



FEDERICA LUPO

INDEX

ABOUT ME

- PROFILE / A HOUSE DESIGNED BY FEDERICA LUPO FOR HER FIRST TIME (1997) 1-2

PORTFOLIO

<< MY PROJECTS >> 3

💡 THE BEATING TECH-AGORÀ 4-17

💡 U-T-O-P-I-A 18-26

💡 AGR-ÈCOLE 27-36

💡 REFLECTIONS IN RESTORATION 37-48

... THANKS FOR YOUR TIME!

...*"Imagination is the beginning
of Creation.
You imagine what you Desire,
you will what you Imagine
and at last
you create what you Will"*...

George Bernard Shaw

FEDERICA LUPO

BUILDING AND ARCHITECTURAL ENGINEER

*In my opinion, the Principle of
Architecture doesn't need to be
found, but is something that is
born straight from a human
being's need.*

*Later, it takes its shape, and
becomes an Art Form.*



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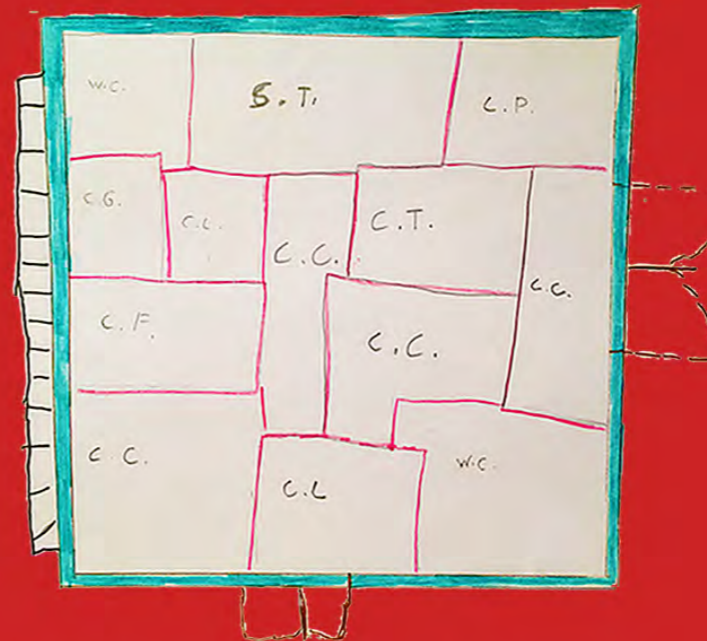
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A HOUSE DESIGNED BY FEDERICA LUPO FOR HER FIRST TIME (1997)

MY STORY

From an early age, I've loved drawing and had fun creating "magic" hiding-spaces for my girlfriends and myself, where we could feel free daydreaming about other realities. Very quickly, just for fun, by peeking into my dad's paperwork, I took delight reproducing his sketches and designing my ideal homes.



MY STORY

I can distinctly remember, while growing up, the desire to know how to create environments, where it could be experienced just happiness. Then, my introduction to Architecture began to answer many of my childhood answers. Now, here I am, after years since my first sketch of a floor plan, and I'm still on that road, curious, looking for answers.

"The ideal place for me is the one in which it is most natural to live as a foreigner"
 <The Uses of Literature - Italo Calvino>

Photos taken in Red Hook, Brooklyn (by Federica Lupò)

...MY LIFE PATH

I graduated, in May 2017, at the Department of Building and Architecture Engineering at the University of Catania.

It was during my university time that I have laid out a solid foundation in Architectural Composition and Urban Planning, as well as broadened my horizons.

I have been impressed by subject-matter in Sustainable Design and its application in Social Housing, which were analyzed in my Technical Architecture II course, during which I conducted analysis on different complexes of Social Housing, among them "Via Verde", developed in the Bronx, NY.

My increasing love for New York City has been grown through reading Delirious New York by Rem Koolhaas, whose principles were kind of fused together with my imaginary representation of Tecla City (from "Invisible Cities" by Calvino) to conceive my Architectural Composition II Course Project, "U-T-O-P-I-A", in Manhattan.

It was fascinating studying Landscape Architecture and Management of Green, Parks and Garden, which enhanced my knowledge of Dickson Despommier's research about the transition from Green Skyscraper to Vertical Farm.



...AND NOW

I've also focused on learning techniques for Photo-realistic Rendering, to also improve my Interior Design skills.

Moreover, thanks to my Professor, Riccardo Dell'Osso, I've been working on: Housing Design, the Language of Architecture and the applications of Flexibility and Sustainability principles to the Urban Development. The latter contributed to the materialization of my Student Housing Project "AGR-école" (the Smart Design of Milan Post-Expo Area), and my Thesis Project "The Beating Tech-Agorà" (redevelopment of the Red Hook Waterfront).

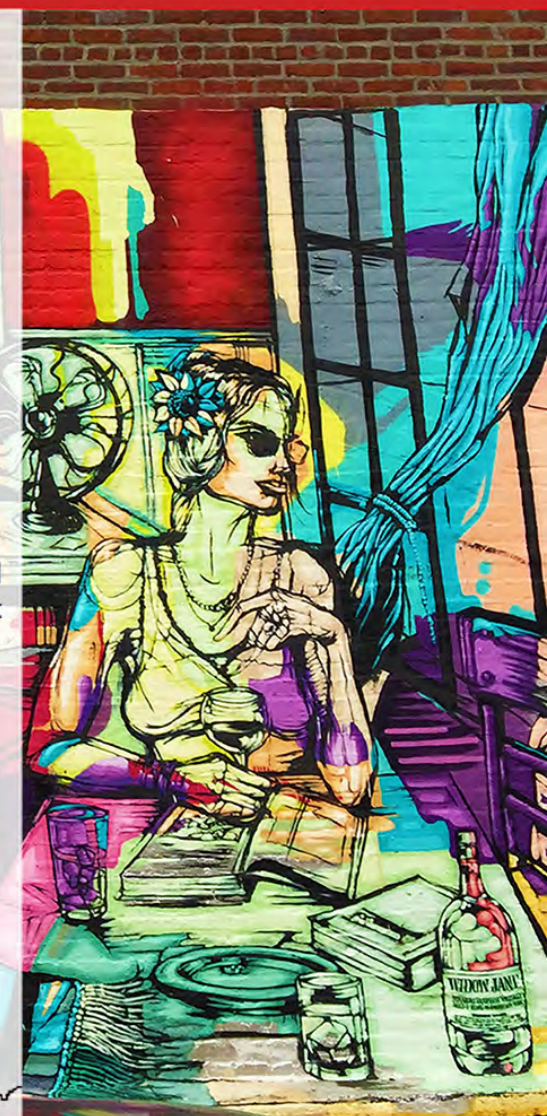
Additionally, Professor Dell'Osso has stimulated my interests about one specific topic, which is at the heart of a global debate in Architecture and City Planning:

Smart Cities

Individuals begin to have a feeling of plural identity. Sharing becomes the action of today.

SENSITIVE SHARING SOCIETY

Smart Cities





The Beating Tech-Agorà
A New Technological Park to redevelop
the Red Hook Waterfront
Brooklyn, New York City

Master Thesis
(Catania University)

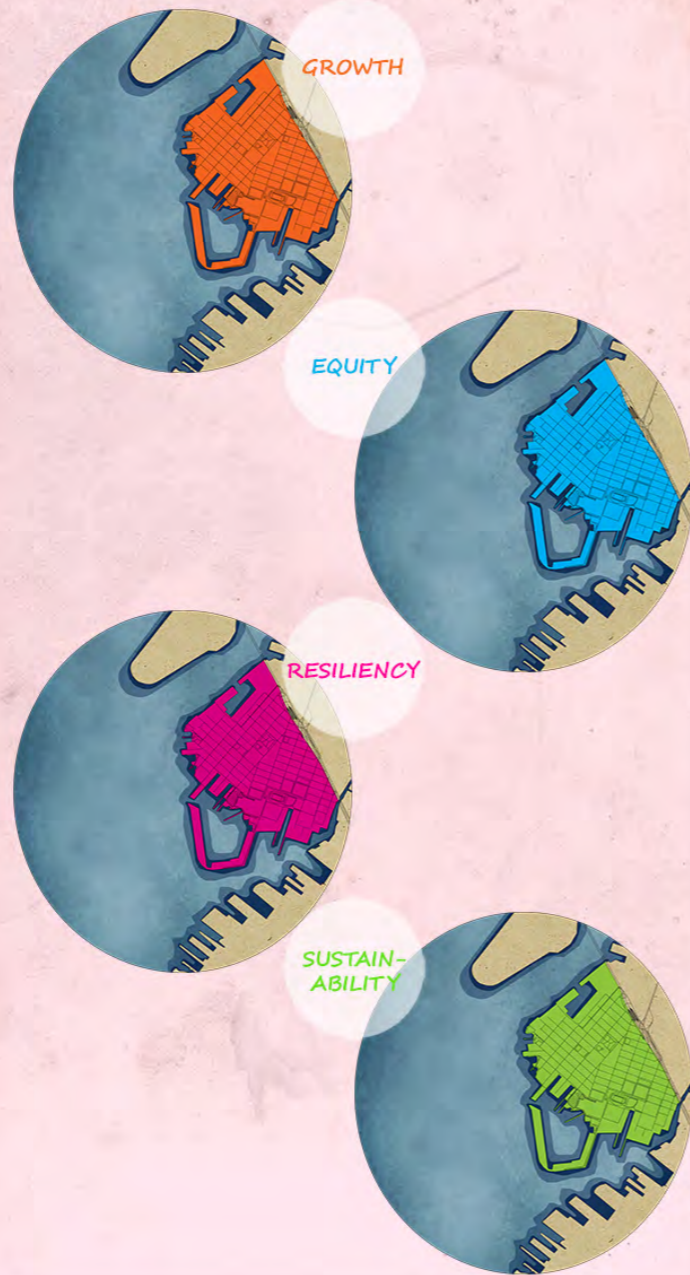
THE BEATING TECH-AGORA

A NEW TECHNOLOGICAL PARK IN RED HOOK WATERFRONT



The Project

The project is based on the "OneNYC Plan" four principles



The project consists in the redevelopment of the Red Hook neighborhood's Waterfront. Red Hook is an old port area in Brooklyn (NY), rich in important historical buildings which have to be enhanced. The interest in this neighborhood is due to the fact that

Red Hook:

- * Has many vacant or unused properties
- * Requires public space to keep pace with the real estate and advanced tertiary sector development (including major Tech Hubs) which are already planned for the area
- * Is a Flood vulnerable area

PROJECT CHOICE

Technological Park:

- * Works as a connection between the new Tech Complexes under construction and the Historic Urban Fabric
- * Works as a protection against Floods
- * Will be an example of abandoned areas revitalization through more efficient land use

My new idea about the expansion of Red Hook Waterfront is inspired by the studies conducted by the **BIG Team** and the **AECOM Team** in the Red Hook area to address the problems caused by the environmental disaster following the Hurricane Sandy.

Master Plan Goal:

- * Strengthen the reinvention process that Red Hook is living, and inspire new solutions
- * Provide a space where traditional industries/activities and new industries can converge in a creative cluster in order to come up with and create 21st century products, new ways to do business and new life-styles

The plan provides a balance between active recreation, passive space, and restored habitat.

The District will create an environment where people can work, live and interact, in an area that will become the heart of innovation in the city.



The purpose of this Master Plan is to identify the opportunities for various recreation program elements and present conceptual designs for the new park and open spaces that reflect the City's and community's visions for the waterfront.



"The Five Boroughs" New York City

- NYC: -Area - about 785 km²
-Population - 8.537.673 inhabit.
Administratively divided into five Borough:
- Manhattan -Population - 1.629.054 inhabit.
-Cultural, administrative and business center of NYC
- Brooklyn -Population - 2.567.098 inhabit.
-Is the most populated district
-Has many historical areas and New Tech companies
Red Hook -Project Area
- Bronx -Population - 1.397.287 inhabit.
-Is mostly inhabited by immigrants from Latin America
- Queens -Population - 2.306.712 inhabit.
-Is the largest district
-Is the US County most ethnically diverse
- Staten Island -Population - 491.730 inhabit.
-District with residential character

LOCATION & AREA MORPHOGENESIS

Red Hook, established as the Dutch village of Roode Hoek in 1636, has a long history related to the working waterfront and New York Harbor.

Named for its red clay soil and the shape of the peninsula, Red Hook remained largely undeveloped until the construction of the Atlantic, Erie, and Brooklyn Basins. Then, in the 1840s, the peninsula began to grow into one of the busiest shipping centers in the United States.

Now the neighborhood has begun to transform yet again. Crime has declined dramatically, and technology start-ups and small-scale manufacturing businesses have begun to locate in Red Hook.

The evolution of Red Hook is part of a phenomenon that has characterized the history of Brooklyn and, in general, New York: The GENTRIFICATION. Given its fortunate location and massive population growth, NYC territory has been expanded by the incorporation of new land and development over water through "land-fill" techniques. Brooklyn, which experienced the same evolution, is a perfect example of Gentrification, which has transformed it from Small Town to Big City to Borough ... → **HUNGRY BROOKLYN**
Keith Williams's article on Curbed NEW YORK describes this story in detail.

As a matter of fact, the design idea of The Beating Tech-Agora is inspired by the ancient land-fill process, in order to address the new urban and socio-demographic developments happening in Red Hook.



The HUNGRY



"If I'd lived in Roman times, I'd have lived in Rome.
Where else?
Today America is the Roman Empire and New York is Rome itself"
John Lennon

LOCATION &...

Brooklyn Waterfront



Greenpoint

Williamsburg

Brooklyn Navy Yard

Vinegar Hill

DUMBO

Downtown Brooklyn

Brooklyn Heights

Columbia Street Waterfront District

Cobble Hill

Carroll Gardens



Red Hook ...

The Red Hook waterfront is dominated by industrial buildings and uses, while the center of the peninsula is largely residential.

Red Hook Waterfront

The Study Area explored in this thesis is only a portion of Red Hook. It includes the manufacturing zoning districts, an irregularly shaped area of approximately 400 acres. It is located in Brooklyn Community District 6.

THEESIS PROJECT'S AREA: RED HOOK, BROOKLYN, NYC



BQX -NEW STREETCAR LINE PROJECT-

BUILDINGS WITH EXTERNAL VALUABLE FACADE, TO CONNECT TO THE REST OF THE PROJECT

a / 133 Beard St. aka 421-499 Van Brunt St.: The Beard and Robinson Stores

b / 106 Ferris Street: The German American Stores Building

BUILDINGS INCLUDED IN THE PROJECT AREA (POSSIBLY TO RE-DESIGN OR TO REPLACE)

OTHER BUILDINGS OUTSIDE THE PROJECT AREA

BUILDINGS INCLUDED IN THE PROJECT AREA (WHICH ARE NOT VALUABLE, SO POTENTIALLY REPLACEABLE)

BLIGHTED RESIDENTIAL BUILDINGS

IKEA



Existing Buildings to be included in the Project and that don't need to be Modified/Restored

- A / 480-500 Van Brunt Street: The Red Hook Stores, restored by DOBANARCHITECTURE
- B / 175 Van Dyke Street: The Merchant Stores
- C / 76 Van Dyke Street: Brooklyn Clay Retort and Fire Brick Works Storehouse
- D / 290 Conover Street: Water Front Museum
- E / 24 Reed Street: Brooklyn Crab (Restaurant)
- F / 454 Van Brunt Street: Hometown Bar-B-Que (Restaurant)

A / The Red Hook Stores

B / The Merchant Stores



The 5-story warehouse was built by William Beard in the 1870s. This civil war era warehouse is now a mixed-use complex that juxtaposes the typical character of the existing building with modern interventions.

The Merchant Stores was built by Col. Daniel Richards in 1873. The property consists of two brick warehouses, a 3-story section to the west and a 2-story section to the east.



Work in progress Projects, Important for the Area Development

- 1 / Est4te Four Project "Red Hook Innovation Studios" (Massive Tech Complex, Master plan designed by NBBJ)
- 2 / 160 Imlay Street: Est4te Four Project in collaboration with BLUARCH "160 Imlay, LIVE AT THE POINT"
- 3 / 101-141 Beard Street: Thor Equities, Foster + Partners and Scape project "RED HOEK POINT (Tech Complex)"
- 4 / 109-125 King Street and 72-84 Sullivan Street: AASTUDIO Project "KING & SULLIVAN TOWNHOMES" (Aldo Andreoli's Architectural Firm)

1 / Red Hook Innovation Studios

3 / RED HOEK POINT



will combine technology, fashion, music, art and design in a campus that will foster the development of new, cross-industry innovations, while incorporating flood-resilient strategies to minimize storm damage.

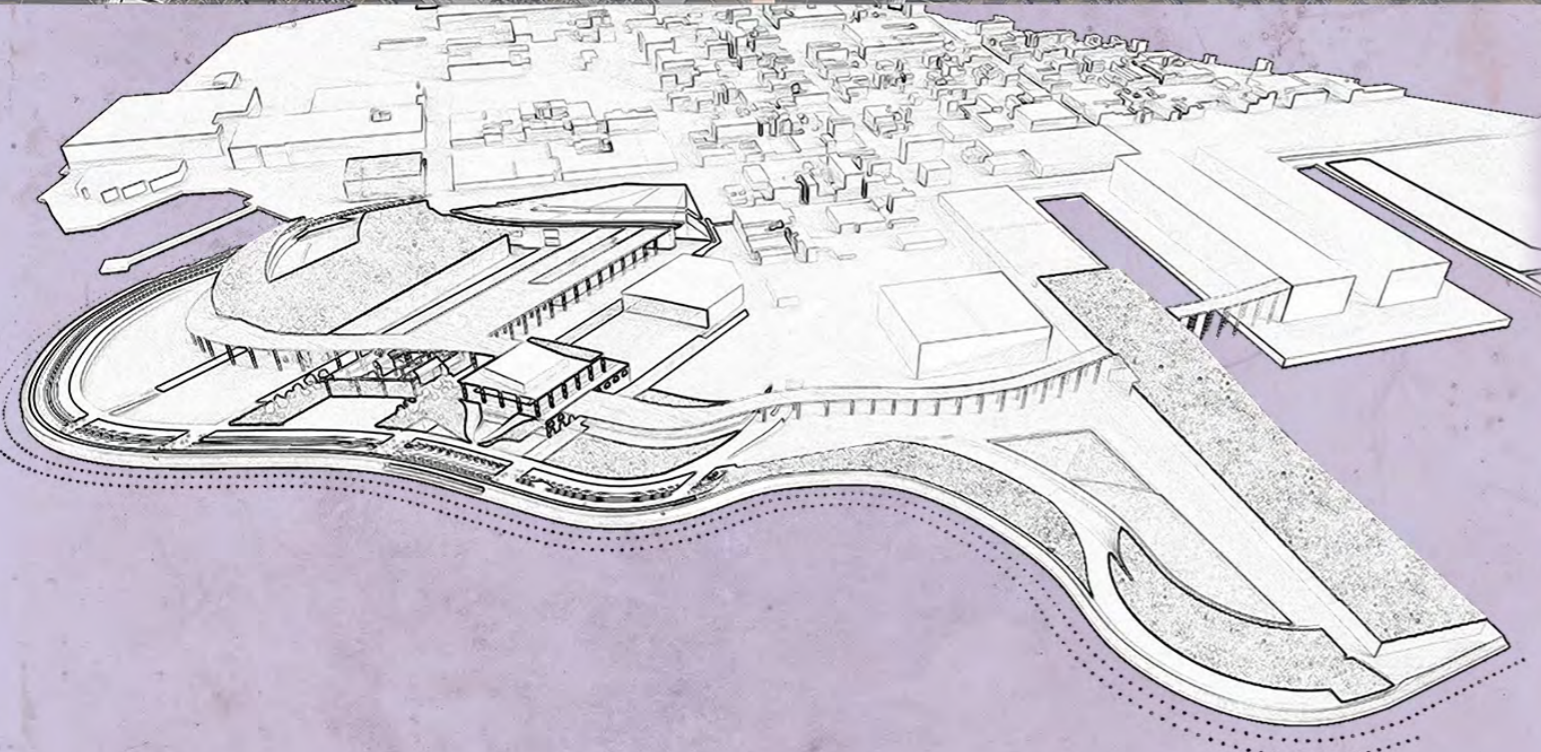
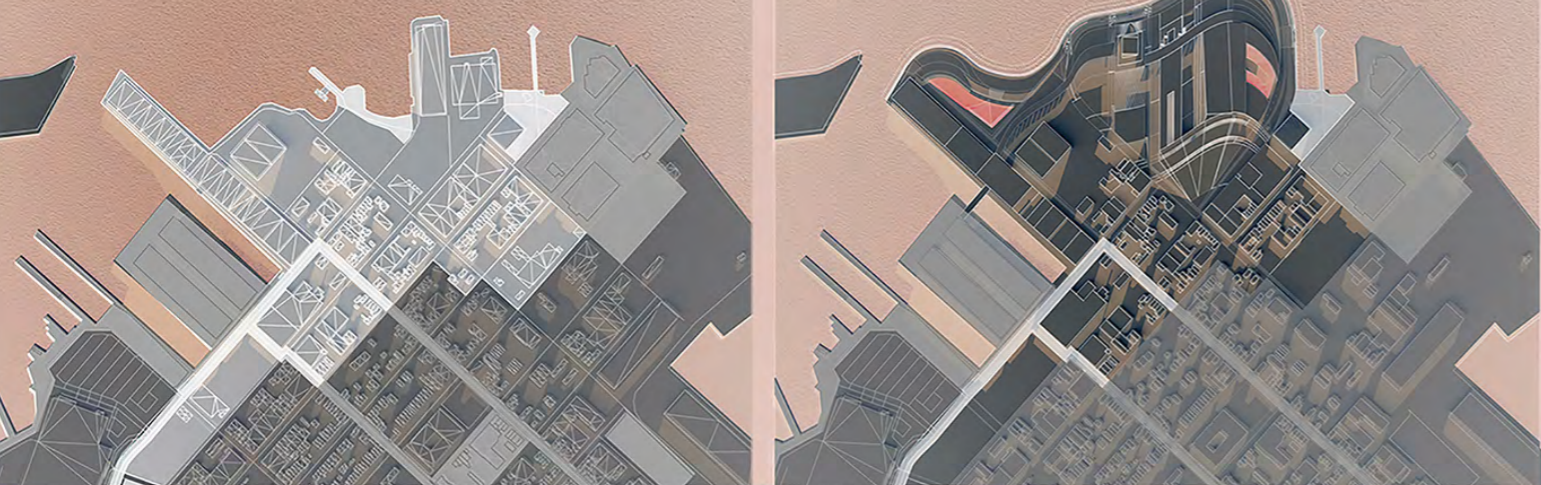
a massive, Norman Foster-designed office building, with undulating penthouses and 3.6 acres of green roof. Developed by Thor Equities, it will include 600,000 square feet of offices (technology/media companies), and 23,000 square feet of retail.

THE PROJECT

According to the studies conducted by AECOM and BIG, let's analyze some specific constitutive elements and the goals the Beating Tech-Agorà aims to achieve. These elements and goals are based on future estimates planned by OPEN NYC and the actual principles of Smart City.

Before

After



Design Process

Concept

New Zero Quota & Layering (Territorial and Functional)

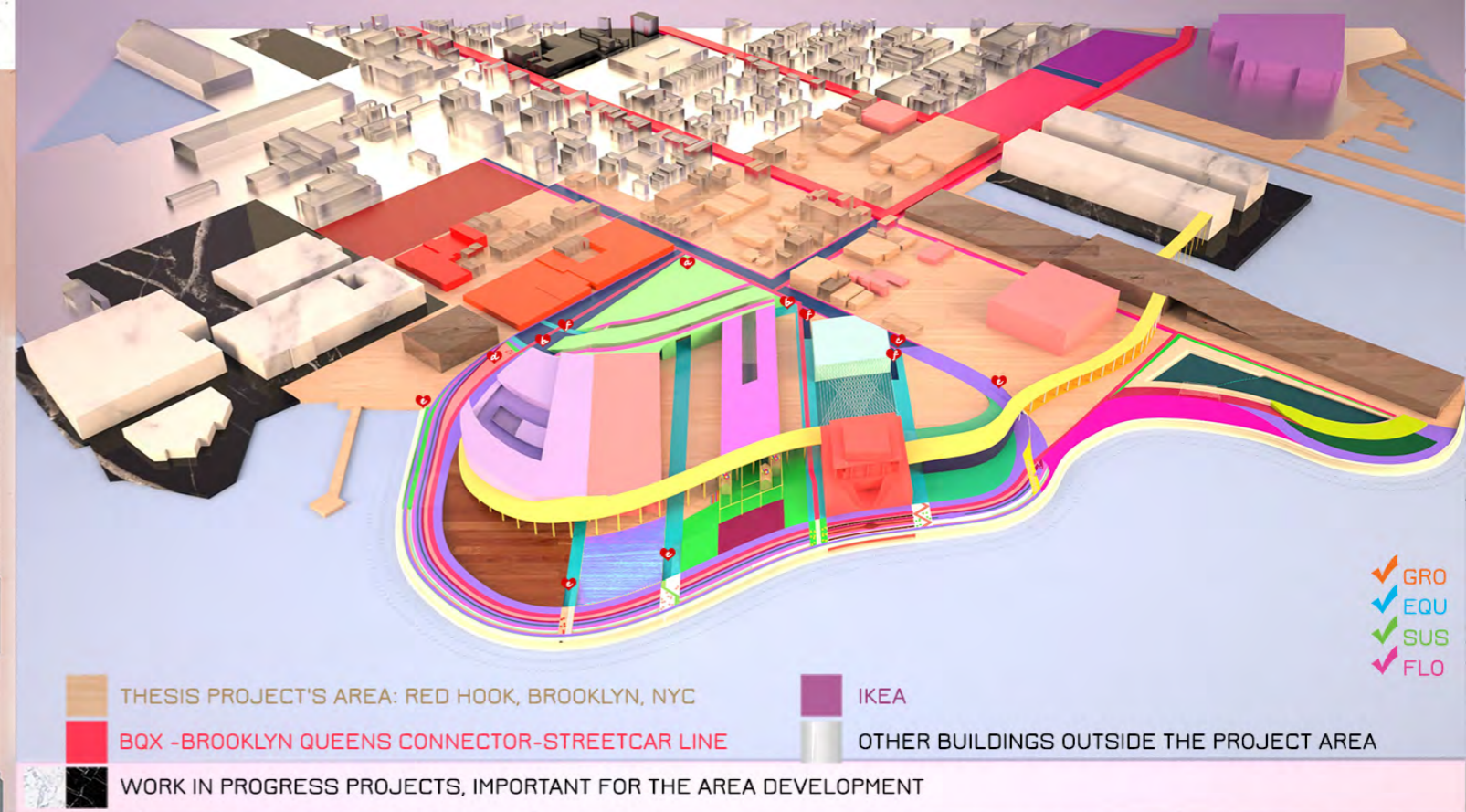
- Design a new Infrastructure Connection System
- Requalification of historic - industrial buildings and urban fabric in a new landscape and functional system
- Design new volumes that emerge from the new park morphology
- Planning new functions and services in the back area of the park

- Elements generating the Master Plan:
- Smart Principles
 - Beware of Flooding Problems
 - BQX, new Ferry System and New Tech Hubs (Elements capable of starting the Red Hook transformation into a Brooklyn peak neighborhood)
- ↓
- Tech Park Design
 - New Hypogeeum with Landfill and Layering Technique to create high and low elevation of the soil

TERRITORIAL LAYERING

The Landscape Morphology is born from:

- * The goal of giving continuity to the Waterfront line
- * Interpretation of nature as an architectural element (design of a Wavy Shaped Landscape that remembers the waves of the nearby sea, through which the architectures emerge)

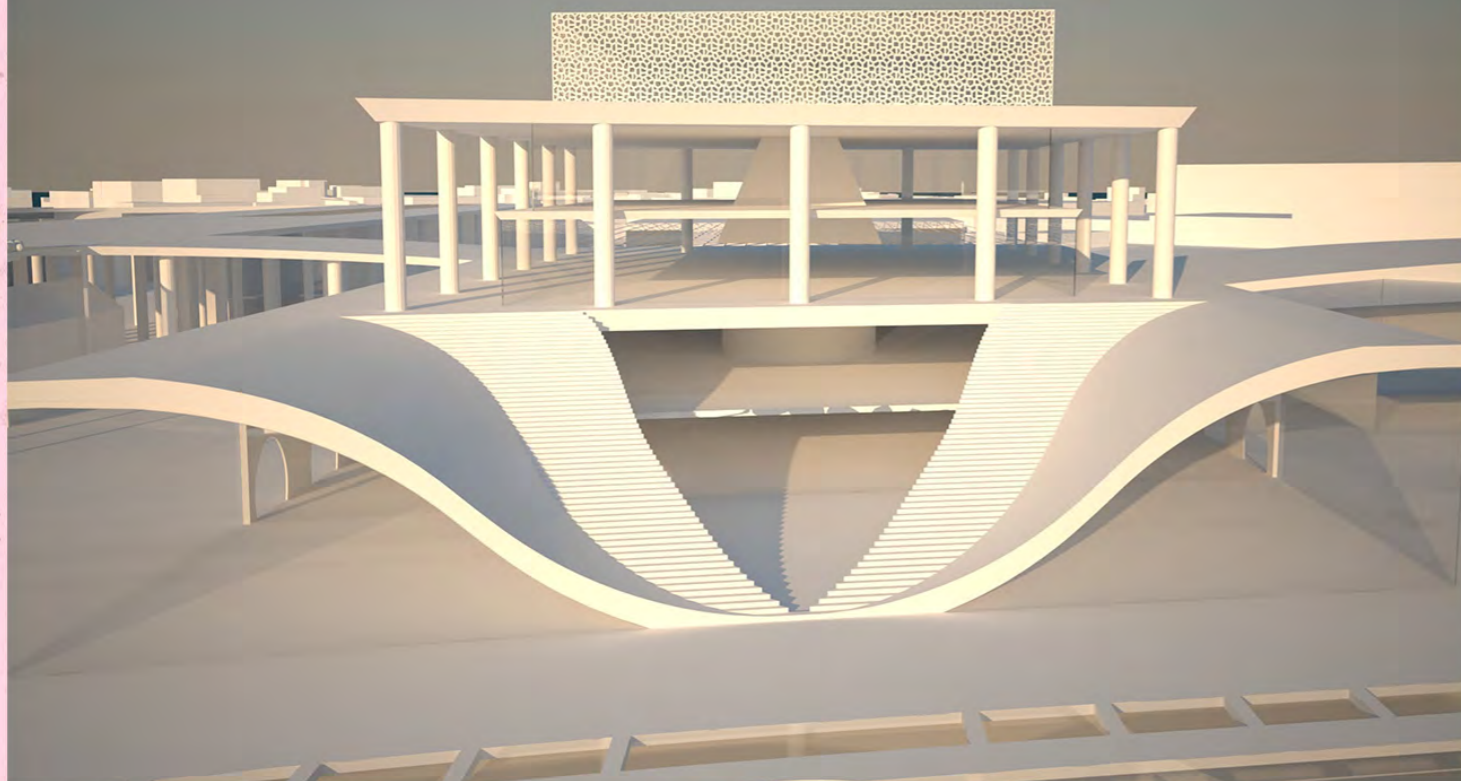


FUNCTIONAL LAYERING

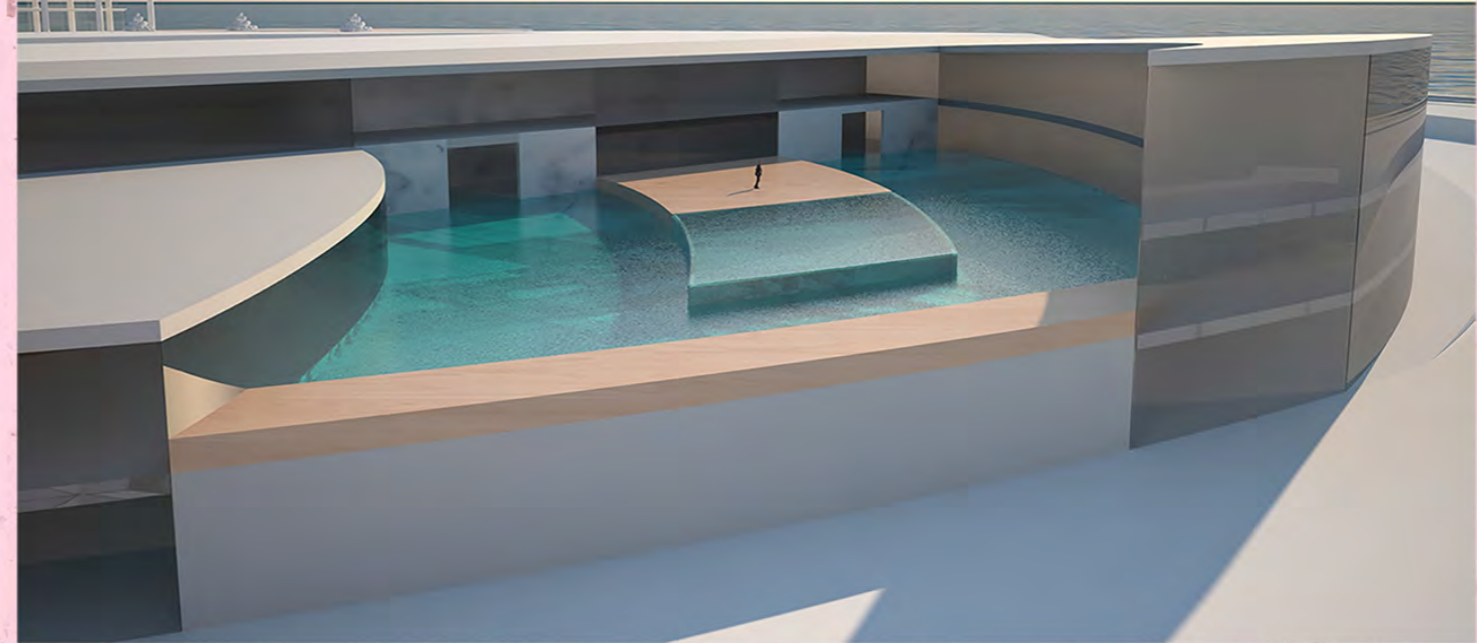
Through the Functional Layering it's possible to divide the Master Plan area into 8 macro-areas:

- *ACCESS**
 - Roof Park Entrance
 - Tech Park Entrance
 - Waterfront Park Entrance
 - Pathway Area Entrance
 - Water Promenade/"Lovers Promenade" Entrance
 - Car Parking Entrance
- *WORK**
 - EXISTING WORKPLACES (with green roof or solar panel)
 - NEW WORKPLACES/CO-WORK BUILDING/ (green roof)
 - OPEN WORK STATION
- *CULTURE/ART**
 - CO-WORK BUILDING (Architecture, Tech, Fashion Design, Art and PHOTOGRAPHY)
 - ART WALKWAY
 - KID LECTURE LIBRARY
 - ADULT LECTURE LIBRARY
 - EVENT-EXHIBITION-MAIN PLAZA
 - MUSIC GARDEN
 - THEATRE AND MUSIC HALL (green roof)
- *EDUCATION**
 - SCIENCE/TECH LAB
 - AREA WITH BUILDING FOR PARK MAINTENANCE EDUCATION
 - PRESCHOOL, KINDERGARTEN + RETIREMENT HOME
- *LEISURE**
 - PIC-NIC AREA
 - POP JET FOUNTAIN
 - PUBLIC POOL/ICE-SKATING RINK
 - EVENT-EXHIBITION-MAIN PLAZA
 - DOGGY PARK
 - UP-PLAYGROUND
 - GREEN ROOF PARK
 - LOVERS PROMENADE
- *HOUSING**
 - SOCIAL HOUSING
 - STUDENT HOUSING
- *SPORT E WELLNESS**
 - WELLNESS CAVE+GYM (green roof)
 - BEACH VOLLEY COURTS
 - PLAY PATH
 - SKATE PARK
- *SHOPPING**
 - UNDER-STREET MARKET
 - SHOPPING CORRIDOR-FOOD PLAZA (under PLAY PATH)

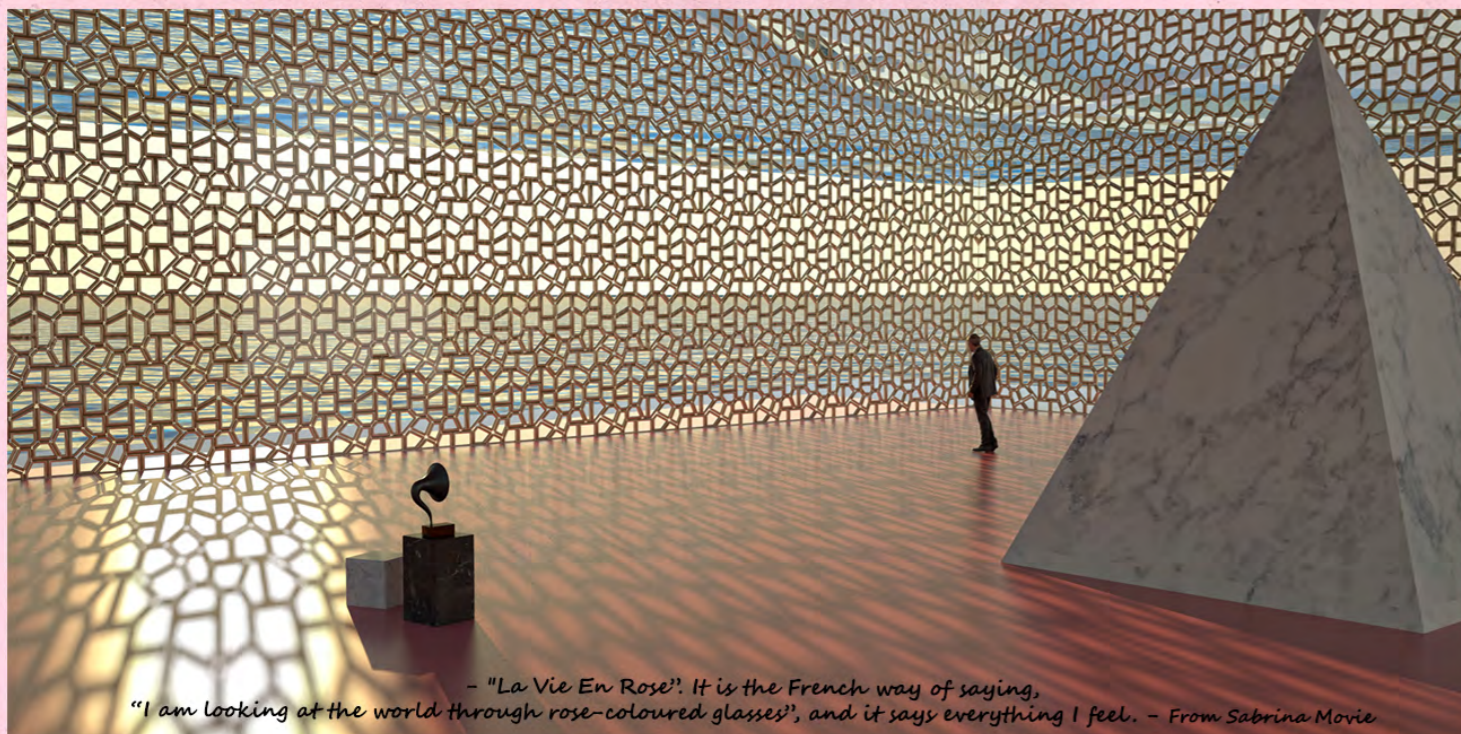
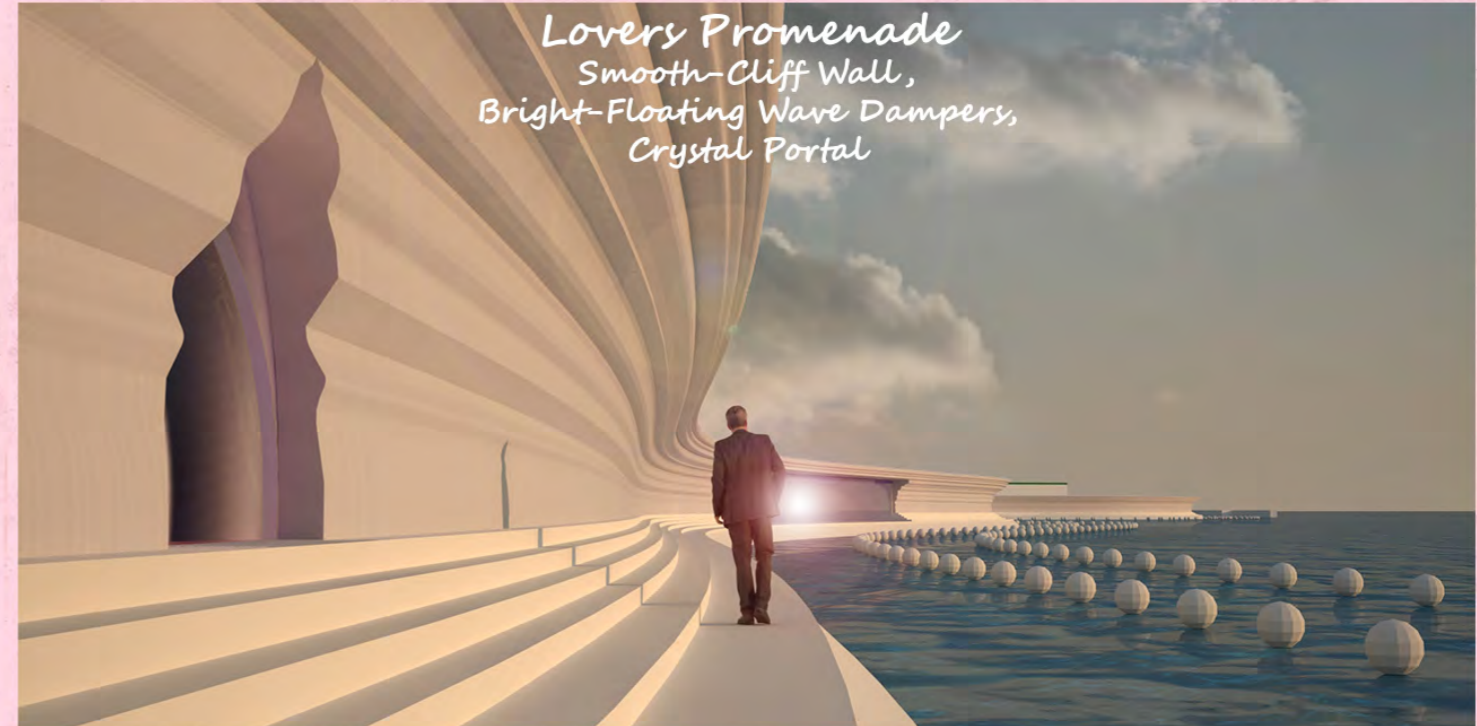
Co-Working Building
&
Event Area



Wellness Cave/Zen Zone + Gym

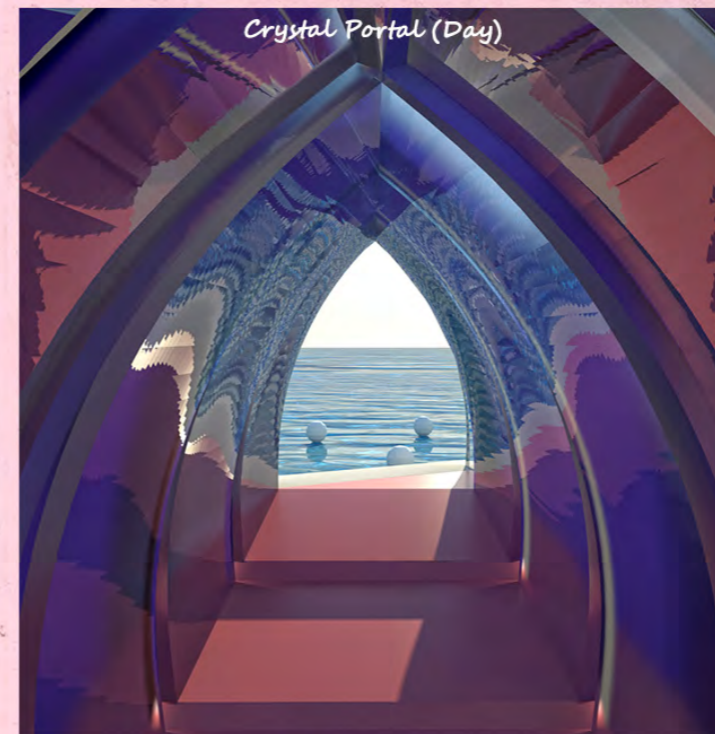


Lovers Promenade
Smooth-Cliff Wall,
Bright-Floating Wave Dampers,
Crystal Portal

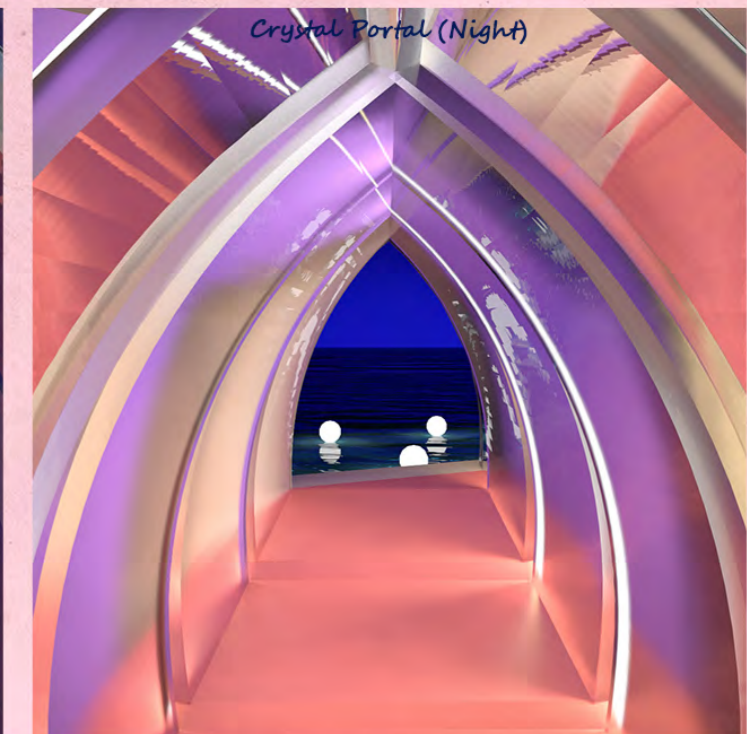


- "La Vie En Rose". It is the French way of saying,
"I am looking at the world through rose-coloured glasses", and it says everything I feel. - From Sabrina Movie

Crystal Portal (Day)



Crystal Portal (Night)



PATHWAYS

FROM THE SMART CITY PRINCIPLES AND THE RAISING CONSCIOUSNESS ABOUT THE PUBLIC SPACE VALUE COMES THE CONCEPT OF CITY HUMANIZATION, IN WHICH PUBLIC SPACE IS AT THE CENTER OF THE PROJECT AND THE STREET IS THE KEY ELEMENT OF THE URBAN REQUALIFICATION. THE ROAD IS NOT ONLY A CONNECTION ELEMENT BUT SHARED SPACE.

The planned Pathways implement 4 fundamental principles:

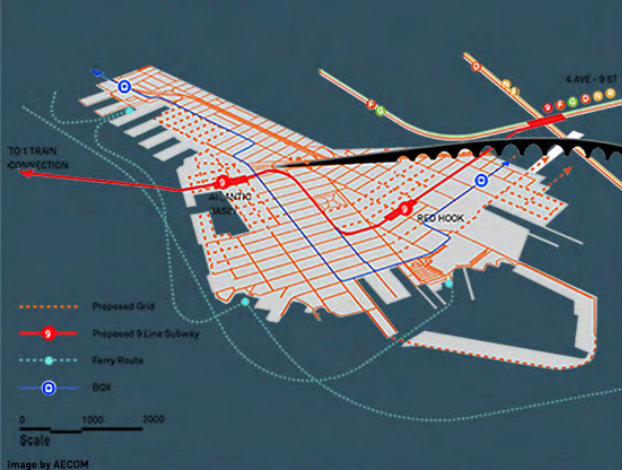
*Sustainable Mobility / Through the new BQX Streetcar Plan and the cycling paths.

*Photo-catalysis / The pavement of the paths across the Waterfront, the pedestrian paths and driveways are made with materials combined with a special catalytic cement (with Titanium Dioxide). The photo-catalysis process is able to oxidize the noxious substances until their complete mineralization.

*Permeable Pavement

*Km/O / for the Main Plaza pavement and the remaining routes, the choice of local raw materials was planned to reduce CO2 emissions caused by unsustainable means of transport. The Km / O philosophy is also supported by NYC's Native Plants selection.

-NEW SUBWAY STATION (planned by AECOM)



Transport Plan for Southwest Brooklyn Waterfront:

new subway line (n. 9) which is connected to Line 1 in Lower Manhattan

Three new stations are proposed:
 ATLANTIC BASIN
 REP HOOK along Lorraine Street
 4 ° AVE. STATION

-BQX (Brooklyn Queens Connector) STREETCAR

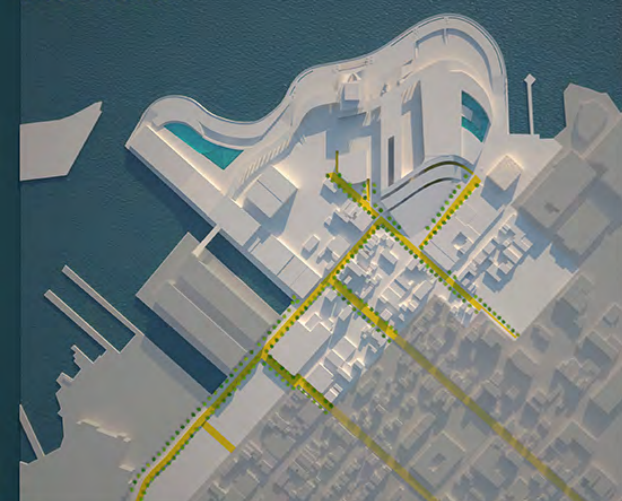


BQX Terrace: Raised BQX Binaries and Stations.

Image by AECOM

They will be used as protection against floods and as terraces for social activities. "Mobility = Sharing"

-DRIVEWAYS



Road Enhancement:

The main streets have been reconsidered as tree-lined avenues and enriched by the cycling path to enhance the user experience while respecting ecology.

4 Main Themes are recognizable within each Functional Macro-area:

PATHWAYS
 FLOODING SOLUTION
 ENERGY
 DIGITAL TOOLS

-CYCLING PATH & BIKE SHARING SERVICE (with Smart Parking)



Cycling Path and green infrastructures reduce urban pollution and improve the transport network.

Bike Sharing Service further encourages sustainable mobility.

-PEDESTRIAN PATH (Sport Route, Scenic Route, Lovers Promenade)



- JOGGING PATH
- ROLLER-SKATING PATH
- PLAY PATH

Sport Route:

*along the raised Play-Path walkway

*along the belt corridor of the waterfront new zero quota, which includes:
 jogging path and roller-skating path

-PEDESTRIAN PATH (Sport Route, Scenic Route, Lovers Promenade)



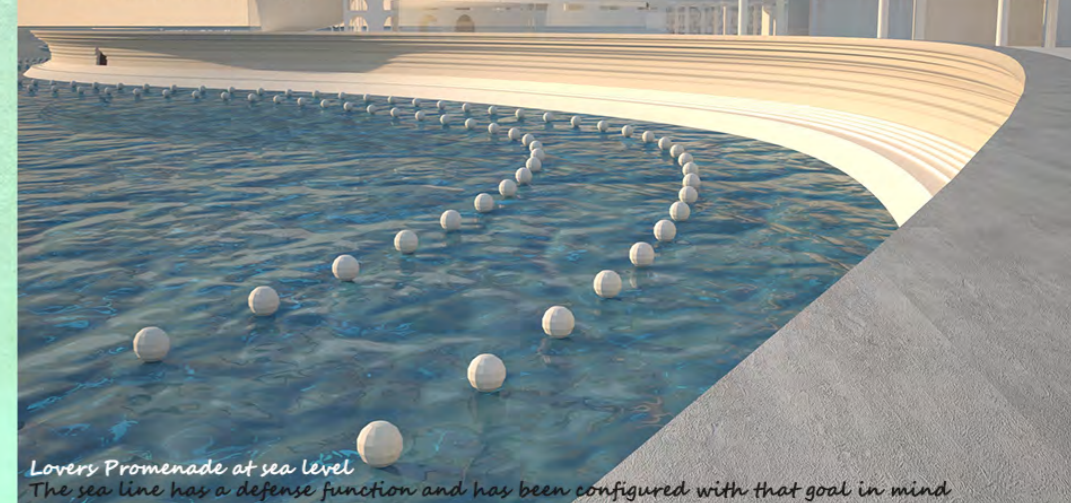
Scenic Route:

The entire area is crossed by panoramic paths that create a link:

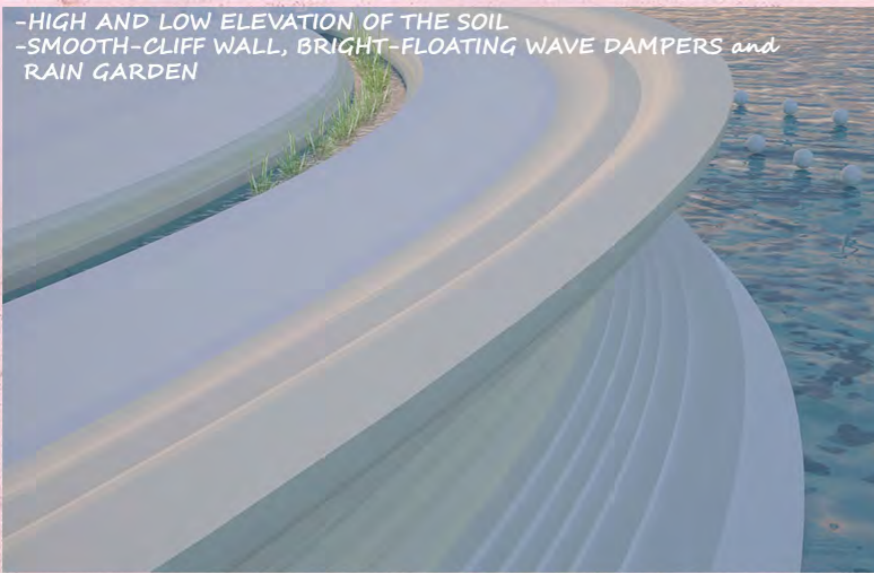
* between the new Co-Working Building and the buildings of the historical urban fabric

* between the Co-Working Building and the new Foster's Tech Complex

-PEDESTRIAN PATH (Sport Route, Scenic Route, Lovers Promenade)



-HIGH AND LOW ELEVATION OF THE SOIL
-SMOOTH-CLIFF WALL, BRIGHT-FLOATING WAVE DAMPERS and RAIN GARDEN

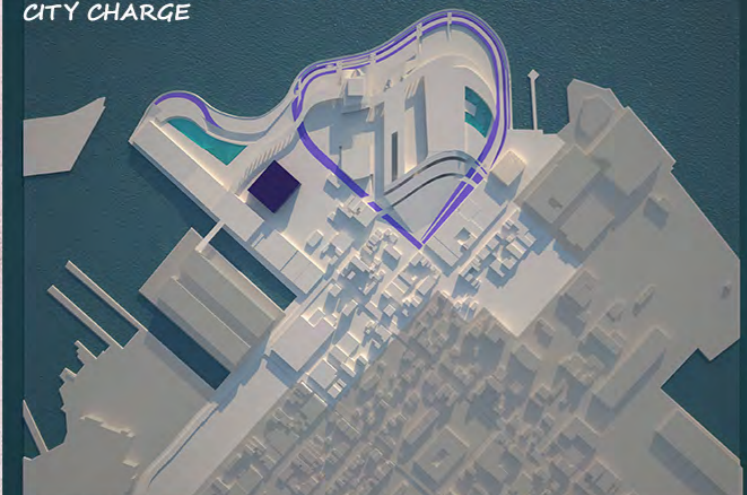


-HIGH AND LOW ELEVATION OF THE SOIL through the layered design of the Tech Park

-SMOOTH-CLIFF WALL which takes inspiration from the Sicilian cliff "Scala dei Turchi", has a function:

protective, connection with fluid, artistic /street furniture, as it is also the main seat of the Waterfront Promenade. It will also aim at encouraging meetings.

-SOLAR ENERGY, RAINWATER COLLECTION SYSTEMS, CITY CHARGE



SOLAR PANEL
PERMEABLE PAVEMENTS
RAIN GARDEN

-SOLAR ENERGY via Solar Panels along the waterfront belt corridor and on The Red Hook Stores

-RAINWATER COLLECTION SYSTEMS through
• Rain Gardens
• Permeable Pavements along the waterfront belt corridor

-CITYCHARGE (Solar Gadget Charging Station) under the Play Path, and near the Street Market

-GREEN ROOFS and PHOTOVOLTAIC LIGHT SYSTEM



-PHOTOVOLTAIC LIGHT SYSTEM
Smart Public Lighting consisting of Photovoltaic Lamps

-RAISED WALKWAY/SCENIC ROUTE
-MUSIC GARDEN
-DIGITAL ISLANDS/NYC LINK PANELS



-DIGITAL ISLANDS / NYC LINK PANELS
mobility and sharing info portal

-RAISED WALKWAY with Heating-Cooling system and OPEN WIFI (inspired by the Herreros Team Project "Communication Hut")

-MUSIC GARDEN inspired by Carlo Ratti's Project "LES JARDINS DU JAZZ"



U-T-O-P-I-A

The Utopian New Highest Skyscraper in the World
(Inspired by "The Invisible Cities" by Italo Calvino)
Manhattan, New York City

Architectural Composition II
(Catania University)

"Le città invisibili" Italo Calvino

Concept Skyscraper

The Project

The principles of the book "Delirious New York" (by Rem Koolhaas) and my representation of Tecla City (from "Invisible Cities" by Italo Calvino) are the two main ideas of this project.

It's called U-T-O-P-I-A, an Utopian World-Highest Skyscraper overlooking the East River in Manhattan.

It is 1010 Meters High and is subdivided in a number of functional units:

- 1st unit > from 0m to 75m, i.e. the first 15 floors, which house Shopping Centers
- A transition floor
- 2nd unit > from 80m to 565m, 97 floors housing Offices
- Another transition floor
- 3rd unit > from 570m to 770m, 40 floors which house a Hotel
- Another transition floor
- 4th unit > from 775 to 785, 2 floors which house Restaurants
- Last transition floor
- 5rd unit > the last 2 floors for the Observatory, to a height of 800m

Furthermore the Rooftops are designed with Event Areas, Restaurants and a Private Pool for Hotel's Guests.

The Lot is on 1st Ave, between 38th and 41st Street, next to the UN Building.

The Lot design also includes a separate Building, which houses a Restaurant. Its height is 4.25m and has a sloping Green Walk-able Roof.

A Staircase System is raised on this walk-able roof, to allow access to the Shopping Mall from 41st Street.

The Design was inspired by multiple places:

- a) The Exterior Design: NY Lincoln Center and Calatrava Lisbon Oriente Station.
- b) The Facade, which is composed of Staggered Glass Rhombi: Max Reinhardt Haus in Berlin by Peter Eisenman and DC Tower in Vienna by Dominique Perrault.

Why is Thekla's construction taking such a long time?
So that its destruction cannot begin..

Perché la costruzione di Tecla continua così a lungo?
Perché non cominci la distruzione.

È una notte stellata. - Ecco il progetto
The sky is filled with stars. - There is the blueprint

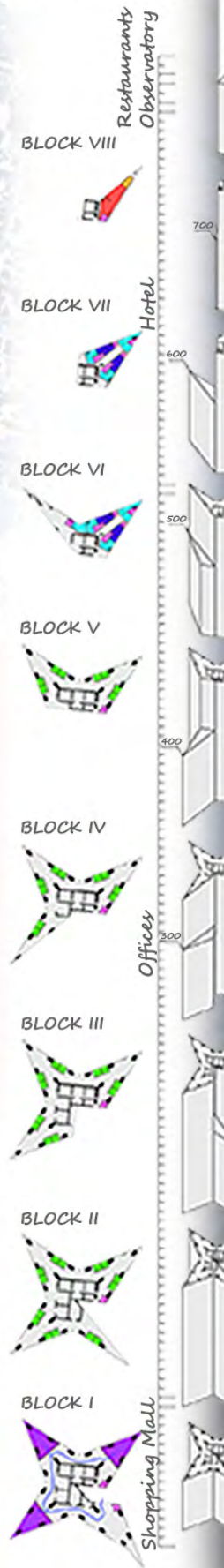
...Koolhaas's Manhattan Retroactive Manifesto of a Congested, Huge Society and Symbol of the Infinite Staircase of Construction...U-T-O-P-I-A!

LOCATION

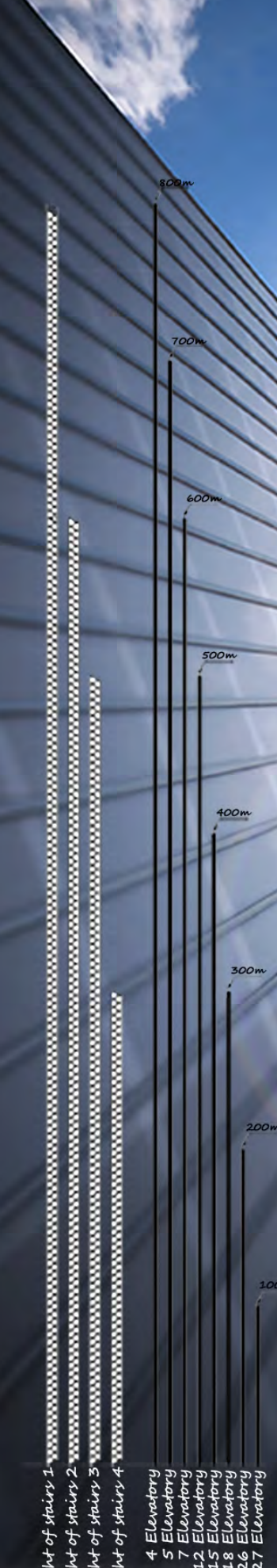


FUNCTIONAL ANALYSIS

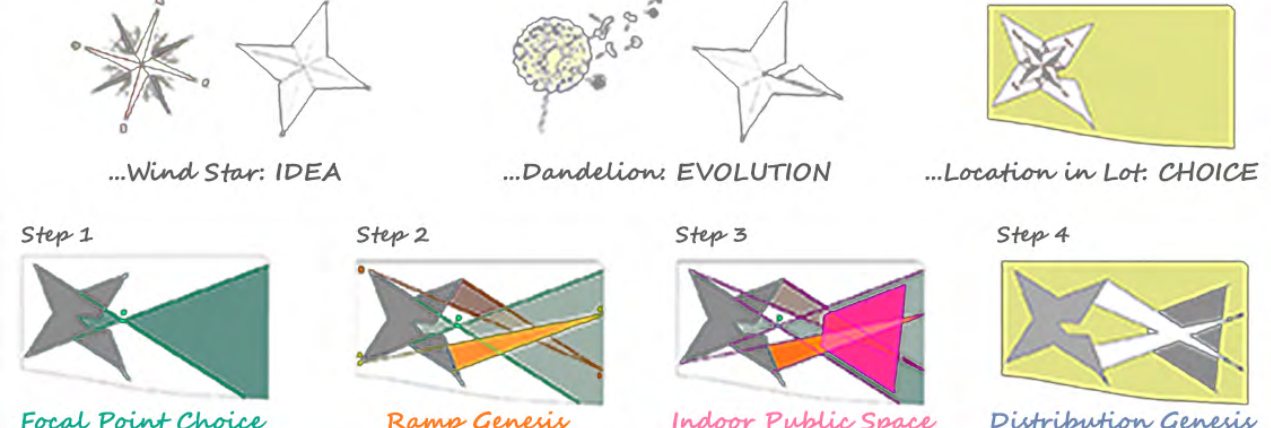
- Bathrooms
- Stores
- Offices
- Double Rooms
- Quadruple Rooms
- Restaurants
- Kitchen
- Path analysis GF



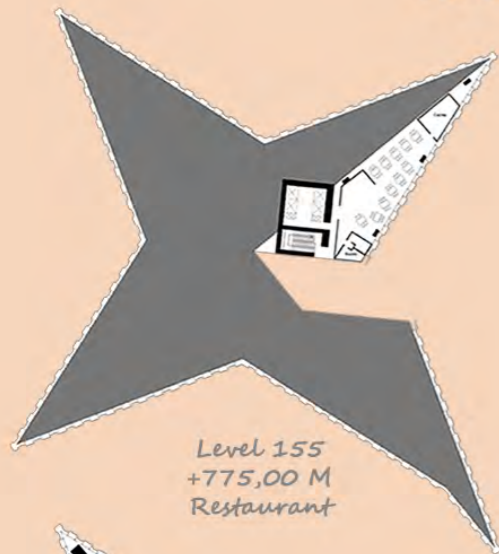
STAIRS-ELEVATORS SYSTEM



CONCEPT



FLOOR PLANS



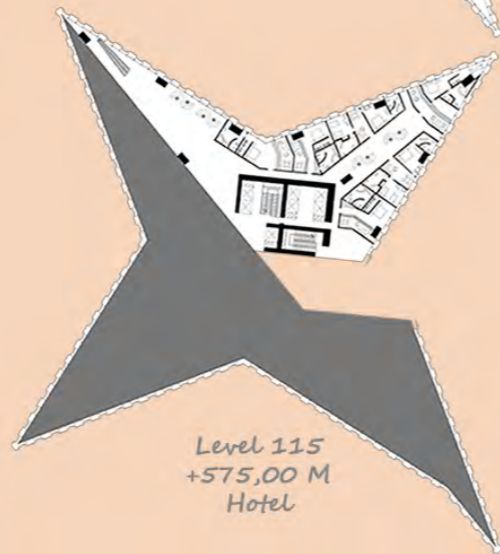
Level 155
+775,00 M
Restaurant



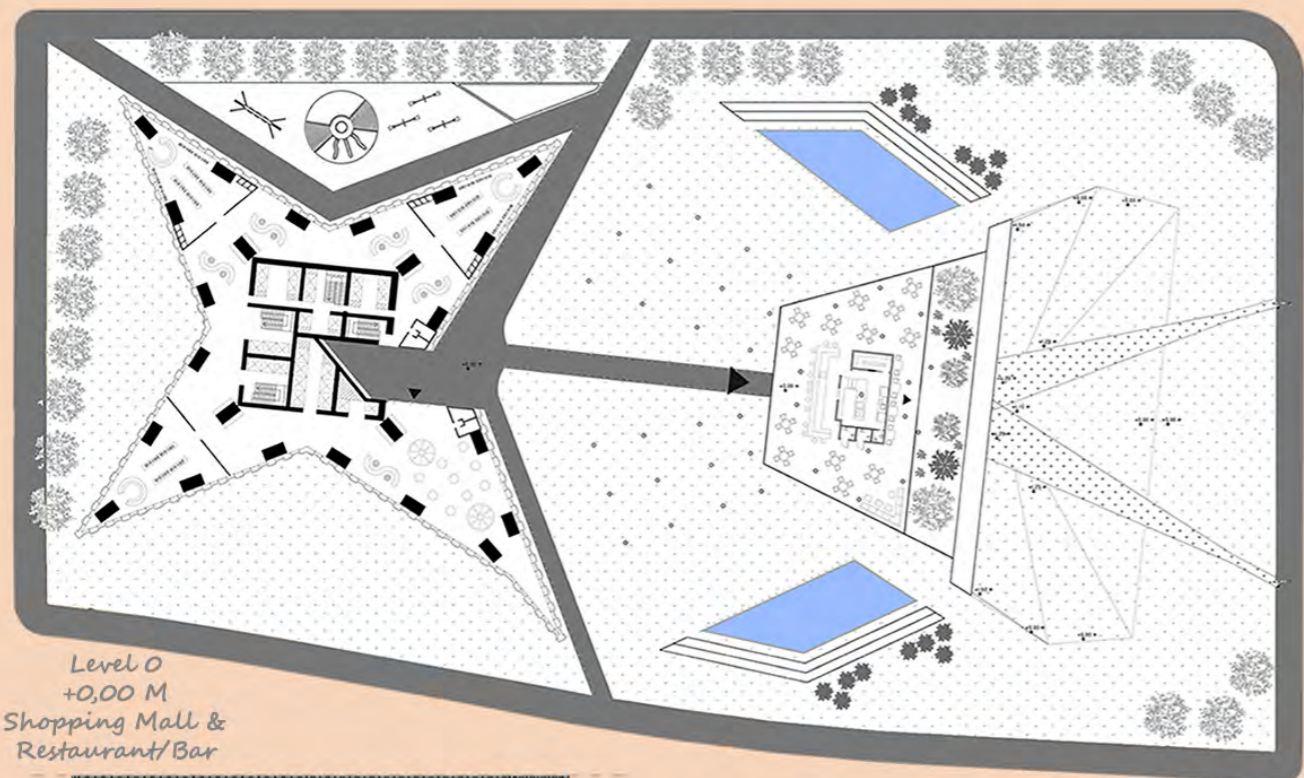
Roofs



Level 19
+95,00 M
Offices

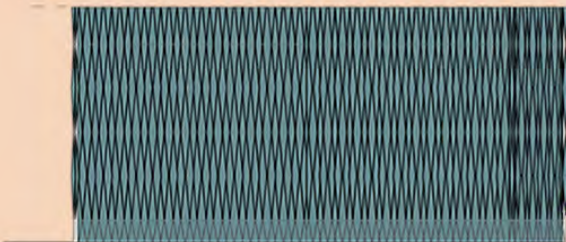


Level 115
+575,00 M
Hotel

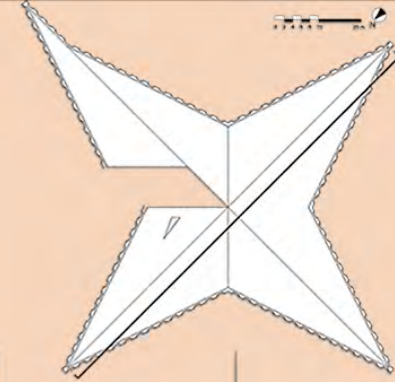


Level 0
+0,00 M
Shopping Mall &
Restaurant/Bar

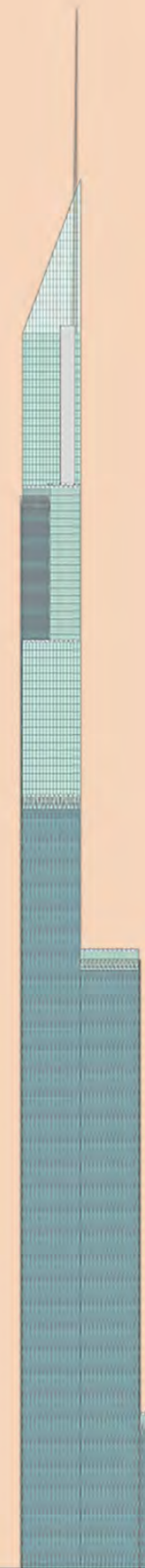
Plan and Front S-E



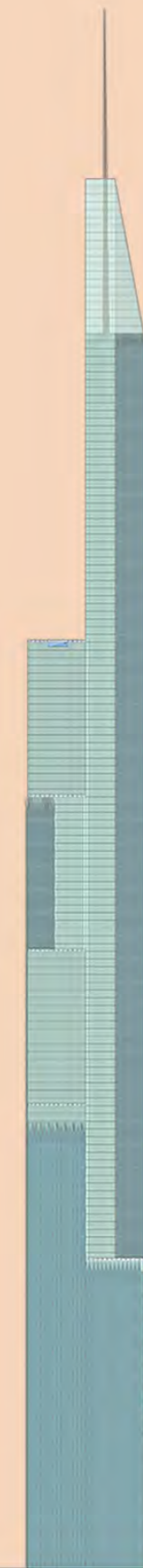
FRONTS



Front N-O



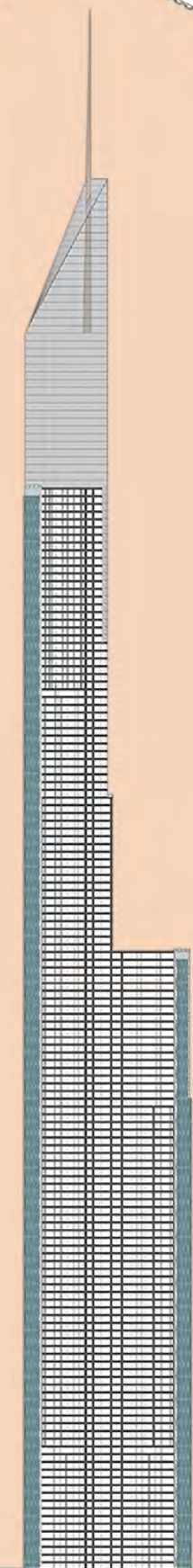
Front S-O



Front S-E



Front N-E



South Section

STRUCTURAL DETAILS - GLASS EXTERNAL WALL

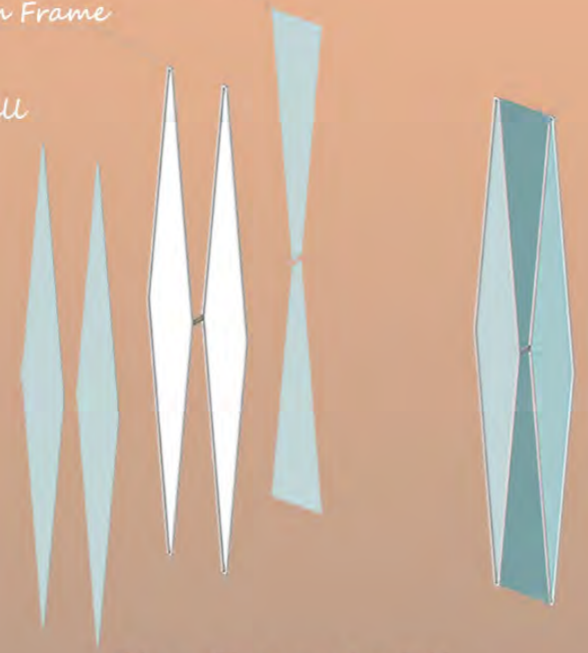
Glass Wall

Aluminum Frame

Glass Wall

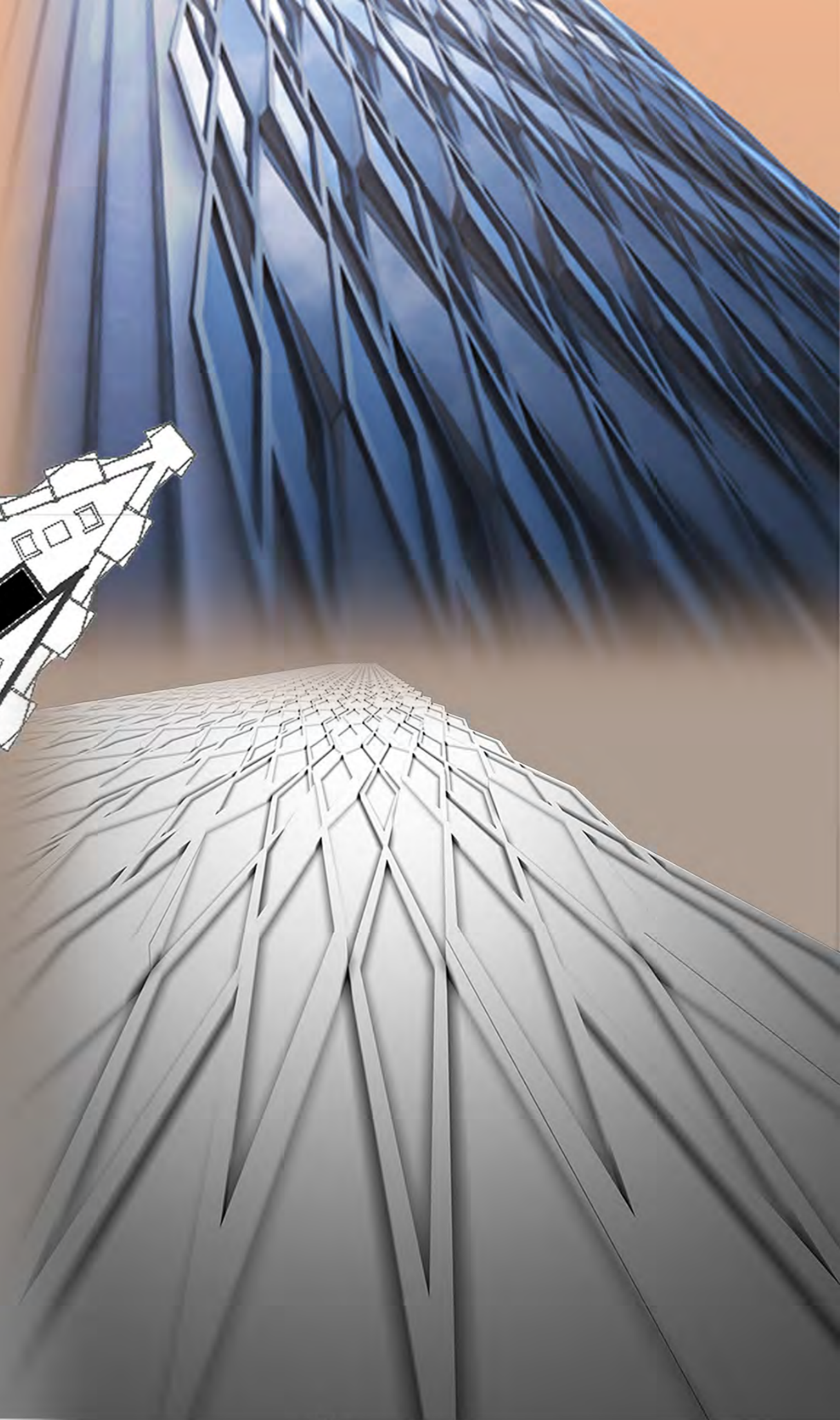
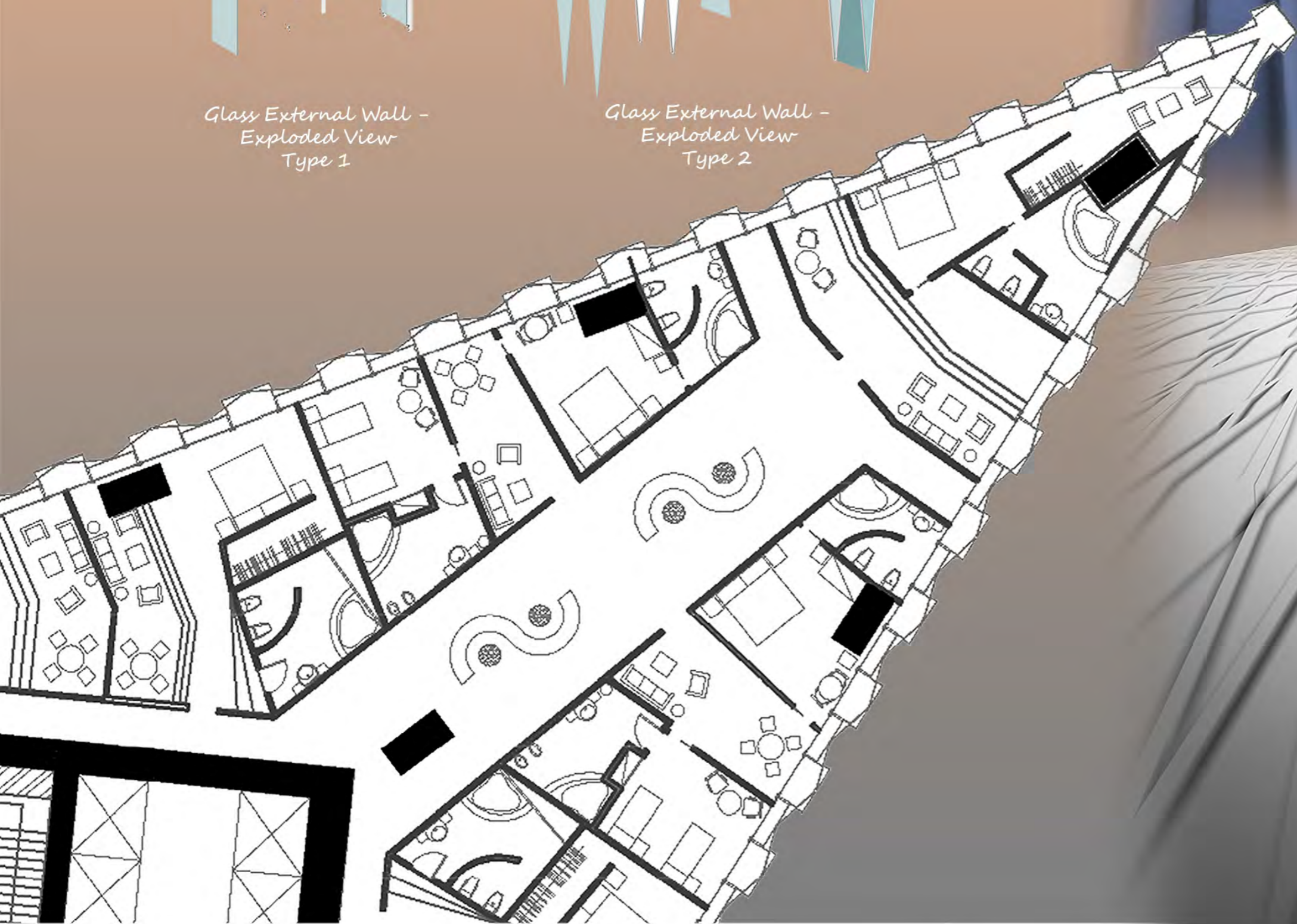
Steel Support Column
Curtain Wall Cruise

Glass Panels 5x1.50 m



Glass External Wall -
Exploded View
Type 1

Glass External Wall -
Exploded View
Type 2





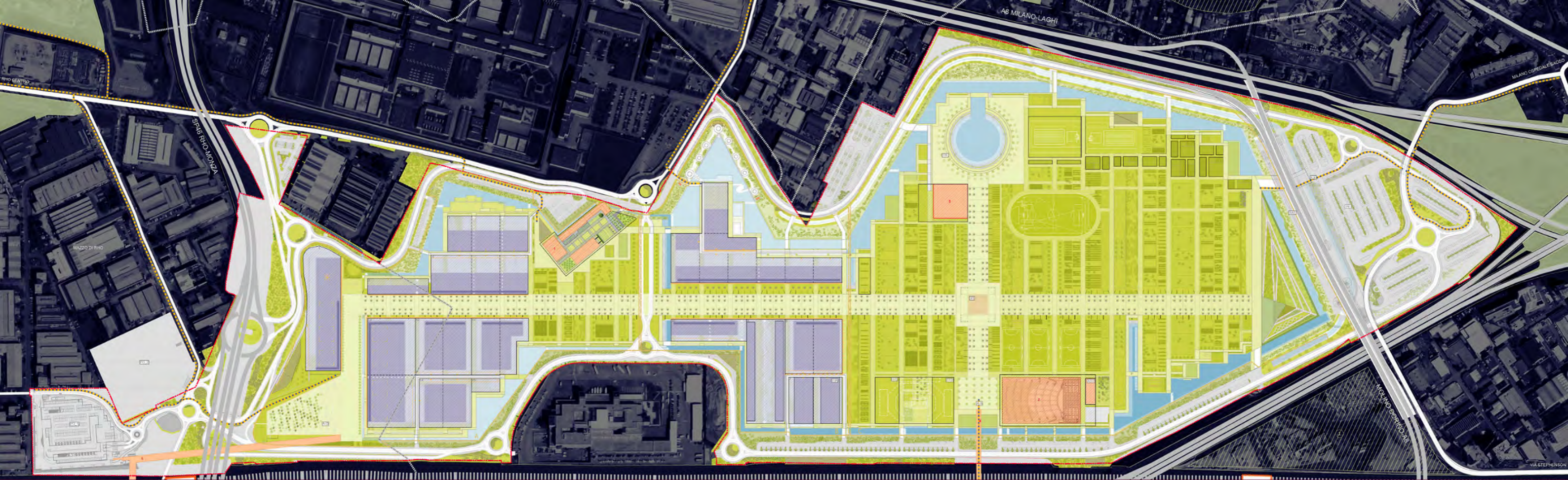
AGR-école

Student Housing:

- >Temporary housing for researchers, faculty and students with shared areas
- >Social Garden

Milan Post-EXPO Area, Italy

Architectural Composition III
(Catania University)



The Project

The Project's reference (methods-wise) is the Plan for the Hospital in Venice by Le Corbusier.

The strong points of my project are:

- 1) The integration of the Residences with surrounding Agricultural Land, which is "unicum". In other words every Building has its own portion of Cultivable Land.
- 2) The Public Space, that connects the whole complex with the preexisting internal Expo walkability (the Decumano) and the preexisting historical construction.
The latter is composed of a "Piazza" covered with Pergola, which is a meeting and cultural change place at the service of the Community, incarnating the Agora' Principles.
Additionally a Boardwalk-Courtyard-Solarium System allows the Human being a greater Sensorial Connection with the surrounding water and vegetation, reinterpreting in a contemporary way the "Navigli" in Milan.

In order to integrate the Architecture with the Landscape, the Buildings are designed with modest height, and they create movement thanks to the alternation of full and empty spaces.

Moreover the Ground Floor is conceived as a transparent and permeable space, which allows a Continuous Connection with the Outside.

The Project has two Main Goals:

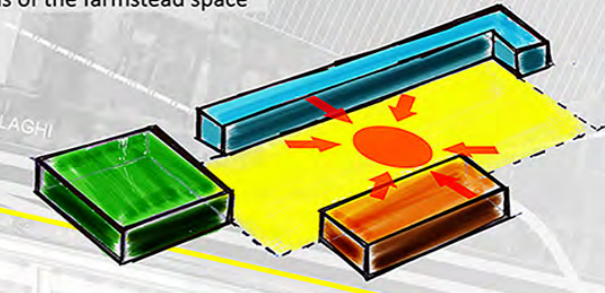
- The first one is to achieve a valuable good for the Community by means of a well-developed Network of Spacious Outdoor Areas, which include Green space, Piazze, Gym and a Multi-functional Building. Furthermore it incorporates a large Network of a highly connected Pedestrian Walkway with trees, vegetation and urban decoration.
- The second Goal is to create an Open, Connected, Flexible and Sustainable Morphology, which is closely related to the Principles that nowadays are behind the "Society of the Sensitive Sharing".



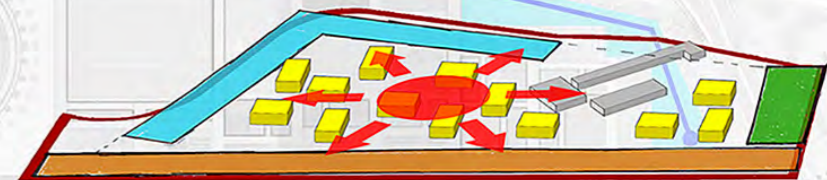
SITE ANALYSIS & CONCEPT (URBAN LEVEL)

SP16 RHO-MONZA

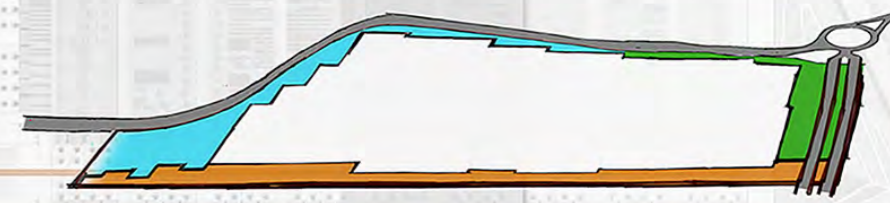
Analysis of the farmstead space



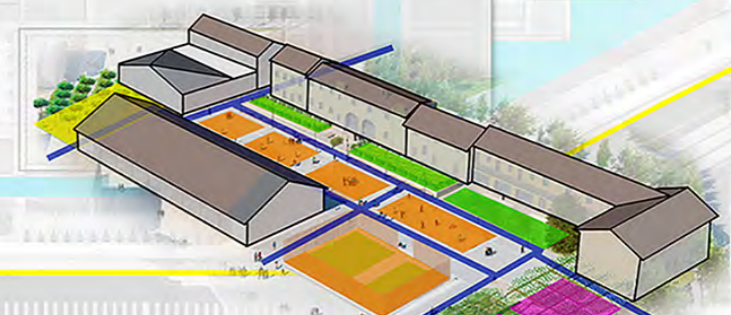
Spatial Inversion



Redefinition of the border and accessibility



Analysis of the farmstead's functions



LIMITS

- Intervention area border
- EXPO area boundary
- Town borders

PREEXISTENCES

- Area for residential use
- Area for industrial use
- Bollate prison
- Triulza farmstead

NEW REALIZATIONS

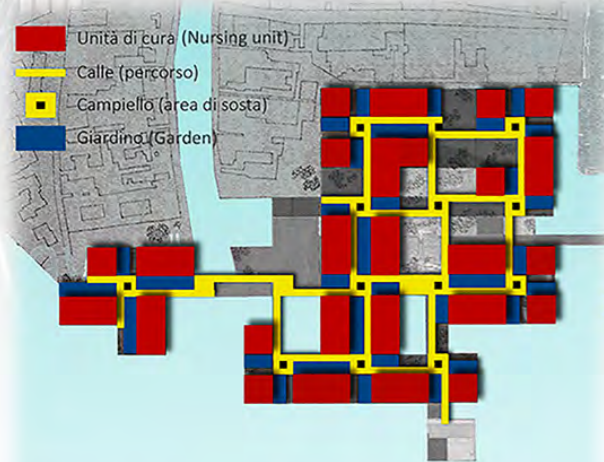
- 1 Food Media Center
- 2 Agri-Food Technology Center
- 3 Food Sustainable Market
- 4 Social Housing

ACCESSIBILITY AND WAY/PATH

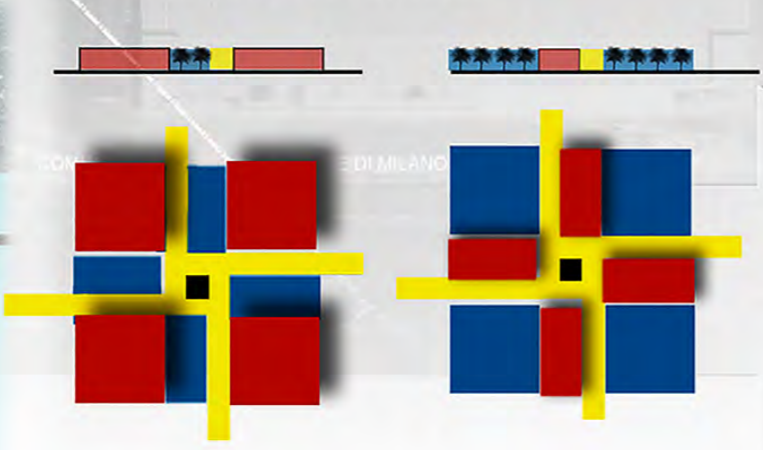
- Bike and walk-way
- Driveway
- Navigable path

REFERENCE

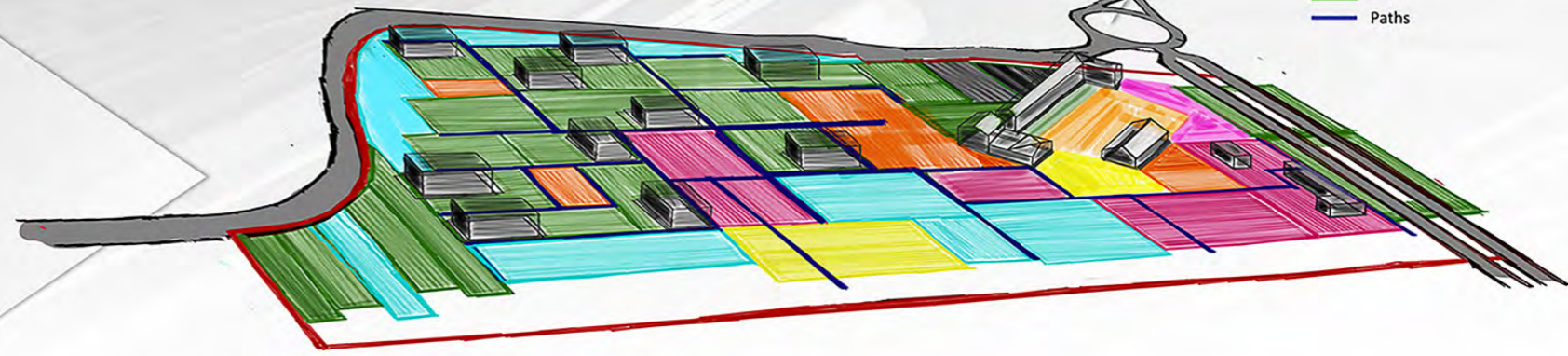
Le Corbusier, Progetto per l'ospedale di Venezia, 1962-65



Spatial inversion of the construction unit

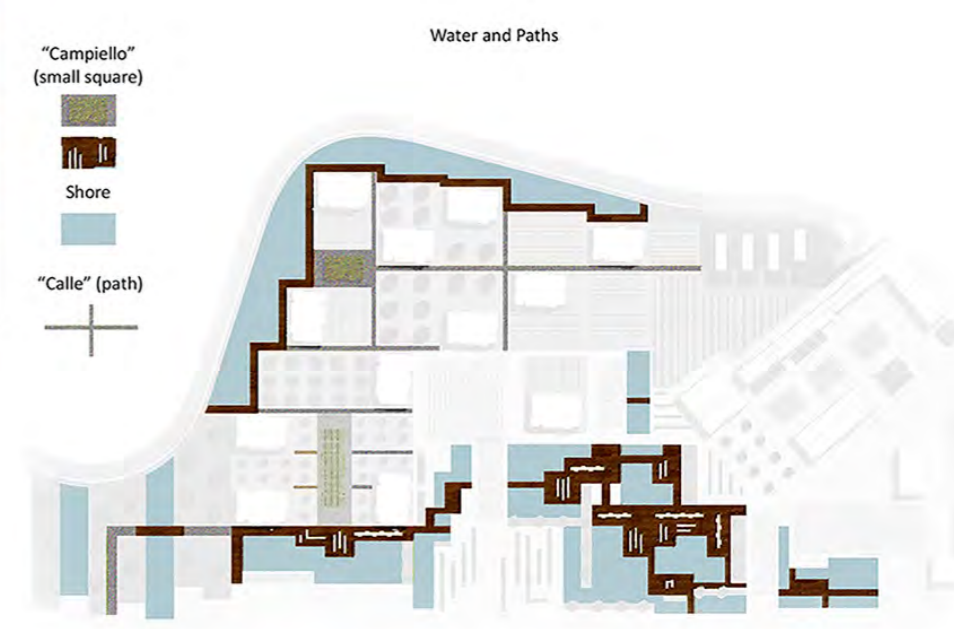


- Entrance plaza
- Pedestrians rest areas
- Facilities area
- Vegetable Gardens
- Paths



The combination is individual-community, and Architecture and City Planning solve it in favor of the harmony. Le Corbusier, 1962

MASTER PLAN



PUBLIC SPACE

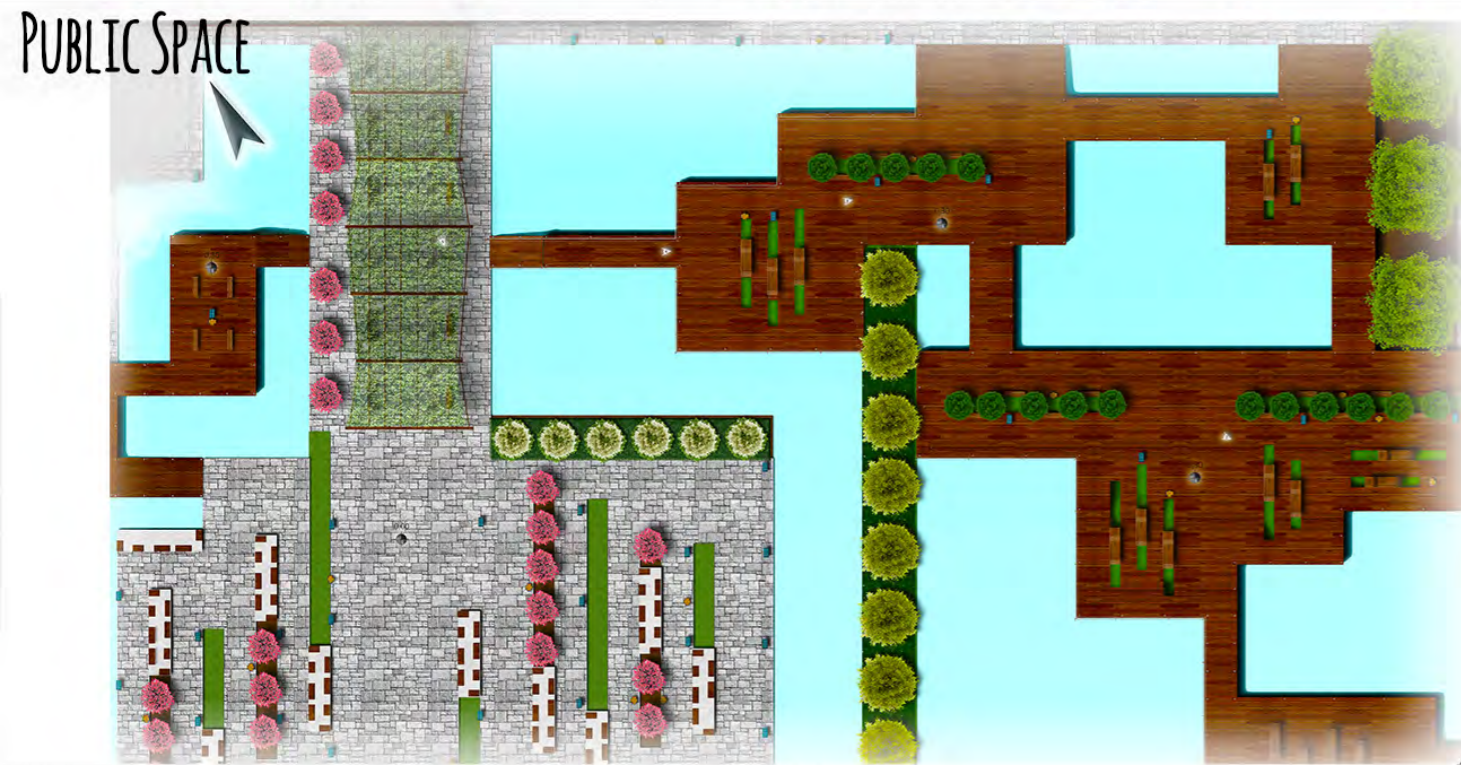
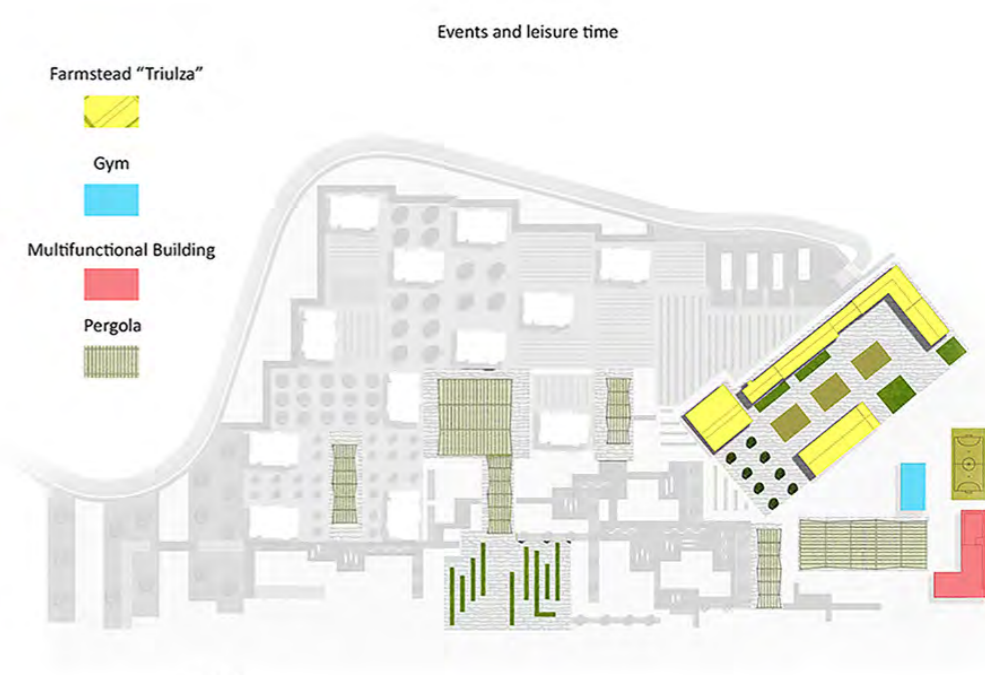


Chart of tree species

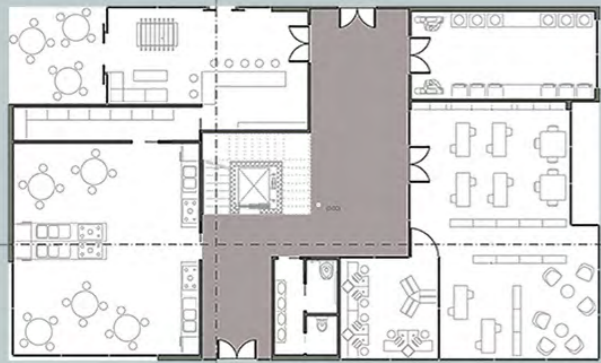
	rise	
	cereal	
	vegetables and greens	
	poplar, willow elm	
	fruit trees cherry-mulberry	
	fruit trees cherry-mulberry	



RESIDENTIAL BUILDINGS (BASALT/WHITE PLASTER)

FLOOR PLANS & FRONTS

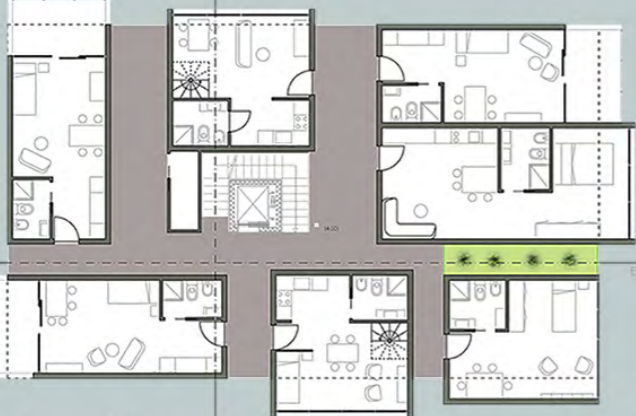
Ground Floor



Front I



First Floor



Front II



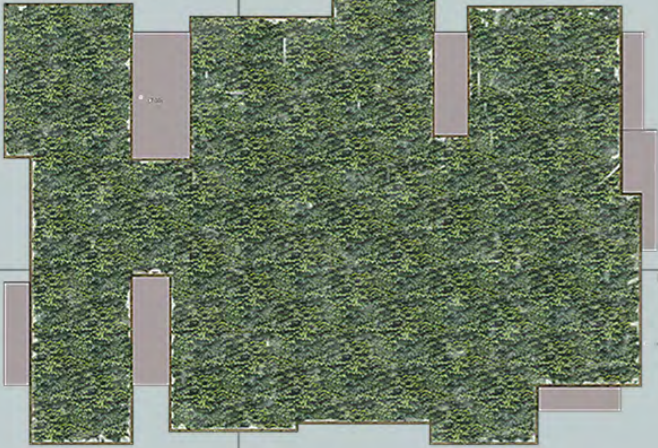
Second Floor



Front III




Roof Plan





Front IV





Materials

 Solar Glass (transparent)

 Wood effect porcelain stoneware tiles (Walnut)

 Wood wrap: Thermo-treated Ash (facade cladding)

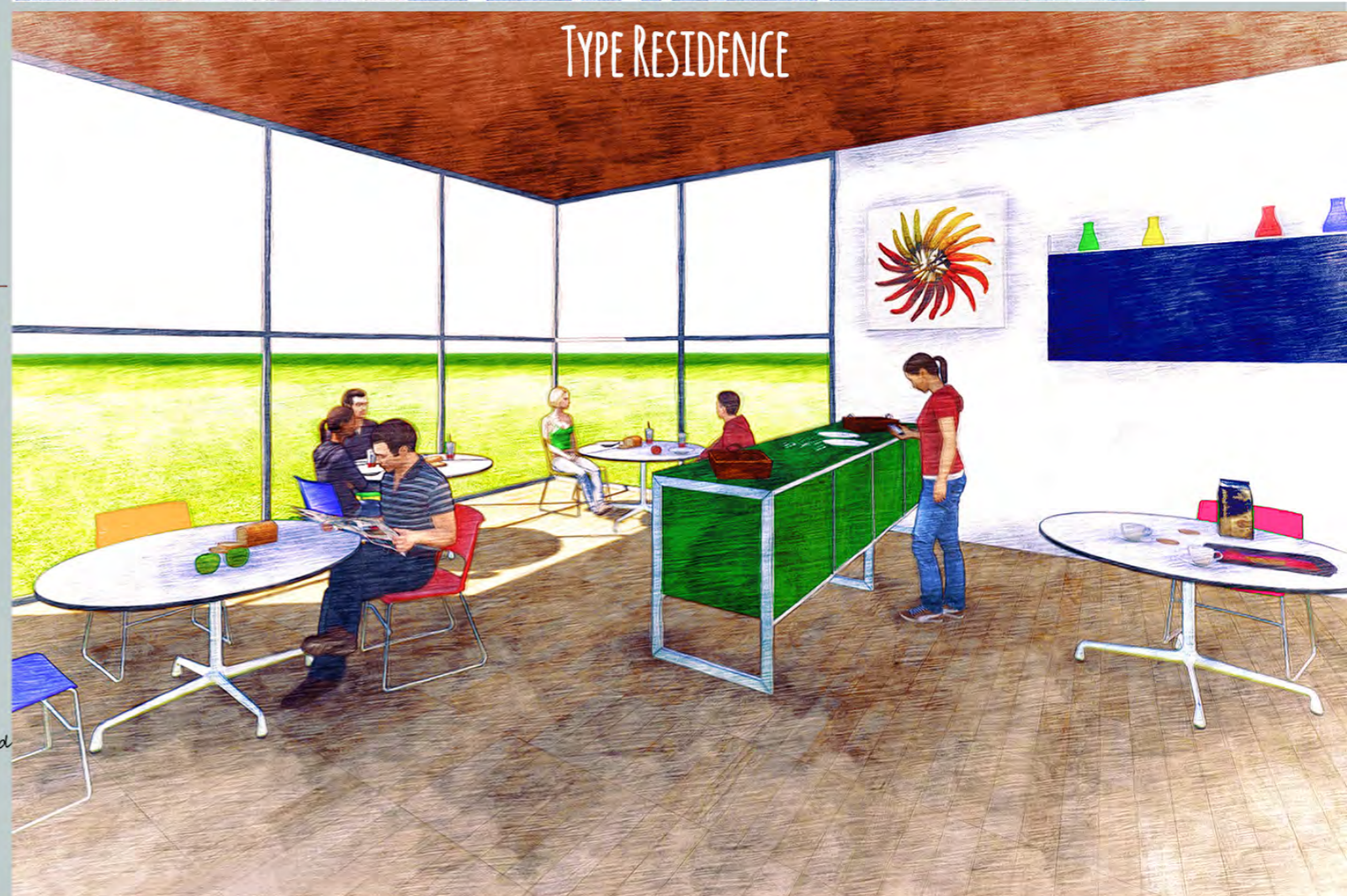
 Basalt (facade cladding)

 Oak parquet flooring

INTERIOR RENDERS: KITCHEN/DINING HALL



TYPE RESIDENCE



STORYBOARD DAY VS NIGHT



Reflections In Restoration

Architectural Restoration of a "Cortina" of buildings
Town of Trecastagni, Sicily, Italy

Architectural Renovation
(Catania University)

LOCATION

Alle pendici dell'Etna, a sud del cratere, il paese di Trecastagni si sviluppa linearmente su un territorio in pendenza. Il territorio, di conformazione collinare, è circondato da svariati conetti vulcanici di diversa epoca e dimensione.

La particolare conformazione del territorio circostante, caratterizzato da una forte pendenza verso i sottostanti comuni di Viagrande e San Giovanni la Punta, rende la posizione di Trecastagni particolarmente panoramica: la visuale spazia dalla estremità meridionale della Calabria fino al Golfo di Augusta, nel siracusano.

VISTA PANORAMICA



1 - PIAZZA GULIELMO MARCONI



2 - CHIESA MADRE



1. Trecastagni
2. Viagrande
3. Pedara
4. Nicolosi
5. Zafferana
6. San Giovanni la punta



DIACHRONIC



1300 - 1669
Nessuna informazione specifica sul corso Vittorio Emanuele e sulla cortina da noi sottoposta a studio negli anni precedenti all'eruzione dell'Etna del 69.

1669 - 1879
Trecastagni viene descritta come un florido paese, dallo sviluppo lineare lungo la strada maestra che punta l'Etna, la cui popolazione non superava fino ai primi del settecento le 5000 unità. Rinomata nel territorio siciliano per l'artigianato e l'ottimo vino vedeva nel "Largo dei bianchi" e nella strada "maestra" il cuore pulsante delle sue attività sociali. Nessuna informazione precisa sulla cortina da noi sottoposta a studio.

1879
Le prime informazioni tecniche riguardo il tessuto urbano di Trecastagni risalgono ad una mappa catastale del 1879 sulla quale non si distinguono bene le proprietà dallo spazio costruito. La cortina a fine 800 vedeva già il suo affacciarsi nel corso Vittorio Emanuele nella sua quasi totalità; piccole divergenze compaiono solo nella zona centrale ancora ineditata. Gli edifici agli angoli erano già presenti, l'analisi dello stato attuale che li vede costruiti con tecniche moderne ci lascia pensare indirettamente che questi furono distrutti e poi ricostruiti in periodi non certi. Nella foto del 1918 possiamo notare la differenza tra il prospetto antico e quello moderno di un edificio all'angolo.

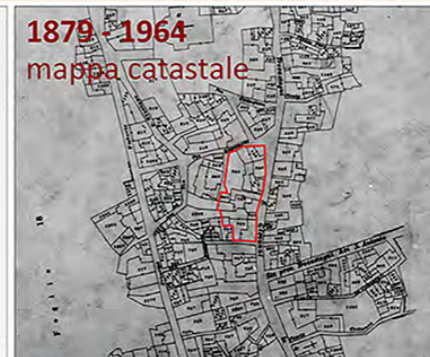
1879 - 1964
Messa in informazione importante ci viene lasciata da questa mappa catastale posteriore al 1879 e non datata. Da essa si riescono a distinguere solamente i confini delle proprietà e possiamo notare un leggero sviluppo urbano nelle zone limitrofe alla nostra cortina. Le proprietà nella zona da noi presa in esame non cambiano.

1964
Carta d'unione della provincia di Catania, pecca di una scarsa qualità ma tuttavia riusciamo a capire che lo sviluppo della nostra cortina si è ormai concluso rimanendo uguale allo stato attuale. Di conseguenza la zona centrale è stata costruita nel periodo che va dal 1879 al 1964. Da alcuni studi fatti sul posto siamo arrivati a conoscenza che il corpo centrale della cortina era il luogo della macinazione di ingenti quantità d'uva, la quale, successivamente, veniva "pompa" negli edifici adiacenti per la conservazione e imbottitura. All'interno di esso, in vani arretrati rispetto al prospetto principale alloggiava la "servitù".

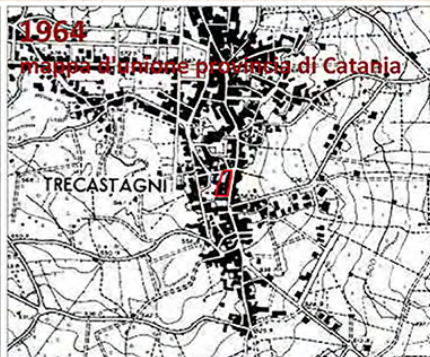
2000-2015
Lo sviluppo della cortina rimane invariato



1879 mappa catastale



1879 - 1964 mappa catastale



1964 mappa catastale in Comune di Catania



2000 piano particolareggiato



2008 ctr TA 2895 581.1 556.7



2015 satellite google

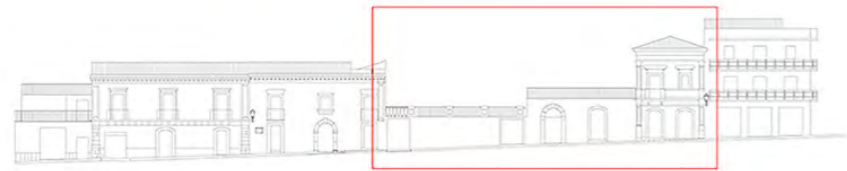


The Project According to the Spanish Architect Carlos Quevedo Rojas: "The essence of the restoration project is intended to be a reflection of its own past, its own origin." As a matter of fact our societies' Heritage and History, as presented through Architecture, is crucial to understand our Culture. Hence, it is our duty, as Architects, to preserve and keep alive our Past, through clever and mindful Restoration/Preservation Projects. "The architect should act as a surgeon, skilled and experienced that doesn't touch an organ without having prior knowledge of its function and having predicted the immediate and future consequences of his action. Rather than act randomly is better doing nothing. It's better to let the sick person die rather than to kill him." Eugèn Viollet Le-Duc, 1850/1870 That's why, "Reflections In Restoration", in order to remind ourselves the

importance to know the character of a property, its degradation, its peculiarities and its beauty, before the Intervention. The analyzed "Cortina" (i.e. different facades next to each other and facing the street) is located in a rectangular lot of a block in Trecastagni Town (in Catania). The Project started with a Geometric detailed Survey to understand the Architectural Asset, the Geometric, Spatial and Materials Features and the connection to the Urban Fabric. Afterwards, the Pre-diagnosis of the Object's Conservation State was established. The Pre-diagnosis was made throughout the Analysis of the Existing Condition and the Map displaying the Degradation, and was confirmed by a Non-invasive and Non-destructive Investigation, which includes the Infrared Thermo-graphic

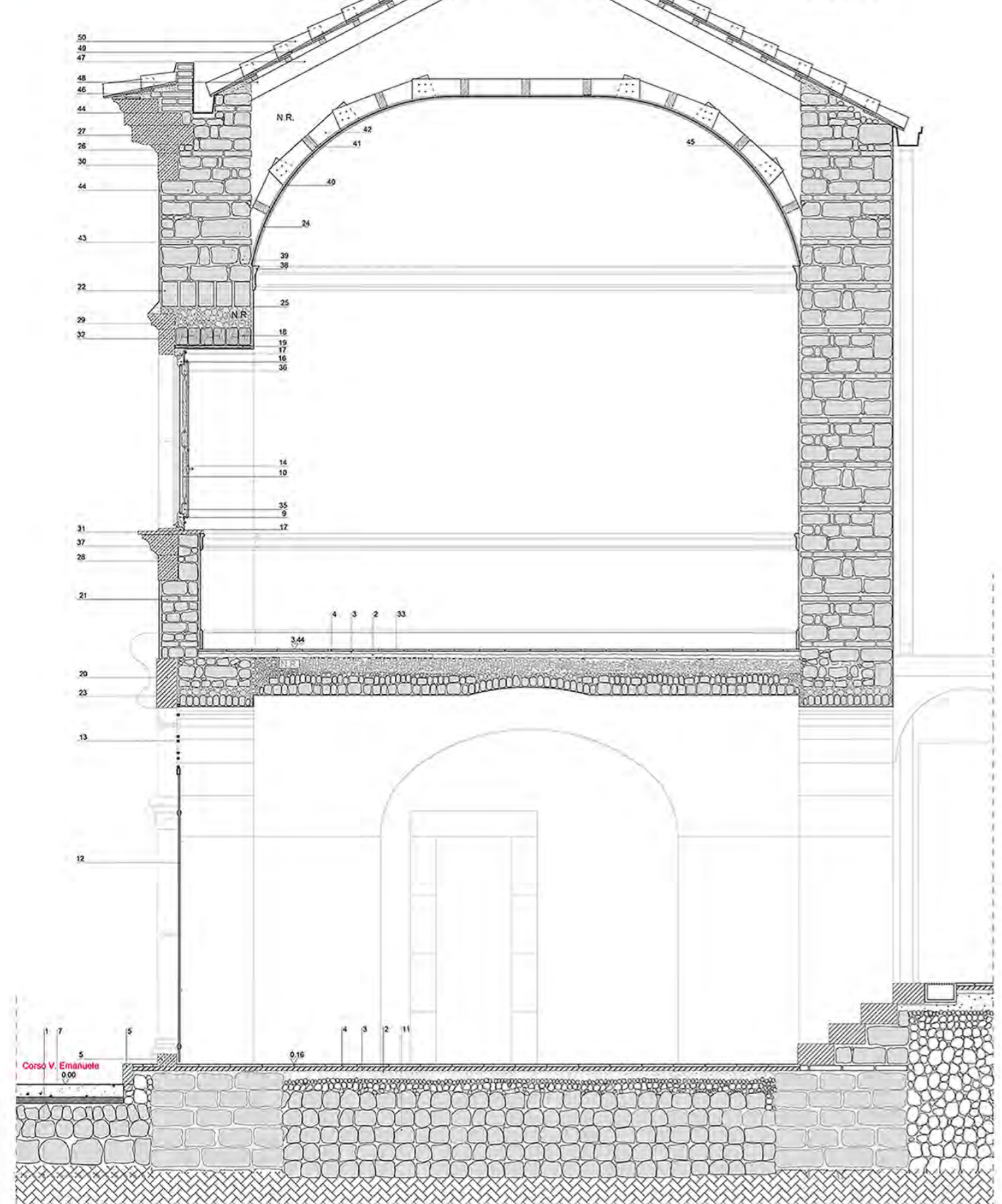
Investigation and the Ponderal Method. Finally the Diagnosis was drawn up. With regards to the "Cortina" conservation state, the External Shell mainly shows Damp (rising, descending) and Finish Issues due to casualness by the Institutions, in the last few decades. Among the observed Pathologies, the relevant ones are: Water Seepage, Pollution and Acid Rain, Trembling of Vehicular Traffic, Subsequent Installations and Lack of Maintenance. Restoration Intervention is conformed to the Factory Specificity and following the artifact's Historical and Architectural Features, reason why the Actions are Reversible and have Minimal Impact.

FRONT EDIFICE 4-5
&
ZOOM



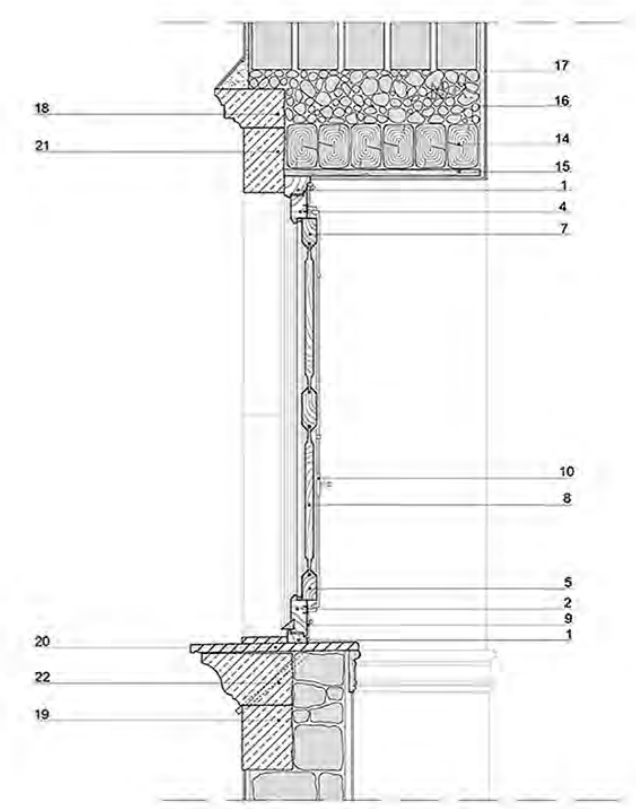
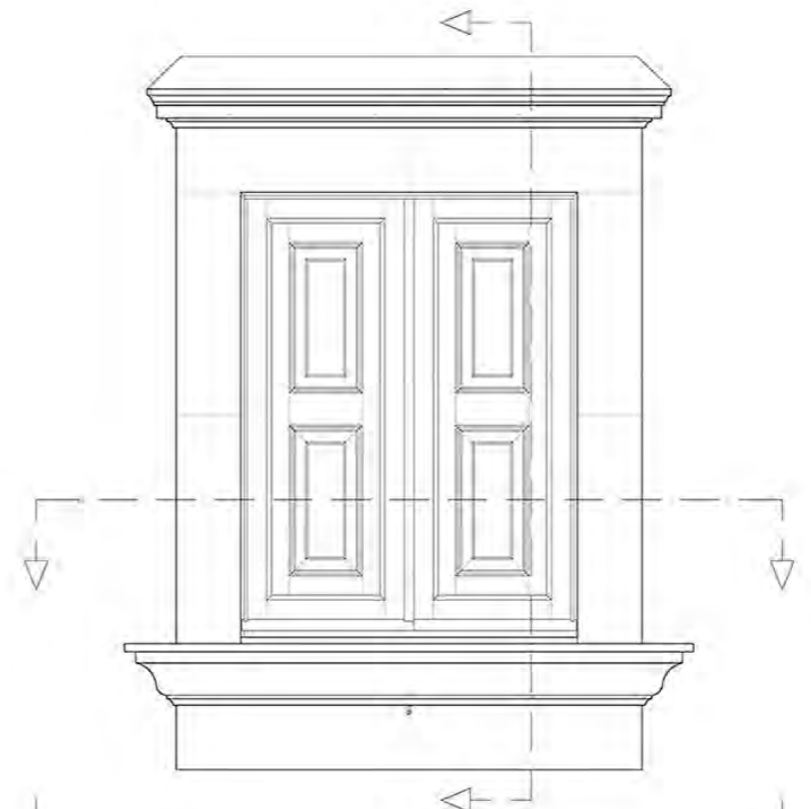
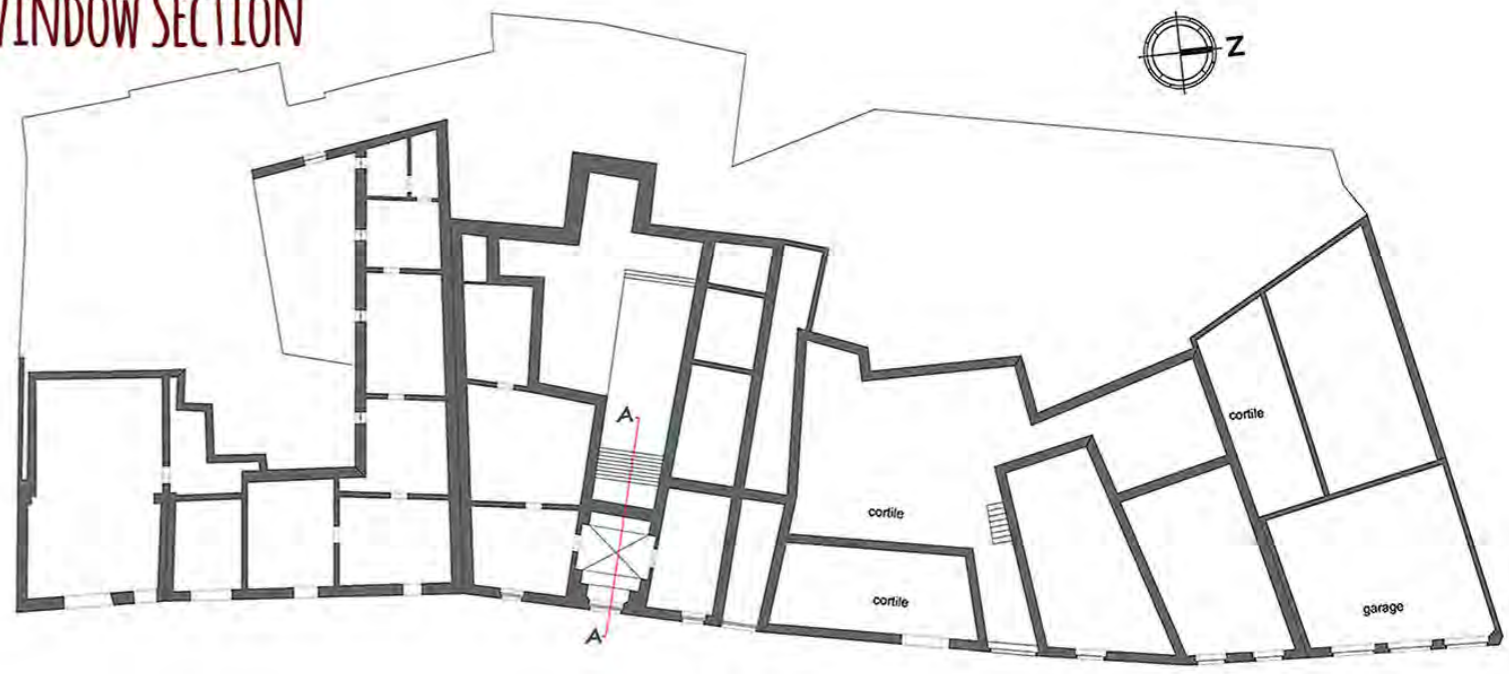
SECTION

Sez A-A

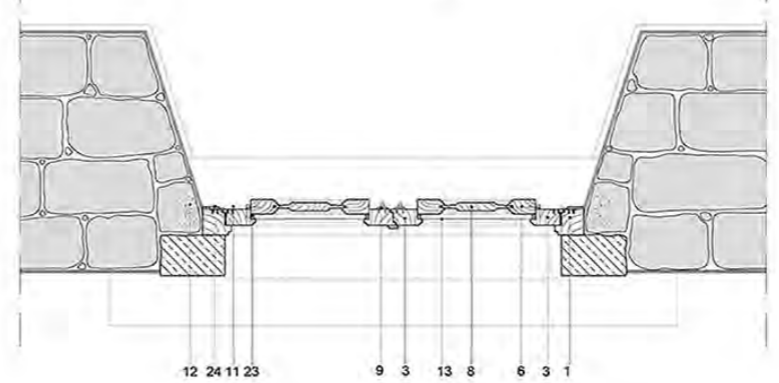































- | | | | |
|--|--|---|---|
| 1 Terreno vegetale | 16 Traverso superiore (telaio mobile) | 31 Lastra in marmo | 45 Grondaia in lamierino |
| 2 Gretonato pendenze | 17 Telaio fisso | 32 Architrave in conci squadrate di calcarenite tenera | 46 Canale di gronda |
| 3 Malta di allestimento | 18 Architrave ligneo | 33 Volta a crociera a concrezione | 47 Falso puntone |
| 4 Pavimento | 19 Tavola di controsoffitto | 34 Ripianamento della muratura in mattoni laterizi | 48 Correnti |
| 5 Soglia in basalto lavico | 20 Arco in conci di pietra lavica | 35 Traverso inferiore (scuro) | 49 Sottani |
| 6 Zoccolo della parasta in pietra lavica | 21 Mattoni laterizi | 36 Traverso superiore (scuro) | 50 Soprani |
| 7 Manto stradale | 22 Arco di scarico in mattoni laterizi | 37 Davanzale in calcarenite tenera | 51 Trave di colmo |
| 8 Bordo marciapiede in basalto lavico | 23 archivolto in pomice vulcanica e malta di gesso | 38 Cornice in legno | 52 Colmo |
| 9 Traverso inferiore (telaio mobile) | 24 Intonaco in gesso | 39 Zeppa in legno | 53 Staffa di collegamento dei falsi puntoni |
| 10 Specchiatura in legno | 25 Carta da parati | 40 Stuovia di canne | |
| 11 Vespaio | 26 Sottomensola in conci calcarenite tenera | 41 Tamboccio in legno | |
| 12 Portone in ferro | 27 Mensola in calcarenite tenera | 42 Centina di tavole in legno chiodate | |
| 13 Rosa in ferro battuto | 28 Fascia in conci di calcarenite tenera | 43 Muratura listata a struttura mista di conci di basalto lavico squadrate e mattoni laterizi legati con malta di calce | |
| 14 Spagnoletta (scuro) | 29 Cornice in conci di calcarenite tenera | 44 Coronamento | |
| 15 Regolo in legno | 30 Lastra in conci di calcarenite tenera | | |

WINDOW SECTION

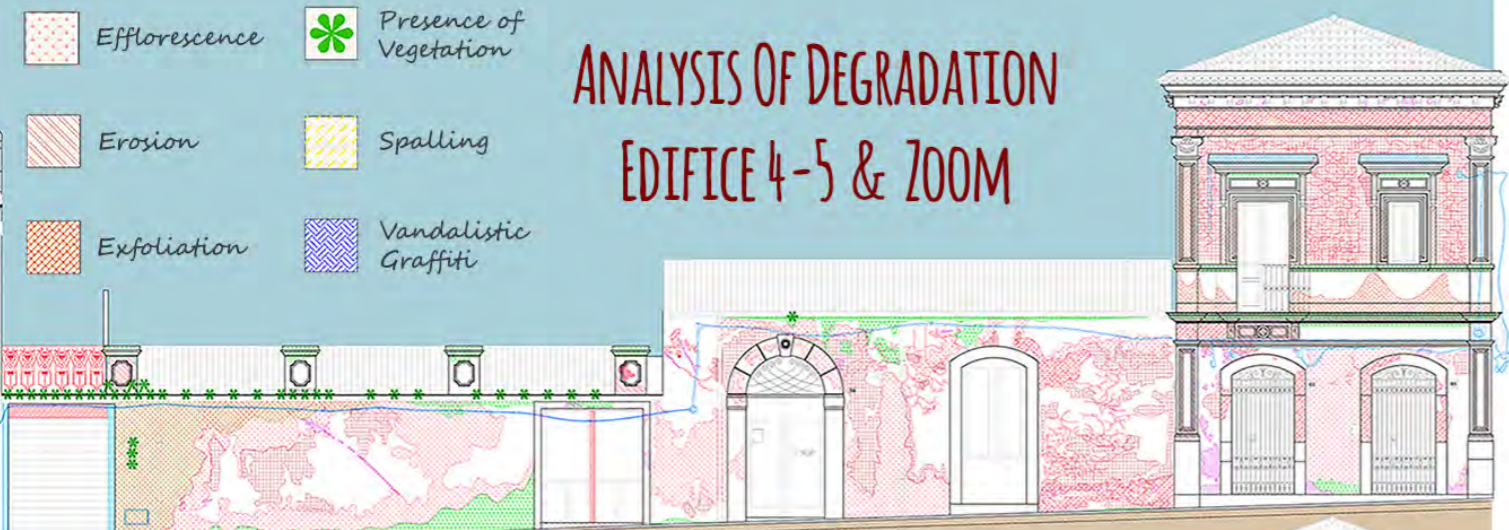


- | | |
|--------------------------------------|--|
| 1 Telaio fisso | 13 Vetro semplice (spessore 2mm) |
| 2 Traverso inferiore (telaio mobile) | 14 Architrave ligneo |
| 3 Montante inferiore (telaio mobile) | 15 Tavola di controsoffitto |
| 4 Traverso superiore (telaio mobile) | 16 Archivolto in pomice vulcanica e malta di gesso |
| 5 Traverso inferiore (scuro) | 17 Carta da parati |
| 6 Montante inferiore (scuro) | 18 Cornice in conci di calcarenite tenera |
| 7 Traverso superiore (scuro) | 19 Fascia in conci di calcarenite tenera |
| 8 Specchiatura in legno | 20 Lastra in marmo |
| 9 Paletto saliscendi | 21 Architrave in conci squadrate di calcarenite tenera |
| 10 Spagnoletta (scuro) | 22 Davanzale in calcarenite tenera |
| 11 Cerniera a paletta | 23 Cornicetta fermavetro |
| 12 Zanca di ancoraggio alla muratura | 24 Cornice coprifilo |







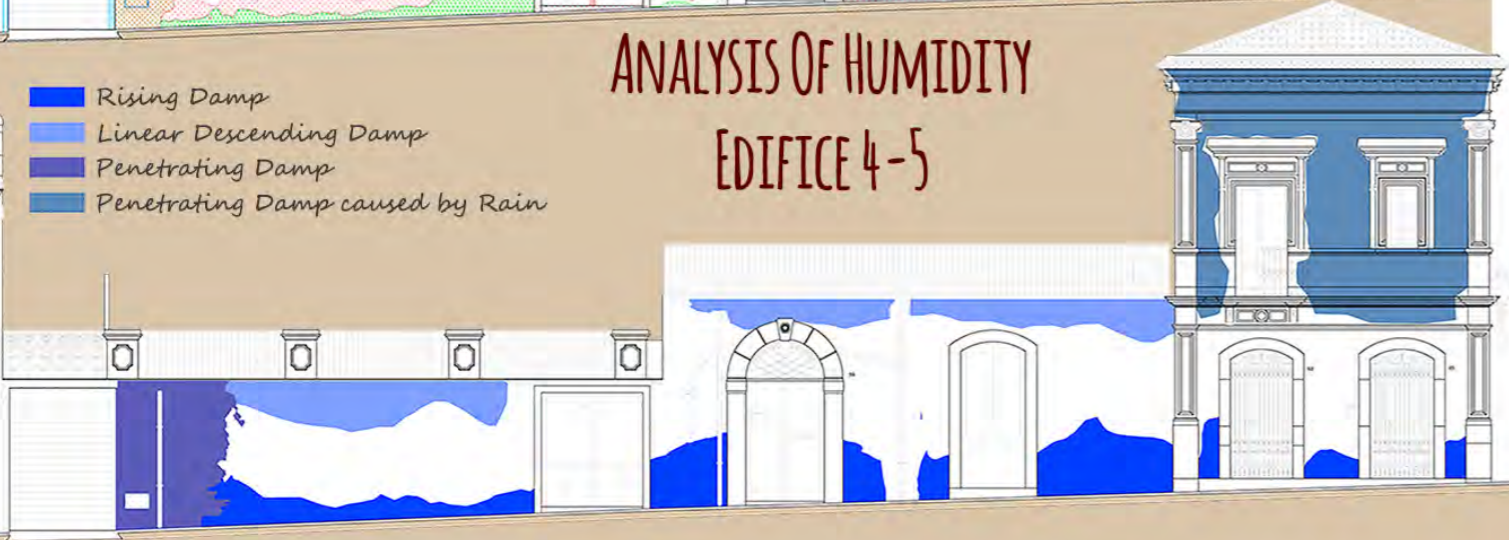
-  Discoloration
-  Fracturing
-  Not Congruent Intervention
-  Formation of Alveolus
-  Cracking
-  Not Congruent Material
-  Scab
-  Gap
-  Improper placement of Technological Elements, Installations, etc
-  Deformation
-  Lack
-  Differential Degradation
-  Stain
-  Surface Deposit
-  Oxidation
-  Disintegration
-  Biological Colonization
-  Washout
-  Biological Patina
-  Leaking
-  Film
-  Detachment / Swell
-  Pitting
-  Efflorescence
-  Presence of Vegetation
-  Erosion
-  Spalling
-  Exfoliation
-  Vandalistic Graffiti

ANALYSIS OF DEGRADATION EDIFICE 4-5 & ZOOM



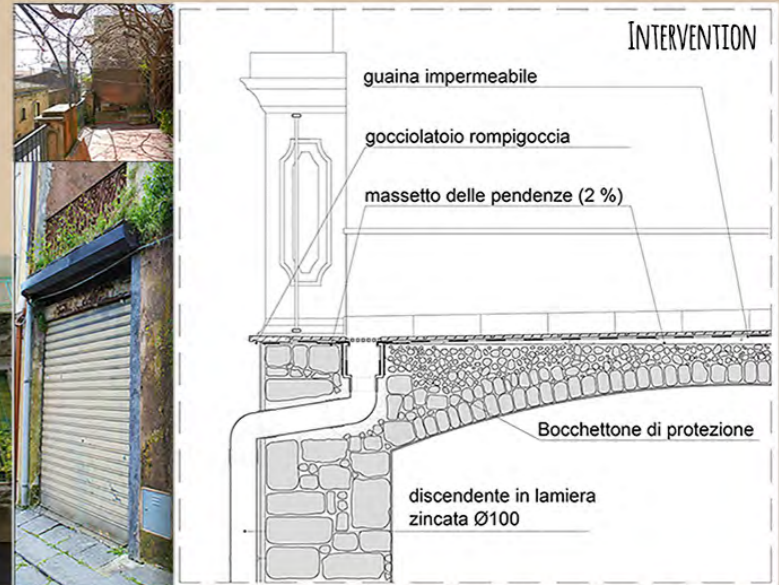
ANALYSIS OF HUMIDITY EDIFICE 4-5

-  Rising Damp
-  Linear Descending Damp
-  Penetrating Damp
-  Penetrating Damp caused by Rain



INTERVENTIONS EDIFICE 4-5

The rising damp will be fought, using a Dehumidifier Plaster, along the fronts of the involved edifices.
 The intervention won't remove root causes of the degradation, but will help the water evaporation before it ascends, due to the capillarity, and become stagnant in the vestments walls.
 The descending damp, caused by malfunctioning Eaves and Drainpipe, together with a bad installation of the Terraced Covering (edifice 4), will be instead eradicated with a New System of Disposal for Rainwater and Waterproofing of the Terraced Covering.
 It will be made according to the Sicilian Tradition.
 Regarding the conservation of the Outer Shell, it will be used different techniques concerning a number of steps of Pre-Consolidation, Removal, Cleaning, Demolition, Integration and Protection.



SCHEDULE OF BUILDING ELEMENTS (SOME EXAMPLES)

LESENE/PARASTE (PILASTER STRIPS/PILASTERS)

Paraste (Pilasters)



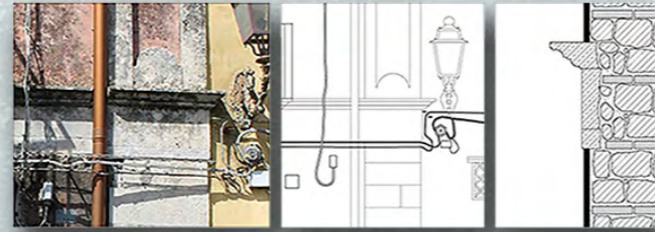
Lesene (Pilaster Strips)



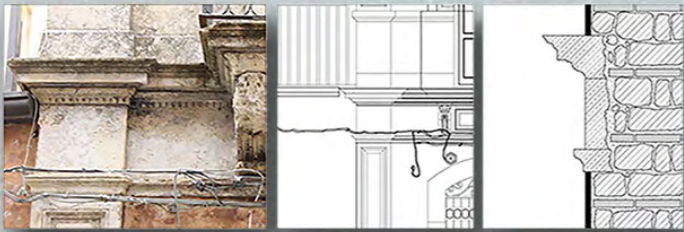
MURATURA MISTA/INTONACO (MIXED MASONRY/PLASTER)



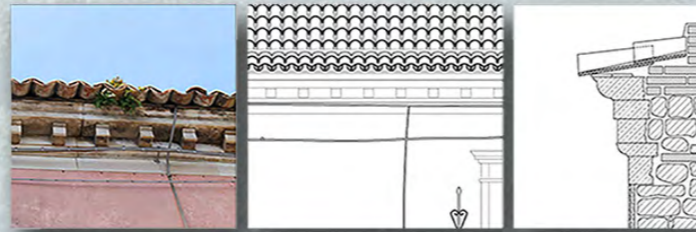
MARCAPIANO (STRING COURSE)



MARCAPIANO (STRING COURSE)



CORONAMENTO (CROWNING ELEMENT)



MOSTRE

(the frame, usually shaped, which surrounds the outer face of the window - or door - compartment in correspondence of the shoulders and the lintel)



CHIUSURE ORIZZONTALE DI COPERTURA (ROOFS)

