

Sponsored Thesis Project Competition on  
“*RE-IMAGINING URBAN RIVERS*”  
*Season- 2*



Project Title : Noida Riverfront Development, Noida  
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## PREFACE

Indian cities have sociocultural and religious parts that always been inextricably plain-woven within this urban waterbodies. It's evident in the history that human settlements typically evolved along the water edge. The connection between a town and its city district is exclusive and forever dynamic, counting on the functions administrated on adjacent land.

People owe their life and have learnt to live in society and developed completely different cultures and civilizations on the river front. However in trendy city riverfront are neglected. The result this neglect the city deprives of the good aesthetic potential of the river. These are typically screened with the backsides of industries, slums, marketing yards for all varieties of wastes and unplanned growth.

NOIDA, a satellite city of Delhi, don't have any mythological history and identity of its own. Riverfront along the Yamuna in Delhi is given more emphasis, therefore, developing a riverfront on the banks of Yamuna in Noida is an effort to create a face for the town and promote its identity besides rising IT industrial hub. Taking inspiration from the Ghats of Varanasi, it's an attempt to create new public realm facing towards the river that is strongly connected to the city's urban fabric.

The study will be limited to architectural and spacial aspects only. It will not develop policies and regulation. Ecological perspective will be partially taken into consideration.

## ACKNOWLEDGEMENT

On the very onset of this thesis, I would like to extent my heartfelt and sincere obligations towards all the personages who helped me in the endeavor. Without their support, guidance, encouragement and co-operation, the following report would not have been a successful outcome.

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Special thanks to **NIUA** and **NMCG** for organizing this competition and giving us opportunity to work efficiently. My supervisors **Prof. Anand Khatri** and **Ar Kamini Singh** (Assistant Professor, Apeejay School of Architecture and Planning) who left no stone unturned in guiding to make this dissertation possible. Her personal guidance enabled me to bring out the depth of the topic, even beyond my thought.

I would like to extend the gratitude towards the eminent architects and related professionals whose works are studied later in this dissertation. Their noble thoughts and design philosophies has extended my ocean of knowledge in the field.

Also, thanks to all my friends Prashant Singh, Shreya Khare and family members who helped at every step in making this possible.

Any omission in this brief acknowledgement does not mean lack of gratitude.

Thanking All,

RADHIKA GARG

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## **ABBREVIATION**

CIA	Cultural Impact Assessment
CPCB	Central Pollution Control Board
DUAC	Delhi Urban Art Commission
ESIA	Environment and Social Impact Assessment
ESMF	Environment and Social Management Framework
ESMP	Environment and Social Management Plan
GoI	Government of India
ICOMOS	International Council on Monuments and Sites
INTACH	Indian National Trust for Art and Cultural Heritage
MoEF	Ministry of Environment and Forests
NIUA	National Institute of Urban Affairs
NYRBA	National Yamuna River Basin Authority
NGO	Non- Government Organization
NMCG	National Mission for Clean Ganga
NPRR	National Policy on Resettlement and Rehabilitation
NP	National Park
OP	Operational Policy
RFD	River Front Development
SPCB	State Pollution Control Board
URDPFI	Urban and Regional Development and Plans Formulation and Implementation
WB	World Bank
WLPA	Wild Life Protection Act
WLS	Wild Life Sanctuary
ZSI	Zoological Survey of India

## Project Background:

The proposed thesis title, ‘Noida Riverfront Development’, is an attempt to bring back the lost existence of the river Yamuna in Noida. The lost connection of the city with the river is the driving factor to choose this topic to establish harmony between the flowing river, existing nature and the urban population and infrastructure. Due to its non-perennial nature and narrow width, it is neglected by the city and is considered a “Nala” drain by most of its residents, as a result it is merely a sink for solid waste and wastewater, what flows in the river throughout the year is untreated sewage poured into the river by the nallas and solid waste from the households. The connection between a city and its waterfront is exclusive and always changing, depending on the functions administered on adjoining land. People owe their lives, have learnt to measure in society, and have developed different cultures and civilizations on the riverfront. However, in modern towns, the riverfront is neglected. The result of this neglect is that the town is deprived of the nice aesthetic potential of the river. These are often screened by the backsides of industries, slums, and dumping yards for all forms of waste and unplanned growth. Encroachments also continue to threaten the health of this river.

Noida, a part of Delhi, does not have any mythological history or identity of its own. Therefore, developing a riverfront along the banks of Yamuna in Noida is a shot to make a face for the town and promote its identity besides being an emerging IT industrial hub.

In accordance with thesis competition guidelines, this project falls under Theme-4 Generating a river-related economy.

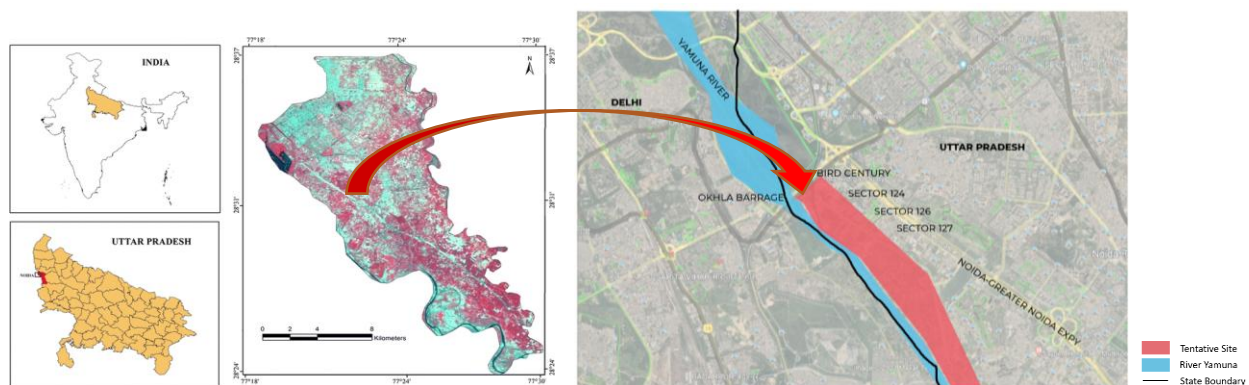


Figure 1 Site location

## Introduction:

Each new investment along the rivers encourages activity, unleashes vitality and increases land value, while providing places for people to enjoy. Most cities have their back to the urban waterfronts, severing the connection between its people and water. In Delhi-Noida, the flowing river Yamuna dries up for almost 9 months of the entire year. 80% of the total pollution in Yamuna is due to flow of sewage and waste from 22 drains. Hence, Yamuna Riverfront Project is being carried out, but the patch flowing through Noida is not taken into consideration. Developing a riverfront where people gets access to river, can enjoy the face time with river throughout the day without the changing season as barriers. That ultimately helps in boosting the economy through river.

**Noida Riverfront Development**

Riverfront Development has become a new ‘normality’ in recent years for tracing the future of contemporary cities at the global level. It is emerging as an active urban face and becoming promising recreational and cultural hubs. In India, rivers are part of Indian culture and rituals, many festivals are associated with water as an element. For instance, such festivals include - Ganapati, Durga visarjan, Chatt Puja, kawad etc. Due to this, the riverbed has become a perfect location for temples and other religious spaces.

Contemporary riverfront developments in India face a frightening task to attain a balance between the split ideas of local vs the world. Riverfront developments in Indian cities are conventionally guided by socio-cultural benefits. Earlier development authorities majorly geared toward improvement of socio-cultural fabric while improving infrastructure and amenities along riverfronts. Since most rituals of Hindu culture require the presence of water bodies, religious importance has always been related to these developments. However, some rivers attributable to their perennial and navigable nature have also been related to riverfronts as ports. City reduced to a continuous sprawl and offers lack of Identity.

**Rules, Regulations and byelaws:**

Table 1 : Environmental Regulations and Legislations (Source: Author)

S.NO	Act/Rule	Purpose	Applica-bility	Reason for applicability	Authority
1	Wildlife (Protection) Act 1972	The Wildlife Protection Act, 1972 has been formulated in order to protect the wild life in sanctuaries and National Park.	Yes	The selected patch is within the area of 10km.	Chief Conservator Wildlife, Wildlife wing, state forest department, MoEF, GoI
2	Land Acquisition Act, 1894 (As amended) right to fair compensation and transparency in land acquisition, rehabilitation and resettlement act 2013	Sets out rule for acquisition of land by govt.	No	No private land acquisition is involved.	
3	The Air (Prevention and Control of	To control air pollution by controlling emission of air	Yes	This act will be applicable during the construction stage.	SPCB



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	Pollution) Act, 1981	pollutants as per the prescribed standards.			
4	Water Prevention and Control of (Pollution) act, 1974	To control water pollution by controlling discharge of pollutants as per the prescribed standards	Yes	This act is applicable for the construction stage of the project.	SPCB
5	The Noise Pollution (Regulation and Control) Rules, 2000	The standards for noise for day and night have been promulgated by the MoEF for various land uses.	Yes	This act will be applicable for all construction equipment deployed at worksite.	SPCB
6	Municipal Solid Wastes (Management and Handling) Rules, 2000	To manage collection, transportation, segregation, treatment and disposal of municipal solid waste	Yes	This rule is applicable both during the construction stage (from generation of waste from labor camp) and generation of waste from ghat users during operation stage.	Moe, CPCB, SPCB
7	Public Liability Act and Insurance act 1991	This act details out the requirement of protection from hazardous materials and accidents and sets the guideline how to store the hazardous materials.	No	Largely no such hazardous waste is being expected from ghat development project hence this act is not applicable. Contractor need to abide by this act if they store hazardous substances such as petroleum products, etc.	SPCB

**RIVER REGULATIONS:**

**No Development and Construction Zone (NDCZ):** The competent authority shall determine a NDCZ on either bank for every river which shall not be less than the “Active Flood Plain” of the river.

Following public facilities shall not be permitted in active flood plain/ NDCZ: Hospitals, nursing homes, and housing, Police stations, fire stations, vehicle and equipment storage facilities, and emergency operations centers that are needed for flood response activities Structures or facilities that produce, use, or store highly volatile, inflammable, explosive, toxic, and/or water-reactive materials, Public semi-public facilities like sewage and water treatment plants (STP/ WTP); power

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plants and stations; bus depot; metro stations/ depot etc. Commercial extraction of well water by non-government / private agencies shall not be permitted within NDCZ in any category of the river.

**Permitted activities/uses:** Parks/Gardens, playgrounds, sports facilities including stadium, swimming pools, burial cemeteries and crematoria. The Parking for these facilities shall be provided as per the provisions of the master plan and up to 2% of the total land area with FAR of 0.50 and G+1 structure. Open air theatres, indoor recreational uses, dwelling for watch and ward, sports clubs, water front tourism development projects, libraries, milk booths, Horticultural Producers' Cooperative Marketing and Processing Society (HOPCOMS), public toilets. The ground coverage for such use shall not exceed 5% of the full area with required parking facility and shall not be over G+1 floor in any case. The ground coverage for such use shall not exceed 5% of the overall area with required parking facility and shall not be over G+1 floor in any case.

**Prohibited activities zone:** This zone extends from the river bank to the outer edge of the floodplain and beyond. The limit will be extended up to 500 meters from the highest flood level in the past 50 years. These zones are the area which are subjected to frequent flooding and are most vulnerable to adverse impacts of human activities. In case of the presence of embankments in the floodplain area, then this zone will extend from the river bank to the present outermost embankment and further a 100 m buffer is provided outside that embankment.

**Restricted activities zones:** Restricted activities zone includes the floodplain areas which are less frequently affected by the floods and lie farther from the river. It will have limits extended from the outer limits of the prohibited zone and up to 1 KM.

**Regulated activities zone:** This zone extends up to 3 km from the outer limits of the restricted activities zone. Certain activities will be permitted in this zone.

The buffer for water bodies such as lakes/ streams/ drains shall be governed as per the NGT Orders. In case of water bodies, a 75 meter buffer of No Development and Construction Zone is to be maintained around the lake as per the revenue record with exception of activities associated with lakes. This buffer may be taken into account for reservation of park while sanctioning plans.

The following laws and regulations are application to the environment and social aspects of the proposed *ghat* development program:

Policy and regulatory framework of Govt. of India

Environmental Policy of the respective State Governments

Legislations applicable to the construction activities

## **CASE STUDY:**

To know the insights of the existing riverfronts, certain case studies were studied thoroughly based on literature study of existing Riverfronts in India based on below mentioned parameters:

- Design concept
- Land use analysis

- Built-up analysis
- Activities in vicinity

Riverfronts chosen for the study are:

Sabarmati Riverfront, Ahmedabad

Patna Riverfront

Haridwar Riverfront (Har ki Pauri)

Yamuna Riverfront, Delhi

Table-2 Comparative Case Study Analysis (Source - Author):

CASE STUDY	YAMUNA RIVERFRONT	SABARMATI RIVERFRONT	PATNA RIVERFRONT
LOCATION	Delhi	Ahmedabad, Gujarat	Patna, Bihar
RIVER	Yamuna	Sabarmati	Ganga
STRECTCH	25 Km	11.5 Km	7 Km
TYPE	Recreational	Recreational	Religious & Recreational
ACTIVITIES	Parking, Weekly Haat, Mela Ground For Chhath Puja, Chhath Puja Ghat , Solar Farm, Eco Area – Boardwalk/Birdwatch Trail, Plaza, Grand Lawn – Open Exhibition Space, Amphitheatre, Exhibition Centre, Cafés, Pedestrian/Bike Trail along Nullah.	Ghats, Riverfront Parks, Amusement Park, Urban Forest, Boating Stations, Flower Garden Plazas, Sports Complex, Cycling, Kiosks, etc.	Chhath Puja ghat, community areas, crematorium, audio visual theatres, teaching centers, pedestrian trail, promenade, etc.

### Inferences from the Case Studies:

- Provide adequate parking space.
- Create/design a large open space where the event can take place, as people tend to stay overnight on the grounds there is need for a large space to provide temporary shelter during the festival.
- Multiple uses and edge treatments have to be allowed.
- The design vision calls for design strategies, and deliberate planning of open spaces, which strike a balance between innovation and historic preservation as opposed to a single solution. This will give the riverfront the flexibility to evolve over time.
- Building typology should not hinder the aroma of nature instead should be acted as extended platforms for the ghats.
- On site artificial ponds can be created since, there is scope of level difference up to 1m between edges.
- Multiple activities in different zones along riverfront. All the sectors of urban activities (economic-productive, residential, pertaining to culture and leisure, mobility), should be properly mixed

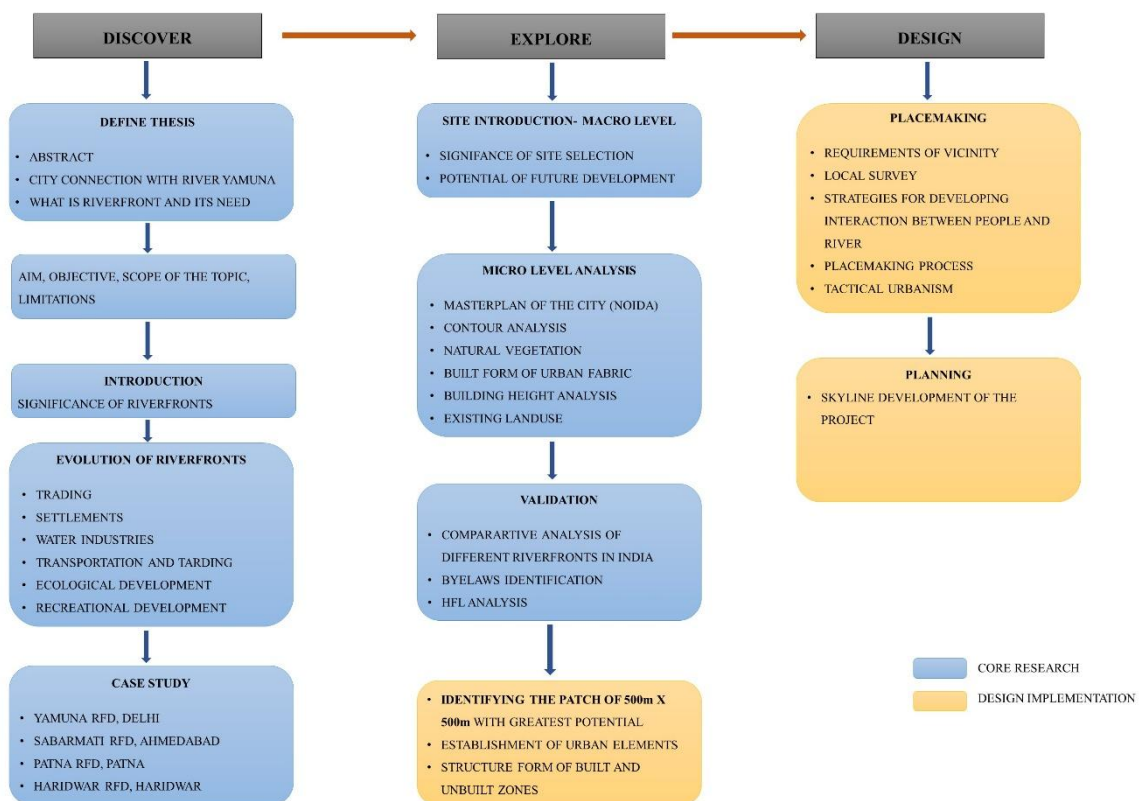
**Noida Riverfront Development**

- viii. River front should be developed keeping in mind previous and original uses for these zones with the purpose of keeping alive the memory of such unusual aspects, and preserving old identity of these places.
- ix. A road map of all routes that facilitate and develop interaction between different activities rather than separating them.
- x. The side-by-side development of ‘public and private’ is referring to functions (government offices, museums etc.), spaces (plazas, roads, parks etc.) and the actors managing the services on the riverfront.

**Design Overview and Methodology:**

“To resuscitate the relation between river and the city by socio-petal, ingenious and persuasive sustainable practices to transform the urban interface of the river and city with solicitude towards ecology and culture to revive the city’s identity on its water front”.

The project establishes the physical connection of the city with the river. It focuses to create new public realm facing towards the river that is strongly connected to the city’s urban fabric. To improve environment quality and create recreational opportunities, further boosting socio-economic development of the neighbourhoods and rejuvenating the cultural bonds with the river. Employment opportunities by creating economic activities for livelihood generation. Improvement of safety measures with deployment of efficient exit routes during religious gatherings along the project ghats.



The above images show- case a flow chart of the design methodology followed. Steps undertaken to develop an economical and sustainable design solution to achieve an active recreational space along the riverside.

## Site Analysis:

The riverfront is proposed within the range of 10km of Okhla bird sanctuary along sector 124,125,126,127 and 128 in Noida, Uttar Pradesh.

The presence of world-class transit, recreational and educational centers in the vicinity, the proposed building has to respond to the modern expression of commercial built form.

The NOIDA has developed sector 62, 125, 126, 127, 132, 135, 136, 142,143, 144, 153, 154, etc., where Institutional and other office facilities will house large number of offices and employment opportunities.

Considering the fact that the level of facilities in Noida and transport linkages with Delhi are bound to increase in the short run, the rate of growth of population is likely to accelerate in the future.

## City Features:-

Soil	- Moderately fertile
Earthquake zone	- Zone IV (High Damage Risk Zone with potential of MSK VIII earthquake)
Terrain	- Generally plain with a gradual slope varying between 0.2-0.1 percent from northeast to south-west.
Climate	- Summer : March to June Winter : October to February Monsoon : July to September
Connectivity	- Anand Vihar Terminal Railway Station (ANVT) and Ghaziabad Junction Railway Station (GZB) Indira Gandhi International Airport 37 km Hindon Airport 27 km New Delhi to Noida: 23 km
Population	- 6.37 lakhs (Census 2011) Male-3.3 lakhs, Female- 2.8 lakhs



Figure 2 Site images (Source - Author)

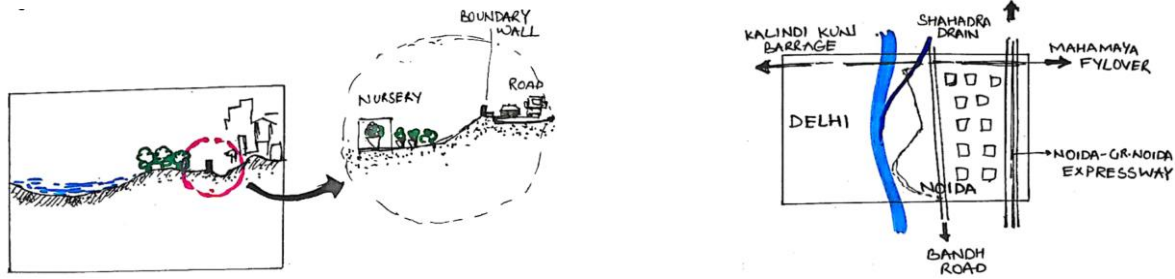
**Noida Riverfront Development**

Figure 3 Existing site Scenario (Source - Author)

Historically, the Yamuna River was the backbone of civilization in Northern India. This natural resource was once viewed as sacred. The modern Yamuna has become a dumping ground for society's waste. Therefore, settlement along the river is undeveloped and land is parceled out to industry and infrastructure.

**Objective of Vision:**

- i. Proposals that would uplift the standard of living of people, hygiene conditions of river and its surrounding.
- ii. Defining a better connectivity of this zone with the other parts of the city, which talks about transportation and access.
- iii. To adapt a practice of renewing and restoring the degraded ecosystems and habitat with active human interventions and actions.
- iv. Proposals to boost economy, employment opportunities associated with this stretch.
- v. Enable the settlement and the river edge to the changing courses of river, seasonal variations in the river water.
- vi. Proposals that give a dynamic definition to river edge by seasonal allocation of activities.

Table-3 Vision and Agenda (Source - Author):

CITY LEVEL	AREA LEVEL	SITE LEVEL
Connection- River edge and city	Introducing new modes of connection- waterways, roads, parking, etc.	Promenade, pedestrian, connection from neighborhood, bicycle paths.
Restoring the ecology of river	Retaining open spaces	Defunct open spaces
Redeveloping and identification of dense areas	Encroachment Redevelopment, defines spaces	Bird feeding, workshops, art galleries, etc.
Economic activities	Commercial stretches, new activities	Drive in theatres, fair ground, restaurants, etc.
Infrastructure and services	Planning growth and strategy, parking, security.	



## Urban Precinct Analysis:

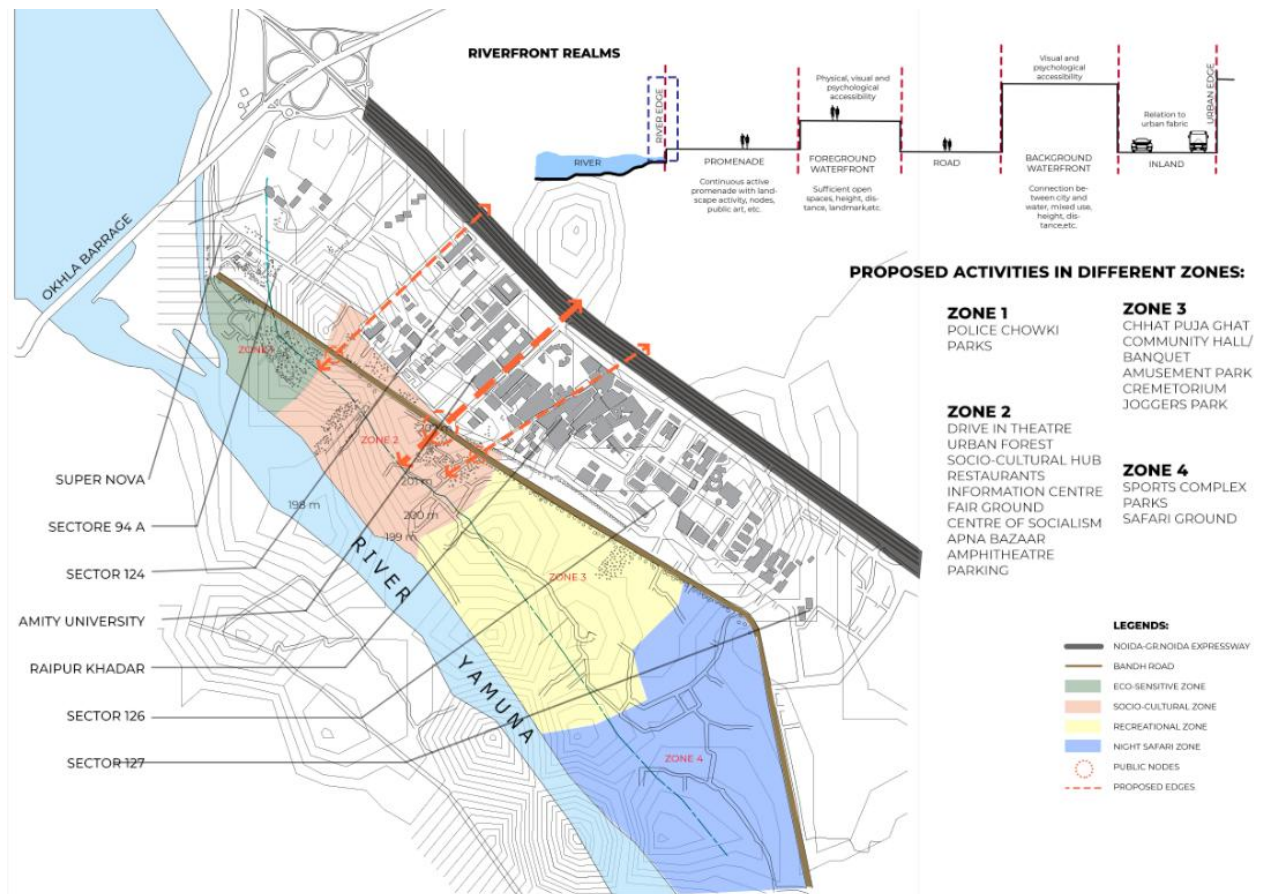
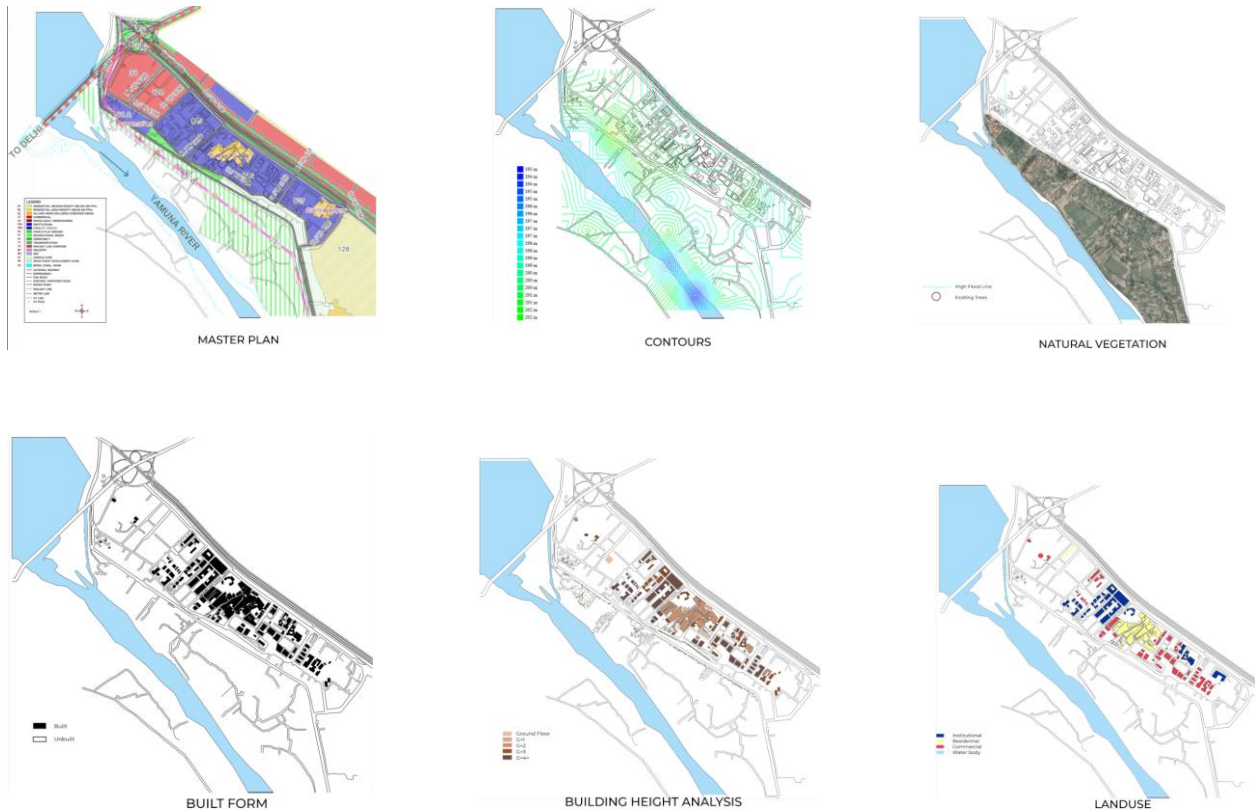


Figure 4 Parametric Evaluation Criteria (Source - Author)



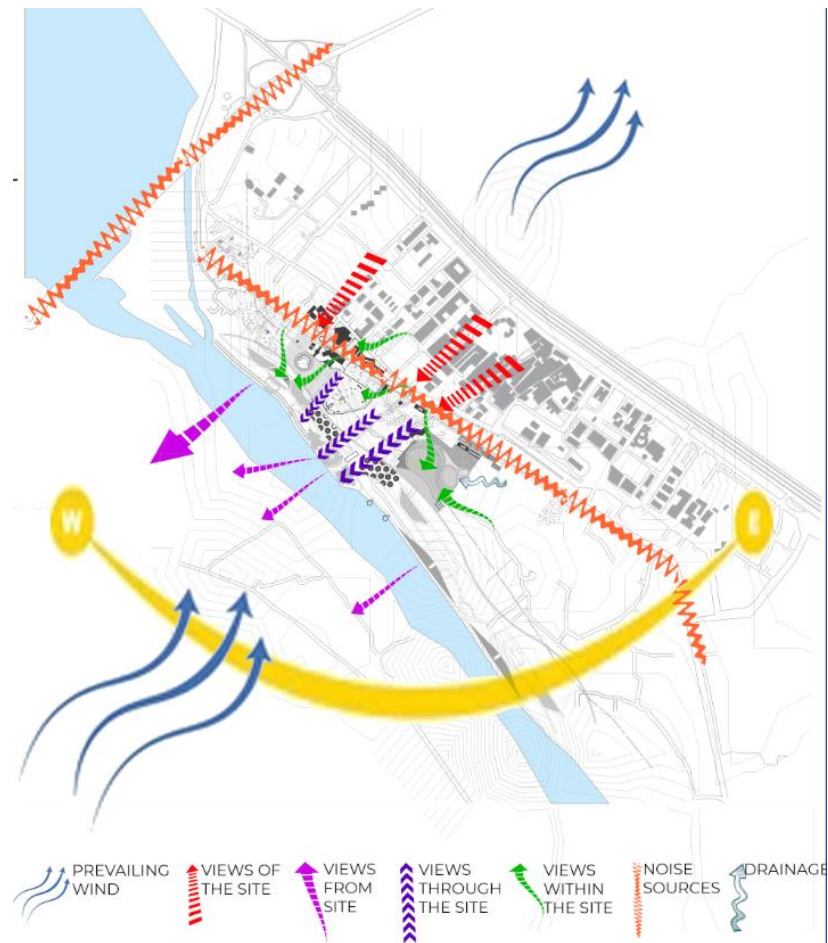


Figure 5 Climate and Sensory (Source - Author)

The project focuses on finding ways of feeling and associating with water at different levels:

- Through sight (vision)
- Touch
- Essence of water

The proposal is expected to cover the following agendas:

- i. Establishing the social and physical linkage with the city.
- ii. Generate activities that support social and economic upliftment of the society.
- iii. Utilizing river edge to showcase the real life as a theatre that is visible through different levels, portraying the lively ambience of people and the nature.

### Character Zoning:

Restoring the essence of River Yamuna, the proposed building blocks derives its inspiration from the architecture of Vrindavan. The expected outcome are the active waterfront edge for the local communities and to attract tourists.

The selected patch is divided into 4 major zones based on the neighborhood and existing physical condition of the site:

**Zone 1 is ECO ZONE**, which is in the close proximity to the Okhla Bird Sanctuary. Hence, this zone is sensitive towards the natural vegetation and to avoid hindering the existing bird watch trail.

This zone includes:



**Noida Riverfront Development**

Police Station, Ticket Counter, Existing Nursery  
**Zone 2** is in close proximity to institutional areas. Therefore, this zone includes spaces and activities, which attracts the students the most. Hence, is the name **Socio- Cultural Zone**. The proposed spaces in this zone are: School of Arts, Socio-cultural Hub, Apna Bazaar, Cafeteria, Fair Ground, Centre of Socialism, Urban Forest, Drive in Theatre, Amphitheatre, Light show, View Deck.

**Zone 3** lies in front of the residential area. It is called **Neighborhood Recreation**. This zone focuses on improved neighborhood interaction, which is missing in metropolitan cities. Therefore, the proposal for this zone includes: Gathering Lawn, Visarjan Ghat, Promenades, Banquet Hall, Amusement park, Jogger’s park, Existing crematorium and cemetery.

**Zone 4** faces industrial growth and also comprises of illegal farmhouses. Due to availability of plenty of flora and fauna in the region, it can be turned into **Night Safari Zone**. This zone can be utilized for future expansion with: Urban agriculture, Horticulture farming, Sports Complex, Resort clubs.

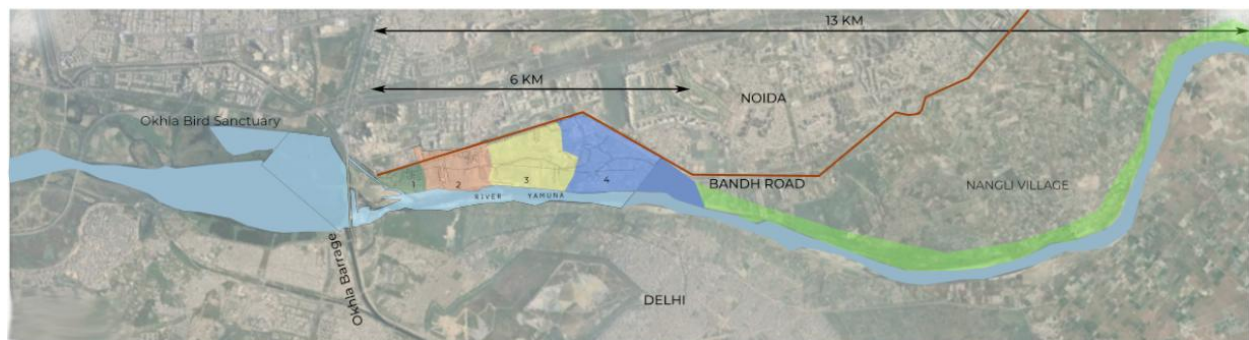


Figure 6 Character Zones

The initial studies, surveys, observations and their analysis finds a dire need to strengthen the selected stretch which is used by illegal farm owners, land crushers, etc.

Routes can be developed around the potential nodes approaching to the riverbank. Dividing the stretch into different zones based on the physical characteristics and its sensitivity towards the concerned neighborhood to meet the needs of the community as an economic resource. Giving the advantage and benefits of the resources will make the users more responsible to the space in terms of cleanliness. This will increase the vitality of the place to revive the environment for different activities and recreational areas, making it a center of attraction for the city.

As shown in the master plan several open spaces are provided that serves the purpose of catering the huge footfall at the same time. Seasonal variations as per the occasion signifies the use of spaces appropriately.

Fair ground aimed to be utilized for exhibitions and cow grazing at times by local vendors and gaushalas in the nearby sectors.

# Noida Riverfront Development

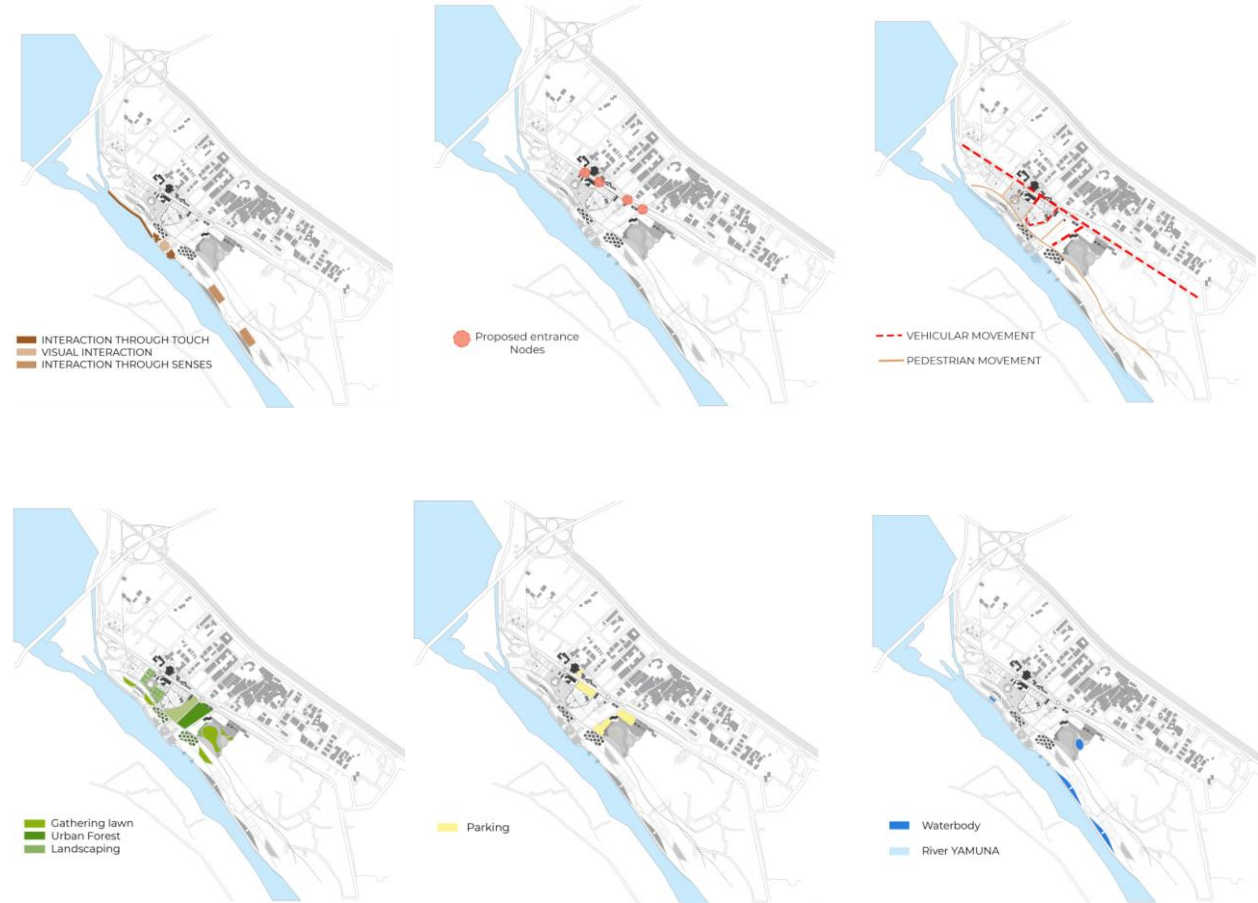


Figure 7 Master Plan







Figure 8 Site Sections

## Design Study:



## Landscape And Vegetation:

-  Forest (>50% canopy cover): Plant wherever possible; provides shade, recreation, riparian habitat, storm water and erosion control, loud mitigation and water quality treatment.
-  Woodland (<50% canopy cover): Plant wherever views are desired through trees; provides most benefits of forest and may be more acceptable in developed areas.
- Scrubland: Plant to protect steep slopes and as natural fences for pedestrian/bicycle traffic control.
-  Meadow: Plant as a means of managing large open areas; provides riparian buffers and habitat for small mammals, insects and birds.
-  Lawn: Plant on relatively let slopes only and active recreation zones; separate lawns from river edges with riparian buffer.



**Noida Riverfront Development**



*Figure 9 Zone development*

**Strategy Tools :**

- Increase opportunities to rest (pedestrian) and increase the provision of safe, secure and sheltered parking (cycling). The functioning of a pedestrian route largely depends on the resting spaces provided for the users. Shade and proper street furnishings improve the quality of the pedestrian environment.
- The walkways have multiple interjections to create a sense of pause and provide seating spaces. This will be a well designed open space which is part of an interconnected network to promote pedestrian and bicycle trips between open space and destinations.
- Buildings are meant to evolve and change; they are constantly changing and used as an extended platform. Building proposals of Centre of Socialism, Apna Bazaar, Cafeteria, Information Centre, etc. These buildings are a source to generate economic resources for maintenance.
- Drive in theatre is the key attraction of the riverfront serving dual purpose for the day and night. It can be transformed to the live performance ground when not in use for movies.
- Visarjan Ghat act as an alternative to serve the purpose of visarjan of idols and perform chat puja near the river. The proposed Kund is a result of contours analysis, which prevent the direct exposure of foreign elements in the river and that, can be cleaned with ease.

**Area Program:**

## Noida Riverfront Development

SITE SPECIFICATIONS		PROPOSED SPACES	
SITE AREA	75 ACRES	SOCIO-CULTURAL HUB	8000
SITE DIMENSIONS	600m X450m	APNA BAZAAR	1150
MAJOR LANDMARK	AMITY UNIVERSITY, NOIDA	CENTRE OF SOCIALISM	3800
PERMISSIBLE F.A.R	0.5	CAFETERIA	650
MAXIMUM PERMISSIBLE BUILT-UP	151757 sqm	INFORMATION CENTRE	1400
ACHIEVED BUILT UP	30,000	SNACKS AND BAR	1200
MAXIMUM GROUND COVERAGE	5% of total area (15175 sqm)	TICKET COUNTER	125
MAXIMUM HEIGHT	G+2	SCHOOL OF ARTS	9000
PARKING	2% of total area (6070 sqm)		
		AMENITIES	
		POLICE STATION	125
		TOILETS	750
		CHANGING ROOMS	500
		BANQUET HALL	3000
OPEN SPACES		SPACE	
DRIVE IN THEATRE	18000	CAFETERIA	
URBAN FOREST	19500		
PARKING	21000	KITCHEN	52
LIGHT SHOW	5500	DINNING AREA	242
VIEW DECK	4500	SERVICE AREA	27
STAGGERED STEPS	7400	TOILET	24
TICKET COUNTER	125		
FAIR GROUND	23000		
PROMENADE	2200		
VISARJAN GHAT	3200		
GATHERING LAWN	17500		
AMPHITHEATRE	3500		
NURSERY	15400		
SPACE		SPACE	
INFORMATION CENTRE		CENTRE OF SOCIALISM	
ENTRANCE LOBBY	140	ENTRANCE LOBBY	140
MANAGER' ROOM	30	MANAGER' ROOM	60
ASSISTANT MANAGER'S ROOM	15	ASSISTANT MANAGER'S ROOM	30
MEETING ROOM	30	ACCOUNT ROOM	145
AV ROOM	320	MEETING ROOM	30
TOILET	35	THEATRE	710
		SCHOLAR'S ZONE	140
RESTAURANT		LIBRARY	740
DINNING AREA	250	LIBRARIAN ROOM	40
KITCHEN	35	READING ROOM	40
SERVICE CORE	415	THEATRE	250
WAITING AREA	62	CONFERENCE HALL	230
UTILITY AREA	18	SERVICE CORE	
WET STORAGE	14	TOILET	70
DRY STORAGE	11	PANTRY	40
SERVICE ENTRY	10		

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SPACE	AREA (SQM)		
<b>SOCIO-CULTURAL HUB</b>		<b>COMMON SPACES</b>	
ENTRANCE LOBBY	75	SEATING	350
WAITING LOBBY	200	GREEN ROOM	200
ADMIN	80	REST ROOM	100
AUDITORIUM	370	CONTROL ROOM	100
CO-WORKING SPACE	370	REHERSAL HALL	100
CAFETERIA	165	MULTIPURPOSE ROOMS	100
TOILET	70	CIRCULATION	1000
AV ROOM	90	LANDSCAPING	300
DANCE/DRAMA AREA	55	RECREATIONAL HALL	100
GALLERY	390	FOOD COURT	160
SNOW WORLD	450	RECREATIONAL CULTURAL SPACES	360
MUSIC ROOM	50	GAMES AND ACTIVITIES	400
SERVICE CORE	70		
STORE ROOM	35	STILT PARKING	900
EXHIBITION HALL 1	195	SURFACE PARKING	1200
EXHIBITION HALL 2	195		
CONFERENCE HALL	50		
WORKSHOP	360		
RESTROOM	50		

**Proposed Building blocks:**

The main design criteria in composite climate is to reduce heat gain by providing shading and promoting heat loss. Plan the building around the Courtyard with water bodies, terrace gardens, light shelves. Reduce heat gain in the building through building envelope.

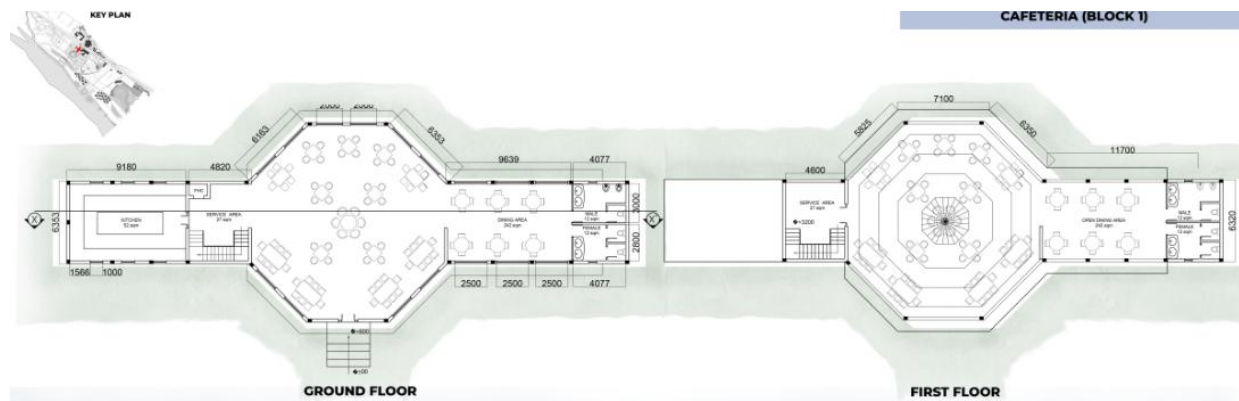


Figure 10 Cafeteria Floor Plans

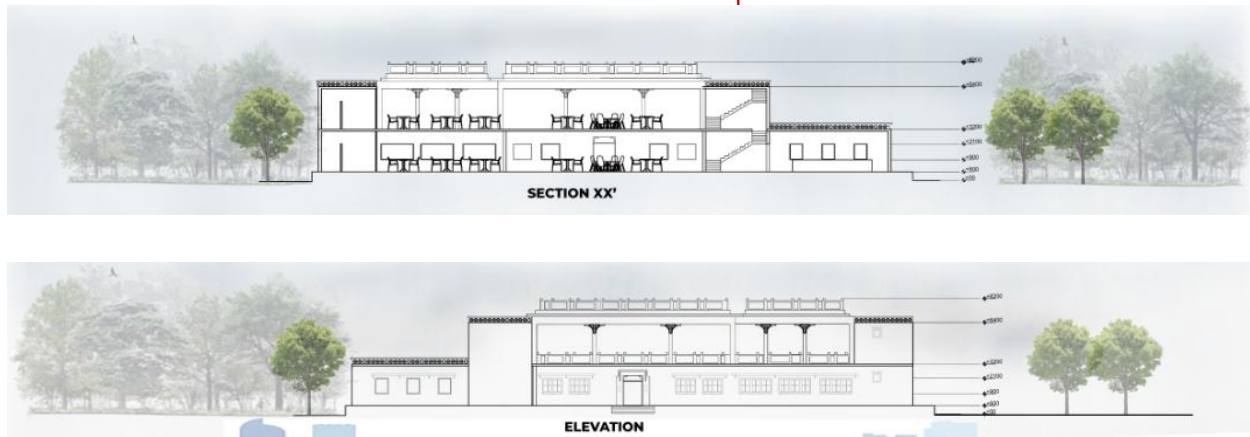


Figure 11 Cafeteria View

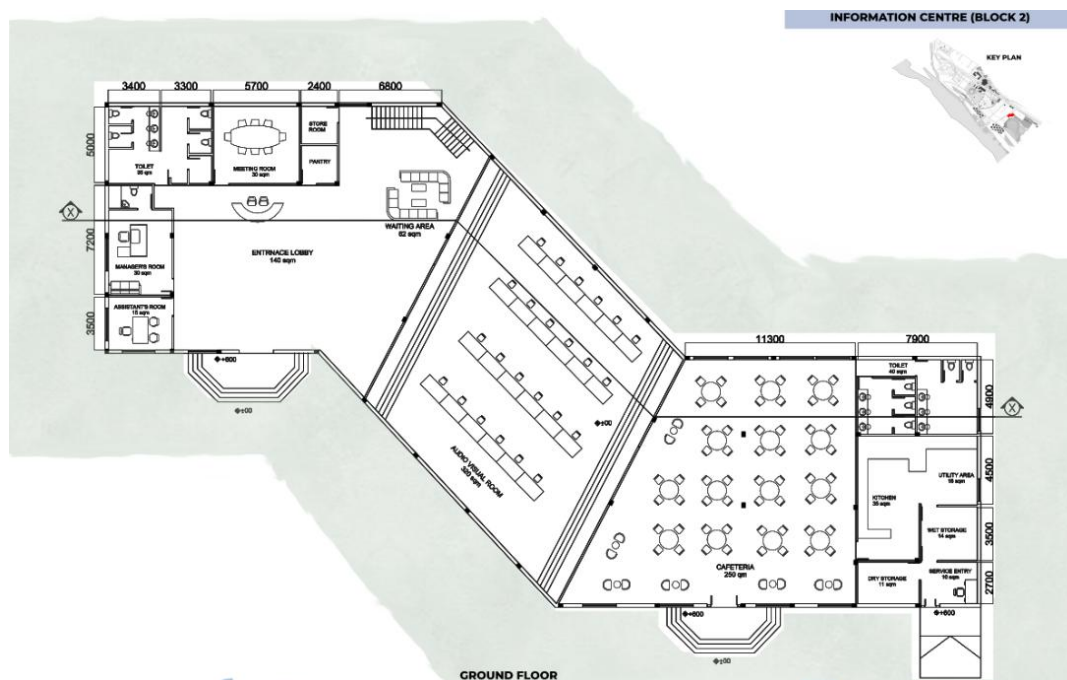


Figure 12 Information Centre Floor Plan



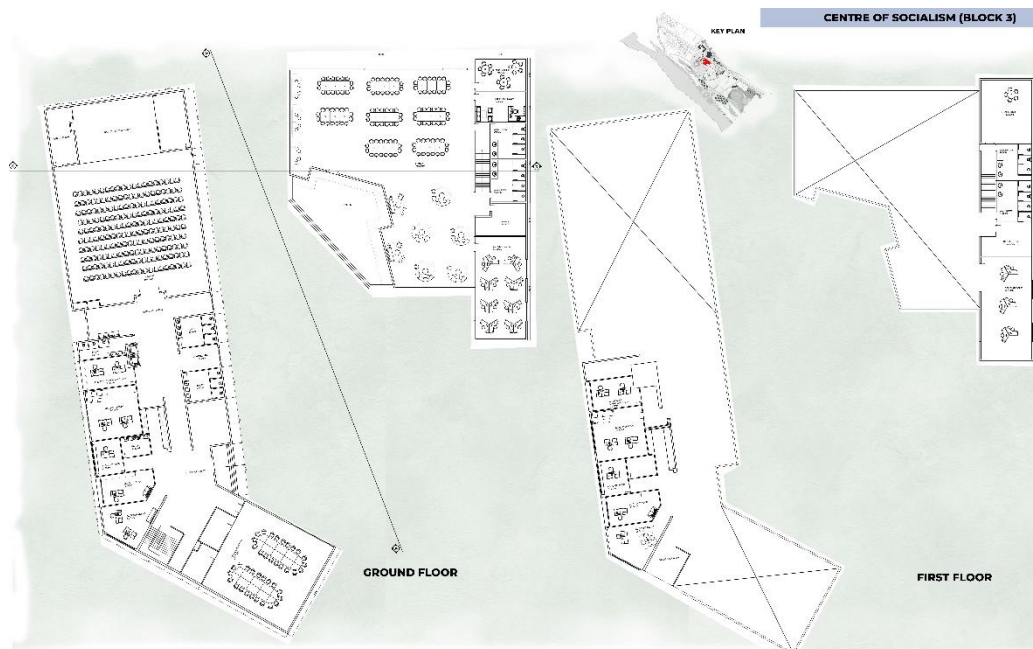
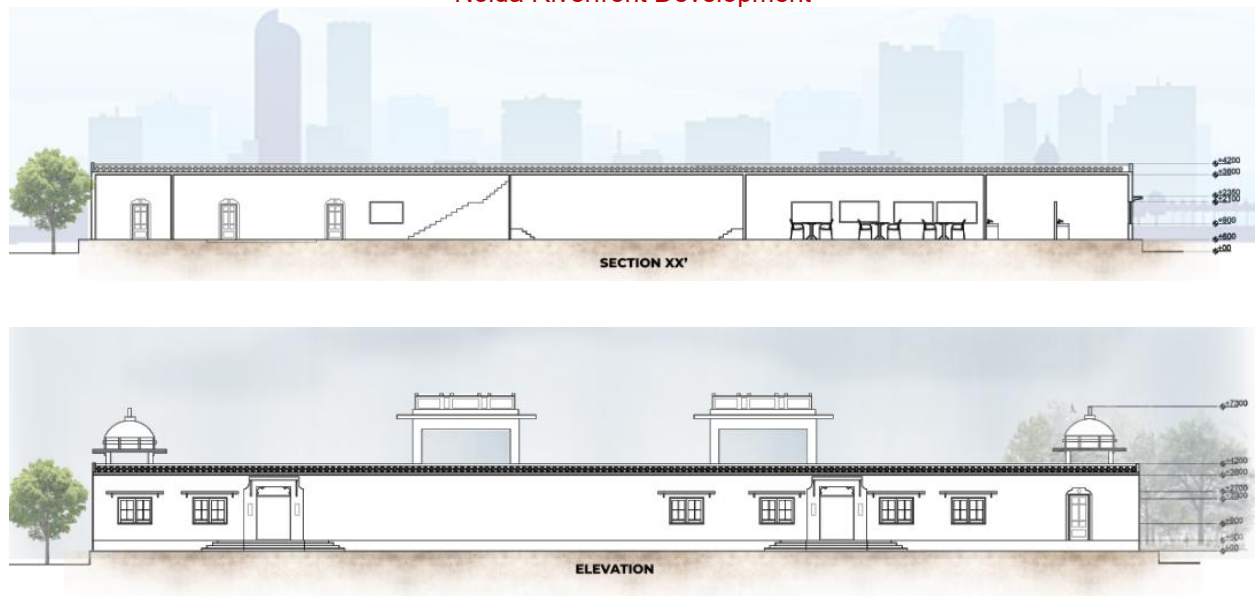


Figure 13 Centre of Socialism plan

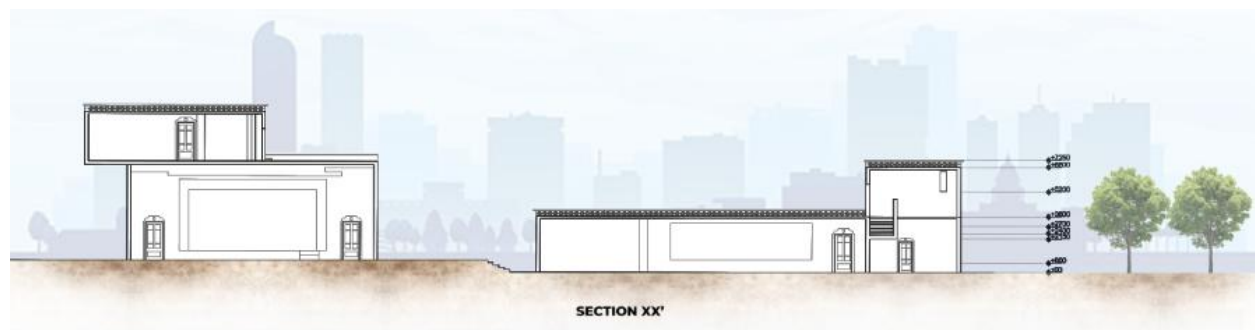




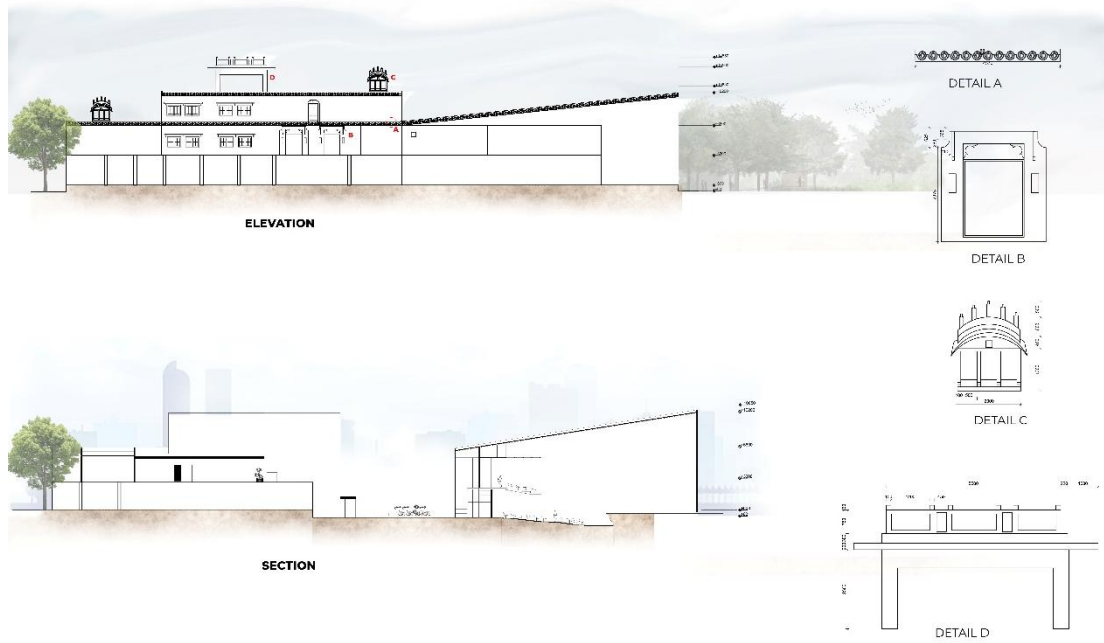


Figure 14 Centre of Socialism View (Source - Author)



Figure 15 Socio-cultural Hub plan

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**Noida Riverfront Development**



*Figure 16 Architectural Vocabulary of Buildings*



*Figure 17 Socio-Cultural Hub view*





*Figure 18 Interactive spaces around Apna Bazaar (Source - Author)*



*Figure 19 Riverfront realm*



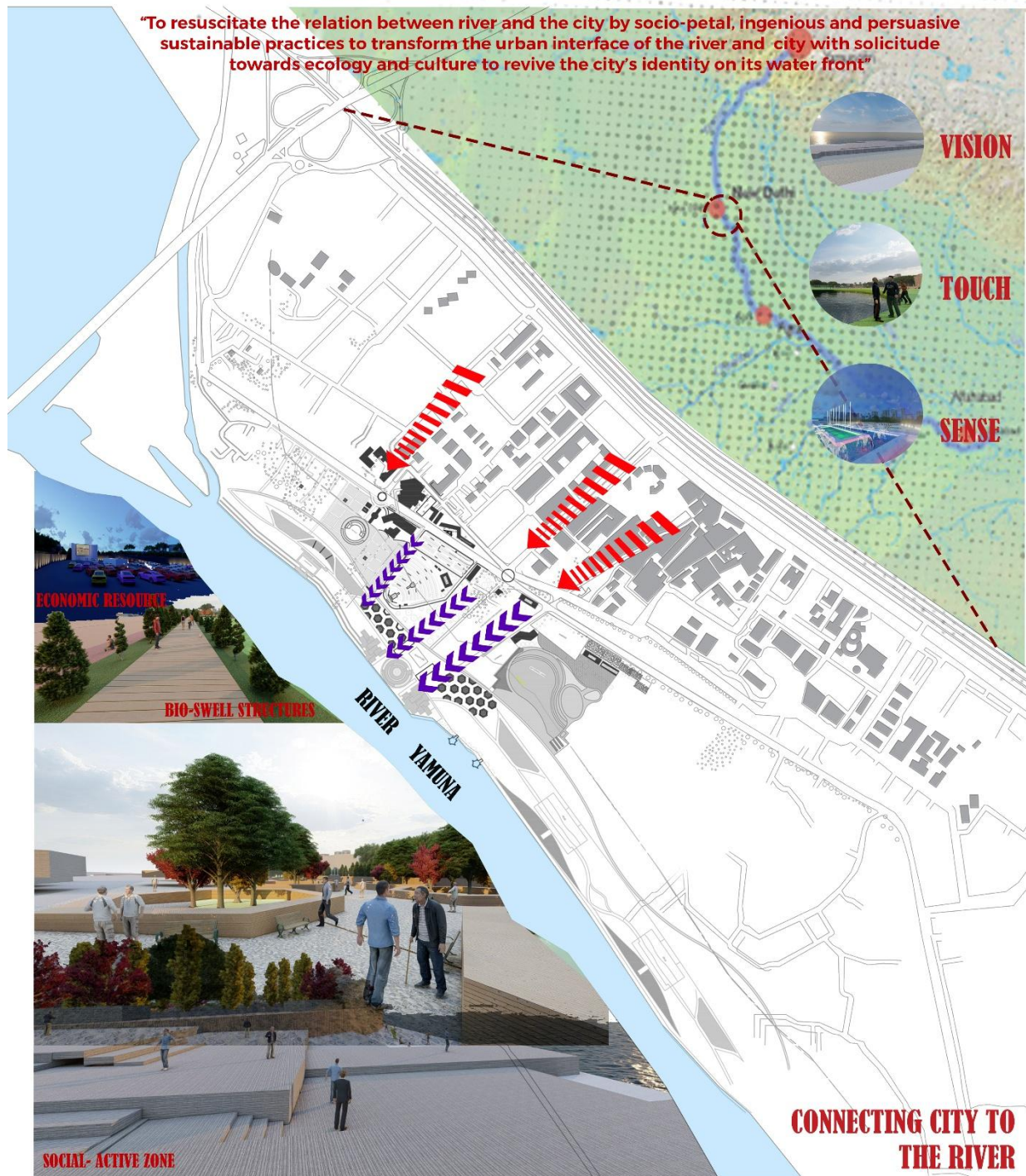


Figure 20 Project Summary (Source - Author)

## Conclusion

Looking at the rich history of the river there is a visible necessity to address the current situation. Therefore, social strengthening and intangible relationship between cities and rivers can be revitalized. Implications for revitalizing the ecological health of such urban rivers, ways of recharging ground water, promote growth of flora on the site while maintaining social value to

human settlements in a more sustainable way. Wisely get public opinion on a cleaner and more readable environment along the river in the city.

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**Note:**

**Please fill out the details in the certificate format below, and add a scanned/ or printed/ or original copy of this certificate in the end of the report.**

**CERTIFICATE OF COMPLETION**

This is to certify that this thesis project titled “**Noida Riverfront Development**” was carried out by Sh./Smt. **Radhika Garg**, a student of **Bachelors of Architecture**, at the **Apeejay Institute of Technology-School of Architecture and Planning**. The research for this project was undertaken under the guidance of the afore-mentioned institute and completed during the period of **21-01-22** to **10-06-22**.

This project was shortlisted under the *Sponsored Thesis Project Competition on “RE-IMAGINING URBAN RIVERS” (Season- 2)* hosted by the National Institute of Urban Affairs (NIUA) and the National Mission for Clean Ganga (NMCG).

This report has been submitted by the student as a final deliverable under the competition. All parts of this research can be used by any of the undersigning parties.

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