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MASTERARBEIT

Kayaking Center and Hotel Vrbas Canyon, Bosnia and Herzegovina

ausgeführt am Institut für

Architektur und Entwerfen, Abteilung Gestaltungslehre
der Technischen Universität Wien

unter der Anleitung von

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durch

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10.01.2011	_____
Datum	Unterschrift (Student)

Ova knjiga je posvecena mojim roditeljima i sestri, za bezuslovnu podrsku i vjeru koju su mi oduvijek pružali.

Veliko hvala Sanji Grujicic, koja je u fazi konkursa ucestvovala na razvoju ovog projekta.

Herzlichen Dank an Prof. Walter Cernek, für die Freundlichkeit, Motivation und Geduld.

And a very special thank you to all my friends, a family away from home, and one in particular, whose name should be cosigned on this book, Tyler Bornstein.

This project is conceptualized as a research in rethinking familiar typologies, according to the context in which they emerge. The point of departure was an international competition for innovative skyscrapers, eVolo 2010, which led to the discovery of the amazing site in the canyon of the river Vrbas, near Banjaluka in Bosnia and Herzegovina.

The Vrbas Canyon has been one of the rare epicenters of tourist activity in Bosnia, attracting nature and watersport lovers from all over the world to this otherwise tourist forsaken country. In a country recovering from a war, tourism has yet to be developed, and the canyon has the potential, but not the facilities to attract fans of water and extreme sports from all over the world (rafting, kayaking, canyoning).

In 2009, the World Rafting Championships was held in the Canyon, but due to a hasty organization, no facilities or infrastructure has been built, and many issues remained unsolved. Issues such as accessibility for example, that has always been the biggest problem in the canyon.

The project hence aims at resolving those issues, while at the same time accommodating facilities for adventure tourists and giving them a personalized experience, thus becoming a tourist attraction in itself.

1_context

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Chapter 1_A RIVER RUNS THROUGH IT

The breathtaking site of this project is situated just south of Bosnia's second biggest town, Banja Luka. An administrative center today, the city owes a significant part of its architectural appearance to the former Austrian-Hungarian Empire that absorbed Banja Luka peacefully in the 19th century and rapidly modernized the town, building factories and connecting it to Vienna and other cities.

The river Vrbas, town's trademark and inhabitant's pride and joy, has been the gravitating point for settlements since the Paleolithic period. During the Roman era it was an important connection between Dalmatia and Pannonia. After the fall of the Roman Empire, Slavic tribes inhabit the area in the VI and VII century. In the Middle Ages, they built three fortresses in the canyon area, and the remains of the fortresses and gravestones can still be found there today.

Vrbas is a fast and sometimes furious mountain river, rich in waterfalls and cascades, which make it impossible to swim in, but perfect for extreme watersports such as rafting and kayaking. From its source under *Zec Mountain*, 1700 meters above sea level, Vrbas carves a composite valley, a dynamic landscape varying between tame valleys sprinkled with village houses to steep, monumental canyons.

Not only the site of this project, but a broader area, namely the entire confluence of Vrbas is an undiscovered leisure destination, not only because of its truly amazing landscape, but because of the sports, musical and visual arts events and festivals that are establishing a tradition in this setting. The pristine location and a certain alternative character of these events appeal first and foremost to the 'new tourist', one that is appalled by mass tourism, the crowds, haste and superficiality of the 'catalogue-destinations' and is on a search for an experience, and adventure, a *genius loci*.

In its upper third, from the source to the small historical town Jajce, a smaller but very scenic river Pliva flows into Vrbas creating a 20 meter high waterfall. This is also a popular rafting trail, but a much easier and less skill-requiring one. Within 15 kilometers lie two very popular weekend camping destinations, lake Balkana, and an ethnic village Zelenkovac, The brain child of a local painter, Boro. Unique in its atmosphere, Zelenkovac is an entirely handmade village, home to the annual Jazz Festival, international volunteer camps as well as painting and sculpting colonies.

Another festival area lies in the middle third of the rivers confluence, in the small town Krupa na Vrbasu, where Ex Yu Rocks, or 'Bosnian Woodstock' as it has become known, has been bringing young rock'n'roll bands from the former Yugoslavia together since 1996.

This part of the confluence is where the extreme sports take place. From Jajce to Banjaluka, the river carves a deep limestone canyon with a strong inclination of the river basin. Vrbas flows through two canyons - canyon Tijesno (5km) and canyon Podmilacje (8km). The length of the water course is 31 km (from the dam Bocac to the center of Banja Luka). By the standards of the International Scale of River Difficulty, Vrbas is rated degree 3-4 ('waves numerous, high, irregular; rocks; rapids with passages clear though narrow, requiring expertise in maneuvering; scouting needed'), and on some routes 1-2¹ ('Waves small; passages clear; no serious obstacles'²), which makes it suitable for wild adrenaline adventures, as well as laid-back family fun in the nature.

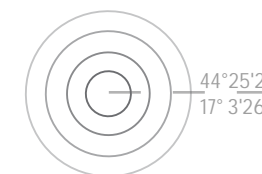
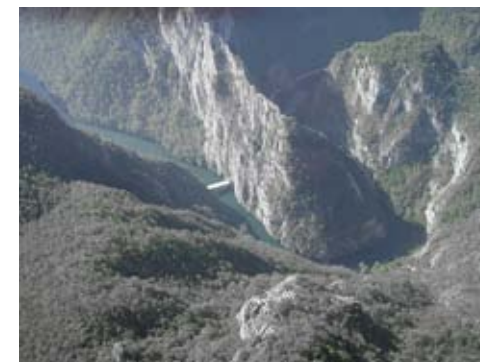
Depending on the opening of the dam, water flow varies from 25 to 100 m³, and in the spring time more than 500 m³. The water temperature in the summer time is up to 17 °C, and the air above 30° C.

The slopes rise up to 400 meters above sea level, and are as steep as 80%, creating an atmospheric setting for water adventures, as well as less extreme nature-lovers activities such as hiking, camping and fishing. Vrbas is rich in rare species of fish from the salmonida family, which speaks of a very high quality of water. The canyon area has been under state protection since 1955.

In the final third of the rivers confluence, just outside of Banjaluka and up to the river delta, Vrbas becomes a calm lowland river, meandering its way through the city and the fields to the river Sava.

A major part of Banjaluka's traditions and urban life revolves around Vrbas. Flowing through the city center, its becoming a string of gastro and leisure objects, including Rafting Club Café at the end of the rafting trail and Café Kayak further south.

The Vrbas Canyon has been one of the rare epicenters of tourist activity in Bosnia, attracting nature lovers and extreme sport enthusiasts from all over the world to this otherwise tourist forsaken country. The war that took place from 1992 to 1995 undoubtedly took its toll on tourism, but on the other hand, the lack of industry during the war and in the post-war period preserved the nature and in a way contributed to the potential for future tourist development. In 2008, the World Whitewater Rafting Championships was held in the Canyon, but due to a hasty organization, no facilities or infrastructure has been built, and many issues remained unsolved. Issues such as accessibility for example, that has always been the biggest problem in the canyon.



Chapter 2: Row Your Boat

Kayak has a long tradition and a bright future in Banjaluca. A special kind of kayak, the so-called *dayak*, was built for these waters and has become the trademark of the city.

At first it was used for trade, which is how it became a status symbol for wealthy citizens. It also found its place in leisure, as well as ceremonies, such as wedding proposals – hence the nickname ‘The Gondola of Banjaluca’.³

Dayak is a long and shallow wooden boat, 6 to 9 meters long and 70 cm wide. Since the water level of Vrbas tends to get very low in the city, dayakers use a long wooden stick instead of a paddle, to push off the bottom of the river, which is how the boat gets its name. The distinguishing parts of a dayak are the stern and the bow, made of acacia, cherry, mahogany, oak and ash, often portraying a mythical creature and showing casing the builders skill.

Like other wooden boats, dayak has been replaced by modern day kayaks made of fiberglass, wood, plastic, fabrics, and inflatable fabrics such as PVC or rubber. Whitewater racing kayaks are made of of kevlar, carbon fiber, and glass-reinforced plastic construction as to reduce the weight, while improving stiffness. The top part (the deck) and the bottom (the hull) are molded separately and then bonded together using kevlar or glass cloth strips and epoxy or polyester resin.⁴

Building the boats is an important part of the sport as well, and a daily activity in the kayak/canoe club Vrbas and rafting club Canyon. When I finally decided to try out what the whole town has been raving about for years, I was nothing short of amazed by how this extremely small group of young people has managed to pull it off with pure enthusiasm: organize competitions on a European and world level, social events appealing to a younger audience, rental and scouting services for visitors of the canyon, popularized the sport and raised it to the level of a brand, winning countless medals on regional and international competitions on the side. Still, the growing interest in the sport, both at home and through tourism, demands a much larger and better organized infrastructure, one that can support its development and make a statement at the same time, giving this sport the space that it deserves.

There is a lot of emotion for the canyon and what it has to offer among the youth of the city, not very used to having too many possibilities and choices of what to invest their free time in. Bosnians are very sociable people, so the public element of the town’s number one sport becomes almost the most important thing to consider in the planning of the facilities. The seasonal character of the project requires a supplement in the form of a public space as well.

kayak [ˈkaɪæk] [from Eskimo (Greenland dialect)]

n

1. (Transport / Nautical Terms) a small light canoe-like boat used by Eskimos, consisting of a light frame covered with watertight animal skins
2. (Transport / Nautical Terms) a fibreglass or canvas-covered canoe of similar design





whitewater kayaking

1. taking a kayak down turbulent or frothy water, as in rapids or waterfalls

disciplines:
classic_10:00:00-35:00:00_6-10 km
sprint_ 02:00:00_500-750 m

categories:
_K1- individual kayak_male
K1W- individual kayak_female
C1- individual canoe_male
C2- two-man canoe

first competition:
_1862 budapest
first olympic games:
_1972 munich





‘You can appreciate the colors in nature — the ever-changing colors of the day and the seasons — because of the whiteness in the buildings. The whiteness is also a way of articulating the architectural ideas in the clearest ways: the difference between openness and closure, between transparency and opaqueness’. -Richard Meier⁶

Chapter 3_Second Nature

The idea for this project originated in a prominent skyscraper competition eVolo 2010. The goal of the competition is to examine new typologies of verticality, not only as far as organization, but also placing the skyscraper in new context and exploring its alternative possibilities.

Verticality usually comes about in architecture as a result of high density, so it's always connected with an urban context. This project explores the possibility and the potential of a vertical structure outside of an urban context, not in order to relieve density, but to improve accessibility and enhance the experience of the landscape.

Naturally the first issue that arises and one of the main issues of this project is the approach to building in pristine locations. Can architecture bring about the authentic experience of an untouched landscape and at the same time make the landscape habitable for visitors?⁷ This requirement seems to contradict itself, since tourism needs a vast infrastructure that's bound to interfere with the notion of 'pure, unspoiled nature'.

This interference takes on two fundamentally different approaches: the first one attempts to be as invisible as possible and scatters the architecture across the landscape, which seems only to achieve a counter-effect, 'tragically draining the landscape of what made it attractive, the grand scale and its very emptiness'⁷.

The second approach creates the opposite: a mega structure intervention in landscape, 'positioning a concentrated tourist infrastructure in a mass-void interplay between buildings and their surroundings'⁷.

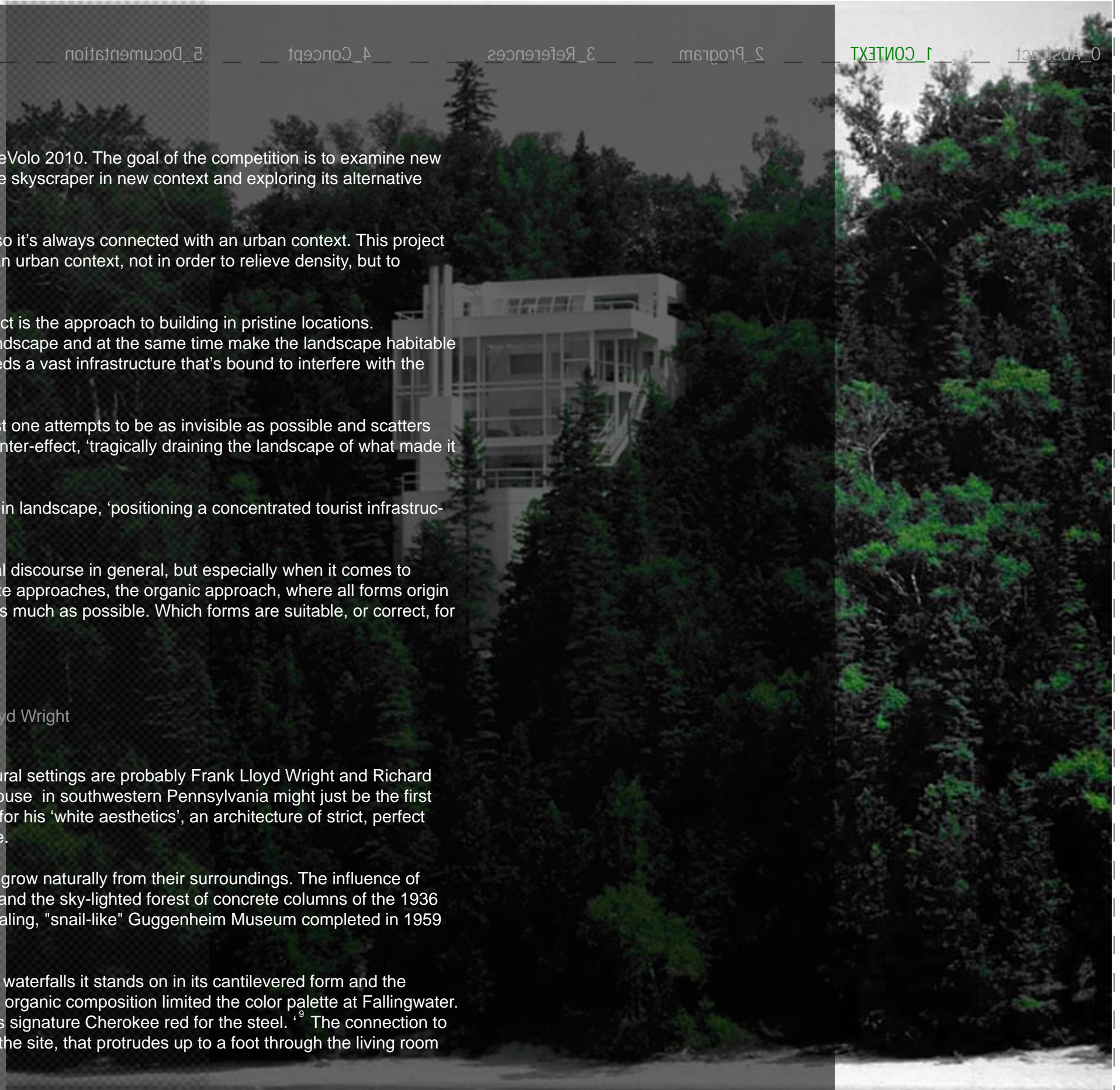
The relationship of the form with nature is another big issue in architectural discourse in general, but especially when it comes to building in nature. The positions again seem to be polarized in two opposite approaches, the organic approach, where all forms origin in nature, and the geometrical approach, that tries to contrast the nature as much as possible. Which forms are suitable, or correct, for pure nature?

'Study nature, love nature, stay close to nature. It will never fail you.'
- Frank Lloyd Wright

Two of the most celebrated examples of contemporary architecture in natural settings are probably Frank Lloyd Wright and Richard Meier. The former a proponent of the organic style, whose Fallingwater house in southwestern Pennsylvania might just be the first architourist monument, with its 120 000 visitors a year⁸. The latter known for his 'white aesthetics', an architecture of strict, perfect forms deprived of color, in order to bring out the colors and forms of nature.

Wright preached the beauty of native materials and insisted that buildings grow naturally from their surroundings. The influence of nature is readable in all of his buildings, from his famous "Prairie" houses and the sky-lighted forest of concrete columns of the 1936 SC Johnson Wax Administration Building in Racine, Wisconsin, to the spiraling, "snail-like" Guggenheim Museum completed in 1959 in New York City.

The Fallingwater House, a product of his mature organic style, mimics the waterfalls it stands on in its cantilevered form and the surrounding forest in its materiality. 'Wright's desire to create a unified and organic composition limited the color palette at Fallingwater. Only two colors were used throughout: light ochre for the concrete and his signature Cherokee red for the steel.'⁹ The connection to the site extends into the smallest details, such as leaving a rock found on the site, that protrudes up to a foot through the living room



floor, in place, in order to demonstrably link the outside with the inside. This masterpiece of architecture blends in perfectly with the pristine surrounding, but doesn't lose itself in it, instead it becomes a part of the nature, it becomes the location itself. The mimicking of nature is more abstract here; it doesn't literally take on the shape of natural objects and beings, but instead embodies the dynamics of the site, which is one of the principles applied in this project as well.

Meier's Douglas House is an example of the opposite approach on the same scale. Instead of trying to blend with the background, it consciously stands out with its blinding whiteness, bringing new light into the landscape. The building becomes a canvas for the nature, visually adding richness to its colors and textures. Not only the color contrasts the natural surroundings, but the formal expression as well, with its industrial aesthetics it's a 'machined object perched in a natural world.'¹⁰ Growing out of the extremely steep slope just like the surrounding trees, it also mimics the dynamics of the site, but the bold contrast in the materialization of this notion gives it a certain surreal aura, a haunting and timeless beauty. It purposely changes the landscape, only to give it a new identity and recognizability.

In today's overly visual culture, the landscape seems to have lost its iconographic potential, however spectacular it may be. Instead the tourist potential lies in the experience of the landscape, which is what this project aims at providing. Hence it opts for the mega structure approach, providing the nature loving tourist not only with accommodation, but with an extraordinary experience of the site and architecture both. Instead of mimicking the nature, it strongly contrasts it in its form and materiality, enhancing the visual experience of the surrounding. What it aims to mimic is the emotion of the place itself – its bigness and spectacle.



2_Program

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After the World Whitewater Rafting Championship in 2009 took place in the Banjaluka, it became clear that the existing infrastructure in the canyon isn't enough to support such an enormous event. Several thousand visitors and 600 competitors traveled every day from the city, leaving their vehicles kilometers away from the actual site of the competition due to a lack of parking spots, and watching the races from an improvised observation deck and the motorway above the water that had to be closed during the event.

A competition of this scale requires a large infrastructure, but such events, as profitable and welcomed as they are, only occur once or a few times a year at best. Much more prominent sport facilities have become haunted burden to their cities too many times, so one of the main objectives when defining the program of the new facilities in the Canyon was making it sustainable off season as well, which meant balancing the sport facilities with public space.

Nevertheless, a distinct character and identity of kayaking had to be conveyed, which is why the program combines three key elements of the sport: training, boat building and the love of nature. All of these notions are brought together in the horizontal element of the project, the base, keeping them close to water and the main traffic artery. The solution to the ever growing parking problem is a vertical underground garage in the base, saving a lot of space on this extremely narrow site.

From the base, a tower creeps up the hill in the form of a flexible grid carrying units, similar to a shipping container system. It's an innovative concept in hospitality, an ever changing space charged with possibility, designed specifically for the target group: young travelers, extreme sports enthusiasts and adventurers, whose prime concern isn't luxury or extreme comfort, but social element of the travel and exchange. This vertical youth hotel is a hiking trail, an observation deck, a potential exhibition space, a barrierless socializing hub all at the same time.

Chapter 1_The New Hotel

6.72

Similar to (permanent) housing, the architecture of hospitality seems to be rather conservative in its floor plans and slow to embrace radical changes on a large scale. It has, however, become much more eager to employ design as a strategy of attracting customers since the birth of designer hotel in the mid 80s.

The first designer hotel was Morgans Manhattan¹, opened in 1984, with its distinguished furnishings and fittings by the Parisian designer Andrée Putman. A variety of hotels followed across the world, as an alternative to the international hotel chains with tradition and recognizability, but as stylish as they were, the new concept mostly came down to furnishing the interiors, as oppose to designing the space itself. A new peak was reached in 2005, when the ultimate designer hotel, Puerta America, opened in Madrid. Puerta America brought in 19 starchitects to design 12 floors, a bar and a restaurant, from the renowned offices like Zaha Hadid, Jean Nouvel, Arata Isozaki, Foster Partners and David Chipperfield, to the young emerging architects like Plasma Studio. The result was a unique state of the art hotel, with daringly original spaces that awaken the senses and give the term luxury a new meaning.

It is of course impossible to talk about architectural luxury and designer hotels without mentioning the phenomenon of the past decade that is Dubai. Hotel Burj Al Arab, built in 1999 in Dubai, is probably the best example of landmark architecture bringing enormous profit to hospitality. It's not just the decadent luxury of the only 7 star hotel on the planet that's made it famous, but its distinguishing design. Landmark architecture brings the kind of attention that can make all the difference in today's market overwhelmed with possibilities and choices.

Designer hotels of today aren't restricted to the category of absolute luxury; in fact, it's usually the economy hotels that offer the innovative concepts of lodging, especially when it comes to spatial (space-saving) organization. One of the oldest radical concepts in economy hotels is the Japanese capsule hotel, mostly used in the 1970s among the business travelers who missed their last train home. One of the best known hotels of this type is the Green Plaza Shinjuku in Tokyo. Three minimal sleeping boxes are stacked on top of each other and closed off from the corridor solely by a curtain¹.



Green Plaza Shinjuku
1-29-2 Kabukicho, Shinjuku
Tokyo
Japan

dasparkhotel
Donaulände 21
41000 Ottensheim
Austria



A modern day version of the capsule hotel is the Yotel, a concept developed in Great Britain. Yotels consist of modular cells that can be joined together wherever space is available. Located inside the airport terminal buildings or even inside the secure area, minutes away from departure gates, they offer a solution to travelers on widely spaced connection flights, to 'sleep, refresh, work or relax'². Unlike the 70s capsule hotel, Yotel's extremely temporary character doesn't compromise it's luxury, one can choose between Premium (double), Twin (2 large singles - bunk style) Standard (large single) cabins with en suite bathrooms, flat screen TV's, free WiFi and 24 hour in cabin service.

Another direction in innovative hospitality concepts is the theme hotel, a concept derived from the American theme park. The concept boomed in Las Vegas at the end of 1980s, and spread across the globe often in bizarre variations.

At Dasparkhotel in Ottensheim, visitor are offered shelter in a cement pipe, outfitted with a double bed, lamp, skylight, brightly painted contrasting walls and a futuristic pin-code lock³.

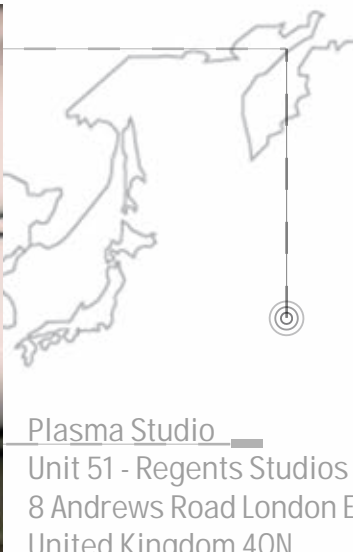
From ice hotels, through medieval castles to luxurious adaptations of former prison buildings, theme hotels are an event and an experience in itself, which is what this project aims at achieving as well. Designed for a specific target group, it offers an innovative organizational concept of the lodging units, combining them with other content, such as spa and gastronomy, in order to function as a self-sufficient hybrid entity in a secluded rural surrounding.

Hybridization has proven to have great potential in hospitality, especially in isolated locations. The lack of distraction works to the advantage of the organizers and reduces economic risks, as the guests have all of the services they might need on the site.

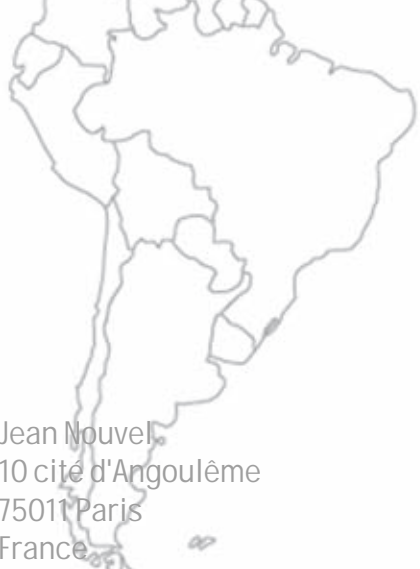
The public areas have undergone the biggest change in hospitality in the past decade; they have been upgraded and extended to provide additional services, such as fitness and wellness, which are almost required in a contemporary hotel. This project explores the notion of public space in the hotel, respectively the notion of lodging in a public space. The units provide a private space that's plugged into a forum, a vertical park. a public space blob that shrinks and expands like a living organism.



Zaha Hadid Architects
10 Bowling Green Lane
London EC1R 0BQ
United Kingdom



Plasma Studio
Unit 51 - Regents Studios
8 Andrews Road London E
United Kingdom 4QN



Jean Nouvel
10 cité d'Angoulême
75011 Paris
France



- - - - -

‘It’s the movies that have really been running things in America ever since they were invented. They show you what to do, how to do it, when to do it, how to feel about it, and how to look how you feel about it’. —Andy Warhol

2.2. The New Visitors Center_ playing the emotional card

Vrbas River and Canyon are the pride and joy of the regions inhabitants, but regardless of the emotional involvement and sense of belonging, the ecological awareness is still fairly low. Even though the site has been under state protection since 1950s, the preservation of the nature has mostly been left to a handful of people in nonprofit organizations, hardly capable of dealing with the consequences of deep-rooted polluting habits. The relationship with the nature has so far mostly been a one way street, which is why the program of this project combines leisure functions in the nature with some much needed PR for the canyon, in the form of an interactive visitors center.

A visitors center, especially one located in a prominent location, can be a very significant factor in creating an image of a protected area. Its primary goal is to persuade as many people as possible of the value and preciousness of the location, to influence their attitudes and ideally their behavior as a result.

Its function in that sense has a lot to do with marketing strategies, that should be incorporated into the planning as well. One of the basic strategies is the *AIDA Rule: Attention, Interest, Desire, Action*⁴. Over time the strategies have become more complex, as the experience has shown that such a linear approach isn't always a 100% efficient in influencing the behavior itself. But what it does influence is the emotions, which is how the new museums and visitors centers are trying to reach a broader, non-expert audience.

The American concept of a Science Center has replaced the traditional Natural History Museum, and the concept of involving and seducing the audience, instead of teaching and informing, has established itself throughout the world. Long explanatory texts have been replaced with interactive tools, that follow the play and learn principle, and aim not only to attract, but to hold the visitors attention.

However, not only the exhibits, but the entire infrastructure of a visitors center plays a role in creating an image. A happy customer is more open to the messages that the exhibition wants to bring across, which is why the visitors center has to cater to the visitor's needs: entertainment, orientation, activity, a welcoming atmosphere, conveniently placed sanitary facilities and seating etc.

This was one of the postulates of the recently opened National Park Königststuhl Visitors Center in Germany. In addition to an info-stand, a restaurant and an exhibition space, Königststuhl offers an adventure playground, a 14-minute Multivision tailored for bus tours and other limited visits, as well as indoor and outdoor event spaces. Königststuhl isn't a traditional House of Knowledge, but a *House of Messages*⁵. Various exhibitions have been developed around three main messages:

1. Nature takes time,
2. Nature is fascinating and
3. Nature is precious.

The concept for the execution originated in an Andy Warhol remark that real feelings nowadays don't unfold in life, but on a movie screen.

Each space is conceptualized as a walk-in film, designated with an emotion, an atmosphere, authentic noises, light effects, spatial orchestrations and even originally composed music and text read by actors (german synchronizers of Brad Pitt, Julia Roberts, Tom Selleck and Kevin Costner). The progression of the exhibition is carefully orchestrated as well, and has its own dramaturgy.

These basic principles of creating an impression have been implemented in this project as well. Hence, the Vrbas Canyon Visitors Center is organized through four zones:

1. Beauty,
2. Adrenalin,
3. Responsibility,
4. Freedom.

Each space reveals a facet of the Canyon, one of the many possibilities and atmospheres that it has to offer. The exhibition space is completely open and divided solely through temporary walls, to which the content of the exhibition is projected in a multimedia presentation. The moveable divides enable infinite possibilities for the orchestration of the exhibition, which always ends with a ride on the panoramic elevator to the peak of the tower and an experience of breathtaking views and freedom.

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PROJECT DATA:

Site: 17000 m²

Parking: 200 + 50 (garage+temporary)

PROGRAM:

Training zone (Pools + Gym) : 3000 m²

Media Zone + VIP: 1600 m²

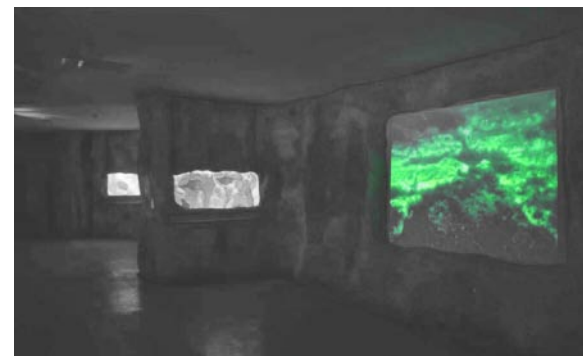
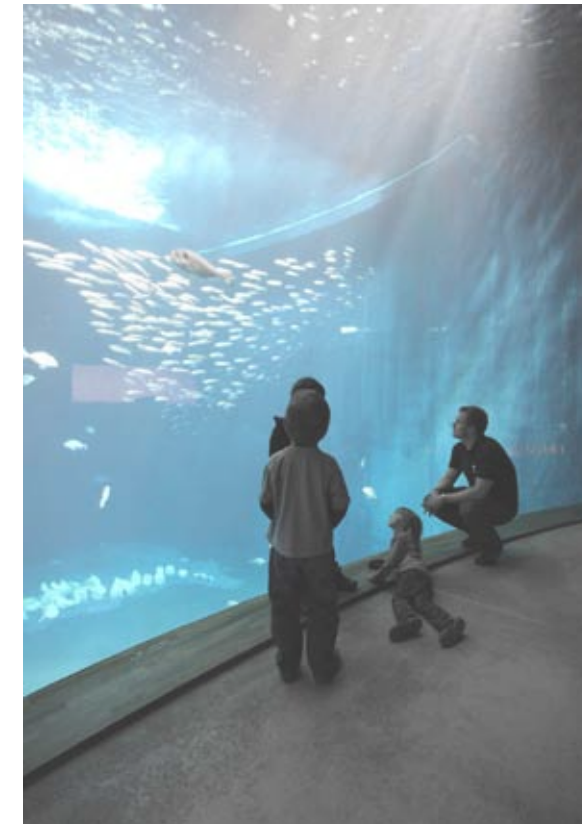
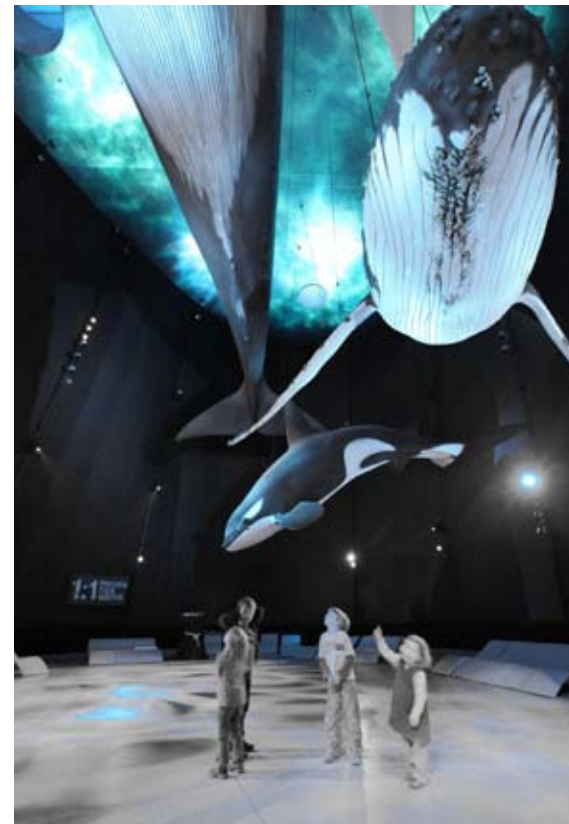
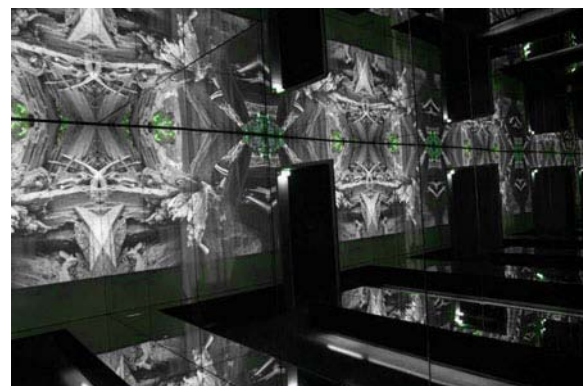
Visitors Center: 4800 m²

Gastronomy: 3200 m²

Workshop/Rental/Shop: 680 m²

Observation Deck: 7000 m²

Underground Parking/Units storage: 12500 m²



Visitors Center Königsstuhl
Stubbenkammer 2
18546 Sassnitz

3_Reference

generations_8

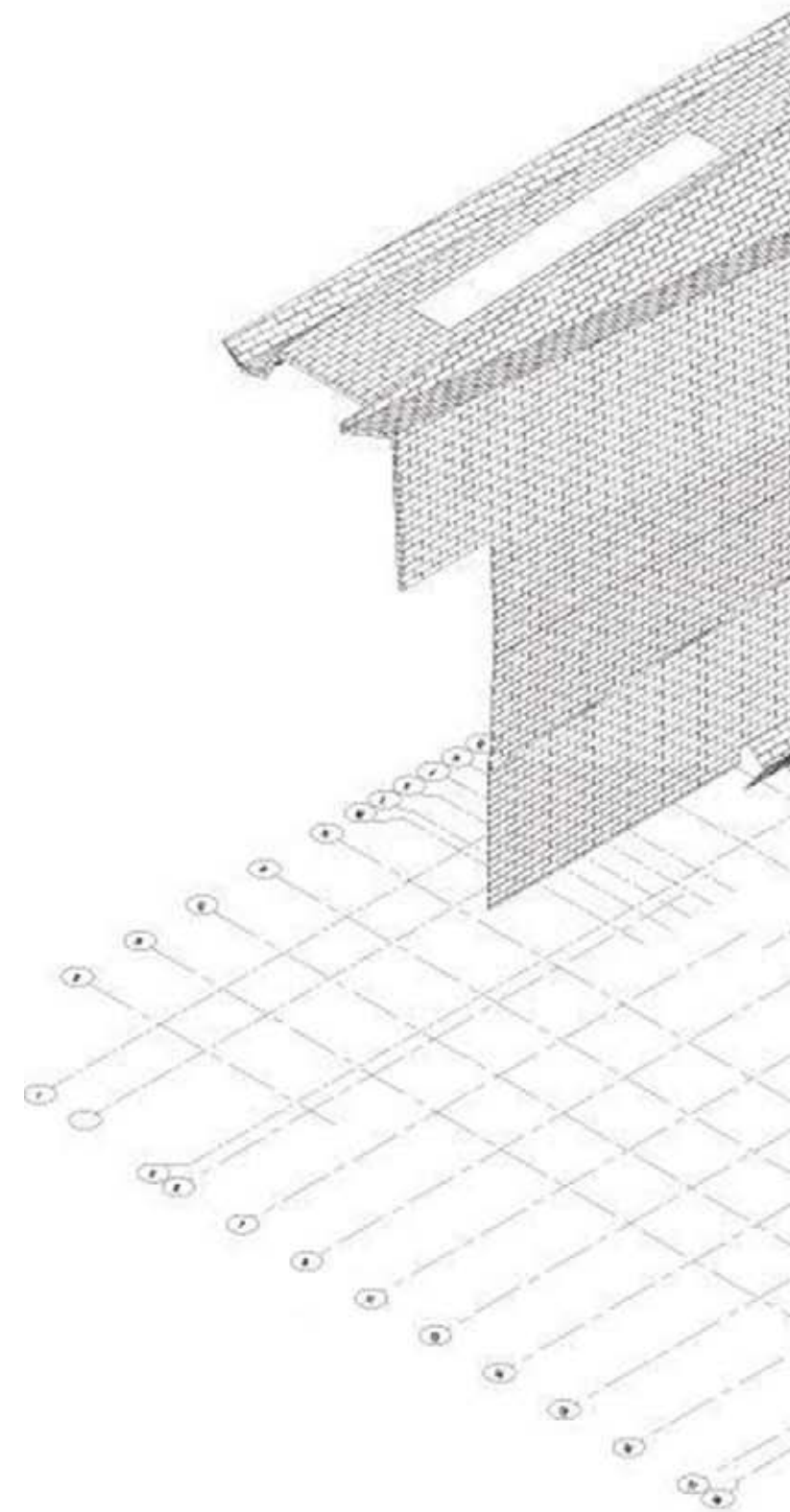
As one of the prominent figures of the deconstructivist era, Thom Mayne's work is characterized by ideas of fragmentation, an interest in manipulating ideas of a structure's surface or skin. This led to ideas closer to fashion design, flattening the surfaces and bringing them back together to make spatial combinations. A side effect was a change in the performance demands; the skin, as an interface between outside and inside, became a powerful means to reducing the energy consumption of the building.

The Federal building in San Francisco, completed in 2007, almost completely took out the air conditioning, minimizing the operational costs by 500 000 dollars a year. As a whole, the building is best understood as a hybrid that includes different space conditioning strategies appropriate for different locations in the building. The first five levels, with high concentrations of people and equipment, are fully air-conditioned. Above the fifth floor, the windows automatically adjust, allowing fresh air directly into the building for natural ventilation and free cooling. The window system creates a "living skin" that allows the building to breathe. Breezes pass through openings on the windward side and are vented out through the leeward wall, with control based on wind speed and direction. A computerized system, known as the building automation system (BAS), controls and monitors all of the building's mechanical equipment including those devices that are used to maintain internal environmental conditions and lighting levels. On the naturally ventilated floors, the computer system opens and closes windows, vents and sunscreens in response to temperature within the building as well as external environmental conditions. The window wall features manually operated windows for occupant control of the internal environment and includes a heating system integrated into the mullions. A minimal number of central, fully enclosed offices and meeting rooms are served by local, supplemental cooling units to accommodate higher density occupancies. During the night, the BAS opens the windows to flush out heat build-up and allows the nighttime air to cool the building's concrete interior. Throughout the day the thermal mass of the exposed concrete columns, shear walls and wave-form ceilings help cool the occupants of the building.¹

In the case of the Caltrans District Headquarters in Los Angeles, the skin became a very interesting architectural element, probably the 'most intense unoccupied part of the building'², because it enabled the use of other elements, such as light, as building materials. Horizontal bands of red neon and blue argon light tubes cycle through light pattern sequences, mimicking the ribbons of headlights on California's freeways. The large cantilevered light-bar connects the structure to First Street, and the forty-foot, forward-canted super-graphic "100" marks the South Main Street entrance.

MORPHOSIS_Thom Mayne
Los Angeles
3440 Wesley Street
Culver City, CA 90232

Founded in 1972, Morphosis is an interdisciplinary practice involved in rigorous design and research that yields innovative, iconic buildings and urban environments. With founder Thom Mayne serving as design director, the firm today consists of a group of more than 50 professionals, who remain committed to the practice of architecture as a collaborative enterprise. With projects worldwide, the firm's work ranges in scale from residential, institutional, and civic buildings to large urban planning projects. Named after the Greek term, morphosis, meaning to form or be in formation, Morphosis is a dynamic and evolving practice that responds to the shifting and advancing social, cultural, political and technological conditions of modern life. Over the past 30 years, Morphosis has received 25 Progressive Architecture awards, over 100 American Institute of Architects (AIA) awards, and numerous other honors.

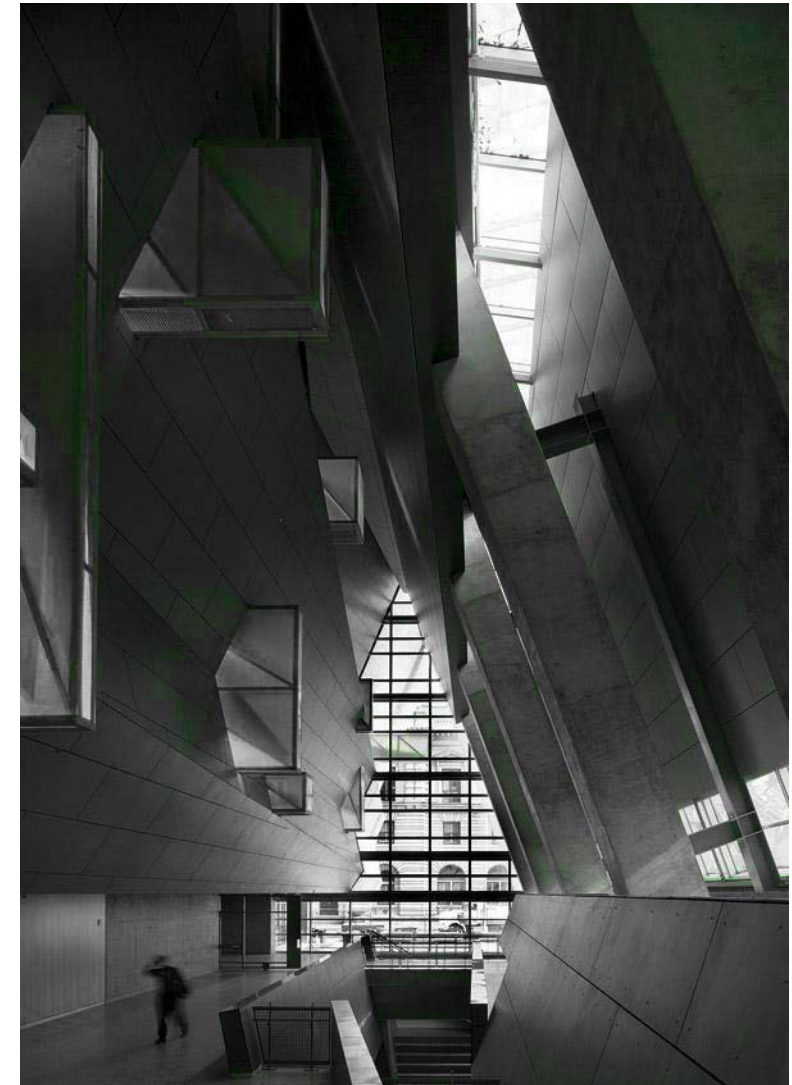
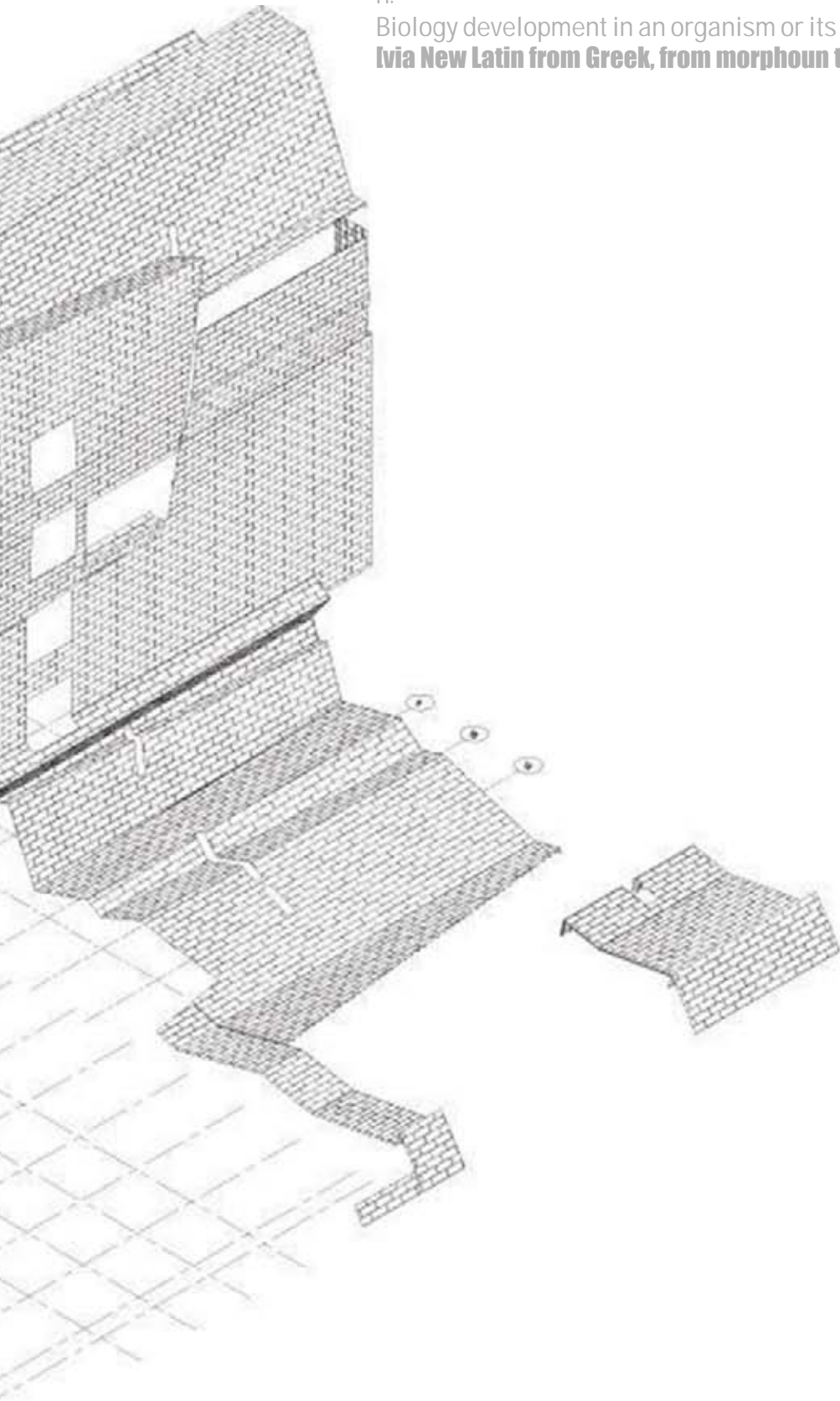


morphosis

n.

Biology development in an organism or its parts characterized by structural change

[via New Latin from Greek, from morphoun to form, from morphē form]





The separation of the skin made the constructional elements visible, giving a broader audience a more interesting insight into how a building is made and how it works. Another fundamental Morphosis idea implemented in the skin of this building is the transformation. Appearing to be windowless and opaque at midday, the skin transforms in appearance over time until it reaches near complete transparency at dusk.

With this seemingly simple notion of separating the skin, the facade of the building became much more dynamic, leading the eye and orchestrating views through the tears in the skin. Folding and draping over the edges of the building and on to the surroundings, the skin integrates the building and makes it a part of the site. This generation of architects that went to school in the late '60s made a shift from the traditional internal focus of architecture within its own territory, to conceiving architecture as a part of a broader context, a way of reshaping the Earth to make it occupiable.

The notion of a building as an augmentation of the Earth's surface is readable in almost all of Morphosis' projects, such as the Diamond Ranch High school in Pomona, California; Hypo Alpe Adria Bank in Klagenfurt, Caltrans District 7 Headquarters in Los Angeles. The building is no longer seen as an autonomous thing, but something that is only inextricably connected to the city, the place and the time.

This physical connection of the building with its surrounding, becomes a connective tissue between the deconstructed elements of the building itself, and a part of the social and cultural landscape of the city. In Caltrans District 7 Headquarters, the augmentation of the landscape creates an outdoor public space; in the case of the Hypo Bank, it creates a dynamic entrance space.

The Morphosis buildings are a new kind of nature, a constructed one. Mayne even argues that the nature 'in the 19th century sense' doesn't exist anymore². Instead, in his buildings he constructs the nature implementing those ideas, in an effort to create a surrounding that enhances the activity that it accommodates. The ultimate goal is to engage the public, to engage buildings as a part of the public tissue of the city.

The ideas of augmented landscape and separation of individual elements of the building have strongly influenced this project. Even more so in a non-urban setting, the concept of landscape augmentation seemed like the best approach, visualizing the building as an extension of the nature, while making a conscious contrasting intervention in the landscape. That way the building establishes a strong connection with the site, without trying to disappear in it.

The skin gives the building an unmistakable identity, provides the necessary protection from the sun and the wind to the tower grid, but also functionally and visually connects the vertical system with the horizontal. As oppose to the construction, which is always economical and reduced to the necessary, the skin is a more playful part of the structure that enables incorporating metaphors, communicating emotion and implementing different light effects in the project.

A dynamic folded surface, the skin incorporates in its form the vector of wind power as a moving force in kayaking, lifting up from the base to reveal the circulatory system of the building. The essence of this project lies in its infrastructure, the circulation systems that make the dynamic ever-changing spaces work. Decomposing the building into its elements, the construction, the circulatory system and the skin, celebrates its complexity by making each element visible and leading the eye through the dynamic interplay of these systems.

0_Abstract

1_Context

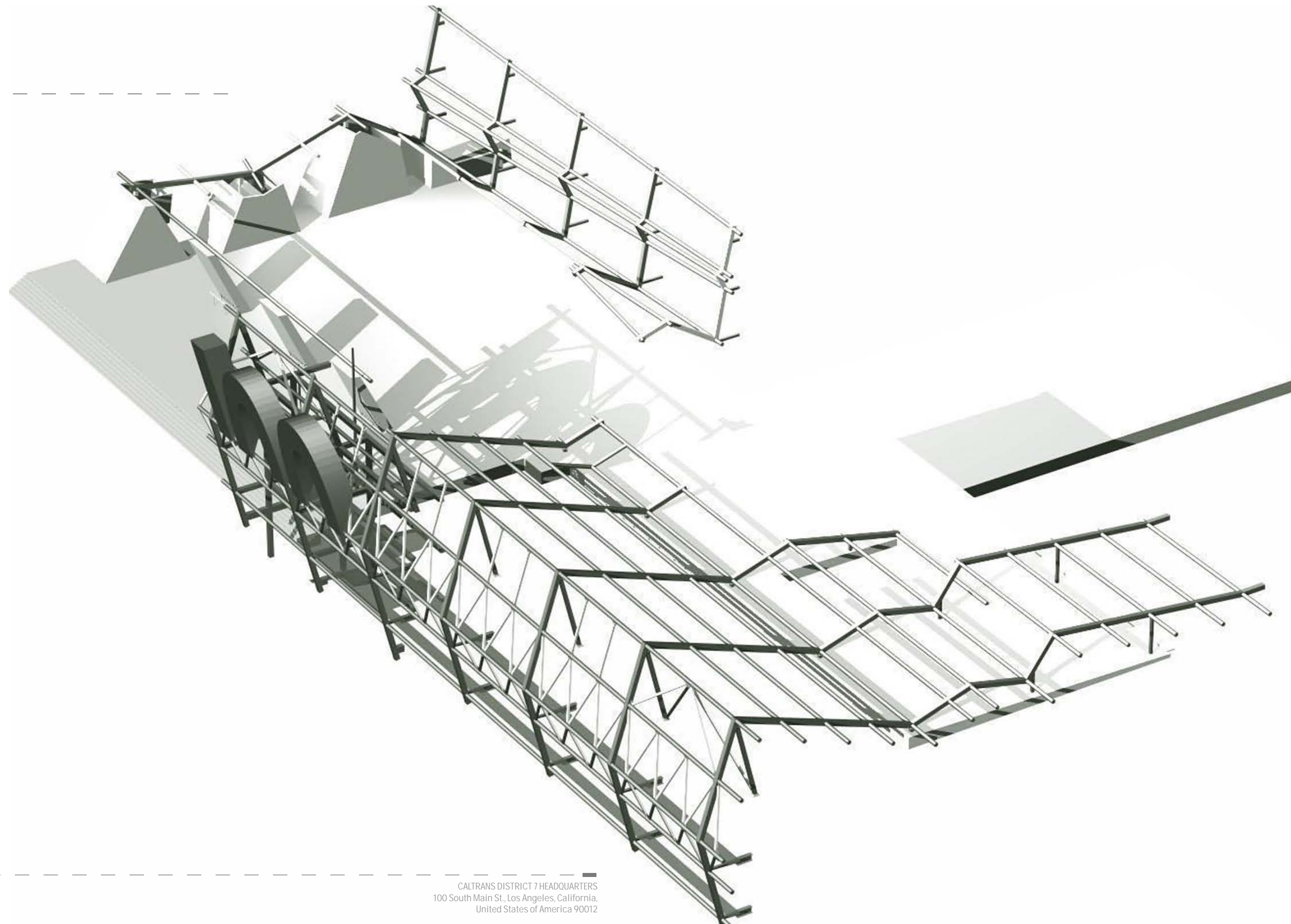
2_Program

3_REFERENCES

4_Concept

5_Documentation





CALTRANS DISTRICT 7 HEADQUARTERS
100 South Main St., Los Angeles, California,
United States of America 90012

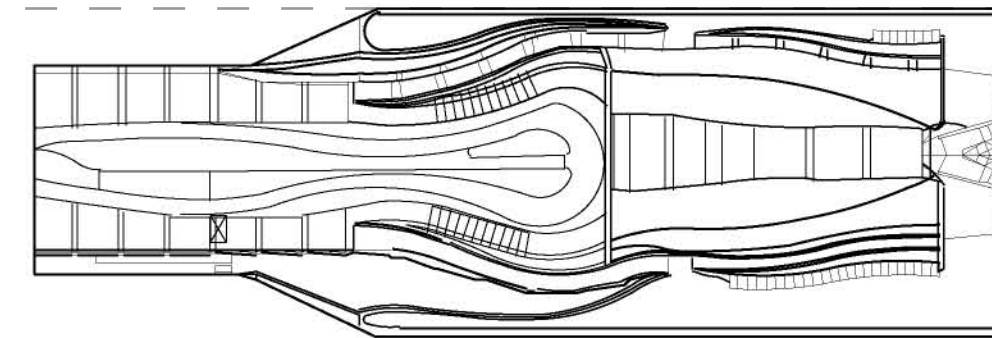
Similar principles of landscape extension and public space were employed in the Yokohama International Terminal project by Foreign Office Architects.

'The Yokohama International Terminal is a new type of transportation space integrated with urban facilities. Rather than conceiving of the building as an object on the pier, detached from its context, it is designed as an extension of the pier ground, simultaneously hosting the terminal functions and creating a very large urban park on the roof of the terminal. To ensure maximum urban life throughout the terminal, the building is organized around a circulation system which challenges both the linear structure characteristic of piers, and the directionality of the circulation, using a series of programmatically specific interlocking circulation loops designed to produce an uninterrupted and multidirectional space, rather than a conventional gateway to flows or fixed orientation. The building is designed as an extension of the urban ground, constructed as a systematic transformation of the lines of the circulation diagram into a folded and bifurcated surface, avoiding interruptions due to a vertical structure.

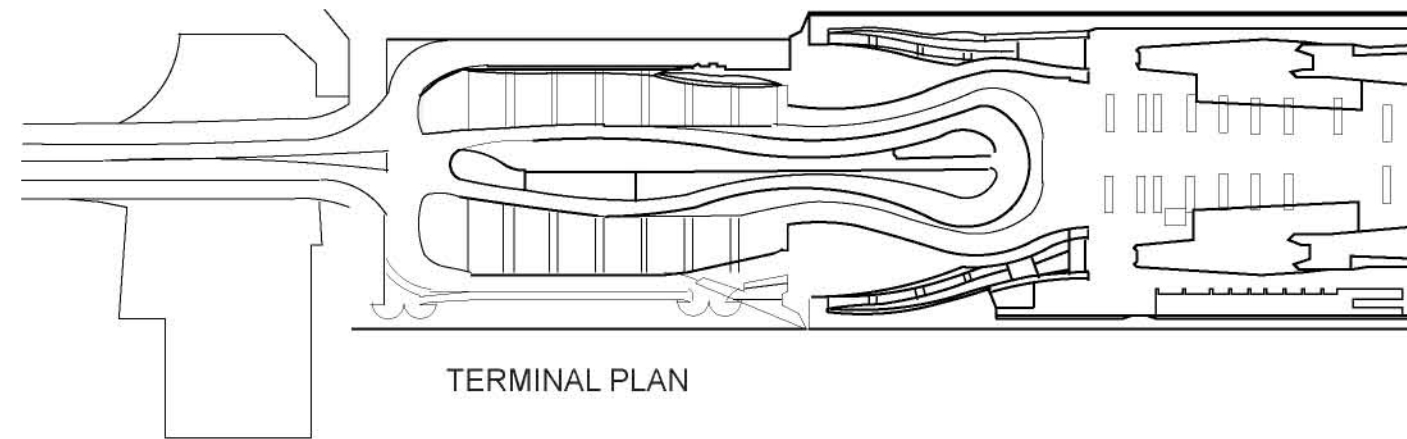
A hybrid structural system of steel trussed folded plate and concrete girders allows the structural system to be coincident with the diagonal folded surface, especially adequate in coping with the lateral forces generated by the seismic movements which characterize Japanese geography. The tectonic system of the folded surface maximizes the cruise terminals flexibility – both hybridizing the circulation, program and structural system and exploiting their differences to produce spatial variety³.

Foreign Office Architects, FOA, is an international architecture practice led by Farshid Moussavi and Alejandro Zaera-Polo. The firm is based in London and does master planning, architecture and interior design services for the public and private sectors. It was founded in 1995. FOA has emerged as one of the most significant architecture and urban design practices working today, known for combining technical innovation with design excellence. FOA has produced critically acclaimed and award winning projects. In their approach to architecture, FOA are new pragmatists, bringing to bear great technical rigor in their focus on organic growth and the evolution of design 'species' hybridizing uses relating to both local and global conditions. The work unfolds rigorously through a broad variety of locations and typologies.

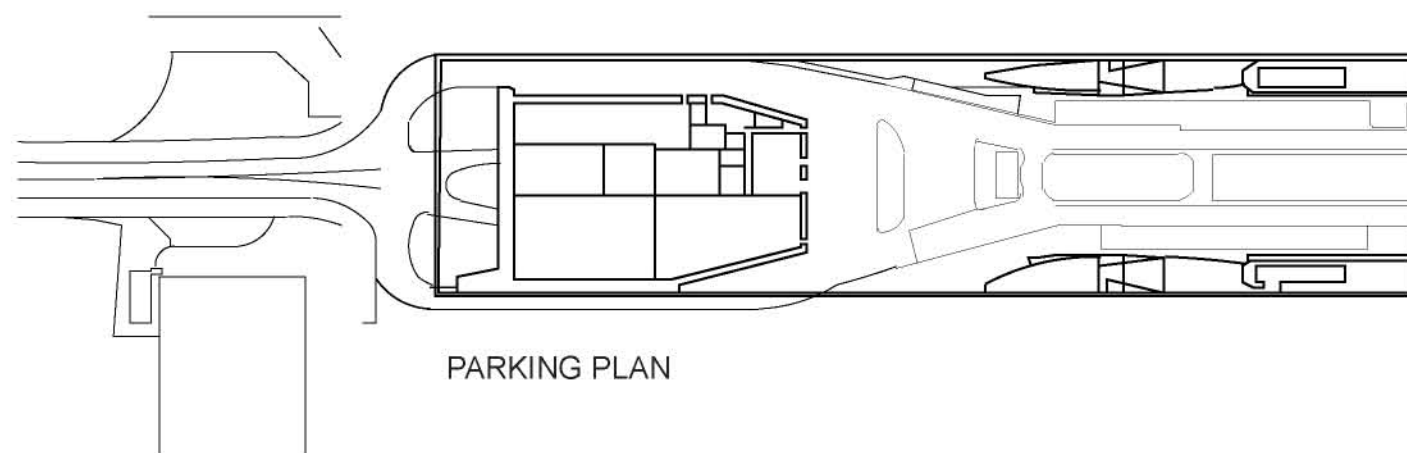
FOREIGN OFFICE ARCHITECTS
London
EC2A 3PT UK



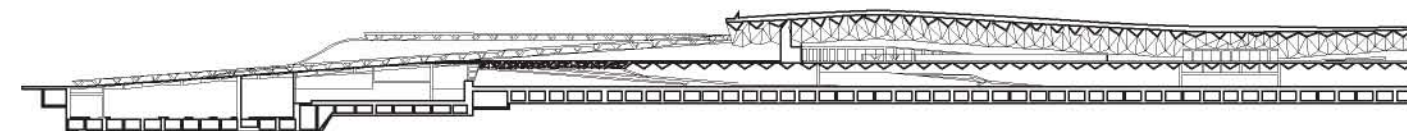
ROOF PLAN

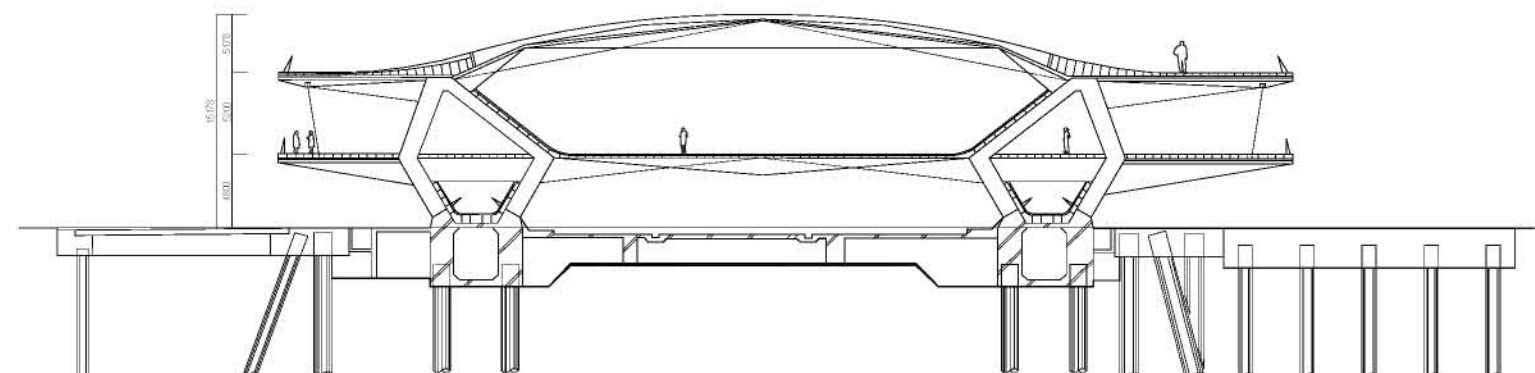
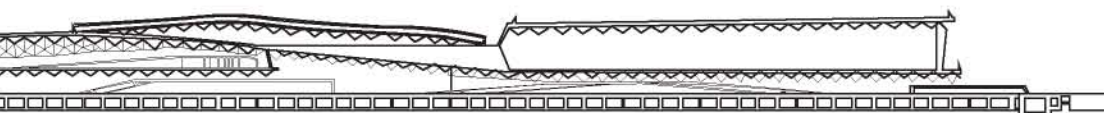
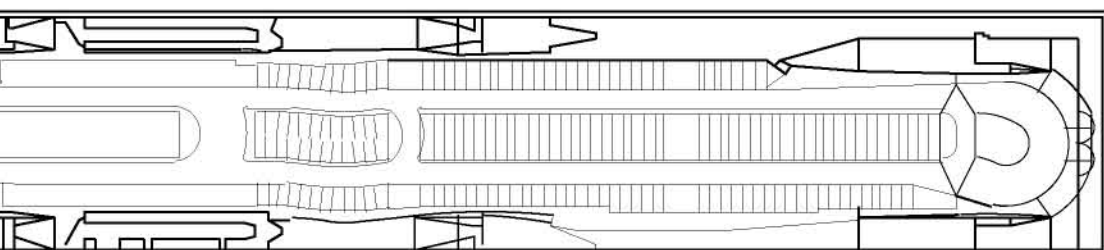
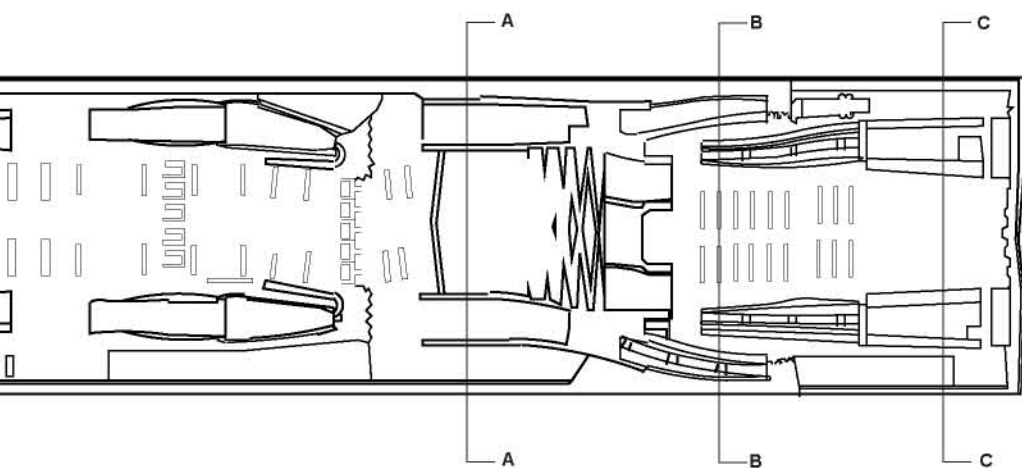
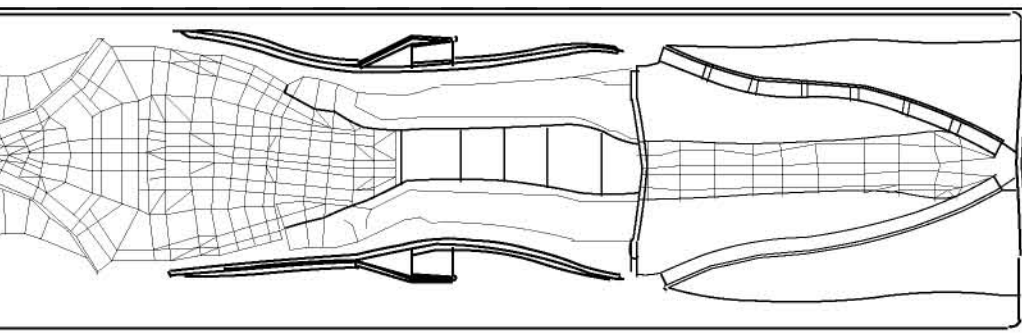


TERMINAL PLAN

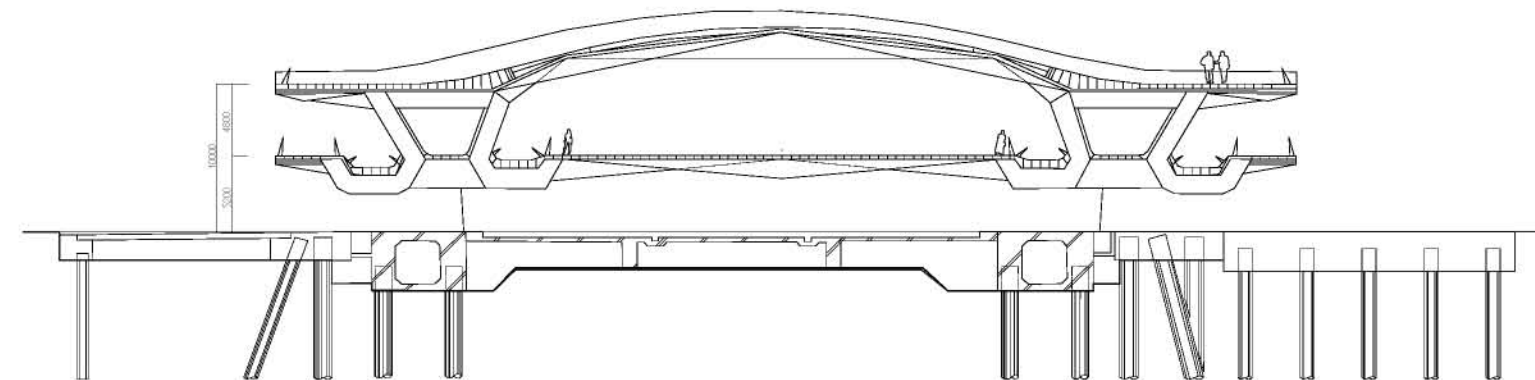


PARKING PLAN

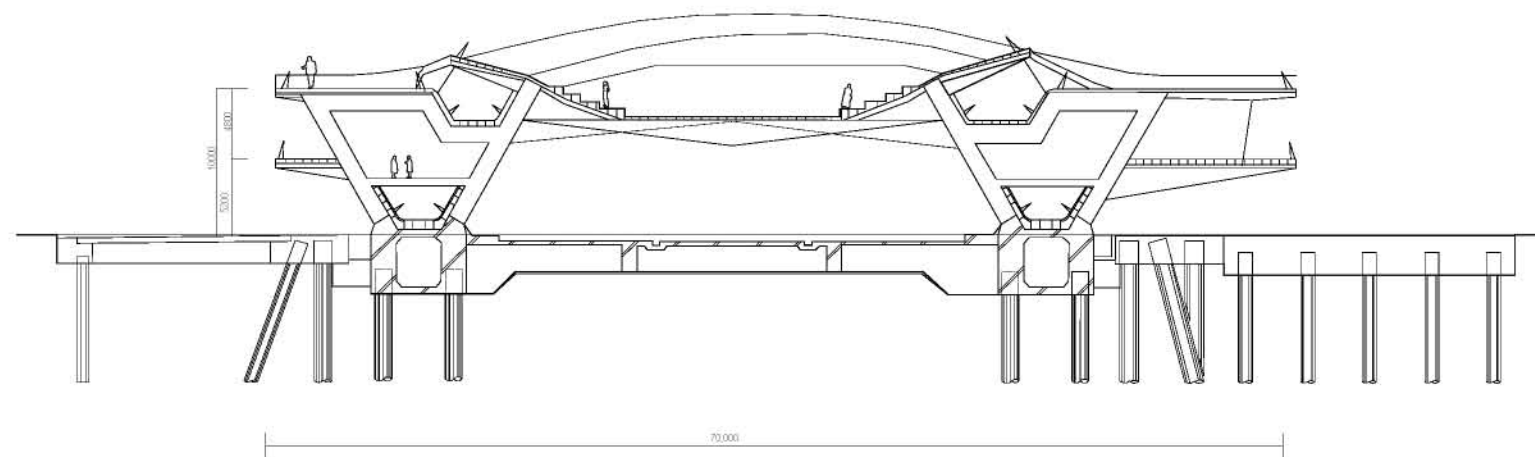




TRANSVERSE SECTION AA



TRANSVERSE SECTION BB



TRANSVERSE SECTION CC

The articulation of the circulation system with the constructive system through this folded organization produced two distinct spatial qualities; the continuity of the exterior and the interior spaces and the continuity between the different levels of the building.

The decision to create a large multidirectional public space on the roof of this industrial building created a very dynamic and interesting space of constant fluctuation and exchange between the local and the international.

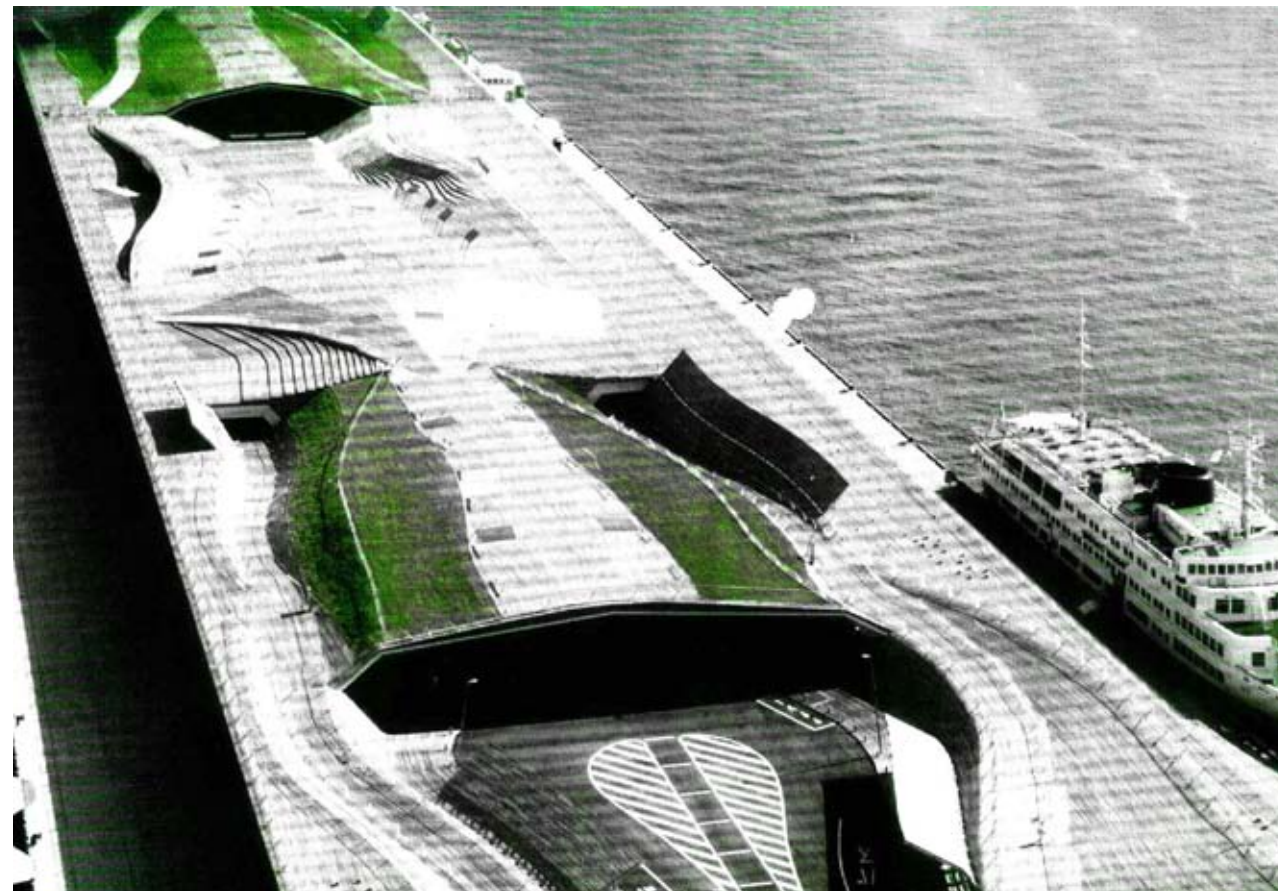
FOA are known for their hate of the 'starchitect', and the contemporary practice of branding architecture, which mostly comes down to producing generic buildings that preserve corporate identity, but have nothing to do with the context in which they emerge. This attitude has strongly influenced the concept for the Yokohama Terminal as well; the building doesn't aim at becoming an icon (even though it's managed to do that on the side), but first and foremost to influence the community in a positive way, and to connect to the existing urban fabric.

These are the goals of this project as well. Having the seasonal nature of the program in mind, one of the principles of the design was creating a large public space, giving the community a new gathering spot in one of its favorite locations. The rarely given advantage of knowing the area and the community personally was employed in every stage of the design, considering the broader urban situation, the interests, habits and traditions of the citizens, the needs and potentials of the city.

The intention of creating an urban fusion of the local and international through architecture could also be identified as a common goal of the two projects. Designing a continuous landscape is a means to achieving continuous social spaces, 'fluidly accommodating plural and heterogeneous urban actors'⁴. This urban landscape is shaped by urban forces, by the circulation, dynamic and static concentrations of users.

'At Yokohama, FOA's explorations were strongly guided by the idea that 'circulation can literally shape space'. Conceptualizing the various interactions and flows of different users through the terminal complex – using what they termed a no-return diagram', FOA sought to create a 'field of movements with no structural orientation. The process was concerned with creating a building that would break the linear movement that was associated with the traditional pier structure, providing for endless circulating loops and fusing it with the flow space of the terminal. Thus, FOA sought an architecture of indefinite form, a Flow Urbanism'⁴.

FOREIGN OFFICE ARCHITECTS
55 Curtain Road
London
EC2A 3PT UK



4_Concept

1099no3_4

The dynamics of frozen movement: one of the key notions of the concept

Cai Cuo-Qiang, *Head On*
National Museum of Singapore 2010



Chapter 5_The Magic Carpet and The Frozen Waterfall

The point of departure for this project was the innovative skyscraper competition eVolo 2010, starting the research off in the direction of exploring vertical concepts and rethinking vertical typologies. This new employment of verticality in a rural surrounding, not to accommodate density but to create an experience, was mostly inspired by the site itself, whose monumentality dictated the dynamics of the megastructure.

The program is hence organized in a horizontal and a vertical volume.

The horizontal volume follows the flow of the river and accommodates the functions closely connected to it, such as observation of the kayaking race, gastronomy, training zone, kayak workshop and rental etc. One of the challenges of the project was accommodating a large program on a very narrow and long site, creating as big an observation zone as possible and at the same time providing an exciting public space, that would keep the building alive off season as well. This demand led to the 'magic carpet' concept. The 'magic carpet' is a dynamic cascaded landscape floating above the river, an observation deck optimized for viewing the race, a public space connecting the street entrance level with the other levels, and the roof of the base creating interesting spatial and light effects all at the same time.

Formal concept aims at capturing the dynamics of the site, and is therefore based on the notion of augmented landscape and 'frozen' movement. This landscape is augmented by the forces of the site, wind, water, visitors. Instead of just following the function/ the activity, the form aims at enhancing it, creating new possibilities and giving the place a new energy. The distinct form gives the site an unmistakable identity, turning just another part of the canyon into a place, and communicating its emotion and spirit.

The form of the base embodies the dynamics of the water movement, its flow and waves. In physics, a wave transfers energy from one point to another, characterized by a high and low point. The high point of the landscape marks the location of the training zone, a high activity area. The landscape roof creates light effects for the swimming pool area under it, and enables visual connections from the public space above. The low point is the focus of the stair landscape, a leisure area. It's a bowl that houses a fusion of func-

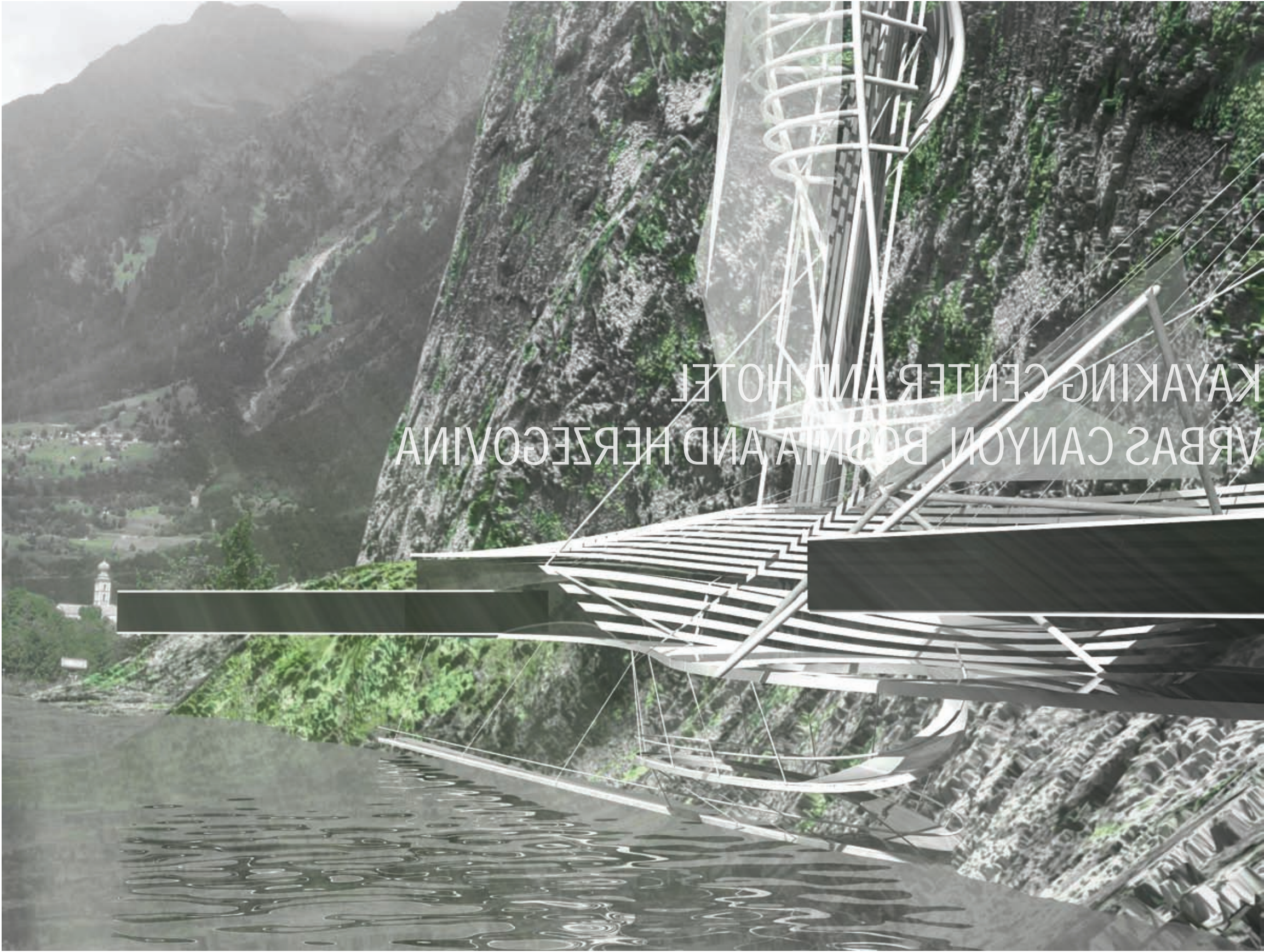
A panoramic core connects the base with the vertical volume. The tower is conceptualized as an alternative hospitality concept for adventurers, extreme sport and nature lovers. It's an experiment in lodging in public space, vertical camping within a vertical park. It's a flexible grid periodically filled with units, engaging the same system used for the parking in the base – the MULTIPARKER®. Every unit makes a difference in the public – private space balance, in the mass-void interplay, creating an ever-changing space irrigated with possibility.

Both the tower and the base explore the notion of parasitic architecture. This design decision supports the temporary essence of the program, as well as the intent to physically invade and change the pristine location as little as possible. Parasitic architecture is fast, temporary and dynamic , and provocative by default. As one of the biggest proponents of the parasite, Lebbeus Woods, put it, it aims at overcoming the indifference, and can therefore be a very powerful intervention in landscape. The life of this parasite depends on the support of the users, it can condemn it to death or turn it into a permanent structure, either way its parasitism has an expiry date.

Structurally, the hill is used as an extremely strong load bearing wall, from which everything else is hung. Programmatically, a public space emerges at the very contact between the parasitic structure and its host, where the built is 'plugged' into the nature. The private atmosphere of the secluded space between the tower and the hill, with its distinct texture, light and tactile qualities that awaken the senses, is designated to be a small spa for the guests of the 'hotel'. The lodging part of the tower uses the hill as the backdrop as well, so the hill becomes a part of the building itself.

5_Documentation

noit6tnəmu300_d



KAYAKING CENTER AND HOTEL
VRBAS CANYON, BOSNIA AND HERZEGOVINA

KAYAKING CENTER AND HOTEL VRBAS CANYON, BOSNIA AND HERZEGOVINA

PROJECT DATA
AREA OF SITE: 35 000 m²
PROGRAM:
Tower 4380 m²
Base 15016 m²
Parking 12 650 m²
PARKING:
250 cars
STRUCTURAL SYSTEM
Suspended Steel Frames/Tress



0_Abstract

1_Context

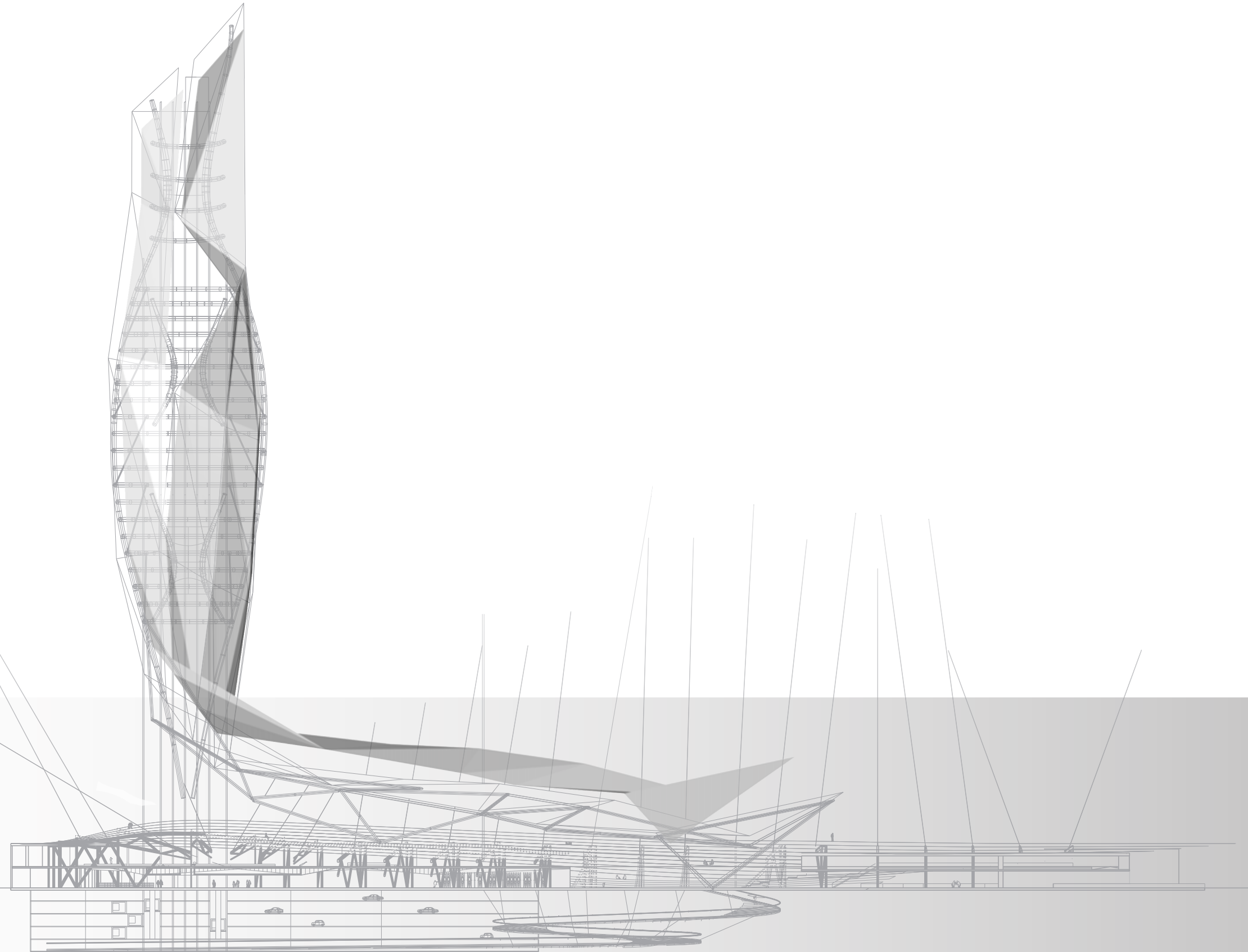
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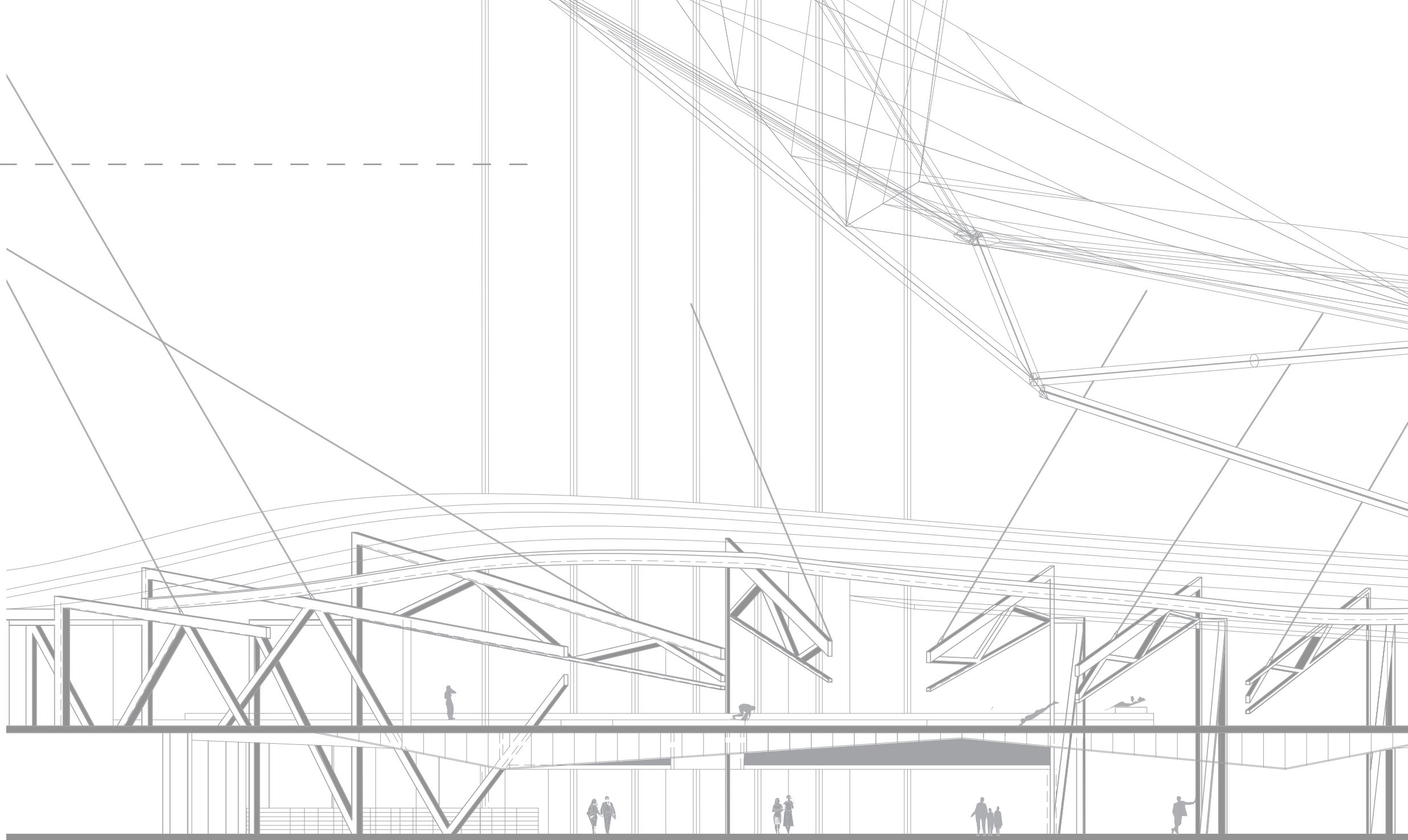
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4_Concept

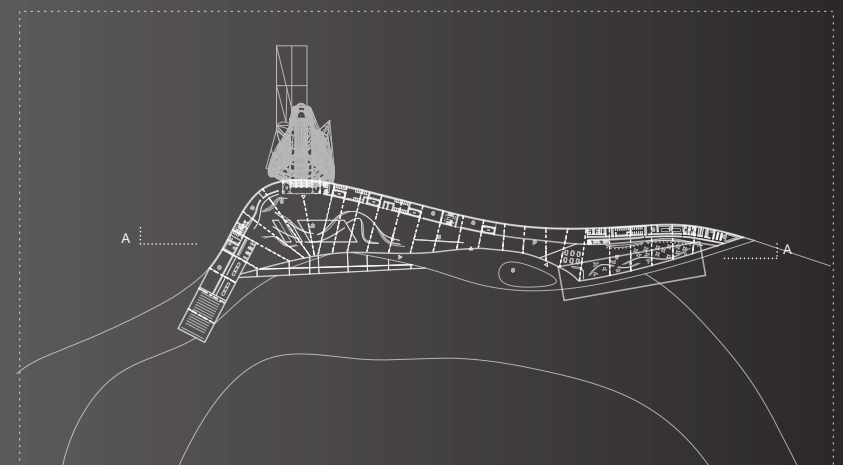
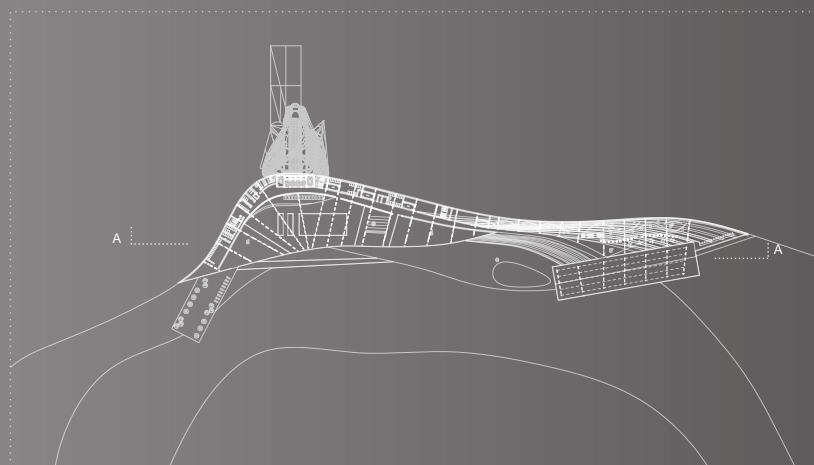
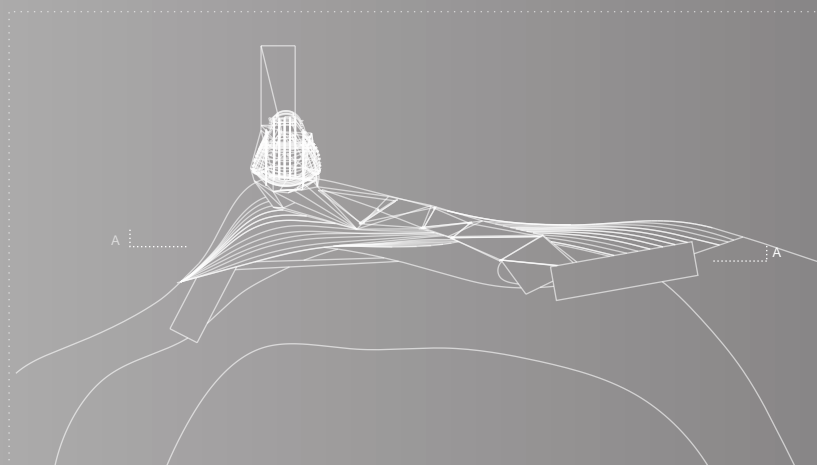
5_DOCUMENTATION

Section_AA>>>1:1000





Zoom In:
Section_AA>>>1:200



0_Abstract

1_Context

2_Program

3_References

4_Concept

5_DOCUMENTATION

A

B

A

-6.00_training zone, media zone

A

- 1 gym
- 2 swimming+rowing pool
- 3 press conference
- 4 VIP
- 5 gastronomy

A

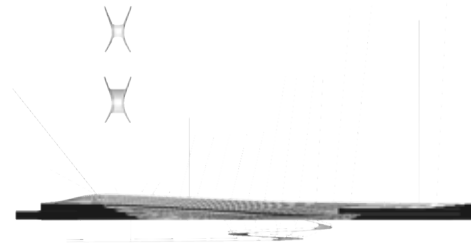
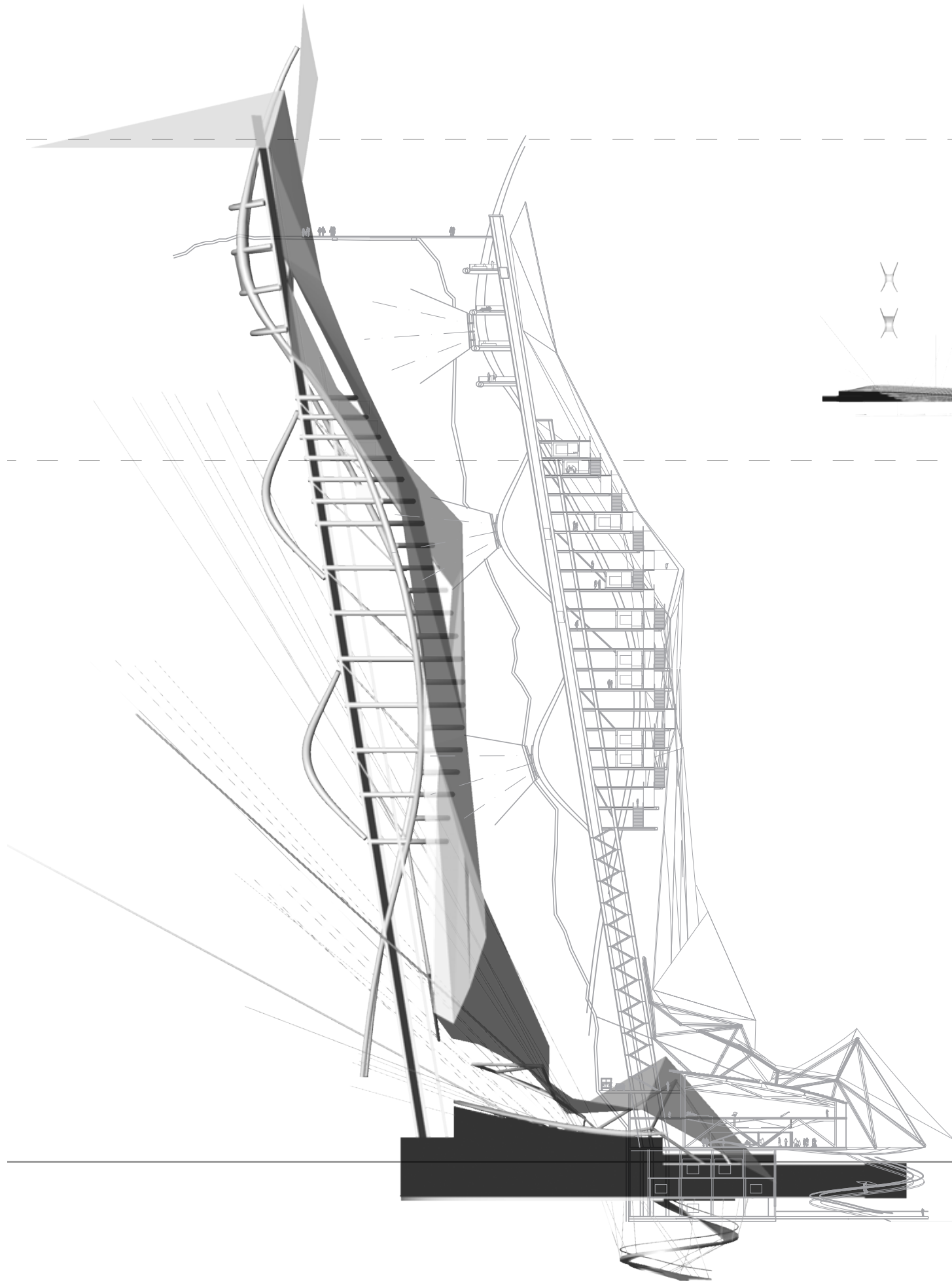
A

-12.00_visitors center, gastronomy

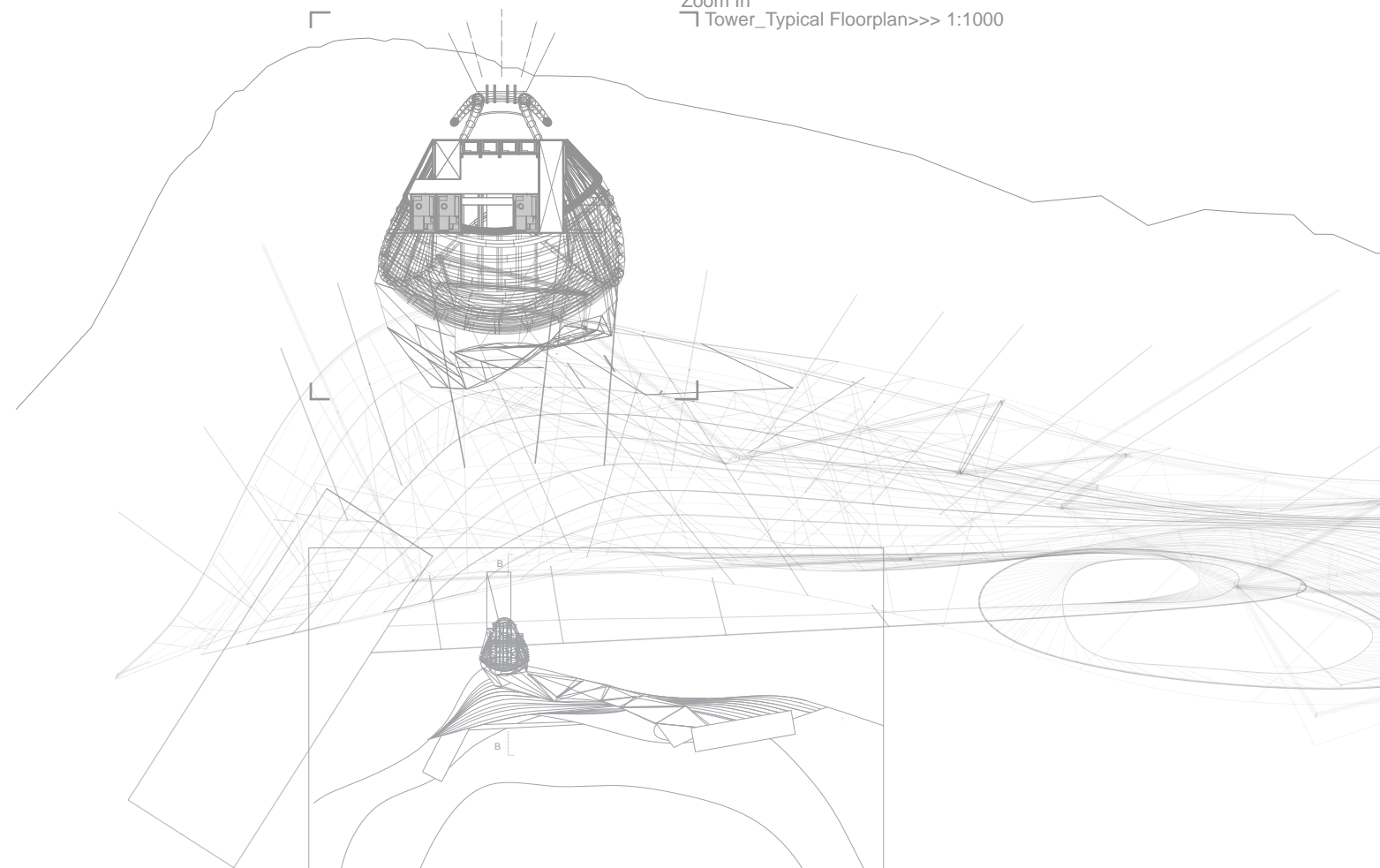
B

- 0 'the bowl' open space
- 1 tickets_info counter
- 2 exhibition space
- 3 storage
- 4 education center
- 5 kayak rental
- 6 workshop/shop
- 7 gastronomy
- 8 kitchen
- 9 office

A

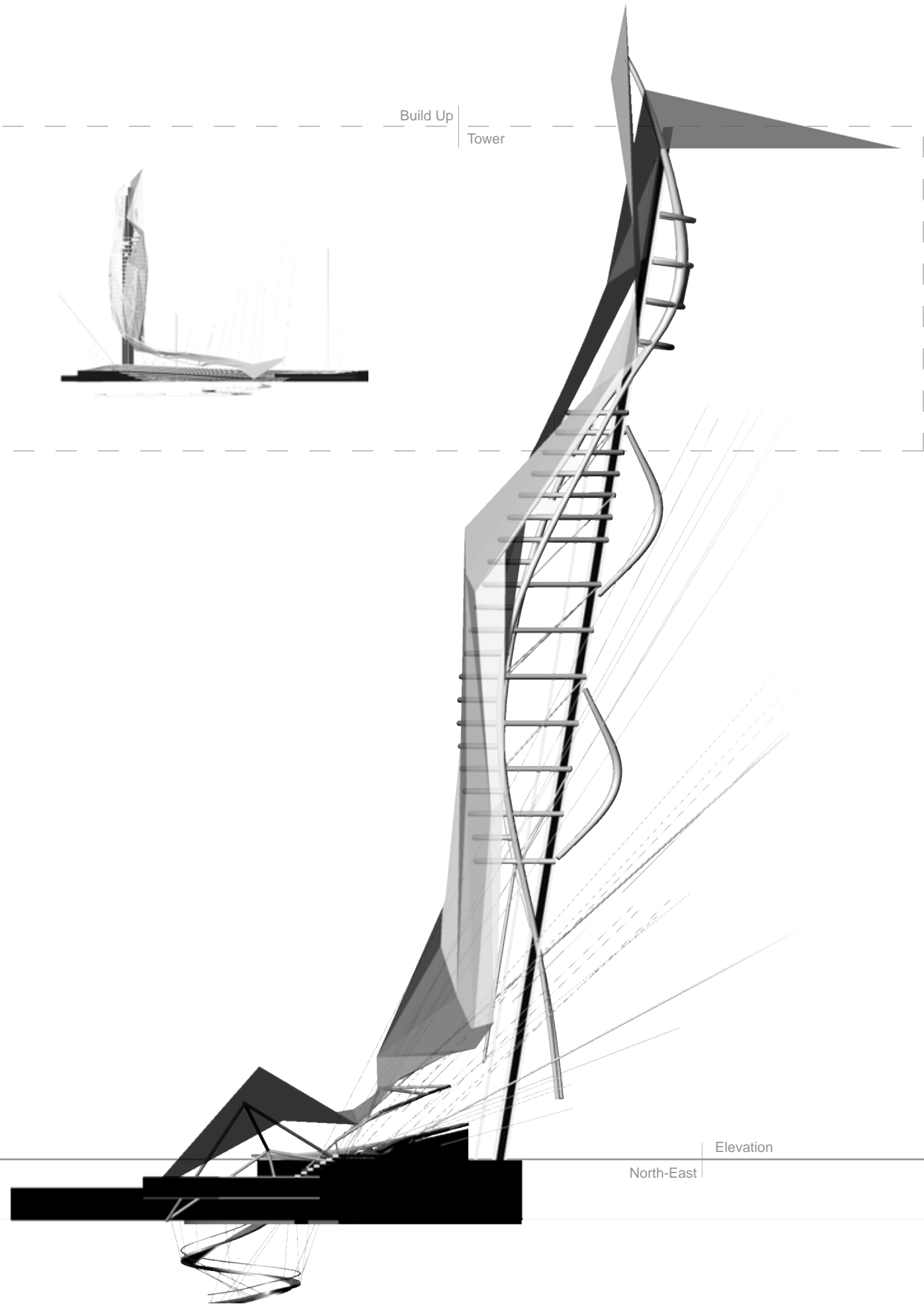
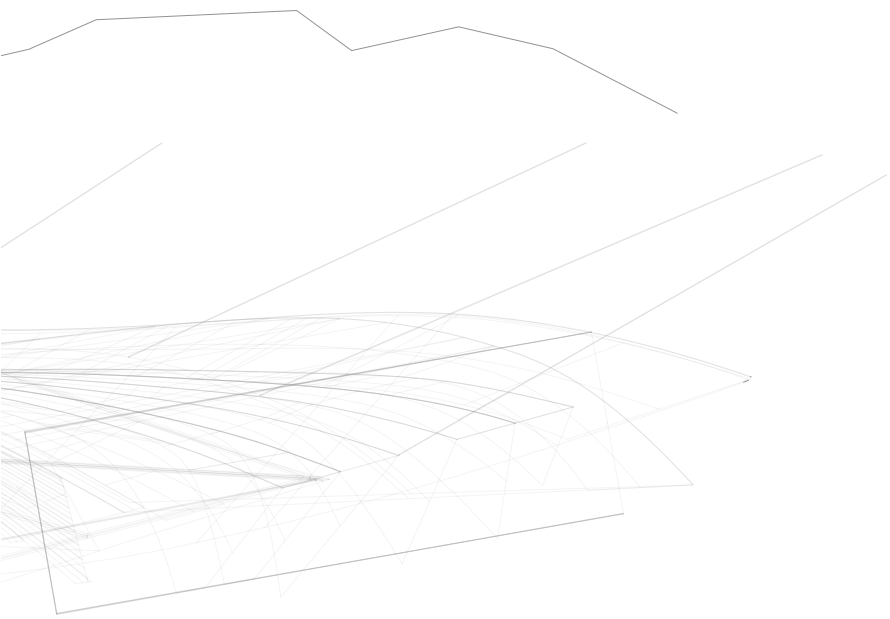
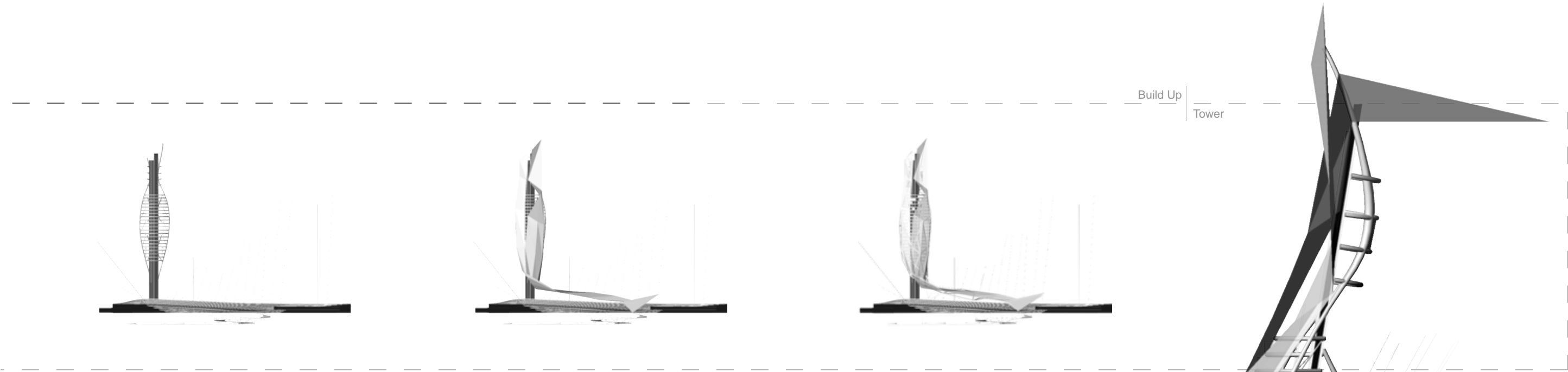


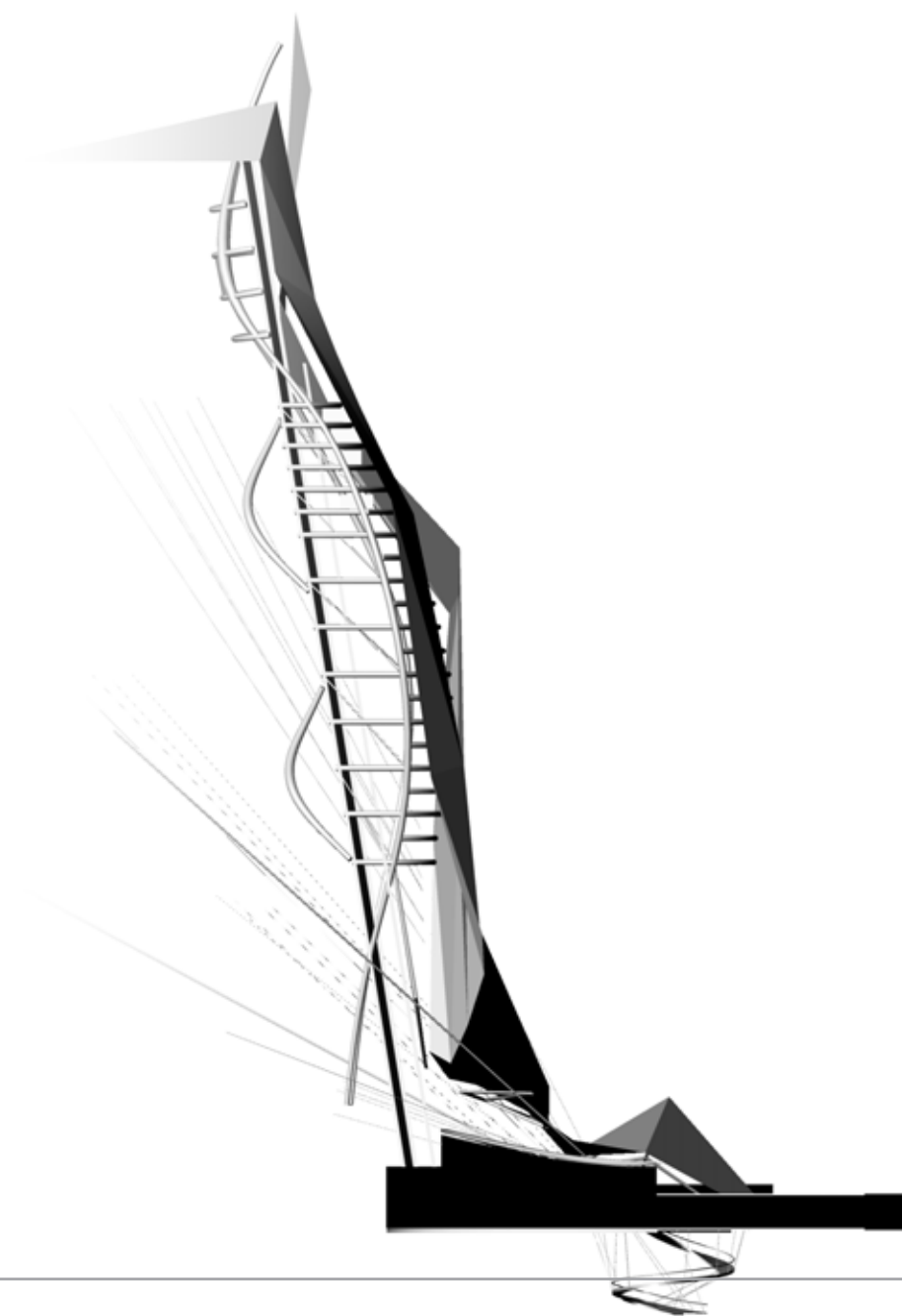
Zoom In
Tower_Typical Floorplan>>> 1:1000



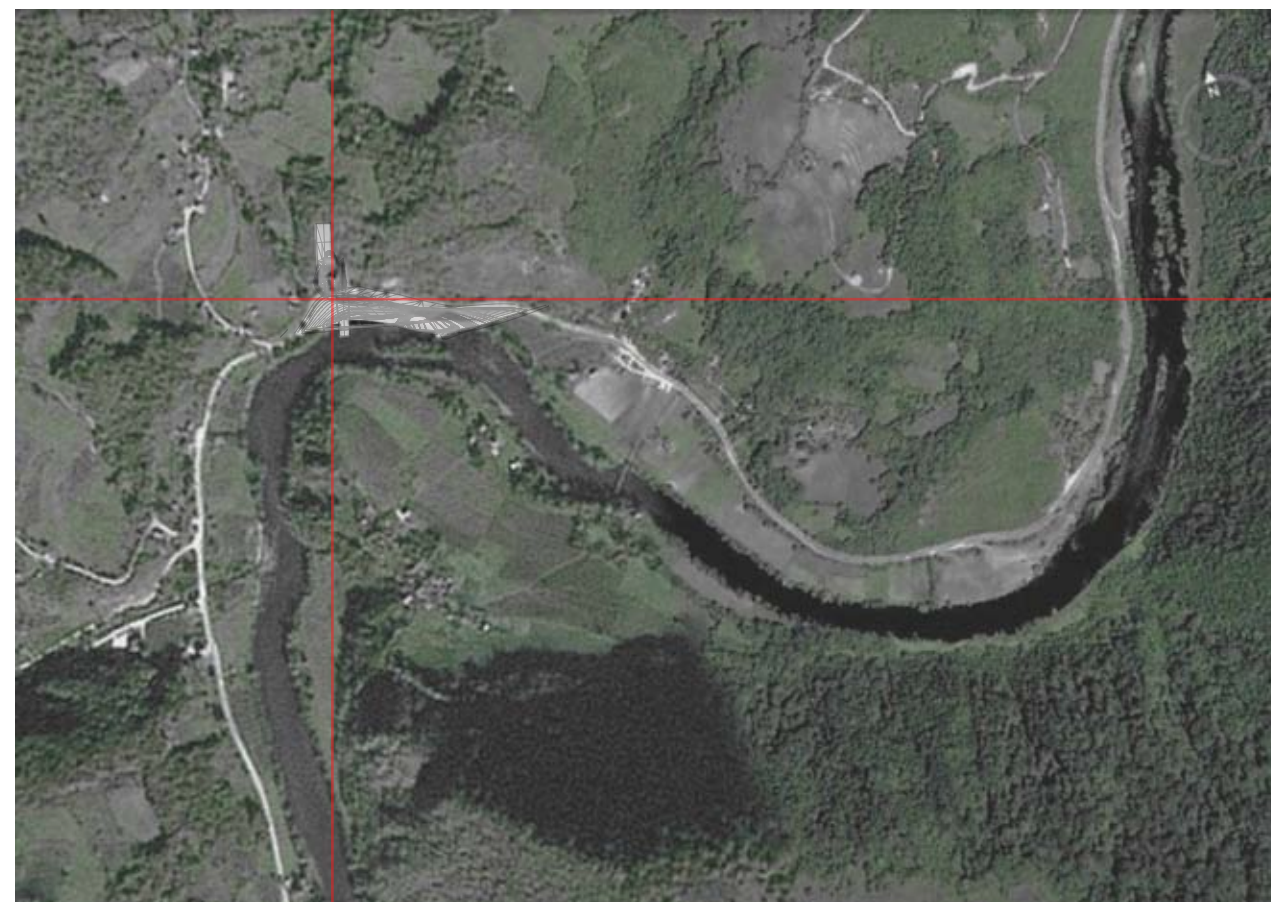
Section_B

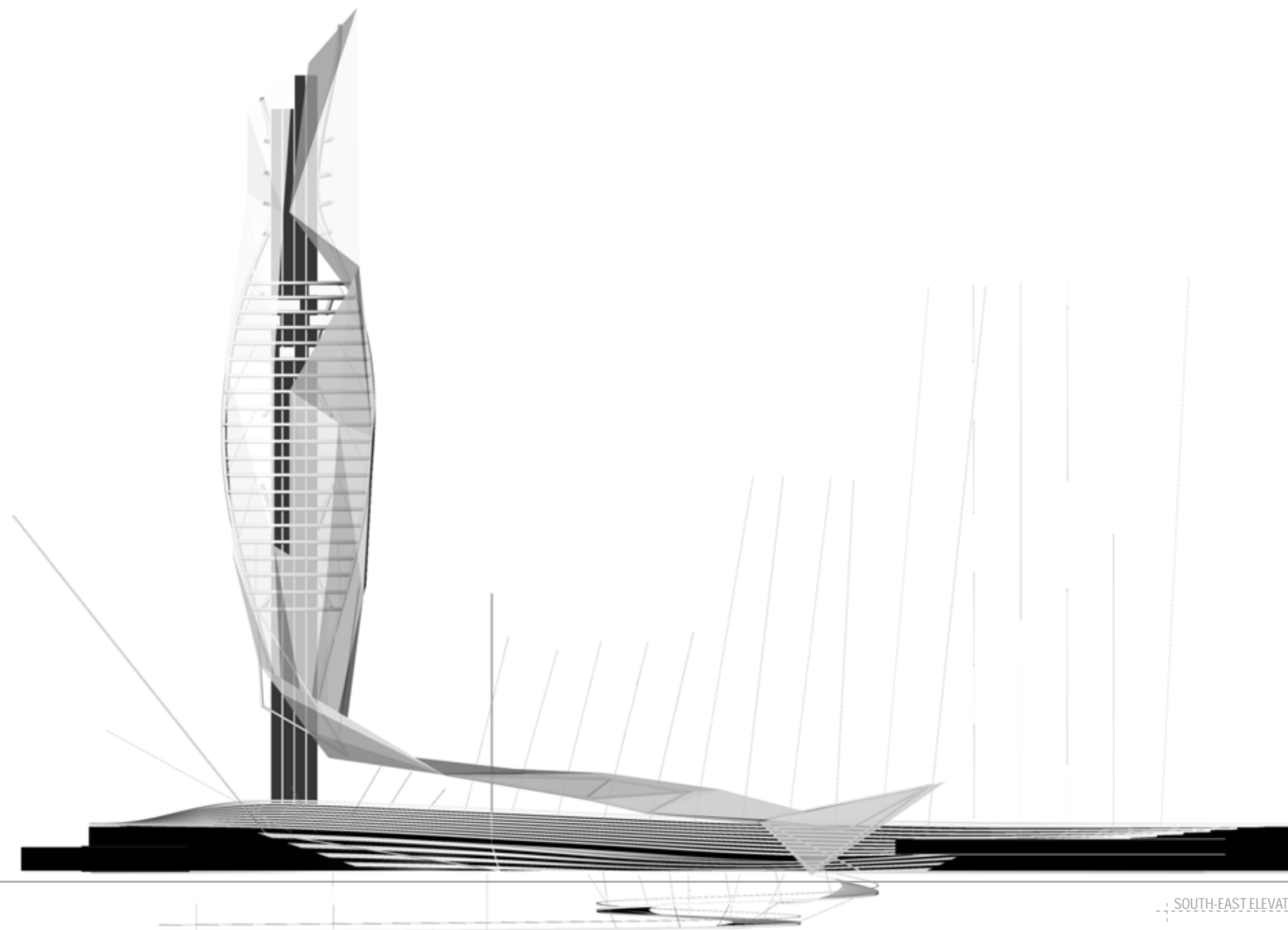
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SOUTH-WEST ELEVATION.





SOUTH-EAST ELEVATION

0_Abstract

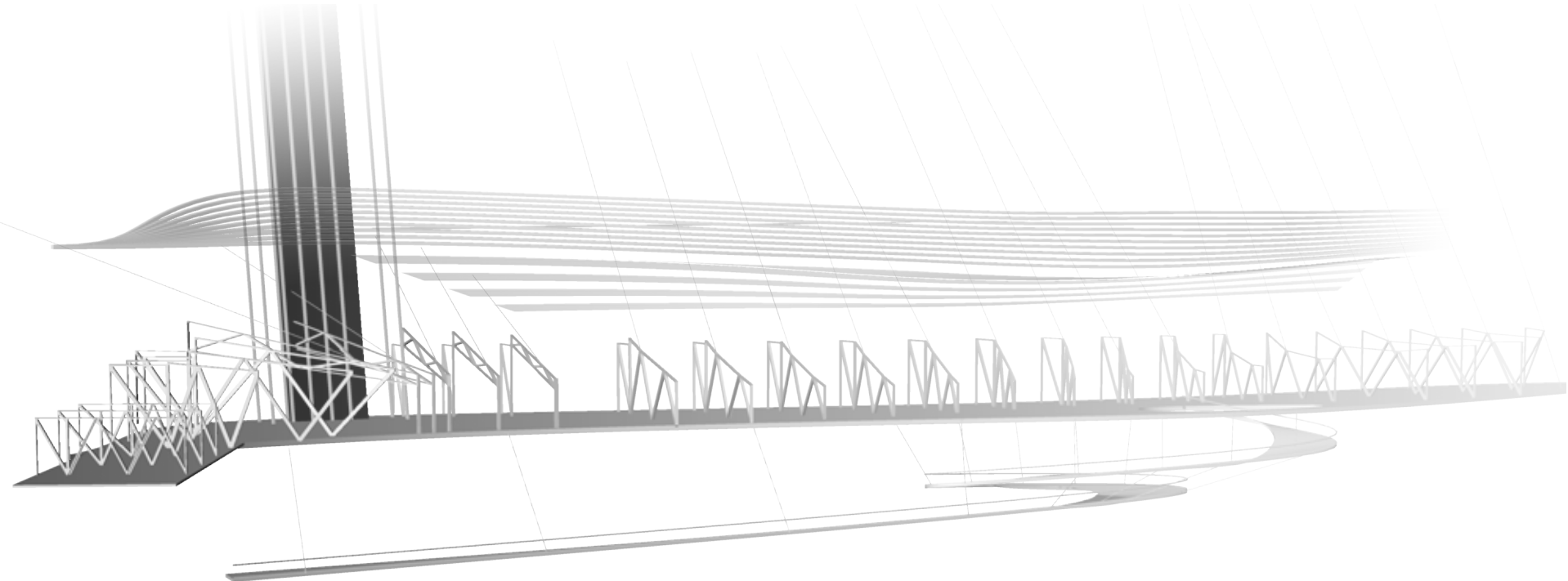
1_Context

2_Program

3_References

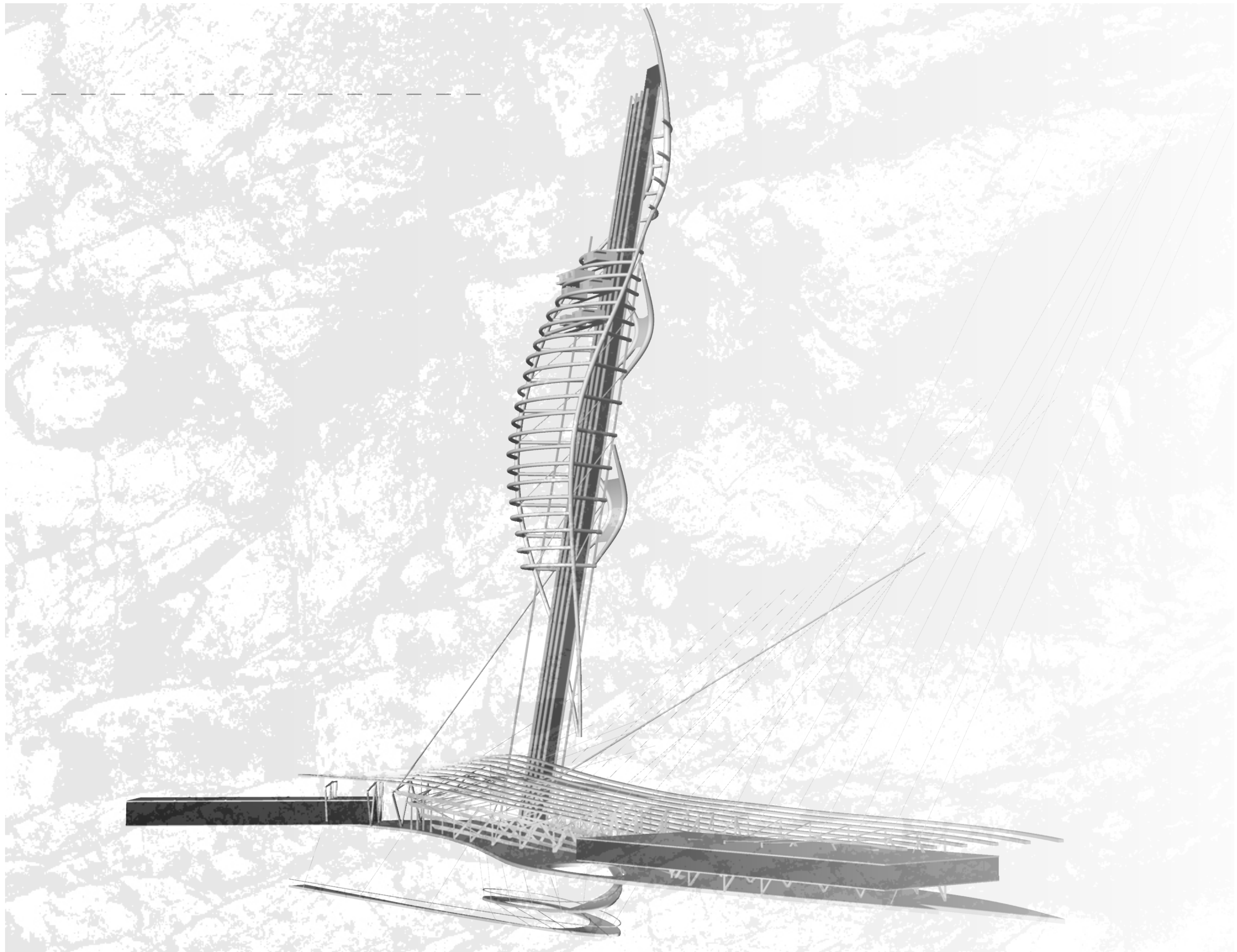
4_Concept

5_DOCUMENTATION



PROJECT DATA

AREA OF SITE: 35 000 m2
PROGRAM:
Tower 4380 m2
Base 15016 m2
Parking 12 650 m2
PARKING:
250 cars
STRUCTURAL SYSTEM
Suspended Steel Frames/Truss





the
the

the
the

The project aims at creating a 3d experience of the impressive site, the canyon of the Vrbas river near the city of Zadar and Herzegovina. In a country recovering from a war, tourism has yet to be developed, and the canyon has the facilities to attract the fans of water and extreme sports from all over the world (rafting, kayaking, canyoning).

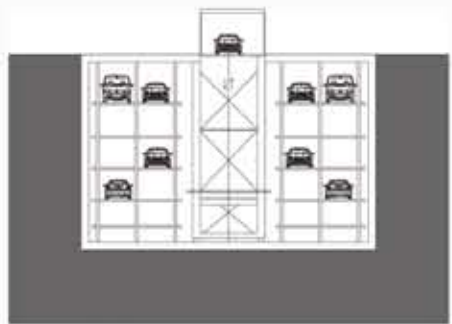
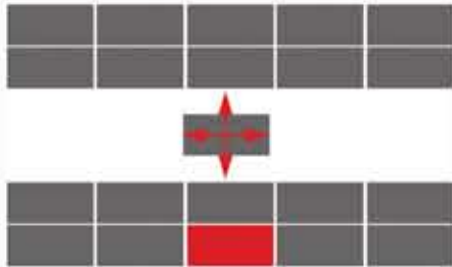
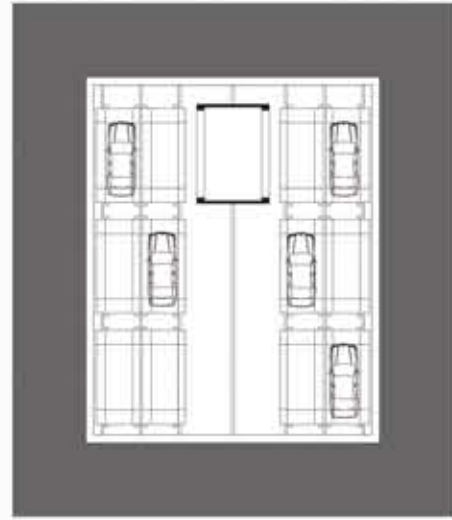
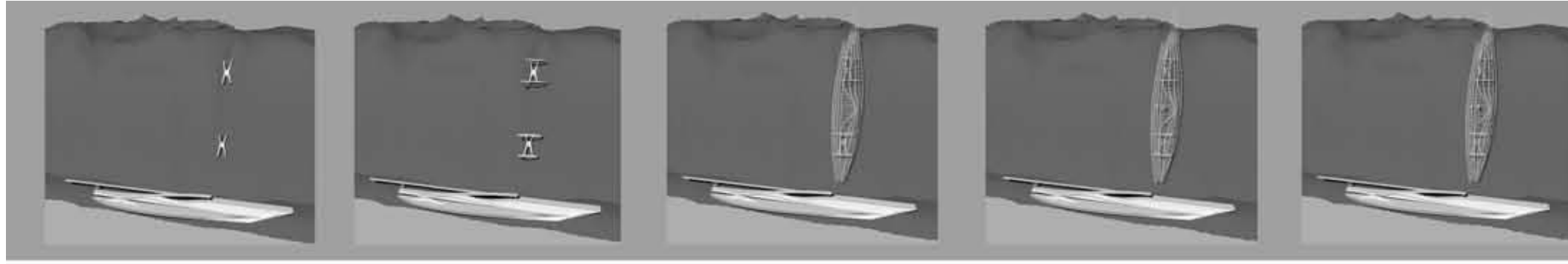
We explored how a vertical structure can be used on a site outside of an urban context, not to accommodate a primary justification for a skyscraper, but to deal with complicated situations on the site in terms of access, the experience of nature.

Following the dynamics of the site, a public zone emerges by the water, implementing the texture of the water, bridges the street which use to cut off any pedestrian access to the canyon area, and leans against the dynamic form of a kayak, accommodating an innovative hotel and giving the place a distinctive identity.

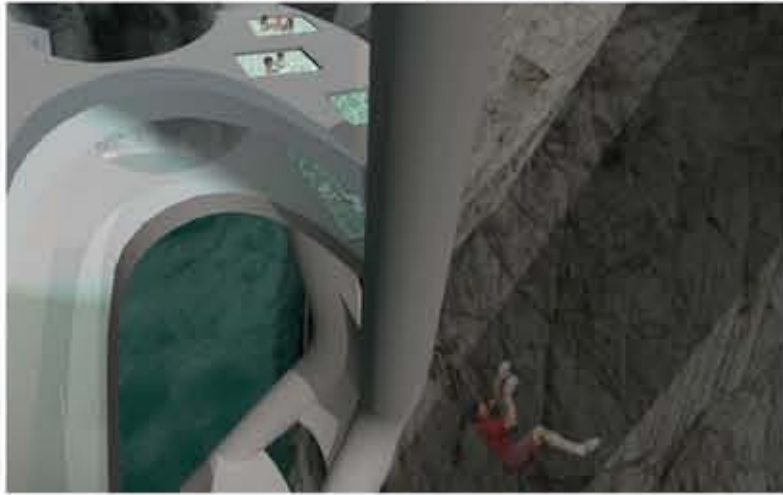
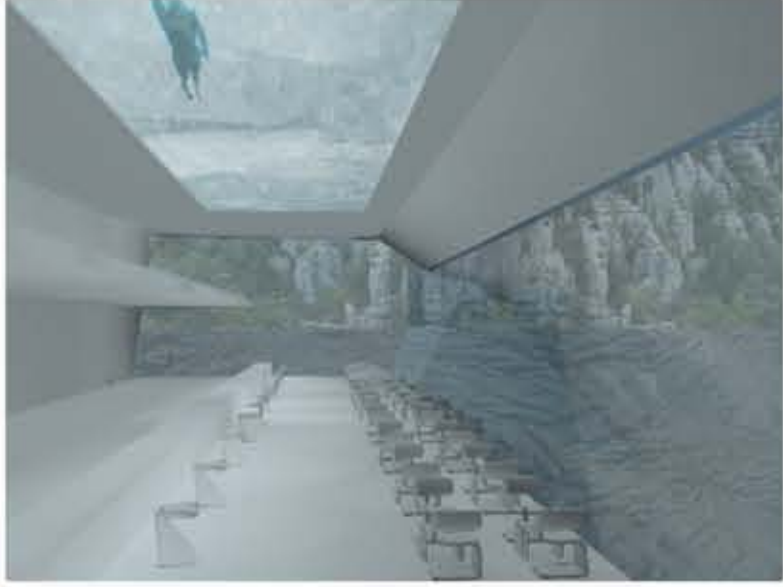
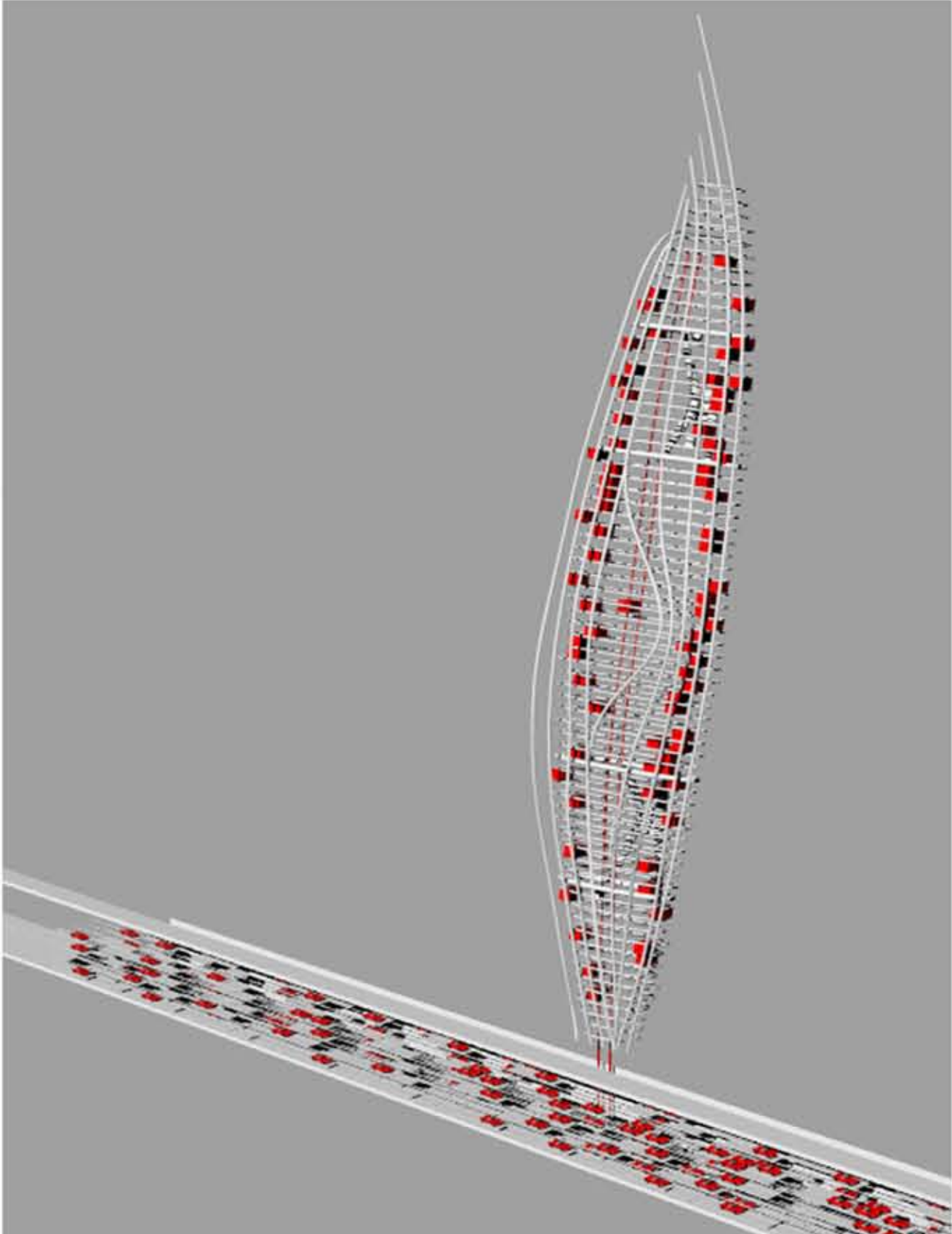
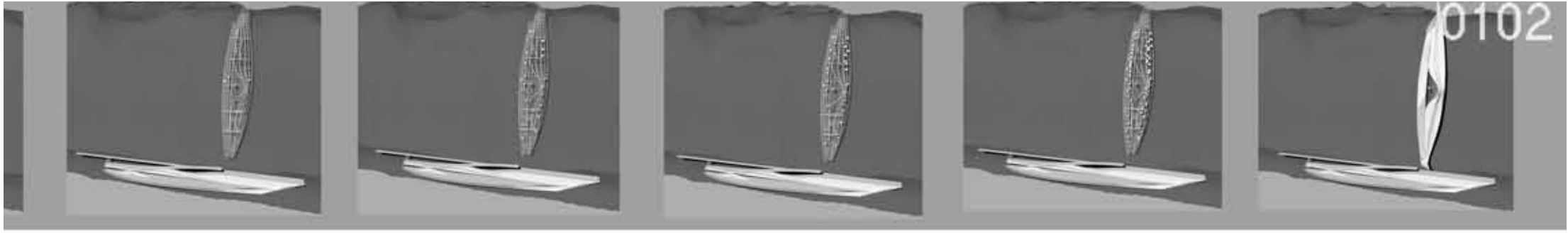
The tower deliberately separates itself from the mountain, invading the rock as little as possible. A public space is created between the tower and the rock, at the very contact between nature and built environment, where "the built" is "plugged" into the landscape. The hotel develops as an extension of the public space, a flexible grid filled with modular units, creating an array of voids and occupancies plugged into the public space and directly influencing it.





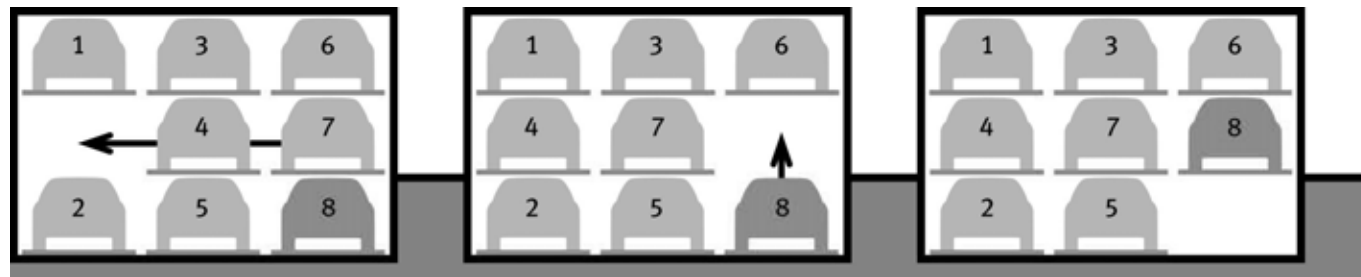
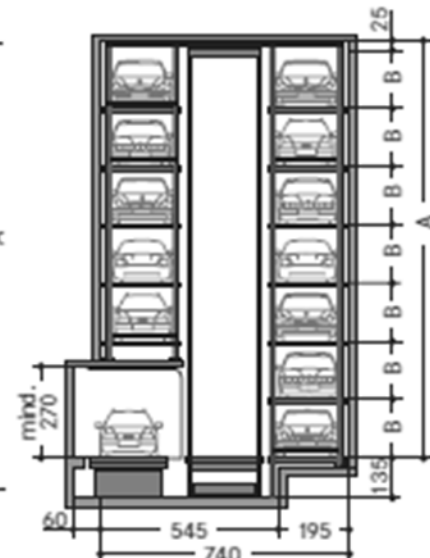
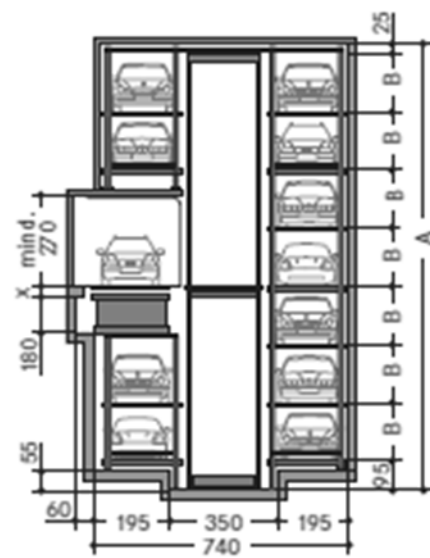
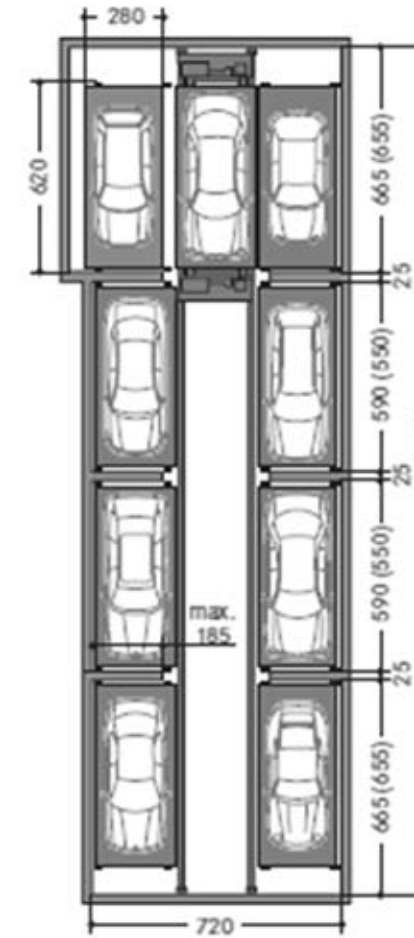
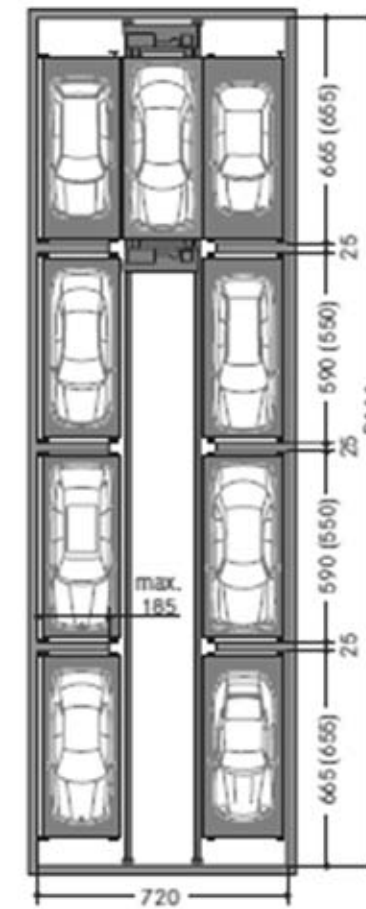
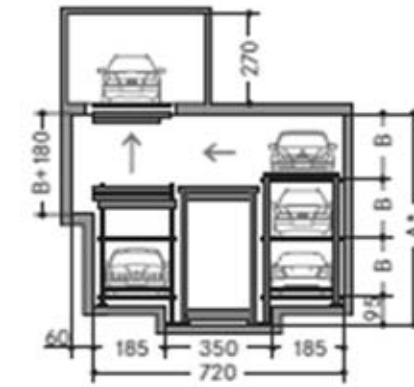
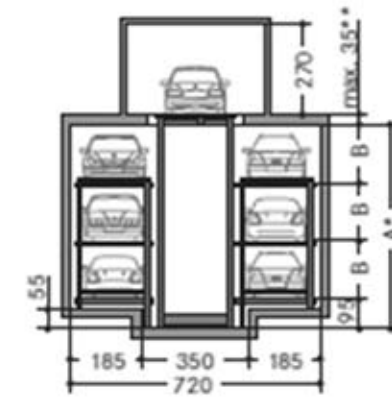


a computer-aided organization system optimizes parking and accommodation needs under the extreme conditions of the site



the
exit

APPENDIX 2_MULTIPARKER® _Parking system used for the garage and tower units



- Parking system for 1–8 parking levels as shaft/tower variant
- Linear expansion variable up to 80 m
- Arrangement of transfer area in the parking zone
- Vehicles of various height can be parked thanks to parking levels of various height
- Multi-row arrangement
- Integrated turning device is possible



MULTIPARKER®

The Multiparker provides spacesaving parking by stacking cars side by side and on top of each other in a storage and retrieval system. The lengthwise arrangement is particularly suitable for narrow ground plans. One or more transfer areas open up access to the working area with the storage and retrieval unit. A turntable can be integrated either in the system or in the transfer area so that cars can leave the garage in driving direction. The transfer area can be arranged at each level. The Multiparker dispenses with the need for ramps and aisles, offers security against theft and vandalism, saves the need for costly building technology compared with conventional garage buildings and is environment-friendly in terms of its compact construction, and it reduces emissions.



1_Context

- 1_ <http://www.banjaluka360.com/subcategory/documents/VAR.pdf>
- 2_ *International Scale of River Difficulty*, a standardized scale for rating the safety and required skill level of a river section, www.wikipaddle.org
- 3_ www.dajak.org
- 4_ http://en.wikipedia.org/wiki/Whitewater_racing
- 5_ <http://en.wikipedia.org/wiki/Canoeing>
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- 7_ Like Bijlsma, *Architecture and the Tourist Landscape*, OASE #64, 2004, p.2
- 8_ Plushnick-Masti, *New Wright house in western Pa. completes trinity of work*, Ramit [2007-09-27] Associated Press
- 9_ www.fallingwater.org
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