NAZ KAPLAN GRADUATION PROJECT

THE ADSEQUOR

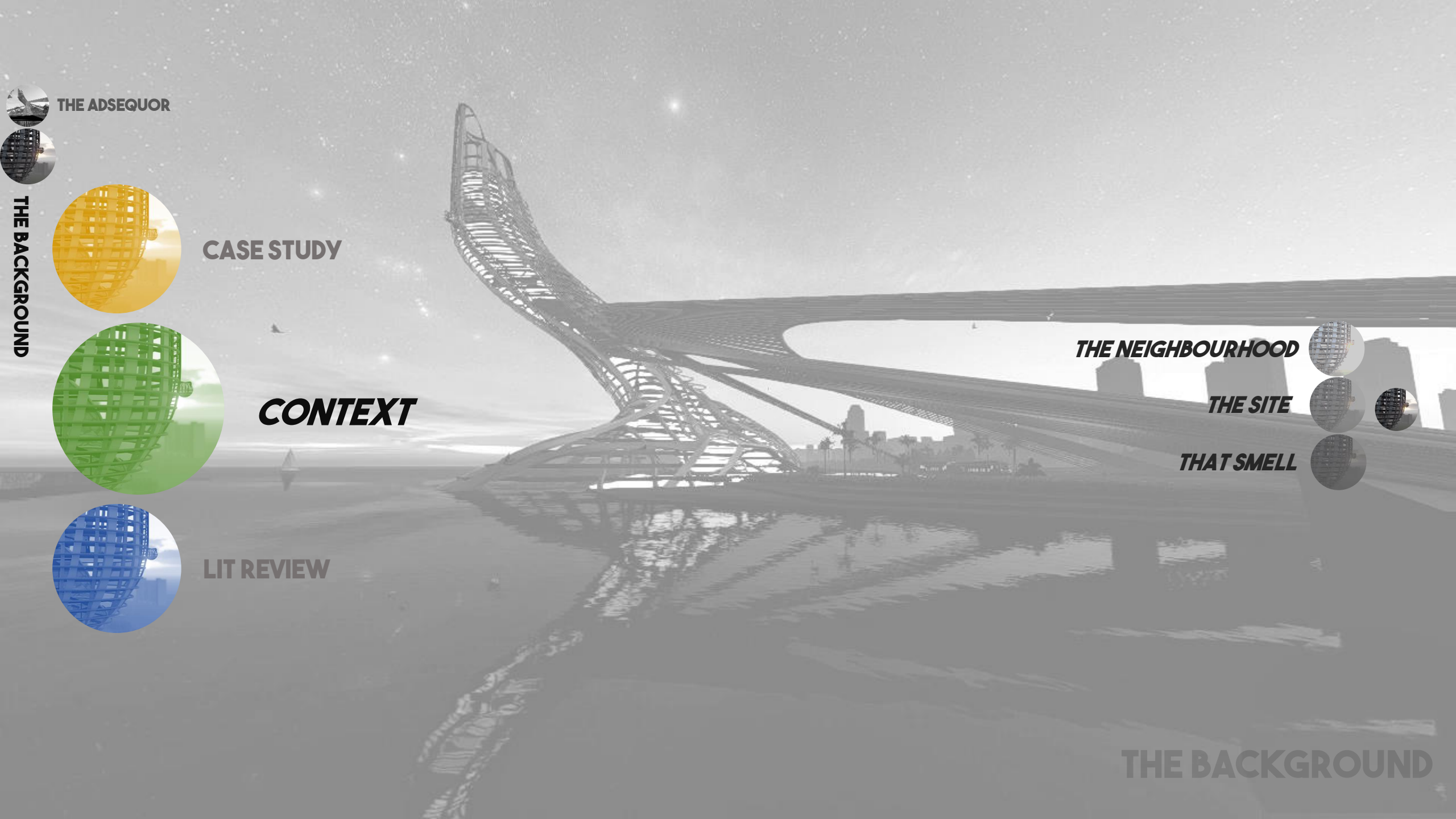
HOME

THE BACKGROUND

THE ADSEQUOR

HOME


THE BACKGROUND
CONTEXT
LIT REVIEW
CASE STUDY
THE ADSEQUOR
MOVE TOWARDS
TAKE A LOOK
GET INSIDE
SEE THROUGH
LOOK CLOSER
FLY
HOME



THE ADSEQUOR

THE BACKGROUND

CASE STUDY

CONTEXT

LIT REVIEW

THE NEIGHBOURHOOD

THE SITE

THAT SMELL

THE BACKGROUND

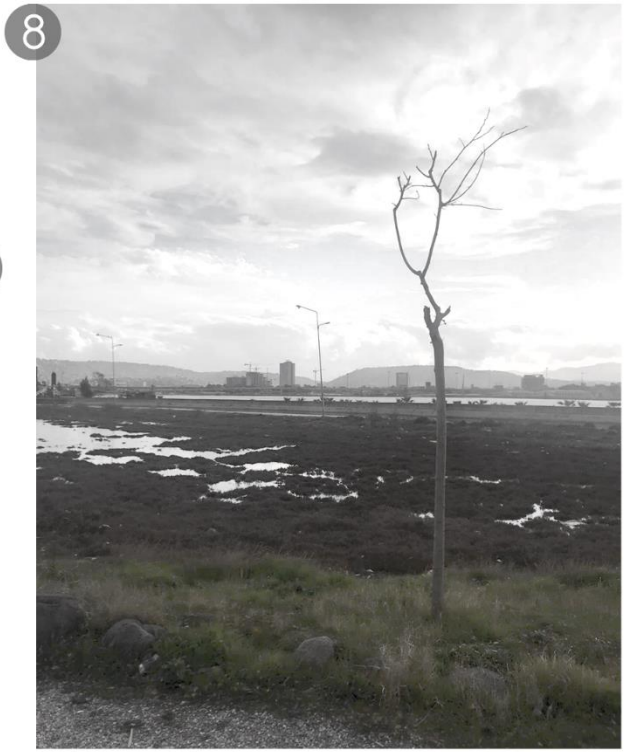
THE NEIGHBOURHOOD
CONTEXT

THE SITE
CONTEXT
SITE VISIT

site analysis

site analysis

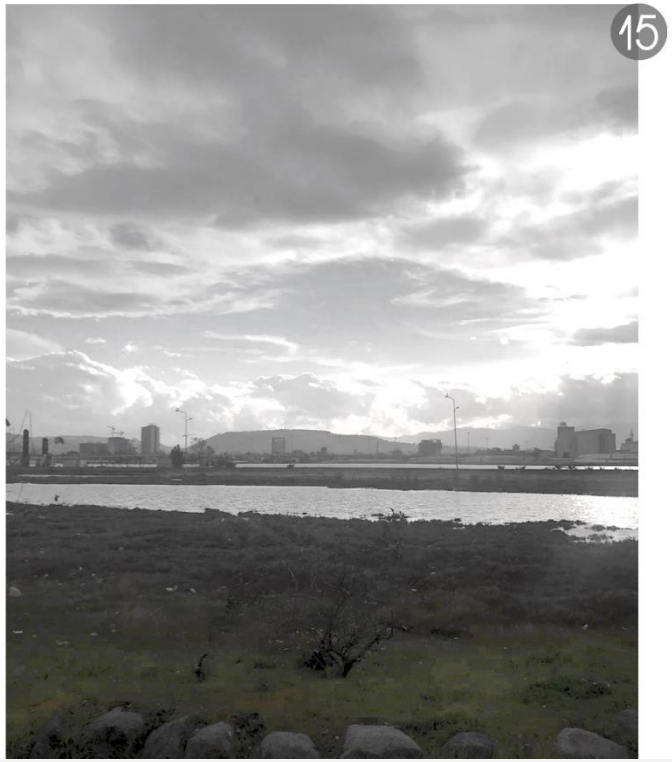
site analysis



site analysis

site analysis

15



14

'THAT SMELL'

CONTEXT

ENVIRONMENTAL ISSUES

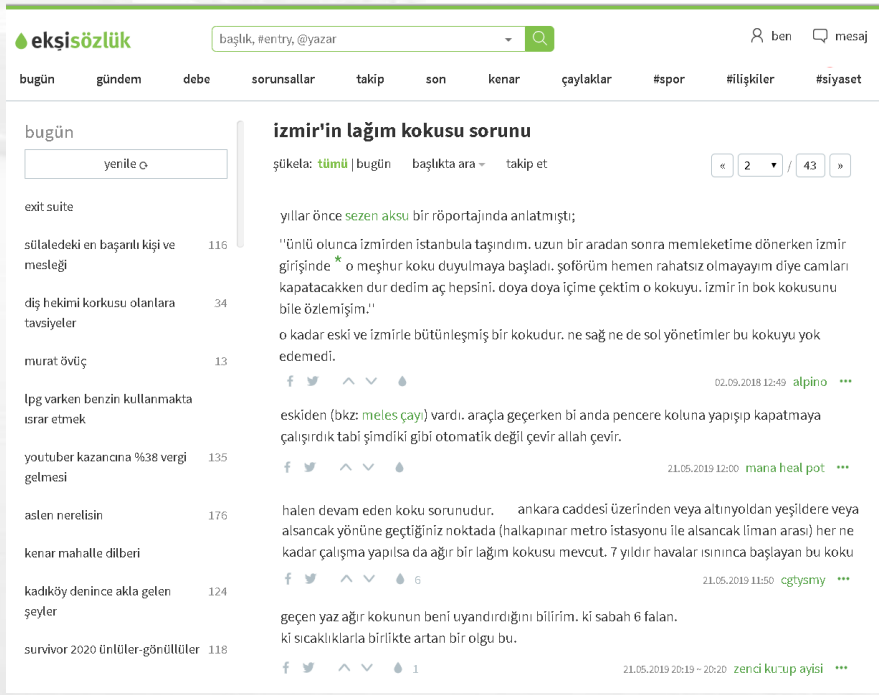
SEWAGE OF THE NEIGHBOURHOOD
WASTE & CHEMICALS OF LEATHER PROCESSING INDUSTRY

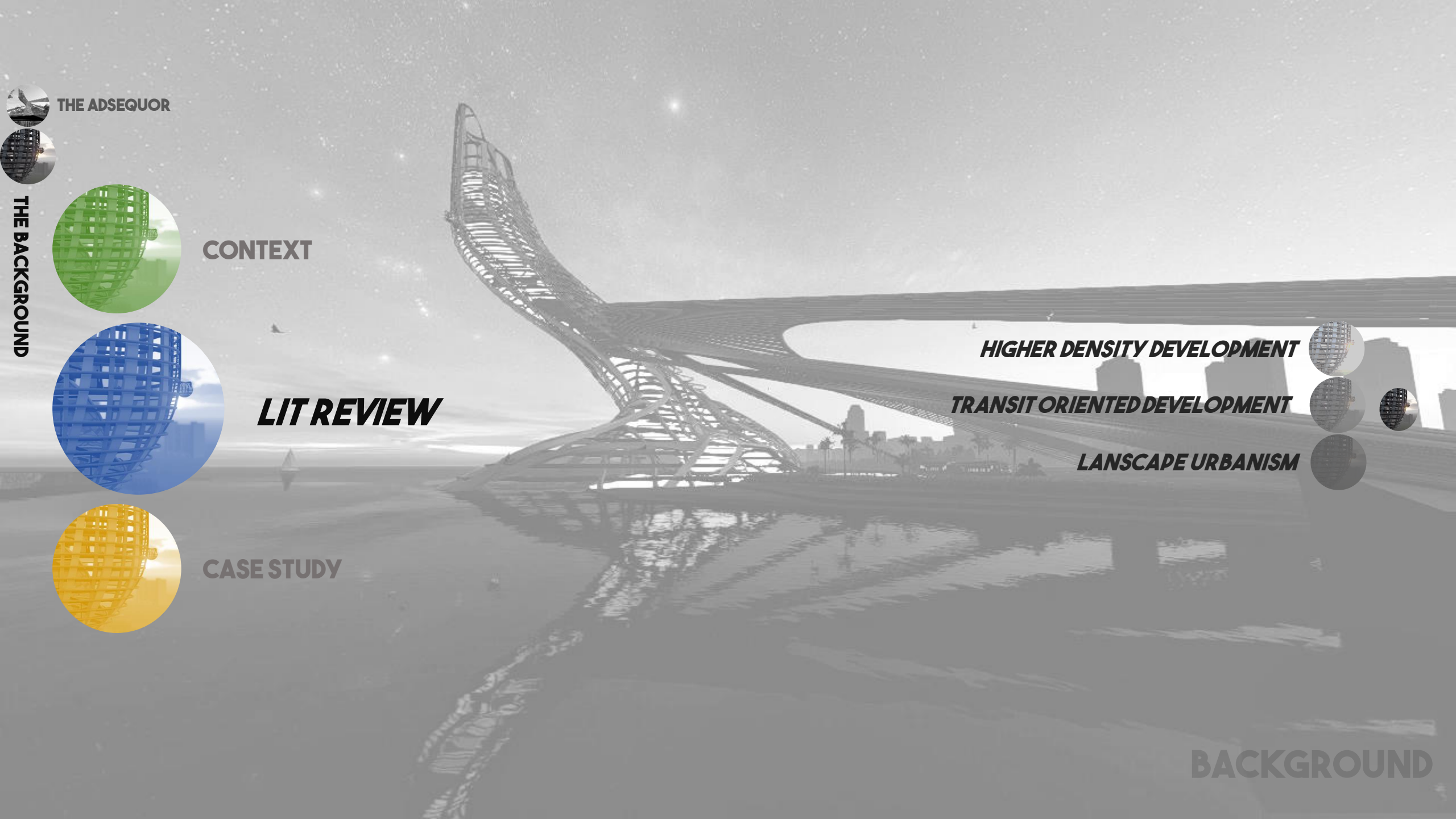
POURED INTO THE RIVER

*‘THE CITIZENS HAD TO **COVER THEIR NOSES** WHILE THEY WALK ON THE STREETS’*

‘RISKS BOTH THE ENVIRONMENT'S AND THE CITIZENS' HEALTH WITH ITS BAD AND DIRTY SMELL’

*‘WE WERE **RUSHING TO CLOSE THE CAR WINDOWS** AS WE PASS THROUGH THE MELES RIVER’*





THE ADSEQUOR

THE BACKGROUND

CONTEXT

LIT REVIEW

CASE STUDY

HIGHER DENSITY DEVELOPMENT

TRANSIT ORIENTED DEVELOPMENT

LANSCAPE URBANISM

BACKGROUND

HIGHER DENSITY DEVELOPMENT
LIT REVIEW

Studies show that when surveyed about higher-density development, those interviewed hold a negative view. But when shown images of higher-density versus lower-density development, people often change their perceptions and prefer higher density.3 In a recent study by the National Association of Realtors® and Smart Growth America, six in ten prospective homebuyers, when asked to choose between two communities, chose the neighborhood that offered a shorter commute, sidewalks, and amenities like shops, restaurants, libraries, schools, and public transportation within walking distance. They preferred this option over the one with longer commutes and larger lots but limited options for walking.

Reducing the distance between homes, shops, and offices also reduces the cost of public infrastructure. According to one of many studies, "The public capital and operating costs for close-in, compact development [are] much lower than they [are] for fringe, scattered, linear, and satellite development.

MYTH 1

Higher-density development overburdens public schools and other public services and requires more infrastructure support systems.

FACT

The nature of who lives in higher-density housing—fewer families with children—puts less demand on schools and other public services than low-density housing. Moreover, the compact nature of higher-density development requires less extensive infrastructure to support it.

Large lot exclusionary zoning has forced the artificial separation of land uses, leading to large distances between employment centers, housing, and retail. But many government agencies now realize they cannot afford to continue providing the infrastructure and public services that sprawl demands. Not only do local governments absorb much of the cost of more and more roadways, profoundly longer water and electrical lines, and much larger sewer systems to support sprawling development, they must also fund public services to the new residents who live farther and farther from the core community. These new residents need police and fire protection, schools, libraries, trash removal, and other services. Stretching all these basic services over ever-growing geographic areas places a great burden on local governments."

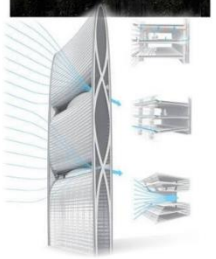
-URBAN LAND INSTITUTE

HIGHER DENSITY DEVELOPMENT
LIT REVIEW

PEARL RIVER TOWER - WORLD'S TALLEST ZERO ENERGY BUILDING

Pearl River tower is world's tallest Zero Energy Building (ZEB) at Guangzhou, China.

Guangzhou is ranking 8th in world's worst Air city according to the most recent WHO data. It is second only to Beijing. As industrial production and traffic within Guangzhou continue to increase, more people are suffering from shortness of breath, coughing, dizziness, weakness and nausea. Considering this, need of zero emission building has arise.



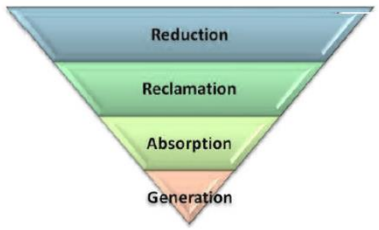
So the Chinese government set the goal of reducing carbon emission in future. China National Tobacco Corporation developed Pearl River Tower. China National Tobacco Company (CNTC) decided to locate their new headquarters in Guangzhou. Pearl River Tower is an environmental initiative taken to build ZEB structures. It is independent from outside electricity resources. The idea behind it is that energy produced by on site renewable energy sources is equal to the amount of energy consumed by the building. Combinational use of solar kits and wind turbine fulfills basic energy required.

This skyscraper is 71 Story building, 2.2 Million Square Feet area and 1,016 Feet Tall.

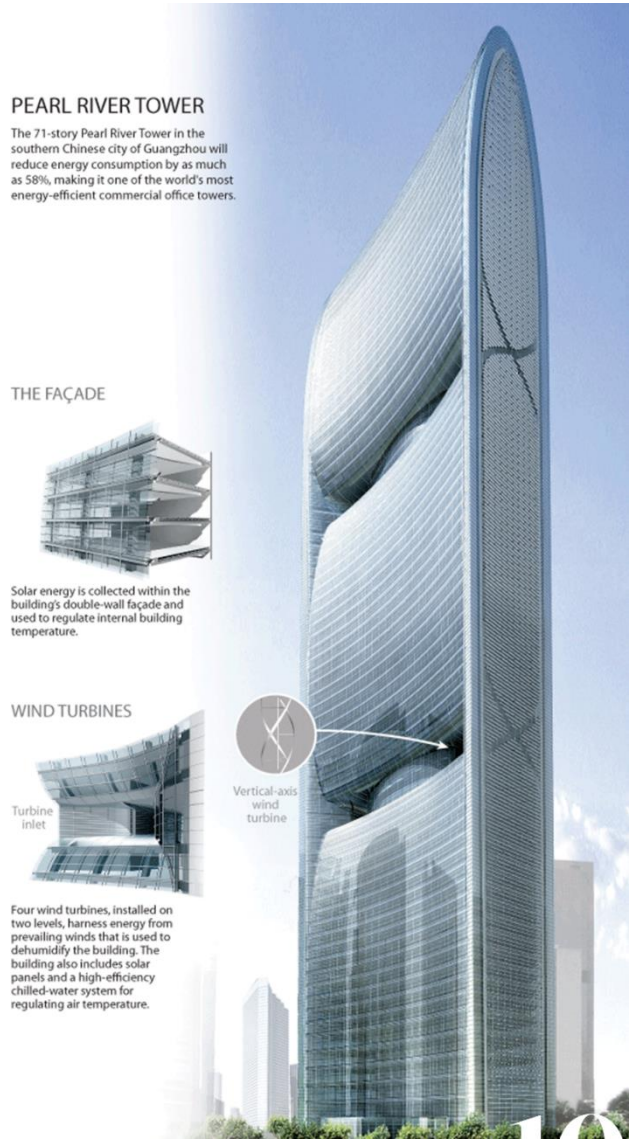
They had undertaken following steps to become ZEB building.

- **Reduction -**

  Chilled radiant is used is used instead of normal ventilation and air conditioning. Displacement ventilation provides only fresh air which is cooled by the chilled-water system. Radiant Slabs helps to maintain temperature inside. It enhances daylight and cools for under floor ventilation system. High performance glazing helps insulate



(HTTPS://ISSUU.COM/ADELAFOSTER/DOCS/PEARL_RIVER_TOWER)



HIGHER DENSITY DEVELOPMENT
LIT REVIEW

the building's interior. Highly efficient lighting and office equipment consumes only 1/3rd of regular electricity.

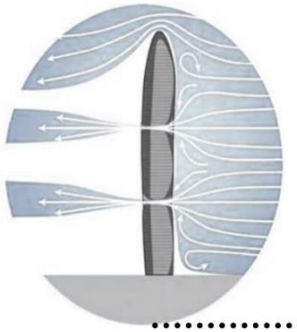
These new LED lights emit less heat and gives brighter light than regular light bulbs. Waterless Urinals and low flush toilets decrease water demand.

- **Reclamation of Energy -**

Unused Energy is reclaimed from chiller heat generator heat exhaust air heat. Hot air is vented in and is drawn out through a stack effect. Geothermal Heat Sinks are also used

- **Passive Absorption -**

Advanced wind and solar technologies were integrated into the design of this skyscraper in order to generate electricity. Sun path diagrams generated to study location of PV panels on the building wall .Wide Solar panels are mounted on the roof and front wall also. It capture sun energy and coverts it to electrical-energy.



An innovative feature of the building's wind centric design is four openings run through the building. These opening are funnel shaped. Due to this, air speed increases as it runs through the building. Curvilinear structure of openings also relieved pressure from wind loads. Vertical-axis wind turbines are placed in these openings to generate electricity.

Hydrogen fuel cells are used to store surplus generated energy.

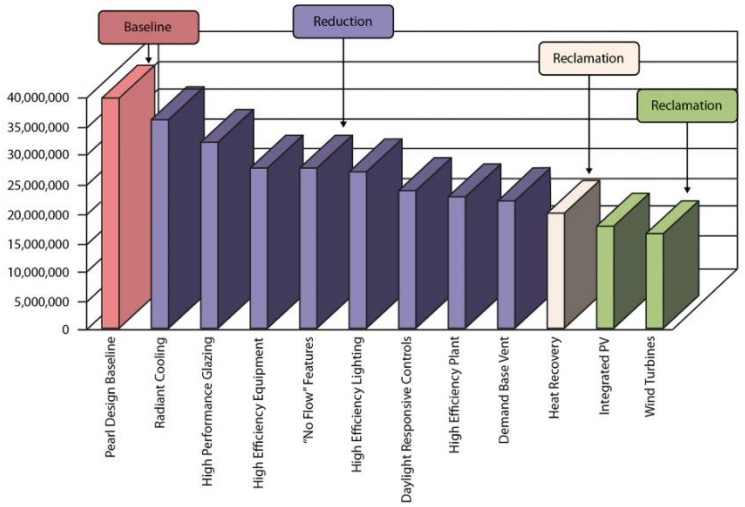
- **Generation-**

System of linked microturbines is used to fulfill extra energy need. It can run off of any fossil fuel. Due to this system Pearl River tower becomes the Net Zero tower. For zero energy building structure, it cost costs additional $13 million for construction. Energy consumption is reduced by about 60%. Its additional construction cost will be earned back within 5 Years because of Savings From:

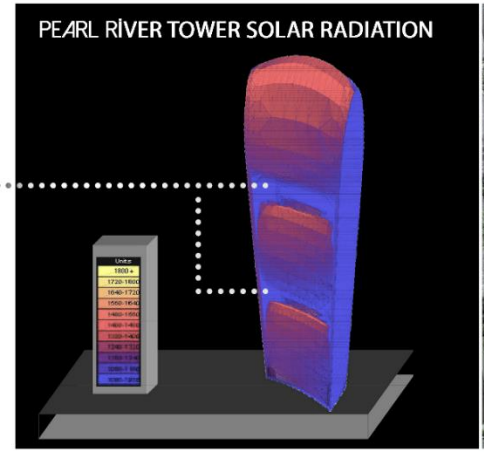
  - Reduced Electricity Bills
  - Lower Maintenance costs
  - Extra Rent from Space Not Used for Air Conditioning Ducts

Peak solar is provides various solar power kits, solar panel, Solar home kits, photovoltaic systems, solar panel systems, solar electric systems, solar panels for home, complete solar system, Diy solar system kits, Solar kits ,etc

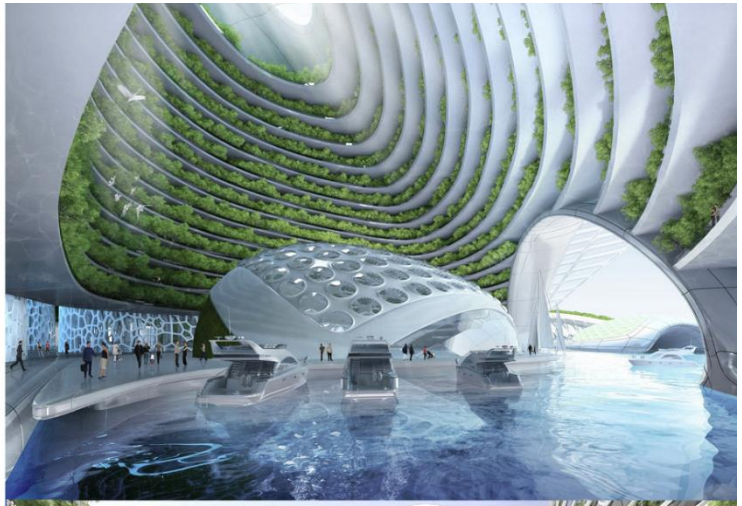
PEARL RIVER TOWER ENERGY STRATEGIES



PEARL RIVER TOWER SOLAR RADIATION



HIGHER DENSITY DEVELOPMENT
LIT REVIEW



5

MYTH

Higher-density development is environmentally more destructive than lower-density development.

FACT

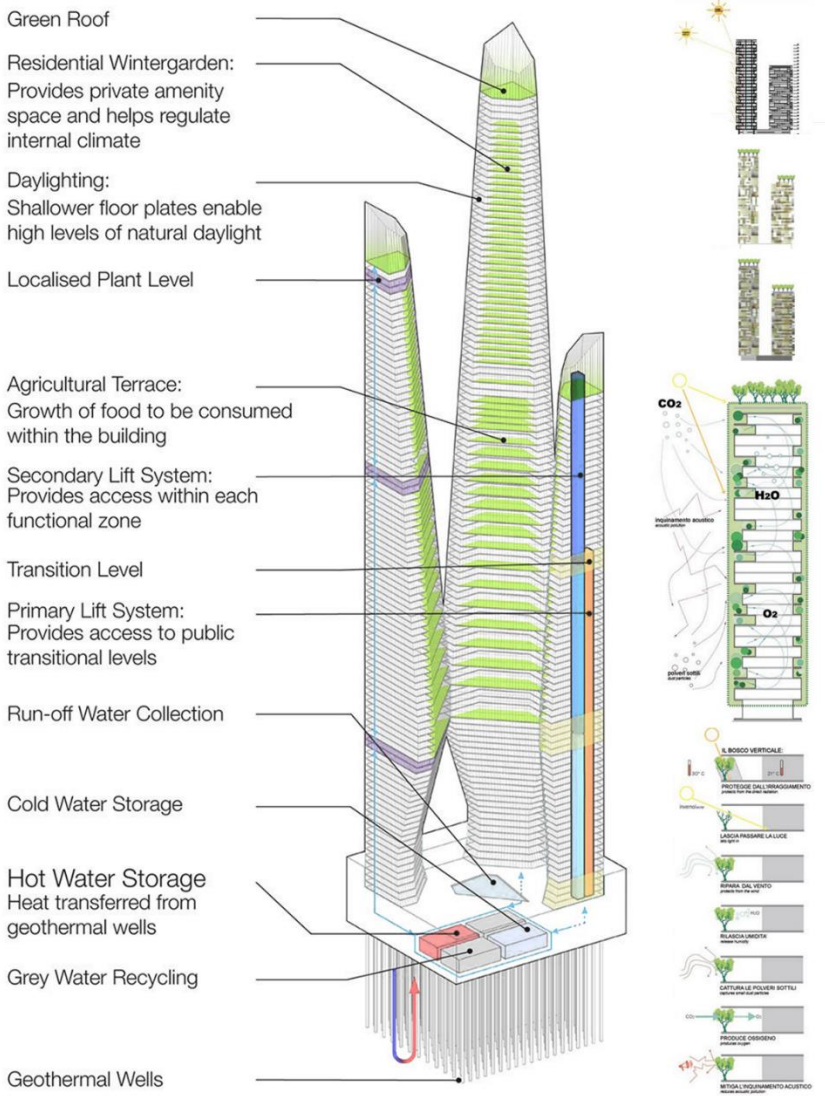
Low-density development increases air and water pollution and destroys natural areas by paving and urbanizing greater swaths of land.

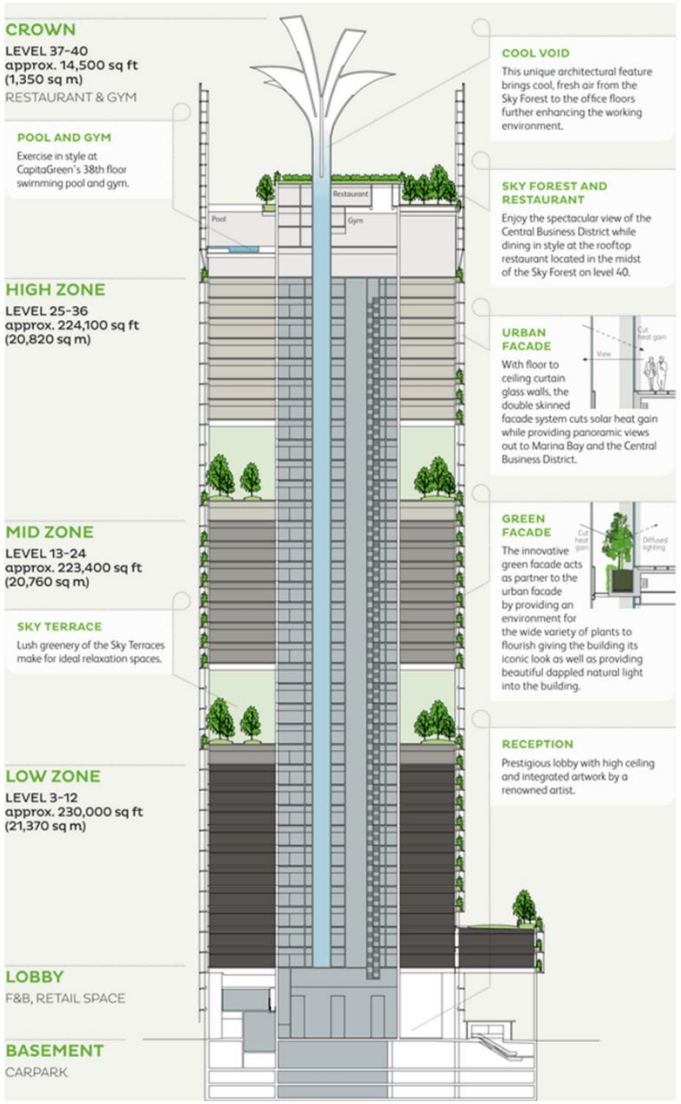
- HIGER DENSITY DEVELOPMENT MYTHS & FACTS BY URBAN LAND INSTITUTE

HIGHER DENSITY DEVELOPMENT

LIT REVIEW

STRATEGY SAMPLES





TRANSIT ORIENTED DEVELOPMENT
LIT REVIEW

Transit-oriented development brings compact, mixed use development within walking distance of high capacity rapid transit. TOD features vibrant stretscapes, pedestrian oriented built forms, and land use characteristics that make it convenient and safe to walk, cycle, and use public transport.

THE 8 PRINCIPLES OF THE T.O.D. STANDARD FOR DESIGNING BETTER STREETS AND BETTER CITIES

https://www.itdp.org/2013/11/13/transport-oriented-development-poster/

WALK
Develop neighborhoods that promote walking

CYCLE
Prioritize non-motorized transport networks

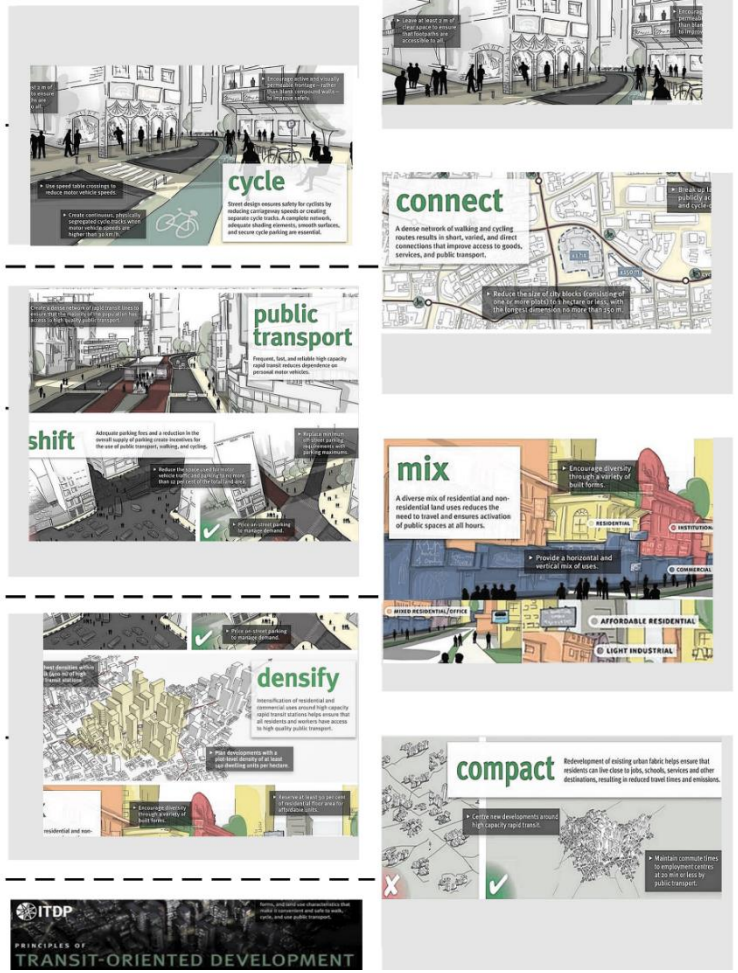
CONNECT
Create dense networks of streets and paths

TRANSIT
Locate development near high-quality public transport

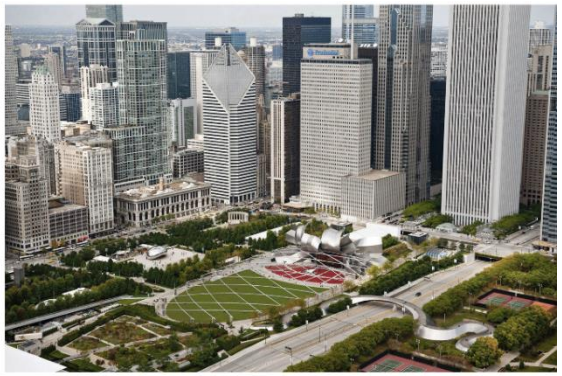
MIX
Plan for mixed use

DENSIFY
Optimize density and transit capacity

COMPACT
Create regions with short commutes



LANDSCAPE URBANISM
LIT REVIEW



https://www.google.com/search?q=millenium+park&tbm=isch&ved=2

A tour of Chicago's Millennium Park

By Haeyoun Park, Phil Gelb, Chris Sopreych and Dino Munoz

Chicago's long-awaited Millennium Park officially opens Friday, six years after Mayor Richard Daley first proposed it. Daley envisioned the 24.5-acre park as a way to welcome the 21st Century and solidify the "City in a Garden" image set forth by the city's original founders in 1837. To refuel Chicago's reputation for architecture and culture, the city commissioned artists from all over the world to piece together the $475 million addition to Grant Park.

Crown Fountain

Faces of the towers

HOW THE SCREENS WERE DESIGNED

McCormick Tribune Plaza and Ice Rink

Park Grill restaurant

Kapoor Sculpture on SBC Plaza

Millennium Monument

At Wrigley Square

Jay Pritzker Pavilion and Great Lawn

How sound travels at the pavilion

Joan W. and Irving B. Harris Theater for Music and Dance

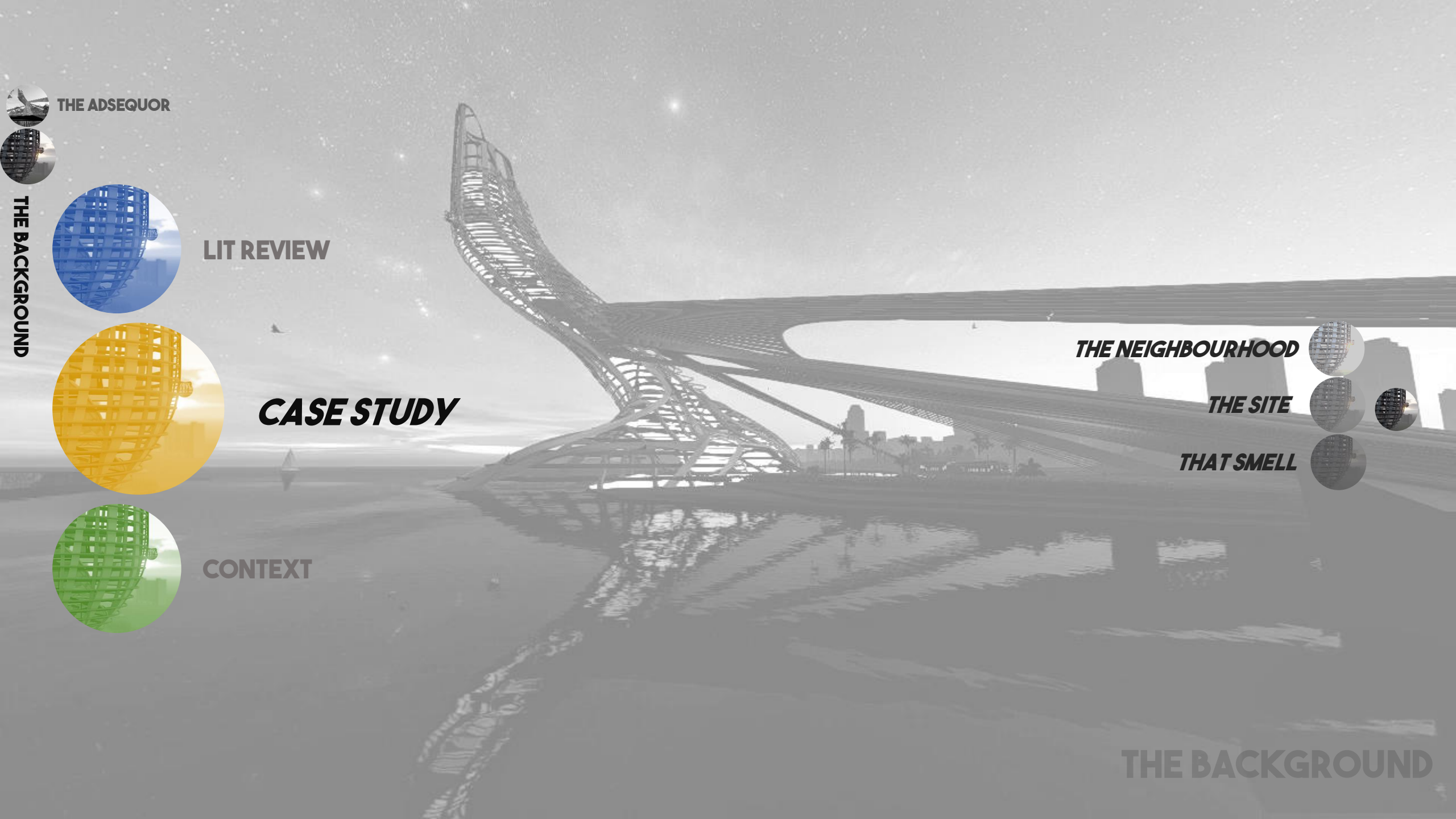
Exelon pavilions

Bicycle parking area

Bank One Promenade

Lurie Garden

BP Bridge



THE ADSEQUOR

THE BACKGROUND

LIT REVIEW

CASE STUDY

CONTEXT

THE NEIGHBOURHOOD

THE SITE

THAT SMELL

THE BACKGROUND

HONG KONG WETLAND PARK
CASE STUDY

https://www.wetlandpark.gov.hk/en/

HONG KONG WETLAND PARK
CASE STUDY

The Hong Kong Wetland Park comprises a 10,000m2 visitor centre and a 60-hectare Wetland Reserve. The Visitor Centre has themed exhibition galleries, theatre, souvenir shop and indoor play area. The themed exhibition galleries showcase the importance of wetland on biodiversity, civilisation and conservation.

The Wetland Reserve is constructed wetlands of habitats specially designed for waterbirds. The Wetland Discovery Centre located in the Wetland Reserve allows visitors to encounter a vast diversity of wetland creatures. Other facilities including Stream Walk, Succession Walk, Mangrove Boardwalk and three Bird Hides lead visitors to venture in different habitats.

Hong Kong Wetland Park has received various local and international awards on architecture and landscape design granted by professional organizations including the Hong Kong Institute of Architects, Institute of Landscape Architects of the United Kingdom, and the Urban Land Use Institute of USA. In 2013, the Park was voted by members of the general public of Hong Kong as one of the Ten Hong Kong People Engineering Wonders in the 21st Century.

awards

In 2018, the Hong Kong Wetland Park attracted about 460,000 visitors, including around 39,000 overseas tourists. During the year, the Park provided about 4,000 guided tours for more than 66,500 visitors. In addition, the Park organised 57 educational talks attracting about 2,900 participants.

In view of providing an enjoyable journey to visitors, the management team of the Hong Kong Wetland Park is divided into six sections with specialized duties and published visitors codes in the hope of providing excellent customer service to the public. The following chart summarizes the key organization structure of the Park.

mission

The mission of the Hong Kong Wetland Park is to foster public awareness, knowledge and understanding of the inherent values of wetlands throughout the East Asian region and beyond, and to marshal public support and action for wetland conservation. The Hong Kong Wetland Park will also be a world-class ecotourism facility to serve both local residents and overseas tourists.

https://www.wetlandpark.gov.hk/en/

ONE THOUSAND MUSEUM – ZHA

CASE STUDY

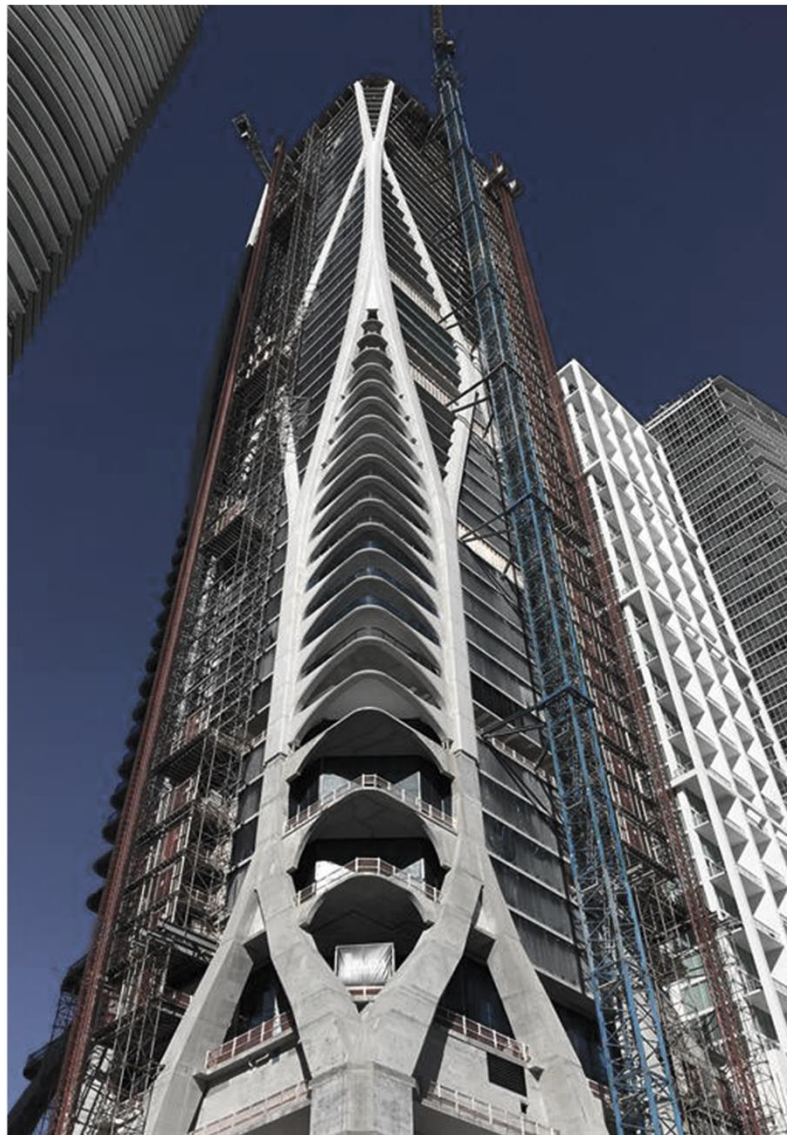
STRUCTURE STUDY I EXOSKELETON

ONE THOUSAND MUSEUM – ZHA

CASE STUDY

STRUCTURE STUDY I EXOSKELETON

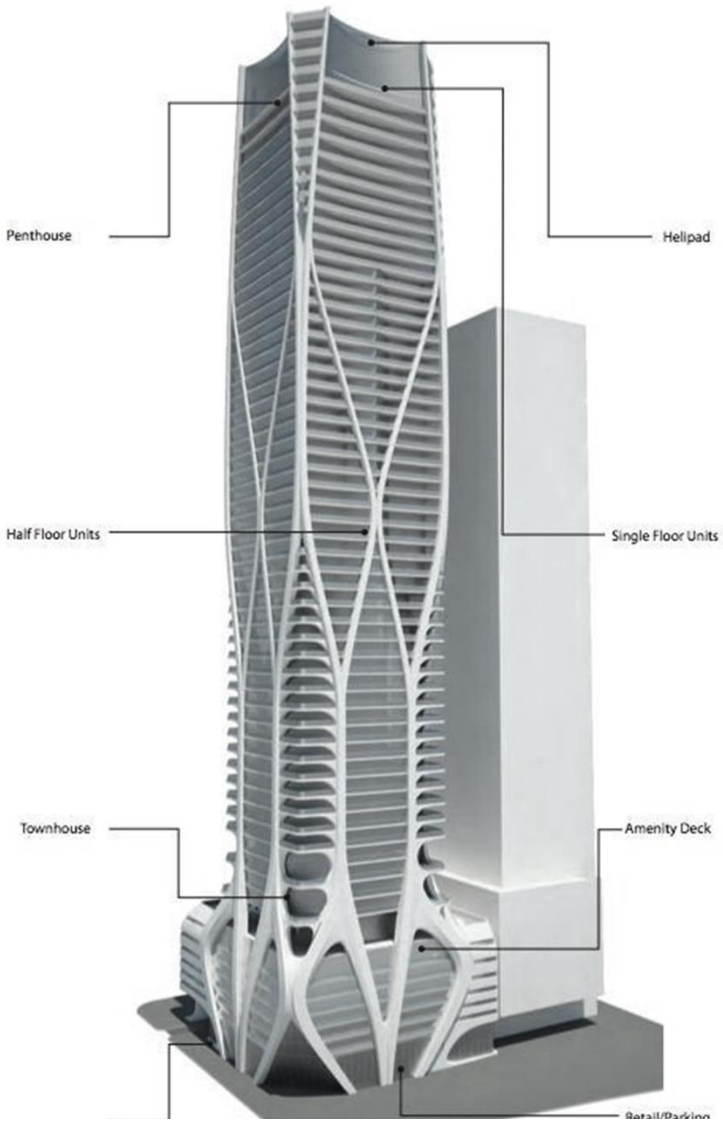
https://www.archdaily.com/



ONE THOUSAND MUSEUM – ZHA

CASE STUDY

STRUCTURE STUDY I EXOSKELETON



ONE THOUSAND MUSEUM – ZHA

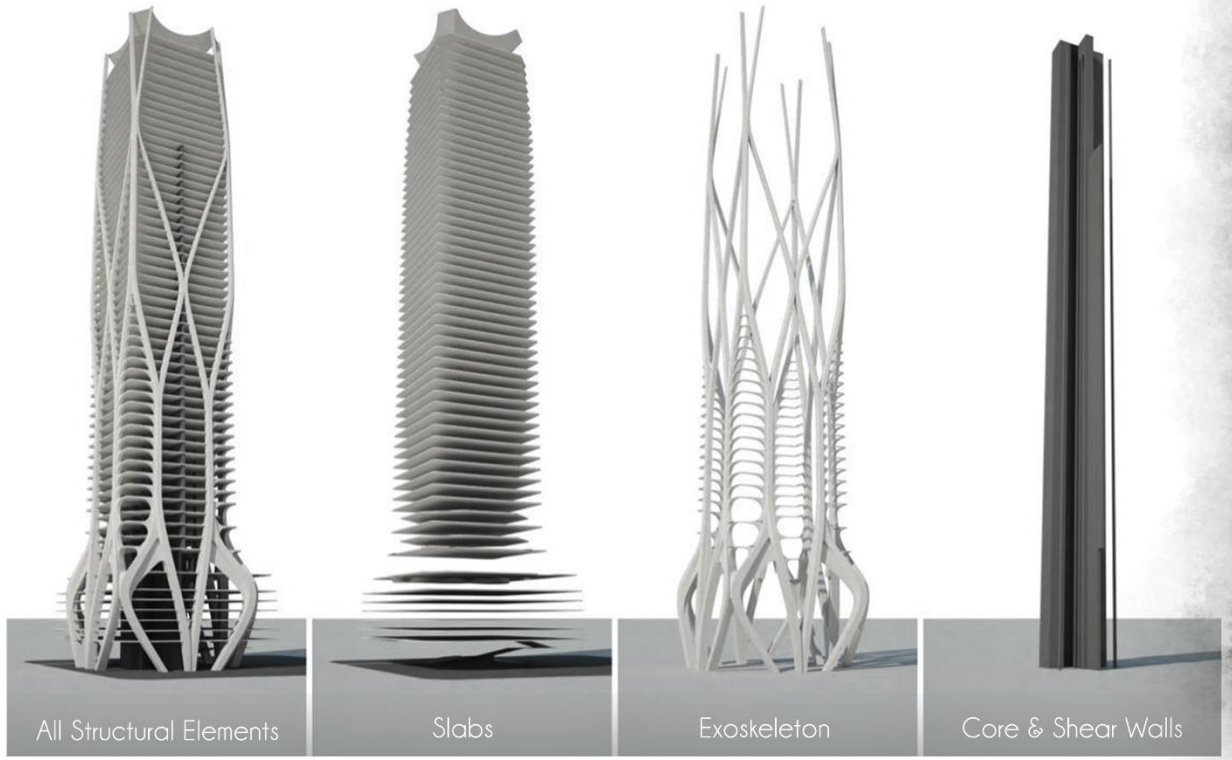
CASE STUDY

STRUCTURE STUDY I EXOSKELETON

The 62-stories' main feature is a sinuous frame on all four elevations, designed by the late Zaha Hadid, who was called the "queen of the curve." The curvy exterior lines are structural, not applied, taking on both gravity and lateral loads.

DeSimone Consulting Engineers designed a four-elevation concrete exoskeleton bracing, with a post-tensioned floor slab system, allowing reduction of core wall thickness and lowering costs while creating column-free interior spans ranging from 30 to 50 ft.

The team used a glass-fiber reinforced concrete (GFRC) formwork system, shipped from Dubai, to form the exoskeleton. The lower floors were created using conventional cast-in-place concrete.



ONE THOUSAND MUSEUM – ZHA

CASE STUDY

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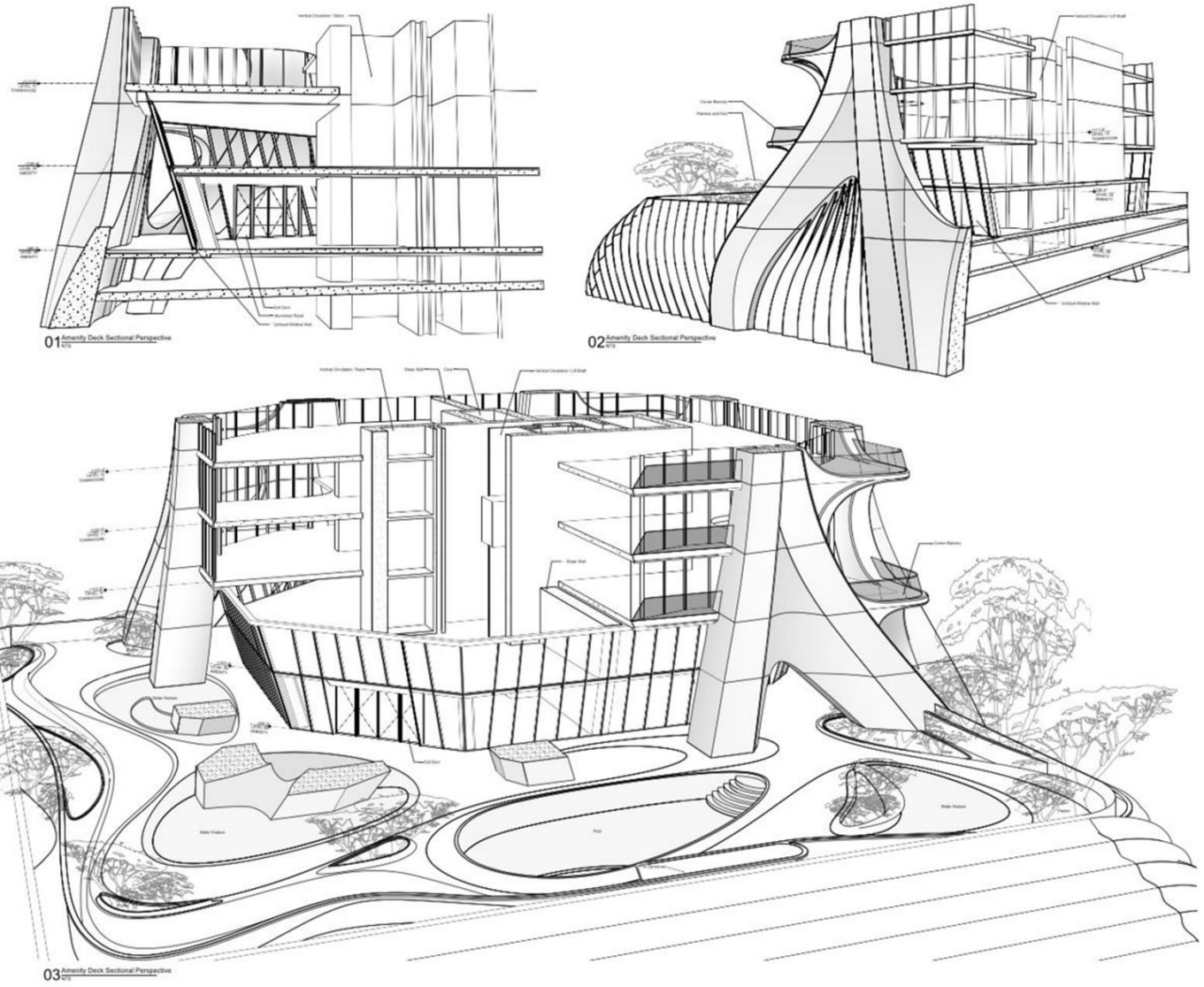
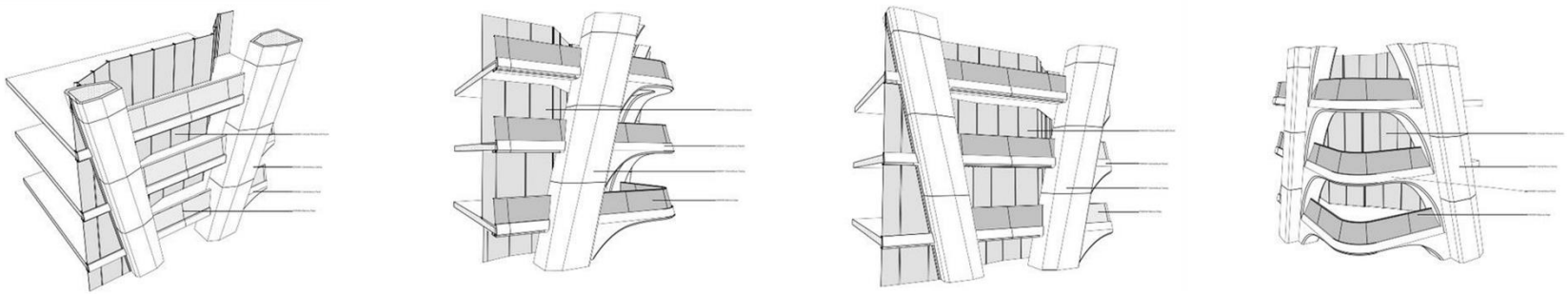
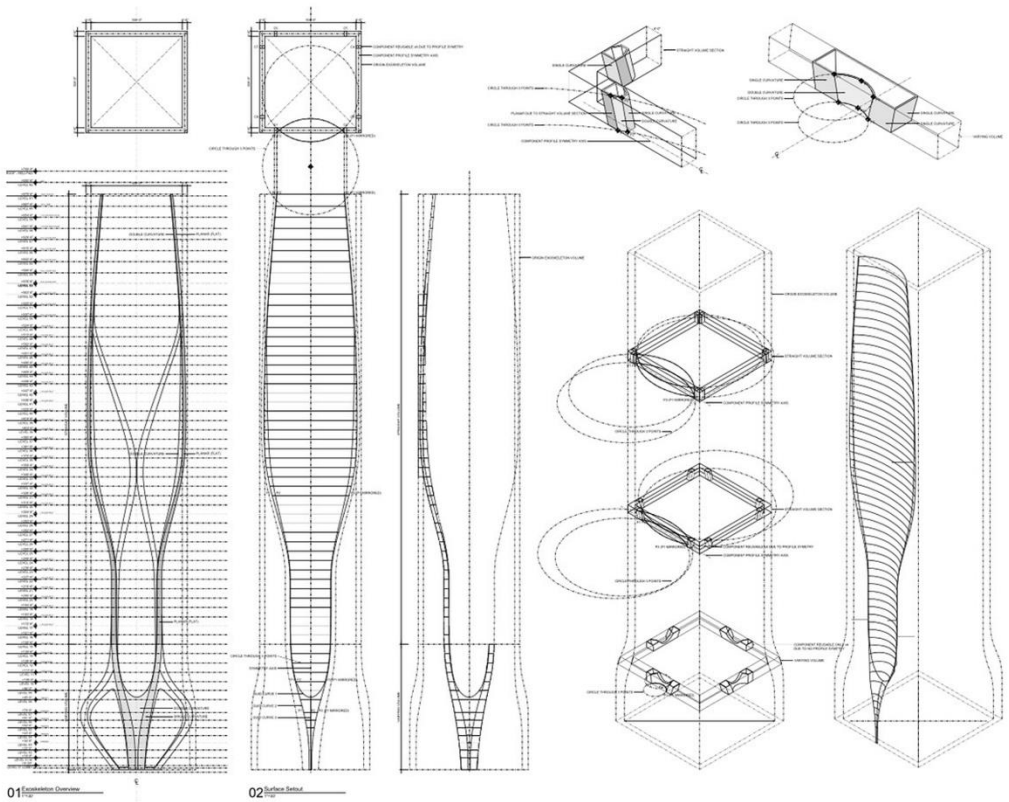


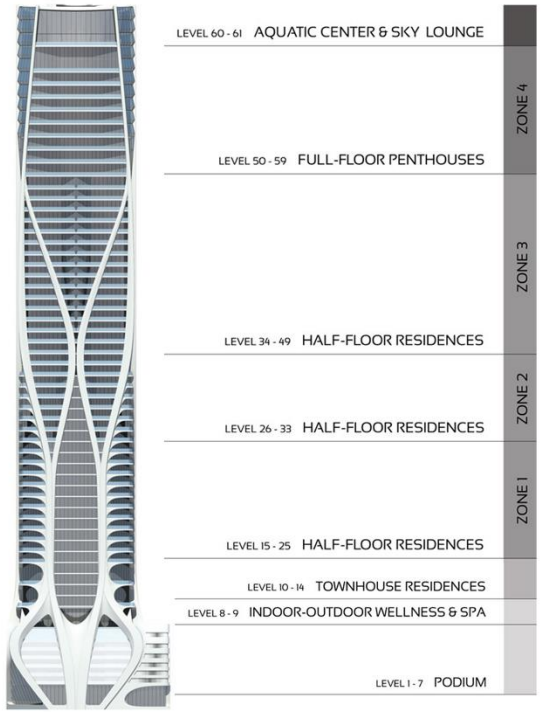
ONE THOUSAND MUSEUM – ZHA

CASE STUDY

STRUCTURE STUDY I EXOSKELETON







CAPITAL GATE TOWER, ABU DHABI

CASE STUDY

STRUCTURE STUDY I COMPRESSION ZONE OF THE ADSEQUOR

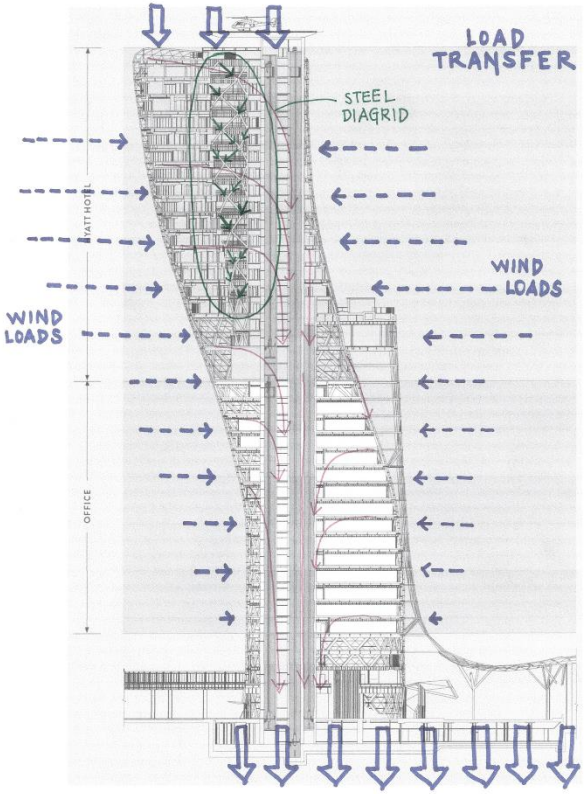
CAPITAL GATE TOWER, ABU DHABI

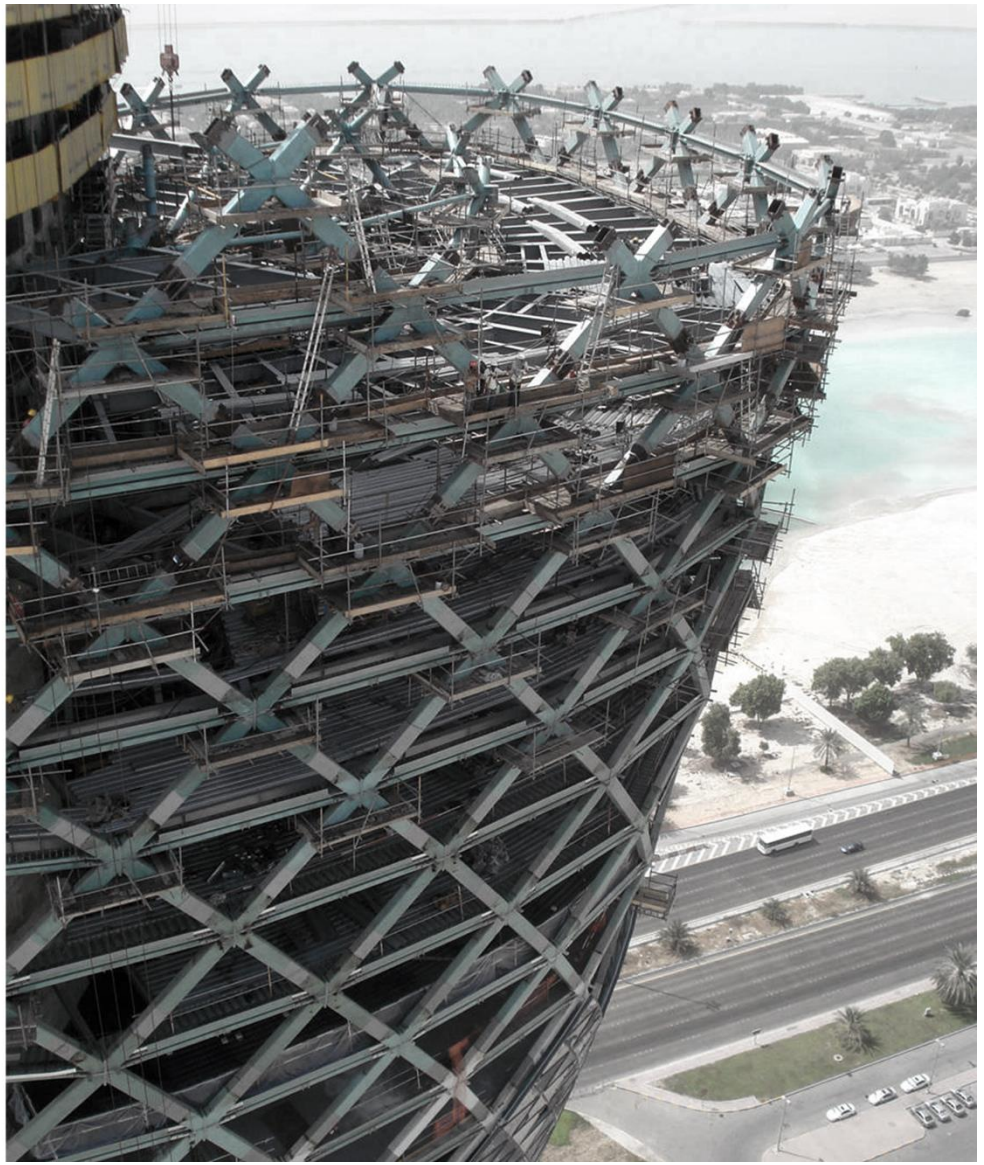
CASE STUDY

STRUCTURE STUDY I COMPRESSION ZONE OF THE ADSEQUOR

To make this possible, the central core of the building slants in the opposite direction to the lean of the structure, and it straightening as it grows. It sits on top of a 7-foot-deep concrete base with a dense mesh of reinforced steel. The steel exoskeleton known as the diagrid sits above an extensive distribution of 490 piles that have been drilled 100 feet underground to accommodate the gravitational, wind and seismic pressures caused by the lean of the building.

https://www.archdaily.com/





LOOK CLOSER

FLY

THE BACKGROUND

THE ADSEQUOR

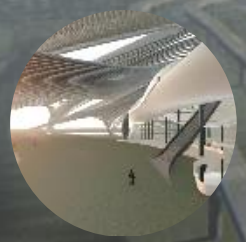
MOVE TOWARDS

ECONOMICALLY

CONCEPT

SOCIO-CULTURALLY

ENVIRONMENTALLY



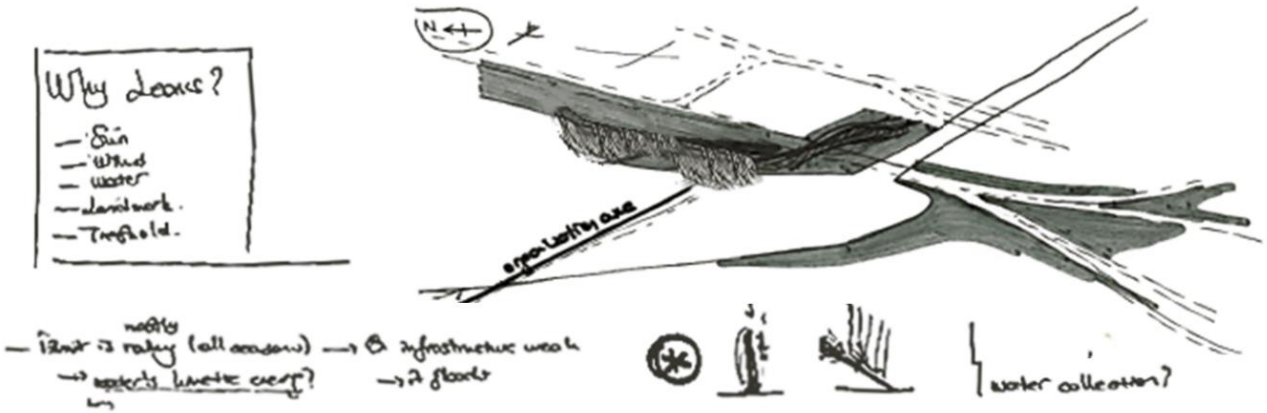
TAKE A LOOK

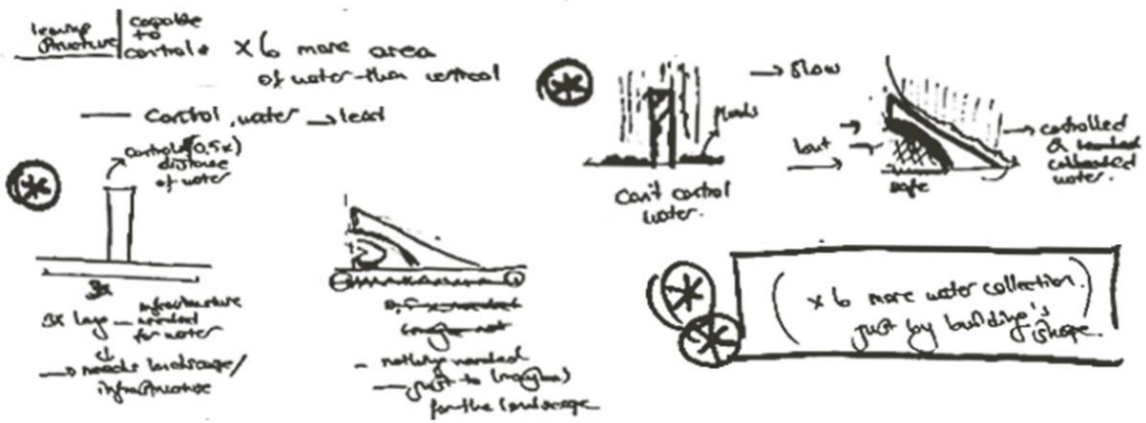
GET INSIDE

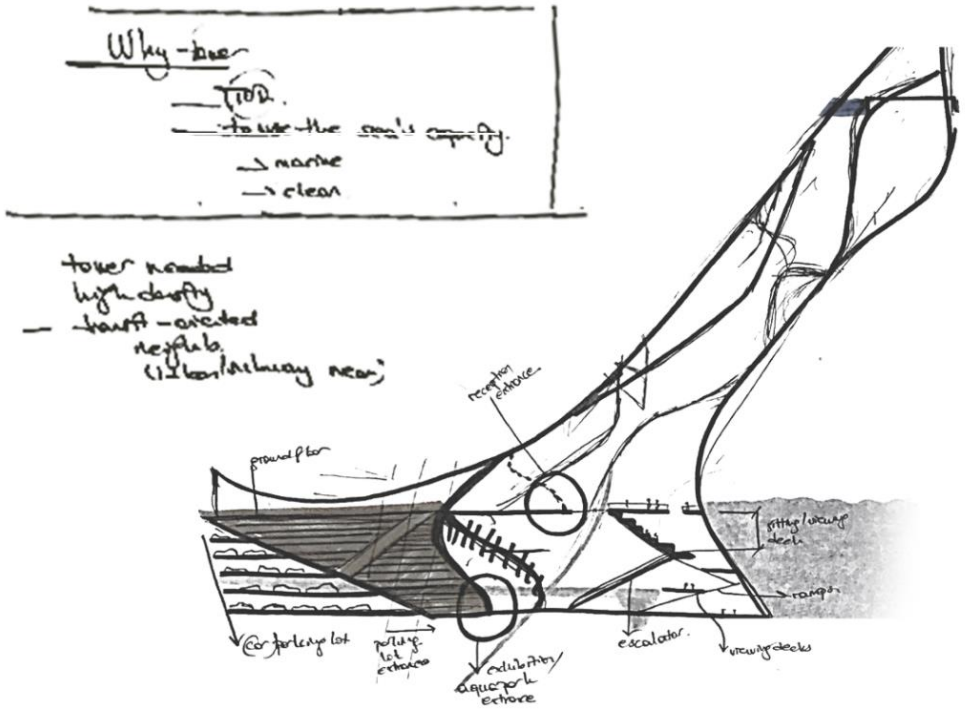
SEE THROUGH

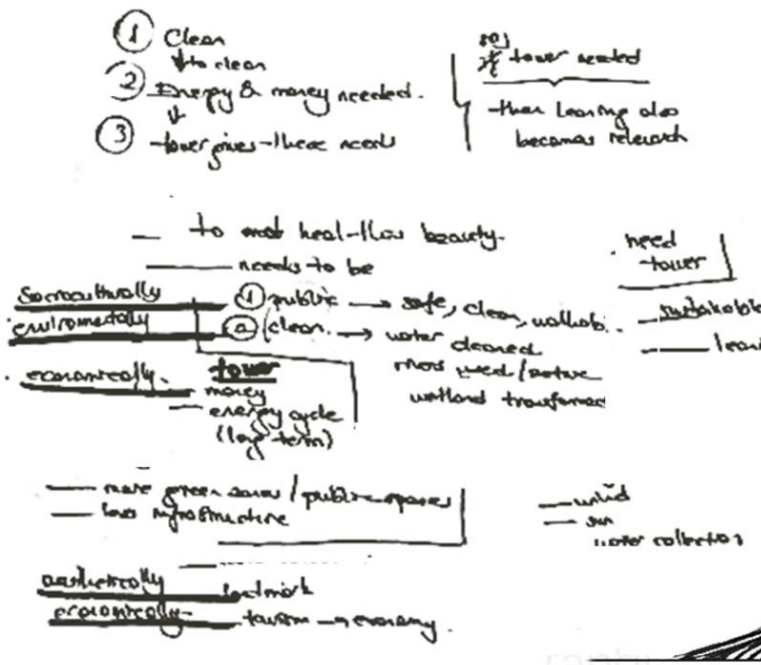
HOME I MOVE TOWARDS

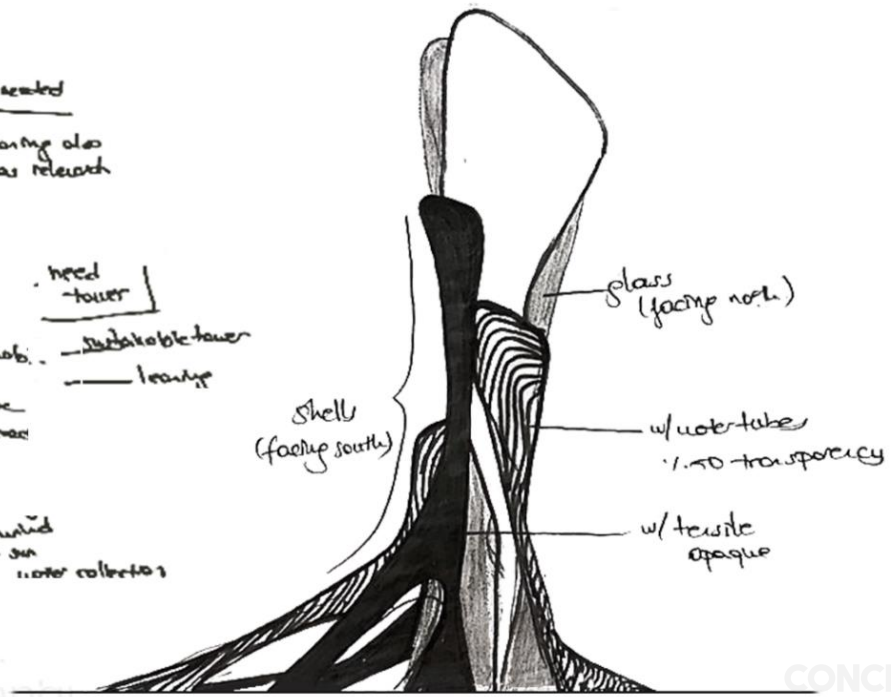
CONCEPTUALLY
DIARY











SOCIO-CULTURALLY

MOVE TOWARDS

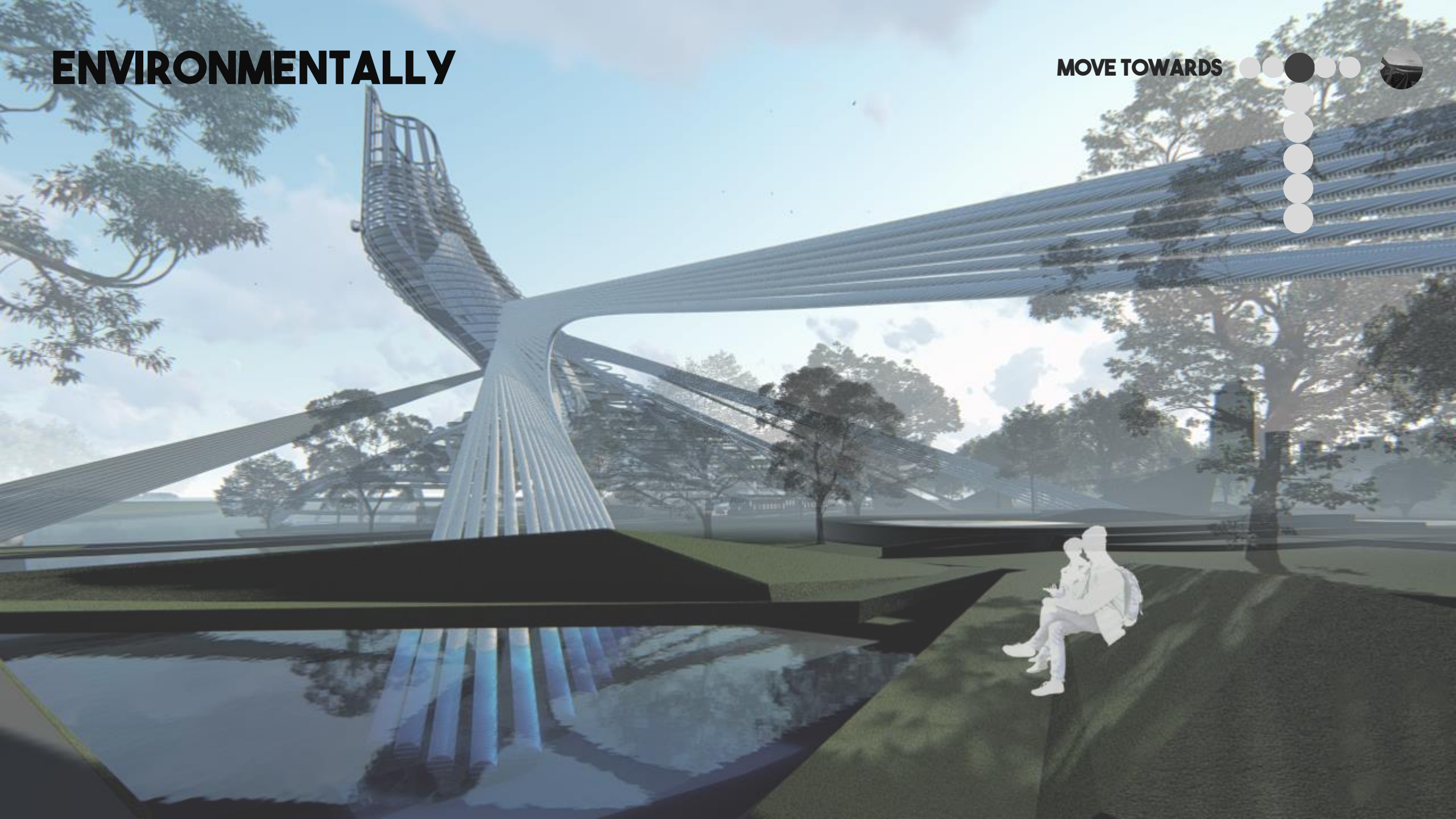
BACK

SOCIO-CULTURALLY

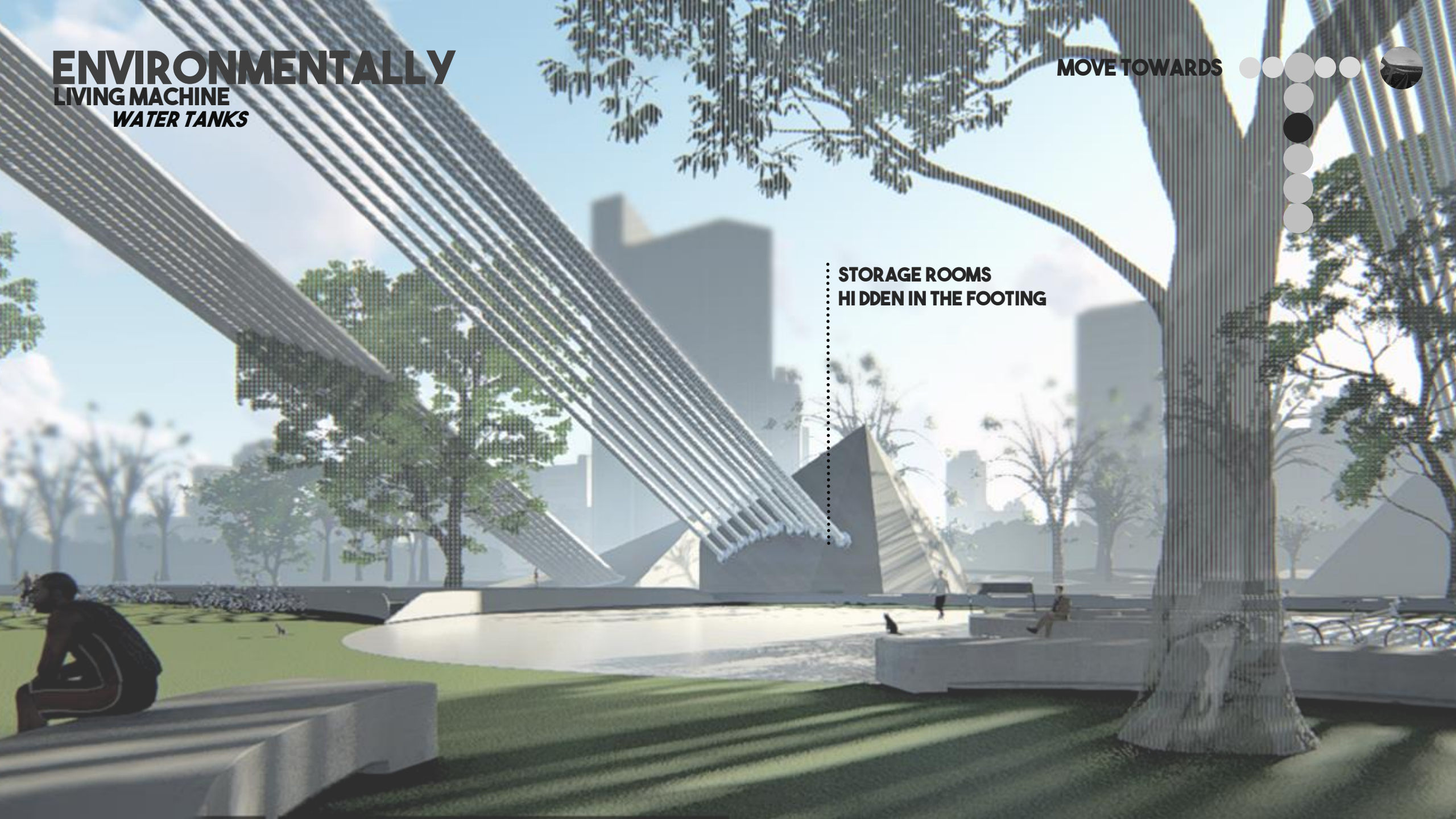
MOVE TOWARDS

ENVIRONMENTALLY

MOVE TOWARDS



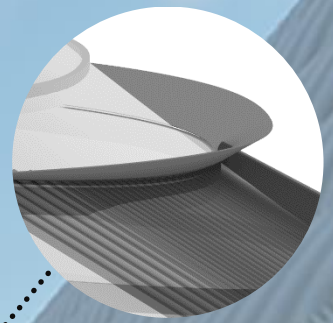

ENVIRONMENTALLY
LIVING MACHINE
LANDSCAPE TERRACES
MOVE TOWARDS


ENVIRONMENTALLY
LIVING MACHINE
WATER TANKS
MOVE TOWARDS
STORAGE ROOMS
HI DDEN IN THE FOOTING

ENVIRONMENTALLY

LIVING MACHINE

WATER COLLECTION

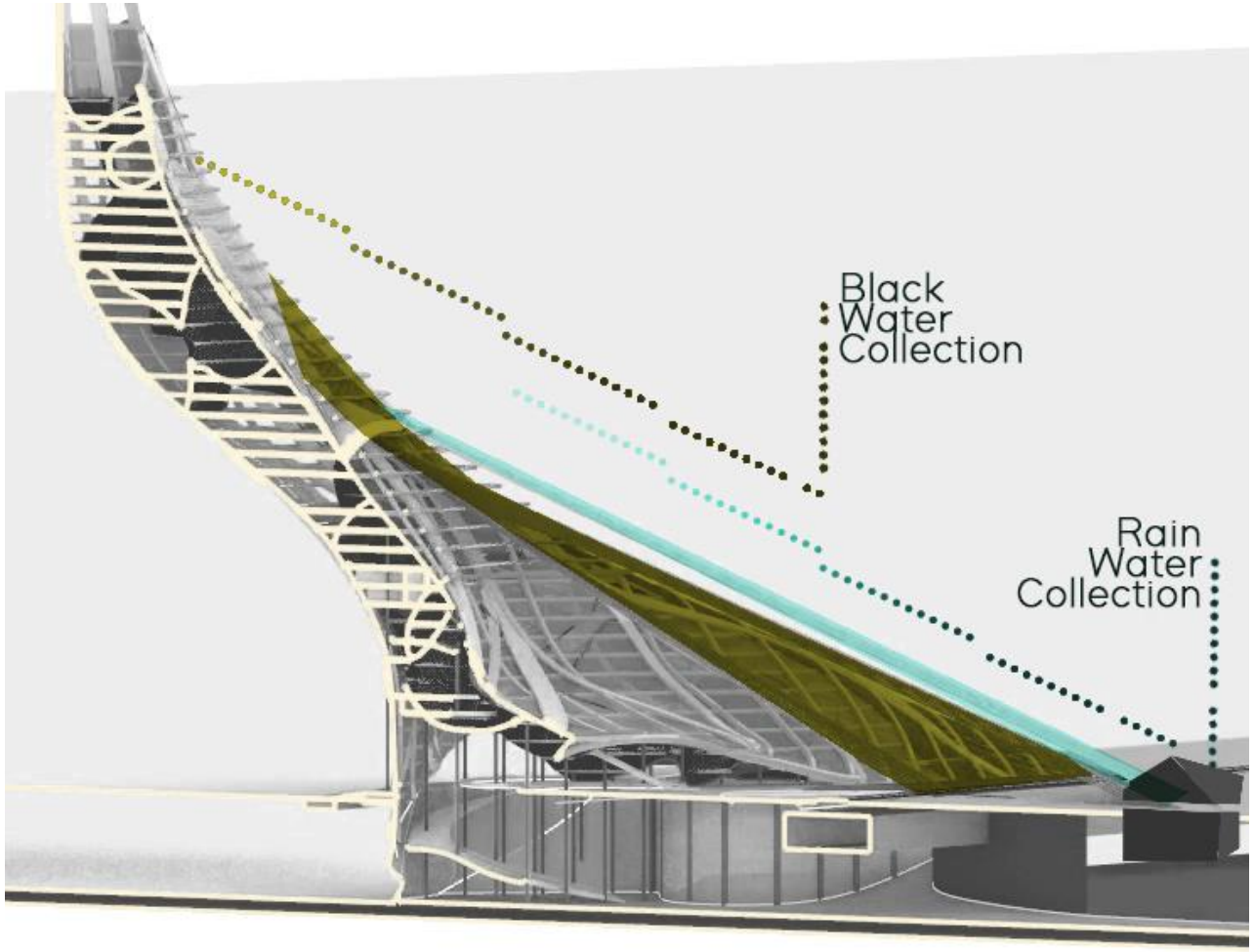


MOVE TOWARDS

ENVIRONMENTALLY

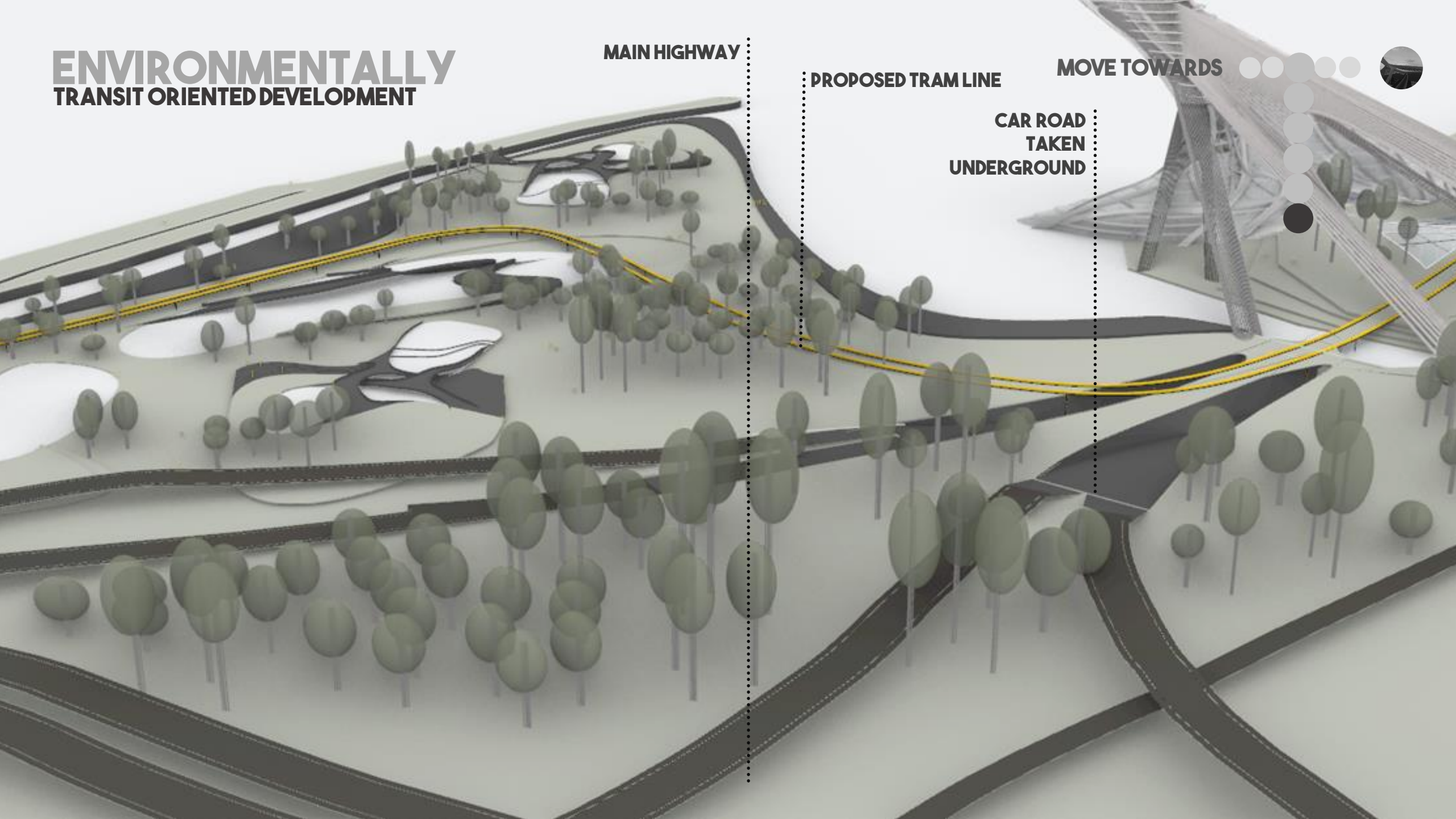
LIVING MACHINE

WATER COLLECTION



ENVIRONMENTALLY

TRANSIT ORIENTED DEVELOPMENT



ECONOMICALLY
HIGHER DENSITY DEVELOPMENT

MOVE TOWARDS

FLY

THE BACKGROUND

THE ADSEQUOR

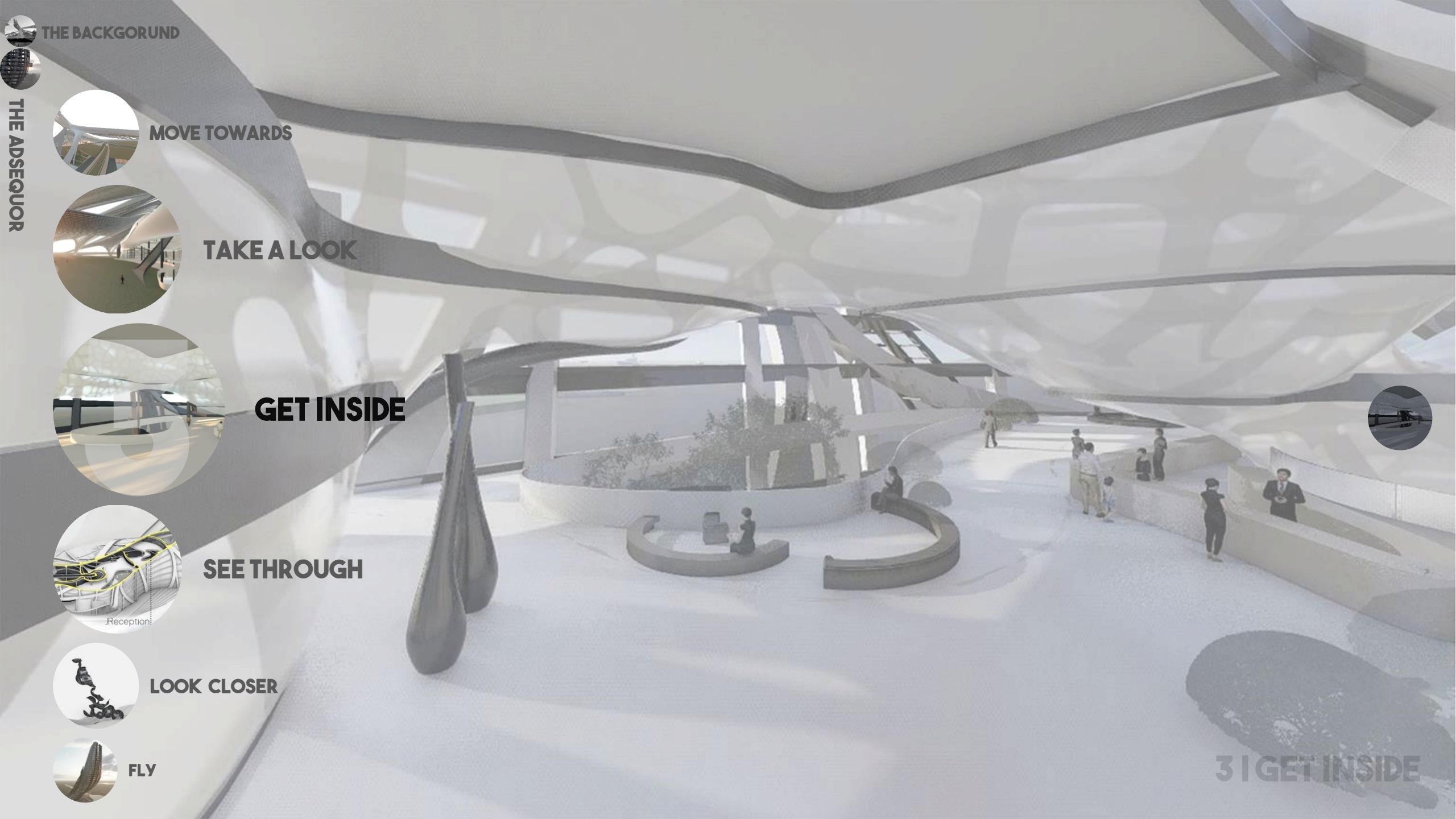
MOVE TOWARDS

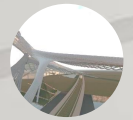
TAKE A LOOK

GET INSIDE

SEE THROUGH

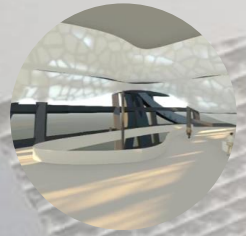
LOOK CLOSER


THE BACKGORUND
THE ADSEQUOR
MOVE TOWARDS
TAKE A LOOK
GET INSIDE
SEE THROUGH
Reception
LOOK CLOSER
FLY
3 | GET INSIDE

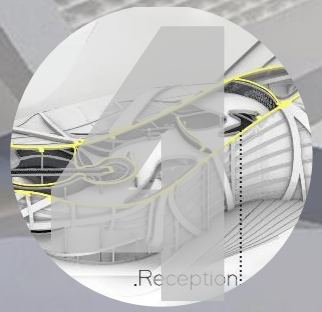


MOVE TOWARDS

TAKE A LOOK



GET INSIDE



SEE THROUGH

LOOK CLOSER

FLY

THE ADSEQUOR

THE BACKGORUND

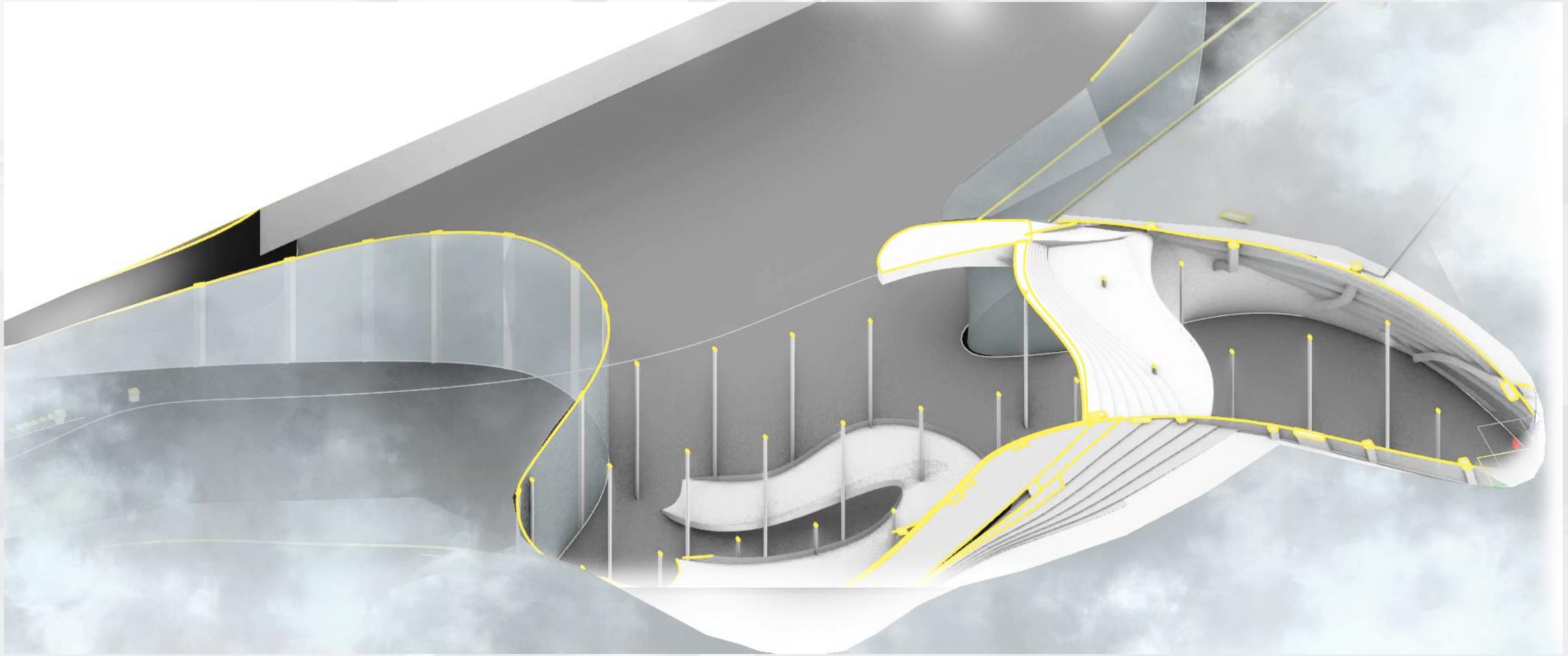
CIRCULATION 

PLAN  

SECTION 

PLAN PERSPECTIVE ANIMATION

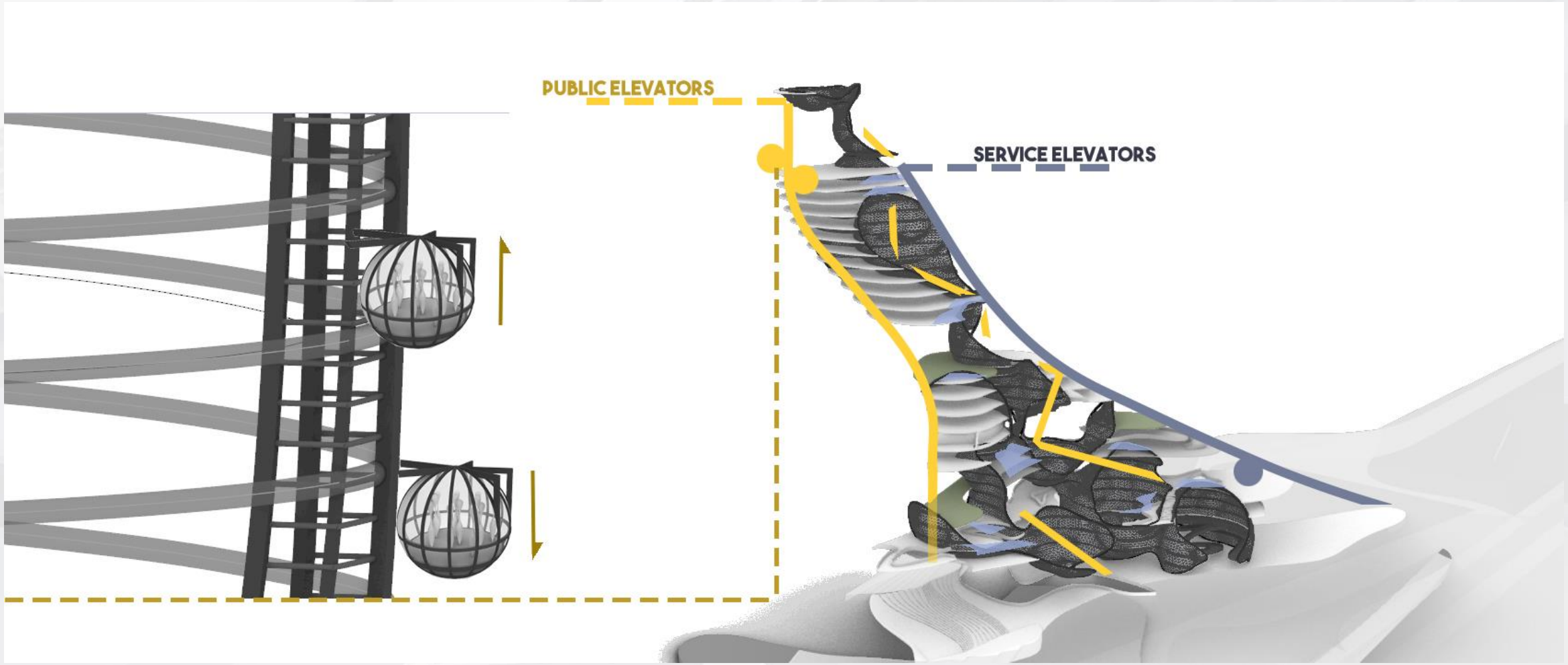
SEE THROUGH



SECTION PERSPECTIVE ANIMATION

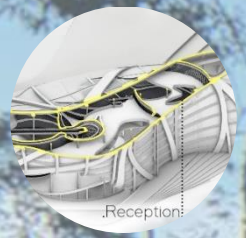
SEE THROUGH

CIRCULATION



TAKE A LOOK

GET INSIDE



SEE THROUGH

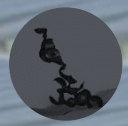
LOOK CLOSER

FLY

THE ADSEQUOR

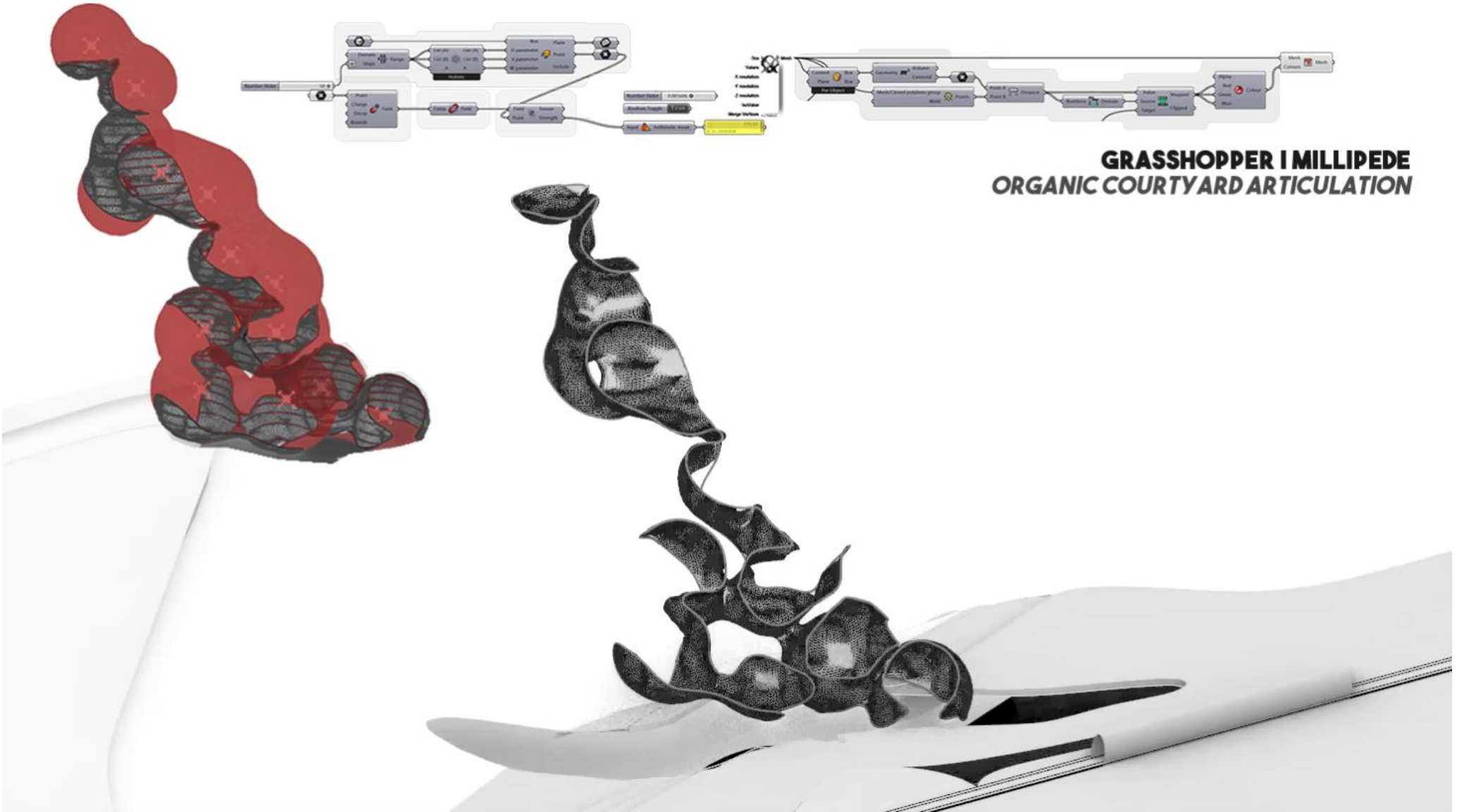
THE BACKGORUND

MOVE TOWARDS



LOOK CLOSER

STRUCTURAL LAYERS



GRASSHOPPER | MILLIPEDE

ORGANIC COURTYARD ARTICULATION

GET INSIDE

SEE THROUGH

LOOK CLOSER

FLY

THE ADSEQUOR

THE BACKGORUND

MOVE TOWARDS

TAKE A LOOK