

SHENZHEN OPERA HOUSE

DESIGNED BY EDA SEFA

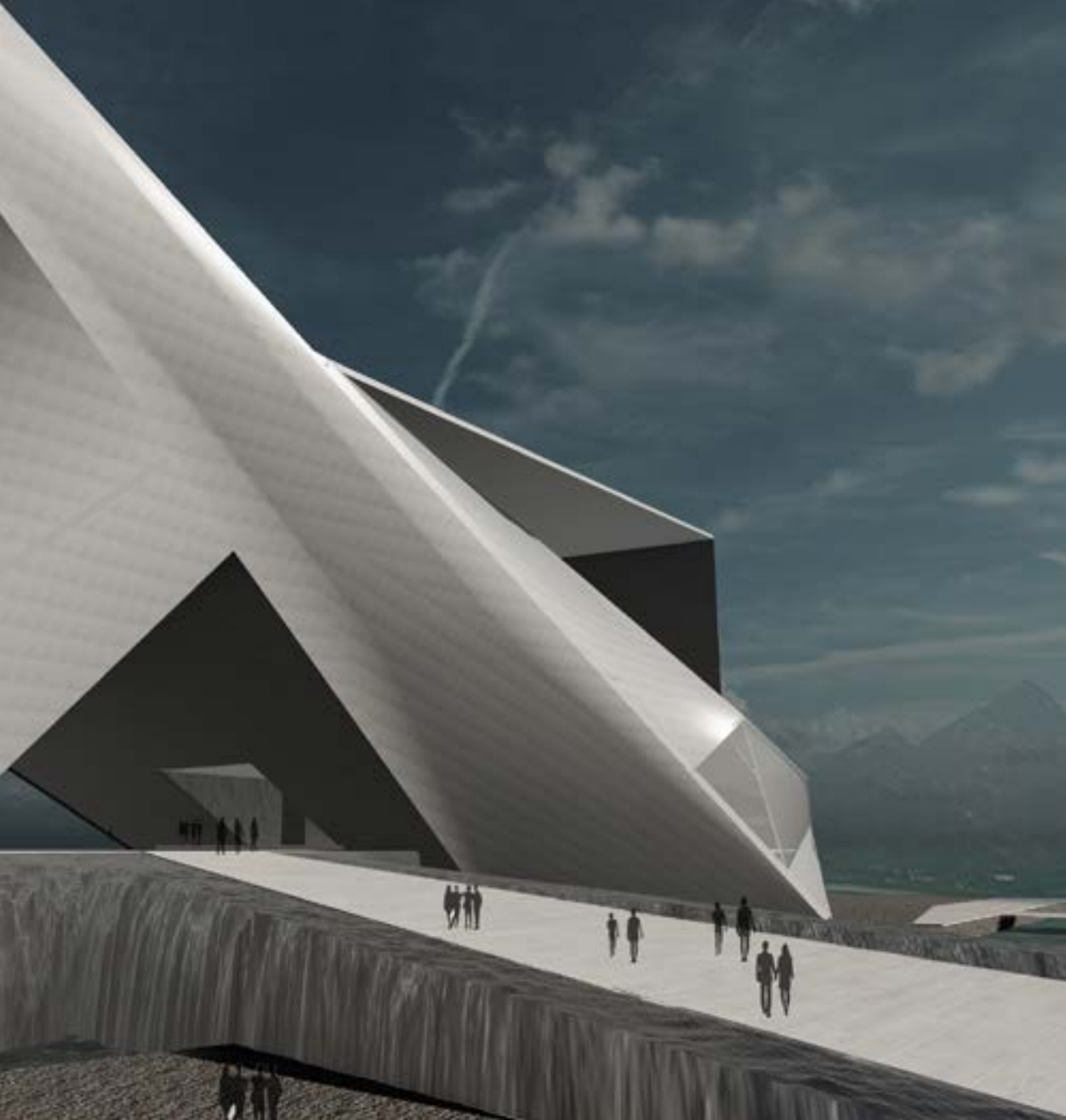
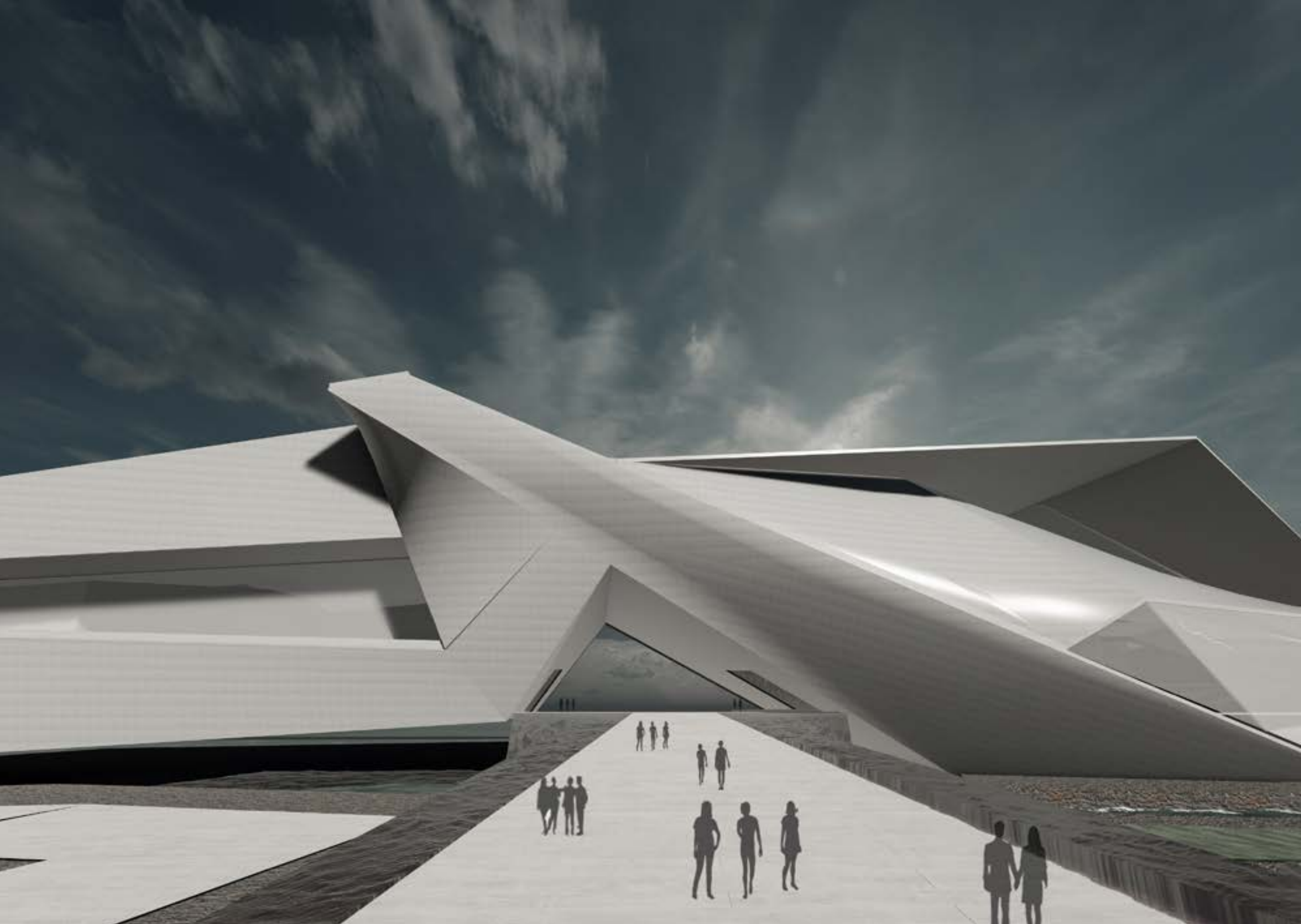


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HISTORY AND URBANIZATION

Settled -331

Village -1953

City -1 March 1979

1980s–present - In May 1980, the Central Committee designated Shenzhen as an SEZ, and created it to be an experimental ground for the practice of market capitalism.

Shenzhen formulated a series of preferential policies to attract foreign investment, including business autonomy, taxation, land use, foreign exchange management, product sales, and entry and exit management. Through the processing of incoming materials, compensation trade, joint ventures, cooperative operations, sole proprietorship, and leasing, the city has attracted a large amount of foreign investment and helped popularize and enable rapid development.

City: Shenzhen

Country: People's Republic of China

Province: Guangdong

Population: 12,528,300

Density: 6,100/km²

Shenzhen is a vibrant, creative and modern coastal city. Boasting the core engine of Guangdong-Hong Kong-Macao Greater Bay Area (GBA), it is visioned to be a global benchmark that excels in competition, innovation and influence by the middle of this century.

Shenzhen is a major sub-provincial city located on the east bank of the Pearl River estuary on the central coast of southern Guangdong province, People's Republic of China. It forms part of the Pearl River Delta megalopolis, bordering Hong Kong across the Sham Chun River to the south, Huizhou to the northeast and Dongguan to the northwest, and shares maritime boundaries with Guangzhou, Zhongshan and Zhuhai to the west and southwest across the estuary.

Shenzhen's cityscape results from its vibrant economy, made possible by rapid foreign investment. The city is a leading global technology hub, it was one of the fastest-growing cities in the world in the 1990s and the 2000s.



ETHNICITY AND LANGUAGE

Before Shenzhen's establishment as a SEZ in 1980, the area was composed mainly of Hakka and Cantonese people. However, since become a SEZ, Shenzhen has become a hub for migrants searching for work and opportunities within the city.

Prior to the establishment of Special Economic Zone, the indigenous local communities could be divided into Cantonese and Hakka speakers, which were two cultural and linguistic sub-ethnic groups vernacular to Guangdong province.

The influx of migrants from other parts of the country has drastically altered the city's linguistic landscape, as Shenzhen has undergone a language shift towards Mandarin, which was both promoted by the Chinese Central Government as a national lingua franca and natively spoken by most of the out-of-province immigrants and their descendants.

Despite the ubiquity of Mandarin Chinese, local languages such as Cantonese, Hakka, and Teochew are still commonly spoken among locals. Hokkien and Xiang are also sometimes observed.

RELIGION

37% of Shenzhen's residents are practitioners of Chinese folk religions, 26% are Buddhists, 18% Taoists, 2% Christians and 2% Muslims; 15% are unaffiliated to any religion



CULTURE

Over 170 different festivals and fairs are held annually in Shenzhen, including the Shenzhen International Tourism Cultural Festival, the Beach Music Festival, the Window of the World International Beer Festival, and the Overseas Chinese Town Carnival. The city has more than 630 libraries and bookstores, with the Shenzhen Library, the Shenzhen Book City, the Shenzhen Scientific-Technical Library, the Library of the Shenzhen University, the Shenzhen Children's Library, and the Luohu District Library being among the largest. Cultural facilities such as the Shenzhen Cultural Center, the Shenzhen Convention and Exhibition Center, and the Shenzhen Children's Palace are located in the Futian District, which is considered the cultural center of the city.

Overseas Chinese Town is a cluster of cultural theme parks centralized mainly around the Nanshan District. Dafen Village in the Longgang District is famous a noted art village known primarily for the production of replicas of masterworks and outsourcing of original art creation. The Shenzhen Symphony Orchestra founded in 1982, is a noted orchestra that performs in the Shenzhen Grand Theater. Due to investments made by Hongkongers in the 1980s, Shenzhen is today China's largest center for the production of cartoons, animation, and computer game software



LOCATION OF THE SITE

Located on top of Shenzhen Bay Park (Park on Shenzhen Bay Coastal Leisure Belt) at the south end of Shekou Peninsula in Nanshan District, the Project extends into the sea resembling a peninsula, overlooking Shenzhen Bay Highway Bridge and the skyline of Futian Center to the east, Hong Kong to the south across the sea, and Da Nanshan Mount/Xiao Nanshan Mount to the west.

The design scope of 17.5 hectares is divided into north area and south area by Wanghai Road. The site neighbors the existing Shekou Mountain Park on the northwest, the vacant mixed-use land on the north, the existing Shenzhen Bay Sports Park on the east, and the existing residential area on the southwest.

LANDSCAPE

The project embraces a fabulous natural setting, especially diverse mountain, sea, river, port and bay resources, winding coastlines and broad views into the sea. It neighbors the central river on the east and Shekou Mountain Park on the west, naturally presenting a landscape layout of “one island, two bays, one river and one mountain”. The existing Shenzhen Bay Park on the south of it forms a continuous coastline for the project.

SITE PICTURES





MAIN VIEWPOINTS

Shenzhen Bay Highway
Shekou Mountain Park
Centre River



MAIN ROAD AXIS

The site is in a favorable position where the main roads lead directly from the center of the city to the Shenzhen Opera House Site



CLIMATE AND GREENERY

Shenzhen has a subtropical monsoon climate, featuring temperate to mild weather, abundant rainfall and sunshine. The mean annual temperature records 22.4oC, with the extremely highest temperature at 38.7 oC and the lowest at 0.2 oC in history, resulting 365 frost-free days per year.

The city enjoys a mean annual sunshine duration of 1,975.0 hours, a mean annual solar radiation of 5,225 MJ/m², and a mean annual relative humidity of 72.3%.

Rainy season spans from May to September every year with the mean annual precipitation of 1,933.3 mm. It is dominated by south-east to easterly wind, with an average of four to five tropical cyclones (typhoons) per year.

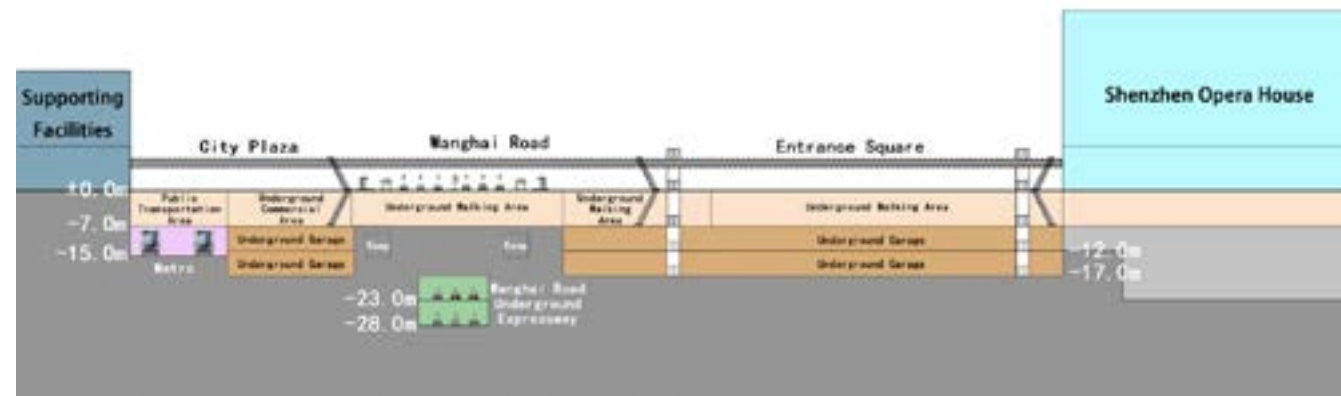


TRANSPORTATION

Peripheral arterial roads include Wanghai Road and Houhai Boulevard, while peripheral secondary arterial roads include Rear Beach Road and Central Road. Among them, Wanghai Road is a two-way four-lane road on the ground (two-way five-lane at the widened section) with a cross-section width of 36 m. It serves as the main passageway of the area for external traffic connection, while accommodating all daily life service demands inside the area.



Wanghai Road is planned with an underground two-way, six-lane and double-level expressway, which will extend from Dongbin Road in the east to Xinghai Boulevard in the west. It will mainly serve as a channel for rapid connection with the outside in terms of passenger transportation in the periphery of Shekou Peninsula. At the interval of the Opera House station, the upper level of the underground expressway is designed with an elevation of -20 m and a depth of about -23 m, while its lower level is designed with an elevation of -25.2 m and a depth of about -28 m, which provides conditions for connection with the underground space of the Opera House.





HYDROLOGY

With a flat terrain and favorable geological and hydrological conditions, the site is ideal for project development. The highest water level of tides recorded 2.66 m while the lowest was -1.56 m, with the mean water level at -0.33 m. The maximum tidal range of high tide is 0.86 m, while that of low tide is up to 3.44 m. The mean high tide duration lasts 6.21 hours, while the mean low tide duration 6.17 hours. The mean wave height is 0.9 m, and the maximum wave height 1.63 to 1.95 m.

The site has abundant groundwater. The survey showed that the depth of the static water level is 3.1~4.1 m within 86 boreholes, and the elevation ranges between 0.41 ~ 0.66 m. The groundwater level is greatly affected by tides, which gradually increases during high tide and decreases during low tide. Based on the hydrogeological data of this area, variation of the groundwater level can be assumed as 2m, and the water level design for flood protection is based on a 200-year return period.

Reclaimed from the sea, the site has complicated geological conditions for engineering and distinctly different soil structures. It falls into Category B buildings as per the seismic fortification criteria, with a seismic fortification intensity of Grade VII.

Seismic action is to be determined at per Grade VII, and seismic measures taken as per Grade VIII.

SHENZHEN BAY BRIDGE AND ITS IMPACT ON THE ENVIRONMENT

Shenzhen Bay Bridge (formerly known as the Hong Kong-Shenzhen Western Corridor) is the fourth vehicular boundary crossing linking Hong Kong and the mainland China. It is a 5.5km-long dual three-lane carriageway spanning across Deep Bay from Lau Fau Shan of Hong Kong to Shekou of Shenzhen.

The project may have caused serious harm to marine life in the area, including the critically rare Chinese white dolphin. The number of dolphins seen in Hong Kong waters has decreased from 148 to 47 in the past 10 years and they are now absent from the waters near the bridge, according to the Hong Kong branch of the World Wide Fund for Nature (WWF).





Architects: Zaha Hadid Architects

Location: Rabat, Morocco

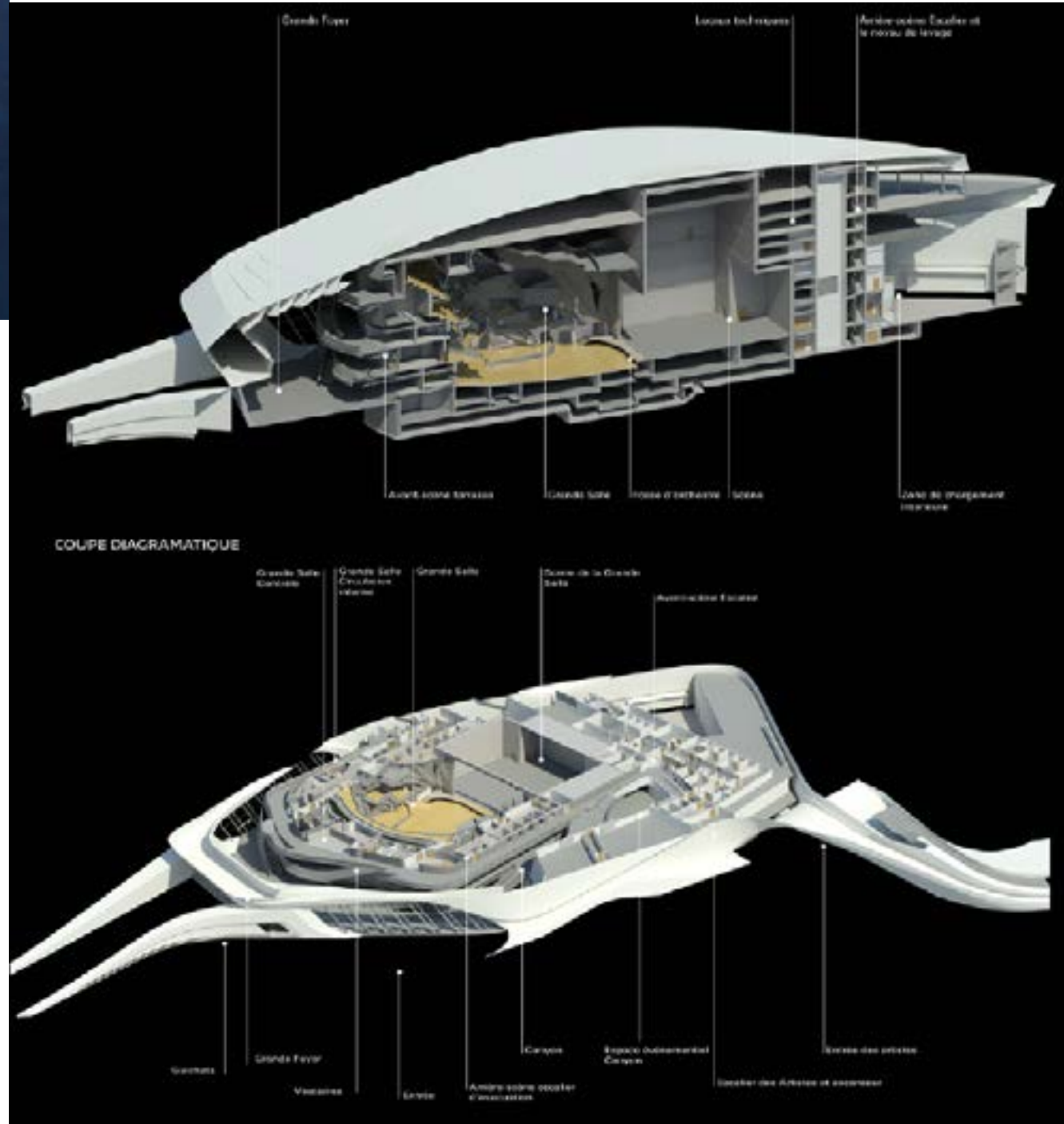
Design: Zaha Hadid with Patrik Schumacher

Project Area: 47,000 sqm

The Grand Theatre will be part of one of the largest developments in Morocco. This theater, with its innovative design and cutting-edge infrastructure will surely be a landmark for the city and the region.

Taking its direction from the adjacent Bouregreg River, the design in one fluid sweep traverses from the ground extending into the sky. The auditoriums are enveloped within the sculpted building that moves back to the ground, melting into the landscape.

The program will include three theater spaces, indoor spaces consisting of 2,050-seat and a 520-seat, and a fully-equipped outdoor amphitheater holding up to 7,000 people. The theaters will share back of house facilities, efficiently reducing the size of the building services needed. Creative studios will also be incorporated into this cultural venue.





On the exterior, the architecture references the sinuous landscape of the surrounding area. The resulting curvilinear façade composed of smooth white aluminum panels becomes the poetry of edge and surface, softness and sharpness.

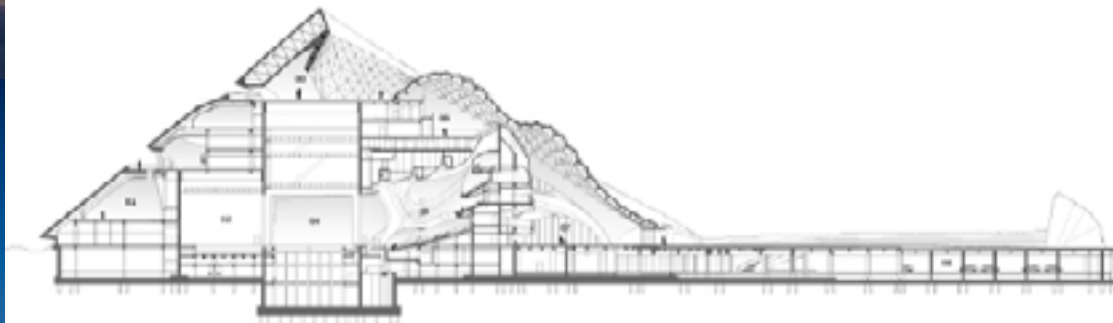
The architectural procession choreographs a conceptual narrative, one that transforms visitors into performers. Upon entering the grand lobby, visitors will see large transparent glass walls spanning the grand lobby, visually connecting the curvilinear interior with the swooping façade and exterior plaza. Soaring above, a crystalline glass curtain wall soars over the grand lobby space with the support of a lightweight diagrid structure. Comprised of glass pyramids, the surface alternates between smooth and faceted, referencing the billowing snow and ice of the frigid climate. Visitors are greeted with the simple opulence of natural light and material sensation—all before taking their seat.



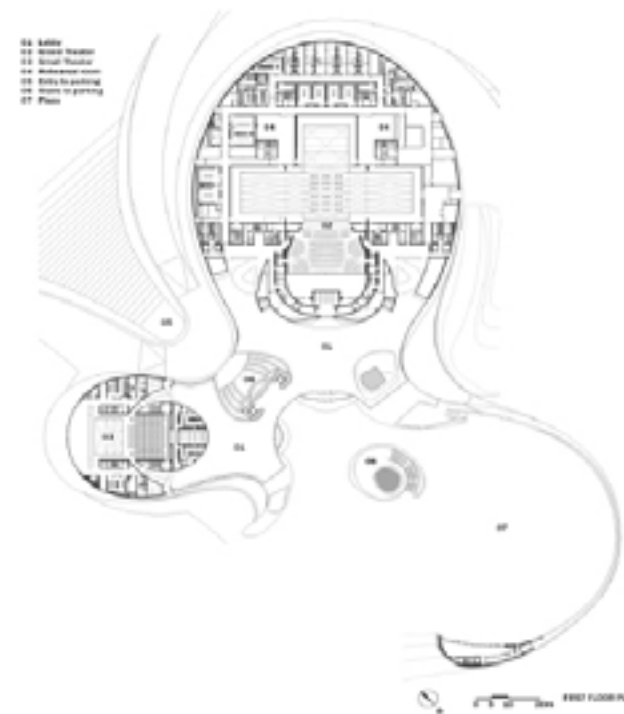
Architects: MAD Architects

Location: Harbin, China

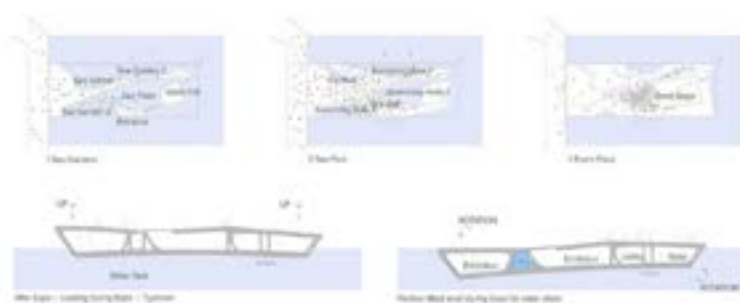
Area: 850000.0 ft²



- 01. Lobby
- 02. Auditorium
- 03. Stage
- 04. Box office
- 05. Rest room
- 06. Lobby
- 07. Lobby



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- 07. Lobby



Water Pavilion for the Yeosu EXPO 2012 explores various water principles and the translation into an architectural experience. The notion of fluidity, buoyancy and constant change are principles for our proposal. The pavilion stands on the unstable limit of sea level, changing its configuration (buoyant configuration) according to various uses during the expo. Sometimes the pavilion is entirely underwater allowing few entrance ways where other times the pavilion rises and “dries” its surface allowing larger events happening in the roof deck.

Energy Plant

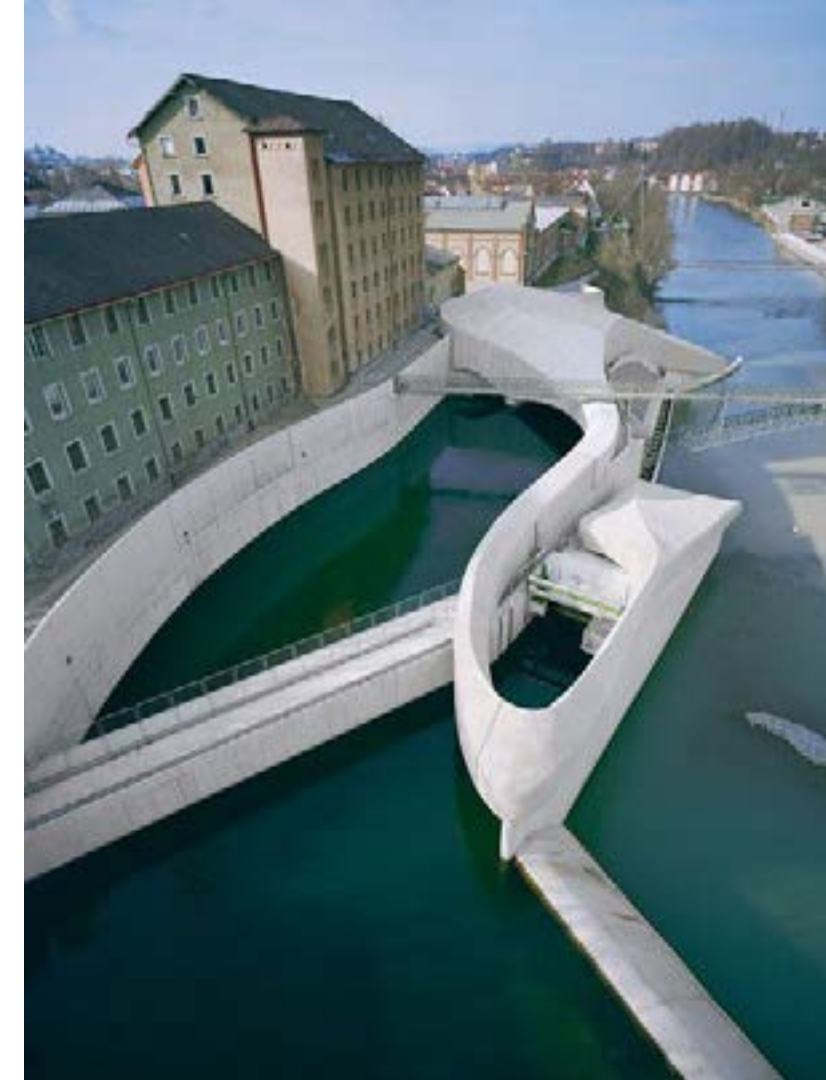
Location: Kempten, Germany

Architects: Becker Architects

Area: 1040 sqm

Year: 2010

Highly efficient hydro – electric powerstation substituted an older powerstation from the Fifties by now supporting approximately 3000 households with 10,5 million kilowatt – hours of environmentally friendly power per year.



SMART GROWTH



Smart growth is an urban planning and transportation theory that concentrates growth in compact walkable urban centers to avoid sprawl. It also advocates compact, transit-oriented, walkable, bicycle-friendly land use, including neighborhood schools, complete streets, and mixed-use development with a range of housing choices. Smart growth values long-range, regional considerations of sustainability over a short-term focus. Its sustainable development goals are to achieve a unique sense of community and place; expand the range of transportation, employment, and housing choices; equitably distribute the costs and benefits of development; preserve and enhance natural and cultural resources; and promote public health.





ELEMENTS OF PLACEMAKING

Great placemaking is the art of bringing together a number of elements, both physical and operational. Following is a highlight of the most important elements of successful places.

- 1) CLOSE PROXIMITY TO RAIL STATION
- 2) WELL DEFINED PUBLIC SPACES - OUTDOOR ROOMS
- 3) MIX OF USES - LIVELY, VIBRANT PLACES
- 4) PEDESTRIAN SCALE - COMFORTABLE, SAFE, ENJOYABLE
- 5) ACTIVE GROUND-FLOOR RETAIL
- 6) SIDEWALK CAFES
- 7) TREE LINED STREETS
- 8) REDUCED AND HIDDEN PARKING

TRANSIT ORIENTED DEVELOPMENT STATIONS

Stations are the connecting point between the rail system and the city - the place where everything comes together. Proper location and design can elevate stations to become important civic icons of a city. Stations are also connecting points to other forms of transit and mobility including other rail systems, light rail and streetcars, buses, taxis, automobiles, bicycles, and walking. Station design, location, and operations strongly affect passenger convenience, comfort, and safety, as well as ridership levels and frequency. Station design and operations also strongly affect service reliability, operating speed, and line capacity. There is a hierarchy of station scale and design with varying components that are appropriate for different system types and locations.

Shenzhen has pioneered TOD while using four techniques to achieve maximum effect: innovative financing, integrated planning, flexible zoning, stakeholder dialogue.

Technologically, Shenzhen is matching its infrastructural ambitions with a fast, large-scale and local-industry-focussed initiative to move entirely to electric buses in 2017. Not only that, across all categories of vehicles, including logistics, rental vehicles, taxis, and private cars, the city is implementing regulations, incentives and support measures which enable the rapid shift to low-carbon, zero-pollution transportation. In the coming year, more than 130,000 charging posts, for buses and cars, will appear across the city, to support the rise in electric vehicles, and the city is regulating all new parking space to ensure that charging posts are supplied.



Transit-Oriented Development (TOD):
building cities around transit



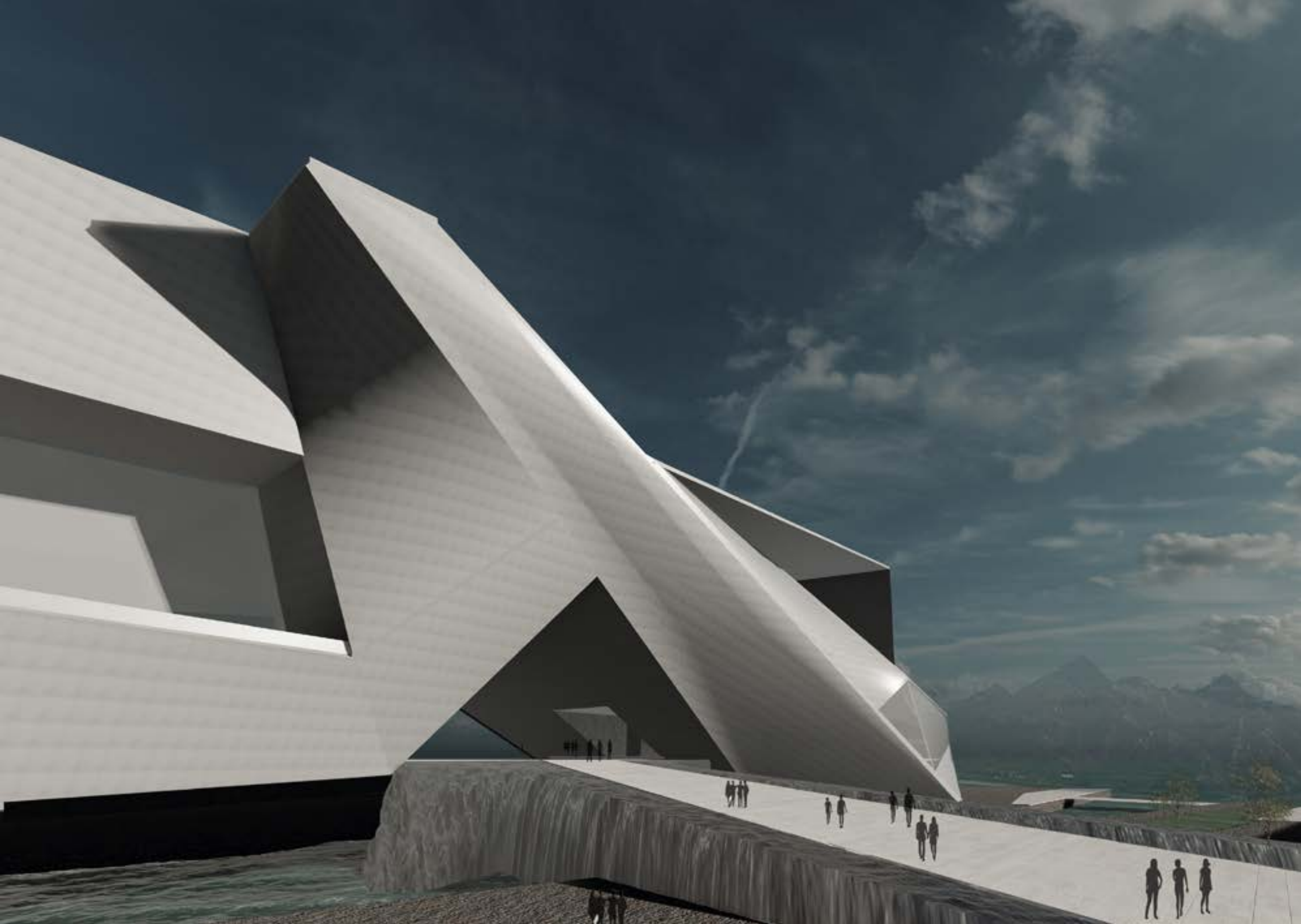
1. Walkability
2. Connectivity
3. Mixed-Use & Diversity
4. Mixed Housing
5. Quality Architecture & Urban Design
6. Traditional Neighborhood Structure
7. Increased Density
8. Smart Transportation
9. Sustainability
10. Quality of Life

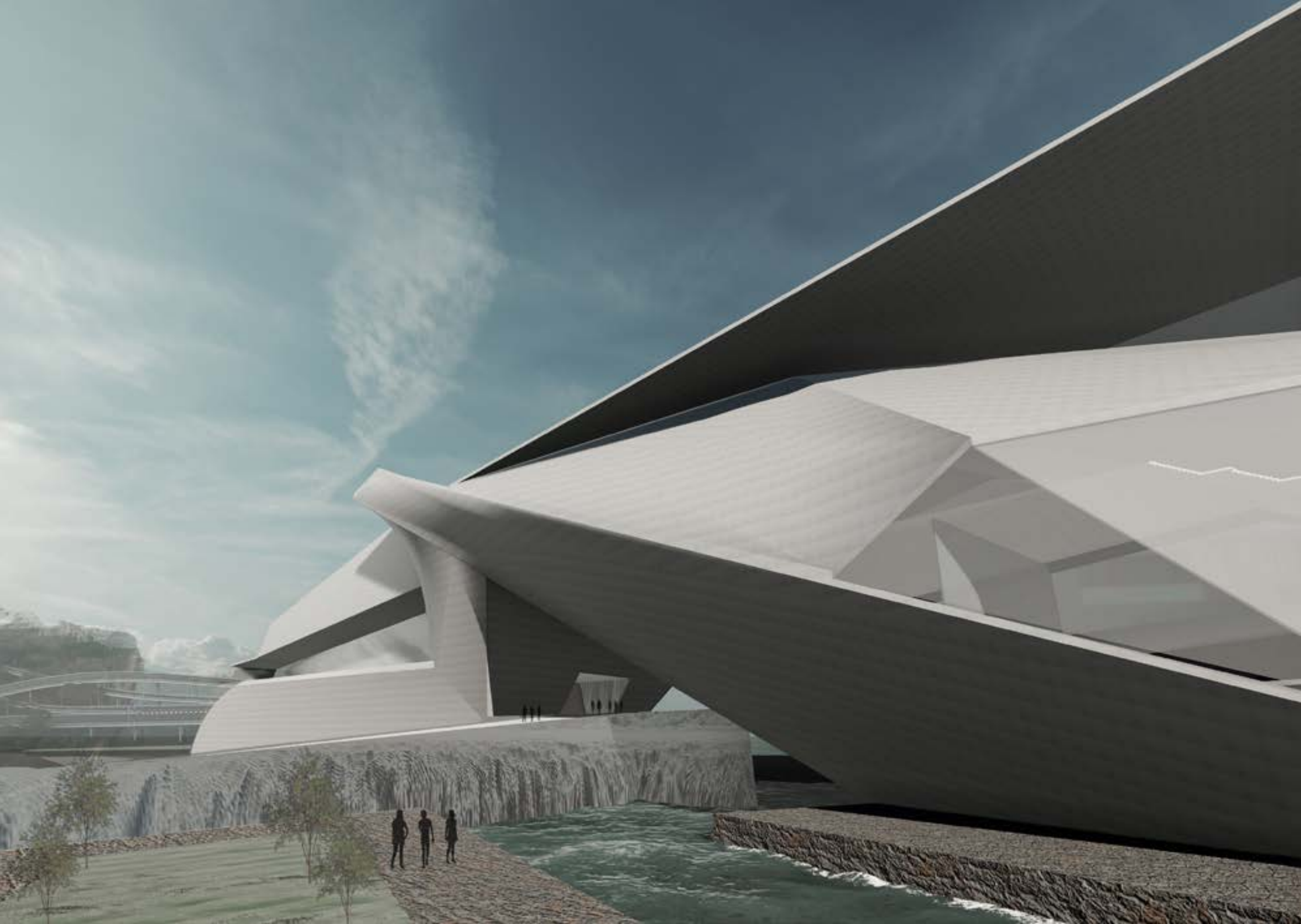
NEW URBANISM

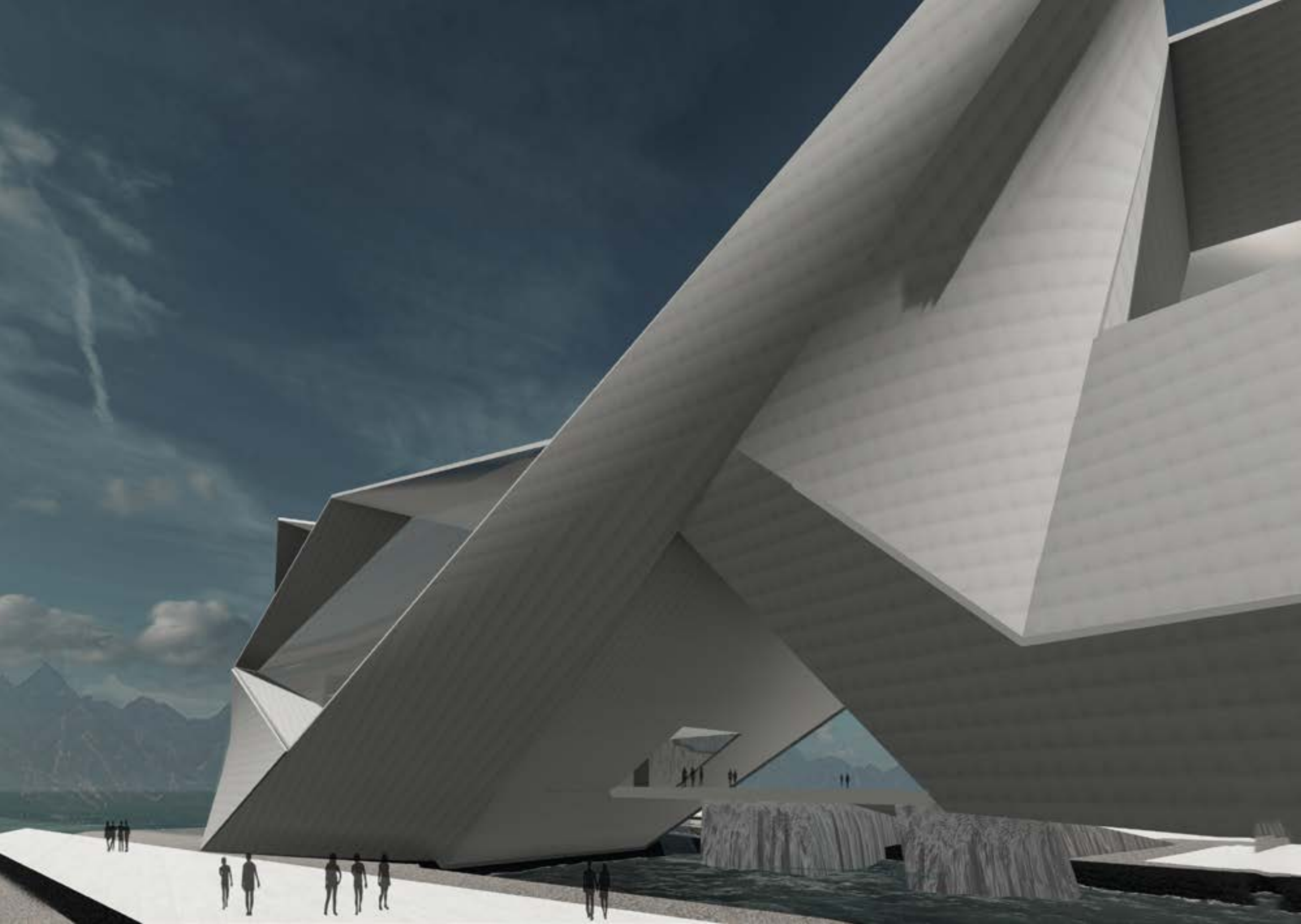
The most important planning movement this century, and is about creating a better future for us all. It is an international movement to reform the design of the built environment, and is about raising our quality of life and standard of living by creating better places to live.

New Urbanism is the revival of our lost art of place-making, and is essentially a re-ordering of the built environment into the form of complete cities, towns, villages, and neighborhoods - the way communities have been built for centuries around the world. New Urbanism involves fixing and infilling cities, as well as the creation of compact new towns and villages.

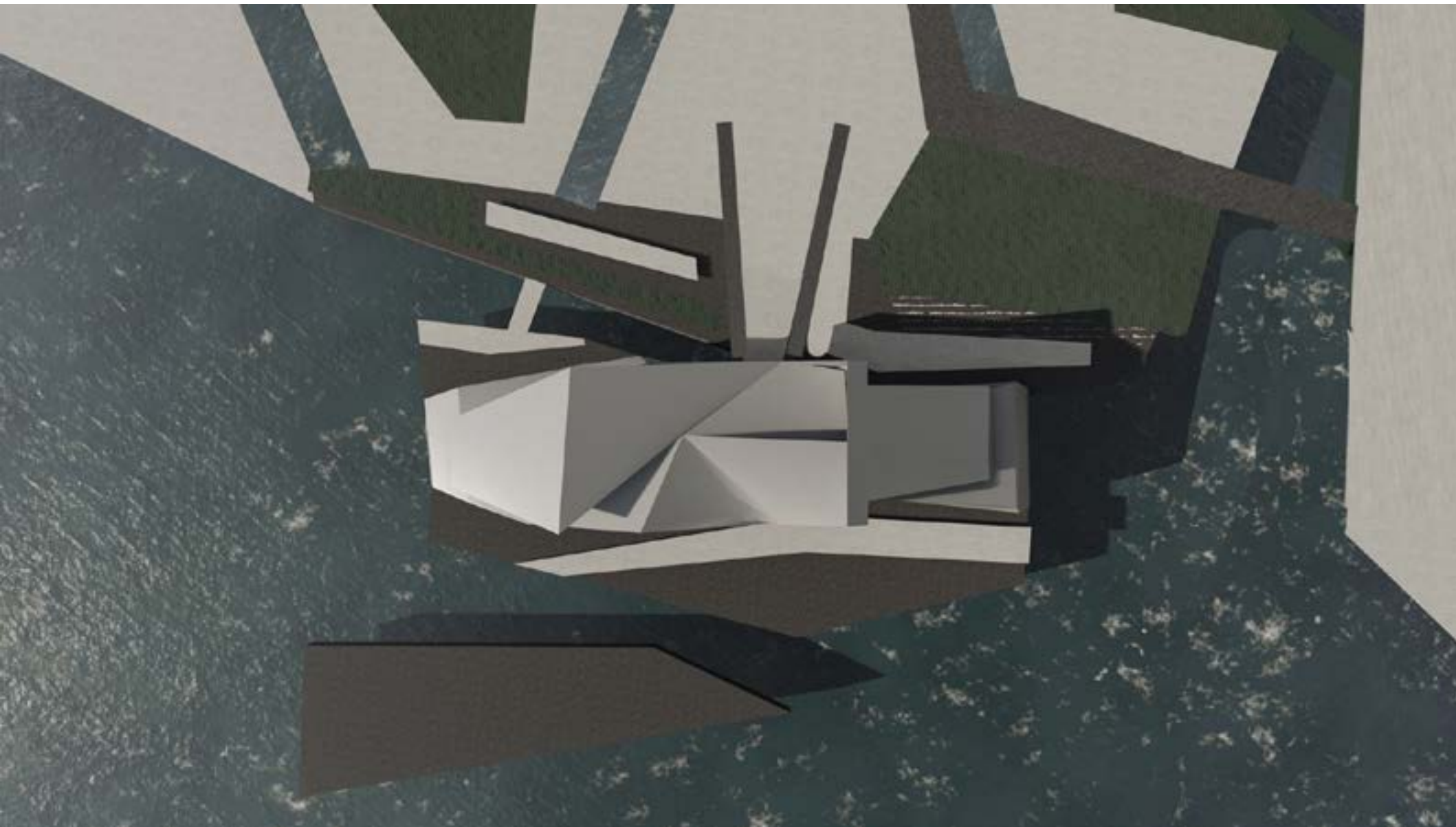
The principles of New Urbanism can be applied increasingly to projects at the full range of scales from a single building to an entire community.



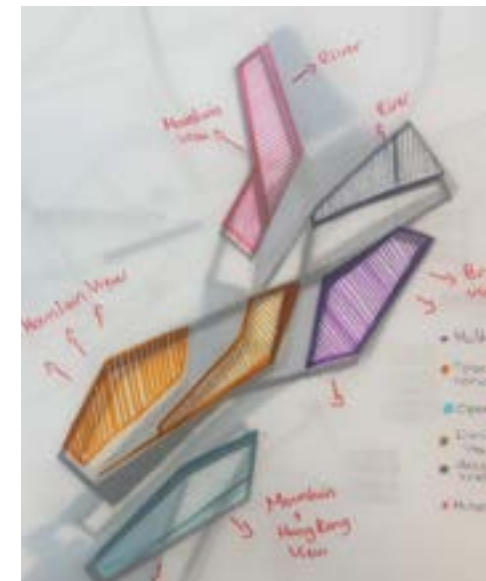




MASTER PLAN

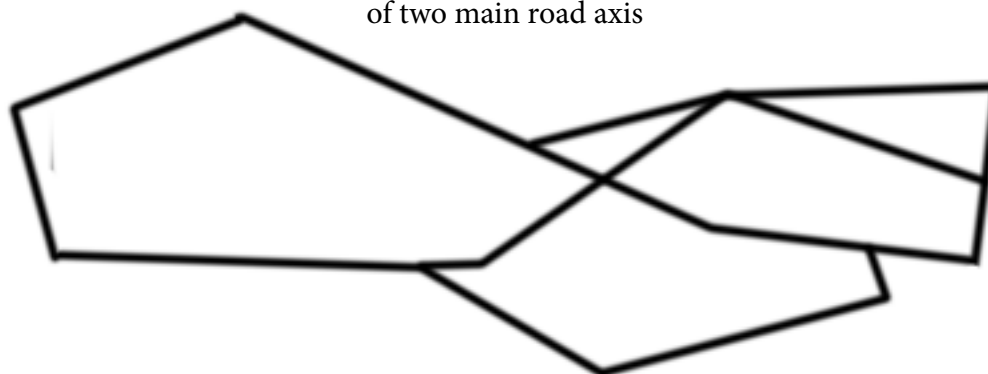


DESIGN SKETCHES



Welcoming area in the middle of two main road axis

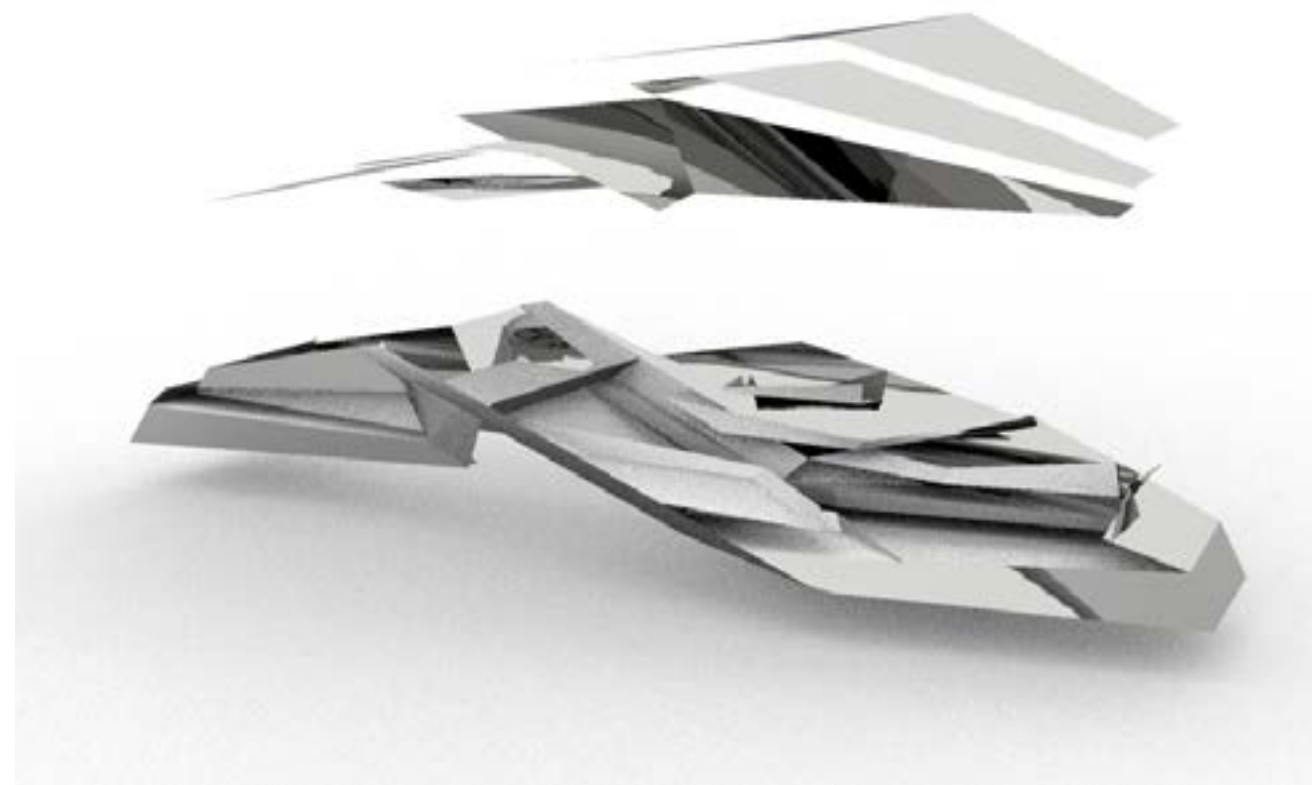
Slanted for the mountain view



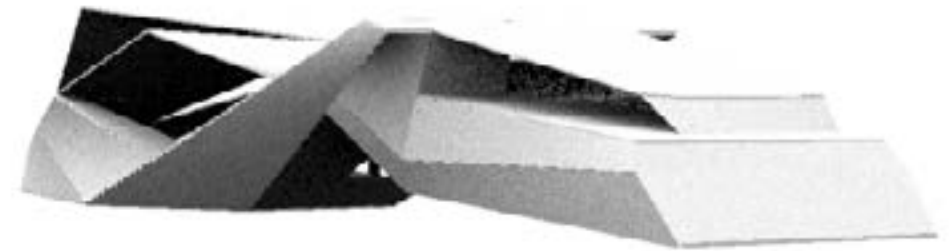
Slanted for the Shenzhen Bay Bridge view

MASSING CONCEPT

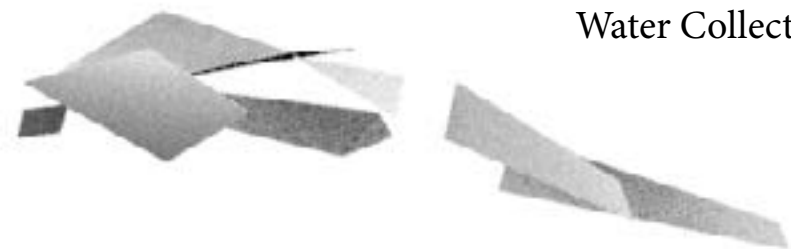
MASSING



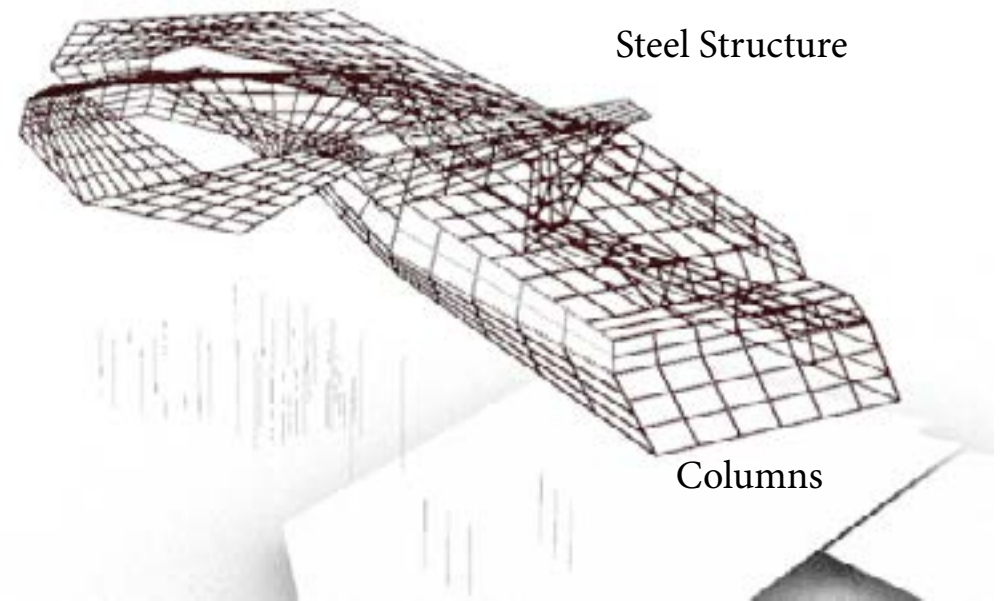
STRUCTURE



Titanium Dioxide



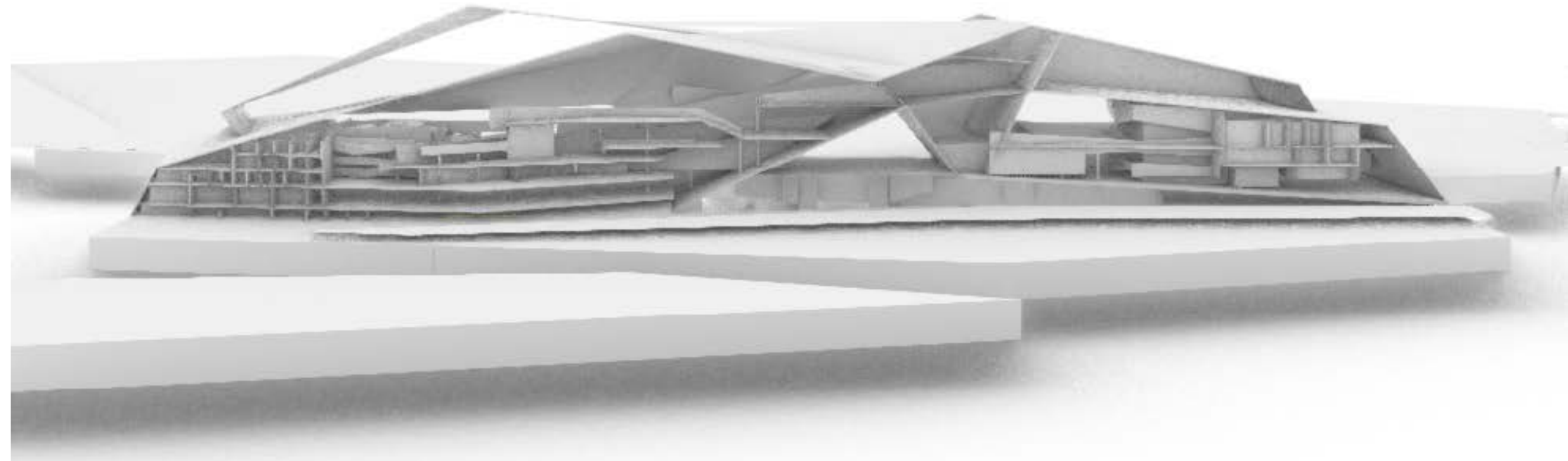
Water Collecting Walls



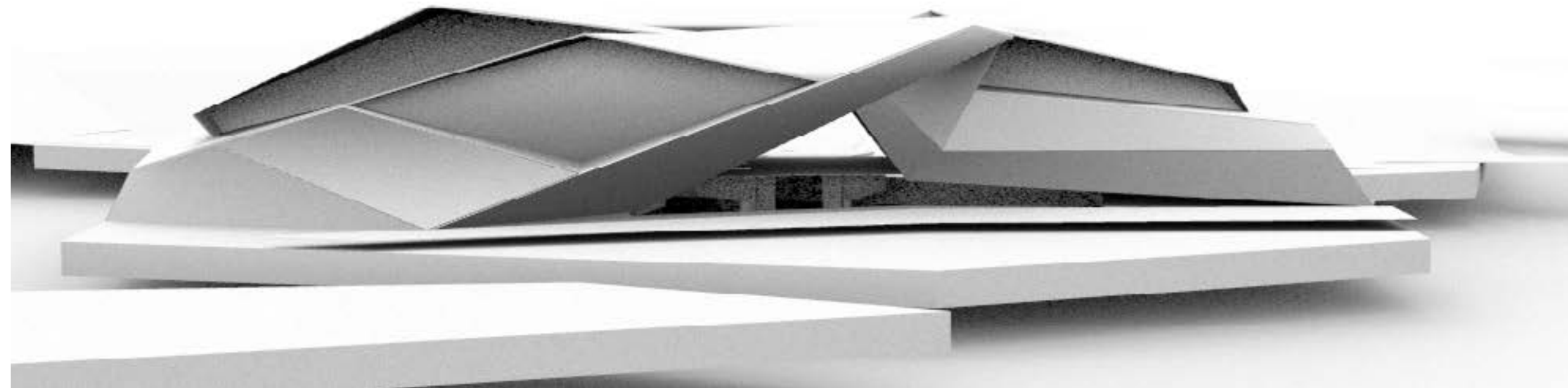
Steel Structure

Columns

SPACE CONFIGURATION



BUILDING SKIN CONFIGURATION



Opera Operating Area

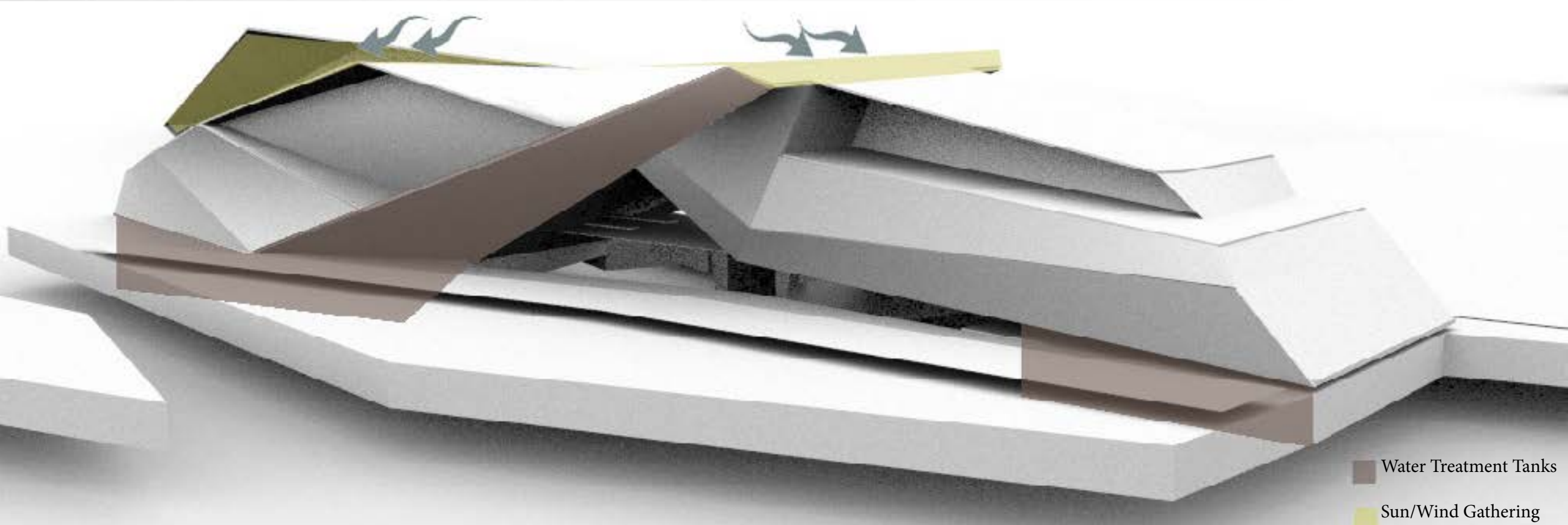
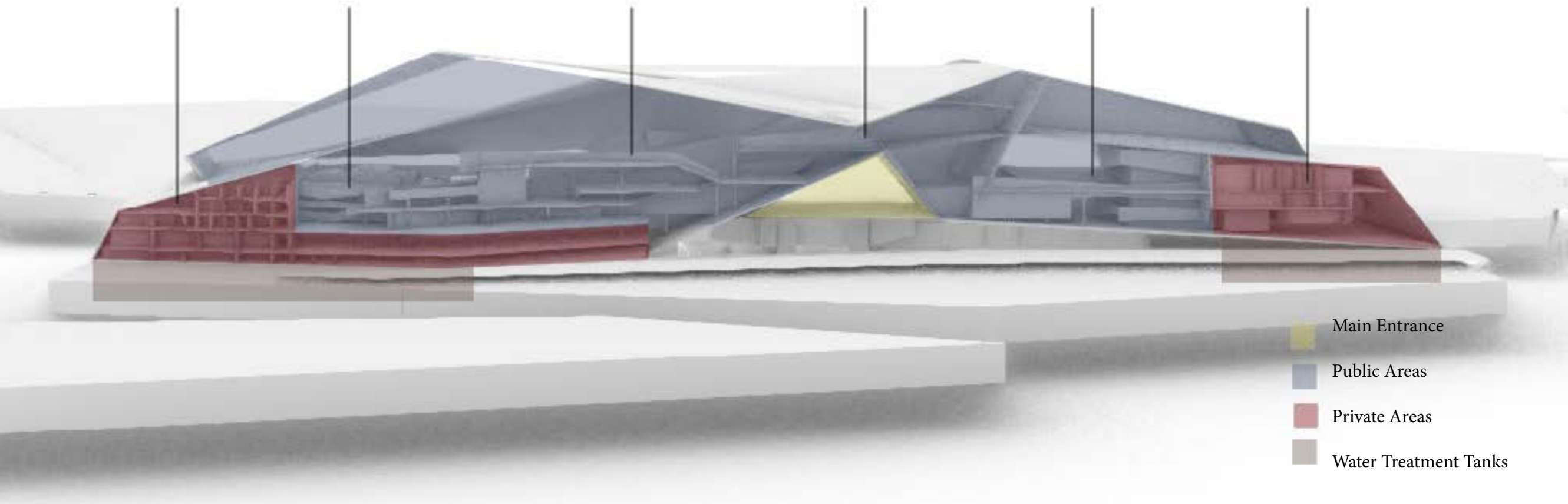
Main Opera Hall

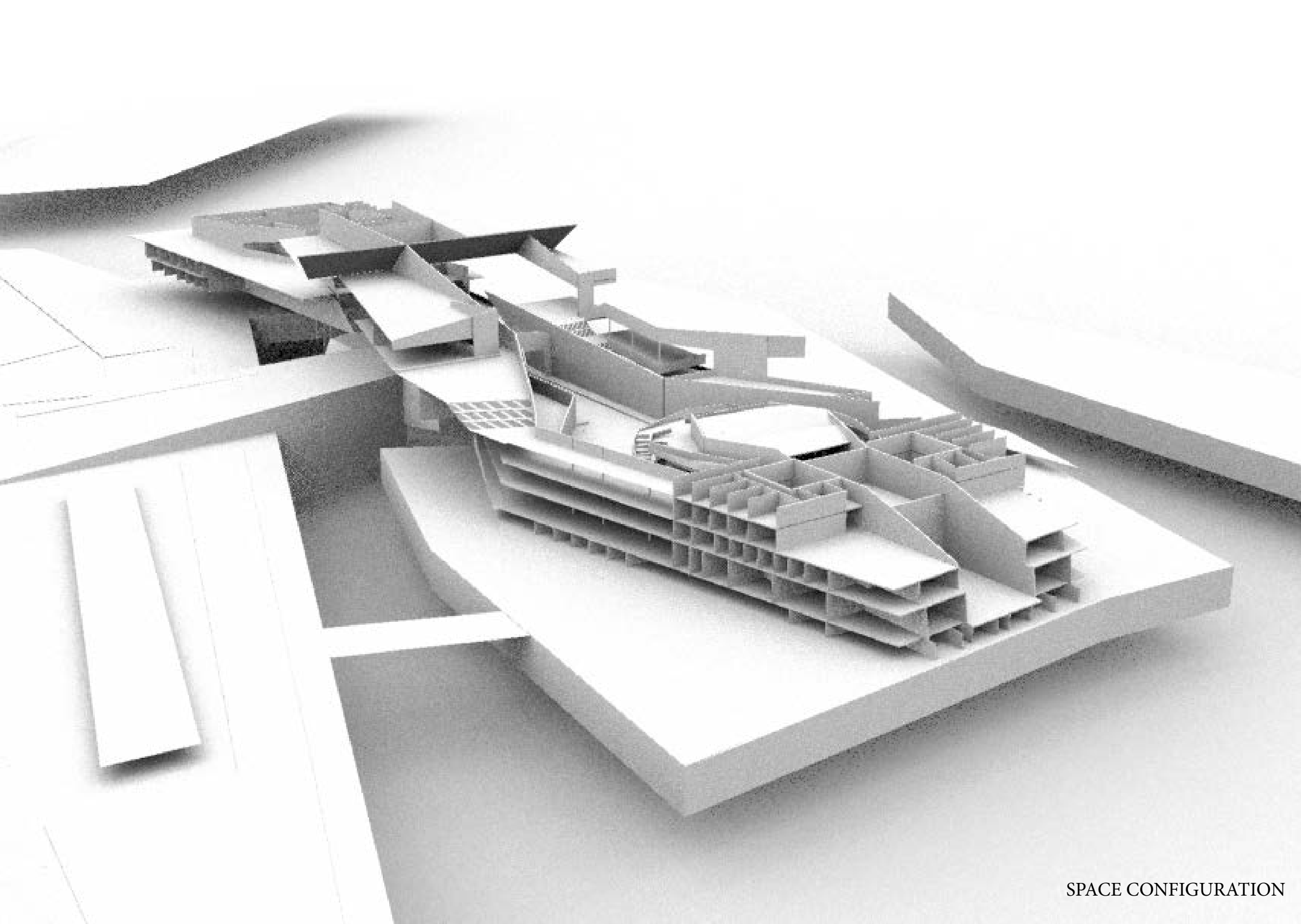
Exhibition area

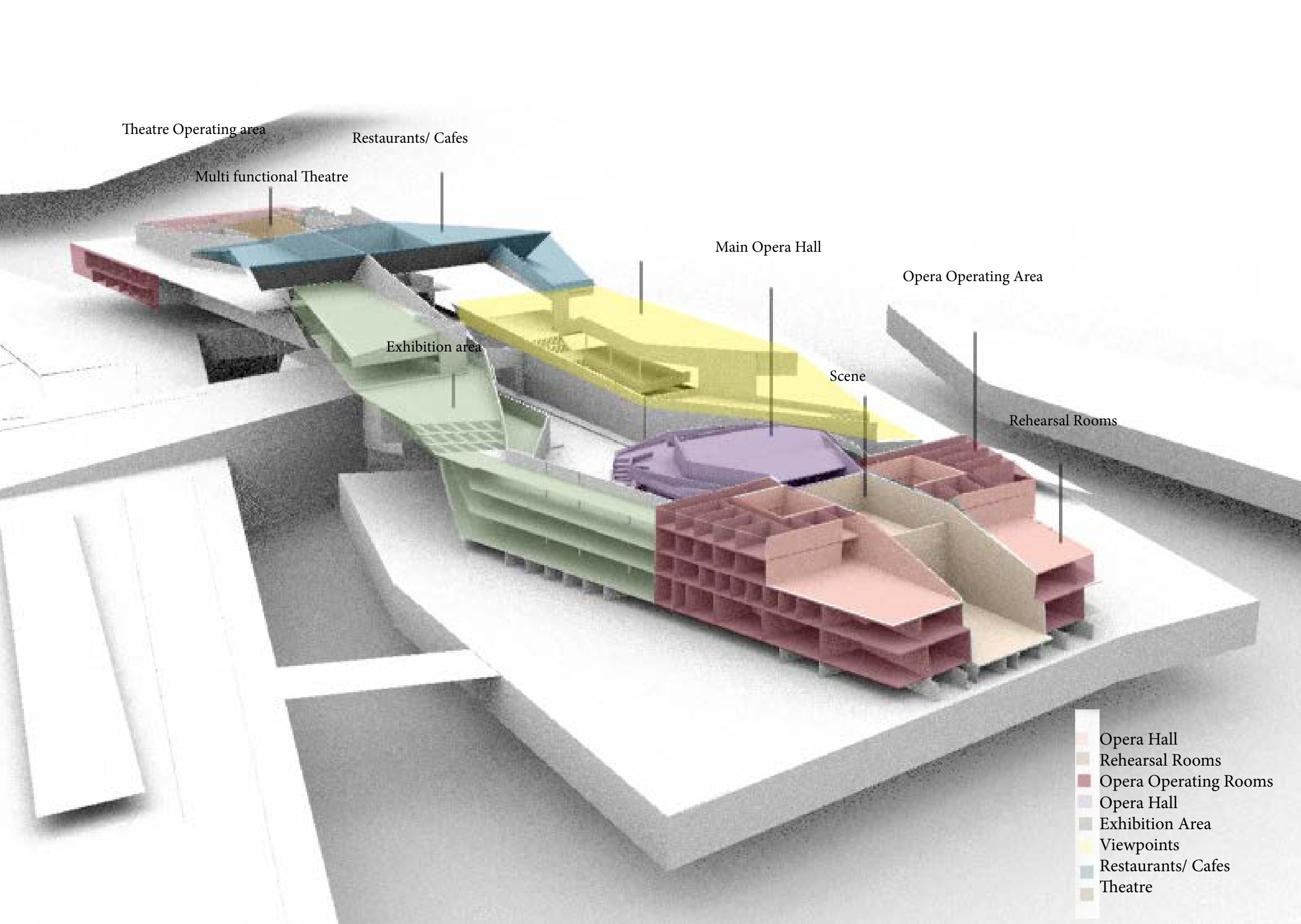
Restaurants/ Cafes

Multi functional Theatre

Theatre Operating area







Theatre Operating area

Restaurants/ Cafes

Multi functional Theatre

Main Opera Hall

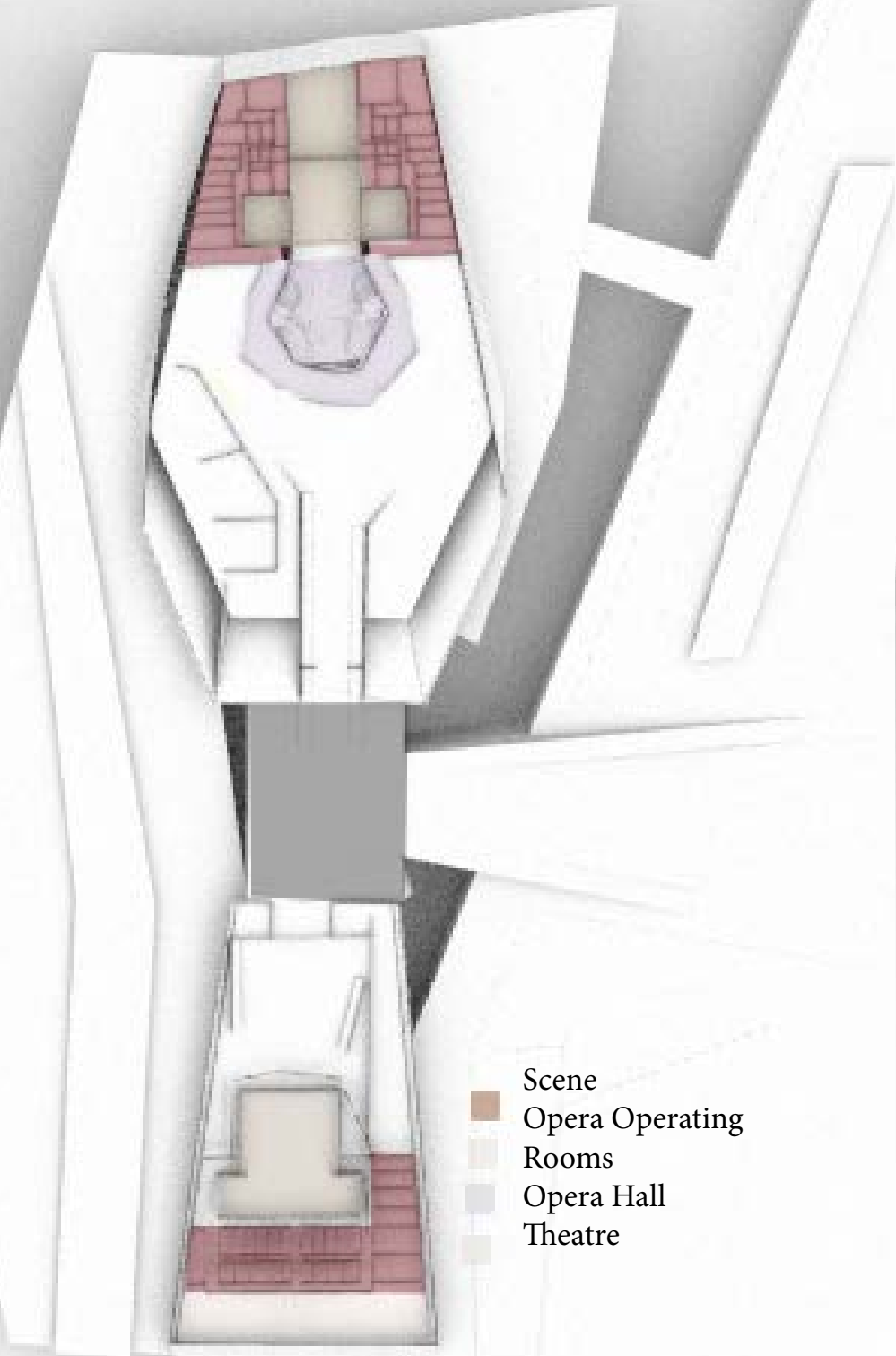
Opera Operating Area

Exhibition area

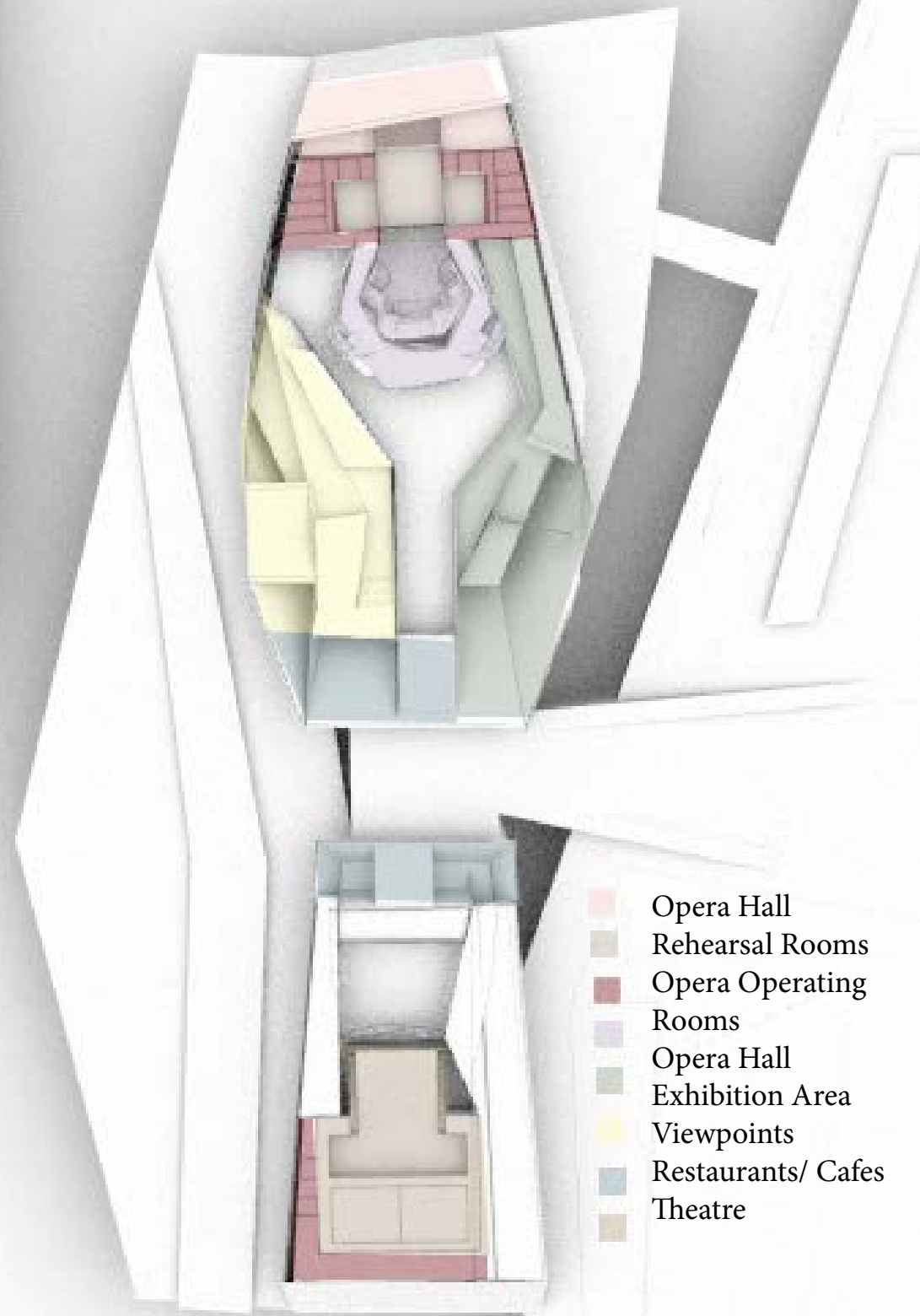
Scene

Rehearsal Rooms

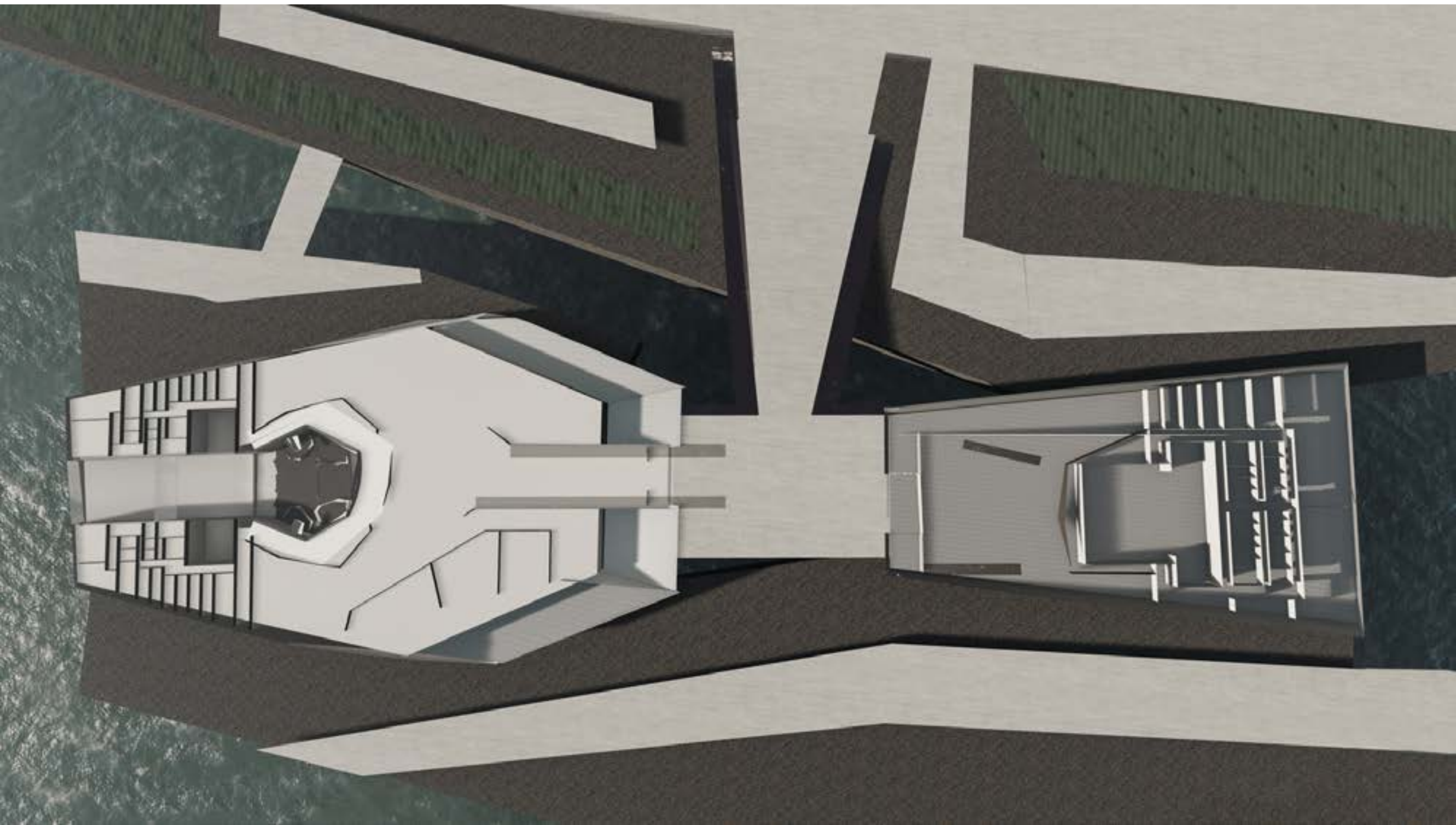
- Opera Hall
- Rehearsal Rooms
- Opera Operating Rooms
- Opera Hall
- Exhibition Area
- Viewpoints
- Restaurants/ Cafes
- Theatre



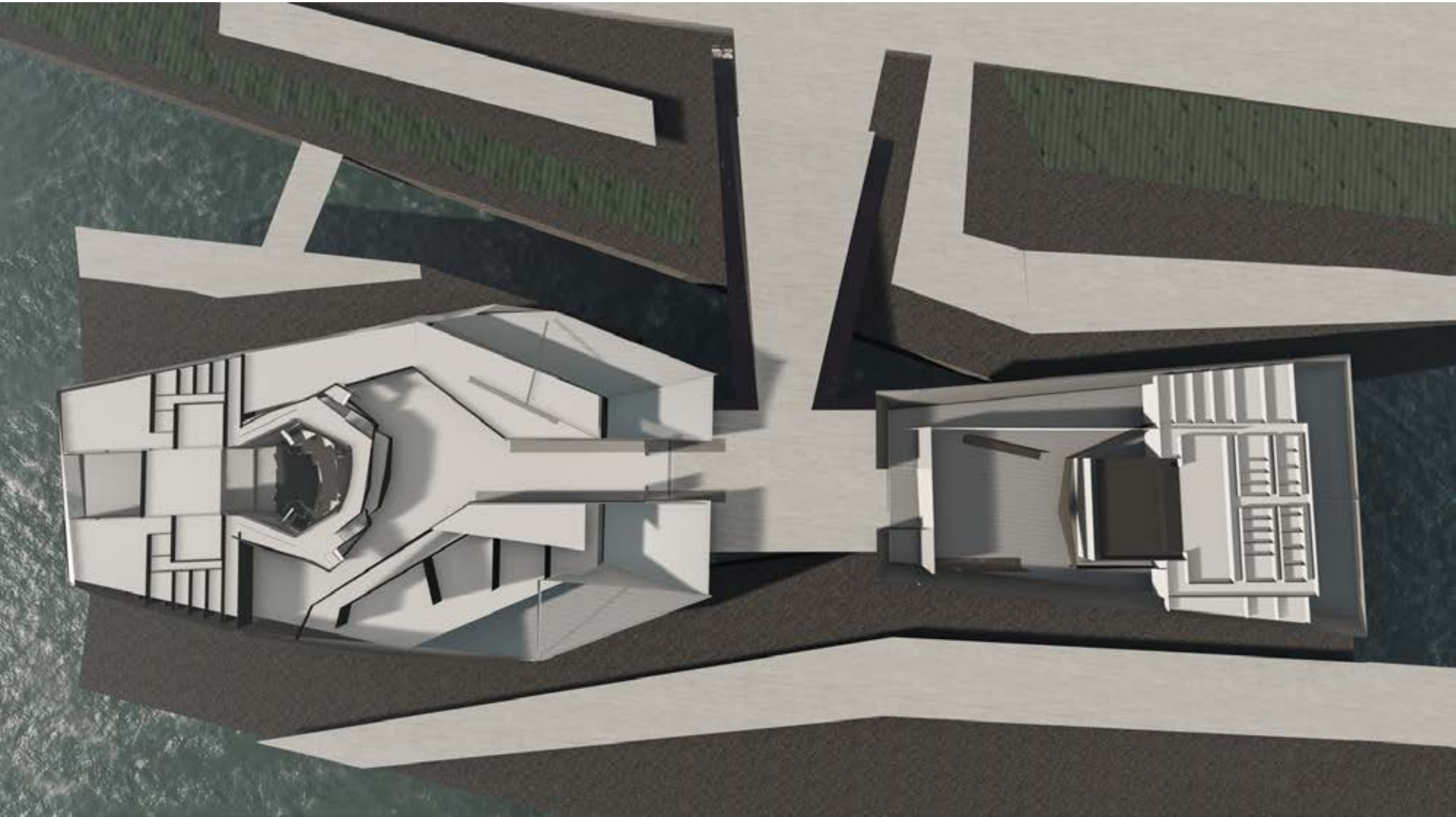
- Scene
- Opera Operating Rooms
- Opera Hall Theatre



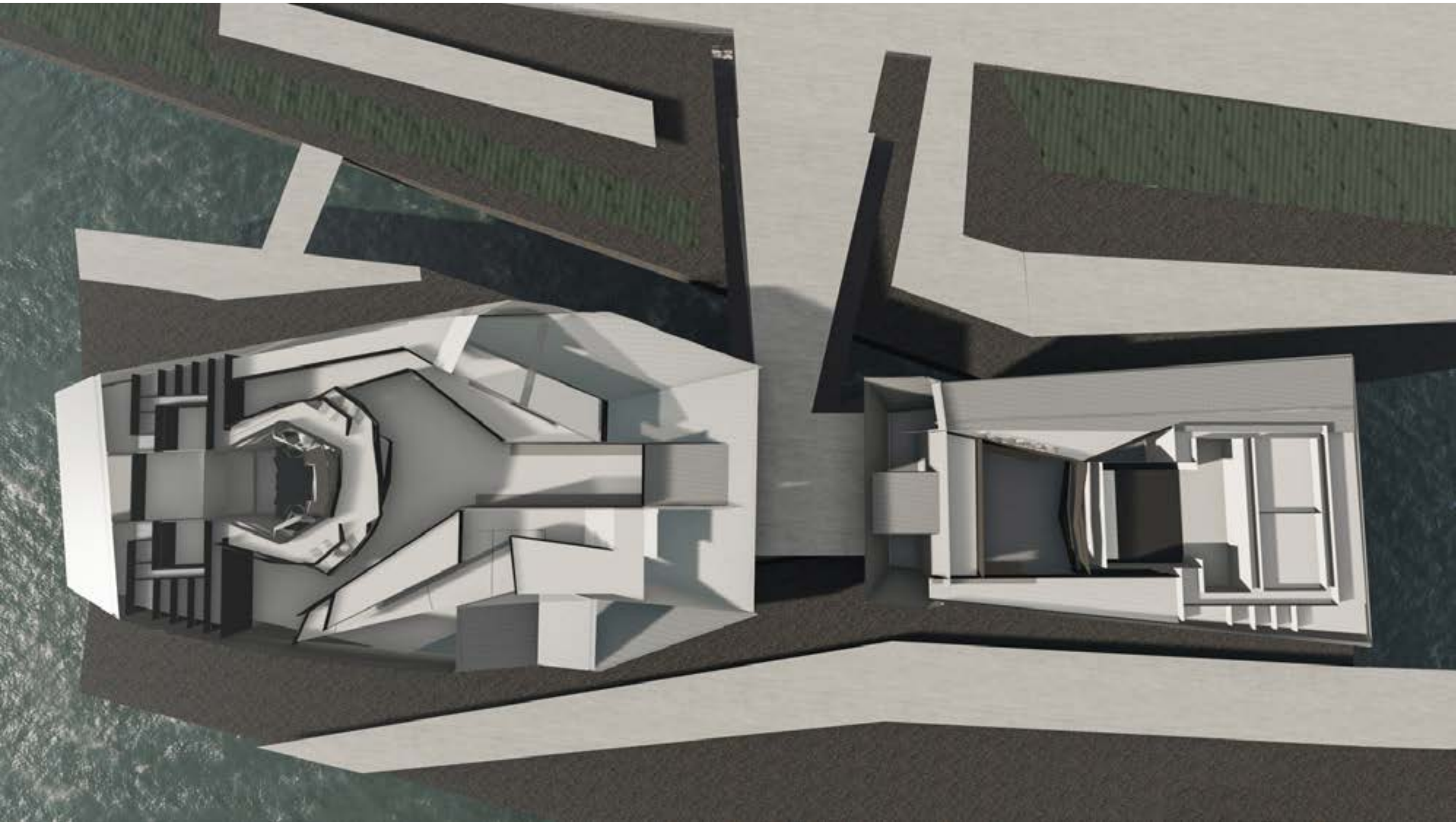
- Opera Hall
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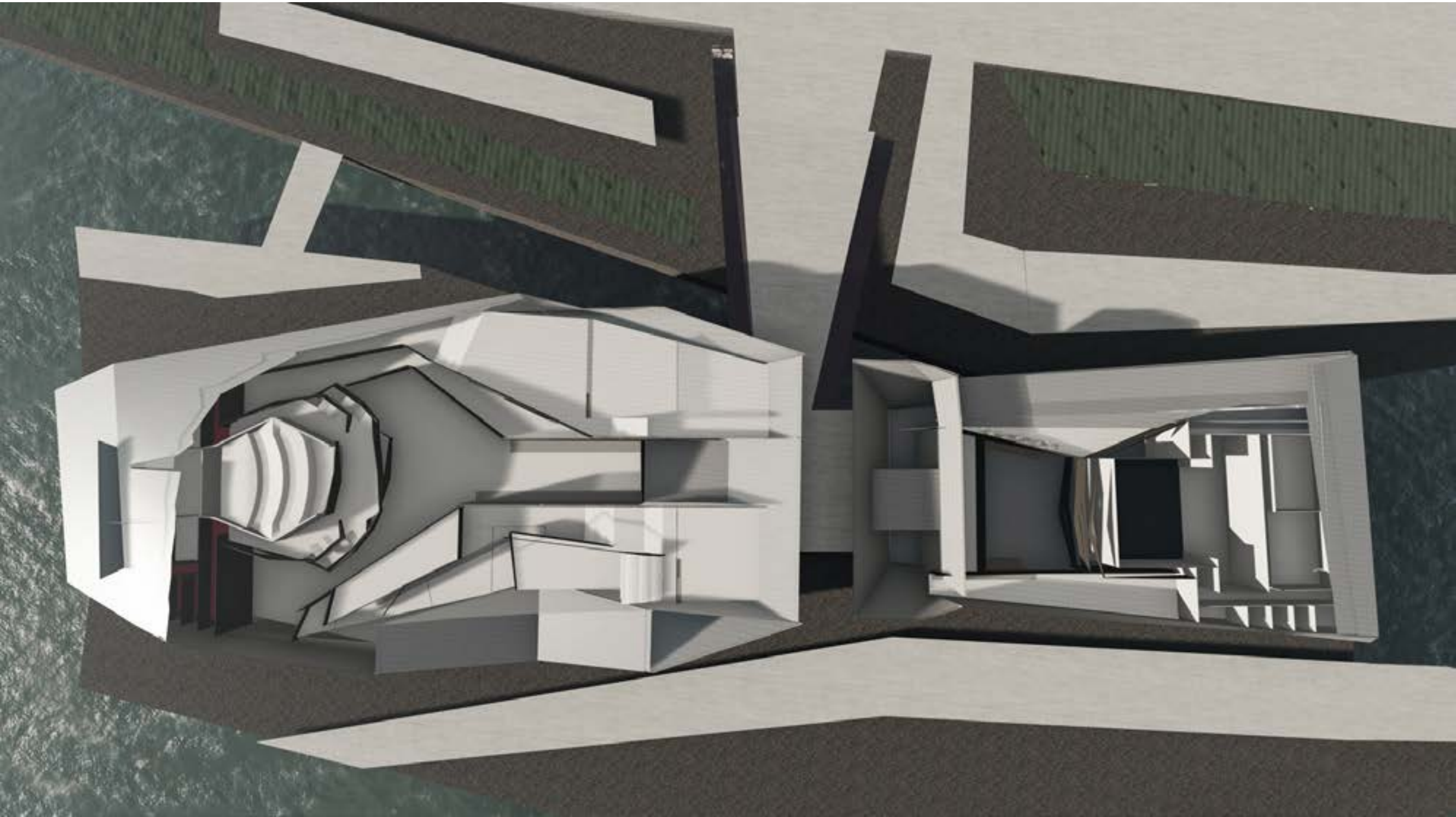
PLAN LEVEL +7.00



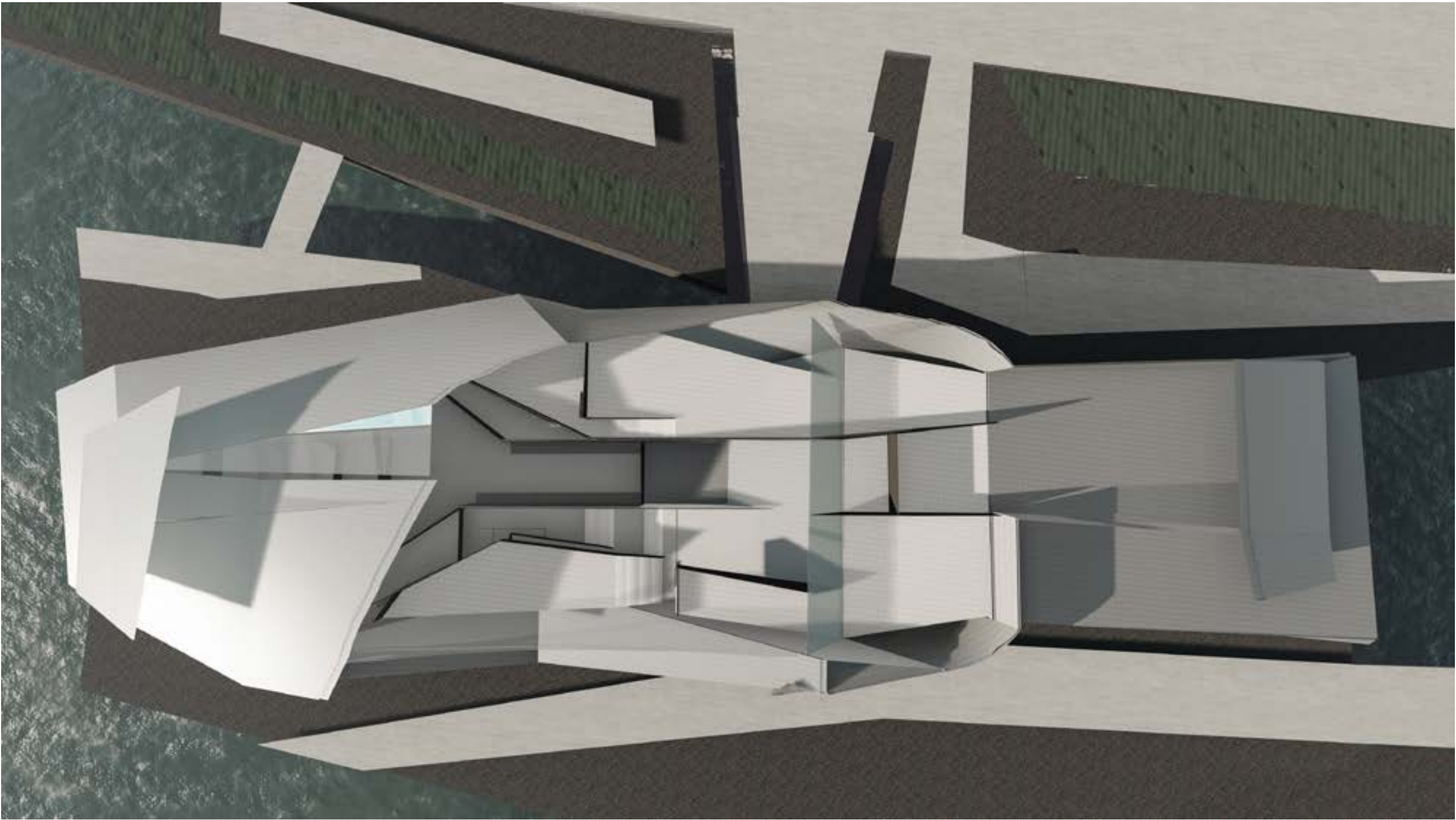
PLAN LEVEL +13.00



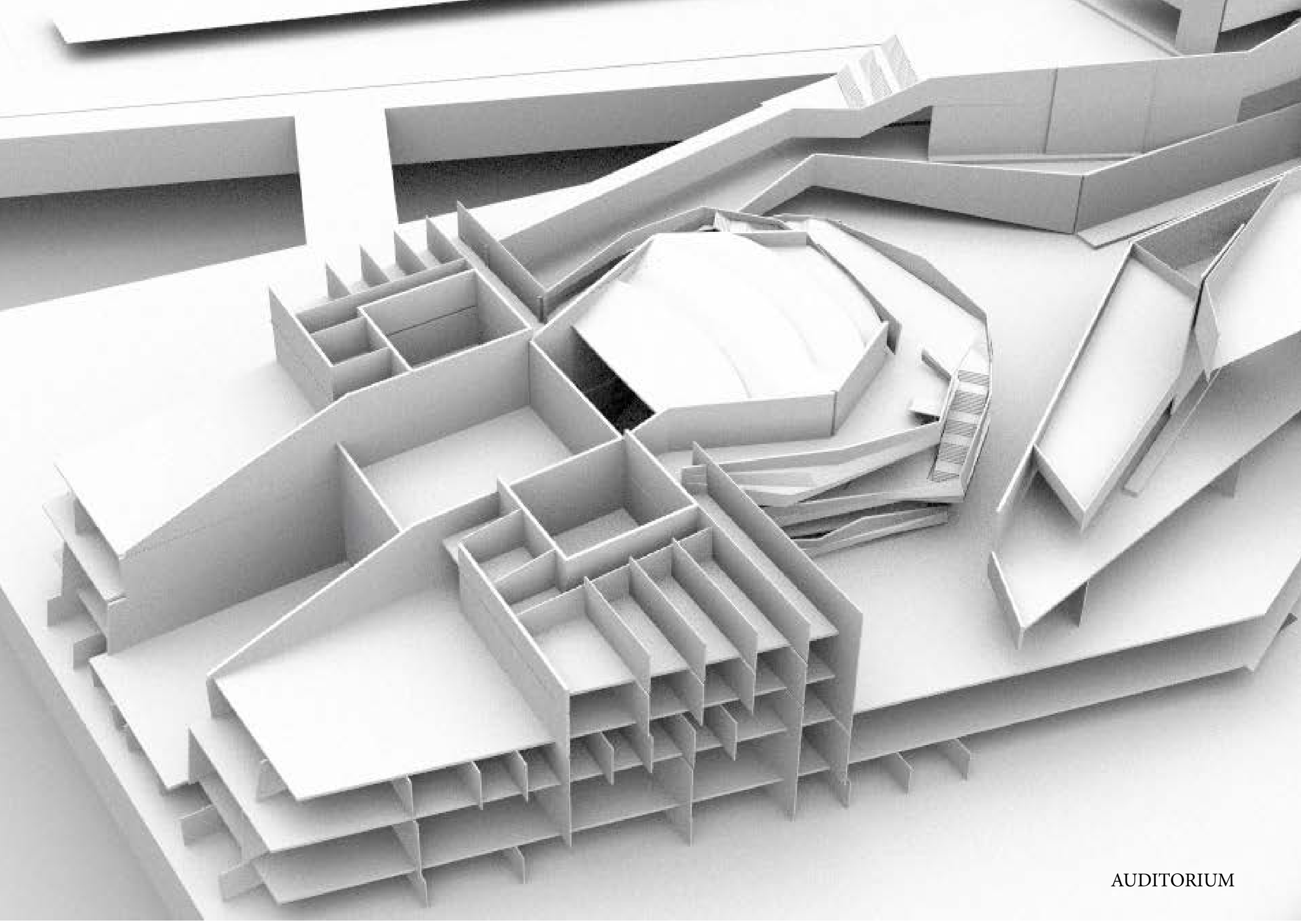
PLAN LEVEL +19.00



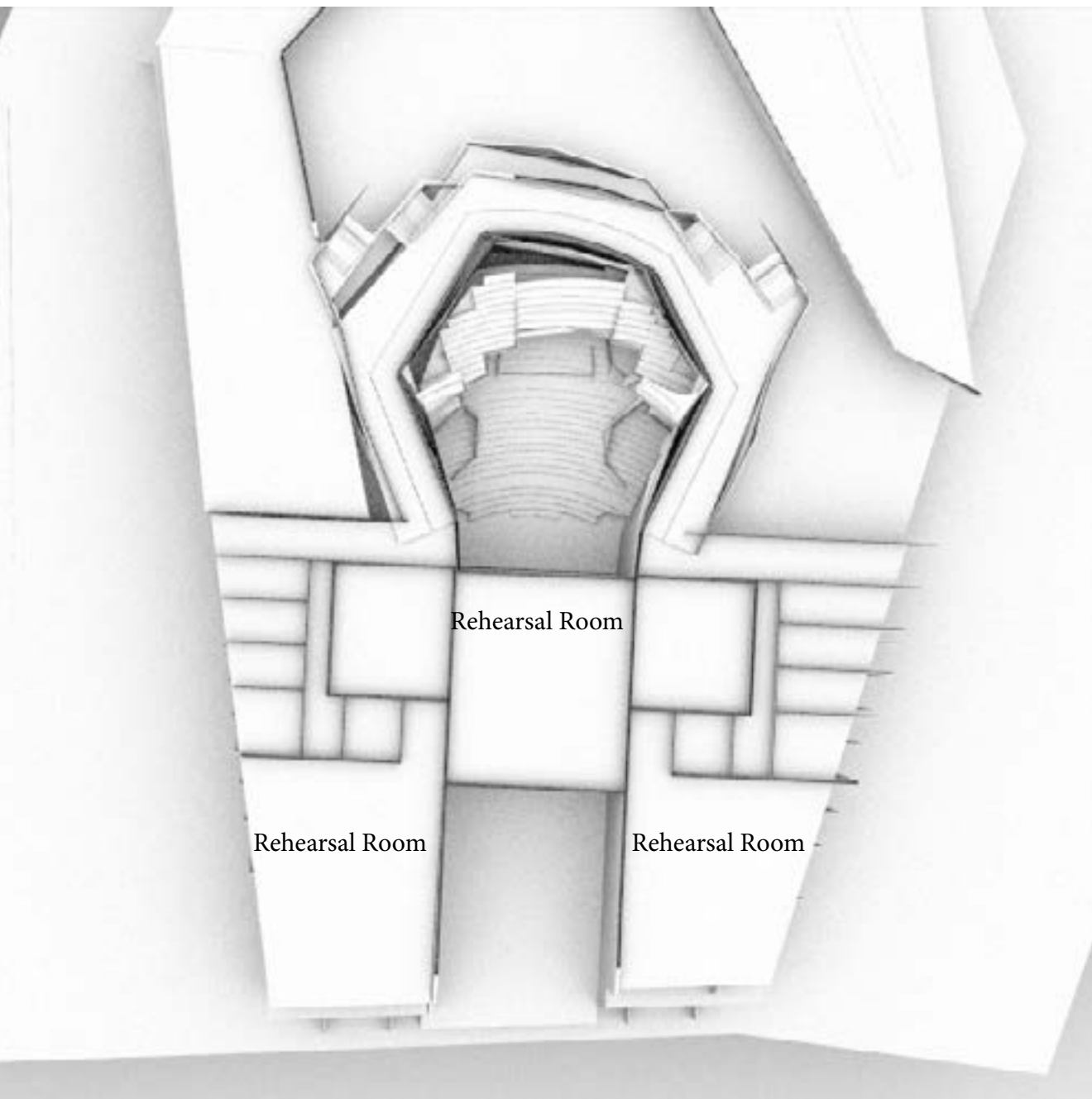
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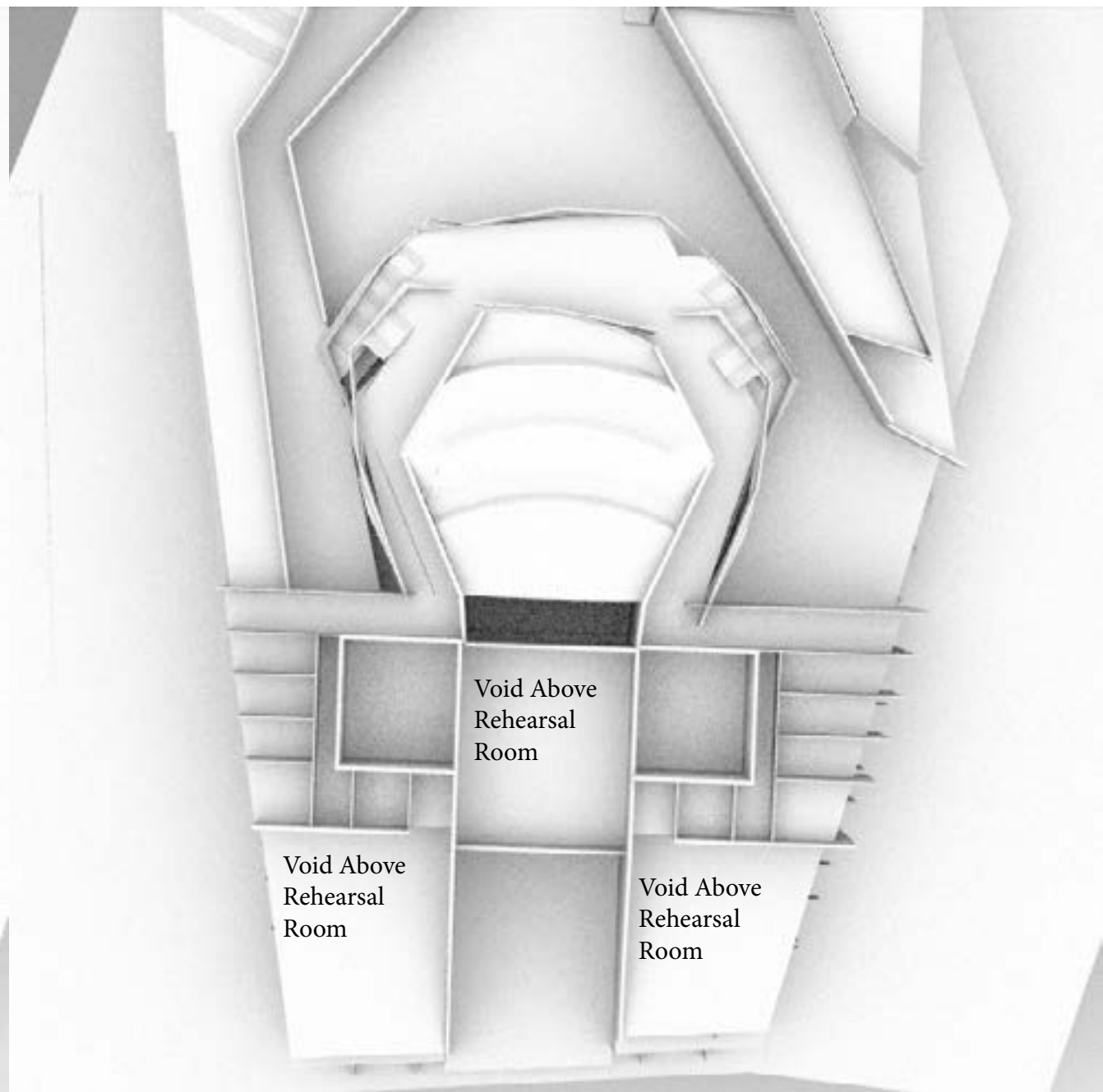
PLAN LEVEL +42.00



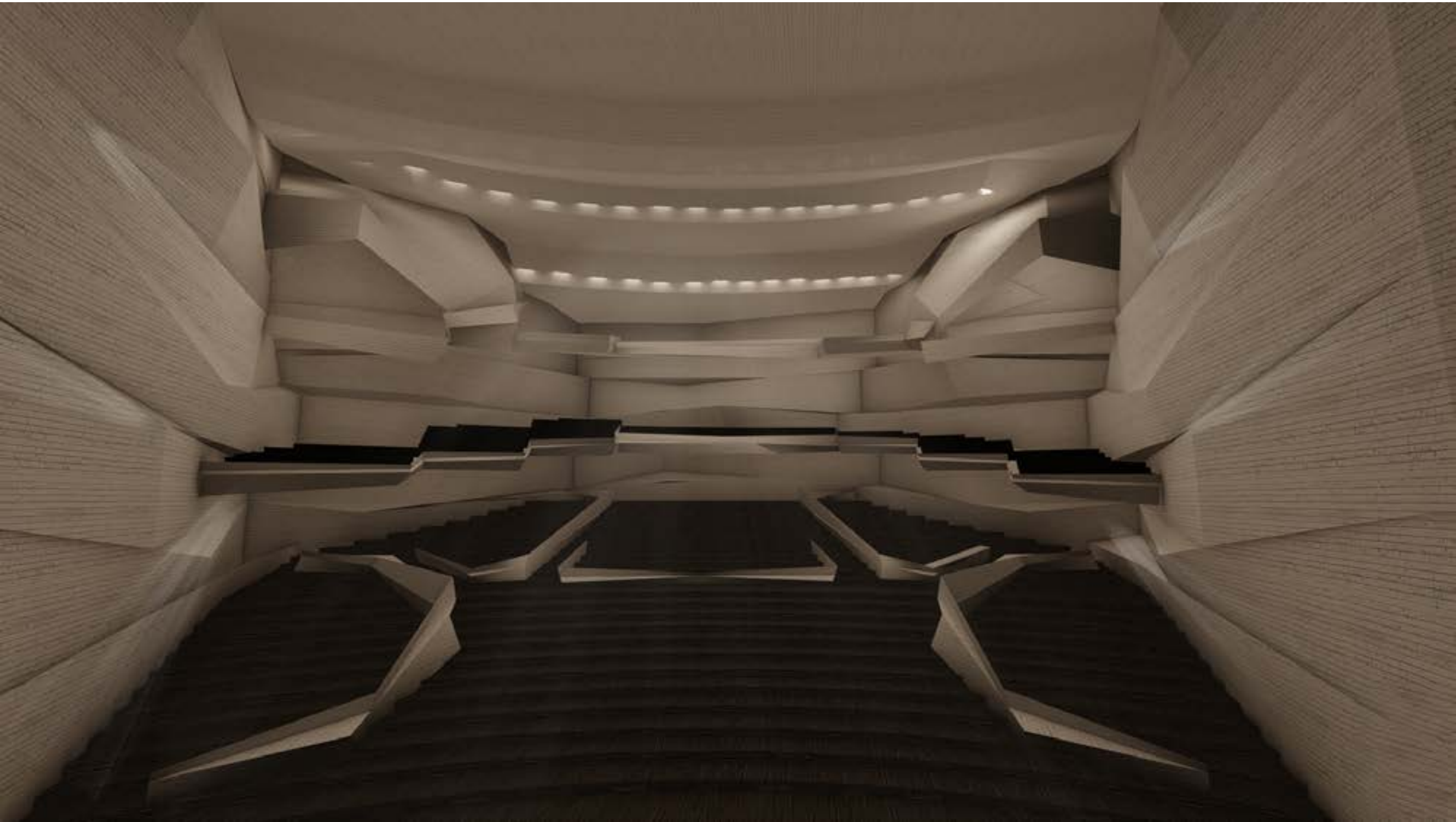
AUDITORIUM



AUDITORIUM PLAN
LEVEL +19.00



AUDITORIUM PLANS
LEVEL +28.00



AUDITORIUM RENDERS



AUDITORIUM RENDERS



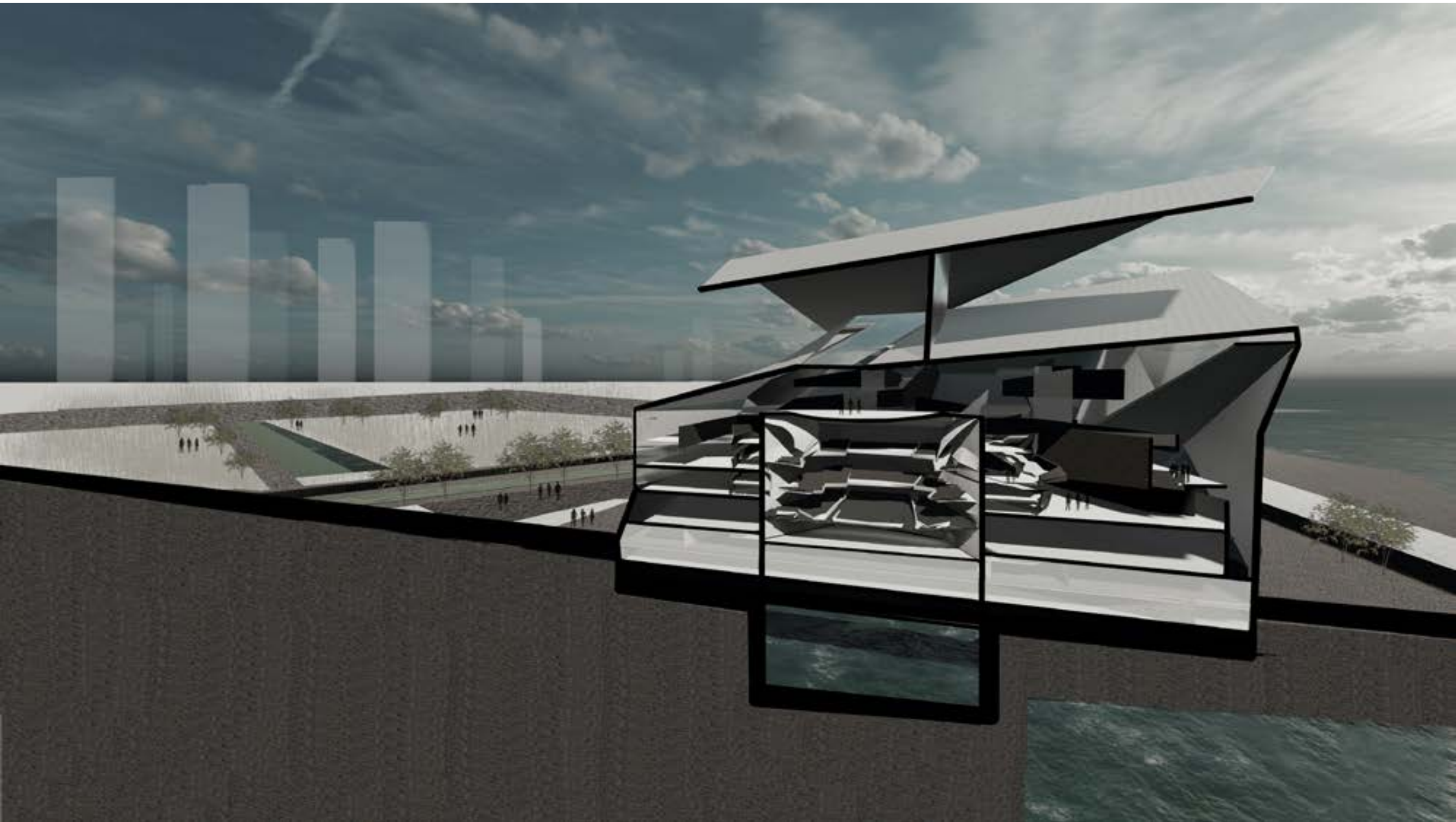
AUDITORIUM RENDERS



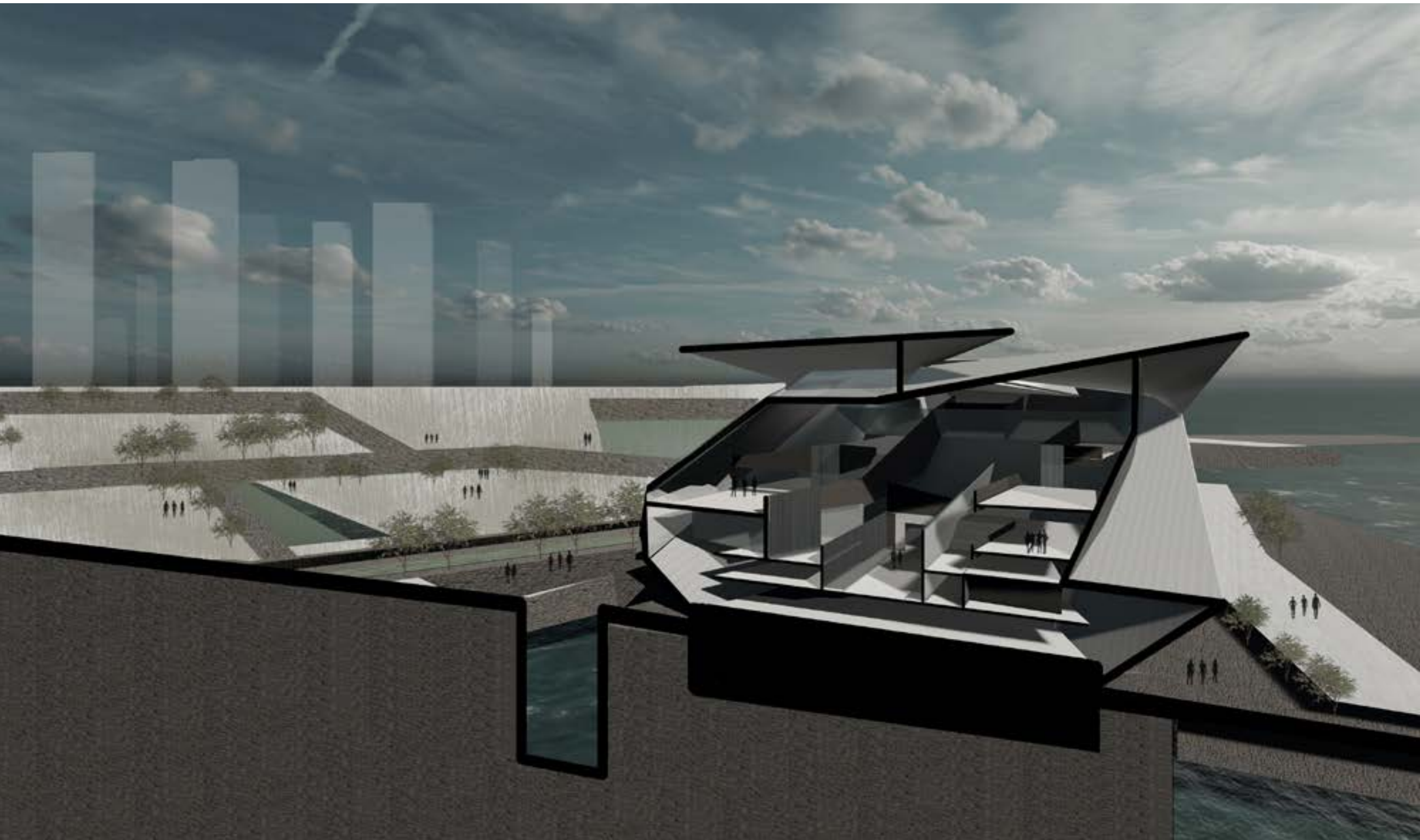
INTERIOR RENDERS



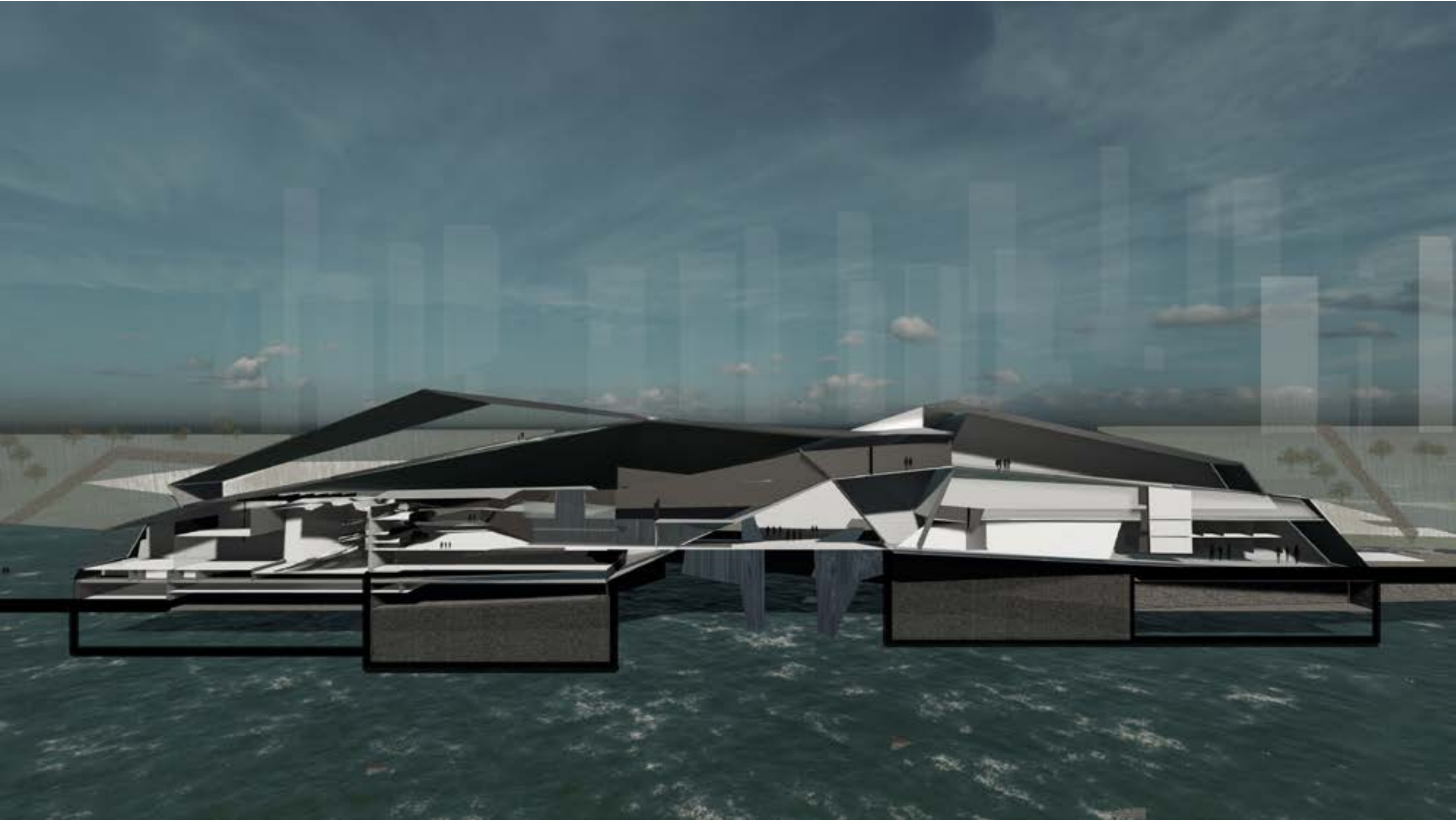
INTERIOR RENDERS



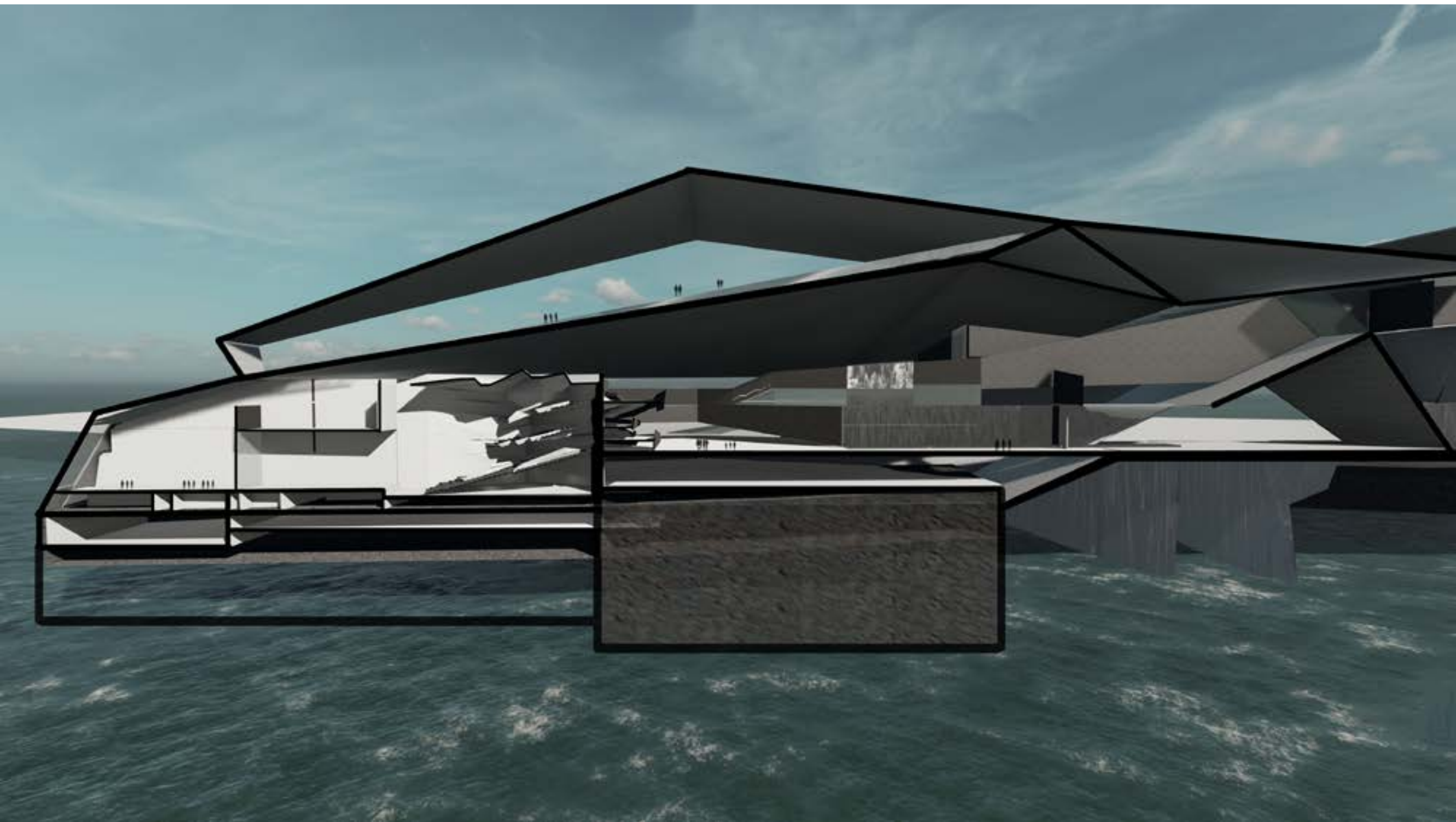
SECTION A-A



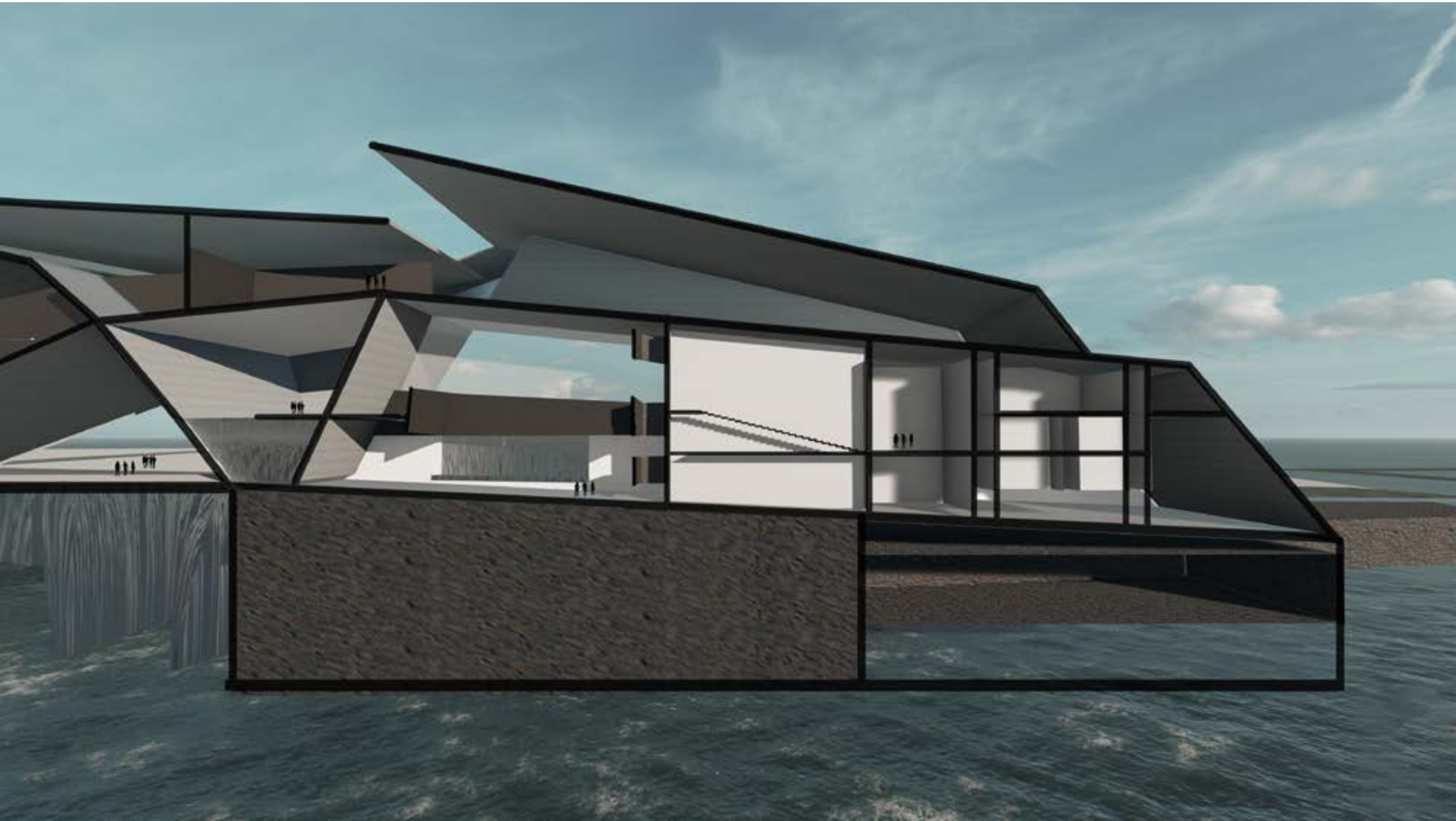
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

