

ARCHITECTURAL
DESIGN



PORTFOLIO

Joanna Maria Daoud

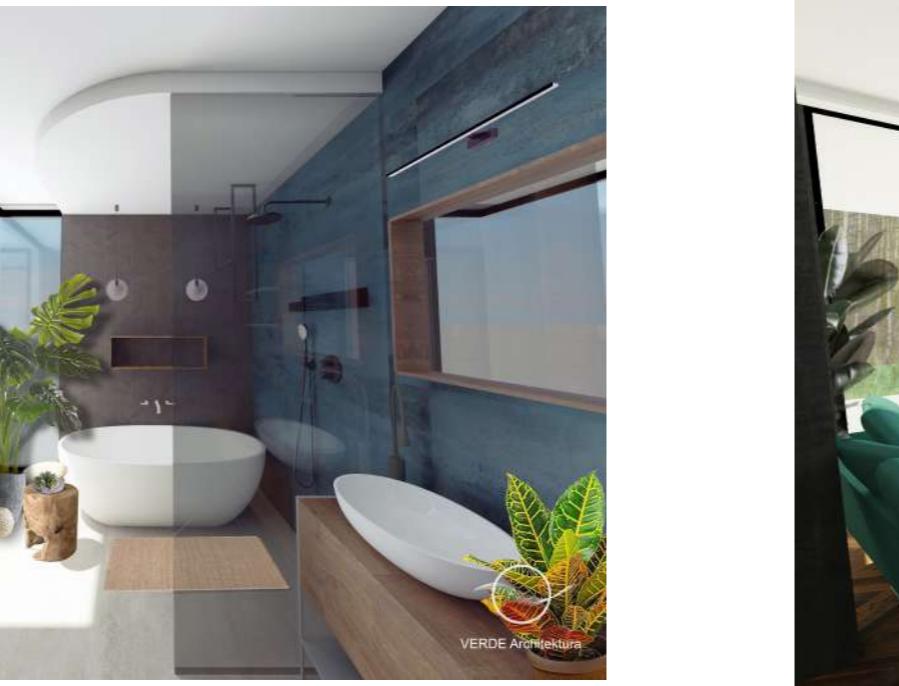
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At the end of 2023, I returned to Poland after 20 years of studying and working abroad (Italy, Lebanon, China) to open the Atelier of Passive and Biophilic Design and use my knowledge and experience in practice.

Starting from my Master's degree in Sustainable Architectural Design (Architecture per il Progetto Sostenibile) at the Politecnico di Torino in Italy, through my experience in design offices in Beirut, to my position as a university lecturer at the Faculty of Engineering and Architecture at Wenzhou University in China, I have been faithful to my passion for Sustainable Building Design. I am also an accredited Passive Architecture Tradesperson at the German Passive House Institute.

I strongly believe that our surroundings have a tremendous impact on our health and psychophysical harmony, and that the use of safe materials and the principles of biophilia in interiors, architecture, and urban space has an incredible regenerative potential. I will help you restore the natural balance in your home and workplace.



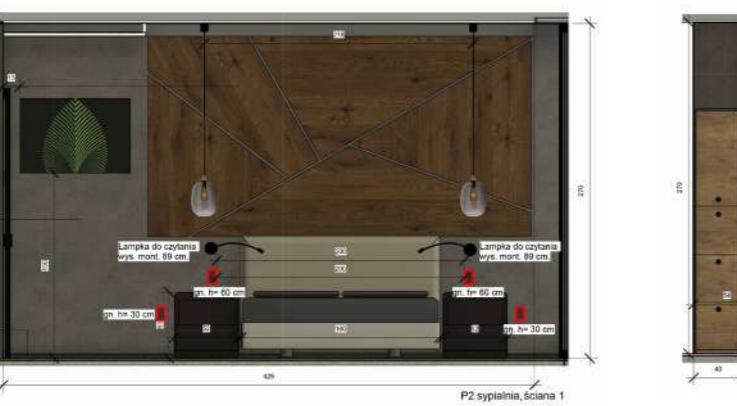
4 Season House, Starachowice, Poland
- residential

The project is my first comprehensive interior design project developed based on the principles of biophilia and sustainability. I limited the use of materials emitting VOCs (volatile organic compounds) to a minimum. Instead, used an alternative components such as:

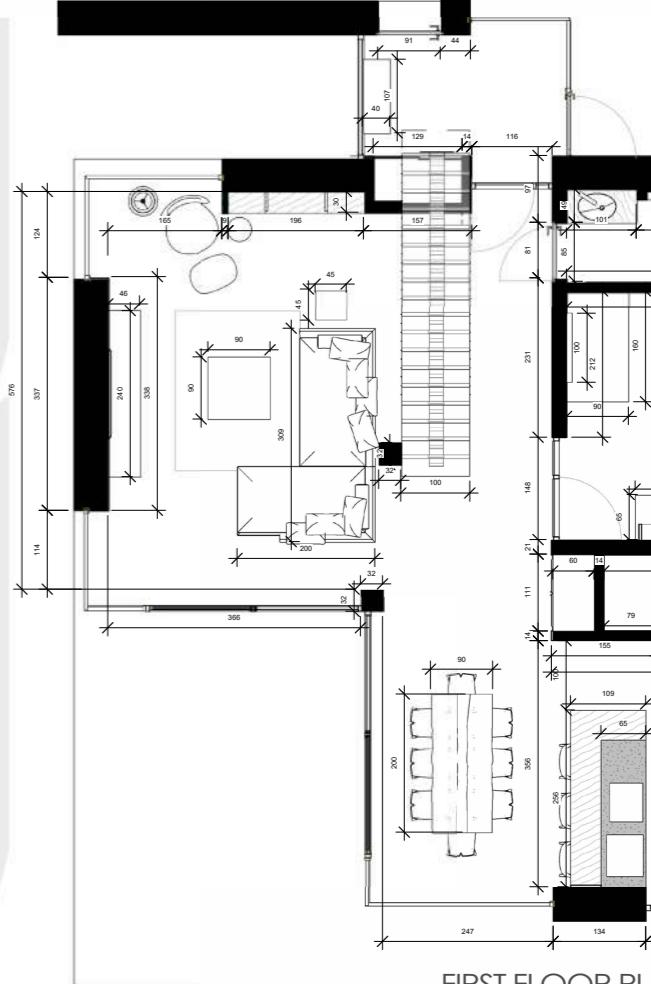
- Clay plasters
- Recycled wood
- recycled bricks
- Wooden boards
- Natural stone
- Eco-friendly MDF
- Conglomerates from manufacturers with (EPD) Environmental Product Declaration

Moreover, I integrated greenery as a part of the design agenda and consciously selected lighting intensity and value to mimic the natural light while using the task light for areas needing specific requirements.





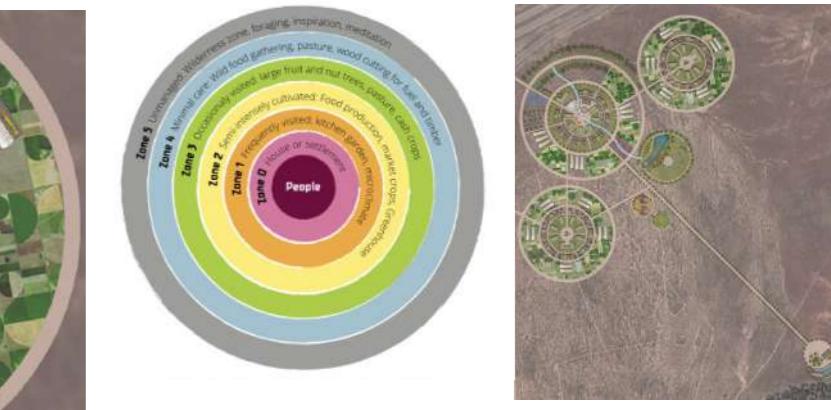
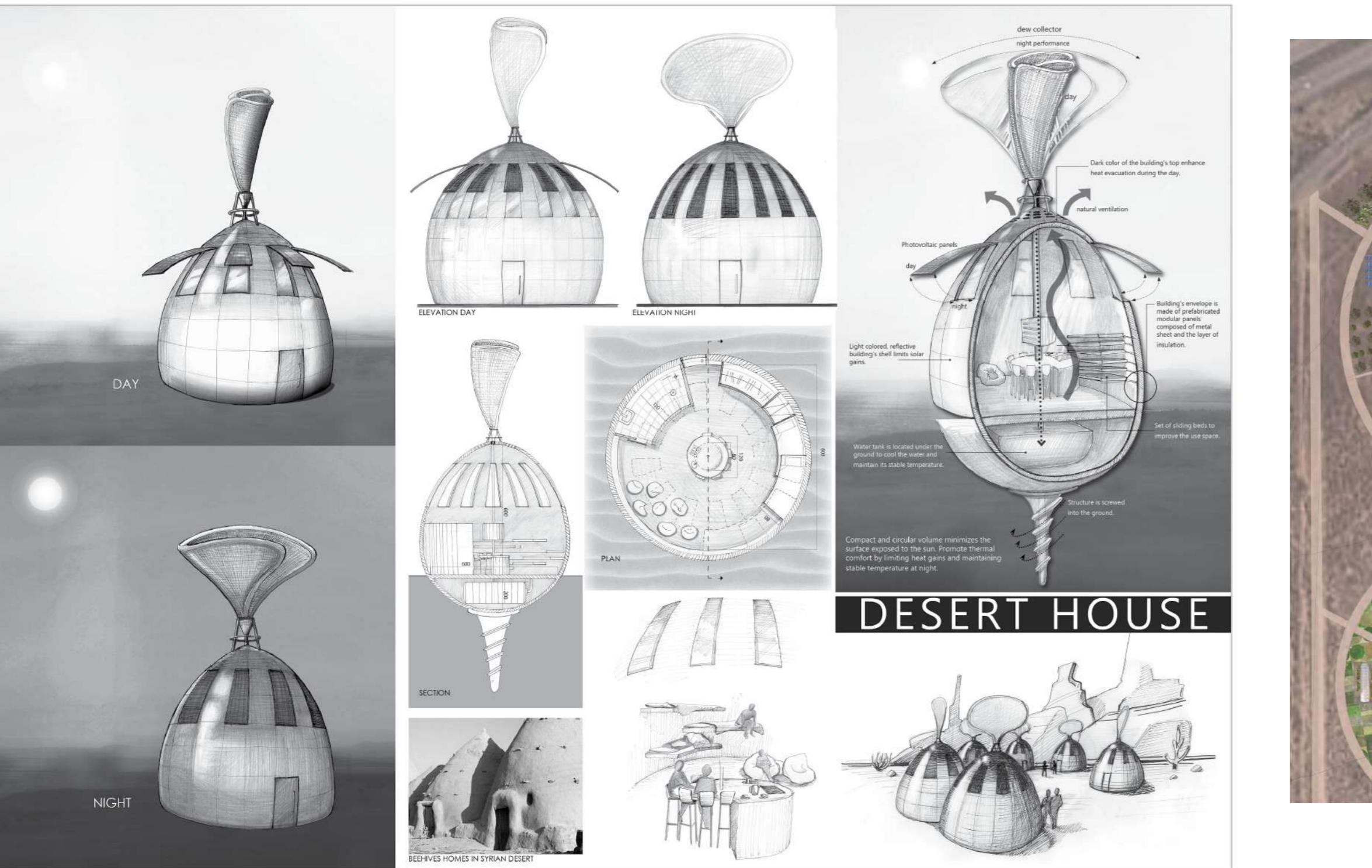
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FIR

**Meadow house**
- residential

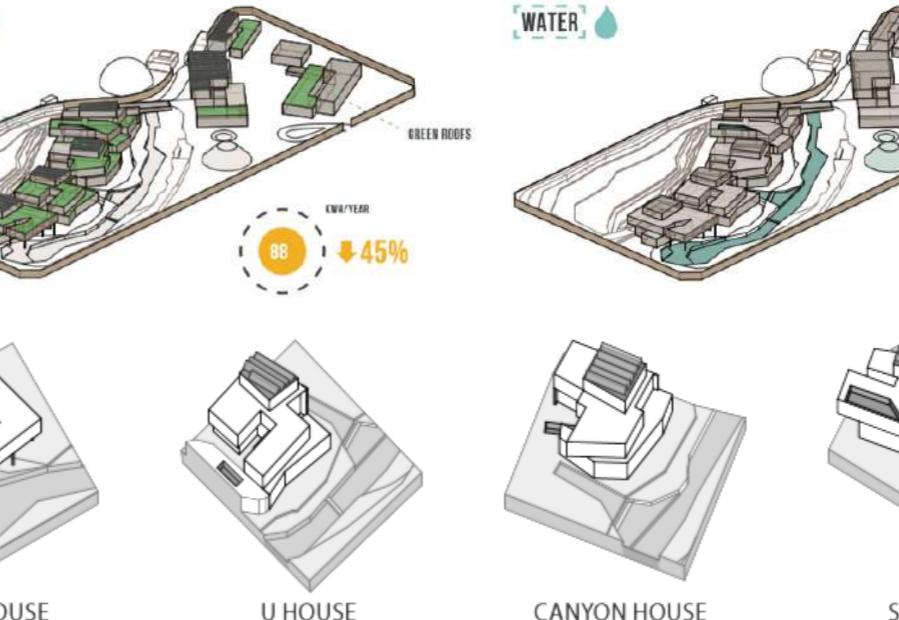
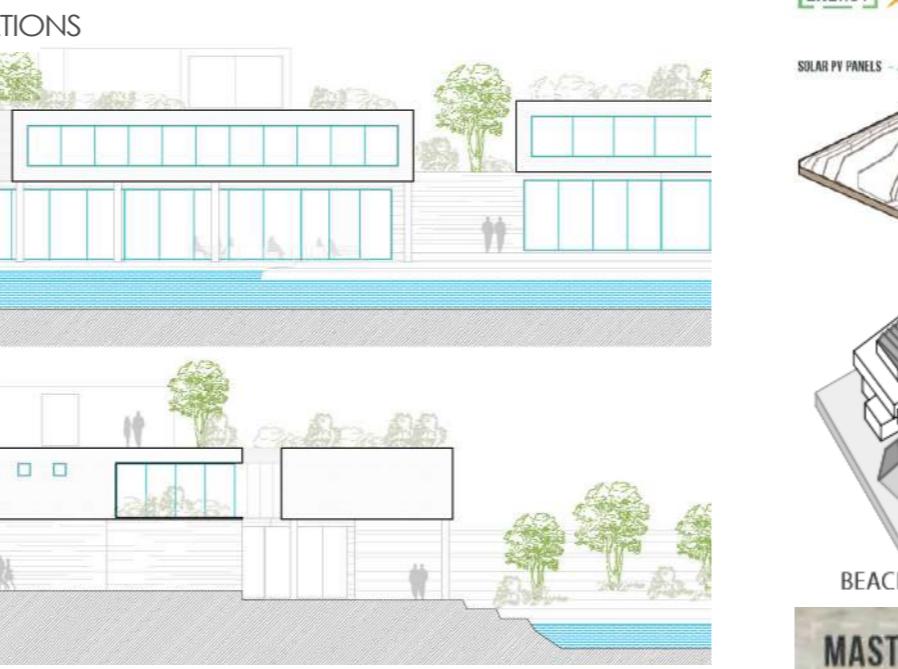
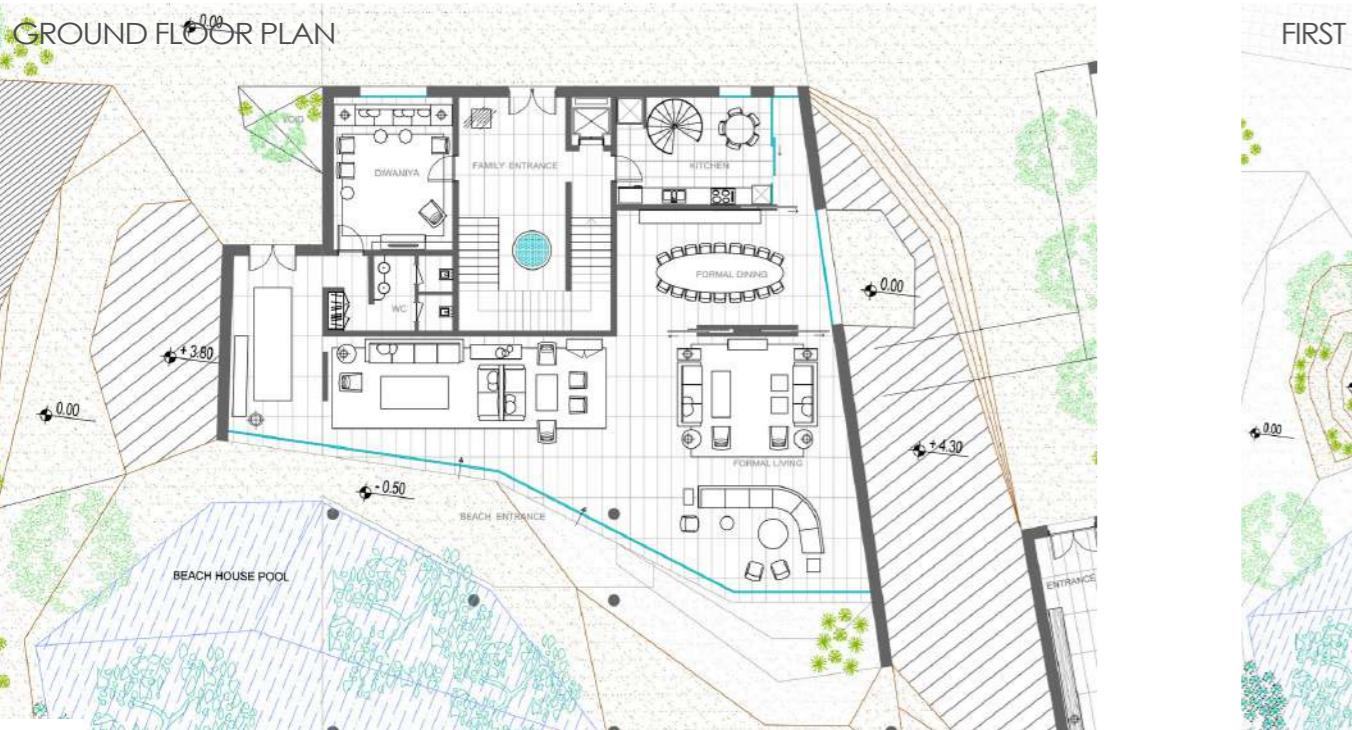
It is a conceptual project of a twin-passive house. The compact building volume is designed to minimize heat loss, and the envelope is well integrated within the context by using the step green roof that extends over the garage area and creates a thermal mass barrier. In the South, the triple-glazed elevation contributes to passive heating during the winter season. The entire building is insulated with 30 cm of thermal insulation. The local stone is used in the form of a gabion wall on the part of the elevation and as a retaining wall. From the interior, the terrace extends outside to blur the boundary between the indoors and outdoors.



Ecovillage Permaculture, Cedar City, Utah, USA
- conceptual masterplan

State of Grace Living is a prototype community of the future that develops, showcases, and exports new ways of living in harmony with nature. The project is located in Cedar City, Southern Utah. The site is nearby Utah's national parks: Zion National Park, Bryce Canyon National Park, and Cedar Breaks National Monument to Cedar City. The proposal for the permaculture village is developed around three circles. The main circle includes the open market space, retail, offices, research center, residential and agricultural areas. The satellite circle consists of a community center, residential, retail, and agricultural functions. Other services present on the site are: park, bioswale, picnic area, horse riding, hotel, and spa. The hotel is located further from the main development to grant a quiet environment, close to nature.





This project is a residential compound containing five family villas, one reception villas (Majles) and mosque. The site is in Khobar which has hot and humid summers, cold and dry winters. It is located on a plot facing the Persian Gulf Sea. The design approach of the project was to move from a reclaimed land to a multi-ecosystem habitat. The site is located on a reclaimed land, with a low ecological value and deprived habitat that used to be an ecologically rich and biodiverse mangrove forest.

Mangrove Place, Khobar (KSA)

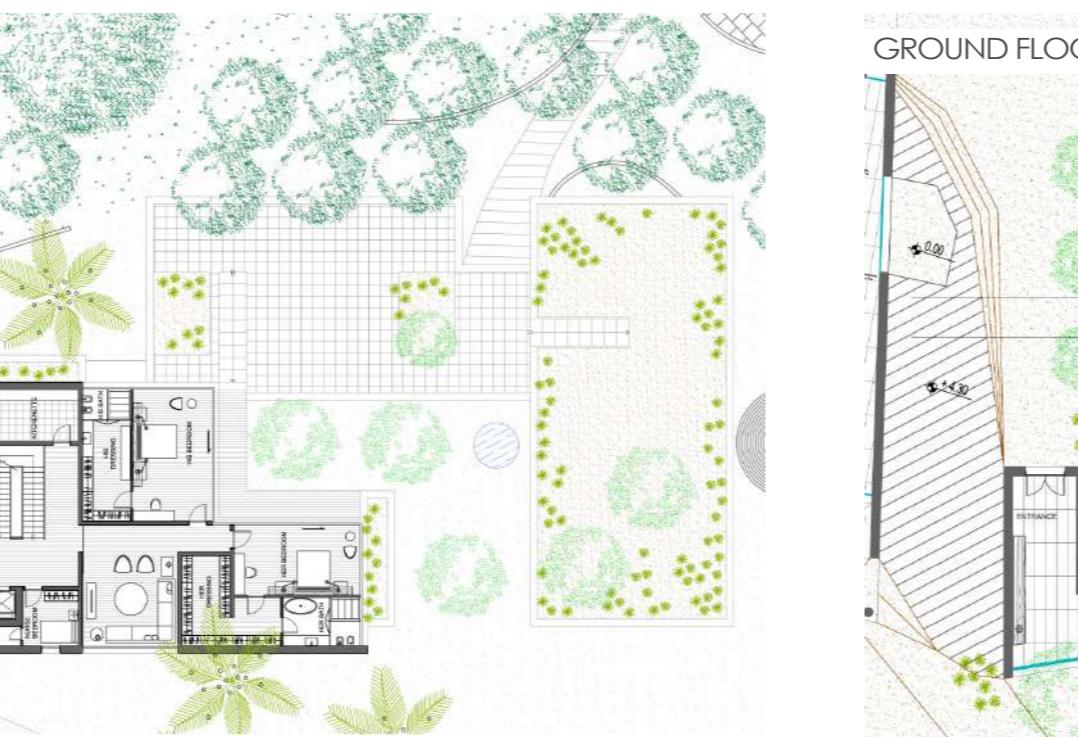
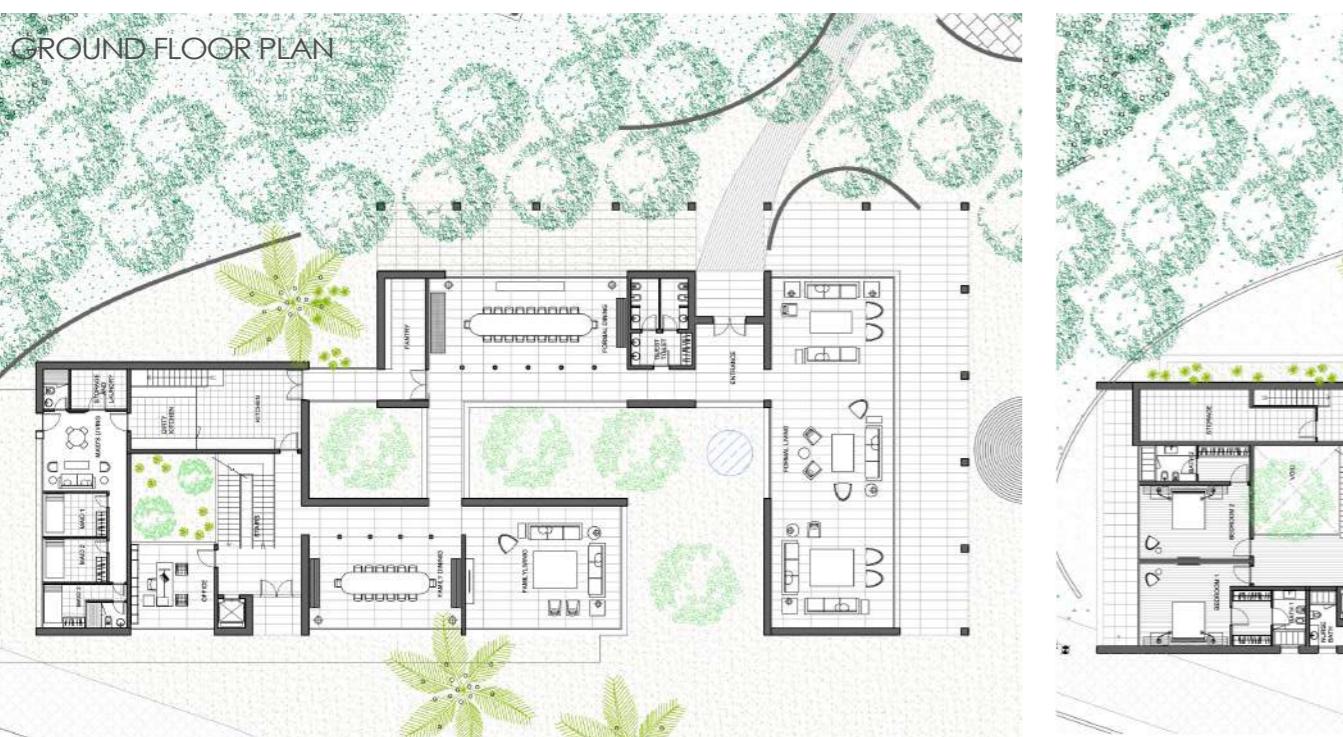
- residential

theOtherDada Atelier

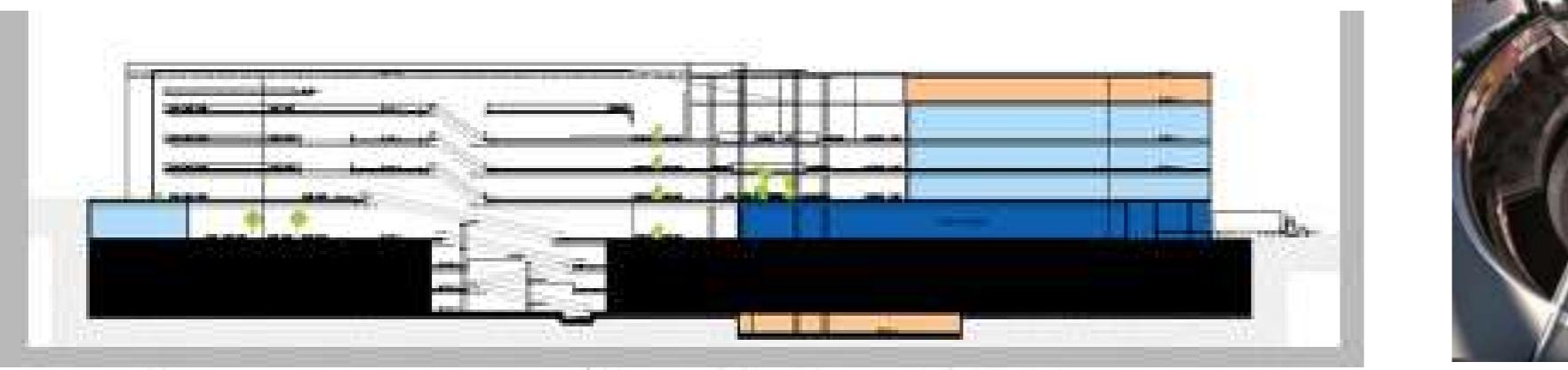
Other than the absence of habitat, we were presented with 3 main environmental challenges: very high sun exposure on the southern and western side, prevailing winds from the north-east side, poor soil and sea water intrusion on site. The main landscape solution presented is the creation of 6 ecological areas where each has a precise list flora that would be planted to attract specific fauna. The ecological areas proposed are: Acacia Savannah Plains, Food Production, Oasis, Mangrove and Wetlands, Coastal Desert and Desert.

Some other solutions included:

- Water condensation features such as Zibold and dew pond.
 - Creation of movement: since the site is completely flat, we decided to play with topography and heights.
- Some of the Climate responsive architecture solutions are:
- Compact volumes for the buildings
 - Reduced glazing on the West and South-West facades
 - Development of the volumes along the East-West axis
 - Cooling strategies such as wind scoop, cross stack ventilation, Creation of courtyards, green walls and green roofs.



SECTION



GROUND FLOOR PLAN

**SPOT C, Choueifat Mall- Lebanon**

- Shopping center

DNA Architects

The concept was to create a well-organized circulation space based on 3 axis intersected on the main plaza. The evolution of this axis gave rise to the final shape of the building (by dividing the main shape into 4 volumes). The complex consists of:

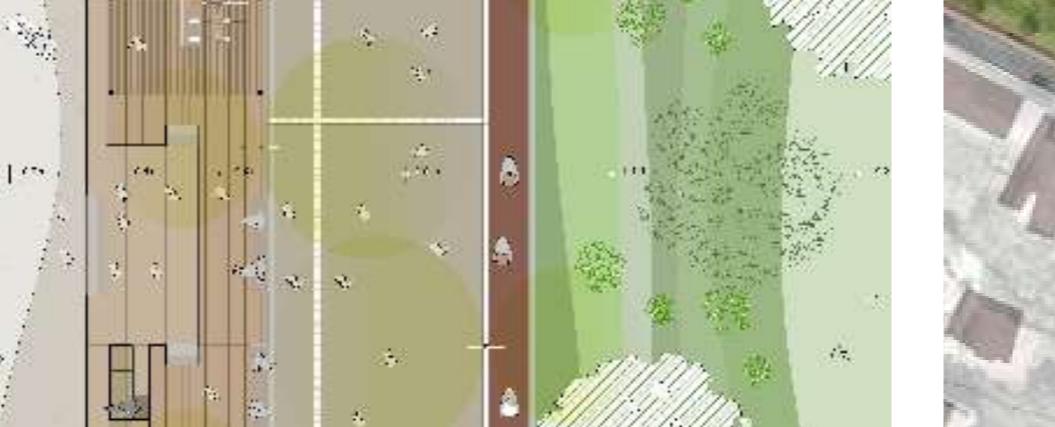
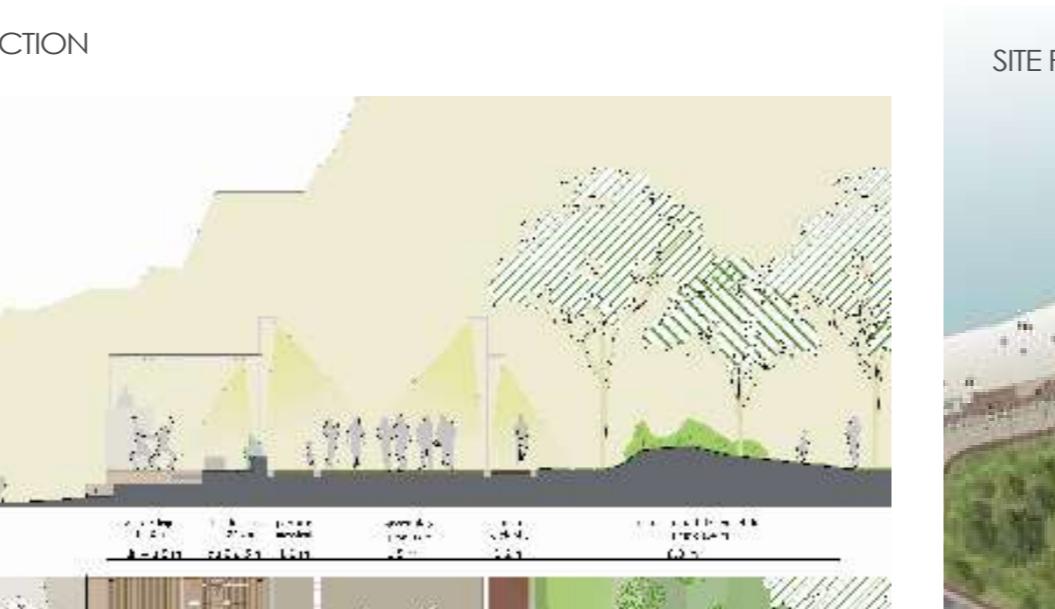
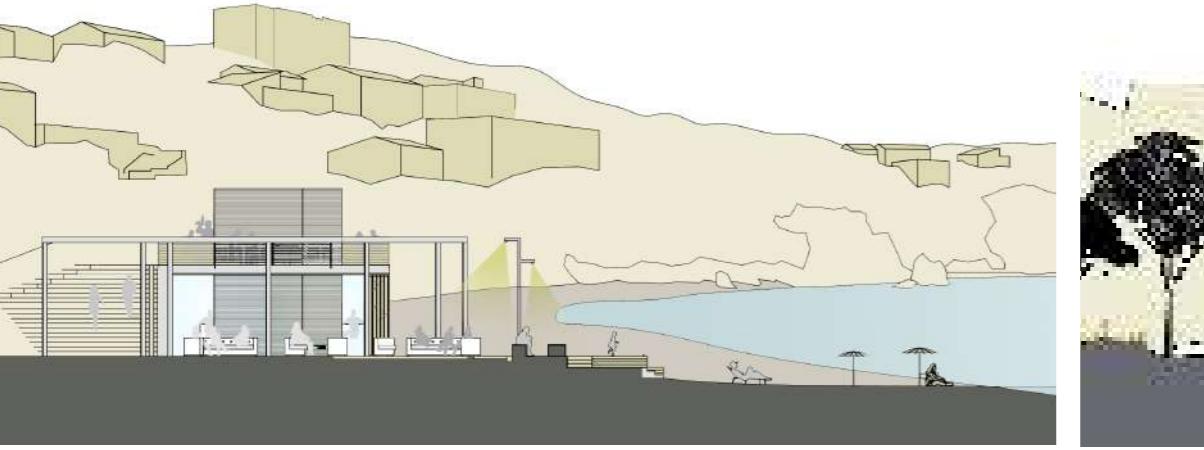
a. Retail spaces.

b. Cinemas space.

c. Amusement center.

d. Terraces.

Built up area: 125500 sqm.



BAR AND RESTAURANT SECTIONS

Della Ghiaie park and the Argonauti Waterfront - Portoferaio (It)

MAGMA Progetti

The competition addresses upgradement and redevelopment of "delle Ghiaie" park and waterfront of Portoferaio. The project aims to reconnect the park with the shore through pedestrian and bicycle paths. Newly designed waterfront consist of series of overlapping wooden decks that creates the flexible open area for social interaction along with new projected restaurant, bar and playground.

PIAZZA SECTIONS- ELEVATIONS



LEGENDA

MATERIALI PER LA PAVIMENTAZIONE



CALCESTRUZZO PERMEABILE, STAMPATO E COLORATO DI COLORE SABBIA



CONGLOMERATO BITUMINOSO Pitturato CON I TUBI IN RAME INCORPORATI SOTTO LA SUPERFICIE



GHIAIA DI COLORE CHIARO, AUTOBLOCCANTE SULLA GRIGLIA IN POLIPROPOLENE

VEGETAZIONE

LA PIANTAGIONE DI ALBERI AUTOCTONI ASSICURA LA SOSTENIBILITÀ DELL'ECOSISTEMA E INCREMENTA LA BIODIVERSITÀ.



ARECACEAE,

PALME



MANDORLA



LIMONE



PLATANO



ARECACEAE,

PALME



MANDORLA



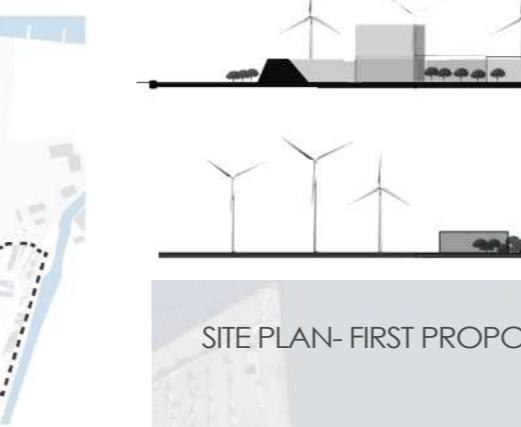
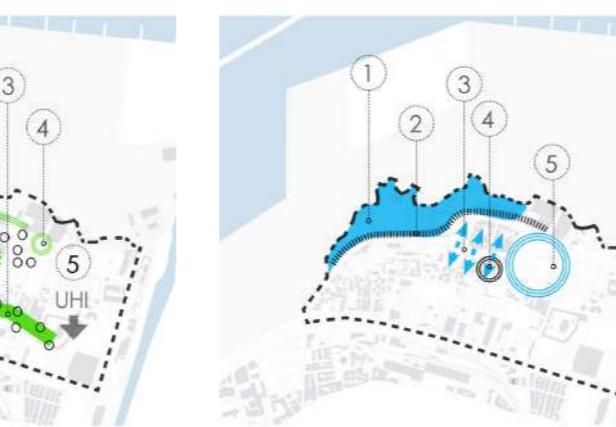
LIMONE



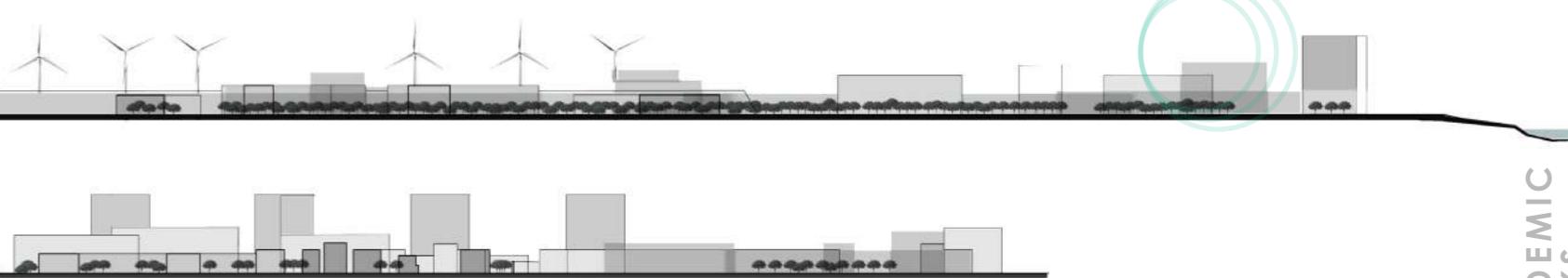
PLATANO



MEDEWAR SITE STRATEGIES



SITE SECTIONS



SITE PLAN- FIRST PROPOSAL

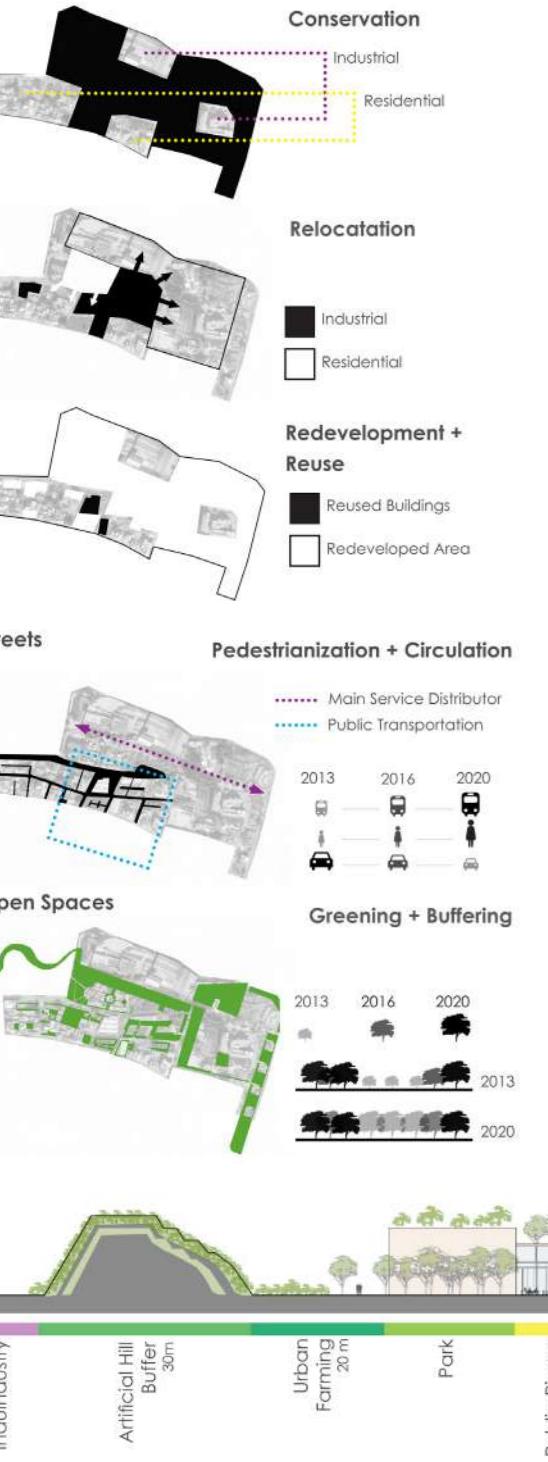
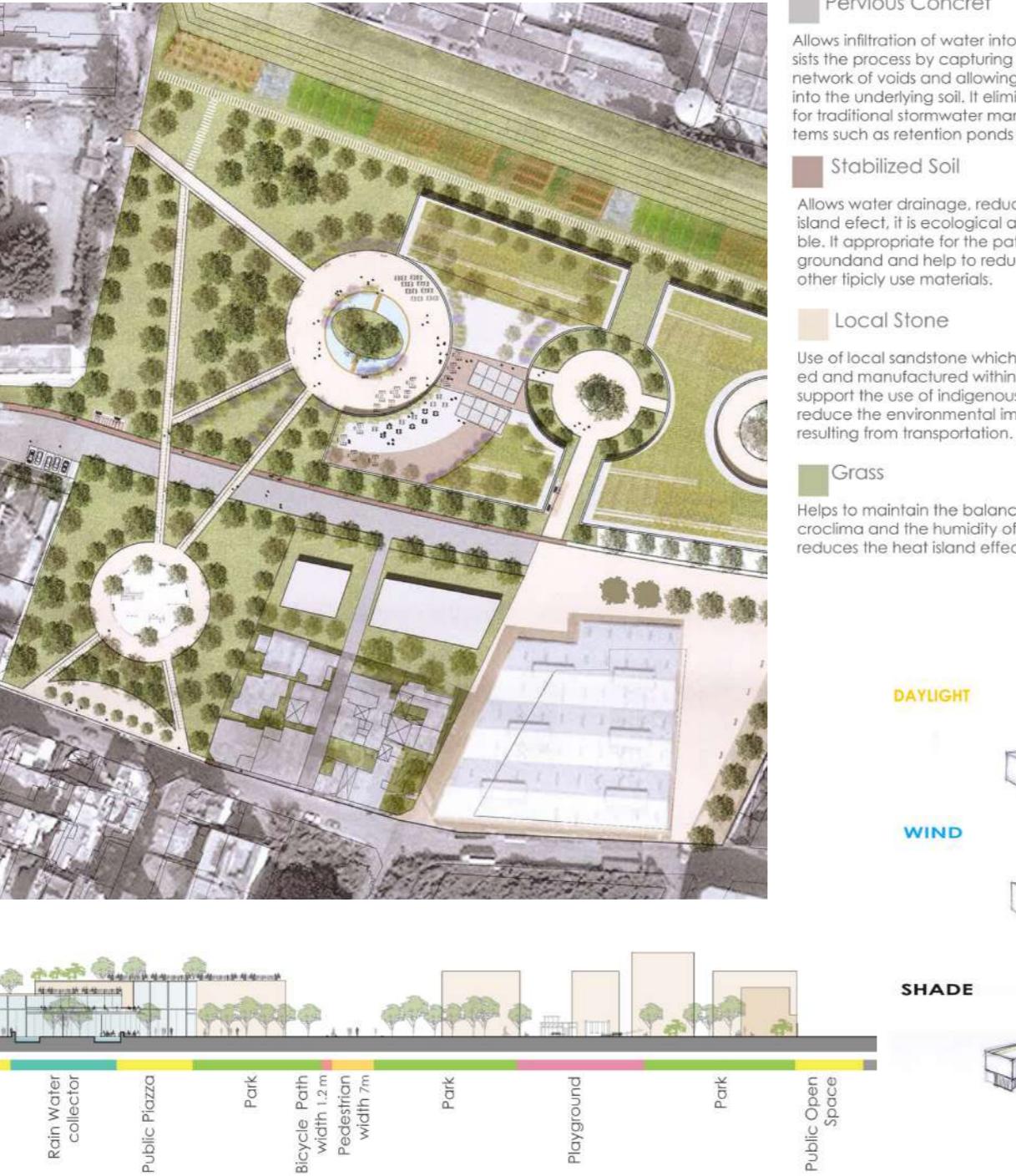
Residential and Industrial Compatibility
Medawar District (Lb)

Sustainable Redevelopment- Mixed Use

Medawar district is located at the northern entrance of Beirut delimited by the port to the north, Charles Helou Avenue (the main traffic axis) to the south and Beirut River to the east. The area is a predominantly mixed-use: semi-industrial, services, low-income residential, and commercial neighbourhood. The spatial distribution of industrial land uses creates an incompatibility between industrial and residential sectors. The proposal addresses the issues of incompatibility of industrial and residential land uses and engages the possibility of coexistence between both and benefit from their close location as opportunities of employment and labour. From sustainable development perspective the project aims to:

- Introduce a suitable model for the coexistence of residential and industrial activities with the vision of providing more environmentally responsible urban form.
- Enhance and protect the mix of function within the neighbourhood
- Serve as an example for public agencies to consider in addressing other degraded districts in Beirut in an environmentally conscious manner.

Total area: 20 ha

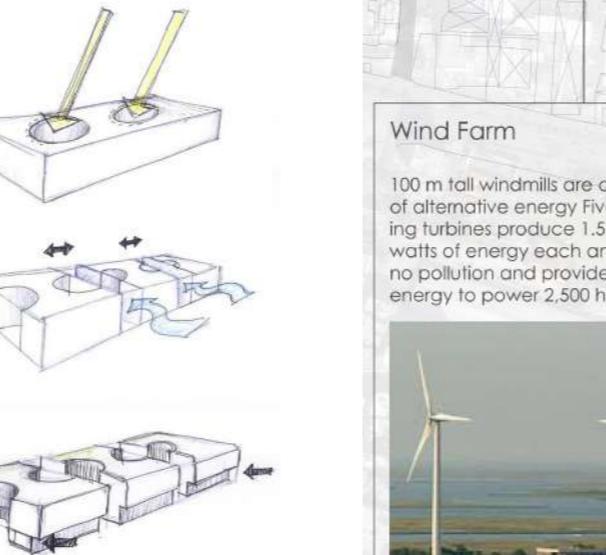
Built Area**NEW DEVELOPMENT- PLAN**

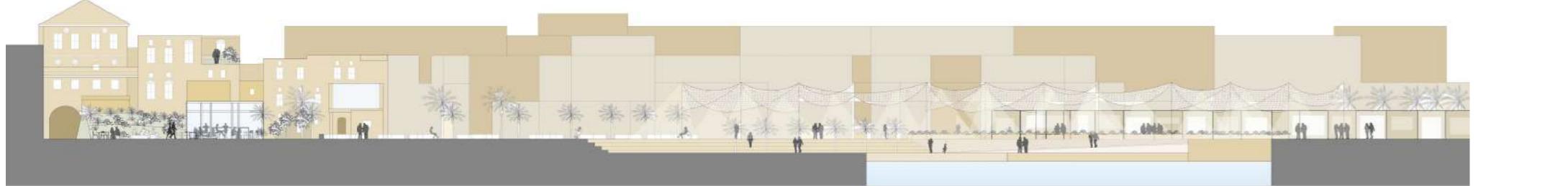
Pervious Concrete
Allows infiltration of water into the soil, assists the process by capturing rainwater in a network of voids and allowing it to percolate into the underlying soil. It eliminates the need for traditional stormwater management systems such as retention ponds and help to

Stabilized Soil
Allows water drainage, reduce the heat island effect, it is ecological and durable. It appropriate for the path and playground and help to reduce the cost of other typically use materials.

Local Stone
Use of local sandstone which are extracted and manufactured within the region, to support the use of indigenous resources and reduce the environmental impact and cost resulting from transportation.

Grass
Helps to maintain the balance of the microclima and the humidity of the soil. Also reduces the heat island effect.

**SITE PLAN- SECOND PROPOSAL**

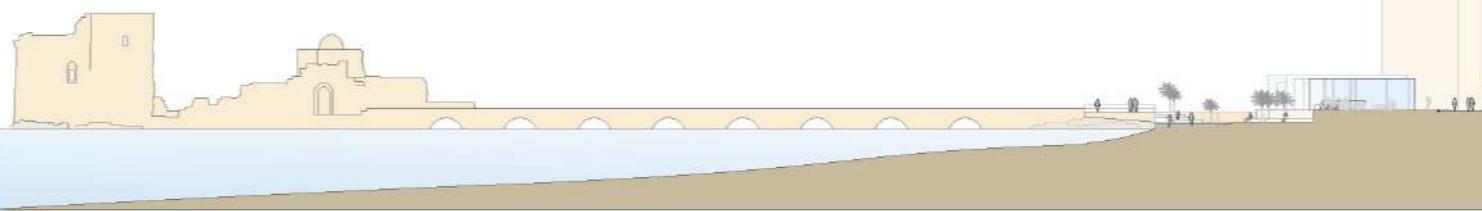


SITE PLAN - PUBLIC OPEN SPACE



INTERVENTION STRATEGIES:

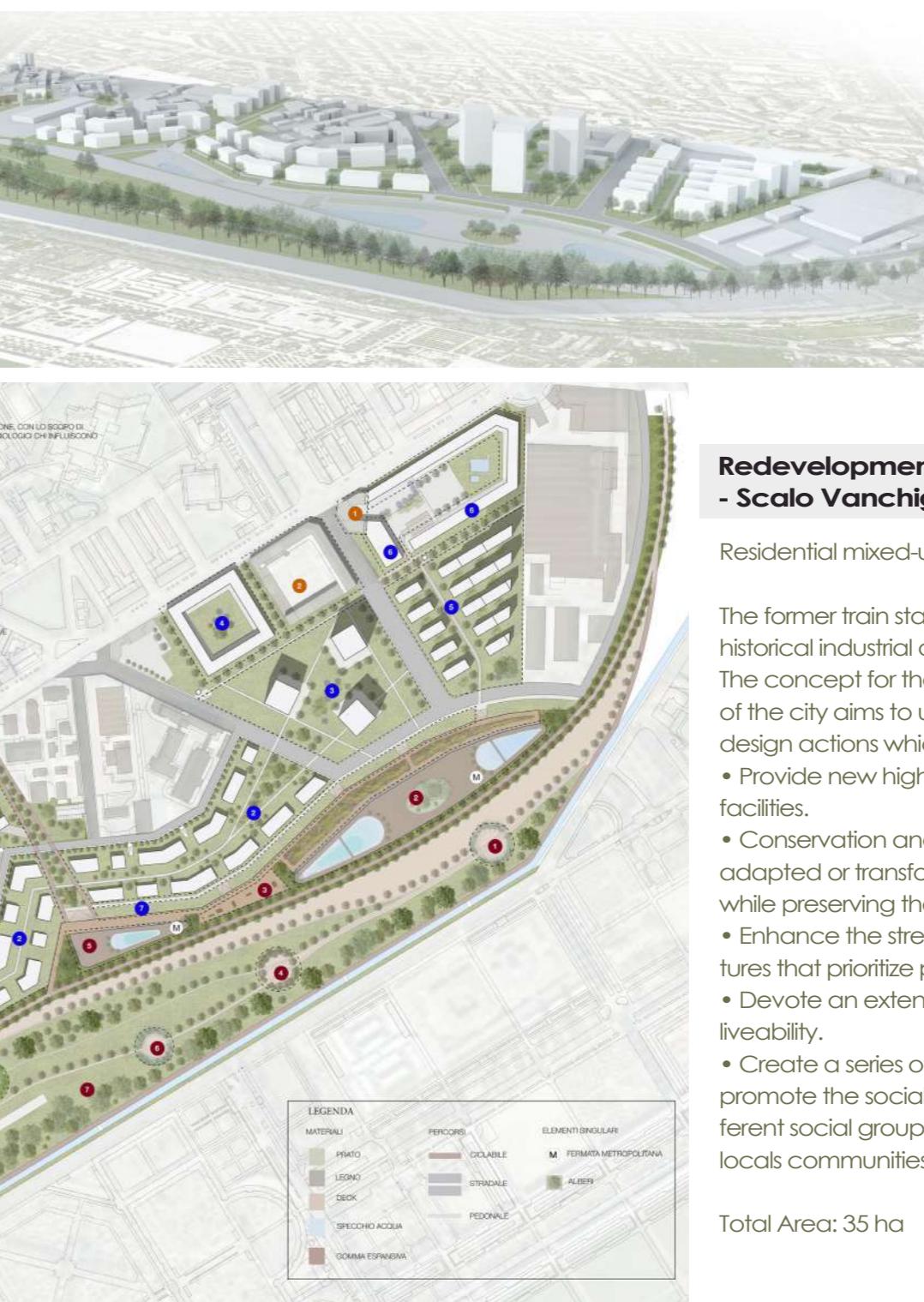
1. Restoration of the perimeter continuity.
2. Reconnection to the seaside.
3. Creation of public open area.
4. Enhance accessibility and internal circulation.

**Revitalization Project for the Old City of Saida and its Waterfront**

Historical core revitalization

The aim of the urban design intervention in Saida is to enhance the historic centre of the city as a residential and cultural centre, diversify its functions for local communities and attract the tourists. The old city core represents the link with the past and is a physical manifestation of the social and cultural traditions and Saida's identity. The strategy for revitalization of the old core seeks to restore the relation of the settlement with the seashore. The connection was lost in the beginning of 20th century as a consequence of construction of the highway. The project aims to protect the old city against uncontrolled vehicle traffic while enhancing the infrastructures and accessibility. The intervention on the urban fabrics is minimized and consists of the removal of provisory structures and conservation of the historical tissue. The urban design proposal aims to enhance the dialog between old urban fabrics and open spaces. The newly developed areas have clearly modern character in order to contrast with the past and not to mimic the original ancient architecture.

Total Area: 20 ha



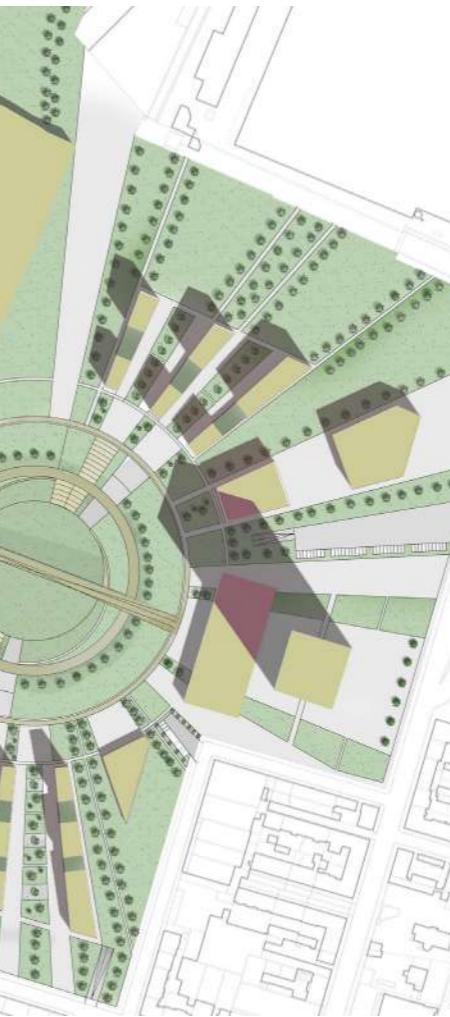
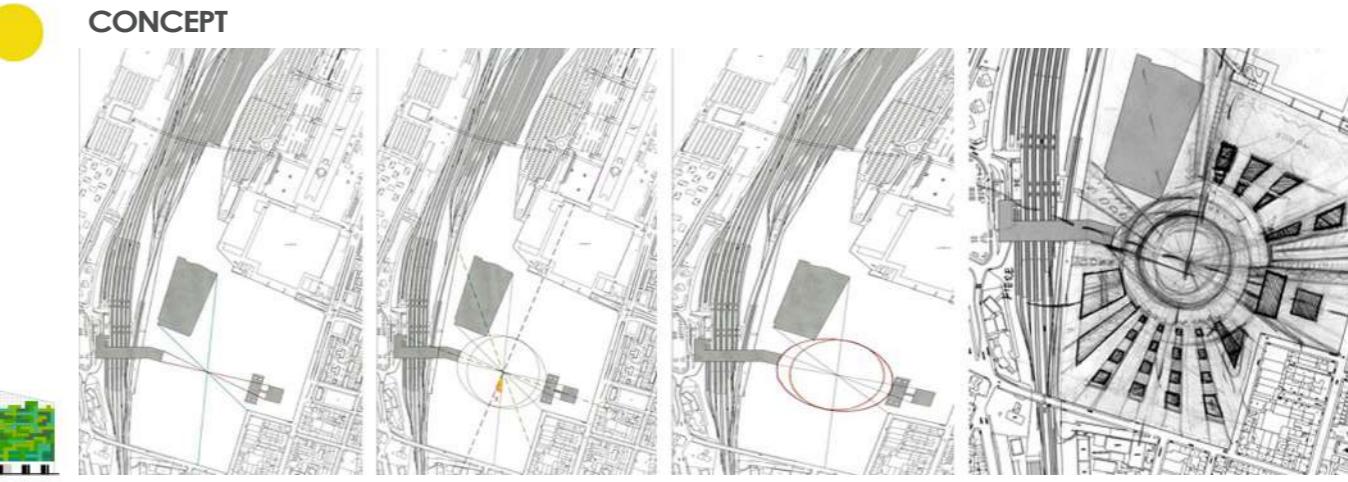
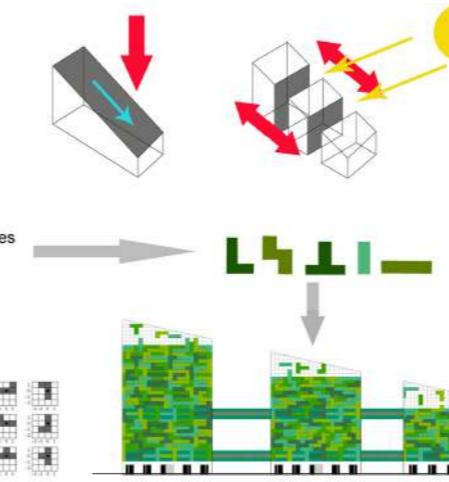
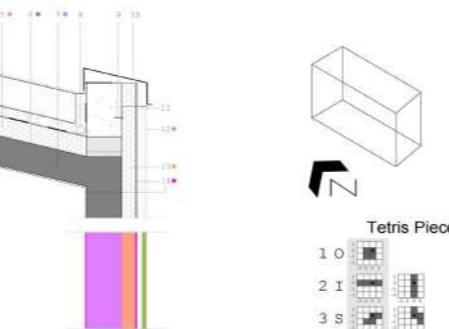
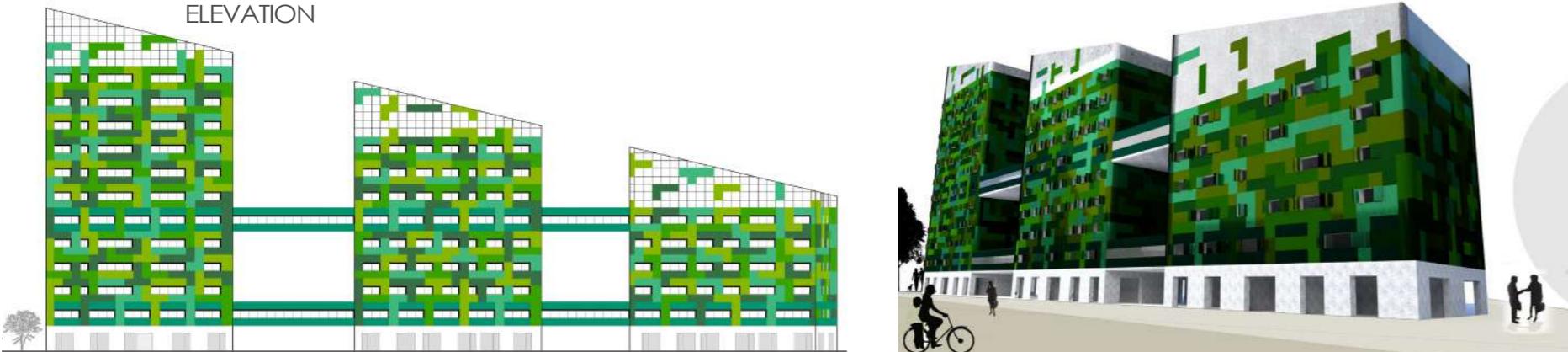
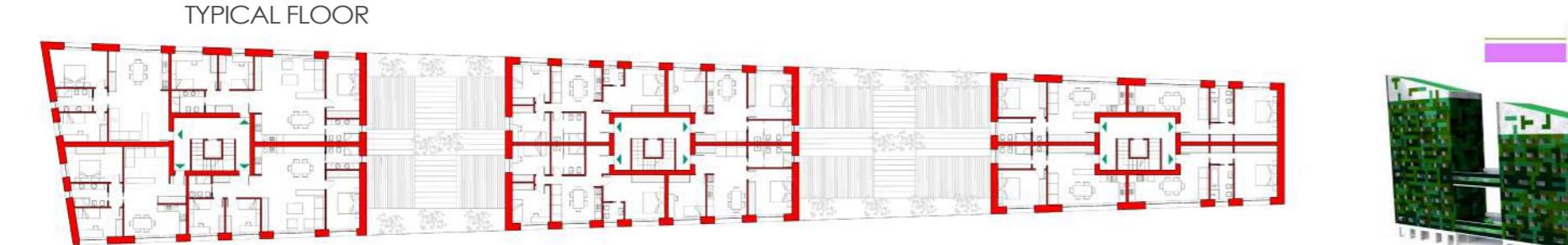
Redevelopment of Former Train Station - Scalo Vanchiglia (It)

Residential mixed-use

The former train station- Scalo Vanchiglia is located in the historical industrial district of Turin.

The concept for the redevelopment of this neglected area of the city aims to upgrade the zone through five urban design actions which include:

- Provide new high density mixed-use housing and public facilities.
- Conservation and reuse of existing fabrics that can be adapted or transformed to accommodate new activities while preserving the industrial character of the area.
- Enhance the street network and create new infrastructures that prioritize pedestrians and bicycle transportation.
- Devote an extended area for public greenery to improve liveability.
- Create a series of active open spaces and workshops to promote the social mix and enhance the integration of different social groups; low- income residents, emigrants and locals communities.

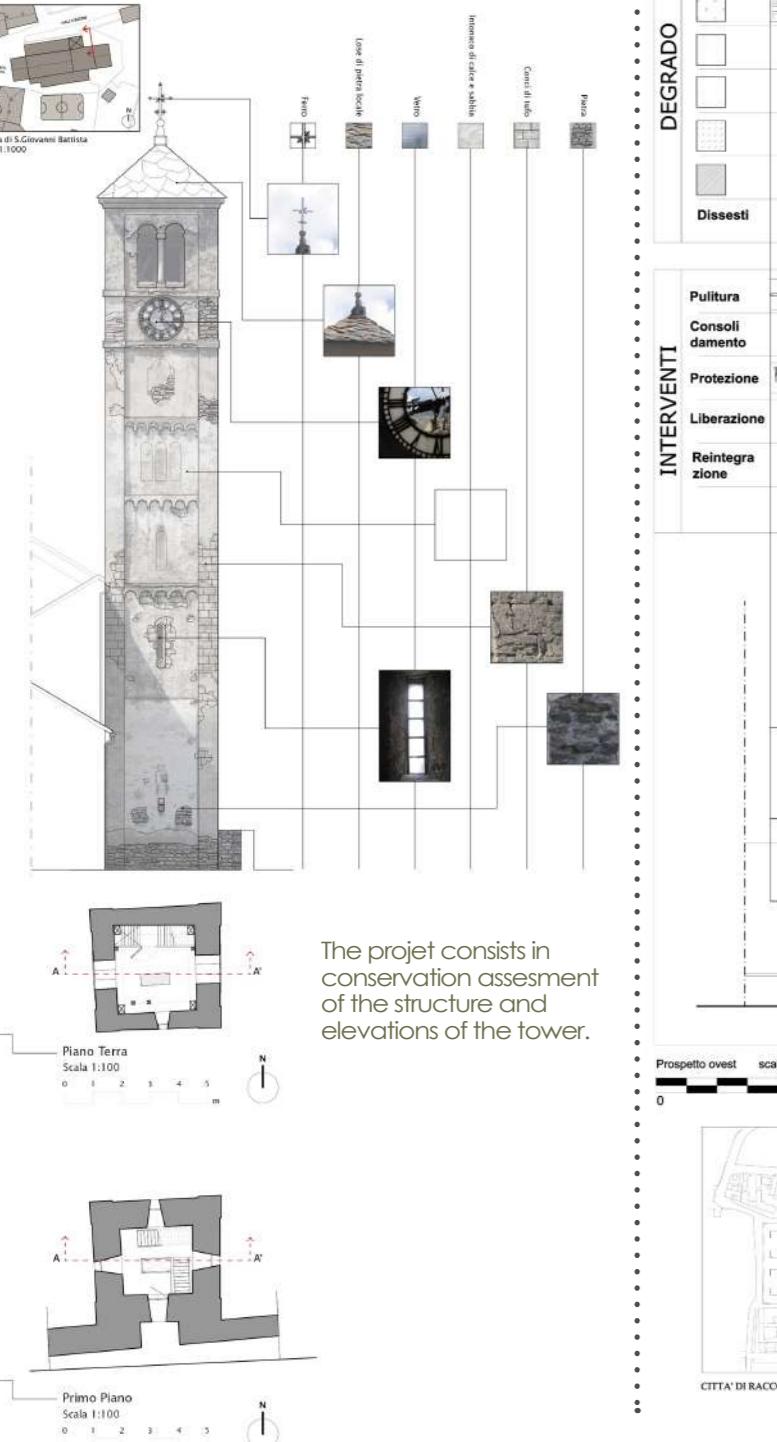


Sustainable Social Housing - Lingotto (It)

The Lingotto district is the southern, post-industrial suburb of Turin. The study area is located next to the historical headquarters of "Fiat" projected in the beginning of 20th century by Renzo Piano. Now the old manufacture accommodates the commercial gallery and trade exhibition hall. The concept for the masterplan integrates within the area an existing sport pavilion and two current developments: office tower projected by M. Fuksas and Lingotto train station. The proposal consists in mixed-use residential quarter and urban park. The project intends to introduce a new building typology that breaks the traditional typology of 5-6 floors linear housing. However the new buildings respect the main street alignment to provide the visual continuity between existing context and new development. The whole area was developed to meet the LEED requirements and the buildings location was studied to grant the daylight and sun access, natural ventilation and noise protection. The residential fabric encircles the green area in the heart of the neighbourhood. The vehicular accessibility is limited while the priority is given to the pedestrians and bicycles.

Total Area: 15,000 m²

MEDIEVAL BELL TOWER OF SAINT GIOVANNI BATISTA CHURCH, (IT) 2011



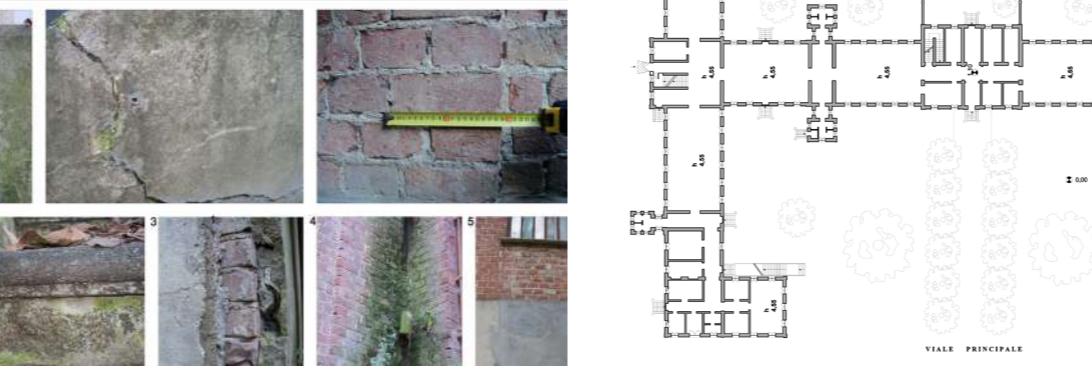
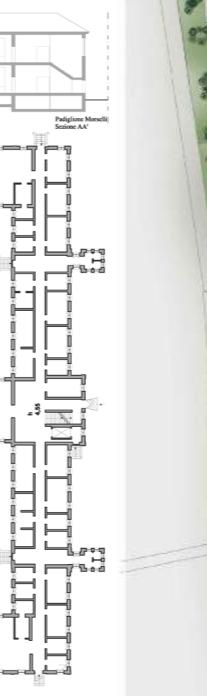
CONSERVATION ASSESSMENT



ELEVATION



PLAN AND SECTION

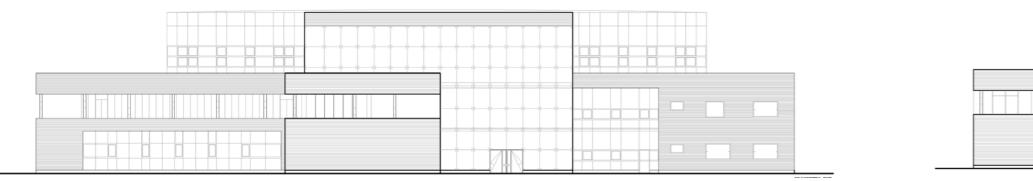


Conservation and Readaptation of Former Psychiatric Hospital Complex- Racconigi (It)

Mixed-use: cultural, commercial, didactic.

Racconigi is historical seat of Savoia duchy, famous for its 18th century palace and gardens complex. The psychiatric hospital of Racconigi was established in 1870 in the area of former 19th century military campus on the outskirts of the city. The whole hospital area includes four pavilions. The preservation project aims to introduce new functions for the pavilions in respect of structural integrity of the historical fabrics. The concept consists of creating the "agrivillaggio" centre designated for the local farmers market, food safety and handicraft workshop and laboratories. The new activities aim to preserve and promote local traditions and products. One of the pavilions- the Morselli Pavilion is a two floors building with a basement and symmetric plan composed of two "L" shape wings with terraces on the second floor. The new expected function of the pavilion includes small art workshops and ateliers, studios for didactic activities, library, and food laboratories. Moreover the masterplan contributes to the restoration of the extend park area and provides the parking spots for visitors and workers.

MIXED- USE COMMERCIAL BUILDING



South- East Facade



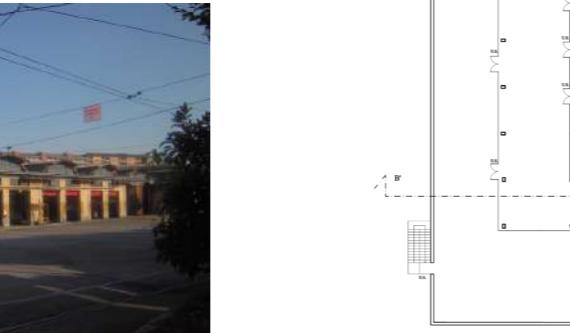
Lower floor Plan; Restaurant and Offices

Dimensional data;
Mixed- Use Centre - 2548 mq
Restaurant- 2500 mq
Bank Branch - 725 mq
Post Office - 575 mq
Offices- 1300 mq
Auditorium- 1370 mq (240 places)

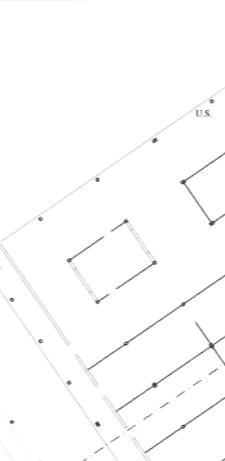
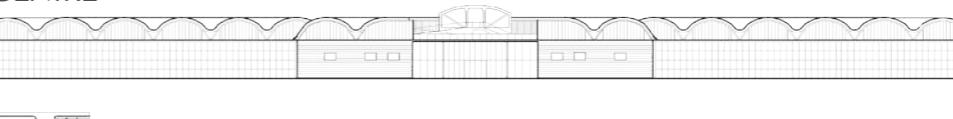


n; Restaurant and Bank

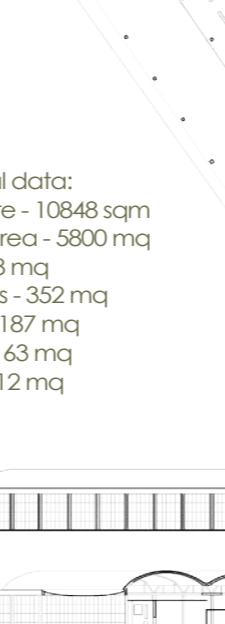
STRUCTURE OF THE WAREHOUSE



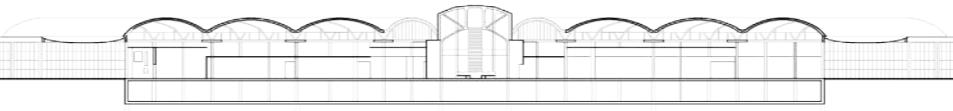
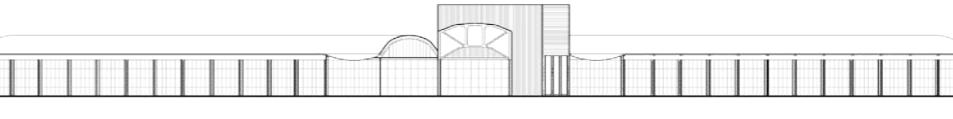
CENTRE



B A schematic diagram showing the relationship between the two types of microtubule structures. The left side shows a longitudinal view of a microtubule with tubulin subunits (represented by small circles) and protofilaments (represented by thick lines). The right side shows a cross-sectional view of a microtubule, highlighting the hollow interior and the arrangement of protofilaments around the central tube.



44



Adaptive Reuse of Former Tram Warehouse - Torino (It)

The project aims to redevelop the area of former traffic warehouse located in residential district of Turin. The historical fabric is preserved as a heritage and adapted in order to hold new cultural functions. Within the same area new commercial building is being introduced. The historical structure accommodates the museum of transportation and related service. The new building accommodates mixed of commercial, restaurants and other services.

8 magazzino
9 cucina

THANK YOU