

FINAL PORTFOLIO

ARB 421



FOREST AND ANIMAL INTERPRETATION CENTER

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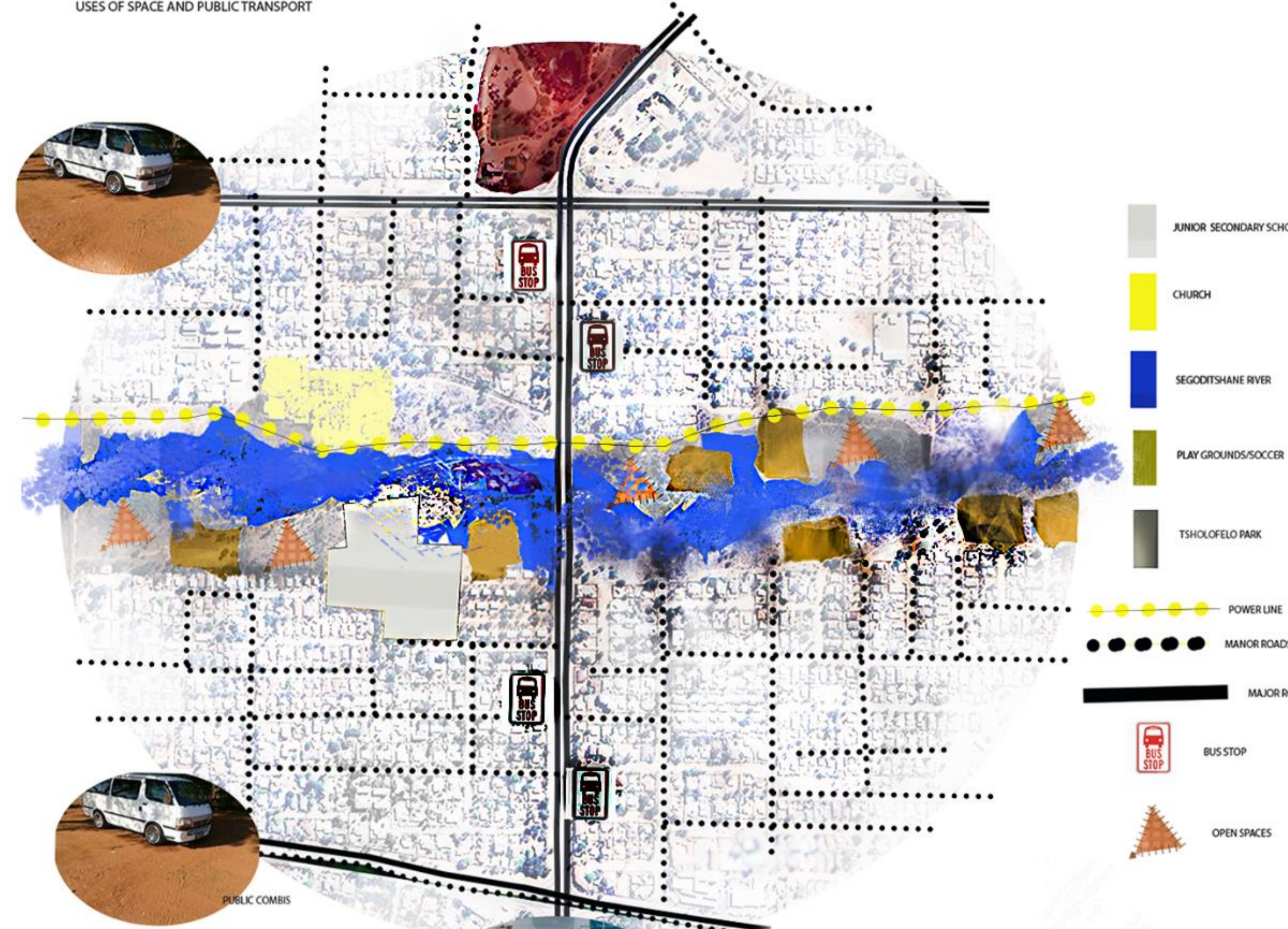


SEGODITSHANE RIVER SITE

Segoditshane is a stream in Botswana and has an elevation of 970 metres. Segoditshane is situated nearby to the localities Broadhurst Extension 26 and Taung. Its coordinates are 24°37'19" S and 25°58'7" E in DMS (Degrees Minutes Seconds) or -24.6219 and 25.9686 (in decimal degrees)
A Stream is a body of running water moving to a lower level in a channel on land



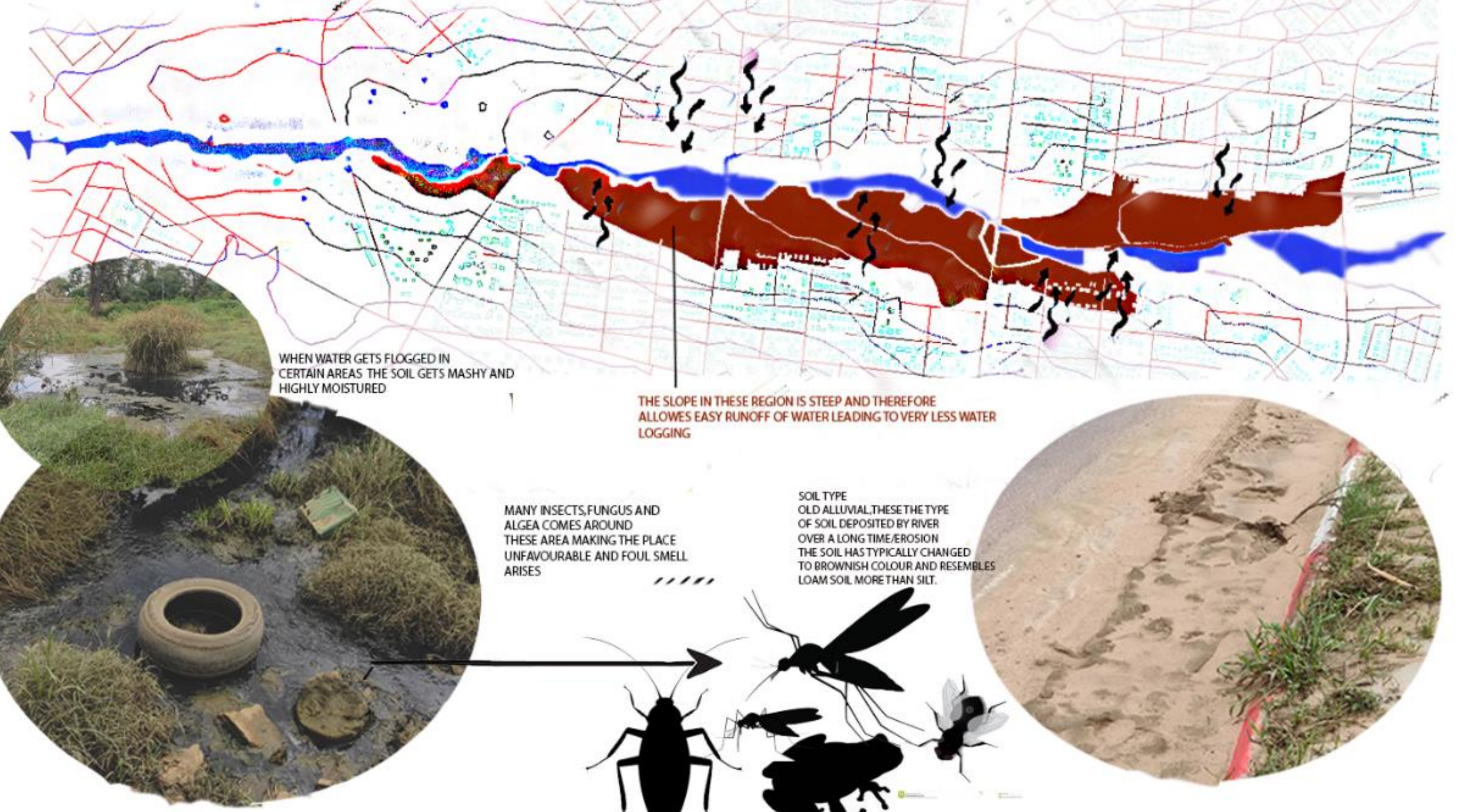
USES OF SPACE AND PUBLIC TRANSPORT



ECOSYSTEM FAUNA AND FLORA



DRAINAGE AND SOIL STUDY
WATER DRAINAGE IS TOWARDS THE SEGODITSHANE RIVER SINCE THE SLOPE IS DECREASING TOWARDS IT. SINCE THESE CONTOURS DECREASE TOWARDS THE RIVER WHEN ITS RAINY SEASON WATER LOGS IN FLATS LAND AREAS SMALL ANIMALS AND MICRO ORGANISMS CLUSTER IN FOR WATER AND THIS CREATES SMALL BIODIVERSITY.



FOREST AND WILDANIMALS INTERPRETATION CENTER

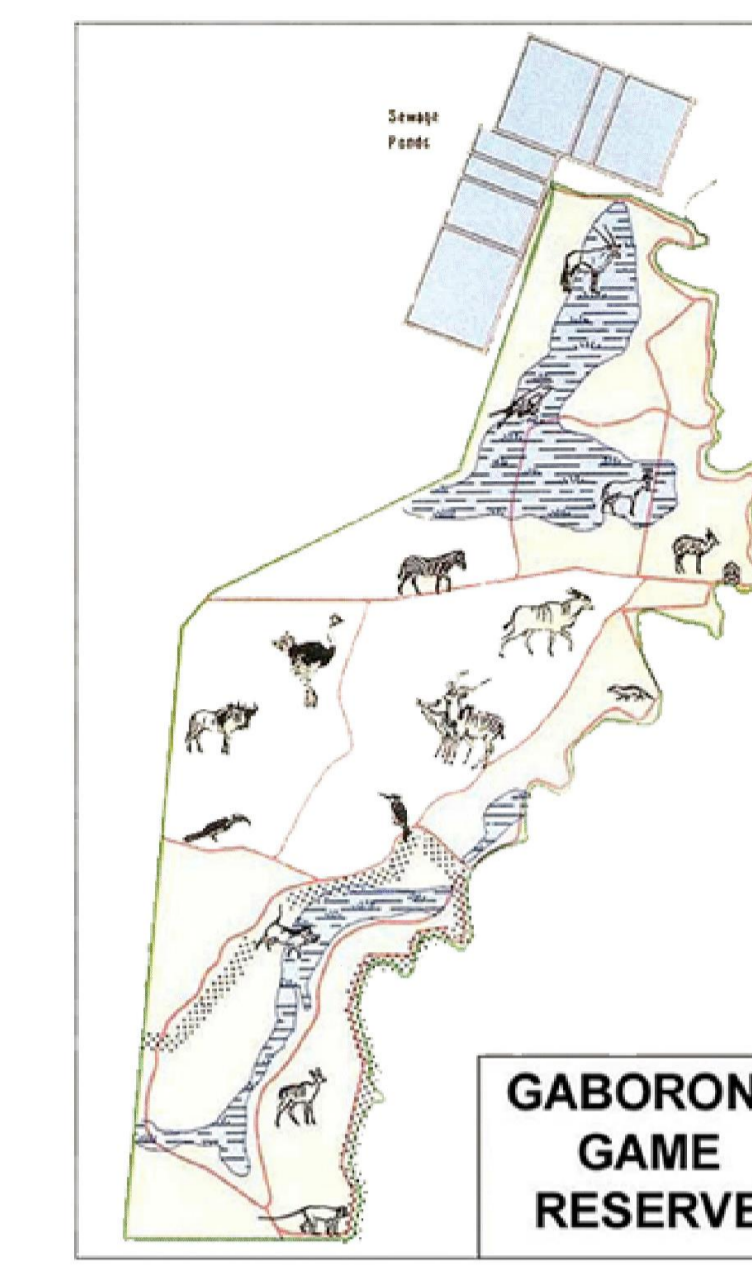
INTRODUCTION



POST INDUSTRIAL ERA HAS CONSIDERABLY IMPACTED FORESTRY ALL ACROSS THE WORLD. SEGODITSHANE RIVER STRIP IS ONE OF THE PLACES AFFECTED BY HIGH NUMBERS OF TREES BEING CUT DOWN FOR COMMERCIAL USE AND INDUSTRIAL BY RESIDENTS AND BIG COMPANIES, ILLEGALLY AND LEGALLY.

AN ARCHITECTURAL INTERFACE WILL CREATE A SPACIAL AND SYMBOLIC CONNECTION WITH FOREST BASED UPON VISUAL.

A BETTER NATURAL INTERFACE SHALL OFFER A SIZE APPROPRIATE TO NATURE OF ACTIVITIES IN CONSIDERATION.



THEY ARE ONLY FEW PROTECTED WILD ANIMAL SPACES AROUND TOWN, THE BIG ONE BEING GABORONE GAME RESERVE. IT MAY BE THERE BUT IT IS JUST A CHANCE OF SURVIVAL OF THE FITTEST FOR WILD ANIMALS. CROWDS AND ANIMALS ARE NOT FREE TO LIVE AS THEY WOULD IN LARGE WILDS. THEY ARE AFFECTED BY VARIOUS FACTORS INCLUDING POACHING, A CONSTANT DEVELOPMENT OF ROADS NETWORK AND SETTLEMENT INFRASTRUCTURE, CAPTIVATING FOR TOURISM INDUSTRY. THESE ARE SOME OF THE OBSERVATION THAT MAY LEAD TO SOME ANIMALS EXTINCT.

WHY COMBINING THE TWO

THESE PROJECT IS GOING TO BRIDGE SCIENTIFIC DISCIPLINES TOGETHER AND CREATING

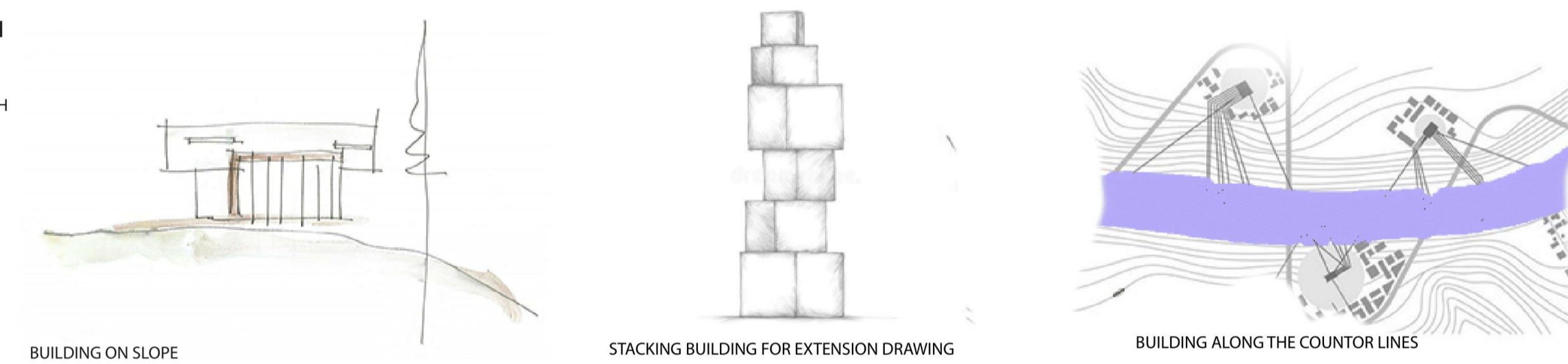
1. A SPACIAL HUB FOR LEARNING
2. DEVELOP AN ECO-SENSITIVE BUILT ENVIRONMENT WITHIN SEGODITSHANE FOREST BOUNDARIES TO RESCUE AND PROVIDE THE VETERINARY CARE FOR WILD ANIMALS ON SHORT TERM AND LONG TERM
3. THESE DESIGN WILL CREATE AN EFFICIENT METHOD OF STUDYING WILD ANIMALS AND FOREST. EXPLORE THE PROCESS OF LEARNING THROUGH NATURAL ECO-SYSTEM

AIM-

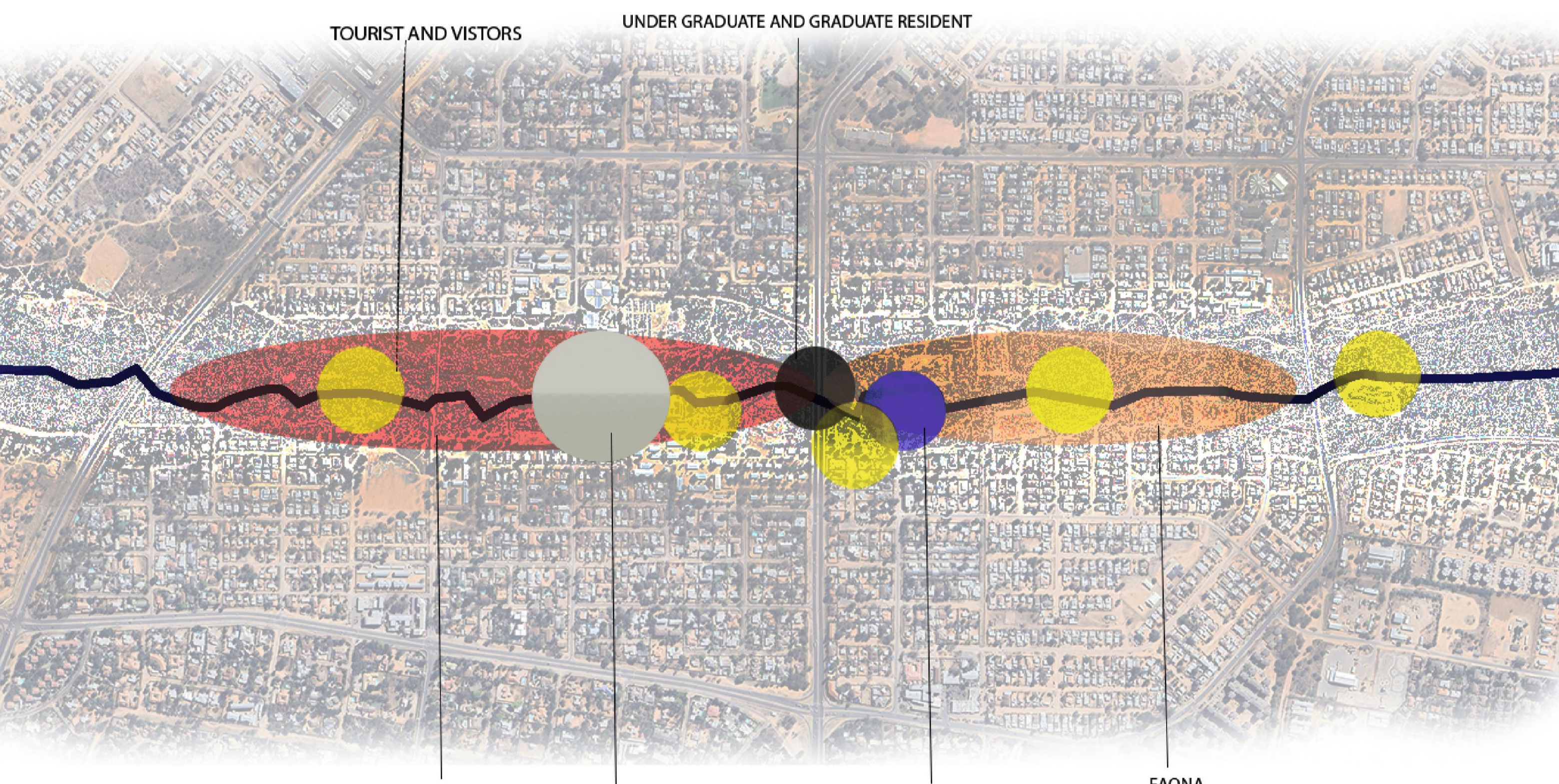
TO INTERPRET AND DESIGN AN ECO-SENSITIVE BUILT INTERFACE ALONG SEGODITSHANE RIVER STRIP FOR INTERPRETATION AND LEARNING SPACES ALONG ENHANCING THE CARE OF WILD ANIMALS

DESIGN APPROACH

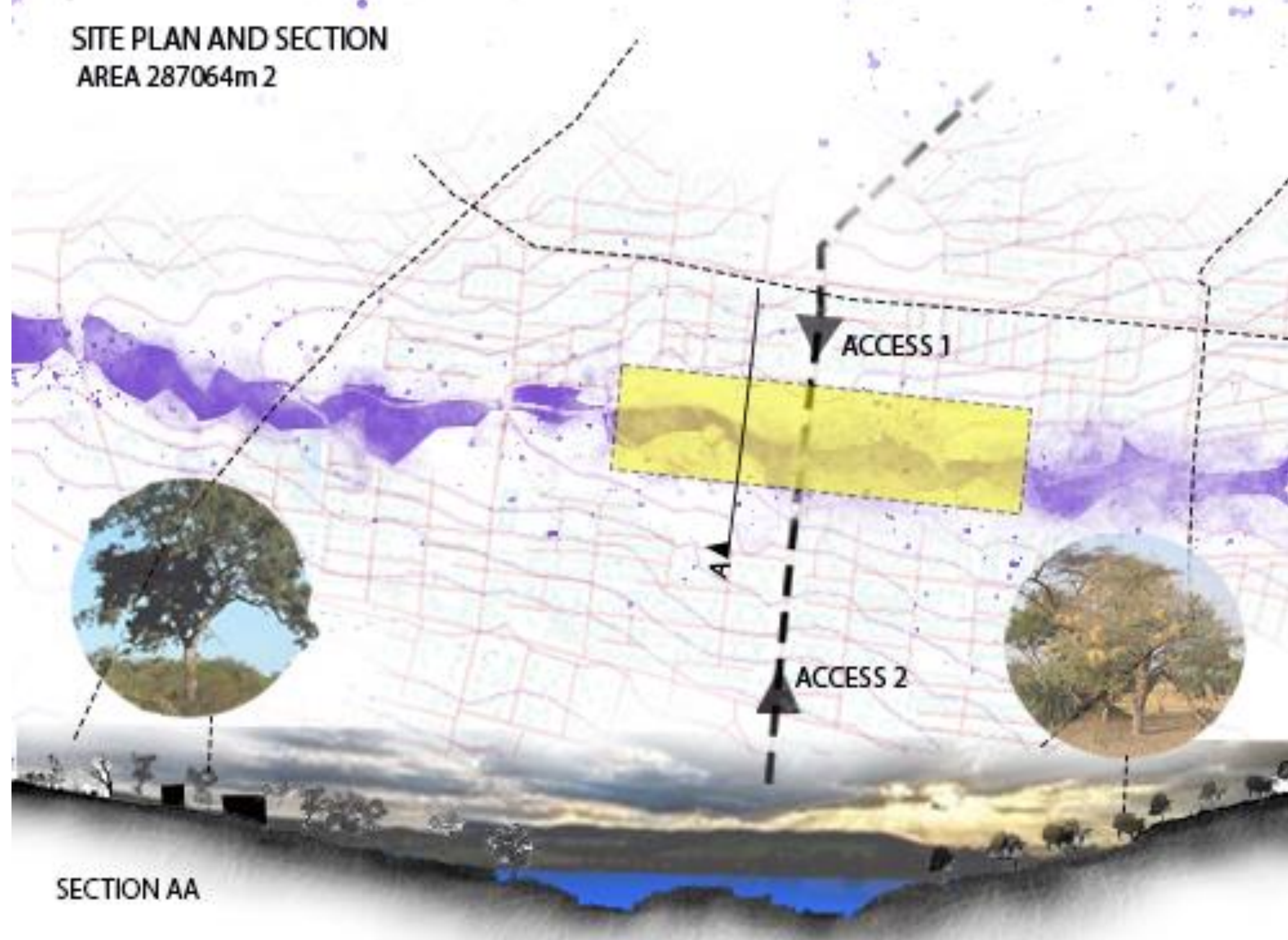
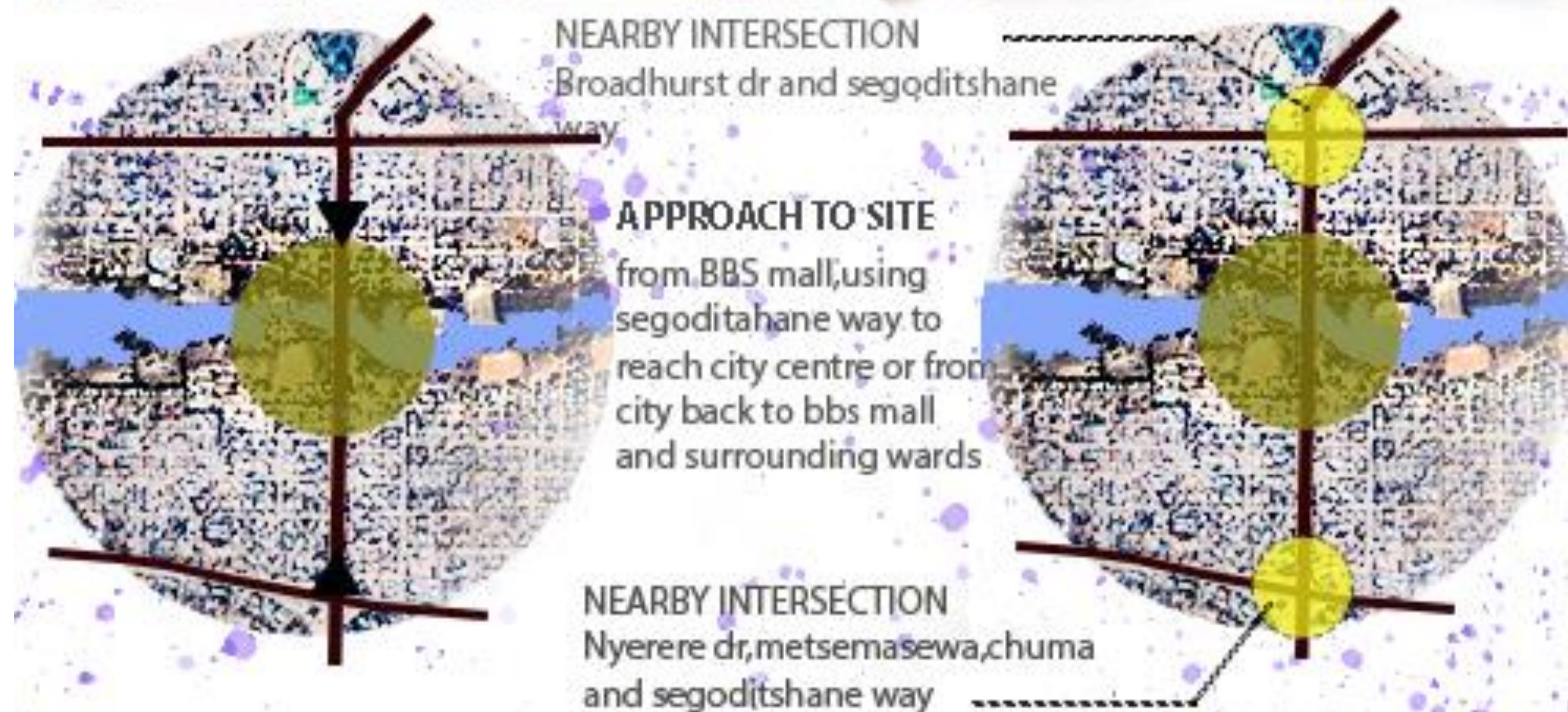
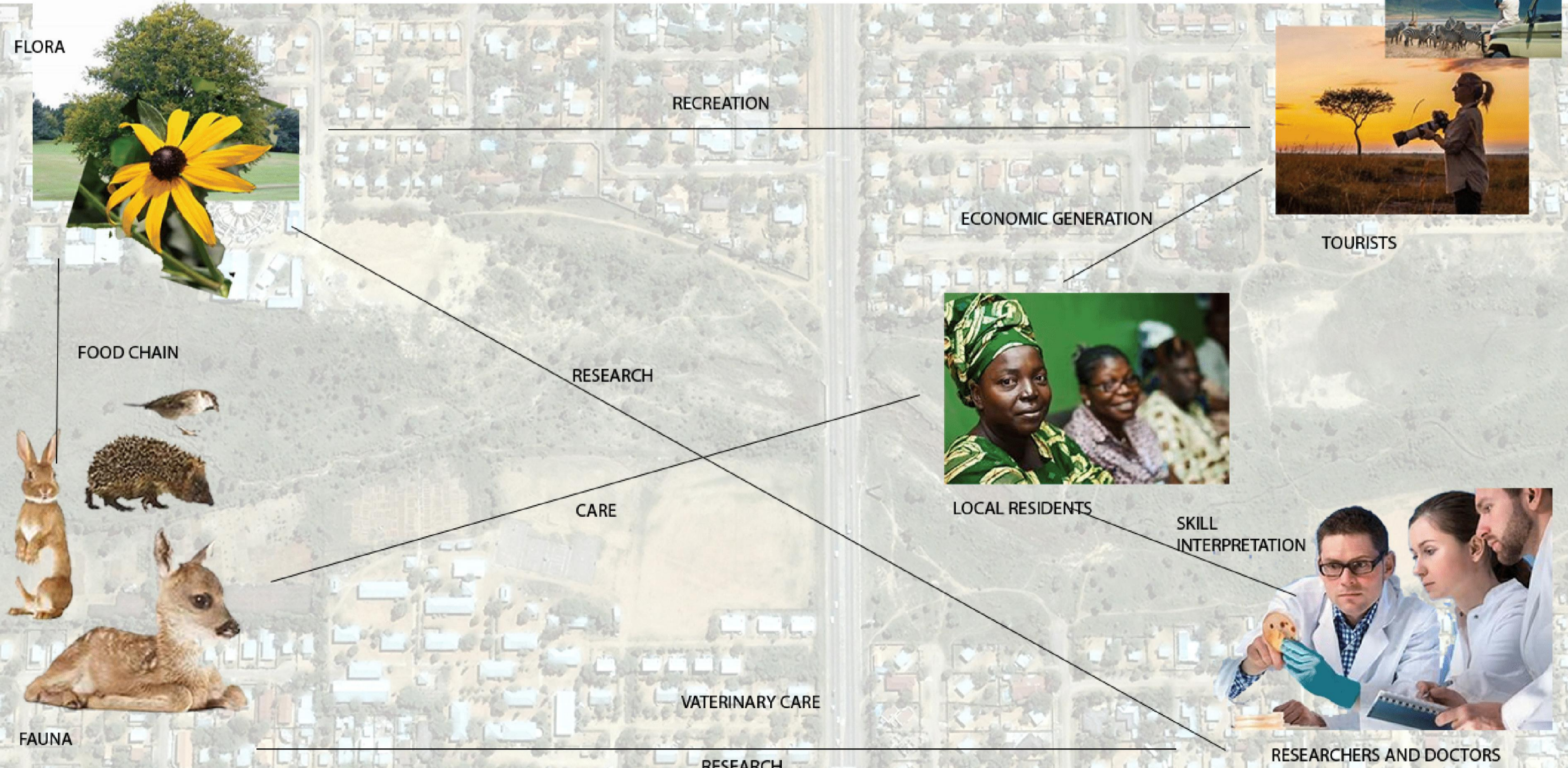
NATURE BASED APPROACH



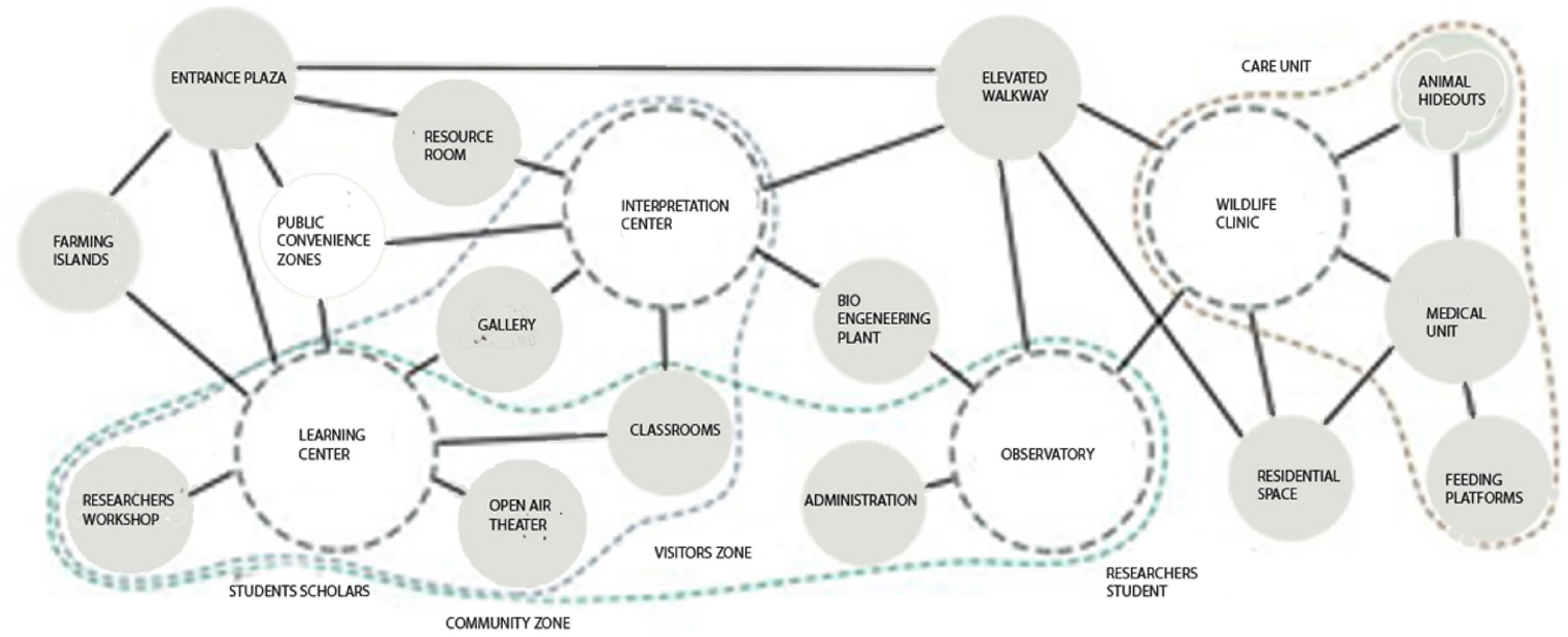
THE USERS AND ZONING



INTERPRETATION WEB

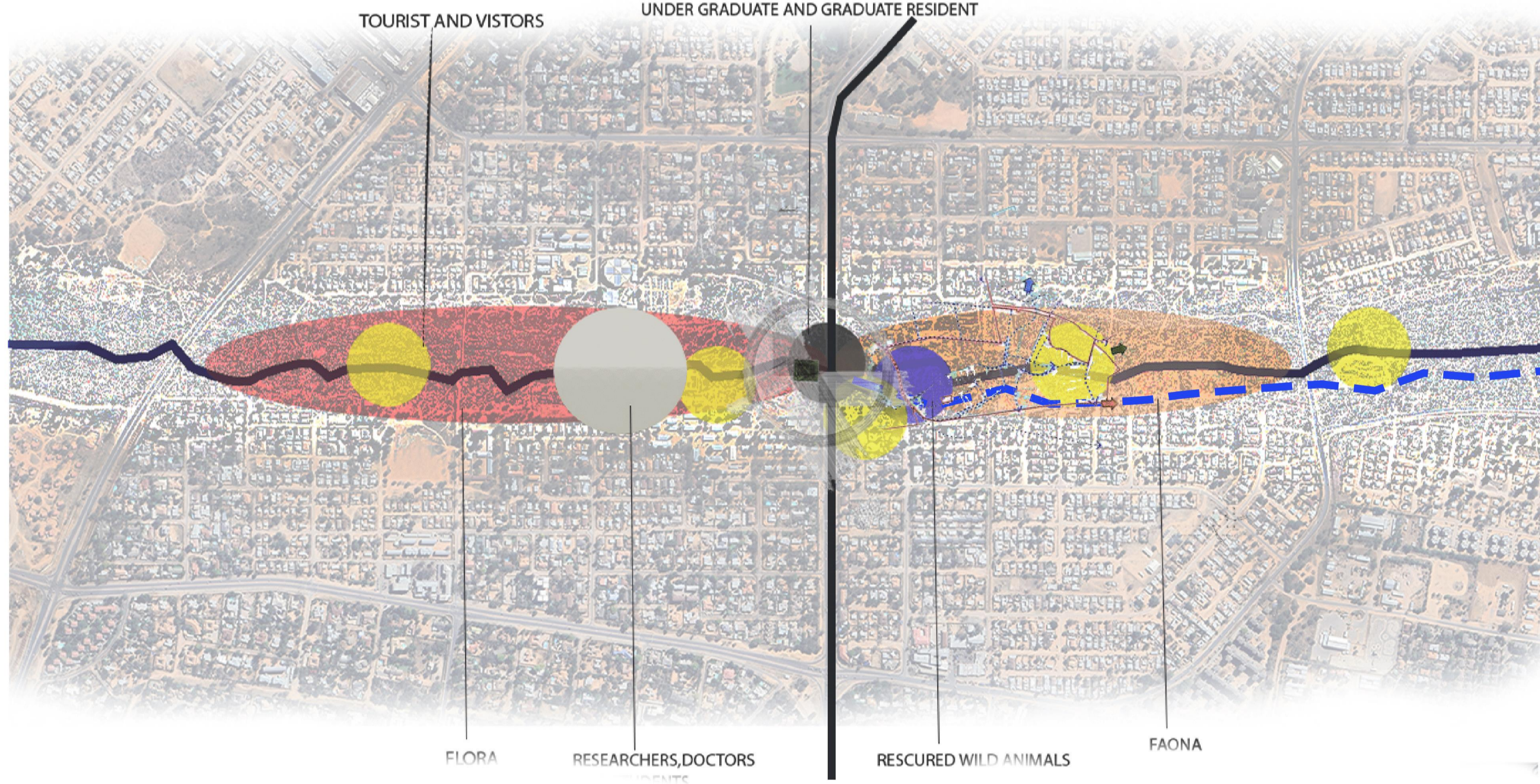
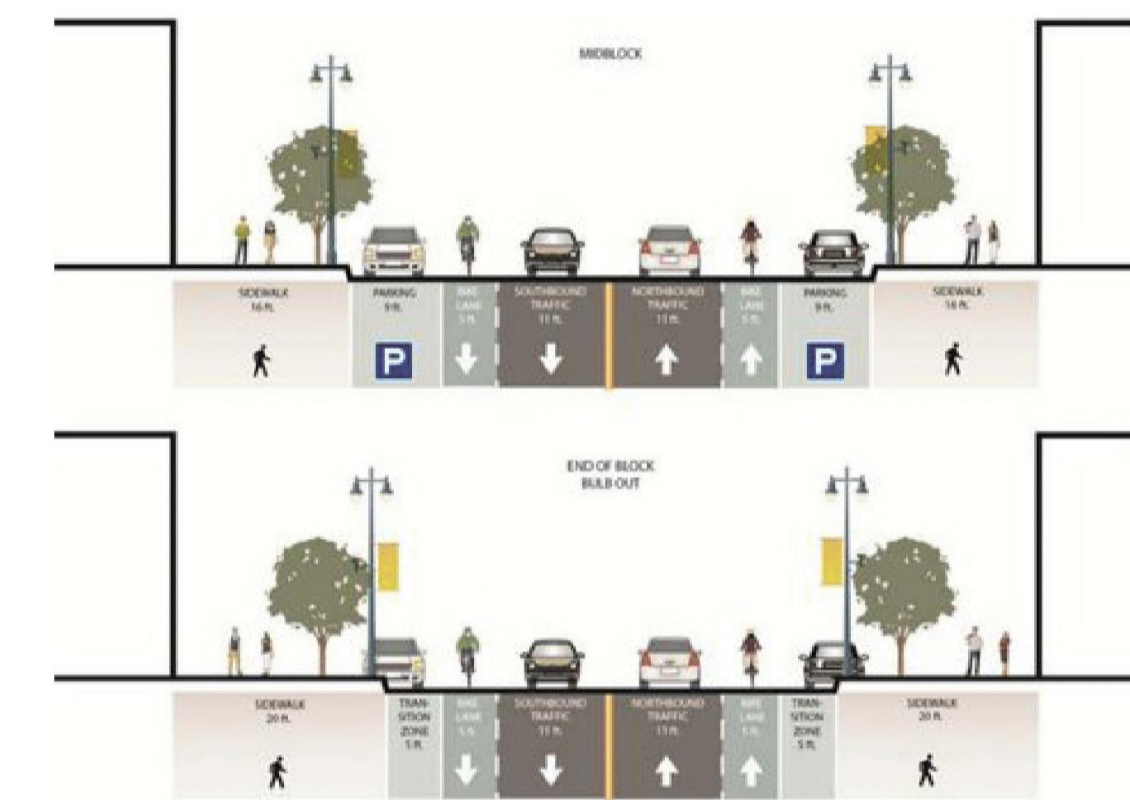


SPATIAL ORGANISATION



SPACE TYPE	SPACE NAME	AREA IN SQM	NO OF PEOPLE	
ZONE 1	PLAZA MARKET AREA	300	15	
	FOYER	80	5	
	SECURITY AREA	20	1	
	CHIEF FINANCIAL OFFICER	20	1	
	ADMINISTRATIVE STAFF	50	4	
	RECEPTION DESK	20	1	
	HYPOCAUSTE	150	10	
	BOILERROOM	50	20	
	BIO ENGINEERING	100	25	
	COURTYARD	80	40	
ZONE 2	MARKET AREA (STALLS)	100	30	
	PARKING	100	30	
	PRODUCTION (GATHERING SITTING) BUILDINGS	50	50	
	4. STUDENT	HOUSING	140	10
		COMMON ROOM	200	10
		CAFETERIA RESTAURANT	30	5
		BAR	25	2
		SERVICE ROOM	20	1
	5. GALLERY	MANAGEMENT OFFICE	25	2
		OPEN DISPLAY	80	20
MAIN DISPLAY		250	40	
PLAZA		40	50	
FOYER		20	2	
6. EDUCATION	PERFORMING STAGE	15	1	
	RECEPTION	20	1	
	ADMINISTRATION	30	1	
	SEMINAR ROOM	100	10	
	LIBRARY	70	30	
	JAZZ THEATRE	150	50	
	HEALTHY POSSE HALL	60	20	
	CLASSES	150	25	
	OBSERVATION TOWER	100	10	
	7. URBAN ARCHITECTURE	PRODUCTION	200	50
STORAGE (ironing & iron)		50	4	
MANUFACTURING		80	1	
PACKAGING		70	1	
TAGICAL UNIT		150	1	
8. WILDLIFE CLINIC	TAGICAL UNIT	150	1	
	FEEDING PLATFORMS	20	1	

STRATEGIC PLAN
Improvements to public transport system and encourage people to travel by walking and cycling, car usage in the area will decrease. The number of car repair spots in the light industry quarter can be reduced and make space for more job opportunities in creative industries. Also make space for mixed development such as introduce commercial, service, or live-work unit functions to improve the economic value of the area gradually



THEME ANALYSIS

RETHINKING STUDENT HOUSING ON ECOLOGICAL SITE

Ecological houses are dwellings that offer the best conditions for construction and use so as to avoid environmental impact as much as possible. These dwellings are designed to be sustainable with the environment because they use environmentally non-aggressive materials during their manufacture.

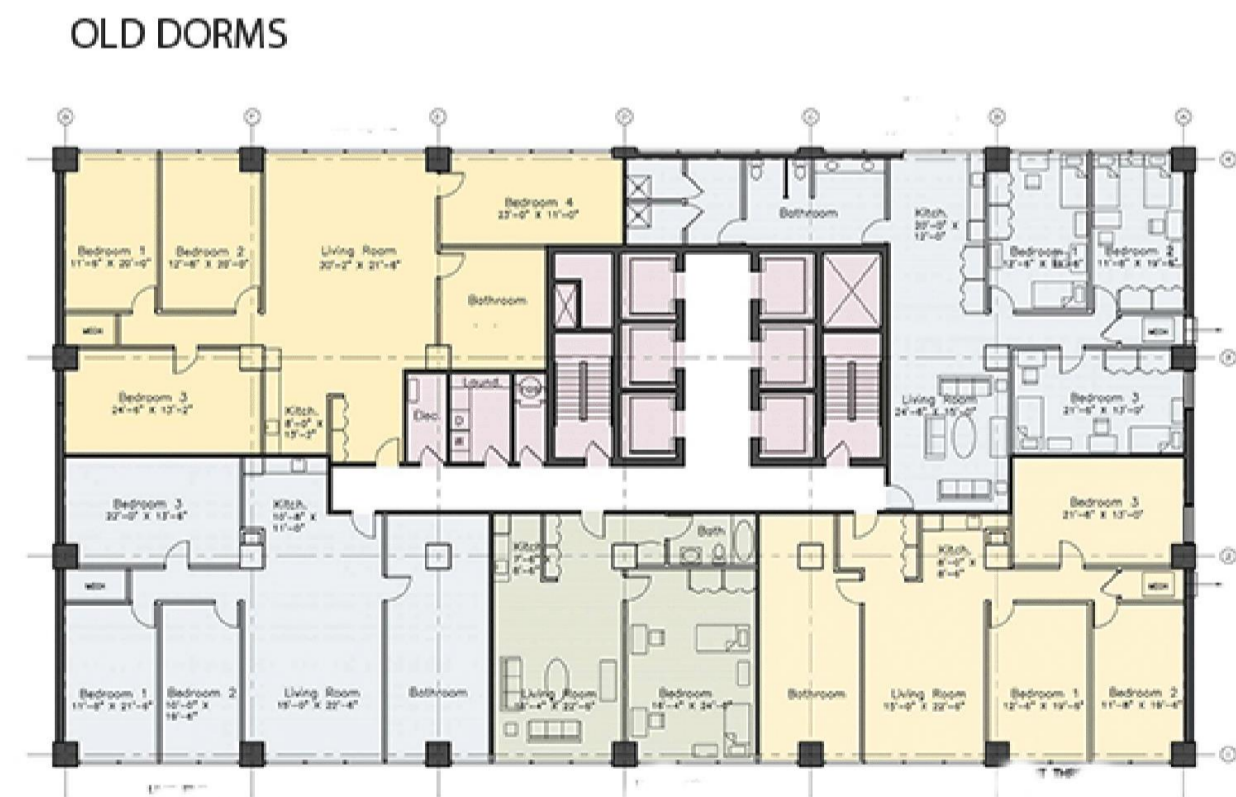
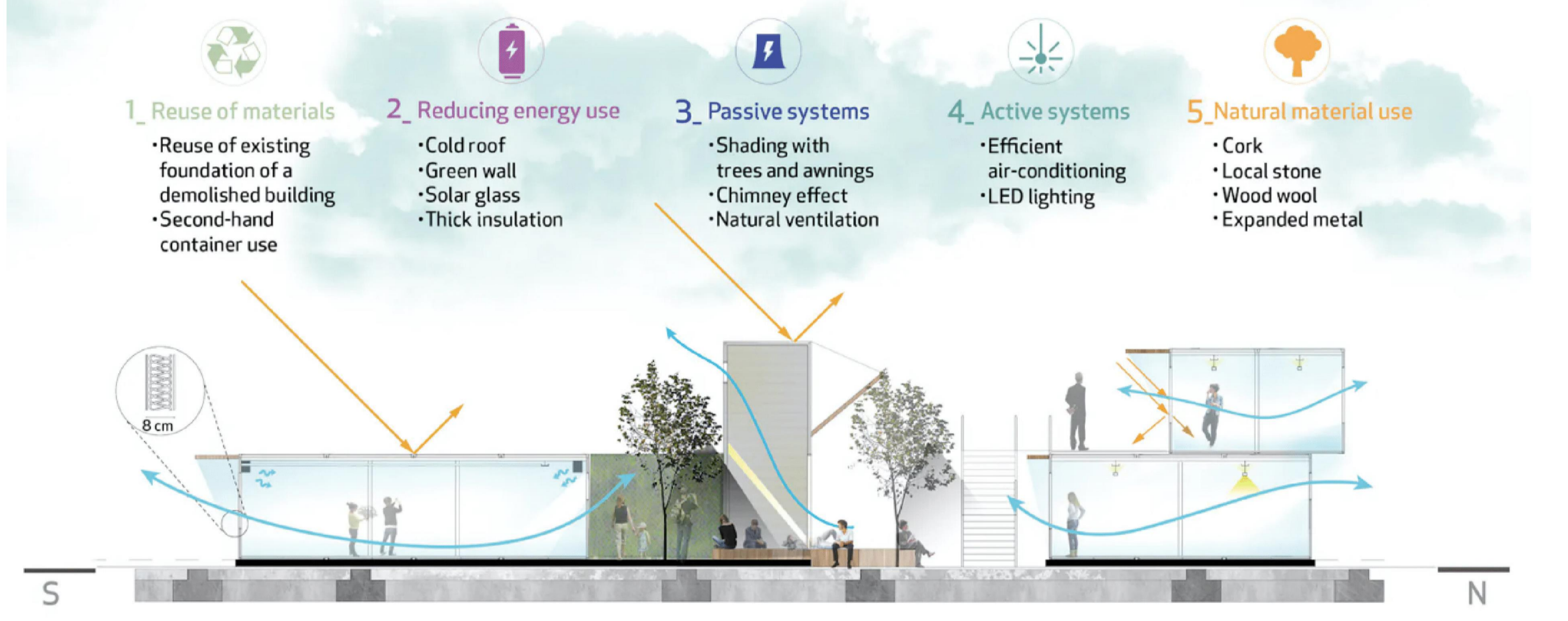


Among other things, ecology is the study of:
The abundance, biomass, and distribution of organisms in the context of the environment
Life processes, interactions, and adaptations
The movement of materials and energy through living communities
The successional development of ecosystems
Cooperation, competition, and predation within and between species
Patterns of biodiversity and its effect on ecosystem processes

Designing ecological and sustainable architecture includes holistic, multi-directional activities ensuring optimal use conditions, including health, hygienic, and aesthetic conditions, with minimal interference in the natural environment and low consumption of natural resources.



Seven principles of ecological design are advanced:
(1) the need to meet the inherent needs of humans and their economy;
(2) the requirement to sustain the integrity of the structure and function of both natural and managed ecosystems;
(3) the appropriateness of emulating the inherent designs of nature in anthropogenic management systems;
(4) the need to make progress to a sustainable economy through greater reliance on renewable resources and more focus on recycling, reusing, and efficient use of materials and energy;
(5) the use of ecological economics (or full-cost accounting) to comprehensively take resource depletion and environmental damage into consideration and thereby address issues of natural debt;
(6) the need to conserve natural ecosystems and indigenous biodiversity at viable levels; and
(7) the desirability of increasing environmental literacy to build social support for sustainable development, resource conservation, and protection of the natural world.



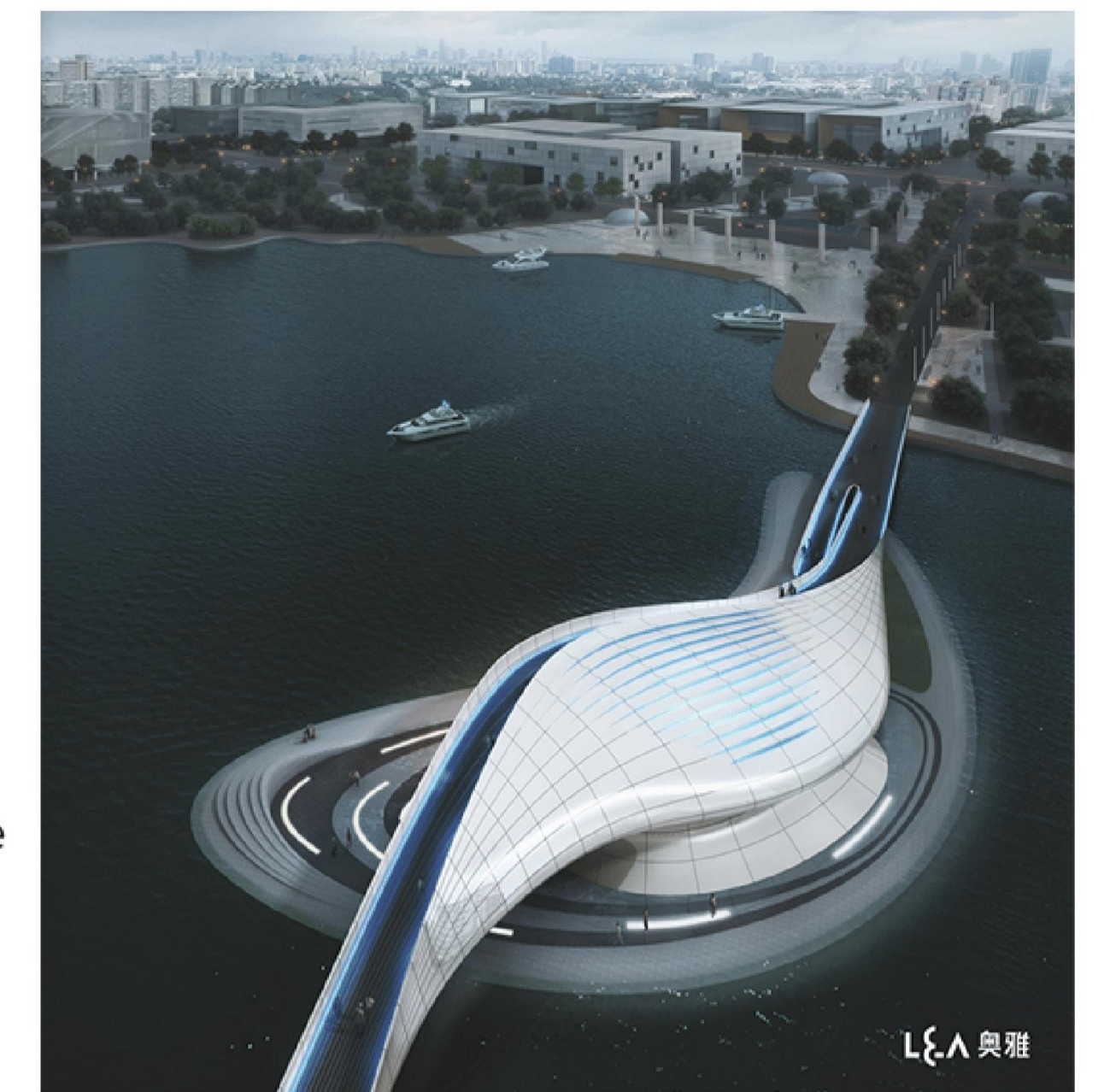
The Five Struggles Of Sharing A Dorm Room
1. Getting Ready in the Morning. When sharing a room, getting ready in the morning could be one of the most challenging parts of the day ...
2. Having Alone Time. If your dorm only consists of the one room for you and your roommate, having time to yourself seems almost impossible ...
3. Having Opposite Schedules ...
4. Having Friends Over ...
5. Making Phone Calls.



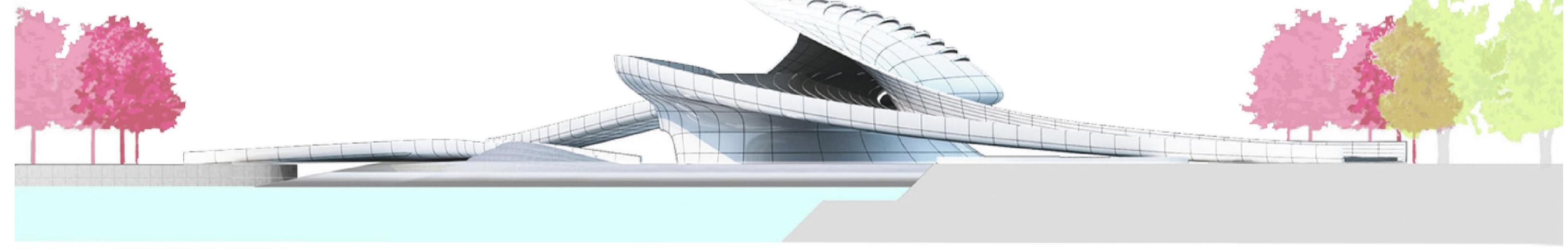
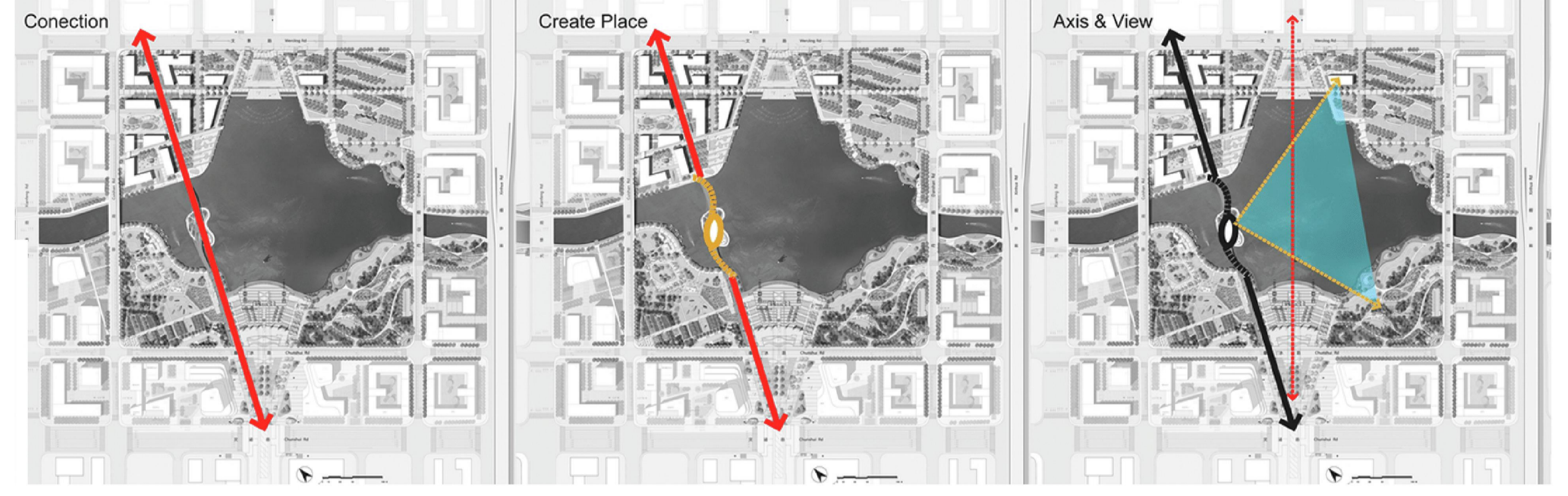
Modern Dorms use Technology to Expand their Reach
That means that high-definition television screens, video conferencing tools and high-speed wireless connectivity are important, along with other options such as moveable furniture.

CASE STUDY 1

LL&A Design Group has developed an exciting contemporary bridge design as an architectural highlight of Wuxi Xidong Park, located in Jiangsu province, China. The bridge is planned to be the main connection between the north and south foreshores of the parks lake and allows visitors access to a small island destination that commands views over the water as well as café facilities and pocket gardens. More images and architects' description after the break.

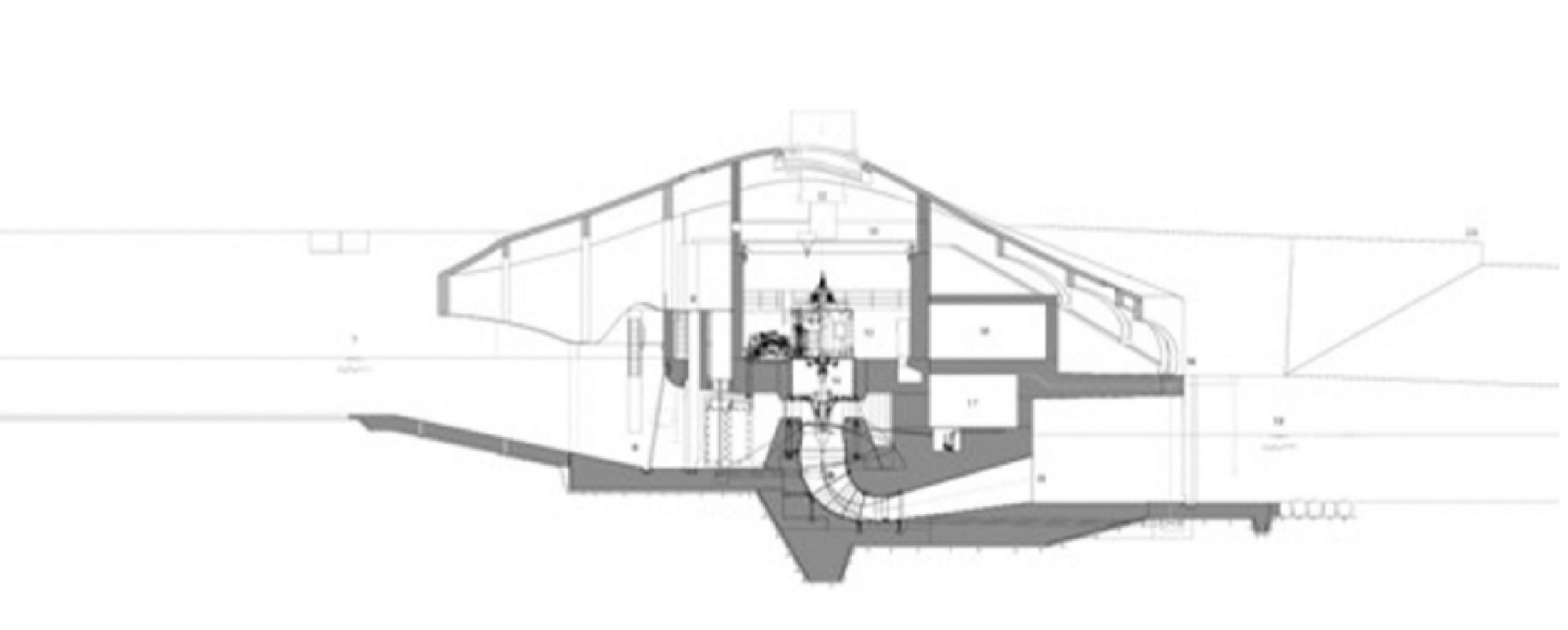
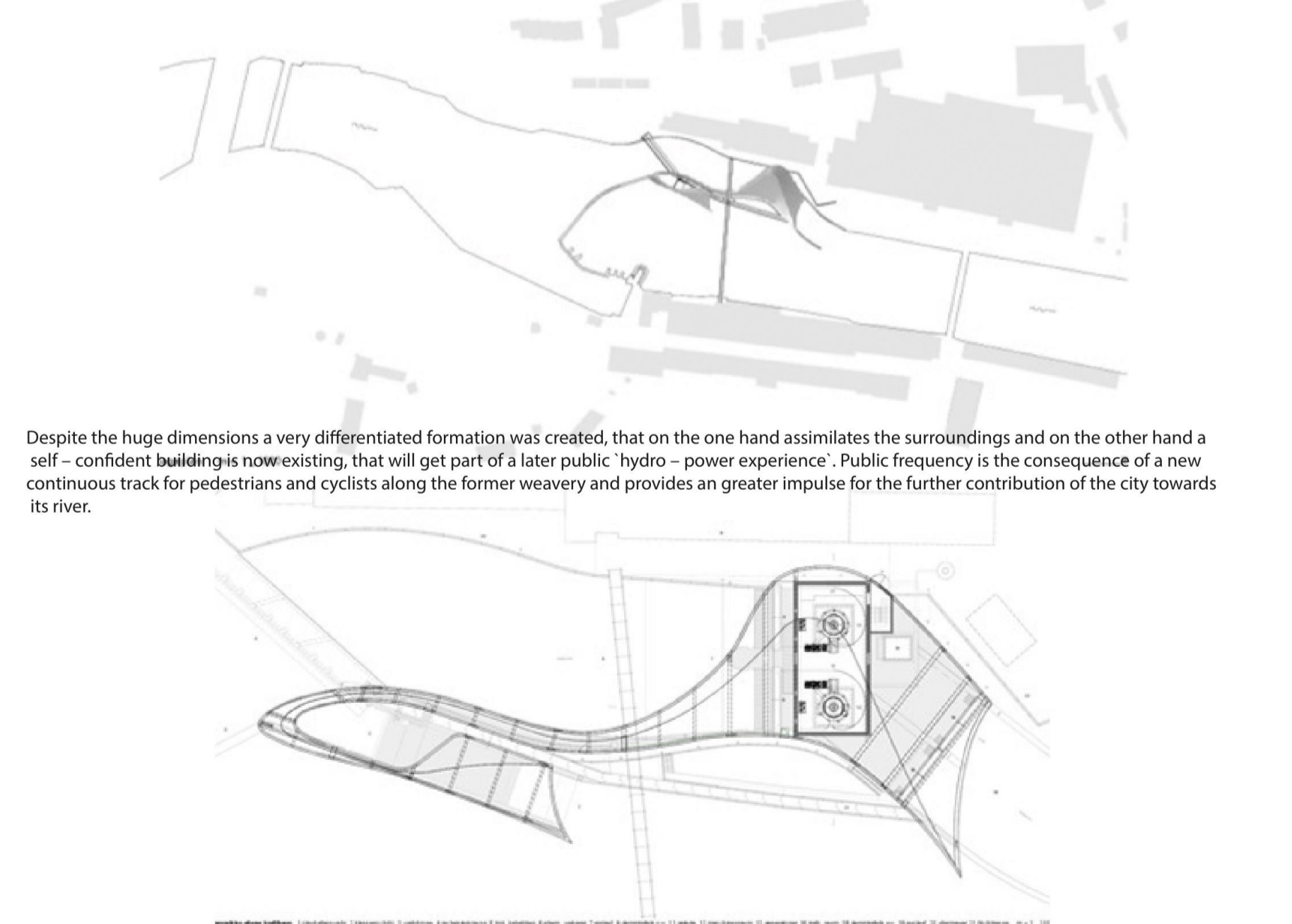


The important position, jutting out over the central water body, encouraged a dynamic design response. The design team has envisioned a signature iconic structure that is attractive, has a flowing modern form expressing the importance of Wuxi's relationship with water and is functional in its connections to the island, foreshores and allowing boats to pass underneath its elevation.

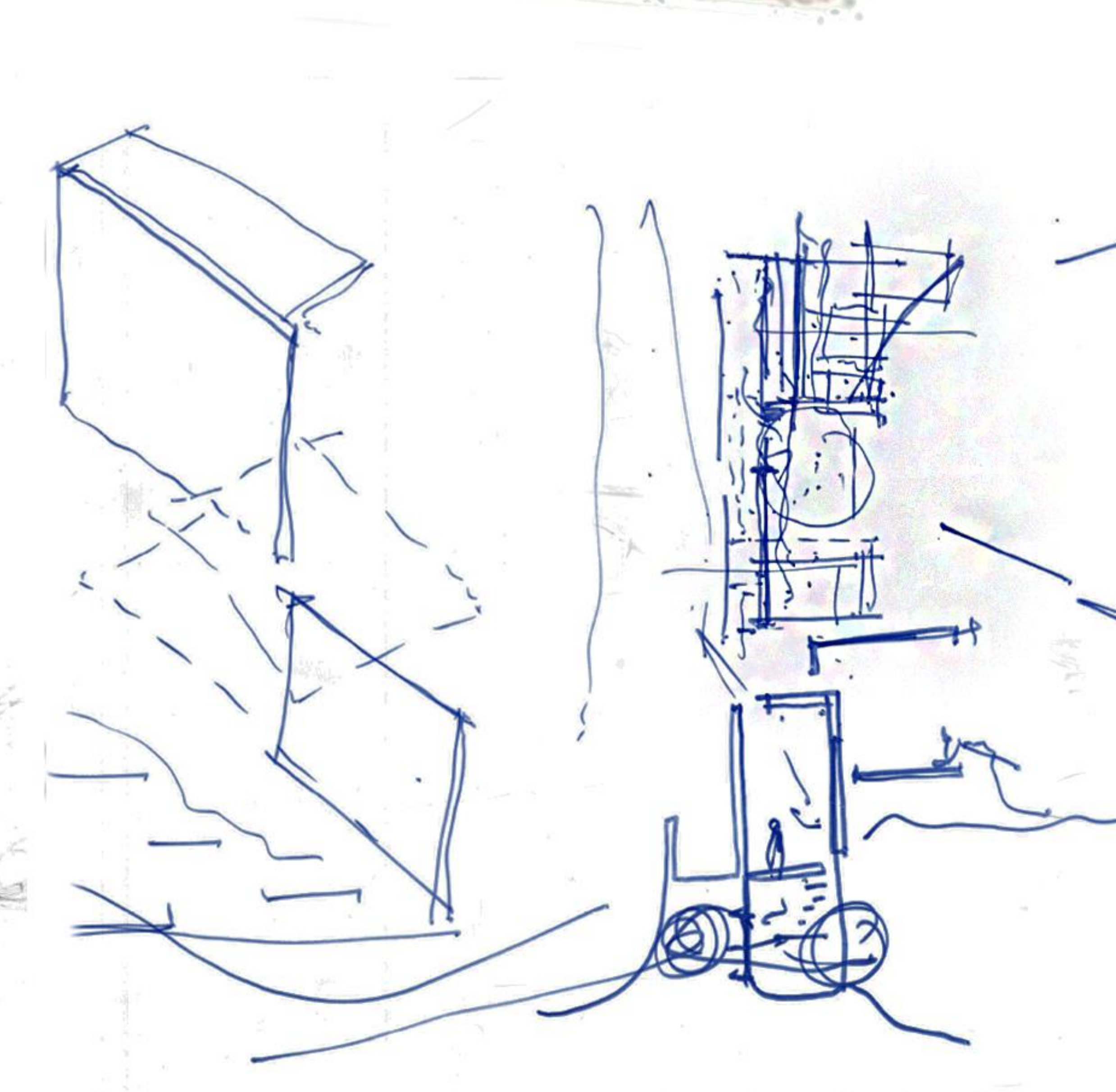
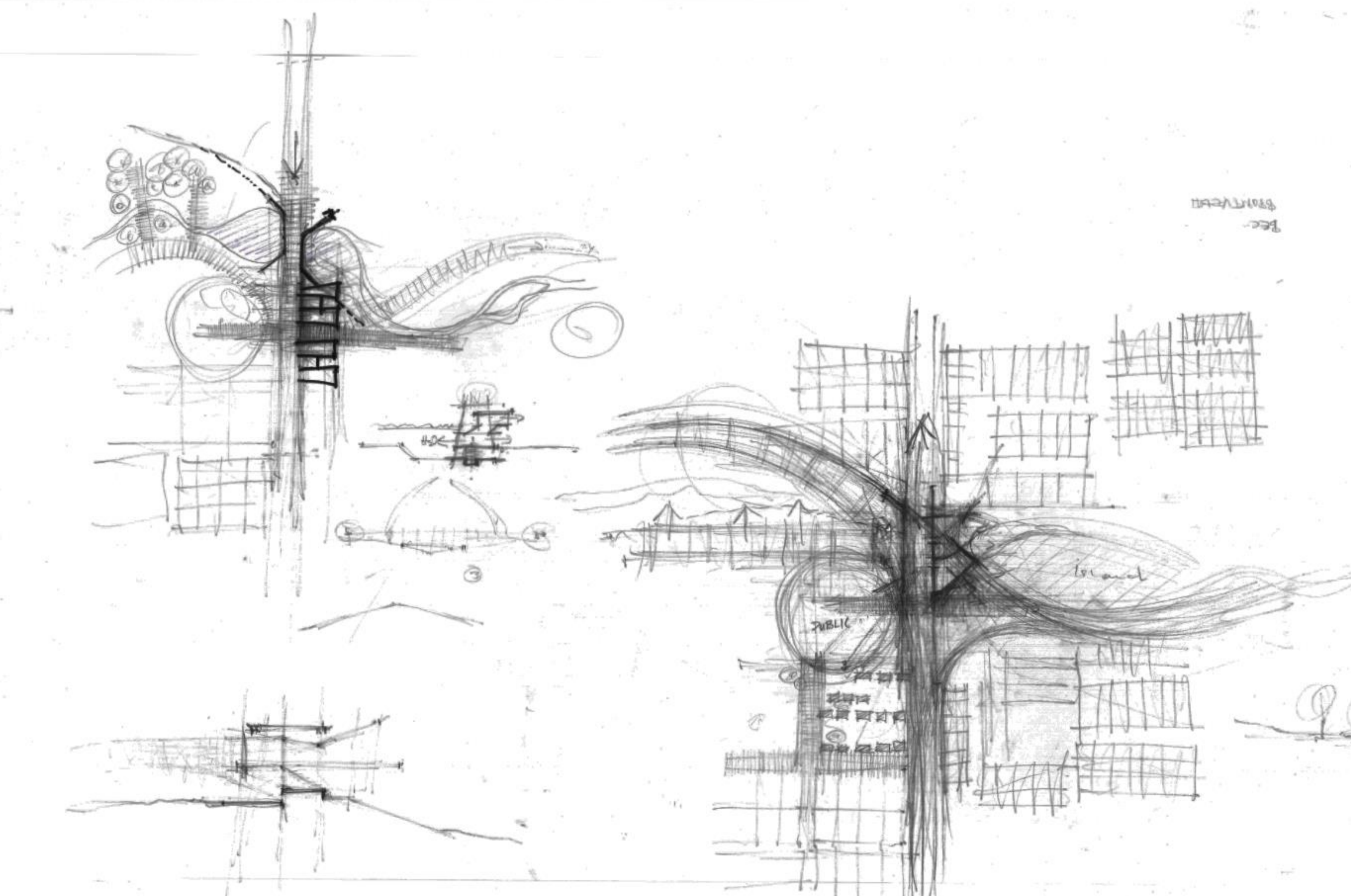
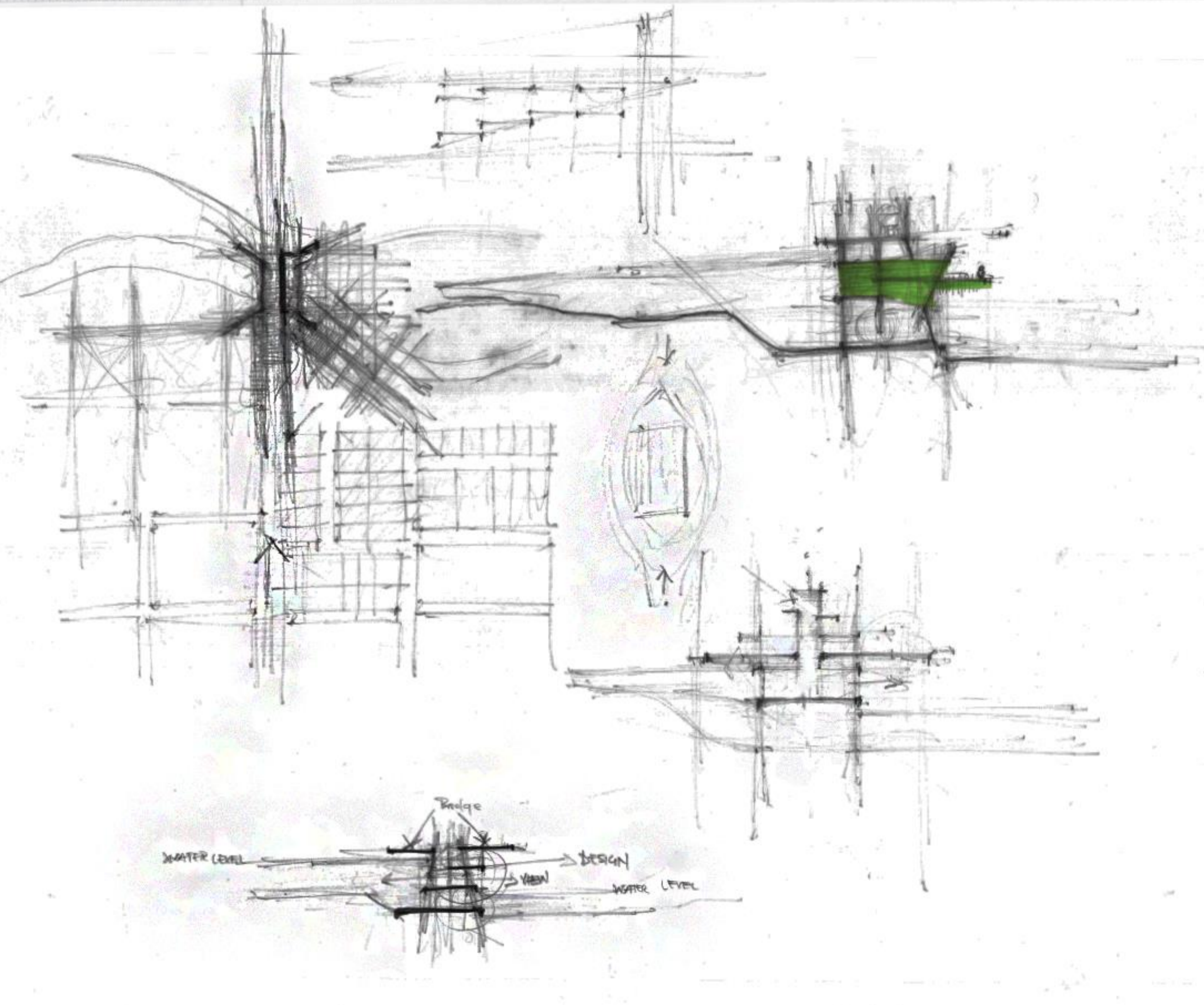
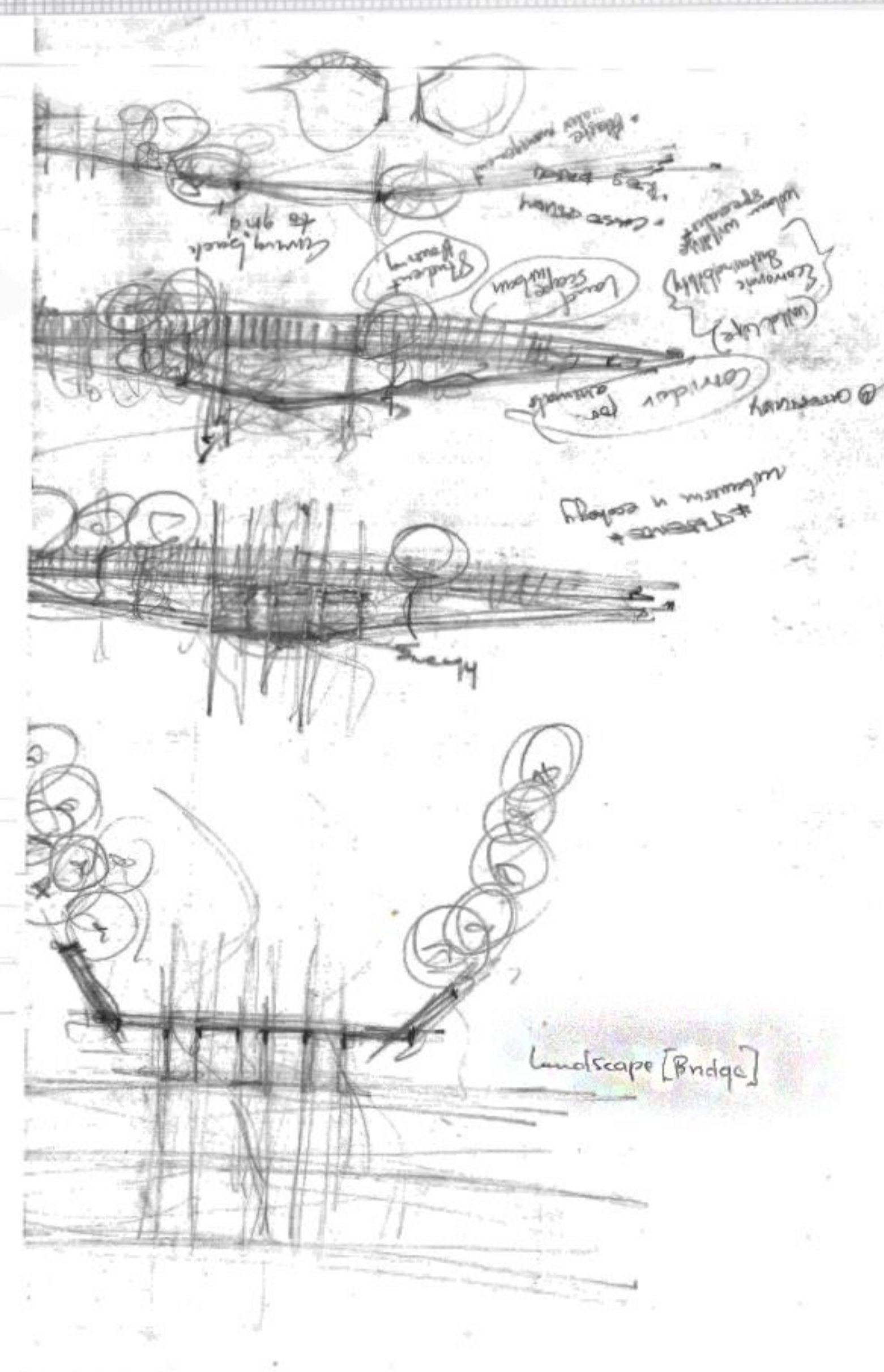


ENERGY PLANT
KEMPTEN, GERMANY
Architects: becker architekten
Area: 1040 m²
Year: 2010
Mechanical Engineering: VA, Tech Escher Wyss GmbH
Steel Construction: Eshard Muter mbH
Consultants: Mueller BBM GmbH, TIWAG, Tecum, B Reiner Krebs, Kunisch Blitzschutz, Harald Kopp
Structural Engineer: HMD-Consult, Konstruktionsgruppe Bauen

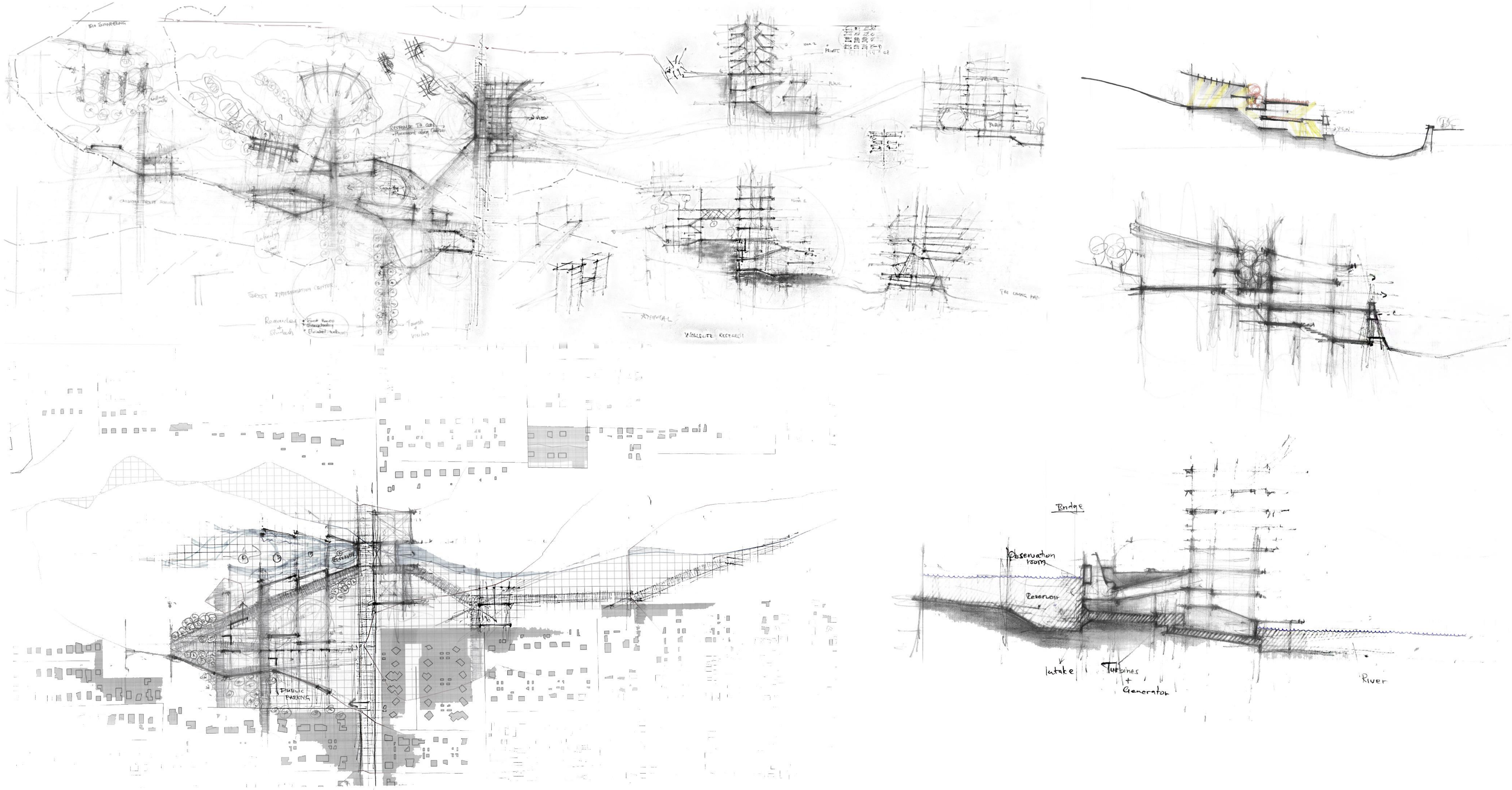
The starting point of the design considerations was the symbolic representation of the water dynamics, which change from a calm state at the water inlet to the churning and pitching of the water near to the turbines, before subsequently returning to a calm state after the electricity generation. Further associations included the river-washed rock formations in close proximity to the location of the power plant. The concept intended to connect the limit points machine room including turbines / generators and retention bar with a rack cleaning with a continuous wrapping that dives underneath a historical steel - framework of a former bridge for wires, in order to avoid its total demolition



CONCEPTS SKETCHES



DEVELOPMENTS



MASTER PLAN



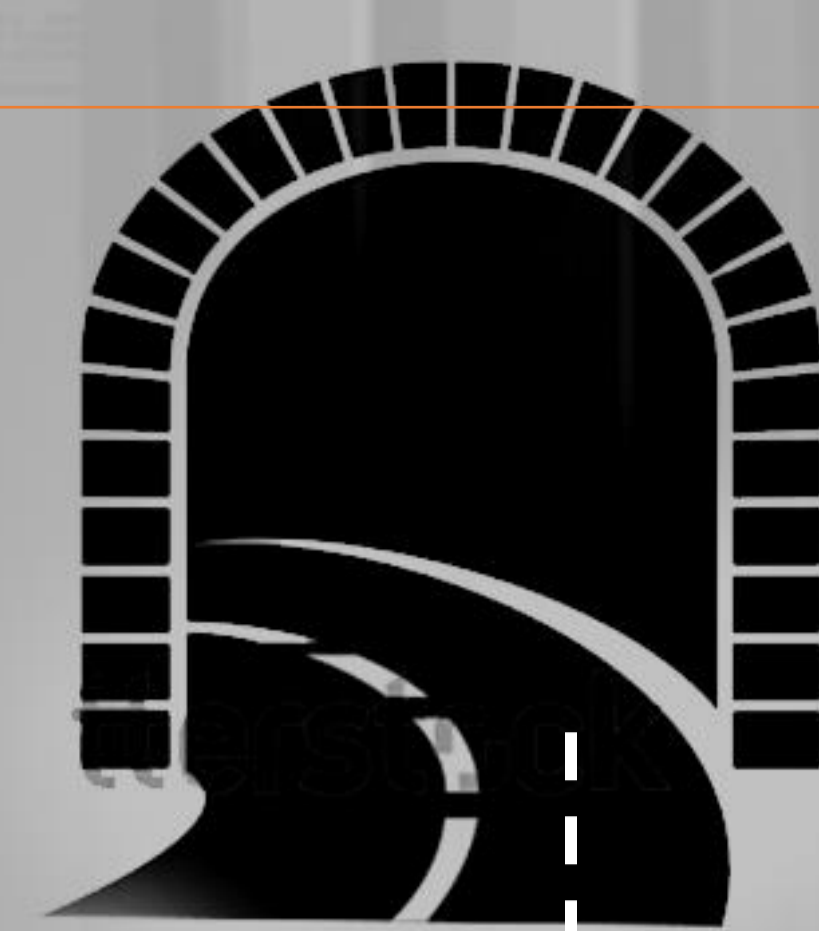
BIO ENGINEERING PLANTS ISLAND



FARMING ISLAND



MARKET



TUNNEL



FEEDING PLATFORMS



RESTAURANT



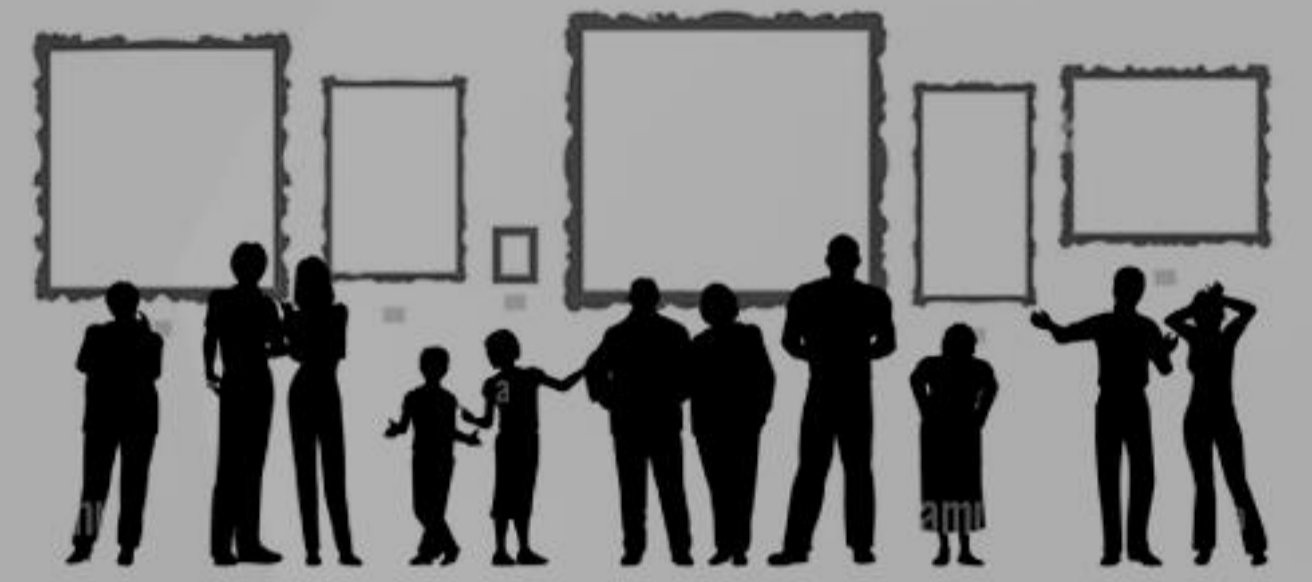
OPEN PUBLIC GYM



RESIDENTIAL SPACE



PASSIVE RECREATION PARK



GALLERY



LEARNING SPACE



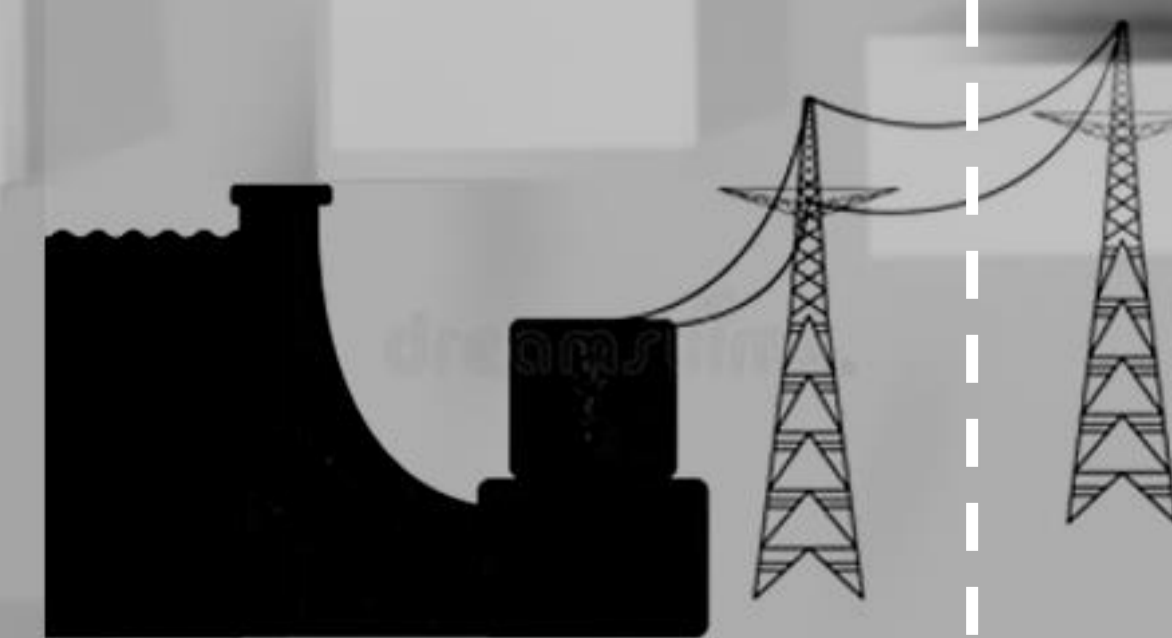
ENERGY SOURCES



SOLAR ENERGY



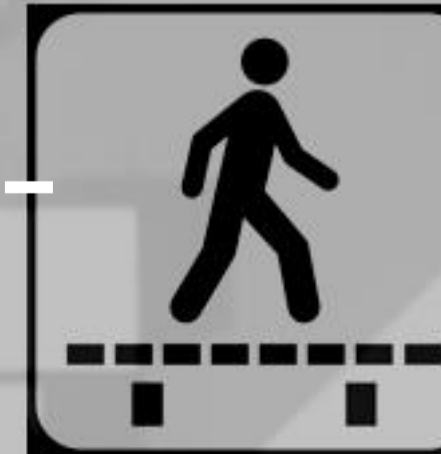
DAM=GRAVITATIONAL PRESSURE=TURBINES=ELECTRICAL ENERGY



GIVING BACK TO THE GRID



CYCLIST PATH



WALKWAY



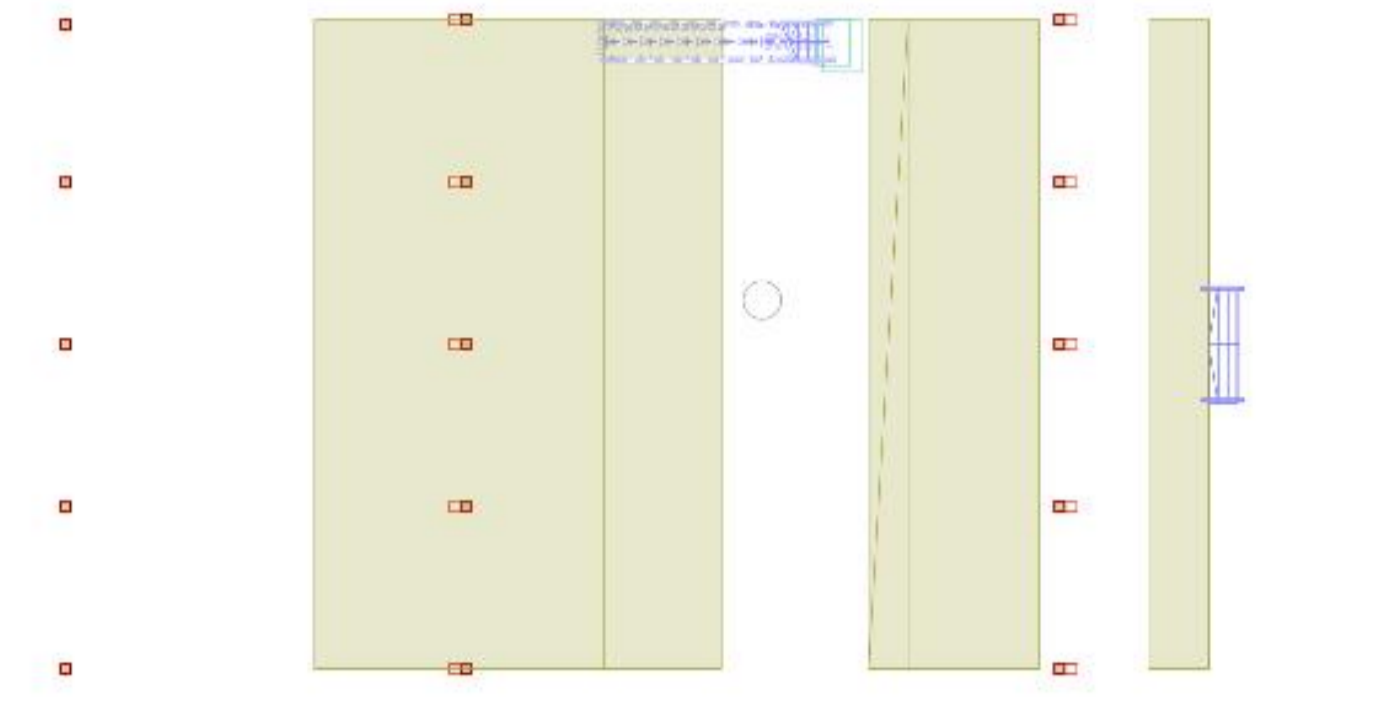
OBSERVATORY DECK



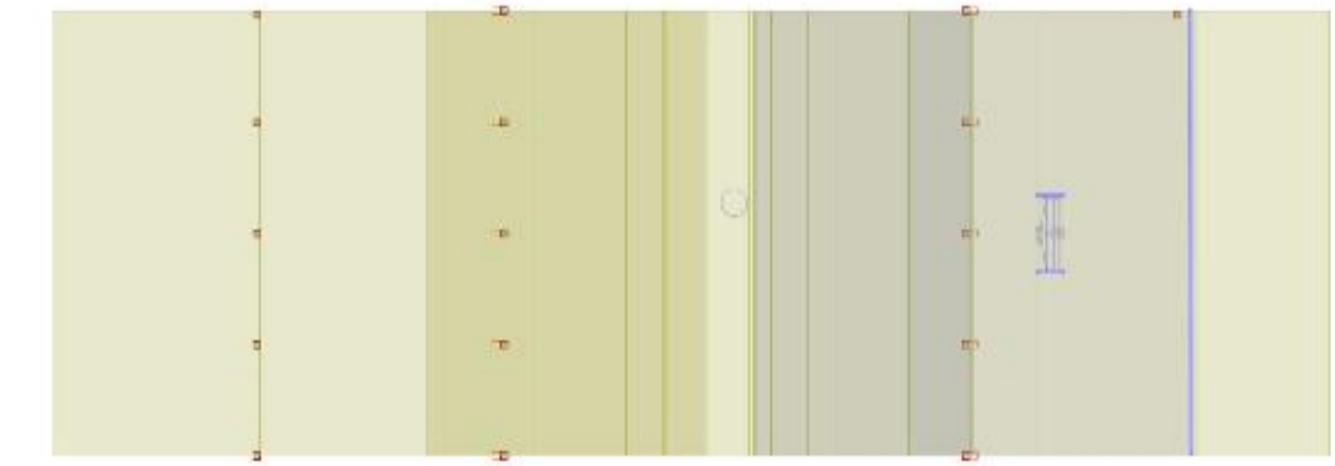
CARE UNIT/VETERINARY CLINIC

WALKWAY TO GABORONE GAME RESERVE

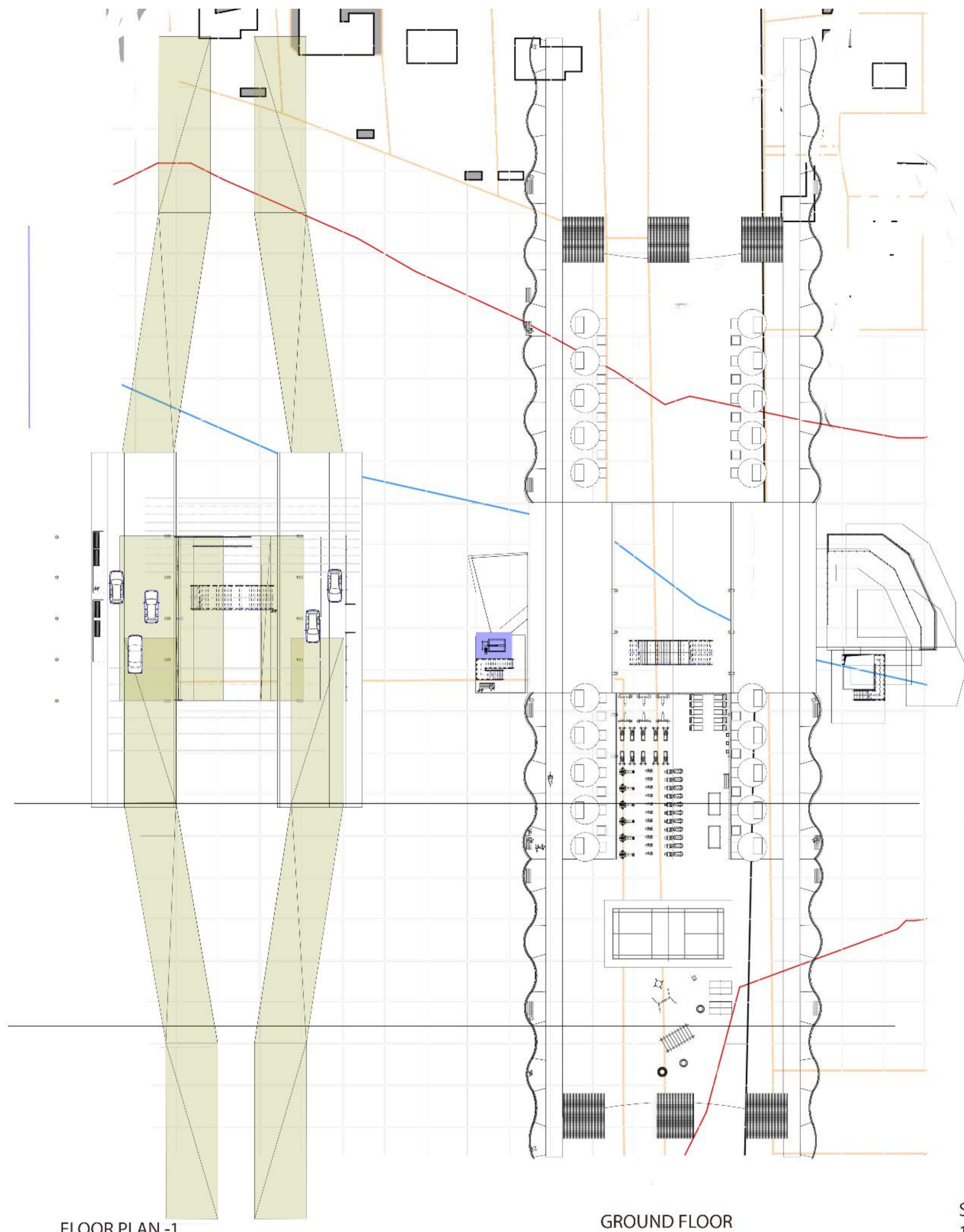
DESIGN PLANS
SCALES 1:100



FLOOR PLAN -2



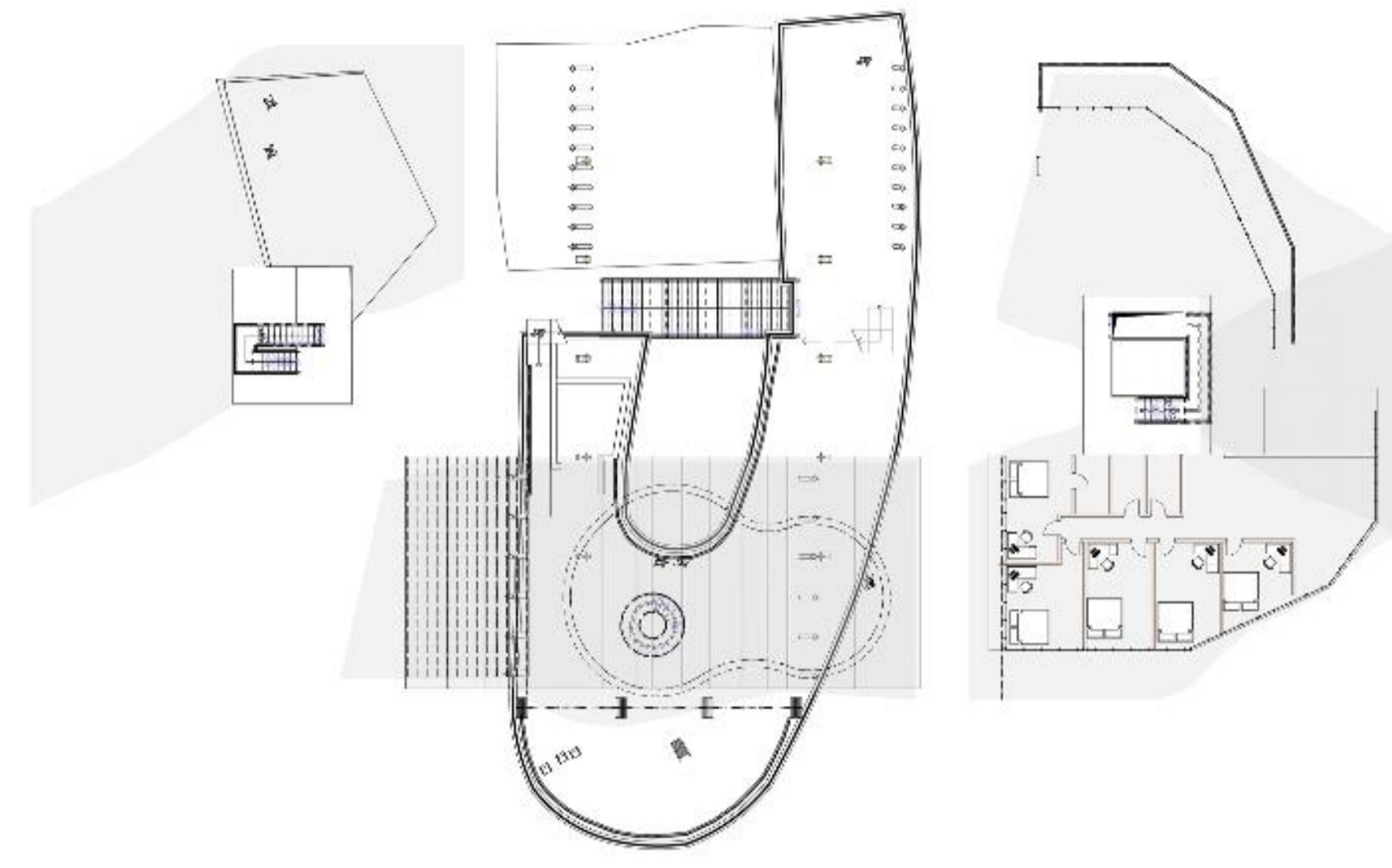
FLOOR PLAN -3



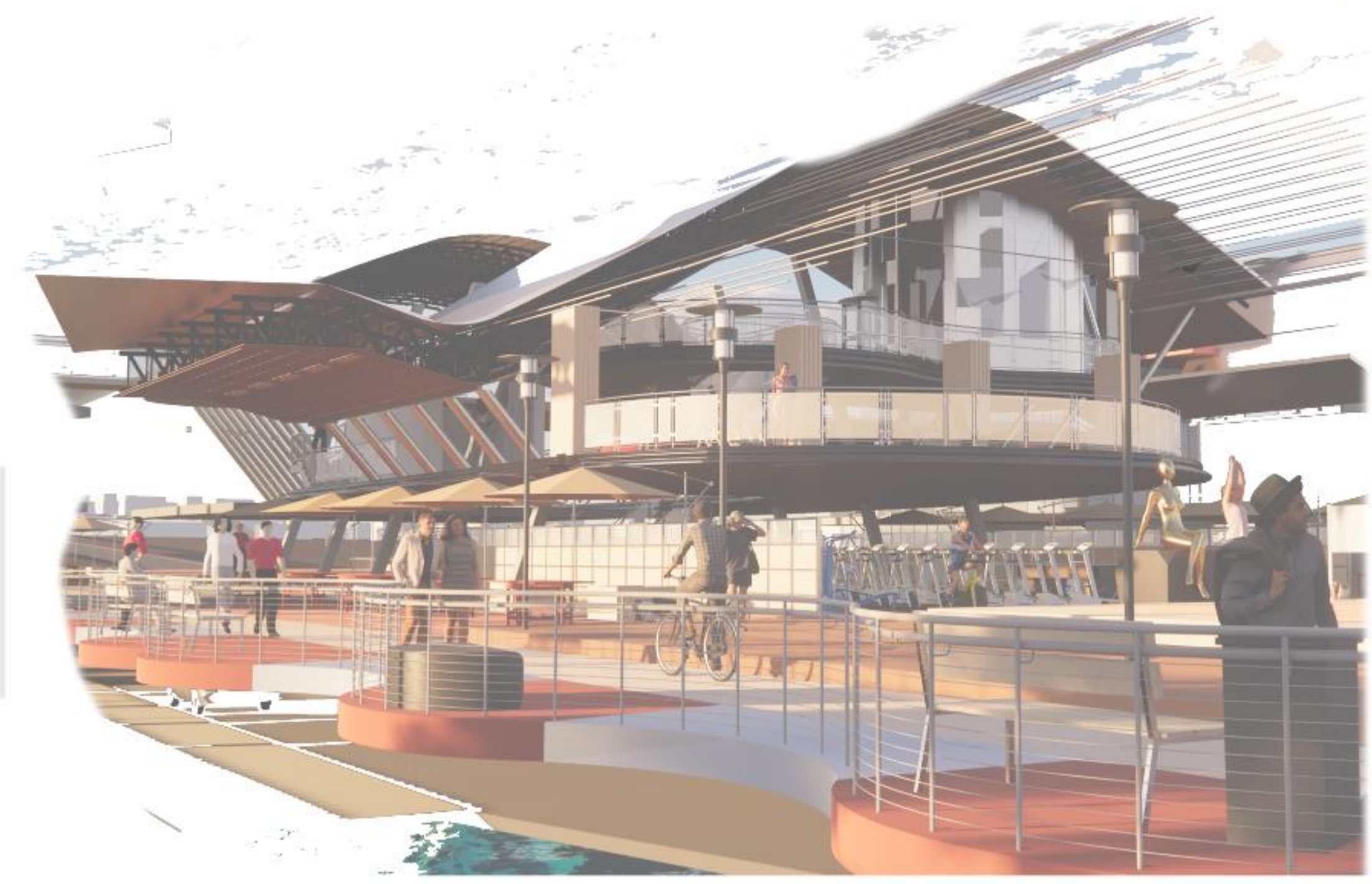
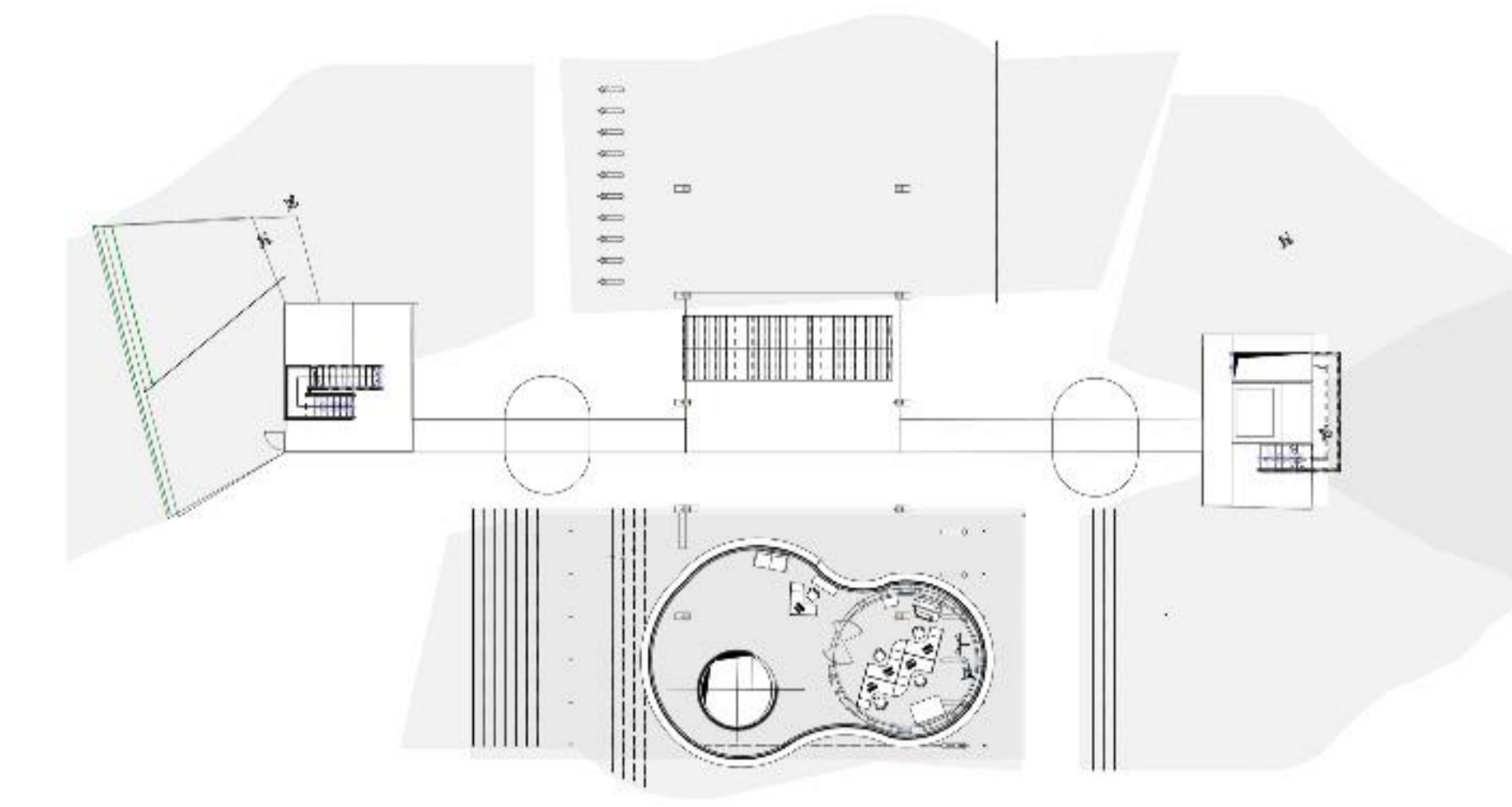
FLOOR PLAN -1

GROUND FLOOR

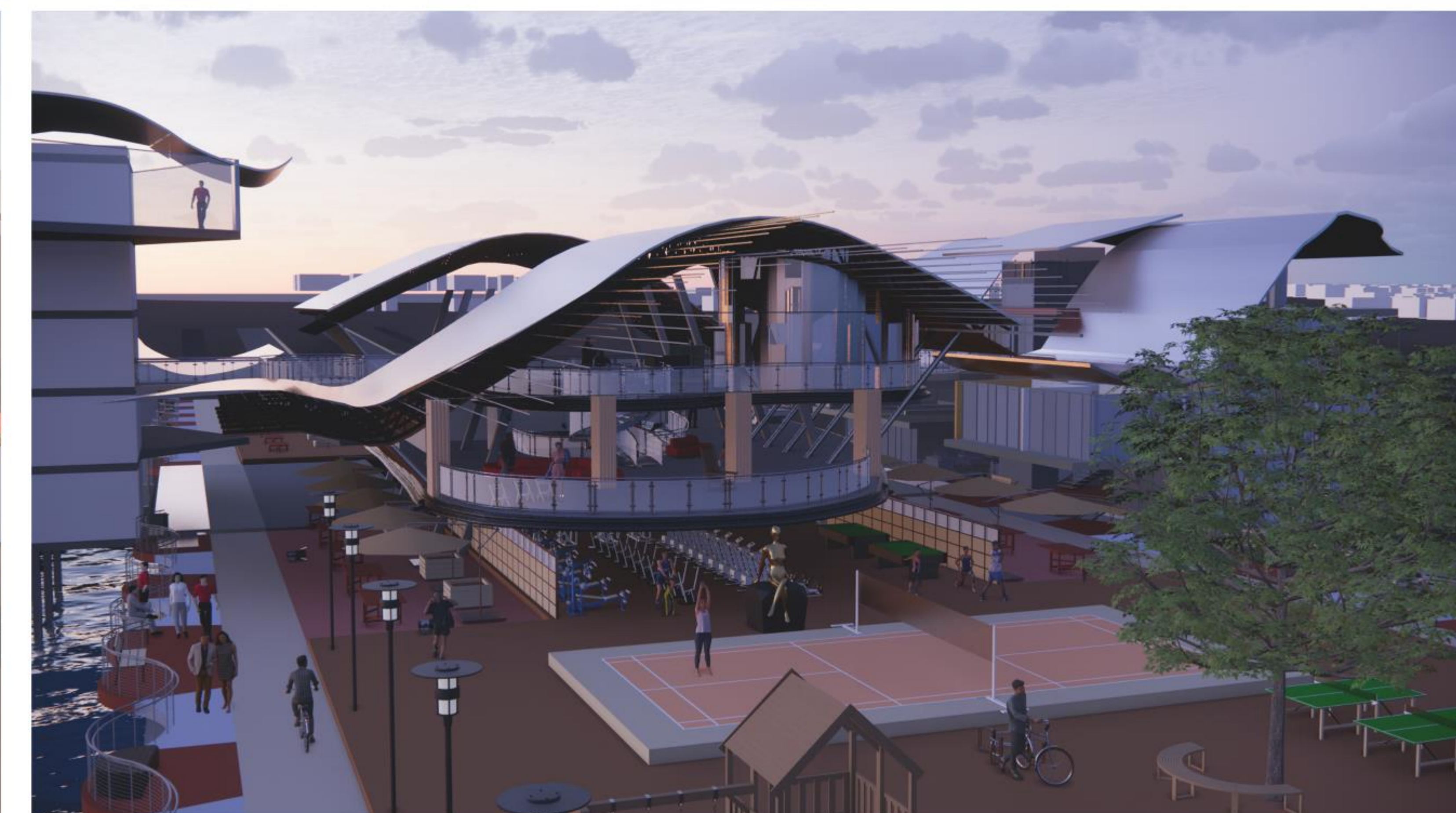
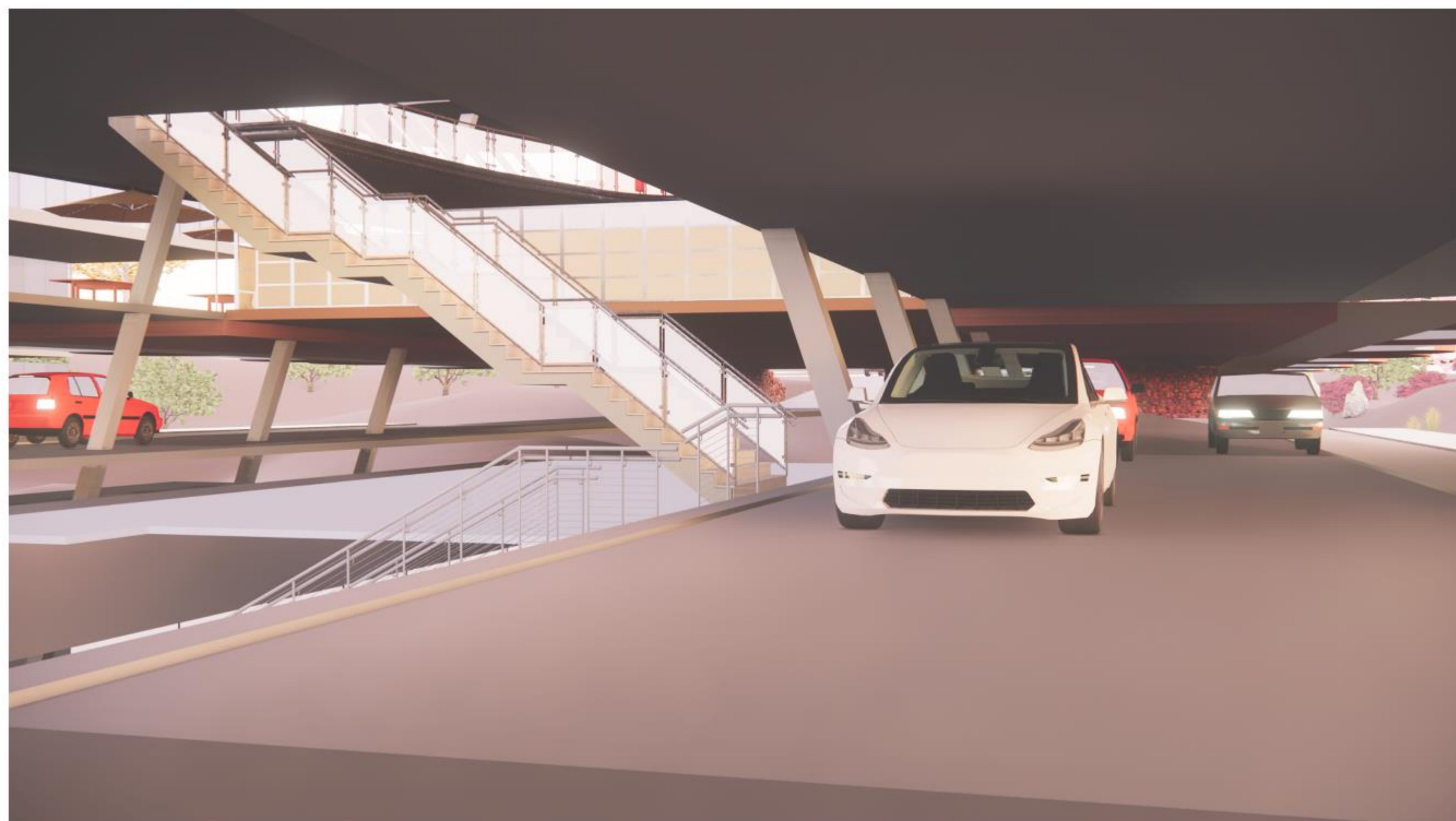
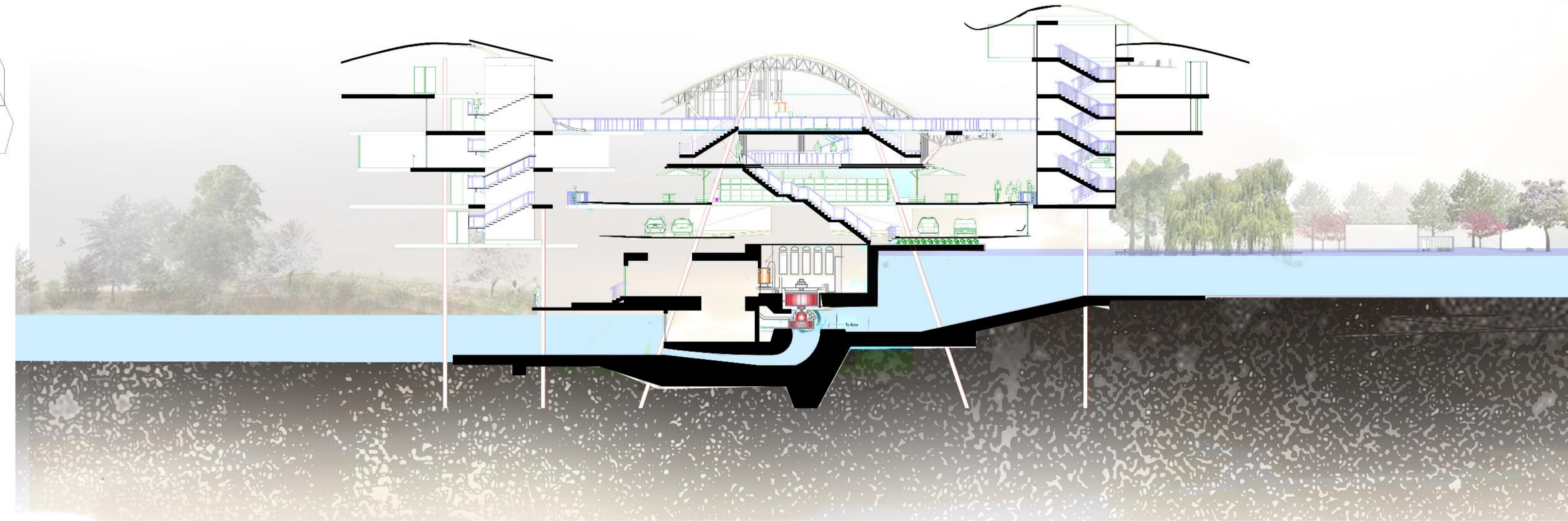
FIRST FLOOR



SECOND FLOOR



SECTION AA
1:100

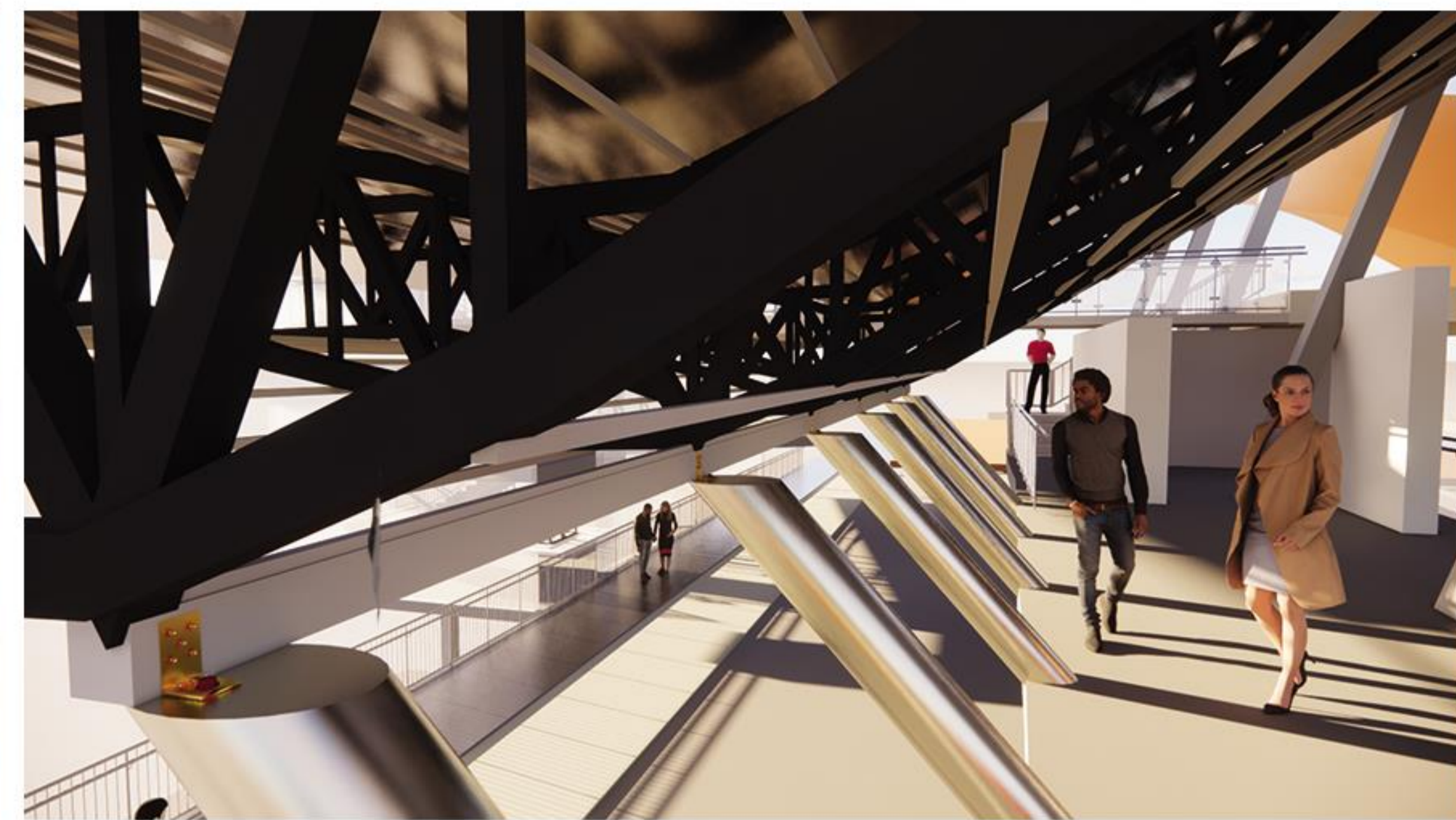


An architectural rendering of a modern building facade. The building features a curved, multi-level structure with a perforated metal facade. The rendering is split into two halves by a large, white silhouette of a woman's profile. The left half is in a dark, blue-toned setting, while the right half is in a warm, golden-hour setting. The text "DESIGN FACADE" is overlaid in white on the left side.

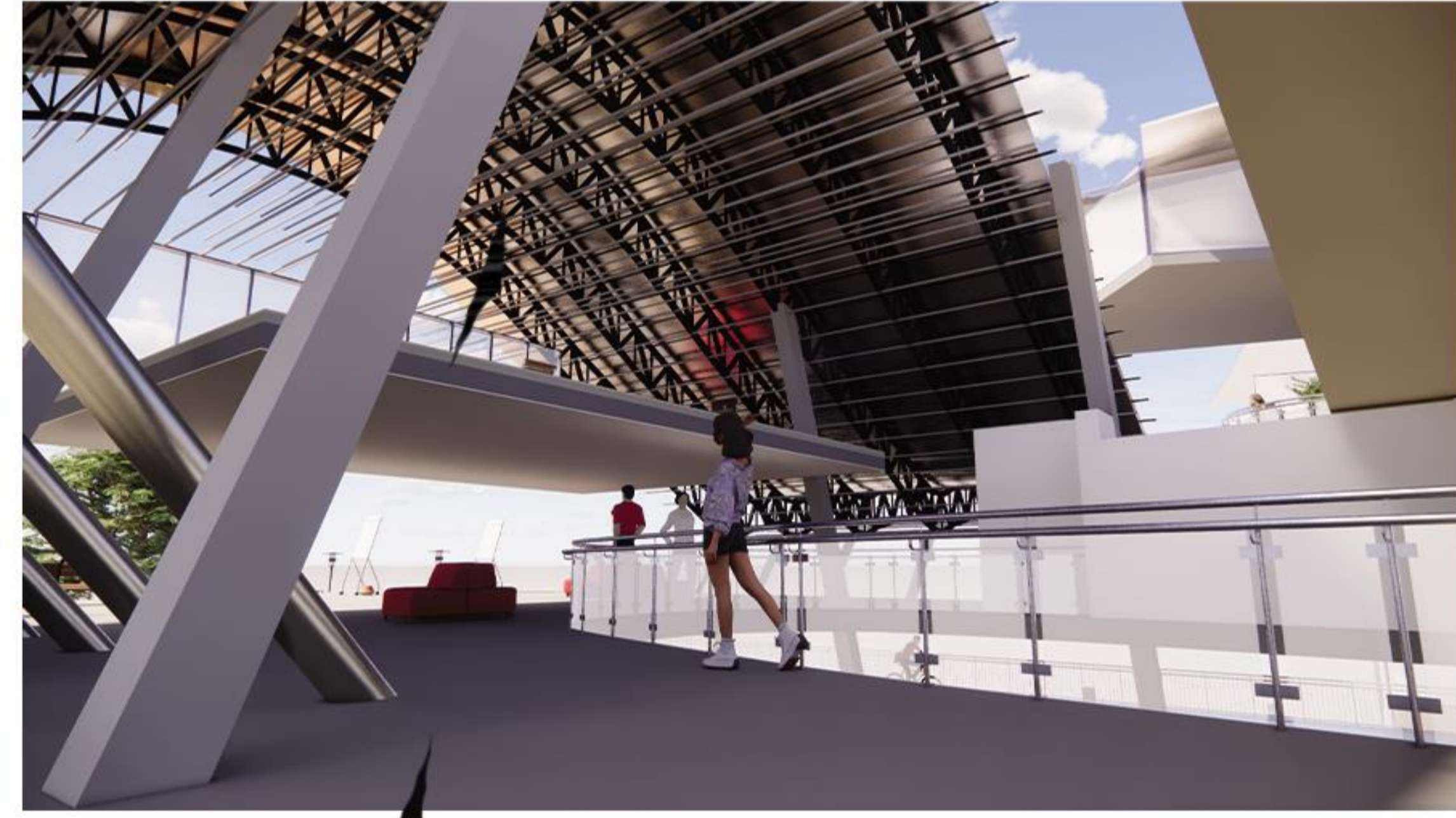
DESIGN FACADE



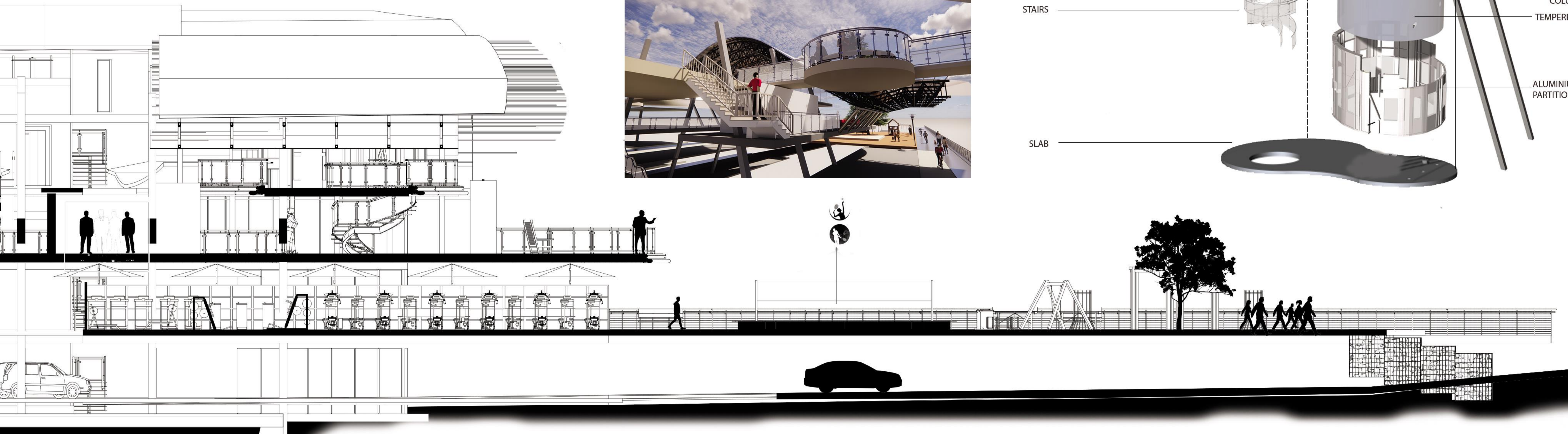
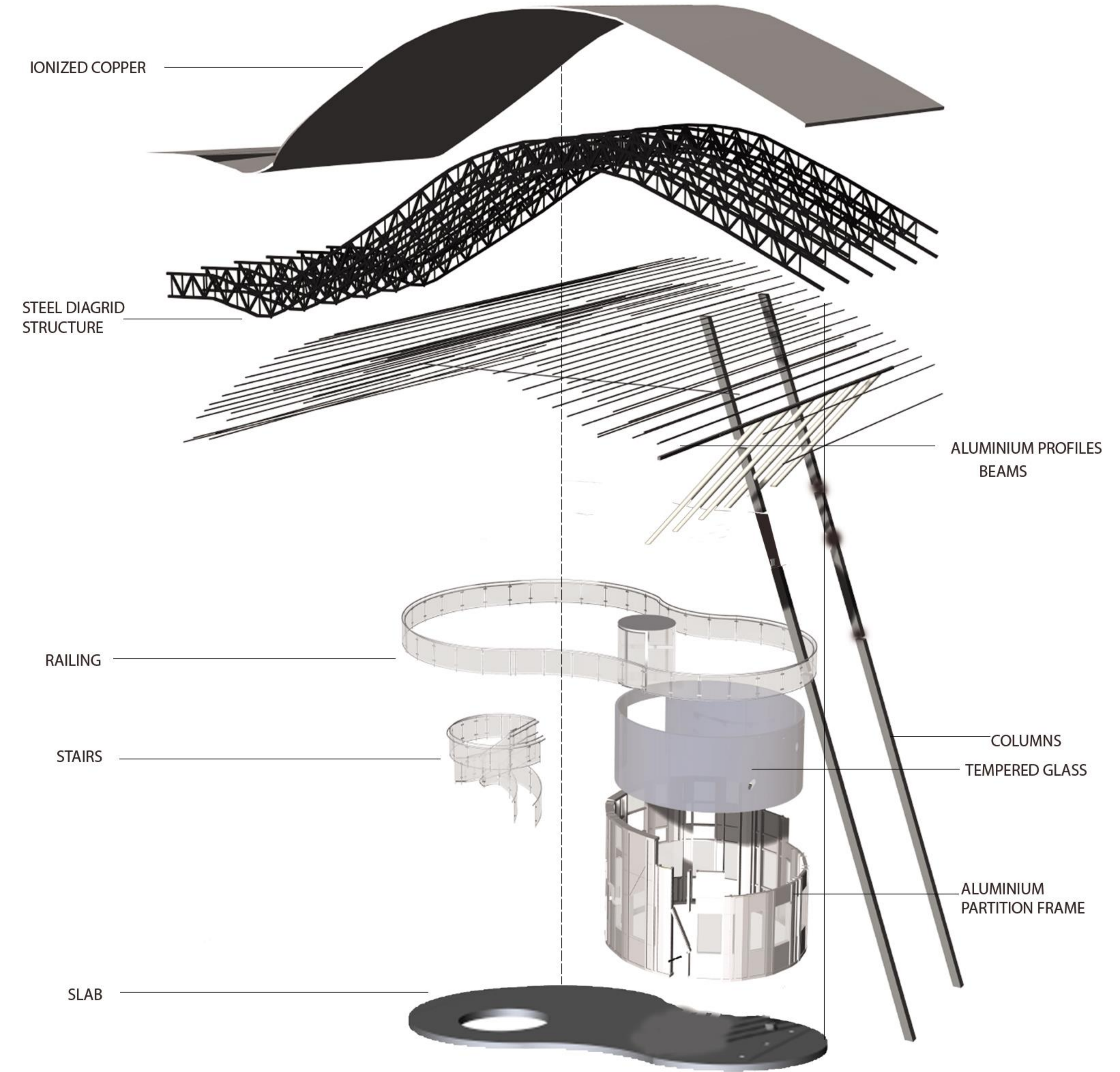
CONNECTION DETAIL



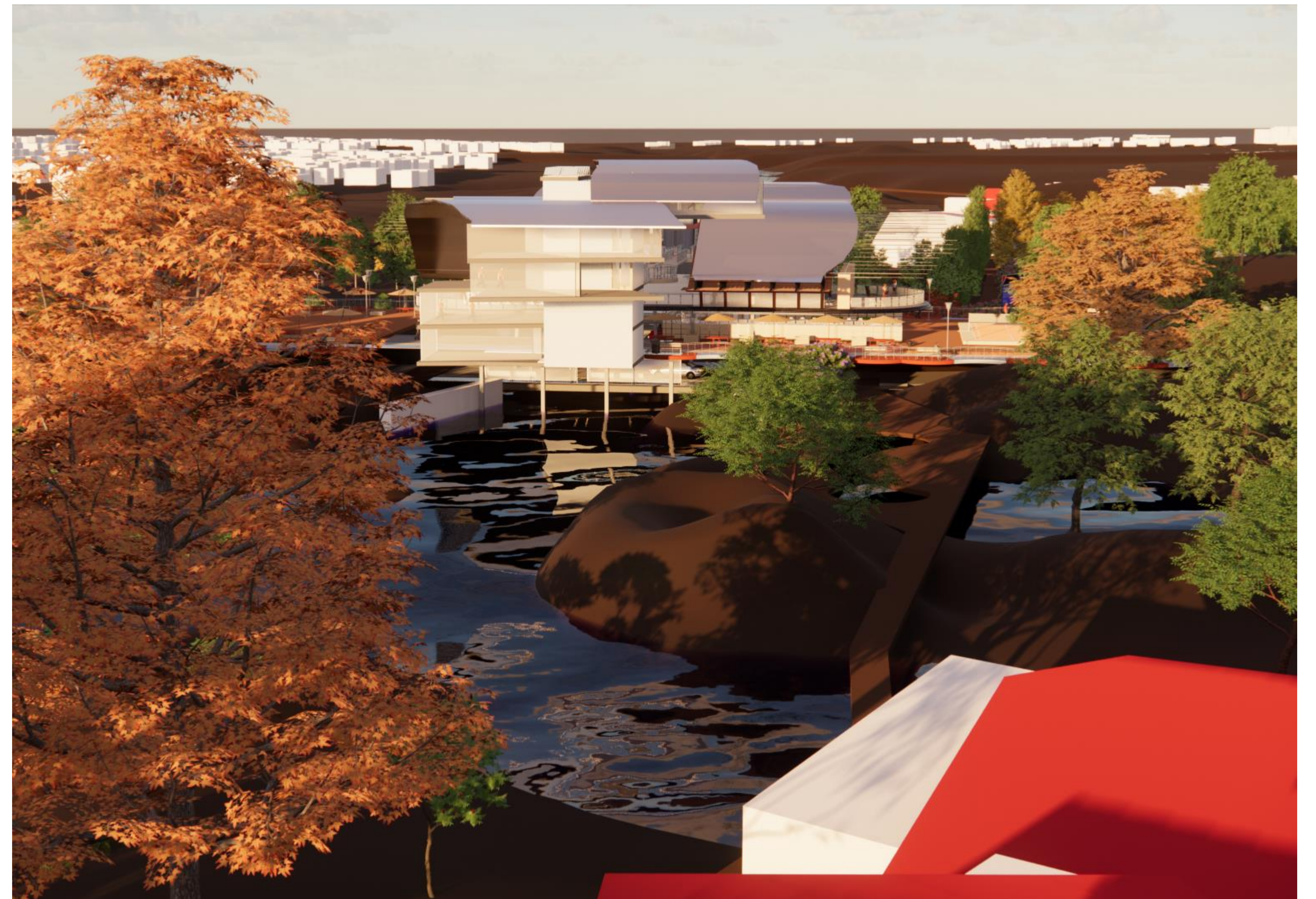
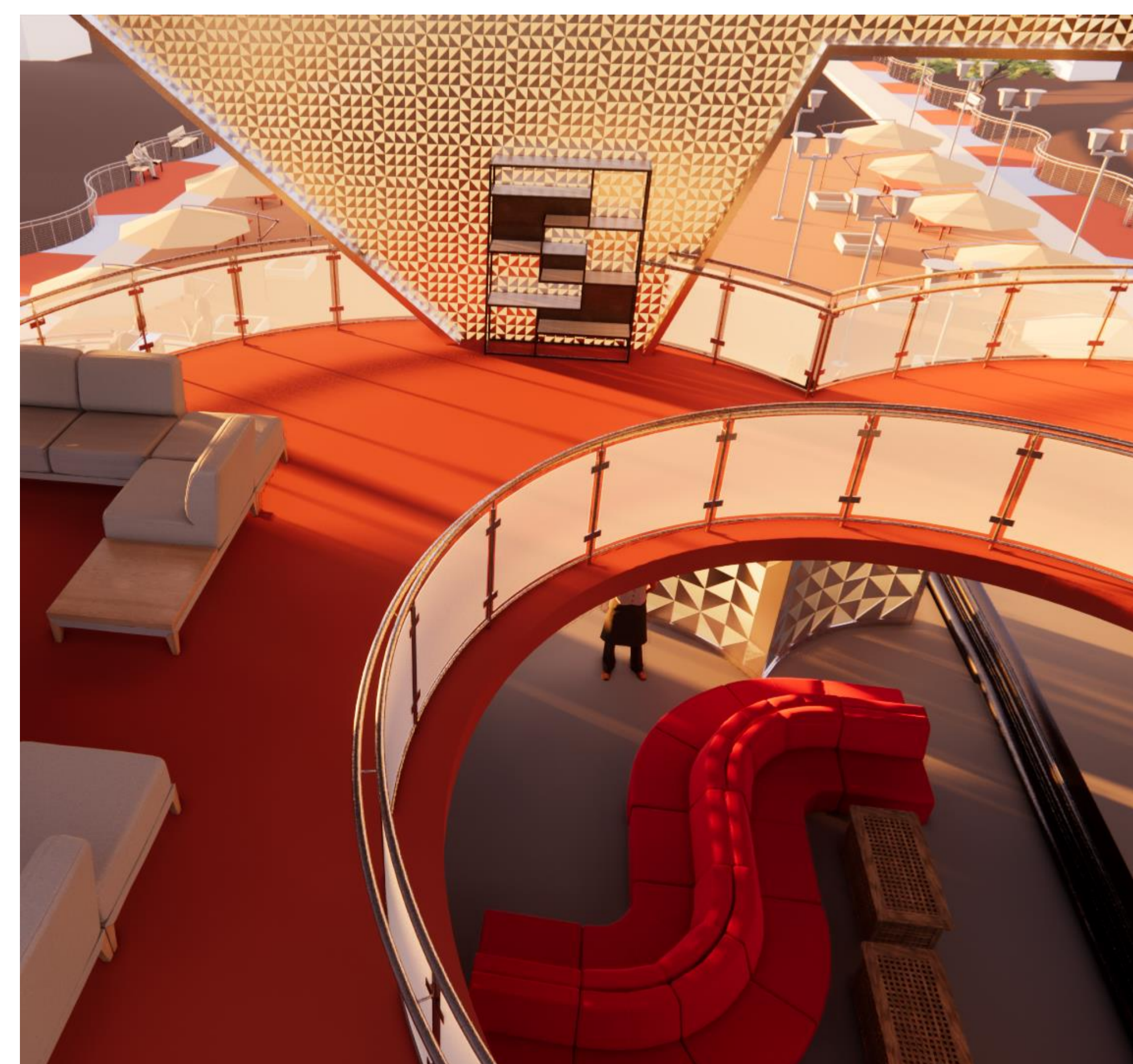
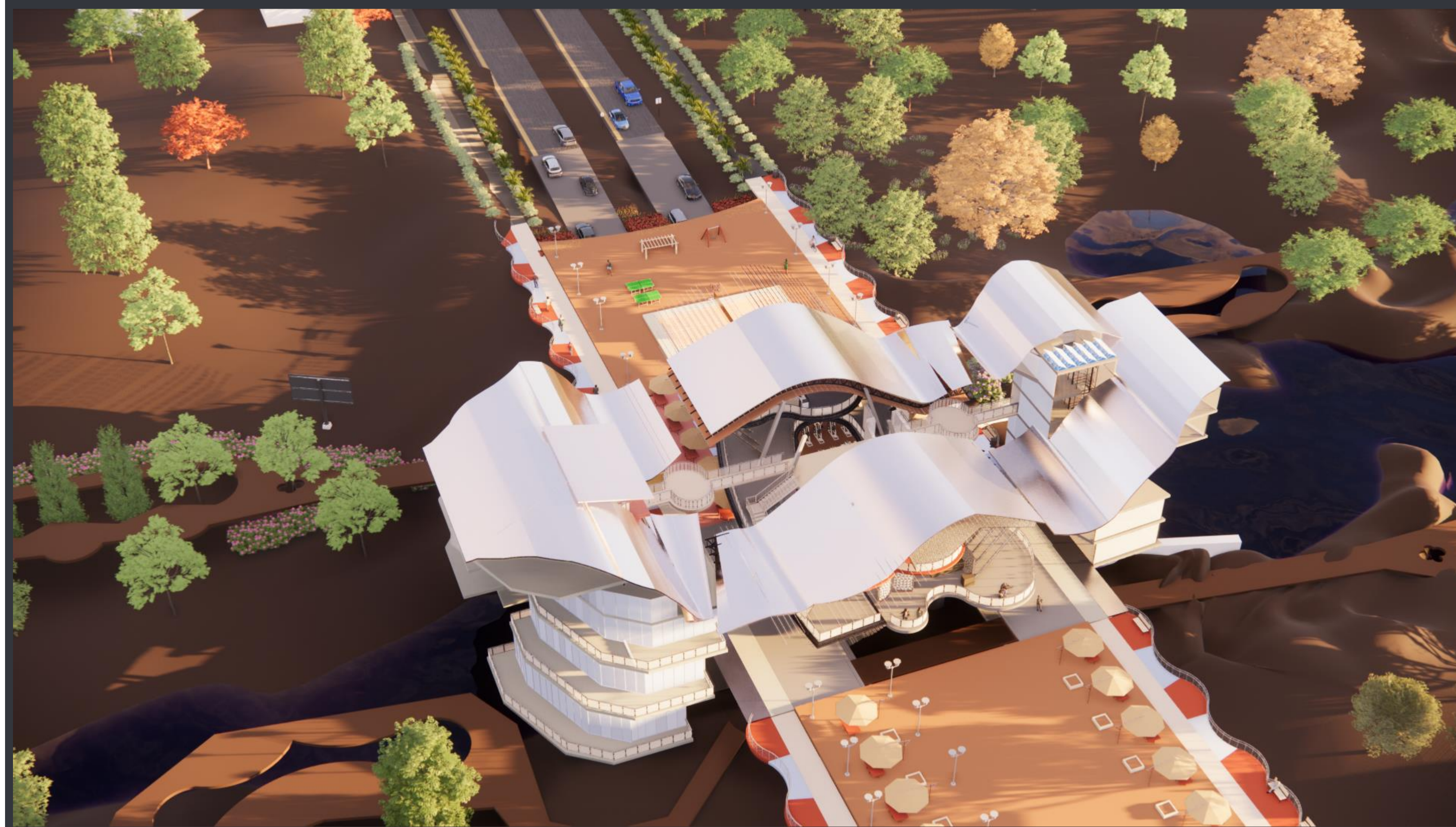
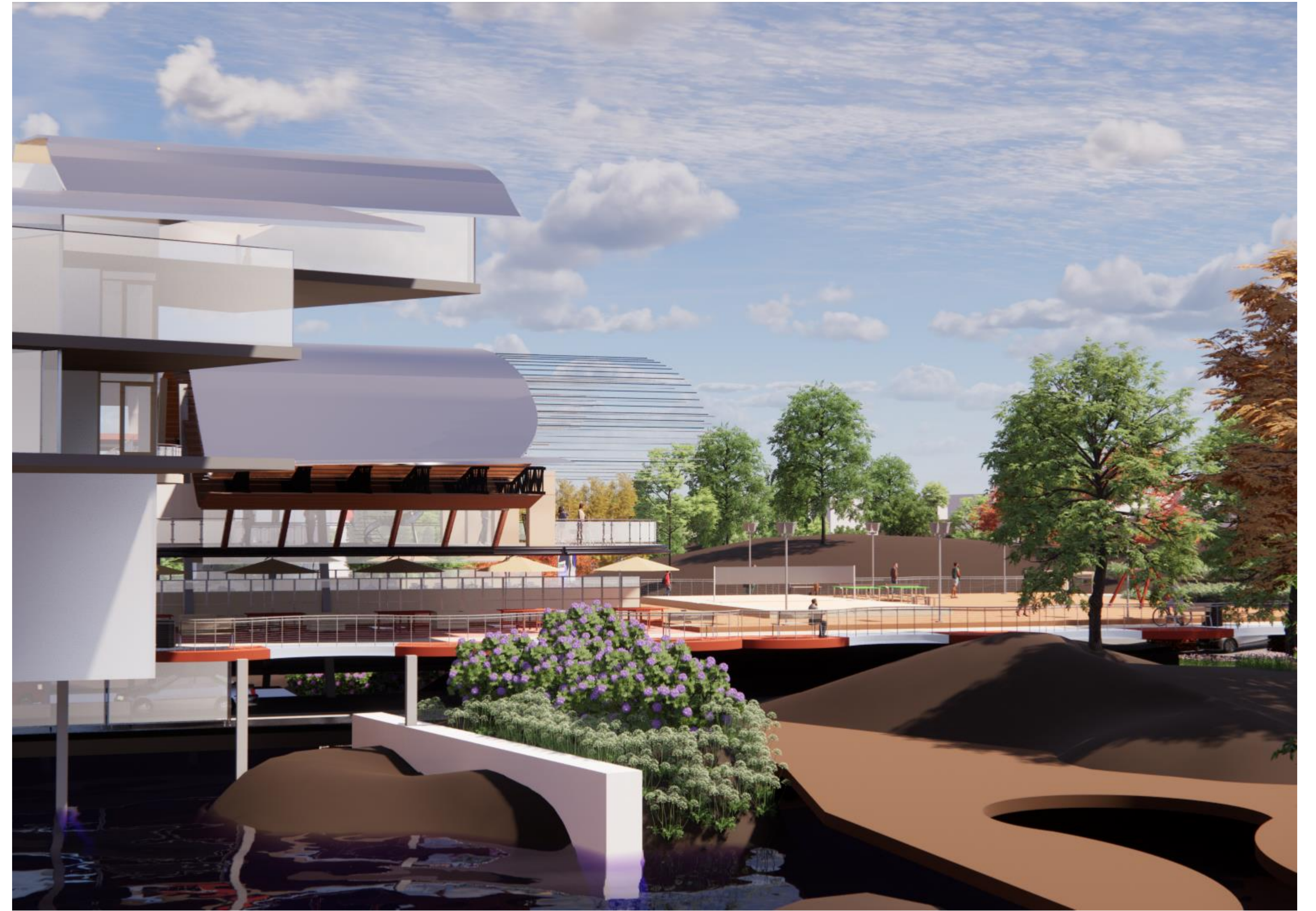
INTERIOR PERSPECTIVE



EXPLODED STRUCTURAL SYSTEM



PERSECTIVES



PERSECTIVES

