	Approach Road As per requirement. (From additional cost chart item-13-i/ii) Ramp		sqm	10	3,163.00	31,630.00
12	Site improvement- Considered separately					
13	Arboriculture /Landscape		cum	27	760.00	20,520.00
14	Fire fighting		LS		-	-
					Total "C"	**5,98,005.00**
					Sub-Total "P"	**17,92,102.00**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
Items # 05														
Sitting pavilion														
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.									cum	42.18	168.00	7,086.08
		2	x	1.275	x	0.375	x	0.75	=	0.72	cum			
		1	x	29.5	x	0.375	x	0.75	=	8.30	cum			
		1	x	20.65	x	0.3	x	0.75	=	4.65	cum			
		2	x	9.5	x	0.375	x	0.75	=	5.34	cum			
		2	x	7	x	0.375	x	0.75	=	3.94	cum			
	Pillar	4	x	0.9	x	0.875	x	0.75	=	2.36	cum			
	sitting	3	x	10	x	0.75	x	0.75	=	16.88	cum			
								Total	=	42.18	cum			
2	4.06.02	**Single layer brick flat soling with 1st class** or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.									sqm	169.74	478.76	81,264.12
		2	x	1.275	x	0.375			=	0.96	sqm			
		1	x	29.5	x	0.375			=	11.06	sqm			
		1	x	20.65	x	0.3			=	6.20	sqm			
		2	x	9.5	x	0.375			=	7.13	sqm			
		2	x	7	x	0.375			=	5.25	sqm			
	Floor	1	x	29.5	x	4			=	118.00	sqm			
	Pillar	4	x	0.9	x	0.875			=	3.15	sqm			
	Sitting	3	x	10	x	0.6			=	18.00	sqm			
								Total	=	169.74	sqm			
3	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.									cum	12.73	10,063.81	1,28,116.39
		2	x	1.275	x	0.375	x	0.075	=	0.07	cum			
		1	x	29.5	x	0.375	x	0.075	=	0.83	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
		1	x	20.65	x	0.3	x	0.075	=	0.46	cum			
		2	x	9.5	x	0.375	x	0.075	=	0.53	cum			
		2	x	7	x	0.375	x	0.075	=	0.39	cum			
		1	x	29.5	x	4	x	0.075	=	8.85	cum			
	Pillar	4	x	0.9	x	0.875	x	0.075	=	0.24	cum			
	sitting	3	x	10	x	0.6	x	0.075	=	1.35	cum			
								Total	=	12.73	cum			
4	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1)									cum	14.43	7,529.00	1,08,608.18
		2	x	1.275	x	0.375	x	0.15	=	0.14	cum			
		2	x	1.275	x	0.25	x	0.45	=	0.29	cum			
		1	x	29.500	x	0.375	x	0.15	=	1.66	cum			
		1	x	29.500	x	0.25	x	0.45	=	3.32	cum			
		1	x	20.650	x	0.25	x	0.45	=	2.32	cum			
		2	x	9.500	x	0.375	x	0.15	=	1.07	cum			
		2	x	9.500	x	0.25	x	0.45	=	2.14	cum			
		2	x	7.000	x	0.375	x	0.15	=	0.79	cum			
		2	x	7.000	x	0.25	x	0.45	=	1.58	cum			
	Pillar	12	x	0.25	x	0.25	x	1.5	=	1.13	cum			
								Total	=	14.43	cum			
5	5.04.04	Brick work with Kiln 1st class bricks/automatic machine made first class bricks in cement mortar (1:4) in exterior walls with Portland Composite cement (CEM II/AM, 42.5N) and best quality sand (minimum FM1.2) with uniform width and depth joints, true to vertical and horizontal lines, in/c filling the interstices tightly with mortar, racking out joints, cleaning and soaking bricks at least for 24 hours before use, washing of sand, necessary scaffolding, curing for requisite period, etc. all complete as per direction of the E-I-C									cum			
		Ground Floor									cum	30.26	9,197.00	2,78,344.33
		2	x	1.275	x	0.25	x	1.25	=	0.80	cum			
		1	x	29.500	x	0.25	x	1.25	=	9.22	cum			
		1	x	20.650	x	0.25	x	0.225	=	1.16	cum			
		1	x	9.500	x	0.25	x	2.85	=	6.77	cum			
		2	x	7.000	x	0.25	x	2.85	=	9.98	cum			
		12	x	0.250	x	0.25	x	3.125	=	2.34	cum			
								Total	=	30.26	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
6	5.02..14	Site improvement/earth filling in foundation trenches and plinth with specified soil in/c supplying, carrying, filling by throwing earth in 150mm layers with carted earth carried by truck or any other means to be supplied at the contractor's own cost etc. all complete as per direction of the E-I-C. (Carried from a distance beyond 200m).										cum			
	5.02.14.1	Outside municipal area.										cum	312.73	760.00	2,37,673.47
		0.5	x	2.850	x	7.3	x	38.5	=	400.50		cum			
		1	x	20.700	x	4	x	1.06	=	-87.77		cum			
								Total	=	312.73		cum			
7	5.12.05	Minimum 12 mm thick cement sand (F.M. 1.2) plaster (1:6) having with fresh cement to both inner and outer surface of wall, finishing the edges and corners including washing of sand, cleaning the surface, curing at least for 7 days, cost of water, electricity, scaffolding and other charges etc. all complete in all respect as per drawing and accepted by the Engineer-in-charge. (Cement: CEM-II/BM) ground floor.[PWD 15.4]										sqm	167.31	291.00	48,686.85
		2	x	1.275			x	1.25	=	3.19		sqm			
		2	x	29.500			x	1.25	=	73.75		sqm			
		1	x	20.650			x	0.225	=	4.65		sqm			
		1	x	9.500			x	2.85	=	27.08		sqm			
		2	x	7.000			x	2.85	=	39.90		sqm			
		12	x	0.250			x	3.125	=	9.38		sqm			
		12	x	0.250			x	3.125	=	9.38		sqm			
								Total	=	167.31		sqm			
8	16.1.1	Exterior standard acrylic emulsion paint of approved best quality and color having water resisting properties and resistance properties against fungi, fading & flaking delivered from authorized local agent of the manufacturer (Berger weather coat smooth/ Elite smooth exterior/ Asian apex weather coat or equivalent brand) in a sealed container; applying to exterior surface with surface preparation including cleaning, drying, making free from dirt, grease, wax, removing all chalked and scaled materials, fungus, mending good the surface defects using sand paper and necessary scaffolding; applying 1 coat of exterior sealer of specified brand on prepared surface; then applying 1 coat of exterior putty of specified brand for levelling, spot filling, crack filling and cutting by sand paper/zero water paper; finally applying 2 coats of exterior emulsion paint by spreading with brush/roller/spray machine & necessary scaffolding etc. upto desired finishing, elapsing specified time for drying or recoating; all complete in all floors and accepted by the Engineer-in-charge.											sqm	166.14	274.00	45,522.36
		1	x	1.275			x	1.25	=	1.59		sqm			
		1	x	29.500			x	1.25	=	36.88		sqm			
		1	x	20.650			x	0.225	=	4.65		sqm			
		1	x	9.500			x	2.85	=	27.08		sqm			
		1	x	7.000			x	2.85	=	19.95		sqm			
		2	x	29.500			x	1.25	=	73.75		sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
		2	x	0.900			x	1.25	=	2.25		sqm			
								Total	=	166.14		sqm			
9	5.02.08.1	**Sand filling** in foundation trenches and inside plinth with sand (minimum FM 0.50) in 150mm layers in/c leveling, watering and consolidating each layer up to finished level etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 95% of MDD (STD)										cum	17.70	1,088.00	19,257.60
		1	x	29.5	x	4	x	0.15	=	17.70		cum			
10	5.13.02	38mm thick artificial patent stone floor (1:2:4) with Portland Composite cement (CEM II/AM, 42.5N), best quality coarse sand (minimum FM1.8) and 10mm down graded picked brick chips (LAA value not exceeding 38) in/c breaking chips, screening, mixing, laying the concrete in alternate panels, compacting and finishing the top with neat cement, curing for requisite period, etc. all complete as per direction of the E-I-C										sqm	118.00	594.00	70,092.00
		1	x	29.500			x	4	=	118.00		sqm			
								Total	=	118.00		sqm			
11	6.05.02	Supply of MS work in plates, angles, channels, flat bars, Tees etc. with minimum yield strength, fy (ReH) = 300 MPa, including fabricating, machining, cutting, bending, welding, forging drilling, riveting, embedding anchor bars, staging and fitting, fixing, local handling etc including energy consumption etc. all complete as per design, specification and direction of the Engineer-In-charge										kg	3,566.52	138.46	4,93,820.98
		6	x	23.200	x	0.15	x	0.004	=	655.63		kg			
		6	x	6.350	x				=	2286.00		kg			
		12	x	1.500					=	536.58		kg			
		6	x	0.250	x	0.375	x	0.02	=	88.31		kg			
								Total	=	3566.52		kg			
12	MR	Painting M.S section										kg	3,566.52	15.00	53,497.87
13	10.21	Supply and installation of 0.457 mm thick corrugated galvanized iron sheet (Bangladesh made) having min weight 63-65 kg per bundle (2'-6" width, 70 – 72 foot long fitted and fixed on M.S. sections with 'J' hook or wooden purlin with screws, limpet washers and putty etc. all complete and accepted by the Engineer-in-charge.										sqm	84.68	578.00	48,945.04
		1	x	23.2	x	3.65			=	84.68		sqm			
								Total	=	84.68		sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
14	5.05.01	RCC:1:2:4, 17MPa, Brick Chips (BC): Reinforced cement concrete works with minimum cement content relates to mix ratio (tentative 1:2:4) and maximum water cement ratio 0.45 having minimum required average strength, f'cr = 24 Mpa and satisfied a specified compressive strength f'c = 17 Mpa at 28 days on standard cylinders as per standard practice of Code AASHTO/ ASTM and Portland Composite Cement conforming to BDS EN 197-1 :2003 CEM-II 42.5N sand of minimum FM 1.8 and 20mm down well graded picked brick chips (LAA value and maximum water absorption not exceeding 38 and 15% respectively) conforming to ASTM C 33 or Aggregate Grading Appendix-3 LGED Schedule of Rates or any other International recognized envelop in/c breaking chips and screening through proper sieves, centering, shuttering in position, making shuttering fully leak proof & shuttering with plain 16 BWG steel sheet fitted over 38mm thick wooden plank panels and Standard size Bamboo Props suitably braced, placing of reinforcement in position, mixing the aggregates with standard mixer machine with hoper, fed by standard measuring boxes, maintaining allowable slump of 50mm (without plasticizer) & 75mm to 100mm (when plasticizer use), pouring, casting, compacting by mechanical vibrator machine and curing at least for 28 days, removing centering-shuttering after approved specified time period, i/c cost of additional testing charges of materials and cylinders required Excluding the cost of reinforcement and its fabrication, welding, coupling, placing, binding etc. Additional quantity of cement and Plasticizer i.e. Water reducing chemical admixture of complying type A under ASTM C 494 to reduce mixing water required for normal workability and to maintain low water-cement (W/C) ratio (Doses of admixture to be fixed by the mix design from approved laboratory instruction by the Engineer) Additional quantity of cement to be added if required to attain the strength at the contractor's own cost) etc. all complete as per direction and approval of the Engineer in charge. Note : Using Concrete Mixer.				
14.1	5.05.01.01	In individual and continuous footing of column, raft and floor slab at plinth level	cum	5.98	8,673.00	51,875.38
		6 x 1.25 x 1.25 x 0.35 = 3.28	cum			
		3 x 10 x 0.6 x 0.15 = 2.70	cum			
		Total = 5.98	cum			
14.2	5.05.01.03.01	In pedestal, column, capital lift wall and wall	cum	8.09	9,032.00	73,091.46
		6 x 0.375 x 0.3 x 1.25 = 0.84	cum			
		6 x 0.25 x 0.25 x 3.13 = 1.17	cum			
		3 x 10 x 0.15 x 0.9 = 4.05	cum			
		3 x 10 x 0.45 x 0.15 = 2.03	cum			
		Total = 8.09	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
14.3	5.05.11	FORM WORK (Steel) :Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for: (PWD 07.12)												
	5.05.11.01	In individual and continuous footing of column, raft and floor slab at plinth level									sqm	20.04	582.00	11,663.28
		6	x	5	x	0	x	0.35	=	10.50	sqm			
		3	x	21.2	x	0	x	0.15	=	9.54	sqm			
								Total	=	20.04	sqm			
	5.05.11.04	Pedestal, column, column capital, lift wall and wall up to ground floor (PWD 07.12.1)									sqm	93.12	522.00	48,608.64
		6	x	1.35	x	0	x	1.25	=	10.13	sqm			
		6	x	1.00	x	0	x	3.13	=	18.78	sqm			
		3	x	20.30	x	0	x	0.9	=	54.81	sqm			
		3	x	20.90	x	0	x	0.15	=	9.41	sqm			
								Total	=	93.12	sqm			
15	5.06.01.02	**Grade 400 (RB 400/ 400W):** Ribbed or Deformed bar produced and marked as per BDS ISO 6935-2:2006 with minimum yield strength, fy (ReH) = 400 MPa, but the tested yield strength shall not exceed fy by more than the 125 MPa and the ratio of tested ultimate strength, fu (Re) to tested yield strength (fy) shall be at least 1.25 and minimum elongation after fracture (A5.65) & minimum total elongation at maximum force (Agt) is 14% and 2.5% respectively.									kg	1,785.68	100.00	1,78,567.88
		2.00%							=	1785.68	kg			
16	5.02.11	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C.. Dry density after compaction shall not be less than 90% of MDD (STD).									cum	42.18	207.00	8,731.07
17	25.26.3	**Leveling and dressing** of lawn area to proper slope and grade by spading the same up to 150 mm including supplying tools and plants etc. all complete and accepted by the Engineer-in-charge.									sqm	193.28	8.00	1,546.26
		1	x	38.500	x	7.3			=	281.05	sqm			
		1	x	20.700	x	4	x	1.06	=	-87.77	sqm			
								Total	=	193.28	cum			
18	25.26.04	Supply of best and approved quality **alluvial loamy silty soil** including loading, unloading at both ends, properly stacking at site including supply of tools and plants etc. all complete and accepted by the Engineer-in-charge.									cum	21.08	913.00	19,244.90
		1	x	38.500	x	7.3	x	0.075	=	21.079	cum			
		1	x	20.700	x	4	x	0.075	=	-6.21	sqm			
								Total	=	14.87	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
19	25.26.06	Labour charge for spreading the alluvial **loamy silty soil** from the stacks at site on the lawn surface, leveling, dressing the same including supply all necessary tools and plants etc. all complete and accepted by the Engineer-in-charge.									cum	14.87	194.00	2,884.54
		1	x	38.500	x	7.3	x	0.075	=	21.079	cum			
		1	x	20.700	x	4	x	0.075	=	-6.21	sqm			
								Total	=	14.87	cum			
20	24.3	Creating turf on the side slopes and top of embankment with good quality turf not less than 225 mm square chunk, watering till the grass grown including all leads and lifts etc. complete and accepted by the Engineer-in-charge.									sqm	193.28	23.00	4,445.49
		1	x	38.500	x	7.3			=	281.05	sqm			
		1	x	20.700	x	4	x	1.06	=	-87.77	sqm			
								Total	=	193.28	sqm			
													Total	**20,21,574.15**
Items # 06 **Structures (Gallery)**														
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.									cum	101.25	168.00	17,010.00
		30	x	1.5	x	1.5	x	1.5	=	101.25	cum			
2	5.02.11	**Earth filli**ng inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C.. Dry density after compaction shall not be less than 90% of MDD (STD).									cum	101.25	207.00	20,958.75
		30	x	1.5	x	1.5	x	1.5	=	101.25	cum			
3	4.06.02	**Single layer brick flat soling with 1st class** or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.									sqm	67.50	478.76	32,316.30
		30	x	1.5	x	1.5			=	67.50	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
4	5.05.01	RCC:1:2:4, 17MPa, Brick Chips (BC): Reinforced cement concrete works with minimum cement content relates to mix ratio (tentative 1:2:4) and maximum water cement ratio 0.45 having minimum required average strength, f'cr = 24 Mpa and satisfied a specified compressive strength f'c = 17 Mpa at 28 days on standard cylinders as per standard practice of Code AASHTO/ ASTM and Portland Composite Cement conforming to BDS EN 197-1 : 2003 CEM-II 42.5N sand of minimum FM 1.8 and 20mm down well graded picked brick chips (LAA value and maximum water absorption not exceeding 38 and 15% respectively) conforming to ASTM C 33 or Aggregate Grading Appendix-3 LGED Schedule of Rates or any other International recognized envelop in/c breaking chips and screening through proper sieves, centering, shuttering in position, making shuttering fully leak proof & shuttering with plain 16 BWG steel sheet fitted over 38mm thick wooden plank panels and Standard size Bamboo Props suitably braced, placing of reinforcement in position, mixing the aggregates with standard mixer machine with hoper, fed by standard measuring boxes, maintaining allowable slump of 50mm (without plasticizer) & 75mm to 100mm (when plasticizer use), pouring, casting, compacting by mechanical vibrator machine and curing at least for 28 days, removing centering-shuttering after approved specified time period, i/c cost of additional testing charges of materials and cylinders required. Excluding the cost of reinforcement and its fabrication, welding, coupling, placing, binding etc. Additional quantity of cement and Plasticizer i.e. Water reducing chemical admixture of complying type A under ASTM C 494 to reduce mixing water required for normal workability and to maintain low water-cement (W/C) ratio (Doses of admixture to be fixed by the mix design from approved laboratory instruction by the Engineer) Additional quantity of cement to be added if required to attain the strength at the contractor's own cost) etc. all complete as per direction and approval of the Engineer in charge. Note : Using Concrete Mixer.				
4.1	5.05.01.01	In individual and continuous footing of column, raft and floor slab at plinth level	cum	27.00	8,673.00	2,34,171.00
		30 x 1.5 x 1.5 x 0.4 = 27.00	cum			
	5.05.01.03	**In Tie Beam and Lintel :**				
4.2	5.05.01.03	Below Plinth Level and in Ground Floor	cum	51.30	8,817.00	4,52,312.10
		3 x 36.5 x 0.375 x 0.3 = 12.32	cum			
		20 x 6 x 0.375 x 0.3 = 13.50	cum			
		3 x 35.5 x 0.375 x 0.3 = 11.98	cum			
		20 x 6 x 0.375 x 0.3 = 13.50	cum			
		Total = 51.30	cum			
4.3	5.05.01.02	column,Wall	cum	9.72	9,032.00	87,791.04
		30 x 0.3 x 0.3 x 3.6 = 9.72	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
4.4	5.05.01.03	Floor									cum	75.94	8,817.00	6,69,547.55
	roof	1	x	36.5	x	2.6	x	0.175	=	16.61	cum			
	W/S	1	x	36.5	x	5.86	x	0.175	=	37.43	cum			
	Step	5	x	36.5	x	0.75	x	0.15	=	20.53	cum			
	Step	1	x	36.5	x	0.25	x	0.15	=	1.37	cum			
								Total	=	75.94	cum			
4.5	5.05.11	FORM WORK (Steel) :Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for: (PWD 07.12)												
	5.05.11.01	In individual and continuous footing of column, raft and floor slab at plinth level									Sqm	72.00	582.00	41,904.00
		30	x	6.0	x	0	x	0.4	=	72.00	Sqm			
4.6	5.05.11.05	**In Tie Beam and Lintel :**												
		Below Plinth Level and in Ground Floor									sqm	444.60	543.00	2,41,417.80
		3	x	36.5	x	0	x	0.975	=	106.76	sqm			
		20	x	6	x	0	x	0.975	=	117.00	sqm			
		3	x	35.5	x	0	x	0.975	=	103.84	sqm			
		20	x	6	x	0	x	0.975	=	117.00	sqm			
								Total	=	444.60	sqm			
	5.05.11.04	Pedestal, column, column capital, lift wall and wall up to ground floor									sqm	129.60	522.00	67,651.20
		30	x	1.2	x	0	x	3.6	=	129.60	sqm			
	5.05.11.07	Floor and roof slab up to ground floor (PWD 07.12.7)									sqm	551.28	597.00	3,29,111.77
	roof	1	x	36.85	x	0	x	2.95	=	108.71	sqm			
	W/S	1	x	36.85	x	0	x	6.21	=	228.84	sqm			
	Step	5	x	36.85	x	0	x	1.05	=	193.46	sqm			
	Step	1	x	36.85	x	0	x	0.55	=	20.27	sqm			
								Total	=	551.28	sqm			
5	5.06.01.02	**Grade 400 (RB 400/ 400W):** Ribbed or Deformed bar produced and marked as per BDS ISO 6935-2:2006 with minimum yield strength, fy (ReH) = 400 MPa, but the tested yield strength shall not exceed fy by more than the 125 MPa and the ratio of tested ultimate strength, fu (Re) to tested yield strength (fy) shall be at least 1.25 and minimum elongation after fracture (A5.65) & minimum total elongation at maximum force (Agt) is 14% and 2.5% respectively.										kg	32,176.81	100.00	32,17,680.66
									=	32176.81	kg			
6	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1)									cum	41.37	7,529.00	3,11,441.79
	Up to GL	8	x	3.350	x	0.375	x	0.375	=	3.77	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
		8	x	3.350	x	0.25	x	0.25	=	1.68	cum			
	GL to Roof	8	x	3.350	x	0.25	x	3	=	20.10	cum			
	Incliend wall	2	x	8.300	x	0.375	x	0.375	=	2.33	cum			
		2	x	8.300	x	0.25	x	0.25	=	1.04	cum			
		2	x	8.300	x	0.25	x	3	=	12.45	cum			
								Total	=	41.37	cum			
7	5.02.08.1	**Sand filling** in foundation trenches and inside plinth with sand (minimum FM 0.50) in 150mm layers in/c leveling, watering and consolidating each layer up to finished level etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 95% of MDD (STD)									cum	26.95	1,088.00	29,326.22
		1	x	43.3	x	8.3	x	0.075	=	26.95	cum			
								Total	=	26.95	cum			
8	4.06.02	**Single layer brick flat soling with 1st class** or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.									sqm	359.39	478.76	1,72,061.56
		1	x	43.3	x	8.3			=	359.39	sqm			
9	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.									cum	26.95	10,063.81	2,71,262.45
		1	x	43.3	x	8.3	x	0.075	=	26.95	cum			
								Total	=	26.95	cum			
10	5.13.02	38mm thick artificial patent stone floor (1:2:4) with Portland Composite cement (CEM II/AM, 42.5N), best quality coarse sand (minimum FM1.8) and 10mm down graded picked brick chips (LAA value not exceeding 38) in/c breaking chips, screening, mixing, laying the concrete in alternate panels, compacting and finishing the top with neat cement, curing for requisite period, etc. all complete as per direction of the E-I-C.									sqm	718.78	594.00	4,26,955.32
		1	x	43.3	x	8.3			=	359.39	sqm			
		1	x	43.3	x	8.3			=	359.39	sqm			
								Total	=	718.78	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
11	5.12.05	Minimum 12 mm thick cement sand (F.M. 1.2) plaster (1:6) having with fresh cement to both inner and outer surface of wall, finishing the edges and corners including washing of sand, cleaning the surface, curing at least for 7 days, cost of water, electricity, scaffolding and other charges etc. all complete in all respect as per drawing and accepted by the Engineer-in-charge. (Cement: CEM-II/BM) ground floor.[PWD 15.4]										sqm	160.80	291.00	46,792.80
	GL to Roof	8	x	3.350	x	2	x	3	=	160.80		cum			
								Total	=	160.80		sqm			
12		**Electrical Works**													
	PLAR	Internal Electrification (From additional cost chart, item-7): 94.90 sqm @ Tk. 830.00 per sqm										sqm	94.90	830.00	78,767.00
														Total	**67,48,479.31**
Items # 7															
Plaza															
A	**Masonry guide wall**														
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.										cum	7.09	168.00	1,190.70
		1	x	42	x	0.375	x	0.45	=	7.09		cum			
2	5.03.05	**Providing single layer polythene sheet** (0.18mm thick) weighing one kilogram per 6.5 square meter in floor or any where in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.										sqm	15.75	47.00	740.25
		1	x	42	x	0.375			=	15.75		sqm			
3	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.										cum	0.79	10,063.81	7,925.25
		1	x	42	x	0.25	x	0.075	=	0.79		cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
4	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1)										cum	16.54	7,529.00	1,24,510.84
	FF	1	x	42	x	0.25	x	0.375	=	3.94		cum			
	SF	1	x	42	x	0.25	x	1.2	=	12.60		cum			
								Total	=	16.54		cum			
5	5.02.11	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C.. Dry density after compaction shall not be less than 90% of MDD (STD).										cum	1.42	207.00	293.42
		0.2	x	42	x	0.375	x	0.45	=	1.42		cum			
														Sub Total	**1,34,660.46**
B	**Main Plaza works**														
1	5.02.08.1	**Sand filling** in foundation trenches and inside plinth with sand (minimum FM 0.50) in 150mm layers in/c leveling, watering and consolidating each layer up to finished level etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 95% of MDD (STD)										cum	165.60	1,088.00	1,80,172.80
		1	x	1104	x	1	x	0.15	=	165.60		cum			
2	5.03.05	**Providing single layer polythene sheet** (0.18mm thick) weighing one kilogram per 6.5 square meter in floor or any where in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.										sqm	1,104.00	47.00	51,888.00
		1	x	1104	x	1			=	1104.00		sqm			
3	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.										cum	110.40	10,063.81	11,11,044.62
		1	x	1104	x	1	x	0.1	=	110.40		cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
4	5.04.22	Klinker paving brick works in floor or pavement with machine made pressed bricks of approved quality with cement sand (F.M. 1.2) mortar (1:4) on minimum 12 mm thick cement sand (F.M. 1.2) mortar (1:4) including raking out joints, cutting the bricks to required size, soaking the same for 24 hours before use wherever necessary including high class flush pointing in cement mortar (1:2), cleaning, curing at least for 7 days etc. including washing and screening of sand, cost of water, electricity and other charges complete and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.22)				
	5.04.22.1	100 mm thick flat brick pavement with 200 mm x 100 mm x 50 mm size klinker facing bricks. (PWD 04.22.1)	sqm	1,104.00	3,131.00	34,56,624.00
		1 x 1104 x 1 x 1 = 1104.00	sqm			
		Total = 1104.00	sqm			
				Sub Total	**Tk**	**47,99,729.42**
C	**Central Masonry steps**					
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	27.10	168.00	4,552.00
		1 x 51.61 x 3.5 x 0.15 = 27.10	cum			
2	5.02.08.1	**Sand filling** in foundation trenches and inside plinth with sand (minimum FM 0.50) in 150mm layers in/c leveling, watering and consolidating each layer up to finished level etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 95% of MDD (STD)	cum	11.61	1,088.00	12,634.13
		1 x 51.61 x 3 x 0.075 = 11.61	cum			
		Total = 11.61	cum			
3	4.06.02	**Single layer brick flat soling** with 1st class or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	154.83	478.76	74,126.41
		1 x 51.61 x 3 = 154.83	sqm			
		Total = 154.83	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
4	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.									cum	11.61	10,063.81	1,16,863.48
		1	x	51.61	x	3	x	0.075	=	11.61	cum			
								Total	=	11.61	cum			
5	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1)									cum	50.32	7,529.00	3,78,857.40
		1	x	51.61	x	0.325	x	3	=	50.32	cum			
								Total	=	50.32	cum			
6	5.04.22	Klinker paving brick works in floor or pavement with machine made pressed bricks of approved quality with cement sand (F.M. 1.2) mortar (1:4) on minimum 12 mm thick cement sand (F.M. 1.2) mortar (1:4) including raking out joints, cutting the bricks to required size, soaking the same for 24 hours before use wherever necessary including high class flush pointing in cement mortar (1:2), cleaning, curing at least for 7 days etc. including washing and screening of sand, cost of water, electricity and other charges complete and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.22)												
	5.04.22.1	100 mm thick flat brick pavement with 200 mm x 100 mm x 50 mm size klinker facing bricks. (PWD 04.22.1)									sqm	193.54	3,131.00	6,05,965.91
		1	x	51.61	x	3			=	154.83	sqm			
		1	x	51.61	x	0.75			=	38.71	sqm			
								Total	=	193.54	sqm			
												Sub Total	**Tk**	**11,92,999.33**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
D	**Entry Masonry step-2 nos**													
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.									cum	3.04	168.00	511.43
		2	x	5.66	x	0.375	x	0.15	=	0.64	cum			
		4	x	1.5	x	0.375	x	0.15	=	0.34	cum			
		4	x	2.3	x	1.5	x	0.15	=	2.07	cum			
								Total	=	3.04	cum			
2	5.02.08.1	**Sand filling** in foundation trenches and inside plinth with sand (minimum FM 0.50) in 150mm layers in/c leveling, watering and consolidating each layer up to finished level etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 95% of MDD (STD)									cum	1.52	1,088.00	1,656.07
		2	x	5.66	x	0.375	x	0.075	=	0.32	cum			
		4	x	1.5	x	0.375	x	0.075	=	0.17	cum			
		4	x	2.3	x	1.5	x	0.075	=	1.04	cum			
								Total	=	1.52	cum			
3	4.06.02	**Single layer brick flat soling** with 1st class or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.									sqm	37.28	478.76	17,845.78
		2	x	5.66	x	0.375			=	4.25	sqm			
		4	x	1.5	x	0.375			=	2.25	sqm			
		4	x	2.3	x	1.5			=	13.80	sqm			
		2	x	5.66	x	1.5			=	16.98	sqm			
								Total	=	37.28	sqm			
4	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.									cum	2.29	10,063.81	23,005.87
		2	x	10.16	x	1.5	x	0.075	=	2.29	cum			
								Total	=	2.29	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
5	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1)									cum	7.73	7,529.00	58,206.70
		4	x	2.28	x	1.5	x	0.15	=	2.05	cum			
		4	x	2.03	x	1.5	x	0.15	=	1.83	cum			
		4	x	1.78	x	1.5	x	0.15	=	1.60	cum			
		4	x	1.75	x	1.5	x	0.15	=	1.58	cum			
		4	x	0.5	x	1.5	x	0.15	=	0.45	cum			
		4	x	0.25	x	1.5	x	0.15	=	0.23	cum			
								Total	=	7.73	cum			
6	5.04.22	Klinker paving brick works in floor or pavement with machine made pressed bricks of approved quality with cement sand (F.M. 1.2) mortar (1:4) on minimum 12 mm thick cement sand (F.M. 1.2) mortar (1:4) including raking out joints, cutting the bricks to required size, soaking the same for 24 hours before use wherever necessary including high class flush pointing in cement mortar (1:2), cleaning, curing at least for 7 days etc. including washing and screening of sand, cost of water, electricity and other charges complete and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.22)												
	5.04.22.1	100 mm thick flat brick pavement with 200 mm x 100 mm x 50 mm size klinker facing bricks. (PWD 04.22.1)									sqm	35.88	3,131.00	1,12,340.28
		2	x	10.16	x	1.5			=	30.48	sqm			
		24	x	1.5	x	0.15			=	5.40	sqm			
								Total	=	35.88	sqm			
													Sub Total	**2,13,566.13**
E	**External Masonry step**													
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.									cum	12.01	168.00	2,017.58
		1	x	15.25	x	4.5	x	0.175	=	12.01	cum			
								Total	=	12.01	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
2	5.02.08.1	**Sand filling** in foundation trenches and inside plinth with sand (minimum FM 0.50) in 150mm layers in/c leveling, watering and consolidating each layer up to finished level etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 95% of MDD (STD)									cum	5.15	1,088.00	5,599.80
		1	x	15.25	x	4.5	x	0.075	=	5.15	cum			
								Total	=	5.15	cum			
3	4.06.02	**Single layer brick flat soling** with 1st class or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.									sqm	68.63	478.76	32,854.91
		1	x	15.25	x	4.5			=	68.63	sqm			
								Total	=	68.63	sqm			
4	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.									cum	5.15	10,063.81	51,797.17
		1	x	15.25	x	4.5	x	0.075	=	5.15	cum			
								Total	=	5.15	cum			
5	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1)									cum	13.83	7,529.00	1,04,104.42
		1	x	33.5	x	0.25	x	1.075	=	9.00	cum			
		1	x	15.24	x	0.25	x	0.15	=	0.57	cum			
		1	x	14.64	x	0.25	x	0.15	=	0.55	cum			
		1	x	14.04	x	0.25	x	0.15	=	0.53	cum			
		1	x	13.44	x	0.25	x	0.15	=	0.50	cum			
		1	x	12.84	x	0.25	x	0.15	=	0.48	cum			
		1	x	12.24	x	0.25	x	0.15	=	0.46	cum			
		2	x	4.6	x	0.25	x	0.15	=	0.35	cum			
		2	x	4.3	x	0.25	x	0.15	=	0.32	cum			
		2	x	4	x	0.25	x	0.15	=	0.30	cum			
		2	x	3.7	x	0.25	x	0.15	=	0.28	cum			
		2	x	3.4	x	0.25	x	0.15	=	0.26	cum			
		2	x	3.1	x	0.25	x	0.15	=	0.23	cum			
								Total	=	13.83	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
6	5.04.22	Klinker paving brick works in floor or pavement with machine made pressed bricks of approved quality with cement sand (F.M. 1.2) mortar (1:4) on minimum 12 mm thick cement sand (F.M. 1.2) mortar (1:4) including raking out joints, cutting the bricks to required size, soaking the same for 24 hours before use wherever necessary including high class flush pointing in cement mortar (1:2), cleaning, curing at least for 7 days etc. including washing and screening of sand, cost of water, electricity and other charges complete and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.22)				
	5.04.22.1	100 mm thick flat brick pavement with 200 mm x 100 mm x 50 mm size klinker facing bricks. (PWD 04.22.1)	sqm	110.76	3,131.00	3,46,789.56
		1 x 15.25 x 4.5 = 68.63	sqm			
		1 x 12.2 x 1.5 = 18.30	sqm			
		1 x 24.5 x 0.15 = 3.68	sqm			
		1 x 23.9 x 0.15 = 3.59	sqm			
		1 x 23.3 x 0.15 = 3.50	sqm			
		1 x 22.7 x 0.15 = 3.41	sqm			
		1 x 22.1 x 0.15 = 3.32	sqm			
		1 x 21.5 x 0.15 = 3.23	sqm			
		1 x 20.9 x 0.15 = 3.14	sqm			
		Total = 110.76	sqm			
					Sub Total	**5,43,163.44**
					Total	**Tk** **68,84,118.78**

Items # 08

Boundary wall

1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	38.00	168.00	6,384.00
		1 x 38 x 1 x 1 = 38.00	cum			
2	4.06.02	**Single layer brick flat soling with 1st class** or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	38.00	478.76	18,192.88
		1 x 38 x 1 = 38.00	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
3	5.05.01	RCC:1:2:4, 17MPa, Brick Chips (BC): Reinforced cement concrete works with minimum cement content relates to mix ratio (tentative 1:2:4) and maximum water cement ratio 0.45 having minimum required average strength, f'cr = 24 Mpa and satisfied a specified compressive strength f'c = 17 Mpa at 28 days on standard cylinders as per standard practice of Code AASHTO/ ASTM and Portland Composite Cement conforming to BDS EN 197-1 :2003 CEM-II 42.5N sand of minimum FM 1.8 and 20mm down well graded picked brick chips (LAA value and maximum water absorption not exceeding 38 and 15% respectively) conforming to ASTM C 33 or Aggregate Grading Appendix-3 LGED Schedule of Rates or any other International recognized envelop in/c breaking chips and screening through proper sieves, centering, shuttering in position, making shuttering fully leak proof & shuttering with plain 16 BWG steel sheet fitted over 38mm thick wooden plank panels and Standard size Bamboo Props suitably braced, placing of reinforcement in position, mixing the aggregates with standard mixer machine with hoper, fed by standard measuring boxes, maintaining allowable slump of 50mm (without plasticizer) & 75mm to 100mm (when plasticizer use), pouring, casting, compacting by mechanical vibrator machine and curing at least for 28 days, removing centering-shuttering after approved specified time period, i/c cost of additional testing charges of materials and cylinders required Excluding the cost of reinforcement and its fabrication, welding, coupling, placing, binding etc. Additional quantity of cement and Plasticizer i.e. Water reducing chemical admixture of complying type A under ASTM C 494 to reduce mixing water required for normal workability and to maintain low water-cement (W/C) ratio (Doses of admixture to be fixed by the mix design from approved laboratory instruction by the Engineer) Additional quantity of cement to be added if required to attain the strength at the contractor's own cost) etc. all complete as per direction and approval of the Engineer in charge. Note : Using Concrete Mixer.				
3.1	5.05.01.01	In individual and continuous footing of column, raft and floor slab at plinth level	cum	11.40	8,673.00	98,872.20
		1 x 38 x 1 x 0.3 = 11.40	cum			
3.2	5.05.11	FORM WORK (Steel) :Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for: (PWD 07.12)				
	5.05.11.01	In individual and continuous footing of column, raft and floor slab at plinth level	sqm	22.80	582.00	13,269.60
		2 x 38 x 0.3 = 22.80	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
4	5.06.01.02	**Grade 400 (RB 400/ 400W):** Ribbed or Deformed bar produced and marked as per BDS ISO 6935-2:2006 with minimum yield strength, fy (ReH) = 400 MPa, but the tested yield strength shall not exceed fy by more than the 125 MPa and the ratio of tested ultimate strength, fu (Re) to tested yield strength (fy) shall be at least 1.25 and minimum elongation after fracture (A5.65) & minimum total elongation at maximum force (Agt) is 14% and 2.5% respectively.	kg	1,342.35	100.00	1,34,235.00
		1.50% = 1342.35	kg			
5	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1)	cum	64.17	7,529.00	4,83,122.94
	Up to GL	1 x 38.000 x 0.375 x 0.8 = 11.40	cum			
	SS	1 x 48.000 x 0.375 x 5.25 = 94.50	cum			
	Ded					
		1 x 20.6 x 0.375 x 4.06 = -31.36	cum			
		3 x 1.07 x 0.375 x 4.06 = -4.89	cum			
		6 x 0.6 x 0.375 x 4.06 = -5.48	cum			
		Total = 64.17	cum			
6	5.02.11	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C.. Dry density after compaction shall not be less than 90% of MDD (STD).	cum	7.60	207.00	1,573.20
		0.2 x 38 x 1 x 1 = 7.60	cum			
7	5.05.01.03	**In Tie Beam and Lintel :**				
7.1	5.05.01.03	Below Plinth Level and in Ground Floor	cum	2.63	8,817.00	23,144.63
		1 x 21 x 0.5 x 0.25 = 2.63	cum			
	5.05.11	FORM WORK (Steel) :Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for: (PWD 07.12)				
	5.05.11.05	**In Tie Beam and Lintel :**	sqm	10.50	543.00	5,701.50
		2 x 21 x 0.25 = 10.50	sqm			
8	5.12.05	Minimum 12 mm thick cement sand (F.M. 1.2) plaster (1:6) having with fresh cement to both inner and outer surface of wall, finishing the edges and corners including washing of sand, cleaning the surface, curing at least for 7 days, cost of water, electricity, scaffolding and other charges etc. all complete in all respect as per drawing and accepted by the Engineer-in-charge. (Cement: CEM-II/BM) ground floor. [PWD 15.4]	sqm	410.72	291.00	1,19,518.18
		2 x 48.000 x 5.25 = 504.00	sqm			
		1 x 48.000 x 0.375 = 18.00	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
	Ded	1	x	20.6	x	4.06			=	-83.64	sqm			
	Ded	3	x	1.07	x	4.06			=	-13.03	sqm			
	Ded	6	x	0.6	x	4.06			=	-14.62	sqm			
								Total	=	410.72	sqm			
9	5.16.03.2	Interior premium acrylic emulsion painting (silky finish) of approved best quality and colour delivered from authorized local agent of the manufacturer in a sealed container; applying to interior wall and ceiling with surface preparation including cleaning drying, making free from dirt, grease, wax, removing all chalked and scaled materials, fungus, mending good the surface defects using sand paper and necessary scaffolding; applying necessary interior sealer of specified brand on prepared surface; then applying necessary interior putty of specified brand for levelling, spot filling, crack filling and cutting by sand paper/zero water paper; finally applying 2 coats of interior emulsion paint spreading by brush/roller/spray & necessary scaffolding etc. upto desired finishing, elapsing specified time for drying or recoating; all complete in all floors and accepted by the Engineer-in-charge [PWD 16.2.2]									sqm	410.72	283.00	1,16,232.46
		2	x	48.000	x	5.25			=	504.00	sqm			
		1	x	48.000	x	0.375			=	18.00	sqm			
	Ded	1	x	20.6	x	4.06			=	-83.64	sqm			
	Ded	3	x	1.07	x	4.06			=	-13.03	sqm			
	Ded	6	x	0.6	x	4.06			=	-14.62	sqm			
								Total	=	410.72	sqm			
												Sub Total	**Tk**	**10,20,246.59**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
		Items # 09				
		Walkway- 1.68 meter wide				
1	3.01.2	BC(150mm): Earth work in box cutting on road crest up to 150mm depth, maintaining proper grade, camber and alignment, super elevation on curves, removing soil to a safe distance, watering, if necessary, spreading the excavated earth on road flanks and slopes uniformly including leveling, dressing, manual compacting, etc. all complete as per direction of the E-I-C.	sqm	320.88	33.85	10,861.79
		1 x 191 x 1.68 = 320.88	sqm			
2	3.07.04	KS(RW): Manufacturing, Supplying and Fixing of cement concrete kerb stone with top and bottom thickness 120mm and 150mm respectively, width 380mm and height 550mm as per approved drawing for side of footpath/median/road island etc. using steel shutter, with 6mm downgraded Stone Chips of LAA value ≤35%, sand (FM>=2.2) and minimum cement conforming to BDS EN 197-1 : 2003 CEM-II/A-M 42.5N content relates to mix ratio 1:2:4 satisfying specified minimum required average strength, f'cr = 28.5 MPa and satisfying a compressive strength f'c = 20 MPa at 28 days on standard cylinders, including grading, washings stone chips, mixing in standard mixture machine, casting in forms, making shutter water-tight properly, compacting by vibrator machine and curing for at least 28 days, including preparation kerb foundation, true to level, maintaining alignment and height, including carrying and placing kerb stone, filling interstices of kerb stone tightly with cement mortar (1:4), raking out joints, cleaning and soaking kerb stone at least for 24 hours before use, curing for requisite period, etc. all complete as per drawing and direction of the E-I-C.	meter	382.00	1,177.11	4,49,656.02
		2 x 191 = 382.00	meter			
3	5.03.05	Providing **single layer polythene sheet** (0.18mm thick) weighing one kilogram per 6.5 square meter in floor or any where in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.	sqm	320.88	47.00	15,081.36
		1 x 191 x 1.68 = 320.88	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
4	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.	cum	26.36	10,063.81	2,65,261.90
		1 x 191 x 1.38 x 0.1 = 26.36	cum			
		Total = 26.36	cum			
4	5.04.22	Klinker paving brick works in floor or pavement with machine made pressed bricks of approved quality with cement sand (F.M. 1.2) mortar (1:4) on minimum 12 mm thick cement sand (F.M. 1.2) mortar (1:4) including raking out joints, cutting the bricks to required size, soaking the same for 24 hours before use wherever necessary including high class flush pointing in cement mortar (1:2), cleaning, curing at least for 7 days etc. including washing and screening of sand, cost of water, electricity and other charges complete and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.22)				
	5.04.22.1	100 mm thick flat brick pavement with 200 mm x 100 mm x 50 mm size klinker facing bricks. (PWD 04.22.1)	sqm	275.04	3,131.00	8,61,150.24
		1 x 191 x 1.44 = 275.04	sqm			
		Total = 275.04	sqm			
					Total	**16,02,011.31**
Items # 10 **Play field**						
1	4.06.01	Sand filling on the prepared foundation bed with sand of specified FM in layers not more than 150mm thick including necessary carriage, leveling, watering and ramming to achieve minimum dry density (MDD) of 95% STD compaction with optimum moisture content (OMC) by ramming each layer up to finished level as per direction of E-I-C.				
	4.06.01.01	Sand of Minimum FM 0.8	cum	306.23	1,074.50	3,29,044.56
		1 x 37.2 x 27.44 x 0.300 = 306.23	cum			
2	5.26.04	Alluvial loamy silty soil supplying cost by any means of approved local best quality including cost of labour for loading, unloading at both ends with properly stacking at site with cost of tools and plants etc. all complete and accepted by the Engineer	cum	76.56	913.00	69,897.09
		1 x 37.2 x 27.44 x 0.075 = 76.5576	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
3	5.26.06	Spreading the alluvial loamy silty soil from the stacks at site on the lawn surface including cost labour for carring, spreading, leveling, dressing the same etc. all complete as per direction of the E-I-C.	cum	76.56	194.00	14,852.17
		1 x 37.2 x 27.44 x 0.075 = 76.5576	cum			
4	5.26.03	lawn area Preparation with leveling and dressing to proper slope and grade by spading the earth up to 150 mm thickness including cost tools and plants etc. all complete and accepted by the Engineer	sqm	1,020.77	8.00	8,166.14
		1 x 37.2 x 27.44 = 1,020.77	sqm			
5	5.26.08	Lawn grass supplying by truck or any other means of approved best quality and size including sorting the grass to proper size and quality with washing the grass, dibbling the grass @ 10 mm to 50 mm distance in both ways, water spreading the lawn area till the grass grown at least for two months after plantation, weeding the undesirable grass, mowing the lawn grass by lawn mower up to two months after plantation, applying urea fertilizer on the lawn surface @ 1 kg per 9.29 sqm including cost of tools and plants etc. all complete as per direction of the E-I-C.	sqm	1,020.77	67.00	68,391.46
		1 x 37.2 x 27.44 = 1,020.77	sqm			
6	MR	Drainge work (Installation of PVC pipe)	LS	1.00	1,00,000.00	1,00,000.00
7	5.02.06	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C.. Dry density after compaction shall not be less than 90% of MDD (STD).	cum	714.54	520.40	3,71,845.37
		1 x 37.2 x 27.44 x 0.7 = 714.54	cum			
					Total	**9,62,196.80**
Items # 11 **Pond excavation**						
1	6.01.20.01	**Earthwork in excavation** of canals/Khals, ponds, drains etc. by excavating earth to lines, grades and elevation in all types of soils exceprt rocky, gravelly, slushy or organic soil as shown in the drawings, filling buskets, carrying and disposing all excavated materials at a safe distance including levelling, dressing etc all complete all for an initial excavation depth upto 2m and lead not exceeding 20m including arranging for and supplying all necessary tools and equipments etc., all complete as per direction of the Engineer-in-Charge.	cum	2,636.00	170.41	4,49,200.76
		1 x 1318 x 1 x 2 = 2636.00	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
2	6.01.19	**Earthwork in excavation** of canals/Khals, ponds, drains etc. by excavating earth to the lines, grades and elevation as shown in the drawings, filling baskets, carrying & disposing of all excavated materials at a safe distance designated by the Engineer-in-Charge in all types of soil except rocky, gravelly, slushy or organic soil, levelling, dressing etc all complete for an initial excavation depth of each meter or part thereof beyond the initial 2m depth and an initial lead not exceeding 20m including arranging for & supplying all necessary tools & equipment at work site etc., all complete as per direction of the Engineer-in-Charge	cum	1,318.00	108.88	1,43,503.84
		1 x 1318 x 1 x 1 = 1318.00	cum			
3	6.01.02	**Earthwork in excavation** of canals/Khals, ponds, drains etc. by excavating earth to the lines, grades and elevation as shown in the drawings, filling baskets, carrying & disposing of all excavated materials at a safe distance designated by the Engineer-in-Charge in all types of soil except rocky, gravelly, slushy or organic soil, levelling, dressing etc all complete for an initial excavation depth of each meter or part thereof beyond the initial 2m depth and an initial lead not exceeding 20m including arranging for & supplying all necessary tools & equipment at work site etc., all complete as per direction of the Engineer-in-Charge	cum	856.70	142.03	1,21,677.10
		1 x 1318 x 1 x 0.65 = 856.70	cum			
4	Present rates	**Slope protection works**	cum	722.25	1,250.00	9,02,812.50
		1 x 107 x 6.75 = 722.25	sqm			
				Total	**Tk**	**16,17,194.20**
Items # 12						
Ghat construction						
A	**RCC guide wall**					
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	211.41	168.00	35,516.25
		1 x 56.375 x 3.000 x 1.250 = 211.41	cum			
2	5.03.05	**Providing single layer polythene sheet** (0.18mm thick) weighing one kilogram per 6.5 square meter in floor or any where in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.	sqm	160.67	47.00	7,551.43
		1 x 56.375 x 2.850 = 160.67	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
3	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.	cum	12.05	10,063.81	1,21,270.48
		1 x 56.375 x 2.850 x 0.075 = 12.05	cum			
3	5.05.03	RCC WORKS: 1:1.5:3(measured on gross concrete section) (f'c =25MPa, minimum f'cr = 33.5 MPa in nominal mix 1 : 1.5 : 3), with stone chips (100% sand of F.M. 2.2) Reinforced cement concrete works with minimum cement content relates to mix ratio 1:1.5:3 having maximum water cement ratio = 0.40 and minimum f'cr = 33.5 MPa, satisfying a specified compressive strength f'c = 25 MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type – I, best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down well graded stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), conducting necessary tests, making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; mixing with standard mixer machine with hopper, fed by standard measuring boxes, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, other charges etc. all complete, approved and accepted by the Engineer-incharge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing,binding etc. and the cost of shuttering & centering) (PWD 07.3)				
	5.05.03.01	Individual & combined footing, pile cap, raft/mat, floor slab and foundation beam up to plinth level (PWD 07.3.1)	cum	25.37	13,842.00	3,51,154.24
		1 x 56.375 x 1.500 x 0.300 = 25.37	cum			
	5.05.03.02	Pedestals, column, column capital, lift wall and RCC wall up to ground floor (PWD 07.3.2)	cum	60.25	14,201.00	8,55,621.34
		1 x 56.375 x 2.850 x 0.375 = 60.25	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
		FORM WORK (Steel) :Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for: (PWD 07.12)				
	5.05.11.01	Individual and combined footing (PWD 07.12.1)	sqm	17.36	582.00	10,104.98
		1 x 57.875 x 0.300 = 17.36	sqm			
	5.05.11.04	Pedestal, column, column capital, lift wall and wall up to ground floor (PWD 07.12.4)	sqm	363.62	522.00	1,89,808.99
		2 x 56.375 x 3.225 = 363.62	sqm			
4	5.06.01.02	**Grade 400 (RB 400/ 400W):** Ribbed or Deformed bar produced and marked as per BDS ISO 6935-2:2006 with minimum yield strength, fy (ReH) = 400 MPa, but the tested yield strength shall not exceed fy by more than the 125 MPa and the ratio of tested ultimate strength, fu (Re) to tested yield strength (fy) shall be at least 1.25 and minimum elongation after fracture (A5.65) & minimum total elongation at maximum force (Agt) is 14% and 2.5% respectively.	kg	10,081.70	100.00	10,08,169.98
		1.50% = 10081.70	kg			
5	5.04.03	**Brick work with 1st class bricks** in cement mortar (1:4) in foundation and plinth with Portland Composite cement (CEM II/AM, 42.5N) and best quality sand (minimum FM1.2), filling the interstices tightly with mortar, raking out joints, cleaning and soaking bricks at least for 24 hours before use, washing of sand, curing for requisite period, etc. all complete as per direction of the E-I-C.	cum	12.68	8,419.00	1,06,789.75
		1 x 56.375 x 0.250 x 0.900 = 12.68	cum			
		Total = 12.68	cum			
6	5.02.13	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C.. Dry density after compaction shall not be less than 90% of MDD (STD).	cum	847.43	709.00	6,00,830.65
		1 x 36.575 x 9.900 x 1.200 = 434.51	cum			
		1 x 33.528 x 8.380 x 0.450 = 126.43	cum			
		1 x 30.480 x 9.150 x 0.450 = 125.50	cum			
		1 x 27.432 x 7.620 x 0.450 = 94.06	cum			
		1 x 24.380 x 6.100 x 0.450 = 66.92	cum			
7	5.12.04	Minimum **12mm thick cement plaster** (1:4) to dado and plinth wall upto 150mm below ground level with neat cement finishing including washing of sand and added Denso-01, finishing the edges and corners and curing for the requisite period etc. all complete as per direction of the Engineer-in-Charge. (Sand minimum FM. 1.2 to be used)	sqm	50.74	373.00	18,925.09
		1 x 56.375 x 0.900 = 50.74	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
B	**Platform**													
1	5.03.05	**Providing single layer polythene sheet** (0.18mm thick) weighing one kilogram per 6.5 square meter in floor or any where in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.									sqm	432.23	47.00	20,314.85
		1	x	24.380	x	6.100			=	148.72	sqm			
		1	x	39.620	x	1.525			=	60.42	sqm			
		1	x	45.730	x	1.525			=	69.74	sqm			
		1	x	47.240	x	1.525			=	72.04	sqm			
		1	x	53.320	x	1.525			=	81.31	sqm			
2	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.									cum	32.42	10,063.81	3,26,241.61
		1	x	24.380	x	6.100		0.075	=	11.15	cum			
		1	x	39.620	x	1.525		0.075	=	4.53	cum			
		1	x	45.730	x	1.525		0.075	=	5.23	cum			
		1	x	47.240	x	1.525		0.075	=	5.40	cum			
		1	x	53.320	x	1.525		0.075	=	6.10	cum			
3	5.05.01	RCC:1:2:4, 17MPa, Brick Chips (BC): Reinforced cement concrete works with minimum cement content relates to mix ratio (tentative 1:2:4) and maximum water cement ratio 0.45 having minimum required average strength, f'cr = 24 Mpa and satisfied a specified compressive strength f'c = 17 Mpa at 28 days on standard cylinders as per standard practice of Code AASHTO/ ASTM and Portland Composite Cement conforming to BDS EN 197-1 :2003 CEM-II 42.5N sand of minimum FM 1.8 and 20mm down well graded picked brick chips (LAA value and maximum water absorption not exceeding 38 and 15% respectively) conforming to ASTM C 33 or Aggregate Grading Appendix-3 LGED Schedule of Rates or any other International recognized envelop in/c breaking chips and screening through proper sieves, centering, shuttering in position, making shuttering fully leak proof & shuttering with plain 16 BWG steel sheet fitted over 38mm thick wooden plank panels and Standard size Bamboo Props suitably braced, placing of reinforcement in position, mixing the aggregates with standard mixer machine with hoper, fed by standard measuring boxes, maintaining allowable slump of 50mm (without plasticizer) & 75mm to 100mm												

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
		(when plasticizer use), pouring, casting, compacting by mechanical vibrator machine and curing atleast for 28 days, removing centering-shuttering after approved specified time period, i/c cost of additional testing charges of materials and cylinders required. Excluding the cost of reinforcement and its fabrication, welding, coupling, placing, binding etc. Additional quantity of cement and Plasticizer i.e. Water reducing chemical admixture of complying type A under ASTM C 494 to reduce mixing water required for normal workability and to maintain low water-cement (W/C) ratio (Doses of admixture to be fixed by the mix design from approved laboratory instruction by the Engineer) Additional quantity of cement to be added if required to attain the strength at the contractor's own cost) etc. all complete as per direction and approval of the Engineer in charge. Note : Using Concrete Mixer.													
3.1	5.05.01.01	In individual and continuous footing of column, raft and floor slab at plinth level										cum	54.03	8,673.00	4,68,592.16
		1	x	24.380	x	6.100	x	0.125	=	18.59		cum			
		1	x	39.620	x	1.525	x	0.125	=	7.55		cum			
		1	x	45.730	x	1.525	x	0.125	=	8.72		cum			
		1	x	47.240	x	1.525	x	0.125	=	9.01		cum			
		1	x	53.320	x	1.525	x	0.125	=	10.16		cum			
4	5.05.11	FORM WORK (Steel) :Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for: (PWD 07.12)										sqm	55.62	582.00	32,372.30
4.1	5.05.11.01	Individual and combined footing (PWD 07.12.1)													
		1	x	60.960	x	0.125			=	7.62		sqm			
		1	x	82.290	x	0.125			=	10.29		sqm			
		1	x	94.510	x	0.125			=	11.81		sqm			
		1	x	97.530	x	0.125			=	12.19		sqm			
		1	x	109.690	x	0.125			=	13.71		sqm			
5	5.06.01.02	**Grade 400 (RB 400/ 400W):** Ribbed or Deformed bar produced and marked as per BDS ISO 6935-2:2006 with minimum yield strength, fy (ReH) = 400 MPa, but the tested yield strength shall not exceed fy by more than the 125 MPa and the ratio of tested ultimate strength, fu (Re) to tested yield strength (fy) shall be at least 1.25 and minimum elongation after fracture (A5.65) & minimum total elongation at maximum force (Agt) is 14% and 2.5% respectively.										kg	6,361.90	100.00	6,36,189.64
		1.50%							=	6361.90		kg			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description										Unit	Quantity	Rate in Tk.	Amount in Tk.
6	5.04.22.2	Klinker paving brick works in floor or pavement with machine made pressed bricks of approved quality with cement sand (F.M. 1.2) mortar (1:4) on minimum 12 mm thick cement sand (F.M. 1.2) mortar (1:4) including raking out joints, cutting the bricks to required size, soaking the same for 24 hours before use wherever necessary including high class flush pointing in cement mortar (1:2), cleaning, curing at least for 7 days etc. including washing and screening of sand, cost of water, electricity and other charges complete and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.22) 50 mm thick brick pavement with 200 mm x 50 mm x 50 mm klinker facing bricks. (PWD 04.22.3)										sqm	432.23	2,823.00	12,20,187.41
		1	x	24.380	x	6.100	x		=	148.72		sqm			
		1	x	39.620	x	1.525	x		=	60.42		sqm			
		1	x	45.730	x	1.525	x		=	69.74		sqm			
		1	x	47.240	x	1.525	x		=	72.04		sqm			
		1	x	53.320	x	1.525	x		=	81.31		sqm			
C	**Sitting construction**														
1	5.03.05	**Providing single layer polythene sheet** (0.18mm thick) weighing one kilogram per 6.5 square meter in floor or any where in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.										sqm	81.15	47.00	3,813.87
		1	x	30.480	x	0.375	x		=	11.43		sqm			
		1	x	39.620	x	0.375	x		=	14.86		sqm			
		1	x	45.730	x	0.375	x		=	17.15		sqm			
		1	x	47.240	x	0.375	x		=	17.72		sqm			
		1	x	53.320	x	0.375	x		=	20.00		sqm			
2	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.										cum	6.09	10,063.81	61,248.03
		1	x	30.480	x	0.375	x	0.075	=	0.86		cum			
		1	x	39.620	x	0.375	x	0.075	=	1.11		cum			
		1	x	45.730	x	0.375	x	0.075	=	1.29		cum			
		1	x	47.240	x	0.375	x	0.075	=	1.33		cum			
		1	x	53.320	x	0.375	x	0.075	=	1.50		cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
3	5.04.03	**Brick work with 1st class bricks** in cement mortar (1:4) in foundation and plinth with Portland Composite cement (CEM II/AM, 42.5N) and best quality sand (minimum FM1.2), filling the interstices tightly with mortar, raking out joints, cleaning and soaking bricks at least for 24 hours before use, washing of sand, curing for requisite period, etc. all complete as per direction of the E-I-C.									cum	40.57	8,419.00	3,41,585.14
		1	x	30.480	x	0.750	x	0.250	=	5.72	cum			
		1	x	39.620	x	0.750	x	0.250	=	7.43	cum			
		1	x	45.730	x	0.750	x	0.250	=	8.57	cum			
		1	x	47.240	x	0.750	x	0.250	=	8.86	cum			
		1	x	53.320	x	0.750	x	0.250	=	10.00	cum			
4	5.05.01	RCC:1:2:4, 17MPa, Brick Chips (BC): Reinforced cement concrete works with minimum cement content relates to mix ratio (tentative 1:2:4) and maximum water cement ratio 0.45 having minimum required average strength, f'cr = 24 Mpa and satisfied a specified compressive strength f'c = 17 Mpa at 28 days on standard cylinders as per standard practice of Code AASHTO/ ASTM and Portland Composite Cement conforming to BDS EN 197-1 :2003 CEM-II 42.5N sand of minimum FM 1.8 and 20mm down well graded picked brick chips (LAA value and maximum water absorption not exceeding 38 and 15% respectively) conforming to ASTM C 33 or Aggregate Grading Appendix-3 LGED Schedule of Rates or any other International recognized envelop in/c breaking chips and screening through proper sieves, centering, shuttering in position, making shuttering fully leak proof & shuttering with plain 16 BWG steel sheet fitted over 38mm thick wooden plank panels and Standard size Bamboo Props suitably braced, placing of reinforcement in position, mixing the aggregates with standard mixer machine with hoper, fed by standard measuring boxes, maintaining allowable slump of 50mm (without plasticizer) & 75mm to 100mm (when plasticizer use), pouring, casting, compacting by mechanical vibrator machine and curing at least for 28 days, removing centering-shuttering after approved specified time period, i/c cost of additional testing charges of materials and cylinders required. Excluding the cost of reinforcement and its fabrication, welding, coupling, placing, binding etc. Additional quantity of cement and Plasticizer i.e. Water reducing chemical admixture of complying type A under ASTM C 494 to reduce mixing water required for normal workability and to maintain low water-cement (W/C) ratio (Doses of admixture to be fixed by the mix design from approved laboratory instruction by the Engineer) Additional quantity of cement to be added if required to attain the strength at the contractor's own cost) etc. all complete as per direction and approval of the Engineer in charge. Note : Using Concrete Mixer.												

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description									Unit	Quantity	Rate in Tk.	Amount in Tk.
4.1	5.05.01.03	In Stair case slab and step									cum	7.54	8,817.00	66,513.68
		20	x	0.900	x	1.524	x	0.150	=	4.11	cum			
		60	x	0.250	x	1.524	x	0.150	=	3.43	cum			
4.2	5.05.11	FORM WORK (Steel) :Centering and shuttering, including strutting, propping etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for: (PWD 07.12)									sqm	13.72	551.00	7,557.52
	5.05.11.10	Stair case slab and steps up to ground floor (PWD 07.12.10)												
		60	x	1.524	x	0.150			=	13.72	sqm			
5	5.06.01.02	**Grade 400 (RB 400/ 400W):** Ribbed or Deformed bar produced and marked as per BDS ISO 6935-2:2006 with minimum yield strength, fy (ReH) = 400 MPa, but the tested yield strength shall not exceed fy by more than the 125 MPa and the ratio of tested ultimate strength, fu (Re) to tested yield strength (fy) shall be at least 1.25 and minimum elongation after fracture (A5.65) & minimum total elongation at maximum force (Agt) is 14% and 2.5% respectively.									kg	9,666.91	100.00	9,66,690.51
		2.00%							=	9666.91	kg			
6	5.04.22.2	Klinker paving brick works in floor or pavement with machine made pressed bricks of approved quality with cement sand (F.M. 1.2) mortar (1:4) on minimum 12 mm thick cement sand (F.M. 1.2) mortar (1:4) including raking out joints, cutting the bricks to required size, soaking the same for 24 hours before use wherever necessary including high class flush pointing in cement mortar (1:2), cleaning, curing at least for 7 days etc. including washing and screening of sand, cost of water, electricity and other charges complete and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.22) 50 mm thick brick pavement with 200 mm x 50 mm x 50 mm klinker facing bricks. (PWD 04.22.3)									sqm	125.49	2,823.00	3,54,262.50
		60	x	1.524	x	0.150			=	13.72	sqm			
		10	x	3.200	x	0.450			=	14.40	sqm			
		1	x	30.480	x	0.450			=	13.72	sqm			
		1	x	39.620	x	0.450			=	17.83	sqm			
		1	x	45.730	x	0.450			=	20.58	sqm			
		1	x	47.240	x	0.450			=	21.26	sqm			
		1	x	53.320	x	0.450			=	23.99	sqm			
													Sub Total	**78,11,312.39**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
Items # 13						
Water Body Construction						
A	**Masonry guide wall**					
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	1.77	168.00	297.68
		2 x 5.25 x 0.375 x 0.45 = 1.77	cum			
2	6.01.20.01	**Earthwork in excavation** of canals/khals, ponds, drains, etc. by excavating earth to the lines, grades and elevation as shown in the drawing, filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of rocky, gravelly, slushy or organic soil, leveling, dressing, etc. all complete for an initial excavation depth upto 2m and an initial lead not exceeding 20m, including arranging for and supplying all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	60.00	170.41	10,224.60
		2 x 30 x 1 x 1 = 60.00	cum			
3	5.04.03	**Brick work with 1st class bricks** in cement mortar (1:4) in foundation and plinth with Portland Composite cement (CEM II/AM, 42.5N) and best quality sand (minimum FM1.2), filling the interstices tightly with mortar, raking out joints, cleaning and soaking bricks at least for 24 hours before use, washing of sand, curing for requisite period, etc. all complete as per direction of the E-I-C.	cum	2.63	8,419.00	22,099.88
	FF	2 x 5.25 x 0.25 x 1 = 2.63	cum			
		Total = 2.63	cum			
4	5.02.13	**Earth filling** inside plinth in 150mm layers with earth available within 90m of the building site, watering, leveling and consolidating each layer up to finished level, etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 90% of MDD (STD).	cum	0.35	709.00	251.25
		0.4 x 5.25 x 0.375 x 0.45 = 0.35	cum			
5	5.03.01	**Single layer brick flat soling** with 1st class or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	3.94	518.00	2,039.63
		2 x 5.25 x 0.375 = 3.94	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
6	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.	cum	0.30	10,063.81	2,971.97
		2 x 5.25 x 0.375 x 0.075 = 0.30	cum			
7	5.12.04	Minimum **12mm thick cement plaster** (1:4) to dado and plinth wall upto 150mm below ground level with neat cement finishing including washing of sand and added Denso-01, finishing the edges and corners and curing for the requisite period etc. all complete as per direction of the Engineer-in-Charge. (Sand minimum FM. 1.2 to be used)	sqm	26.00	373.00	9,698.00
		1 x 26 x 1 = 26.00	sqm			
					Sub Total	**47,583.00**
Items # 14						
	Rain water Harvesting					
	PLAR-Annex-A 9	Submersible pump with tube well	LS	1.00	6,00,000.00	6,00,000.00
	MR	Pipe line	Ls	1.00	3,25,000.00	3,25,000.00
					Sub Total	**9,25,000.00**
Items # 15						
	Water supply system					
	PLAR-Annex-A 9	Underground Water Reservoir :	gal	15,000.00	106.00	15,90,000.00
	MR	Laying pipe for water received	Ls	1.00	3,25,000.00	3,25,000.00
					Sub Total	**19,15,000**
Items # 16						
Drainage works						
1	6.10.01	Supplying and laying of uPVC pipes of different diameter and wall thickness for at least 3.25 bar (32.00 m head) working pressure in accordance with ISO-4422 and ISO-4065, including placing in position, connecting and leak proof O-ring jointing using best quality elastomeric sealing gaskets, etc. completed including costs of all materials, labors, etc and costs of testing for complete leak proofness and repair and/or replacement of leaking joints , if any but excluding costs of earthworks in trench cutting & filling as per design drawings, specifications and as per Direction of Engineer-in-Charge.				
1.1	6.10.01.03	For PVC Pipe: 200mm Dia, Wall Thickness 4.0mm	m	60.00	1,063.42	63,805.20
		1 x 60 = 60.00	m			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
2	7.70	Construction of masonry **inspection pit** with 250 mm thick brick work in cement mortar (1:4) including necessary earth work side filling and one layer brick flat soling, 75 mm thick (1:3:6) base concrete for making invert channel and 12 mm thick (1:2) cement plaster with neat finishing up to a depth of 700 mm etc. all complete and as per direction of the E-I-C (minimum sand F.M. 1.2)				
2.1	7.70.3	Clear 600x600 mm and depth 750 to 900 mm average 825 mm for single 300 mm dia R.C.C pipes and 375 mm and 400 mm PVC pipe	each	10.00	8,259.00	82,590.00
		2 = 2.00	each			
3	7.72	Construction and placing of R.C.C **inspection pit cover** (100 mm thick RCC slab) in (1:2:4) (of item no-5.05.01.01) with 1% reinforcement (of item no-5.06.01.01) excluding M.H cover with locking/ unlocking arrangement including necessary earth work, side filling, shuttering, curing, cement plaster (1:4) (of item no-5.12.01) with neat finishing on edges and top etc. all complete and as per direction of the E-I-C				
3.1	7.72.3	1100 x 1100 x 75 mm R.C.C pit cover	each	2.00	2,440.00	4,880.00
		2 = 2.00	each			
4	MR	Gratings etc	each	2.00	2,000.00	4,000.00
		2 = 2.00	each			
5	MR	Drainage system (Gonoprangon)	sqm	1,750.00	250.00	4,37,500.00
					Total	**5,92,775.20**
Items # 17 **Sewage disposal system**						
1	7.75	Construction of non electric Eco STP of different sizes (as per detail drawing attached in annexure) with 250 mm walls of brick work in cement mortar (1:4) having a brick flat soling and 125 mm thick reinforced cement concrete flooring (1:2:4) with 125 mm thick walls (1:4) in partition and flush pointing (1:2) on inside wall surface and 12 mm thick cement plaster (1:4) with N.C.F. on floor and slab surface including supplying, fitting and fixing of upvc pipes & Tees and providing 450 mm dia water sealed heavy type C.I. manhole cover with locking/unlocking arrangement and 100 mm thick R.C.C (1:2:4) top slab, including centering, shuttering, fabricating, casting and curing etc. complete up to required depth including necessary earth work in excavation and shoring, bailing out water and side filling, dressing, inside cleaning, cow dung or old septic tank liquied for charging/start up including the cost of all materials, operations and incidental charges. etc. all complete as per type plan approved and accepted by the Engineer-in-charge (Rate is including cost of reinforcement and its fabrication, binding and placing).				
1.1	7.75.02	300 users (PWD BW 26.75.2)	each	2.00	4,66,520.00	9,33,040.00
					Total	**9,33,040.00**

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
Items # 18 **External Electrical**						
1	MR	External electrical and lighting works (Complex- 01)	sqm	4,717.50	350.00	16,51,125.00
		1 x 4717.5 x = 4717.50	sqm			
2	MR	External electrical and lighting works (Complex- 02)	sqm	2,250.00	350.00	7,87,500.00
		1 x 2250 x = 2250.00	sqm			
					Total	**24,38,625.00**
Items # 19 **Solar System**						
1		OFF- GRID SOLAR PANEL SYSTEM : S upplying, installation, testing & commissioning of following capacity solar system (off grid) for 2 Hrs backup with required quantities of mono / poly crystalline silicon solar PV modules, Solar suited Deep Cycle Lead Acid battery (12V), with required size maximum power point tracking (MPPT)/PWM charge-controller & inverter as per relevant international standards & certification such as IEC / CE / UL as per following specification to produce AC- 220V, 50Hz pure sine wave for suitable use of all standard AC appliances with battery racks /cabinet, solar PV mounting structure, combiner box, fuse box, meter etc. system includes compatible solar cables, equipotential bonded and earthed with the building earth electrode which is conventional and / or chemical electrode system and all accessories as required to complete the installation with one year free operation & maintenance of the system which shall have the following features:S OLAR PV MODULES/PANEL:I . Parameters for PV Panel should be at Standard Test Condition of solar irradiance of 1000 W/m2, Cell Temperature of 25 degree Celsius and AM of 1.5g.I I. II. Solar PV module / panel shall be inconformity with the requirement of BDS IEC 61215, IEC 61730 (latest edition) along with VDE/NEMA/JIS/BS standards. Certificate issued by the internationally recognized authority such as CE / TUV /DNV or equivalent certifying body shall have to be submitted by the bidder for the above mentioned international standard. Manufacturing facility should be ISO9001, ISO14001 quality management system certified.I II. III. Solar panels shall be installed pointing to the right direction to capture most of the solar energy to transform it into electricity with the facility to be adjusted from the horizontal to 12 degree in summer and to 35 degree in winter to get the maximum efficiency and must face the true south in our country. For fixed panel mounting system, the panels must be tilted (22.5 ± 1) degree with horizontal and must face the true south in BANGLADESH.I V. The average efficiency of PV module should be minimum 17%.V . The complete PV module shall be diode protected at junction box to protect reverse current.	KWp	7.2	1,76,910.00	12,73,752.00

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
		V I. Operating temperature range should be - 40 to 85 Degree Celsius. V II. Power de-rating allowed should be not more than (-0.41%)/Degree CelsiusV III. Panels should be constructed with anti-reflective glass, anti Potential Induced Degradation(PID), IEC 61701I X. Modules fitted with anodized aluminum frames or, if without frame, two-glass modules.X . Resistance to a maximum pressure load of 5400 Pa and vacuum of 2400 Pa (according to BDS IEC 61215)X I. Each module will be provided with a clearly visible identifier bearing the name, the model of the module and a visual identification or a serial number which allows the traceability of the date of manufacture in accordance with standard NF EN 50380 XII. Each combiner box of PV module shall be diode protected to ensure any back flow current to the PV array and may have fuse of adequate ratings in DC positive line of the PV array and wire terminals. The main combiner box shall have lightning surge protective device of as per nominal voltage of the combiner box both in positive and negative line in order to ensure the bypass diode always function even in thunder storm. The fuse, if exists, shall also have disconnection switch .The box shall be completely water proof according to IP 68. X III. Product warranty against manufacturing defects : minimum 12 years and their replacement during this period. XIV. Performance warranty: linear degradation, minimum 98% at 1 year, then linear with minimum 90% at 10 years, and 80% at 25 yearsS olar panel from Sunpro/Vikram/Saronic/Suntech /ULICA/Canadian Solar/JA Solar/Trina Solar/Longi or equivalent. CHARGE CONTROLLER:M PPT / PWM (Pulse Wave Modulator) solar charge controller shall be protected from: I)Overcharge protection (adjustable) II)Over discharge protection (for DC load and less than 200 Wp system) III)Battery reverse current protection IV)Overloading protection V)Temperature compensated chargingV I)Short circuit protection V II)Reverse polarity connection protectionV III)Lightning induced surge current protectionP ower consumption should be less than 20 mw. T he controller should be microprocessor controlled with wide input range, cooling fan temperature compensation (-3 to 7mV /cell / Celsius), more than one-step charging to provide quick and safe charging for battery, 7 modes timer control (on / off DC load) selectable, automatic etc. as required.I X .Power conversion efficiency: 90% INVERTER: The Inverter is specially designed for DC to AC power which provides pure sine wave. Supplier is allowed to use Off Grid Inverter for designing the system keeping in mind that, utility grid cannot be used for battery charging, they may use battery bank for reference input. T he inverter(s) shall comply with the following requirements: I. Adopt power frequency transformed, pure sine wave output, adapt to different load.				

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
		II. Excellent protection design against output short circuit, working reliably.I II. High inverting efficiency, energy saving and environmental protection. IV. LCD +LED display show the working status clearly.V . Design, manufacturing, performance, testing, safety, quality and environmental management shall be in accordance to the BDS IEC 62109/BS/VDE or equivalent international standards.V I. Should conform to ISO 9001, 14001 & 45001 standard. V II. The Inverter manufacturer shall have at least 05 (five) years of experience, nominal input voltage: 24/48V DC, output : 220V AC, output waveform : pure / modified sine wave, self consumption : less than 1 (one) watt, Efficiency : 97% or higher at operating load range from 10% to 100% rated load, Energy source : Priority to solar then battery. VIII. The Inverter shall be protected from lightning induced current by surge protective device of adequate rating both in DC and AC side in parallel at the entry and exit terminal of the inverter. The inverter shall also be protected for overload and over current protection from both DC and AC side. I X. Frequency ranges: 50-60 Hz, Relative humidity: 0- 95%, non-condensing, Operating temperature range: 0- 55°C, Cooling method: Natural Convention, Topology -Transformerless , Noise - <30dB , Protection – IP65.X . Brand: Solar Inverter from SAJ/Solis/Huawei or equivalentB ATTERY: Solar suited Deep Cycle Lead Acid battery(12V)C ompliance : ISO9001 & ROHS (Restriction of Hazardous Substances) certified company. ENERGY METER:S upplying and installation of energy meters with following features: I.Single phase / three phase (as per requirement) II. Energy meter to be provided to record the amount of solar e nergy provided from the solar system. G ENERAL GUIDELINE/CRITERIA:I . The bidder shall examine the site before the design of solar system & its componentsI I. The bidder shall have facilities and proper tools and machineries for installing, testing & commissioning of solar panel. I II. Adequate space & height shall be provided in the rows of panels for easy air flow to avoid excessive heat generation in the panel and to provide access for rain water drainage and damage to protect from dirty water. Minimum air gap between two panels shall be 25 mm. IV.All frames of the PV module, combiner box, inverter etc. shall be equipotential bonded and earthed with the building earth electrode which is conventional and /or chemical electrode system with soil conductivity enhancing material that the earth resistance must be less than 1 Ohm as per related standard and code of practice. V. The solar panel mounting shall be of galvanized iron or equivalent to ensure rust protection of the installation.				

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
		All nut bolts shall be of stainless steel (SS) or galvanized mild steel (MS) materials. VI. After successful completion, testing & commissioning of the whole system the contractor shall have to train nominated person(s) of the user for a period of at least 2 days.V II. After completion of whole system and before handing over the system to the concerned authority, the contractor must have to provide minimum 30 days' satisfactory operation for performance evaluation. VIII. Technical specification with catalogue of PV module, inverter must be submitted with technical offer.I X. Only approved cable shall be used for wiring.X . Sufficient AC and DC circuit breakers shall be used to ensure proper safety of the system.[PWD-12.1]				
					Total	**12,73,752.00**
Items # 20 **Landscaping (Planter with tree plantation)**						
1	5.02.01.2	**Earthwork in excavation** of foundation trenches, including layout, by excavating earth to the lines, grades and elevation as shown in the drawing providing center lines, local bench mark pillars, fixing bamboo spikes and marking layout with chalk powder filling baskets, carrying and disposing of all excavated materials at a safe distance designated by the E-I-C in all types of soils except rocky, gravelly, slushy or organic soil, leveling, ramming, dressing and preparing the base, etc. all complete for an initial excavation depth of 2m and an initial lead not exceeding 20m, including arranging all necessary tools and equipment at work site, etc. complete as per direction of the E-I-C.	cum	6.08	168.00	1,020.60
		2 x 18 x 0.375 x 0.45 = 6.08	cum			
2	5.02.08.1	**Sand filling** in foundation trenches and inside plinth with sand (minimum FM 0.50) in 150mm layers in/c leveling, watering and consolidating each layer up to finished level etc. all complete as per direction of the E-I-C. Dry density after compaction shall not be less than 95% of MDD (STD)	cum	1.01	1,088.00	1,101.60
		2 x 18 x 0.375 x 0.075 = 1.01	cum			
		Total = 1.01	cum			
3	5.03.05	**Providing single layer polythene sheet** (0.18mm thick) weighing one kilogram per 6.5 square meter in floor or any where in ground floor underneath the cement concrete, etc. all complete as per specifications and direction of the E-I-C.	sqm	13.50	47.00	634.50
		2 x 18 x 0.375 = 13.50	sqm			
		Total = 13.50	sqm			
4	4.06.02	**Single layer brick flat soling** with 1st class or picked kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	13.50	478.76	6,463.26
		2 x 18 x 0.375 = 13.50	sqm			
		Total = 13.50	sqm			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
5	4.06.04	**PCC-17**: Plain cement concrete work in foundation with minimum compressive strength of 17MPa at 28 days (suggested mix proportion 1:2:4 & maximum w/c ratio 0.45) on standard cylinder as per standard practice of Code AASHTO/ ASTM/ and cement conforming to BDS EN 197-1 : 2003 CEM-II/A-L/M/V/W 42.5N, sand of minimum FM 1.8 and 20mm down well graded 1st class/ picked brick chips (LAA value not exceeding 40) conforming to ASTM C 33 including breaking bricks into chips, shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period etc. all complete as per direction of the E-I-C. Additional quantity of cement to be added if required to attain the strength at the contractor's own cost.	cum	1.01	10,063.81	10,189.61
		2 x 18 x 0.375 x 0.075 = 1.01	cum			
		Total = 1.01	cum			
6	5.04.01	Brick works with first class bricks with cement sand (F.M. 1.2) mortar (1:6) in foundation and plinth, filling the joints/interstices fully with mortar, racking out the joints, cleaning and soaking the bricks at least for 24 hours before use and curing at least for 7 days etc. all complete including cost of water, electricity and other charges and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) (PWD 04.1)	cum	5.40	7,529.00	40,656.60
		2 x 18 x 0.25 x 0.6 = 5.40	cum			
		Total = 5.40	cum			
7	MR	Tree plantation	each	2.00	500.00	1,000.00
		2 = 2.00	each			
		Total = 2.00	each			
8	5.26.03	**Leveling and dressing** of lawn area to proper slope and grade by spading the same up to 150 mm including supplying tools and plants etc. all complete and accepted by the Engineer-in-charge.	sqm	100.00	8.00	800.00
		1 x 100 x 1 = 100.00	sqm			
9	5.26.04	Supply of best and approved quality **alluvial loamy silty soil** including loading, unloading at both ends, properly stacking at site including supply of tools and plants etc. all complete and accepted by the Engineer-in-charge.	cum	67.50	913.00	61,627.50
		1 x 100 x 1 x 0.675 = 67.5	cum			
10	5.26.05	Supply **well decomposed cow dung** carried by trucks or any other means including loading, unloading at both ends, stacking the same at site including supply of tools and plants etc. all complete and accepted by the Engineer-in-charge	cum	7.50	1,703.00	12,772.50
		1 x 100 x 1 x 0.075 = 7.5	cum			

Item No	Ref. to LGED Dhaka Division SoR. 2022	Description	Unit	Quantity	Rate in Tk.	Amount in Tk.
11	5.26.09	**Labour charge** for mixing well decomposed cow dung with alluvial loamy silty soil and excavated earth, removing the excess earth to safe distance including supply of tools and plants etc. all complete and accepted by the Engineer-in-charge.	cum	15.00	175.00	2,625.00
	Loam soil	1 x 100 x 1 x 0.075 = 7.5	cum			
	Cow dung	1 x 100 x 1 x 0.075 = 7.5	cum			
		Total = 15	cum			
12	5.26.06	Labour charge for spreading the alluvial **loamy silty soil** from the stacks at site on the lawn surface, leveling, dressing the same including supply all necessary tools and plants etc. all complete and accepted by the Engineer-in-charge.	cum	15.00	194.00	2,910.00
	Loam soil	1 x 100 x 1 x 0.075 = 7.5	cum			
	Cow dung	1 x 100 x 1 x 0.075 = 7.5	cum			
		Total = 15	cum			
13	5.26.08	Supply of lawn grass of approved quality by truck or by any other means, sorting the grass to proper size, washing the grass, dibbling the grass 6 mm to 50 mm apart, irrigation of lawn area till the grass grown at least for two months after plantation, weeding the undesirable grass, mowing the lawn grass by lawn mower up to two months after plantation, applying urea fertilizer on the lawn surface @ 1 kg per 9.29 sqm including supply of tools and plants etc. all complete and accepted by the Engineer-in-charge.[PWD 25.8]	sqm	100.00	67.00	6,700.00
		1 x 100 x 1 = 100.00	sqm			
					Sub Total	**1,48,501.17**