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Ausgeführt zum Zwecke der
Erlangung des akademischen Grades
eines Diplom-Ingenieurin
unter der Leitung

Ao.Univ.Prof. Dipl.-Ing. Dr.-Ing.
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Architekturwissenschaften
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Technischen Universitat Wien
Fakultät für Architektur und Raumplanung
E259 Institut fur Architekturwissenschaften
Abt. FACHBEREICH ARCHITEKTURTHEORIE E259.4

von

GİZEM ÖNÜRMEN

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Wien

TECHNISCHE
UNIVERSITÄT
WIEN
Vienna University of Technology

Bereits die Sumer Tempel besaßen große Büchersammlungen, welche auf bis zu 2600 v.Chr. datiert werden.
NASA digitale Bibliothek ist das erste Beispiel , Digitalisierung von Büchern, die im Jahr 1994 gestartet.
Die Menschheit hatte 4594 Jahre gebraucht,einen neuen Weg zu finden, um mit Bücher zu engagieren und die Bibliotheken zu modernisieren.
Diese Masterarbeit öffnet eine neue Sicht auf die Bibliotheksarchitektur und Funktionen auf den neuen verknüpften technologischen Ära.
Dieser Masterarbeit beschäftigt sich mit Erforschung einer neuen Bibliothek Konzept, das öffentliche und soziale Architektur , während Technologie wird verwendet, um die Geschwindigkeit zu erhöhen und zur Verbesserung des Zugangs zu Informationen ohne körperliche Grenzen.
Diese Entwurf befasst sich auch mit der Nutzung der öffentliche Raum, das befindet in einem Park, wo der äußerst selten in der Stadt gibt, der trotzt 20 Millionen Einwohnern hat .
Der entscheidende Ausgangspunkt zur Entwicklung des Konzepts von einem öffentlichen Raum, um die zu identifizieren Bedürfnisse und Erwartungen innerhalb der Gemeinschaft.
Ein weiterer Aspekt zu berücksichtigen, während der Gestaltung der Form des Gebäudes ist es, ein Wahrzeichen zu schaffen zur experimentalen und Nachaltigen Architektur Scene.
ISTECH Public Library &Stadt Park wurde entworfen, um die Lokalen und Touristischen Aufmerksamkeit zu gewinnen auf der asiatischen Seite von Istanbul.

ABSTRACT

Definition of **Library** in Oxford English Dictionary:
noun (plural libraries)
A building or room containing collections of books, periodicals, and sometimes films and recorded music for use or borrowing by the public or the members of an institution.

Definition of **Digital Library** in Wikipedia:
noun (plural digital libraries)
A special library with a focused collection of digital objects that can include text, visual material, audio material, video material, stored as electronic media formats (as opposed to print, microform, or other media), along with means for organizing, storing, and retrieving the files and media contained in the library collection.

Books kept in a Sumer temple room belong the first known library dating back to 2600 BC.
NASA Digital Libraries Initiative is the first example of digitization effort for libraries which started in 1994.
Humankind had to wait approximately 4594 years to find a new way to engage with books and modernize libraries.
This master thesis brings a new point of view for the library architecture and functions linked to the new technological era. Digitization and technological advancement is criticized for mitigating social interaction since human touch is replaced with 4.7 inch wide mobile screens. ISTech Public Library, defined throughout this thesis book, is an exploration of a new library concept which merges public architecture and social interaction while technology is used to increase speed and improve access to information without any physical boundaries.
This thesis also deals with effective design for public spaces since ISTech Public Library is located within a park which is extremely rare in a city of almost 20 million inhabitants. The crucial starting point in developing a concept for any public space is to identify the needs and expectations within the community. Surveys with different stakeholders such as students, government officials, inhabitants of surrounding neighborhoods and opinion leaders in architectural domain; are the main source for defining amenities located both at the exterior and the interior of the ISTech Public Library.
Another aspect taken into account while designing the form of the closed spaces is to create a landmark for the city with a monumental approach to modern architecture.
ISTech Public Library and Park is designed to attract local and tourist attraction to the Asian side of the Istanbul city.

İSTech Public Library -
improve the quality of life in urban spaces

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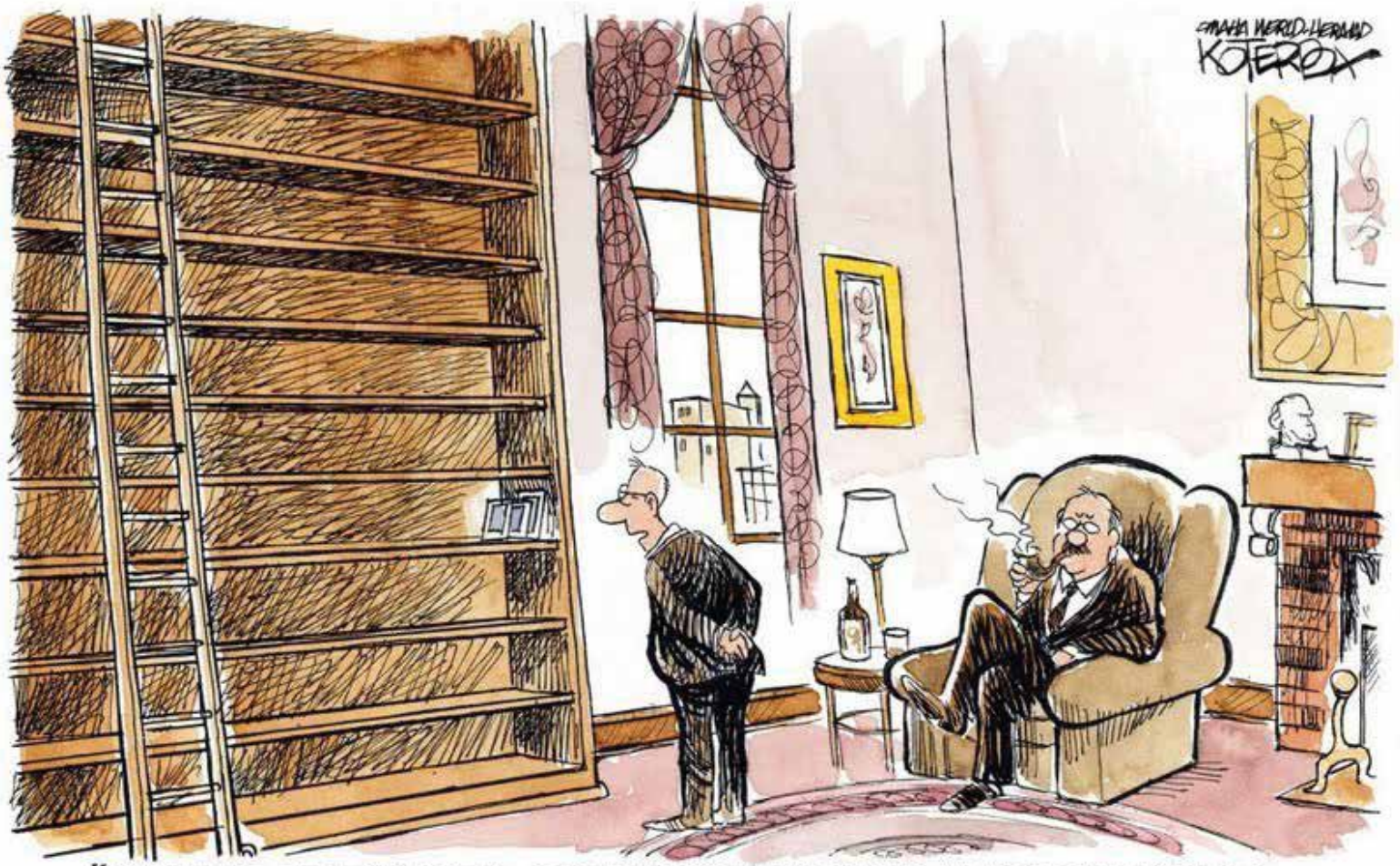

OMAHA WORLD-HERALD
KOTERBA
"KINDLE, NOOK, SONY READER...I SAY, HARDWICK, THIS SURE IS AN IMPRESSIVE LIBRARY."

Fig; 01

'Books permit us to voyage through time, to tap the wisdom of our ancestors.

The library connects us with the insight and knowledge, painfully extracted from Nature, of the greatest minds that ever were, with the best teachers, drawn from the entire planet and from all our history, to instruct us without tiring, and to inspire us to make our own contribution to the collective knowledge of the human species.

I think the health of our civilization, the depth of our awareness about the underpinnings of our culture and our concern for the future can all be tested by how well we support our libraries.'

Carl Sagan

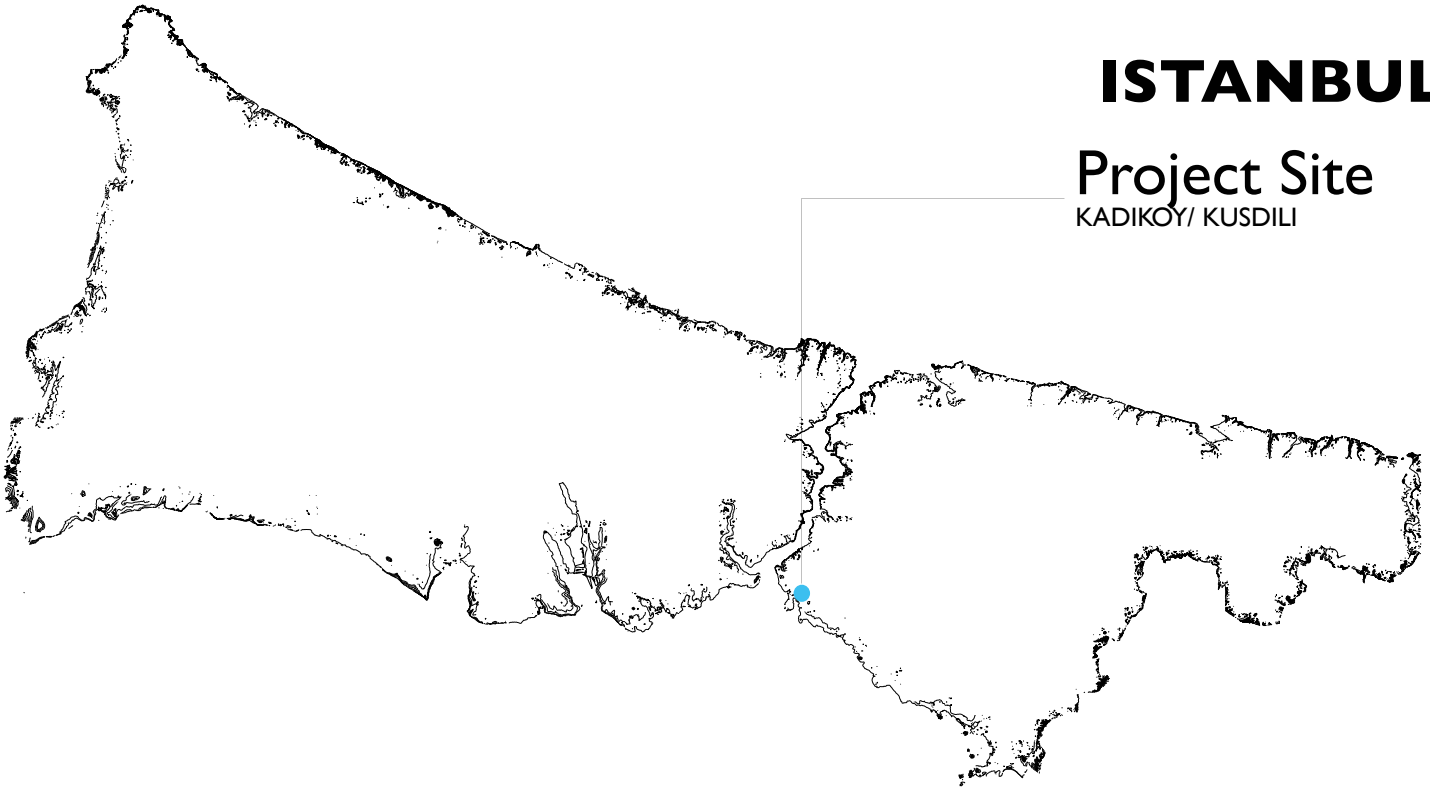
SITE

Fig; 02

ISTANBUL

Project Site

KADIKOY/ KUSDILI



Istanbul, once known as Constantinople and Byzantium before that, is the most populous city in Turkey, and the country's economic, cultural, and historical center. Istanbul is a transcontinental city in Eurasia, straddling the Bosphorus strait between the Sea of Marmara and the Black Sea [1].
Throughout most of its history, Istanbul has ranked among the largest cities in the world. Istanbul experienced especially rapid growth during the second half of the 20th century, with its population increasing tenfold between 1950 and 2000.
The Turkish Statistical Institute estimates that the population of Istanbul Metropolitan Municipality was 14,377,019 at the end of 2014, hosting 19 percent of the country's population.
Approximately 12.6 million foreign visitors arrived in Istanbul in 2015, five years after it was named a European Capital of Culture, making the city the world's fourth-most-popular tourist destination.
Considered a global city, Istanbul is one of the fastest-growing metropolitan economies in the world.
Istanbul is primarily known for its Byzantine and Ottoman architecture, but its buildings reflect the various peoples and empires that have previously ruled the city. Examples of Genoese and Roman architecture remain visible in Istanbul alongside their Ottoman counterparts.
The city, considered capital of Istanbul Province, is administered by the Istanbul Metropolitan Municipality (MMI), which oversees the 39 districts of t he city-province. TechNist Library resides in Kadıköy district

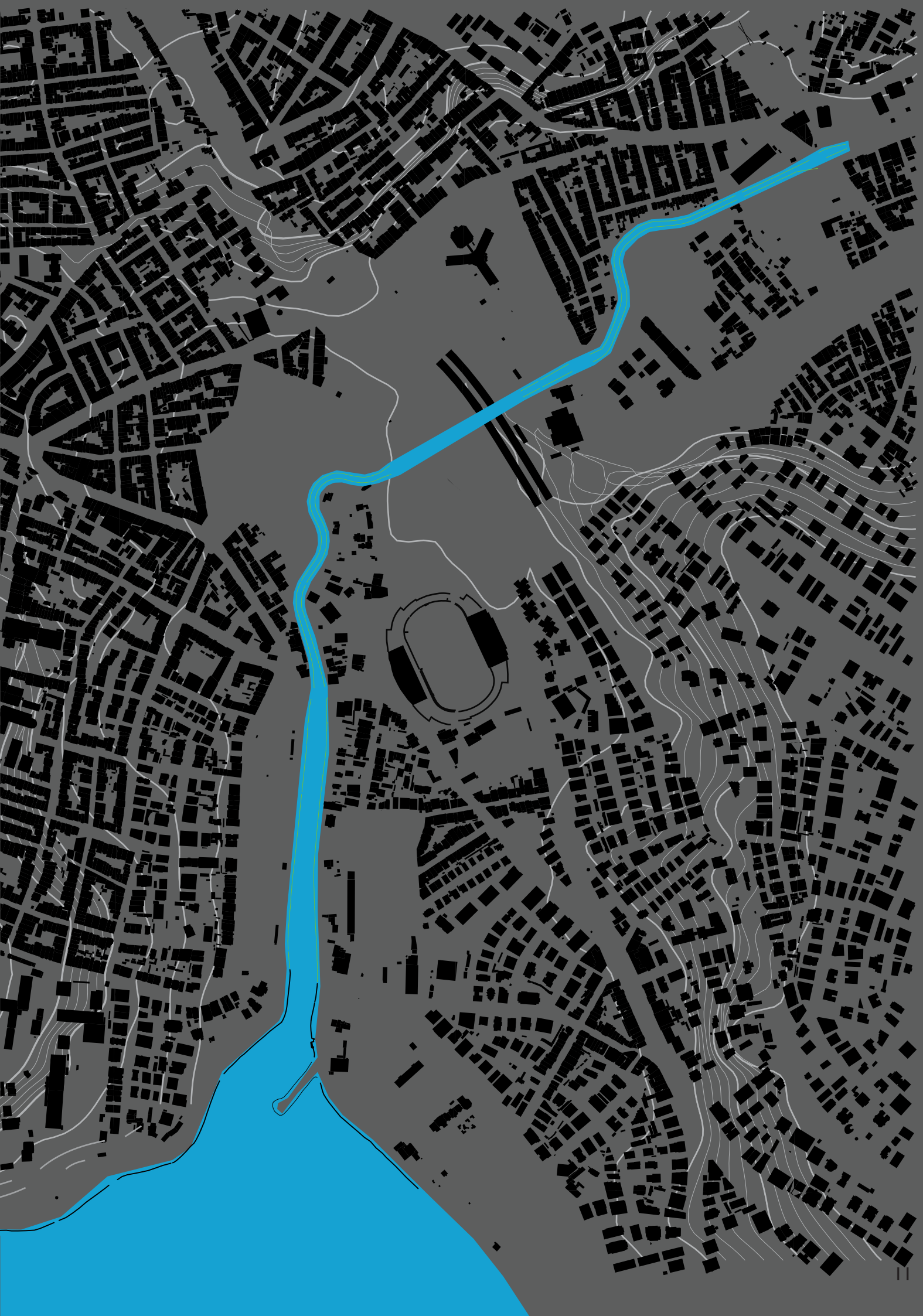
PROJECT SITE

Kadikoy, istanbul

Location:40°99'N / 29°03'E

'The only thing that you absolutely have to know, is the location of the library.'

-Albert Einstein



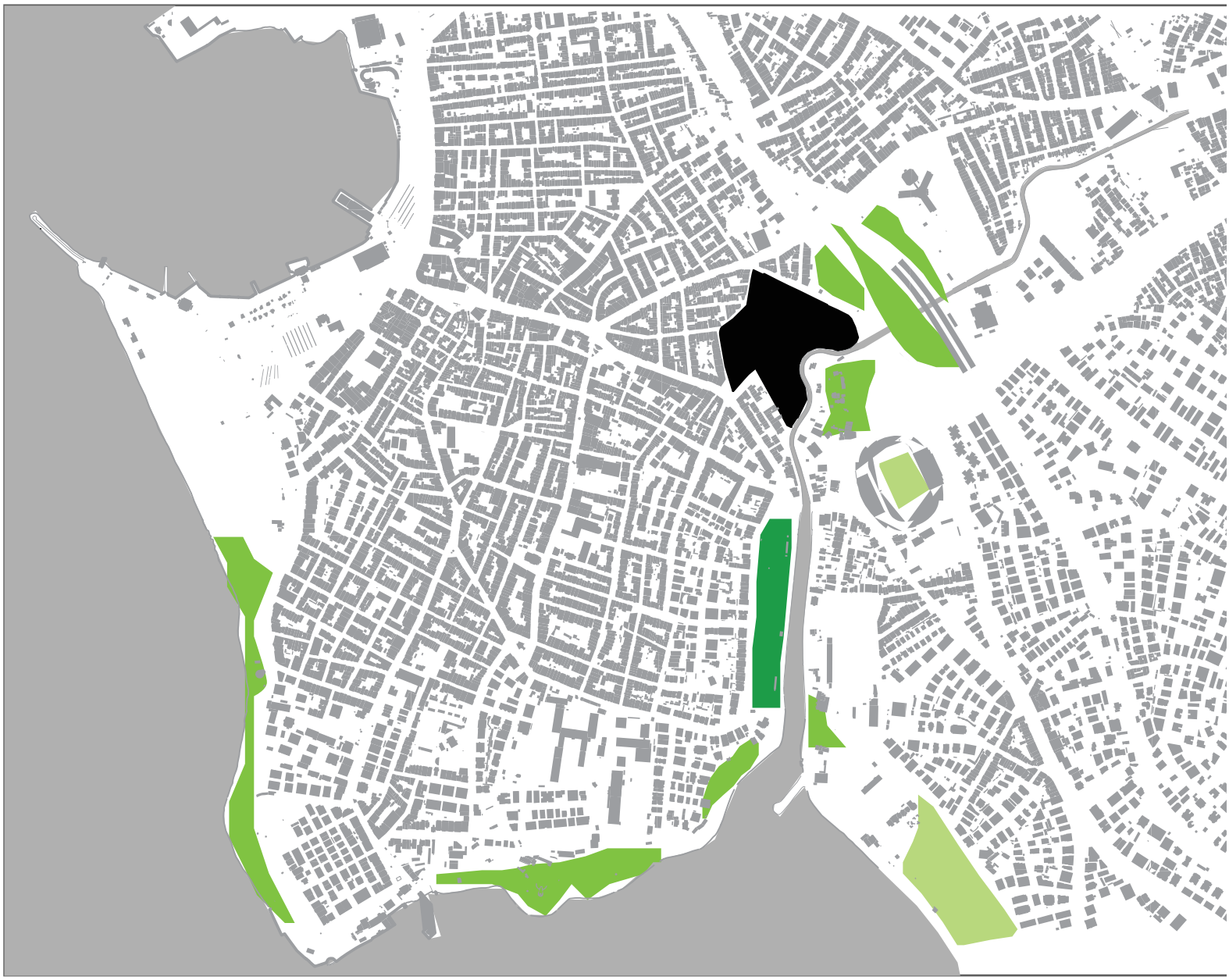
TRAFFIC

Project site

Dense Traffic

Low Traffic intensity

GREEN AREAS



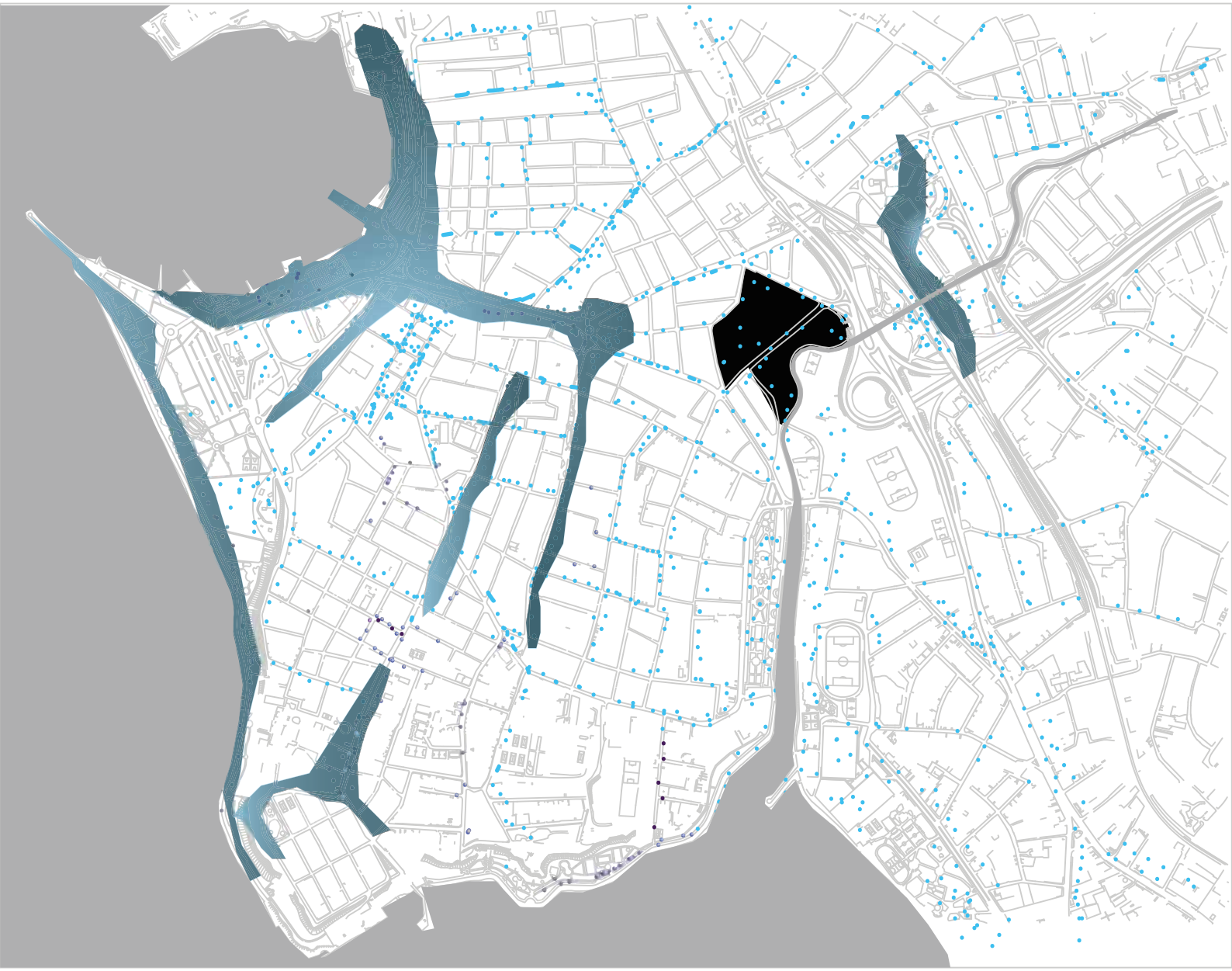
Project site

Park

Green Areas

Sport Areas

CİRCULATION DENSITY

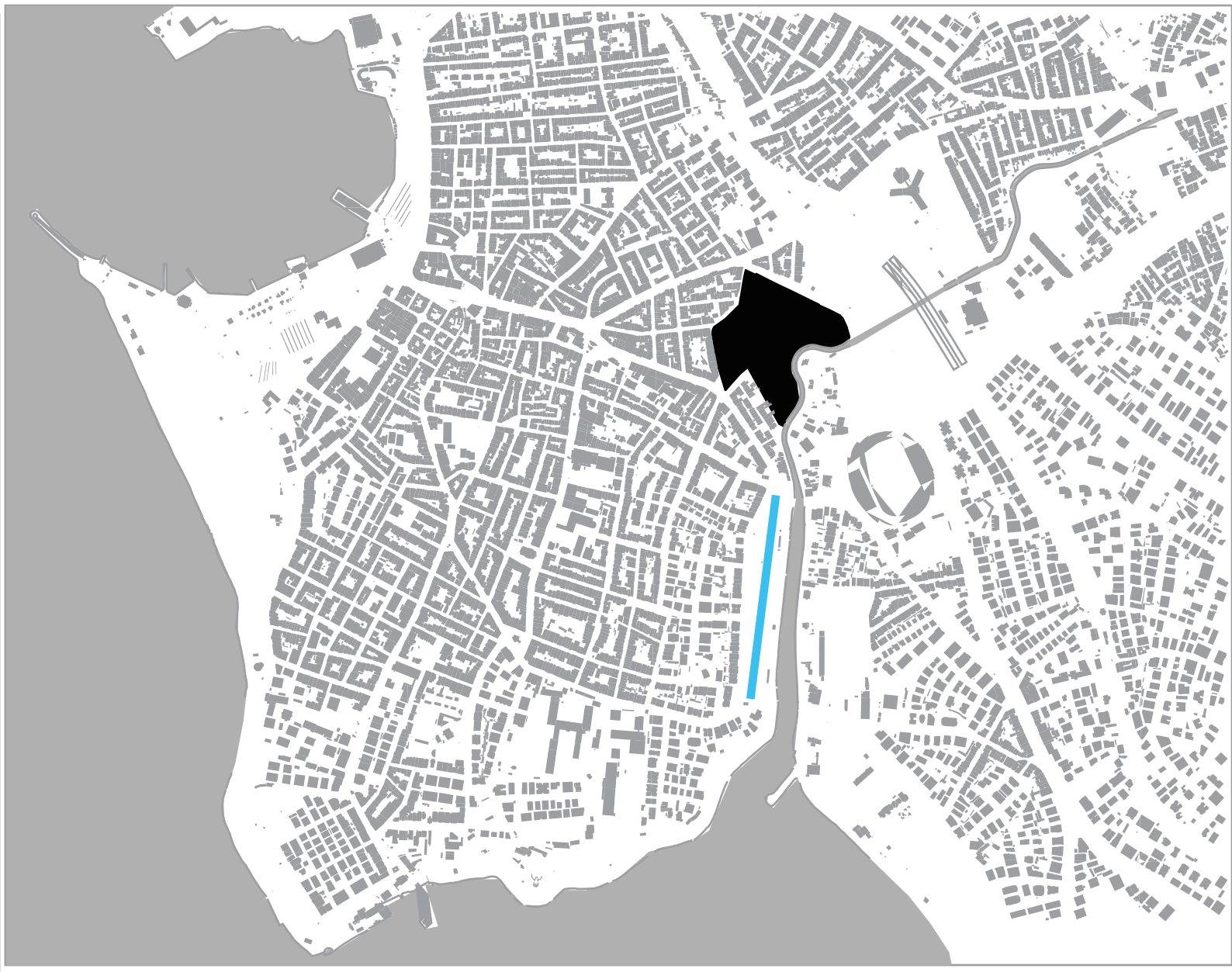


Project site

People

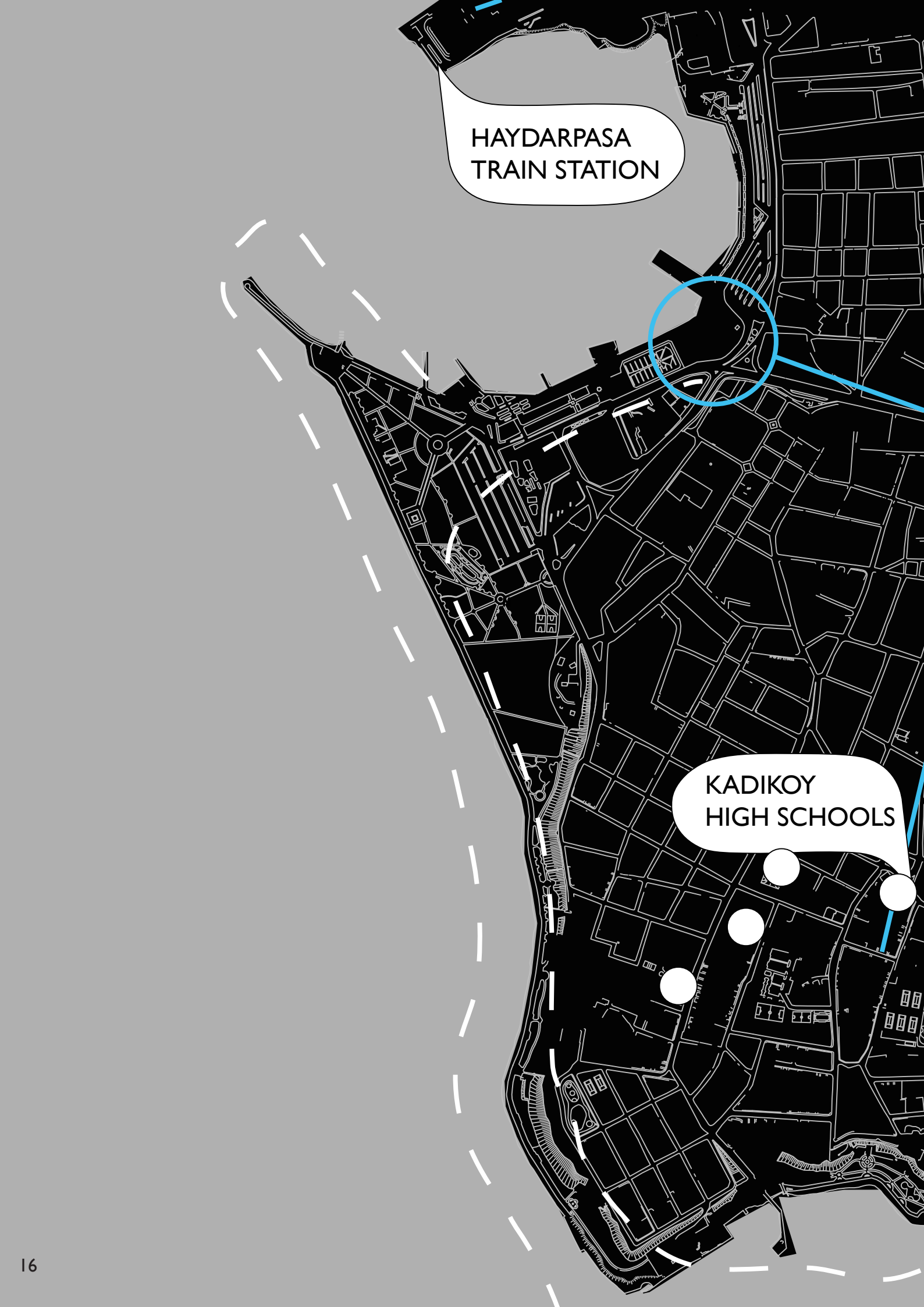
walking areas /density -low

BICYCLE ROUTE



Project site

Bicycle Route


HAYDARPASA
TRAIN STATION
KADIKOY
HIGH SCHOOLS

CITY HALL
of KADIKÖY
The BULL
MONUMENT
ISTech Public
Library
SUKRU SARACOGLU
STADION
SÜREYYA OPERA
HOUSE
YOGURTCU PARK
KALAMIS PARK

Fig; 03

Yoğurtçu Park's history of the park goes back to 1930s.

Total area is approximately 30 thousand m2 in which 14,600 m2 is green areas. There are playing grounds f or kids around the park, and the total area for these grounds is 400 m2. The length of walking paths add up to 5.3 km and the running path is 1.3 km long. The park also houses sports facilities such as soccer fields, tennis courts and fitness areas

Fig; 04

The Bull Monument, originally named "Fighting Bull", is a bronze sculpture by Jules Bonheur made in Paris.

The sculpture, with 24 others, was ordered by Sultan Abdülaziz of the Ottoman Empire in 1864

Fig; 05

Sürreyya Opera House

The building is designed by Armenian architect Kegam Kavafyan by order of a Deputy for Istanbul Süreyya İlmen, it was originally established in 1927 as the first musical theatre on the Anatolian part of Istanbul.However, due to lack of appropriate facilities and equipment in the theatre, operettas were never staged.

By the beginning of 2006, Kadıköy Municipality launched a redevelopment project after leasing the building from Darüşşafaka Association .The restoration included the frescos at the ceiling and on the walls, and the sculptures on the facade

Neighborhood

important places around project area

Fig; 06

Istanbul Haydarpaşa Terminal is a railway terminal which was a major intercity, regional and commuter rail hub as well as the busiest railway station in Turkey until 2012 when it was closed for construction. Original construction started in 1906 by Otto Ritter and Helmut Conu, two German architects who choose a neo-classic German style. The building was erected on land reclaimed from the sea and is therefore surrounded by water on three sides: a unique feature for a railway , station. It has a very distinctive style, definitely standing out in Istanbul. Thanks to its location, it has been very well preserved.

Fig; 07

Şükrü Saraçoğlu Stadium is the home venue of Fenerbahçe Sport Club.
It was inaugurated in 1908 and renovated between 1999 and 2006.
The total official capacity of the stadium is 50,509.
Before the stadium was built, the area was known as Papazın Çayırı(the field of the priest) which belong same area with ISTech Library .
The stadium became the very first football pitch of Turkey, where the first league games of the Istanbul Football League were all held consecutively.

Fig; 08

Kadıköy Anatolian High School is one of the oldest, most prestigious and internationally renowned high schools of Turkey;
located in Moda, Istanbul.
The original building, which unfortunately exists no more, dates back to before World War I and was built by the Franciscan Capuchin Order.
In 1968 a second building was added to the school which served as a dormitory.
In 1976 and 1977 two more buildings were added.
For many years it was ranked as the biggest high school in the Balkans.

TOP VİEW FROM SEE SITE

HISTORY OF AREA

in last 100 years

Fig 09 the field 1914

Fig 12 green sport area early 1900's

Fig10 the field early 1900's

Fig:13 green sport area 1900's

Fig11 holiday ground 1926

Fig:14 market place 1982

Today

Fig:15

Parking area 2015

Kadıköy, ancient and Byzantine Chalcedon; is a large,populous, and cosmopolitan district of Istanbul with a population of 521,005 according to 2012 census.

Total area of the district is 40.21 m2 with a density of 13,000 people per m2.
There are many cultural and historical sites within the Kadıköy district.

Kadıköy has many houses from the Ottoman and some from Roman period which are hidden in its side streets.

Some of them have been turned into cafés, pubs and restaurants, particularly serving seafood and rest of them waiting for restoration.

LIBRARIES

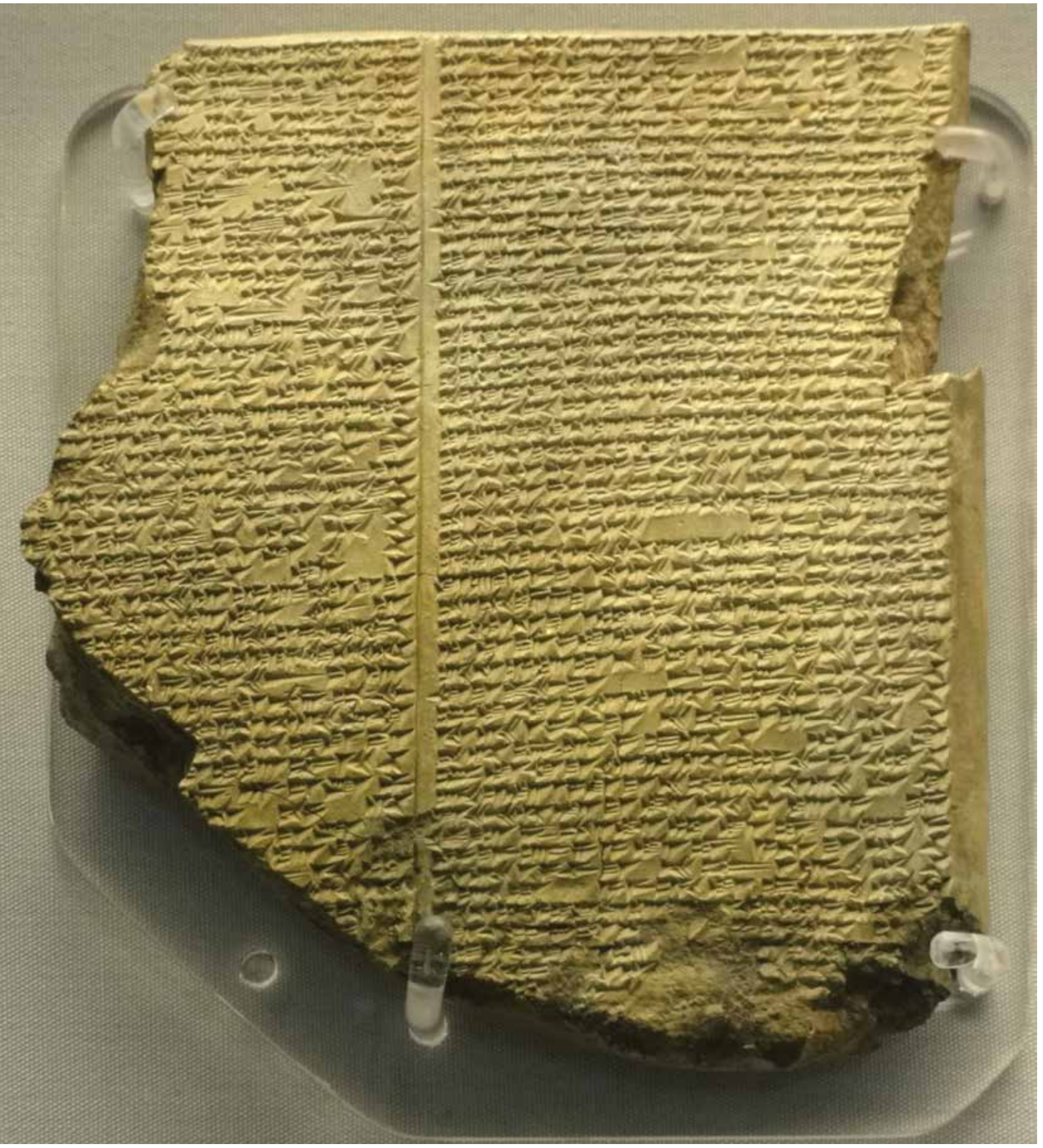


fig 16: Tablet from the Library of Ashurbanipal, Epic of Gilgamesh

HISTORY

The word 'library' derives from the Latin word 'liber' which means "book".
On the other hand, 'bibliotheca' which is a Latinized Greek word, is the origin of the word for library in German, Russian, and the Romance languages.

From their historical beginnings as places to keep the business, legal, historical, and religious records of a civilization; libraries have emerged since the middle of the20th century as a far-reaching body of information resources and services that do not always require a building .

The first libraries consisted of archives of the earliest form of writing. They included the clay tablets in cuneiform script discovered in temple rooms in Sumer dating back to 2600 BC. These archives, which mainly consisted of the records of commercial transactions or inventories, mark the end of prehistory and the start of history .

The Library of Alexandria, in Egypt, was the largest and most significant great library of the ancient world.
It flourished under the patronage of the Ptolemaic dynasty and functioned as a major center of scholarship from its construction in the 3rd century BC until the Roman conquest of Egypt in 30 BC with collections of works, lecture halls, meeting rooms, and gardens.

The library served many of the most famous thinkers of the ancient world studied .
The Library of Alexandria was burned down around 48 BC and reborn in October 2002 to reclaim the mantle of its ancient namesake.

It is not just an extraordinarily beautiful building; it is also a vast complex where the arts, history, philosophy, and science come together.

Reading, for the sake of knowledge or enjoyment, or to explore the world of the human imagination, is one of those experiences that gives people a sense of emotional and spiritual richness quite different from economic or monetary well-being. In this sense, the act of creating a space that surrounds you with books is undoubtedly linked to the creation of a new, enriched sense of public values .

Based on the purpose of establishment, provided service and audience; there exists different types of libraries around the world.

A **national library** is a library specifically established by the government of a country to serve as the preeminent repository of information for that country.
National Libraries rarely allow citizens to borrow books. Often, they include numerous rare, valuable, or , significant works.

A **public library** is accessible by the general public and generally funded from public sources, such as taxes.
It is operated by librarians and library paraprofessionals, who are also civil servants. Public libraries exist in many countries across the world and are often considered an essential part of having an educated and literate population .

An **academic library** is attached to a higher education institution which serves two complementary purposes to support the school's curriculum, and to support the research of the university faculty and students .

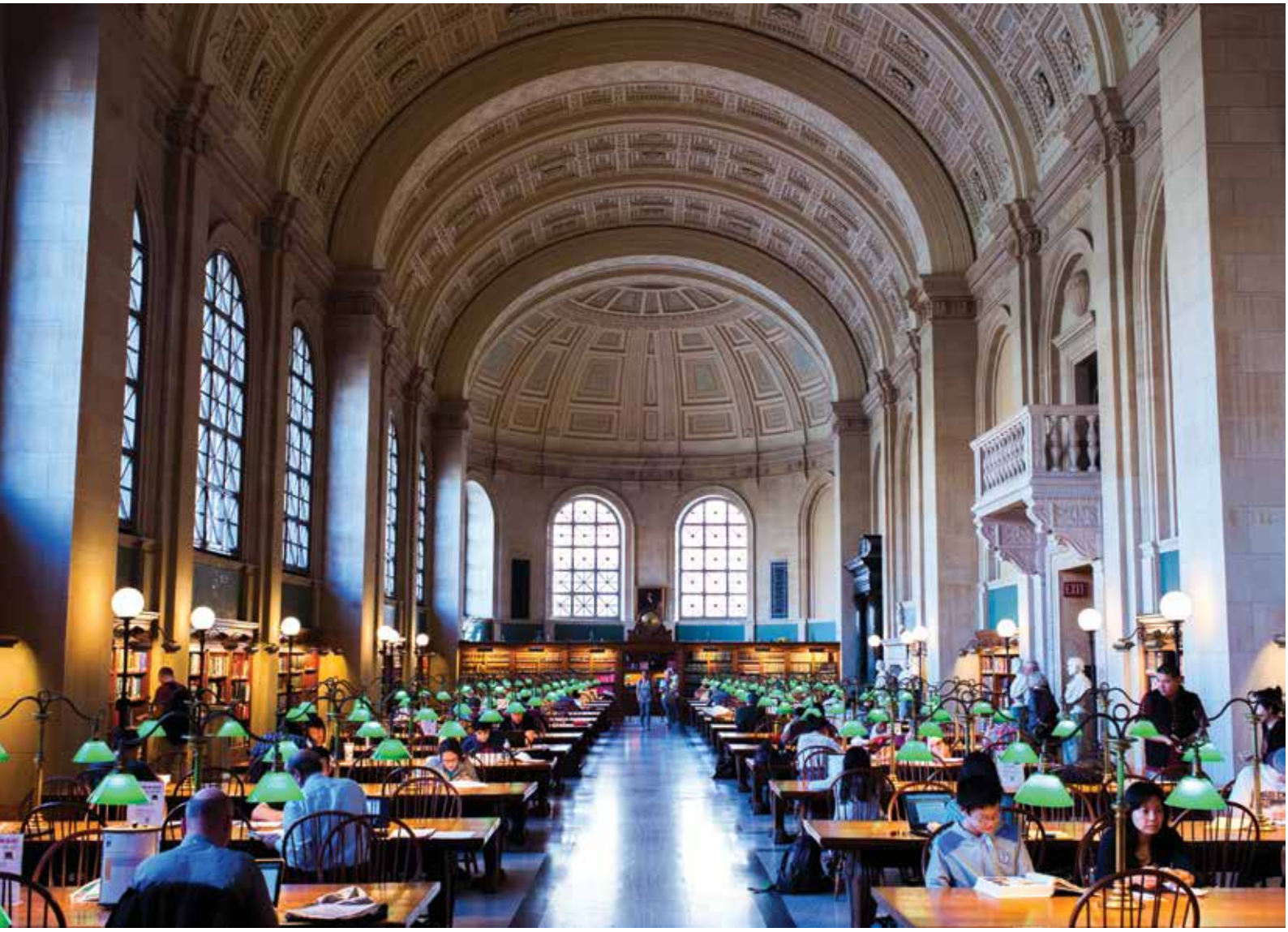
OCLC is a global library cooperative that provides shared technology services, original research and community programs for its membership and the library community at large.

With thousands of library members in more than 100 countries, OCLC aims to make information more accessible and more useful.

OCLC maintains a Global Library Statistics database and according to the latest data available, India has the most number of libraries in the world by far.

India is followed by Indonesia and Russia whereas Turkey ranks number 8. In terms of library users, United States of America has by far the most number of library users with more than 229 million.
Turkey ranks number 15 in the list with almost 16 million users

Fig; 16 Boston Public Library, Massachusetts, USA



COUNTRY		LIBRARIES					TOTAL
		Academic	National	Public	School	Special	
1	India	13.415	1	29.800	293.427	374	337.017
2	Indonesia	2.428	1	1.062	118.599	816	122.906
3	Russia	528	3	46.000	66.000	1.450	113.981
4	China	3.842	1	51.311	48.281	6.238	109.673
5	United States	3.793	4	9.105	81.920	8.819	103.641
6	Japan	1.474	1	3.126	40.639	583	45.823
7	Ukraine	223	2	18.323	20.258	371	39.177
8	Turkey	559	1	1.211	27.948	33	29.752
9	Spain	52	1	4.164	20.238	2.149	26.604
10	Poland	1.121	1	8.290	15.200	333	24.945

Library USERS

15	Turkey	3.870.112	28.356	1.209.766	10.470.000	372.178	15.950.412

Library 1.0

modern public libraries

Fig 17:Vennesla Library and Culture House, Vennesla, Norway

For their new library and community center in Vennesla, Norwegian architects Helen & Hard bring a sophisticated elegance to the public facility in Norway.

The project links an existing community house and learning center, and seeks to become an extension of the main city square with its transparent facade and urban loggia.

The expressive ribs combine structure, technical infrastructure, and functionality into one a rchitectonic element that creates a dynamic aesthetic identity for the project to meet the client's original intent to mark the city's cultural center .

Fig 17:Kanazawa Umimirai Library, Kanazawa City, Japan

Kanazawa Umimirai Library in Japan aims to design a certain "atmosphere" for books and reading.

The overall structure of the library resembles an internal three-layered floor covered with a large box that we refer to as a "cake box". The large external "punching wall" in the cavernous reading room features some 6,000 small openings across its entire surface that allow a soft, uniform light to enter the building. In addition, the burden of seismic force from any earthquakes is dispersed across the entire expanse of this wall.

Fig 18 Stuttgart City Library, Stuttgart, Germany

The city of Stuttgart, Germany has officially opened a marvelous new media center, the Stuttgart City Library. This cavernous white wonder is unobtrusive in design, where the books and visitors provide the color to an otherwise neutral environment.

The visual center of the Stuttgart City Library is its grand atrium, a five-story open chamber that feels like the work of a modernist MC Esher.
The interior is bright without direct lighting, it is warm without paint color and intimate yet open.

Fig 19 The Royal Danish Library 'the Black Diamond', Copenhagen, Denmark

The "Black Diamond" is a characteristic new library building at the waterfront of Copenhagen.

The name refers to the prismatic sharp edges and the black marble plates and glass of the exterior that reflects the water of the harbor. Also from the wave-like balconies of central foyer, which cuts into the building as a 24 meter high atrium, there is a panoramic view over the harbor.

fig 20 Seattle Central Library, Seattle, USA

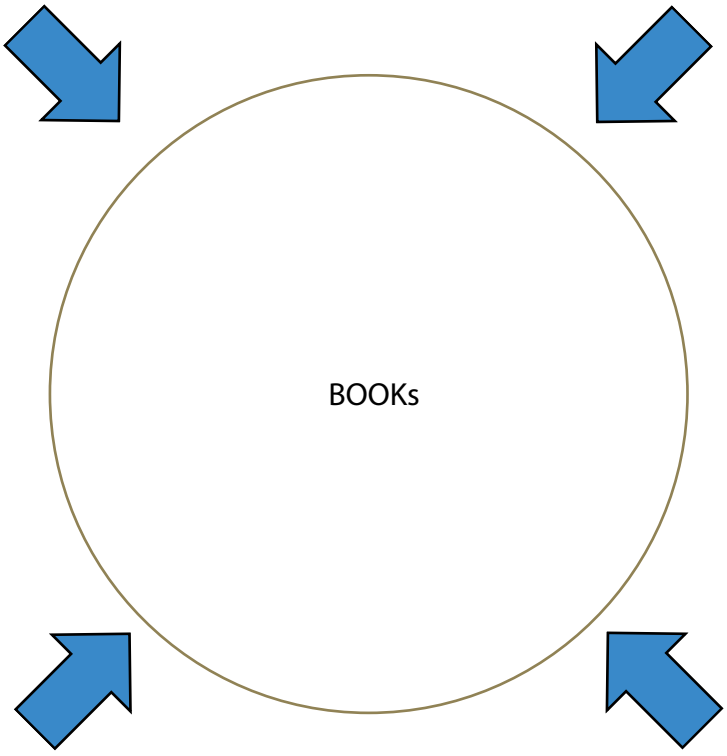
The diagrammatic form of the Seattle Public Library's glass and metal skin began with the simple concept of wrapping the entire building in a continuous layer of transparency.

This layer, with its faceted planes, outlines elevated platforms of program spaces on the exterior while creating a variety of interconnected spaces on the interior.

Unifying these shifting planes of glass, a common diamond module has been utilized for the mullion framing across the entire envelope.

fig 21 Villanueva Public Library, Villanueva, Colombia

If sustainable buildings can be understood as the resourceful result from the use of local materials, local workforce, economical restrictions, climatic particularities and a projected low maintenance, the Public Library for the tropical city of Villanueva in Colombia can be understood as such.
It's a building consisting of two different compact volumes, one houses the public library in the second floor and the complementary program in the first floor such as theatre, kid's library, administration offices, work spaces, and the other volume shelters a public corridor-plaza.



LIBRARIES IN TURKEY

Fig 22 Library of Celsus in Ephesus, Izmir, Turkey

The most famous library ever existed within the borders of modern Turkey is The Celsus Library of Ephesus.
The library is named after the city's former Roman governor and constructed in the 2nd century CE, was a repository of over 12,000 scrolls and one of the most impressive buildings in the Roman Empire.

It was the third richest library in ancient times after the Alexandra and Pergamum.

Currently there exists 29.752 libraries in Turkey, according to Turkish Statistical Institute (TUİK) library statistics 2014: 1 national library, 1.211 public libraries, 559 academic libraries, 27.948 school libraries and 33 special libraries. There are more than 5 million registered library members in Turkey which corresponds almost 7% of the population.
About 75% of the registered members, 3.8 million in number, are registered to academic libraries.

Number of registered members

National Library	28.356
Public Libraries	1.209.766
Academic Libraries	3.870.112

There is only one national library in Turkey, located in the capital city of Ankara.
Established in 1946, the National Library has moved its new building in 1983.
National Library houses 3.353.386 items .

Fig 23 National Library, Ankara

Fig 24 Istanbul Bilgi University Dolapdere Library, Istanbul

Public libraries perform unique and critical roles in their communities.

These roles evolve and change with the needs of the people they serve, and they often include economic d evelopment, adult and early childhood literacy, support for government programs and more.
There are 1.121 public libraries in Turkey and more than 20 million users.

Istanbul Ataturk Public Library is the most populated and well known public library in Turkey.

Public Library Statistics (2014)

Public Libraries	1.121
Books	17.111.825
Users	20.787.765
Members	1.209.766
Lend out Books	7.600.807

In a rapidly changing educational environment, academic libraries need more time and staff resources to meet the needs of faculty and students.

They are also looking for tools that shine a light on their vital contributions toward the success of their academic institutions. There has been a rapid increase in number of academic libraries in Turkey due to newly established universities.

Istanbul Bilgi University and Koç University stand out from the rest via their uniquely designed libraries and vast amount of data collections.

Koç University Library collections encompass a rich a nd varied universe of print volumes, digital resources, media and archival materials. Its print collection is nearing 300,000 volumes, plus nearly 93,000 e-books. The Library also holds nearly 64,000 current serial titles available online.

The Library's digital collection continues to grow at a rapid pace.

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fig 25 ;Istanbul Bilgi University Dolapdere Library, Istanbul

THE FUTURE OF LIBRARIES

Beginning the Great Transformation

Today's hottest web and mobile technologies are offering libraries a new world of opportunities to engage users. Ultra-popular social media websites and apps combined with the availability of affordable cloud-based services and the evolution and adoption of mobile devices are enabling librarians to share and build communities, store and analyze large collections of data, create digital collections, and access information and services in ways never thought about before.

Libraries have become technology leaders by integrating cutting-edge tools to enhance users' experience.
It's not enough to redesign the library website.
Best practices mean developing user personas and following usability strategies to produce user-informed designs. New digital collections are stored in the cloud and mobile applications are developed around them.

Libraries are claiming their venues on location-based mobile social networks, developing bleeding-edge augmented reality applications, and participating in semantic web efforts .Will be the libraries just virtuel in the future?

Web 2.0 transferred into the library world as library 2.0 can be seen as a loosely defined model for a modernized form of library services that reflects a transition in the way that services are delivered to users.
This master thesis brings a new point of view for the library architecture and functions linked to the new technological era. Digitization and technological advancement is criticized for mitigating social interaction since human touch is replaced with 4.7 inch wide mobile screens.
ISTech Public Library 2.0 , defined throughout this thesis book, is an exploration of a new library concept which merges public architecture and social interaction while technology is used to increase speed and improve access to information without any physical boundaries.

NEW ISSUES ABOUT WORKING SPACES

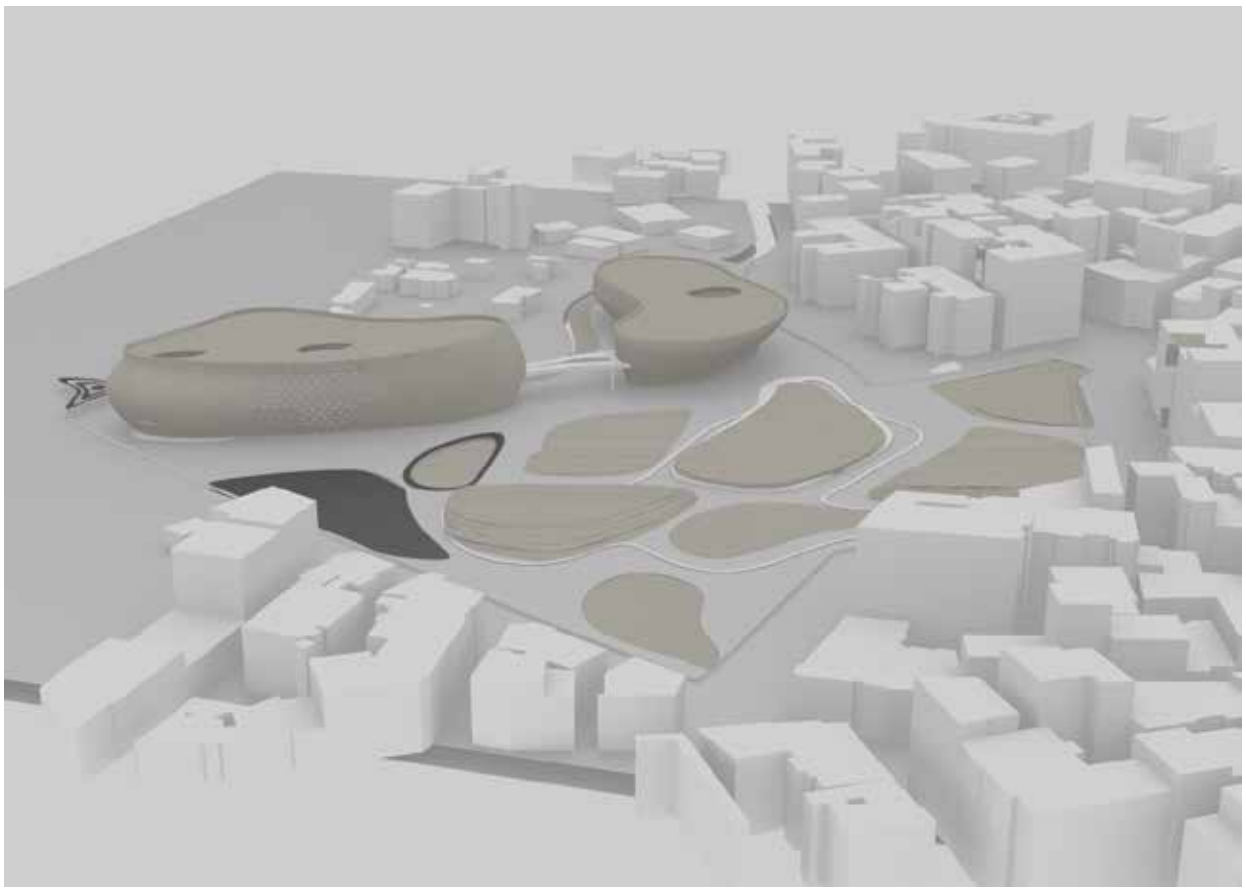
Digital age has redefiend working spaces.
Rigidly designed spaces has lost ground to insipiring and hence creative environments to florish ideas and motivate people. A relaxed workplace can enhance motivation and reduce stress.

The physical atmosphere plays a the most prominent role on productivity.
Businesses these days, particularly those who make their money on the internet and technology , seem to be paying much more attention to their staff and work environment, so that they can really get the most out of them.
That's why the most inspring workplace designs are found in the offices of new businessed with lots of young working population such as Google, Apple, Facebook and Zappos .
There are no more cubicles or table and seperators in today's efficent working environment.
Architects and designers are more geared towards to creating co-creation enabling open spaces where ideas get bigger via discussions.
This idea of relaxed environment can now be found in many places ranging form public buildings such as libraries to biggest corporate structures around the world.
ISTech Library has been designed to create a relaxed environment enabling users to feel comfprtable and motivated at the same time.

fig 26

fig 27

fig 28



Generally library plans consist of spaces that have always a very particular function assigned to them. According to this particular function, the space is also equipped with specific furniture that is considered appropriate for this function.
But this specification of spaces also increases the restriction of alternative uses for the spaces.

The use of media to access of infomation is becoming more flexible. This is because more material and resources are available for access online and laptops or e-books are making the localized desktop computer obsolete in public spaces. Due to this development, it is necessary to think of flexibility in the way we use space and the importance to the patrons of other factors like the space's description.

fig 29

WORKING EXPERIMENT

PRIVAT WORKING SPACES

SMART DEVICES UND TECHNOLOGY

GROUP WORKING AREAS

INTERACTIVE SCREENS

SEARCHING ROOMS

PLAYING

CREATIVE WORKING

MEETING POINTS

GAMES AREA

SPORT

RESTAURANTS

PARK

BAR

CAFÉ

NEW FRIENDSHIPS

NETWORKING

CONCERT

MEETINGS

EVENTS

KONFERENCES

EXHIBITIONS

ONE-WAY COMMUNICATION

LECTURES

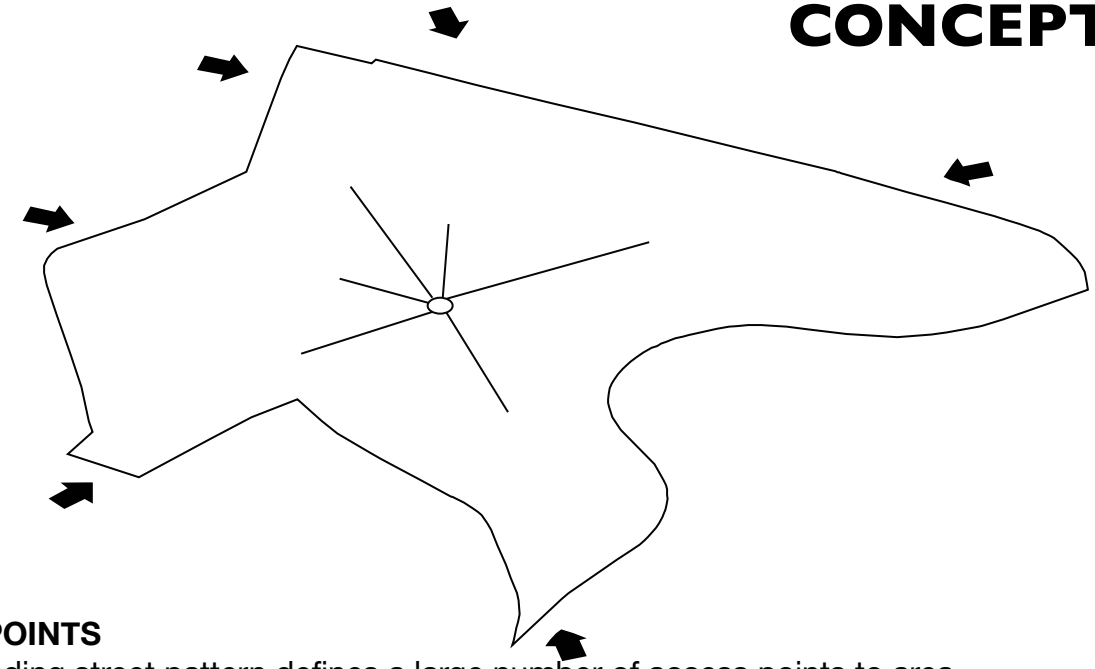
SEMINAR

WORKSHOPS

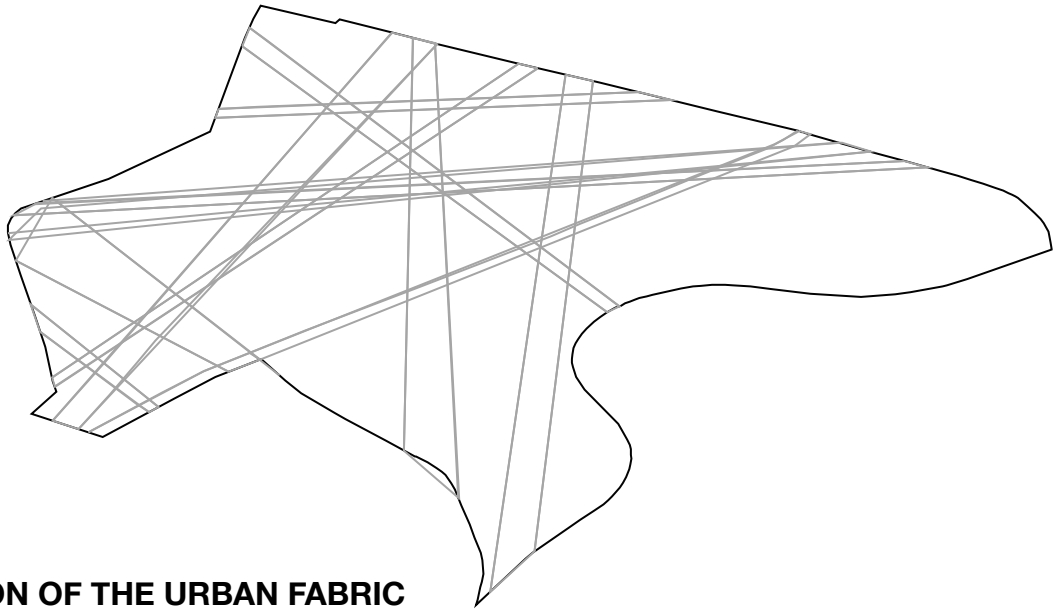
CINEMA

THEATER

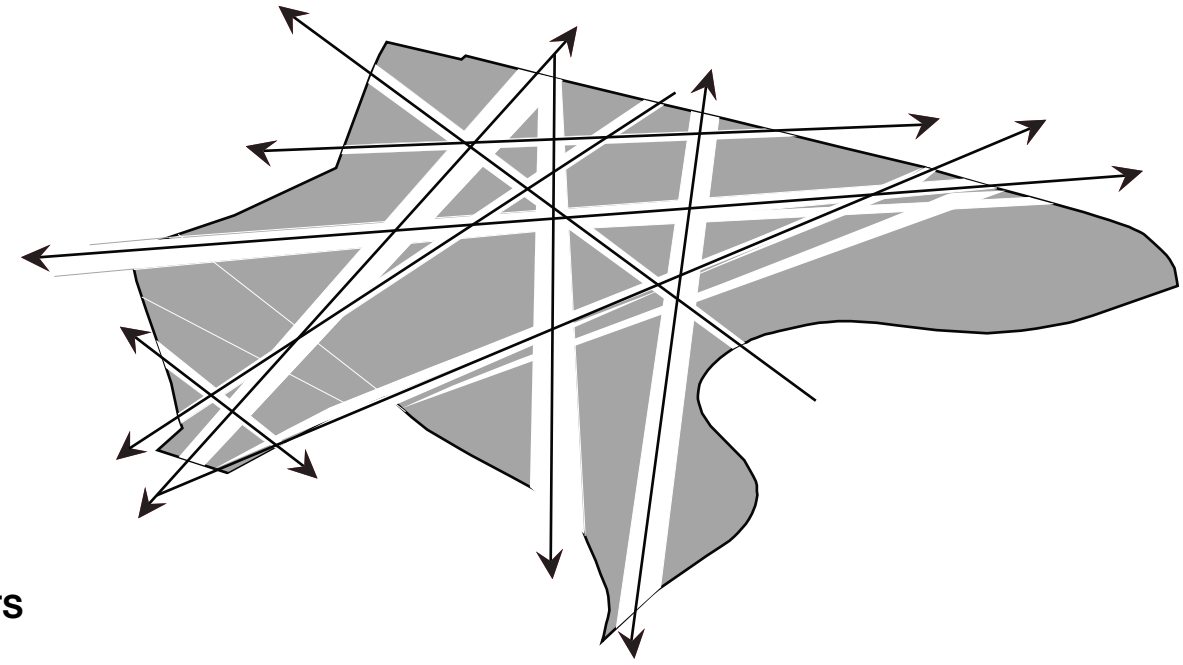
CONCEPT



ACCESS POINTS
the surrounding street pattern defines a large number of access points to area

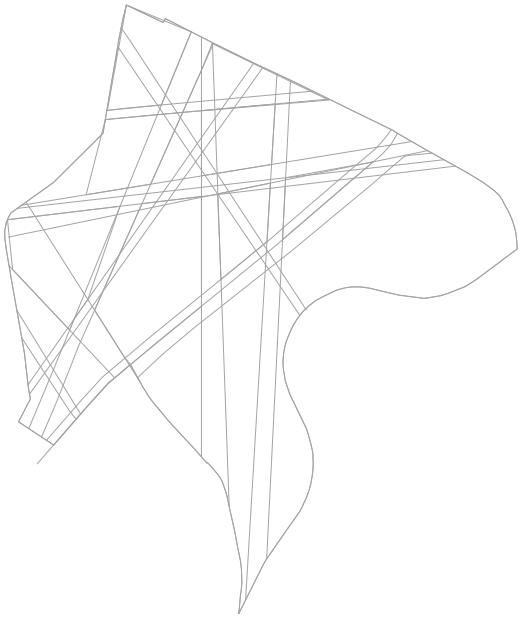


CONTINUATION OF THE URBAN FABRIC
By connecting the access points across the site, through the urban grid ,
the aea becomes an intergrated part of the surrundign city



PLOTS

1



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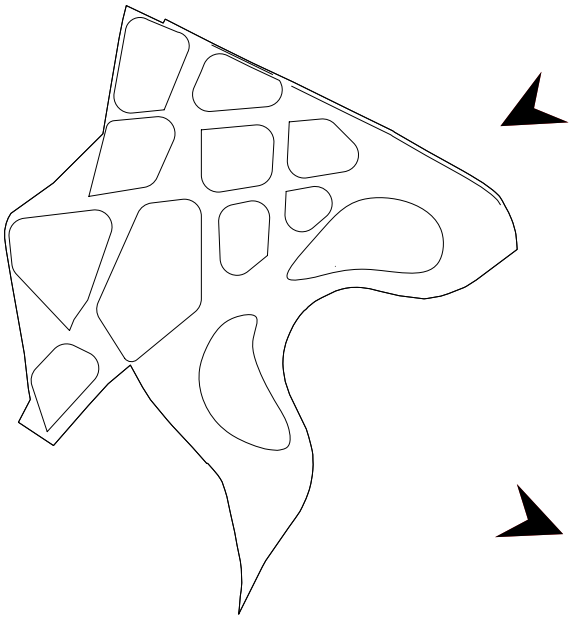
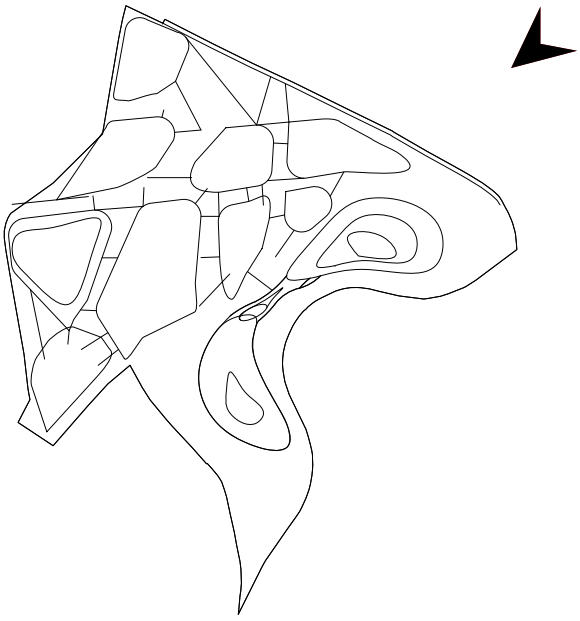


3

4



Geometry / nature insprations

Fig29.b

PROJECT

FORM DEFORMATION

...and is shaped in accordance with concept and design principles.

Users divided exploring the gender gap in ISTech use

All public library users wish a vital library and openness

%20 Freelance workers

%30womans / with kids

%10 old woman

% 40 Students
& Akademists

%20 freelance workers

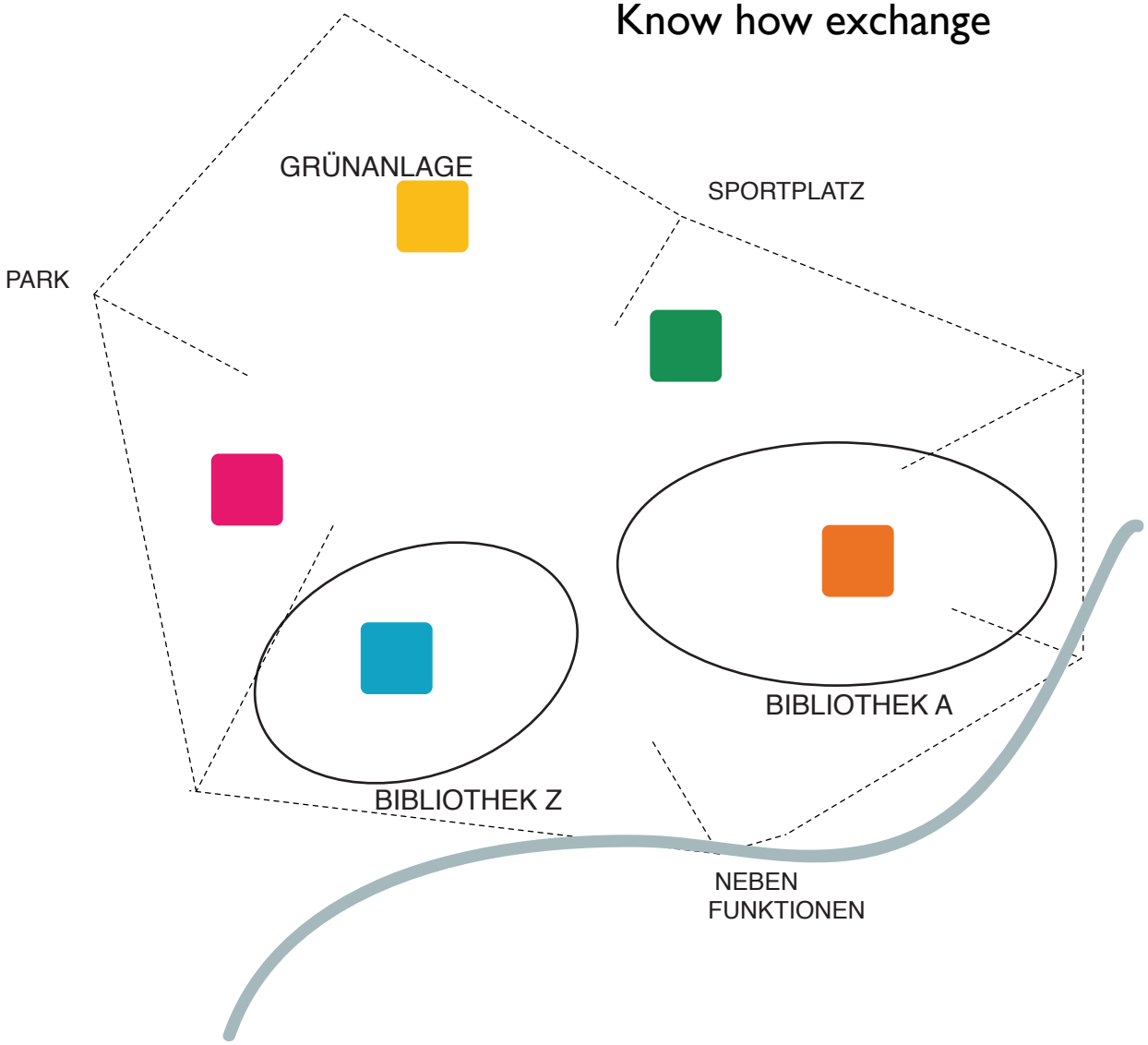
% 25 Fenerbahce Fans

% 45
Student & Akademiker

%5 Mans /with kids

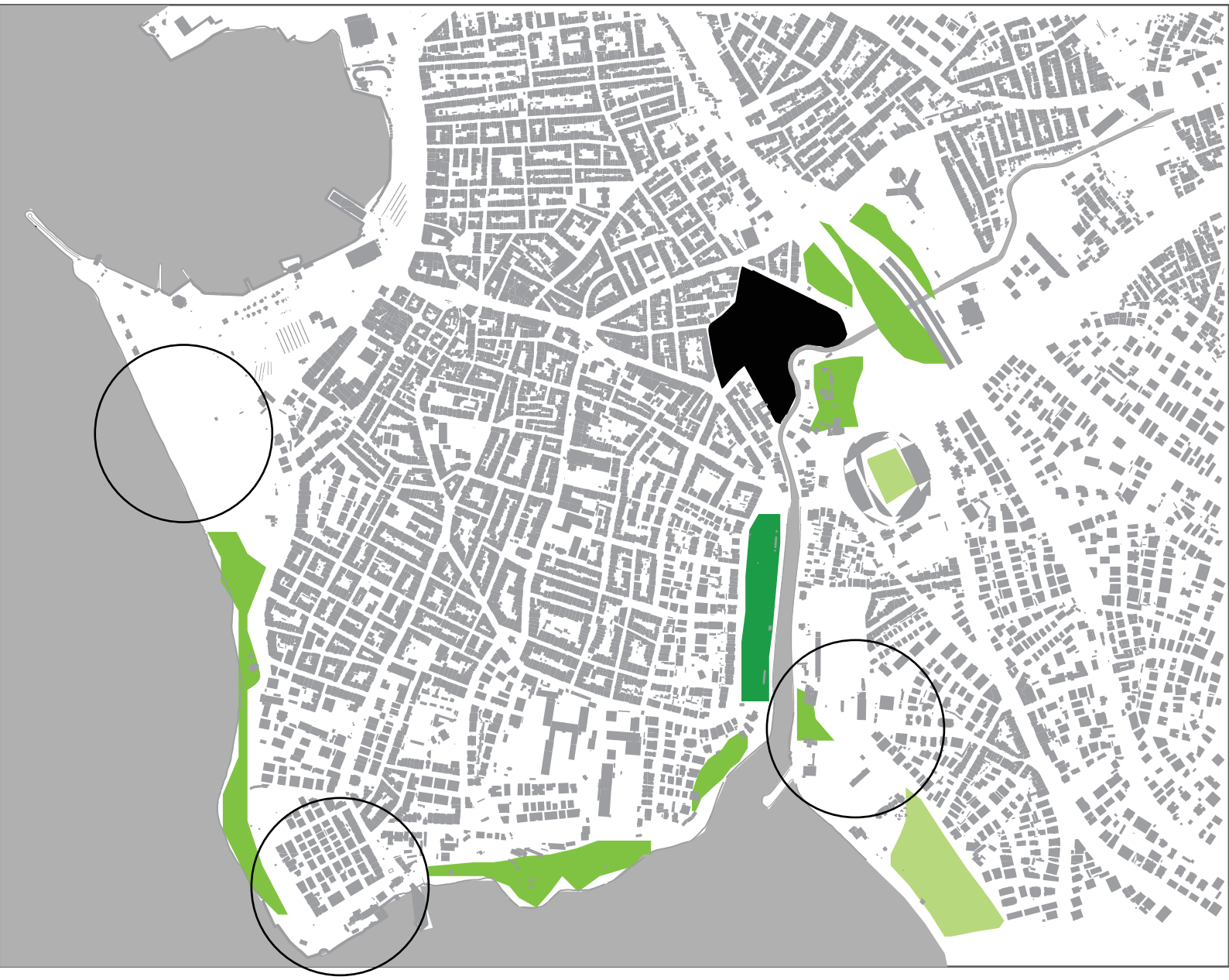
USERS STUDY

Know how exchange



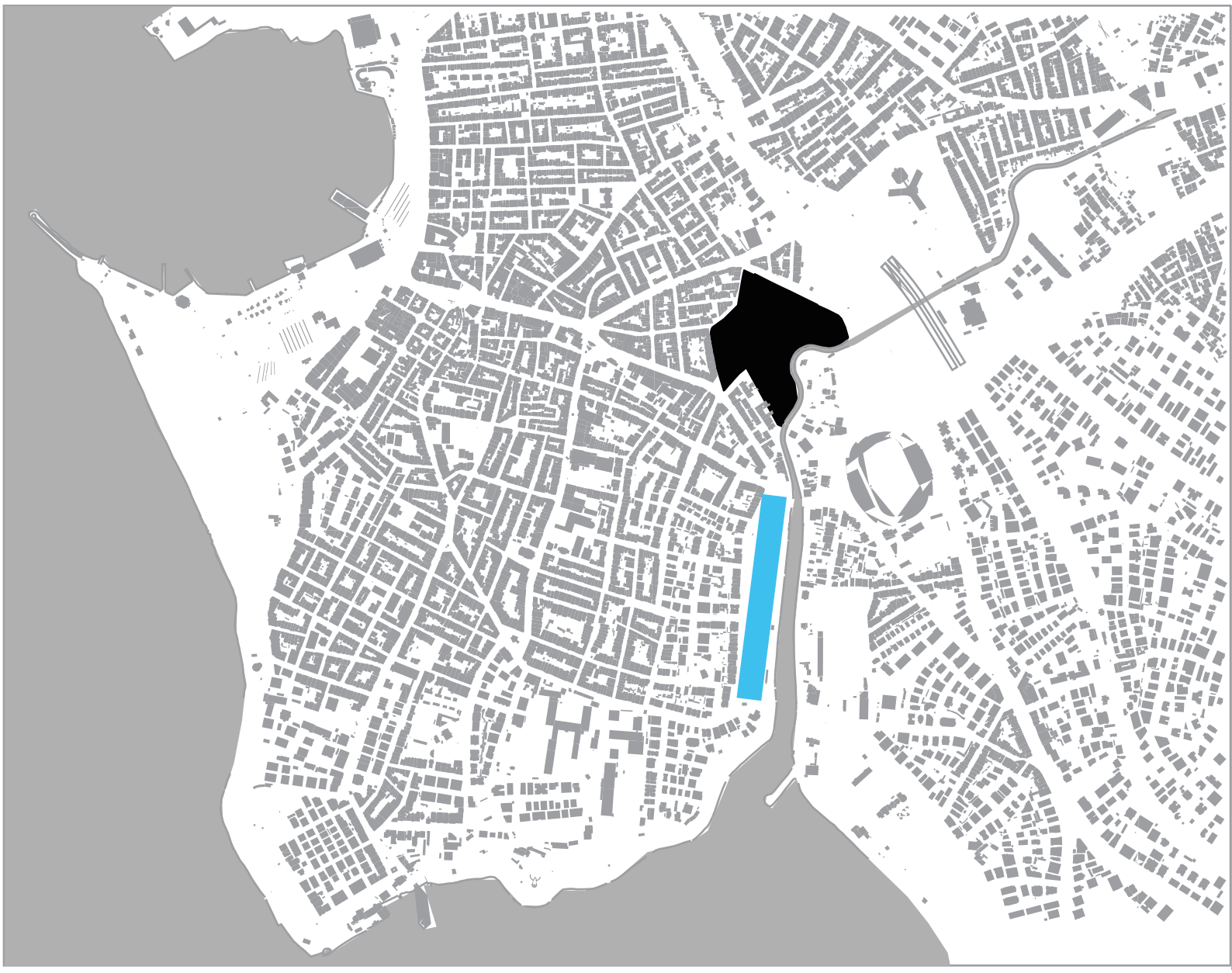
ISTech User Catagories

- ARTIST
- SPORTIVE
- STUDENTS , AKADEMICS
- TOURIST
- CHİLDREN
- Kadikoy Population

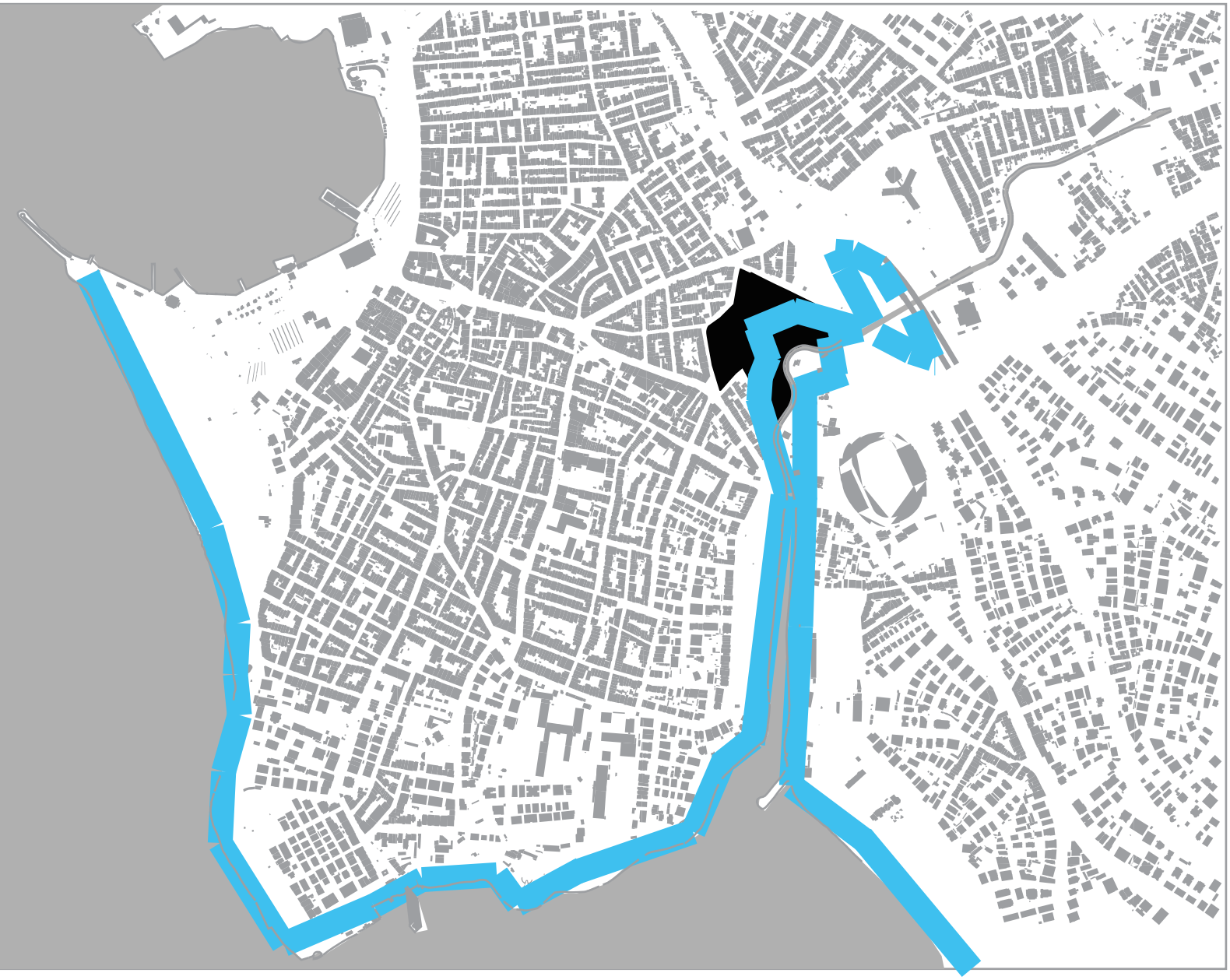


URBAN PLANING
NEW GREEN AREAS

CONNECTION BETWEEN DISJOINED GREEN SPACES



INTEGRATIONIN URBAN PLANNING CONTEXT



NEW CYCLING INFRASTRUCTURE

TRANSPORT CONNECTION

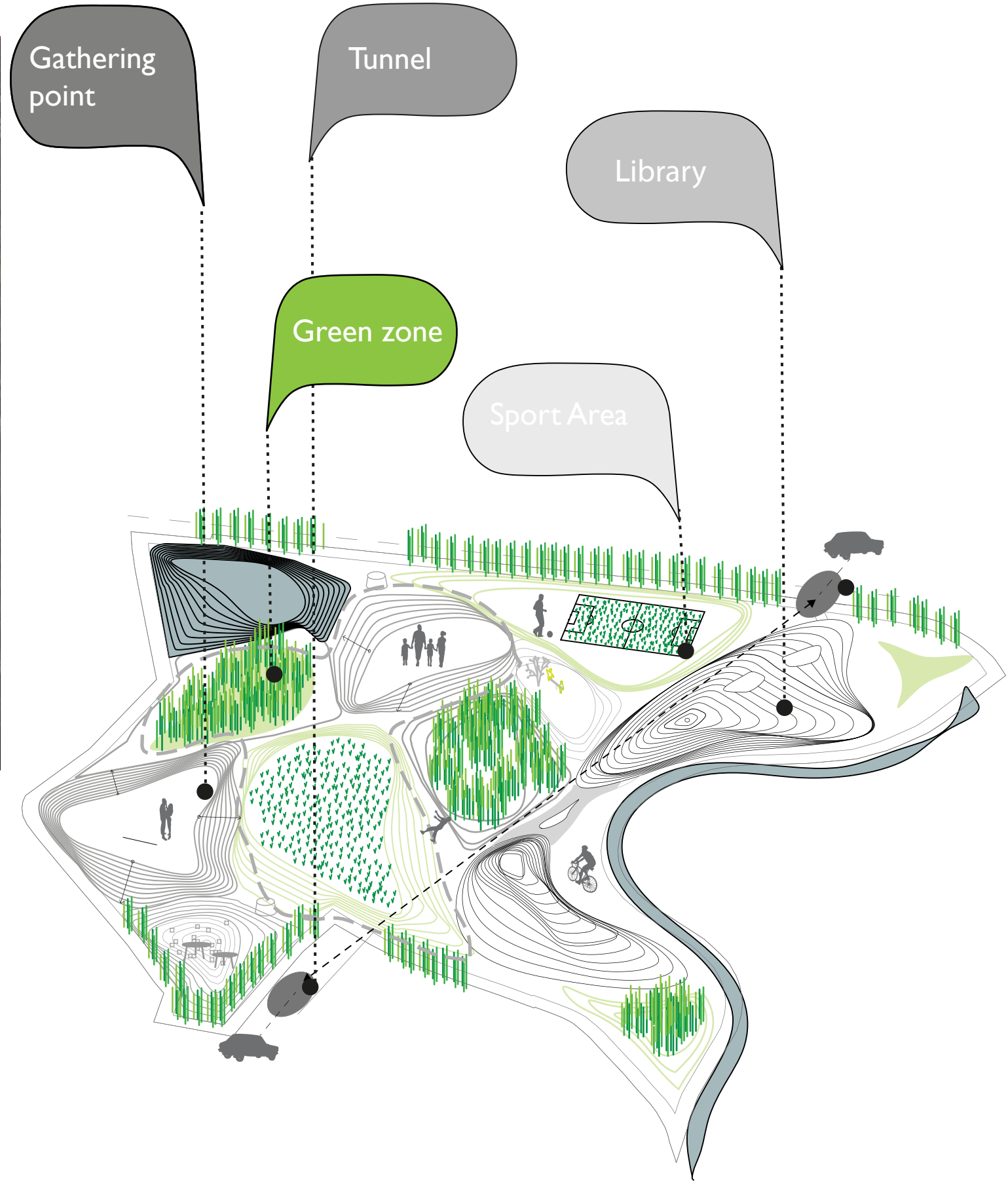
Underground line

Opposite directions

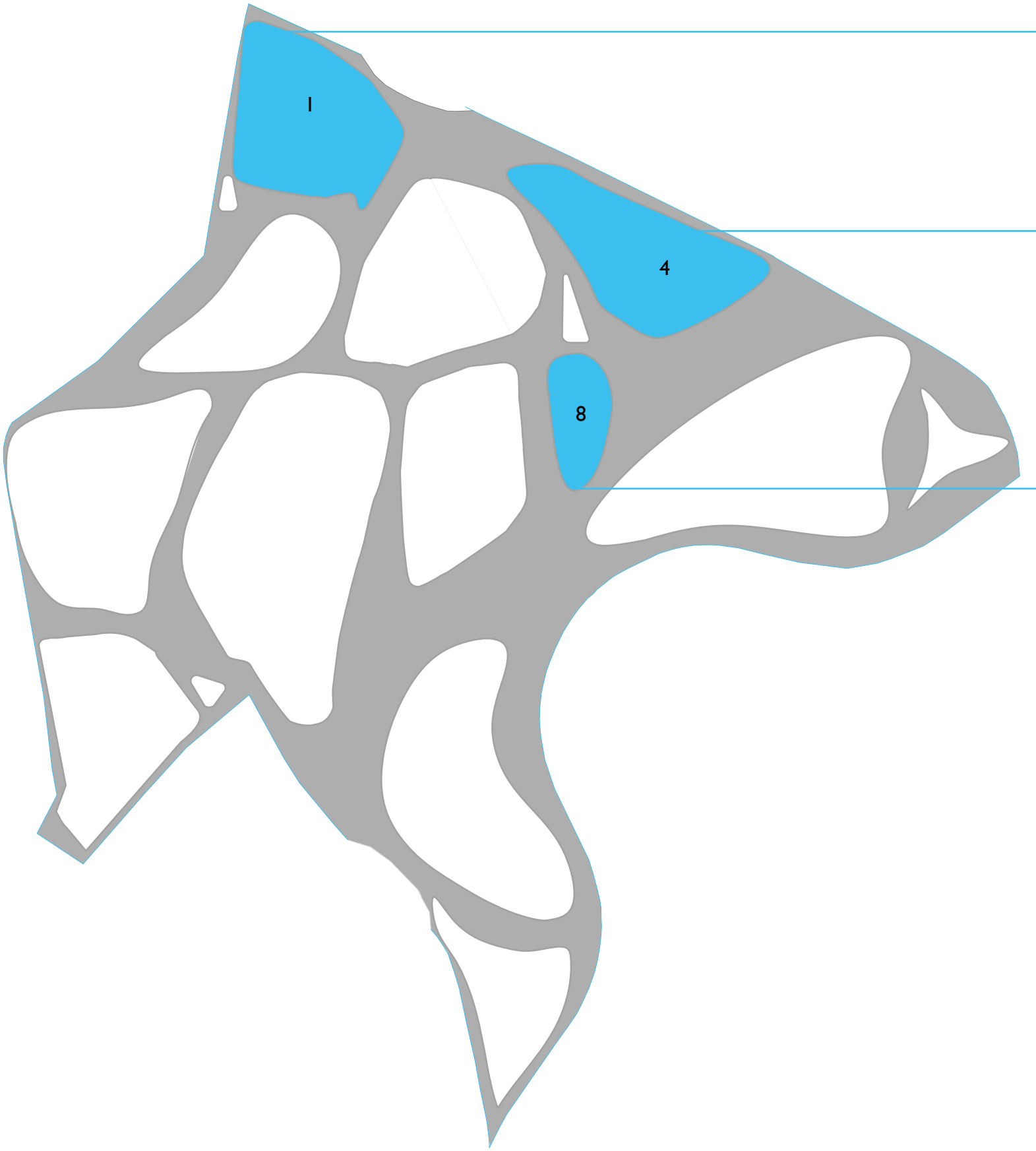
The ISTech library is situated in a pedestrian area with a very good connection to the public transport system. Therefore there are many arrival directions.

EXPERIENTIAL LANDSCAPE

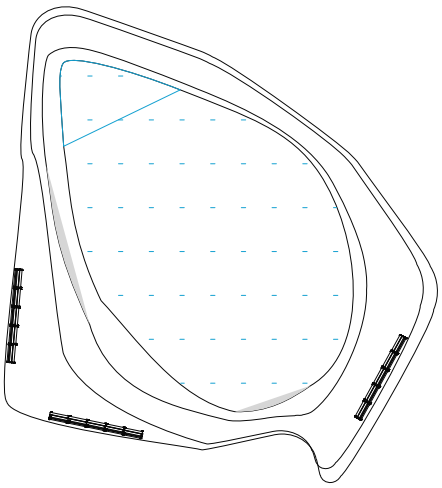
KUSDILI 2018



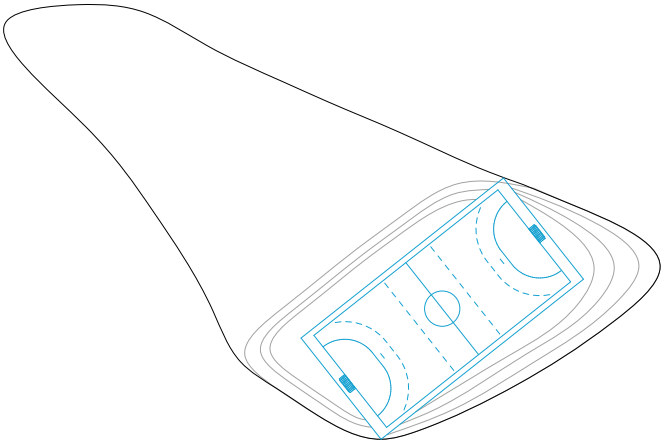
PLAYGROUNDS



Water feature

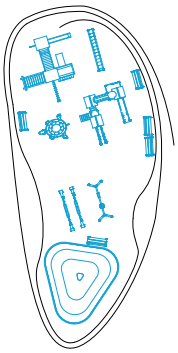


Basketball



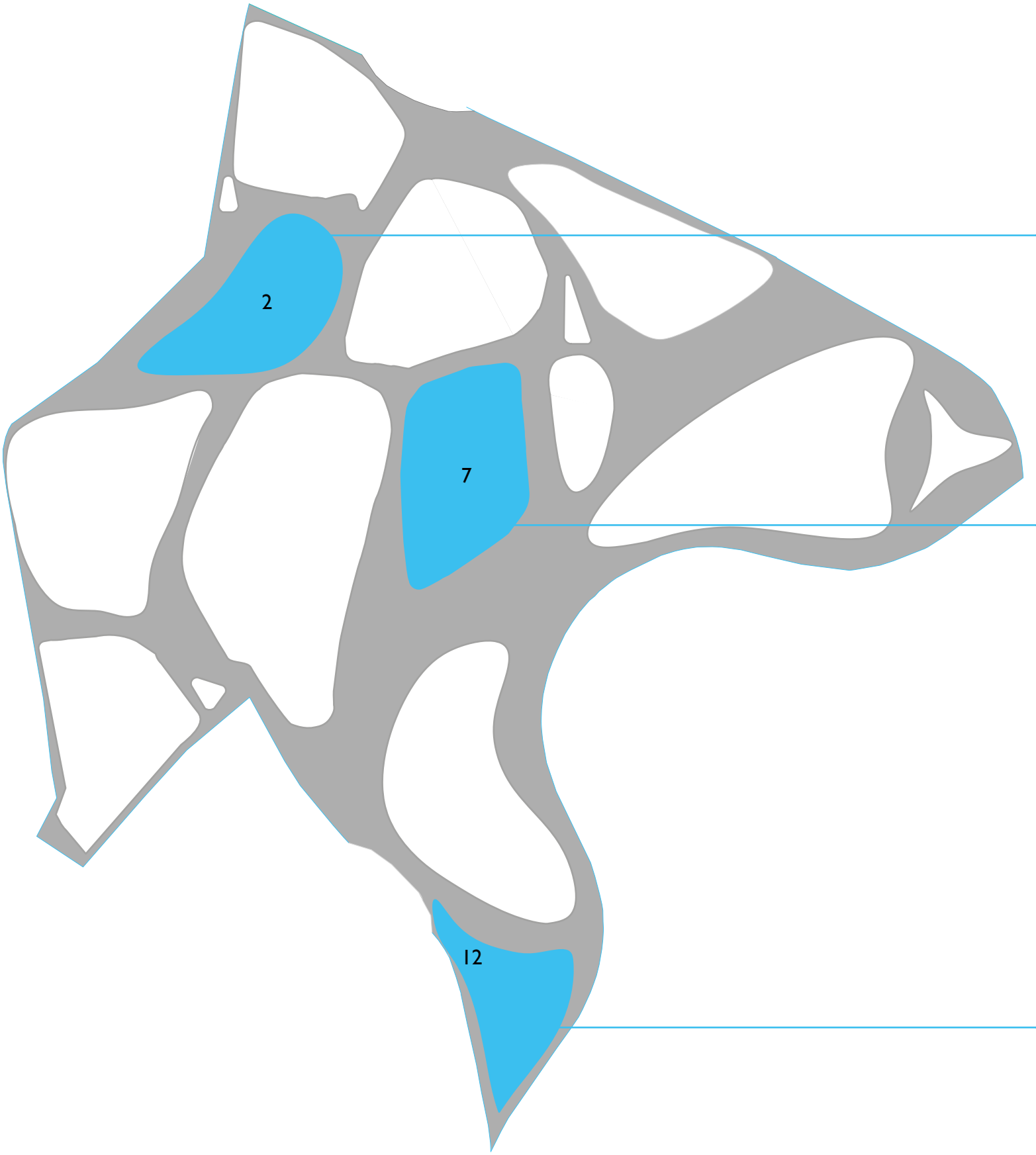
-1.50

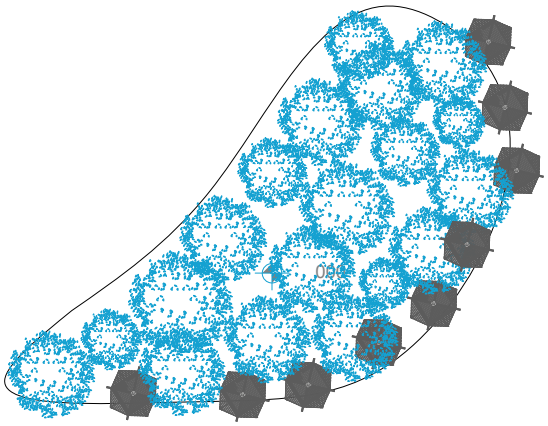
Children playground



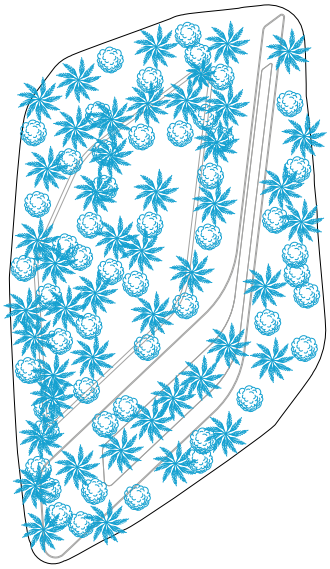
-1.00

GREEN AREAS

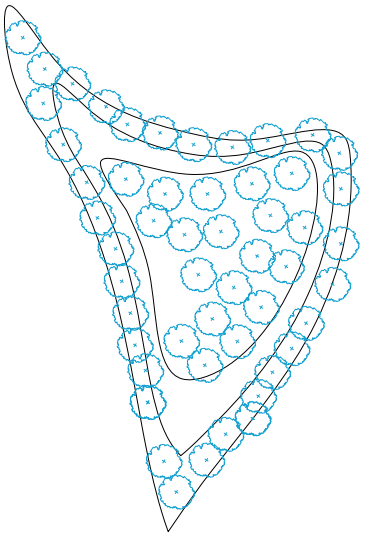




Relaxational oasis

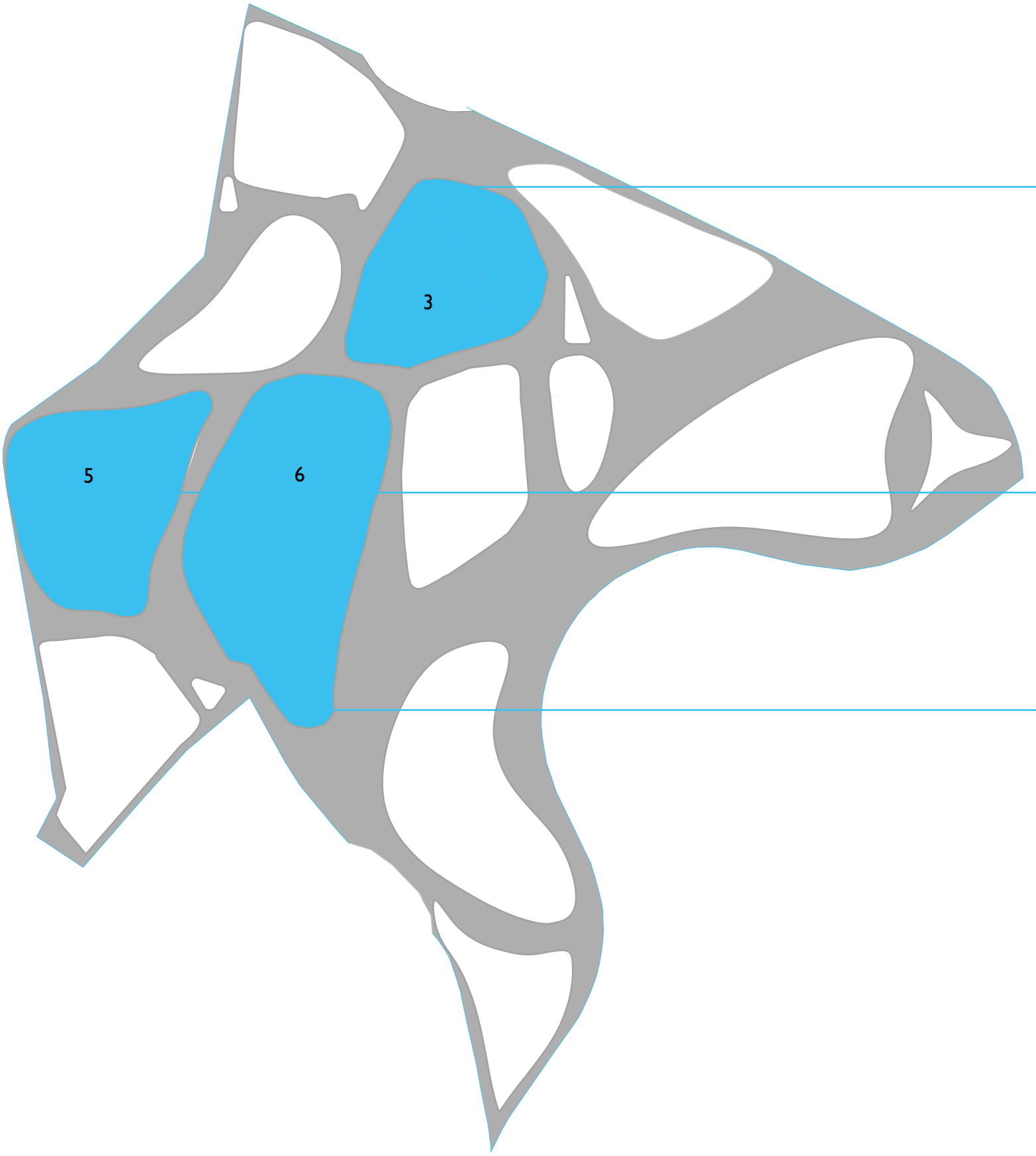


Seasting Platform

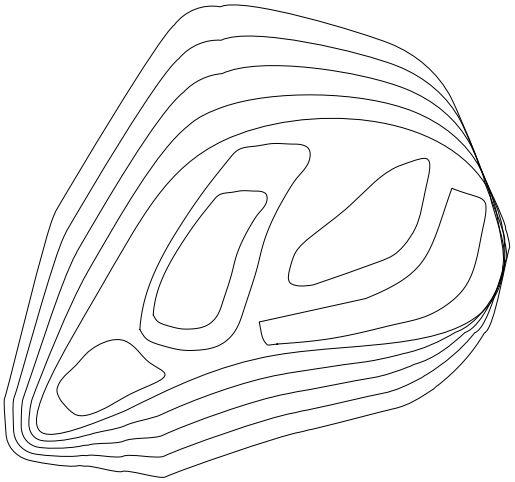


Dog Park

GATHERING & PERFORMANS

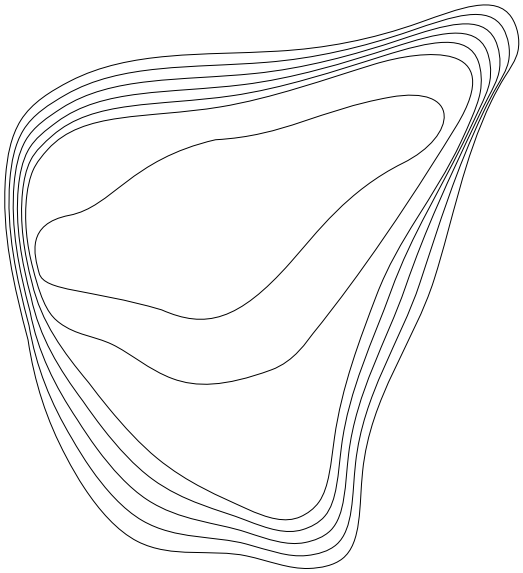


Performans Area



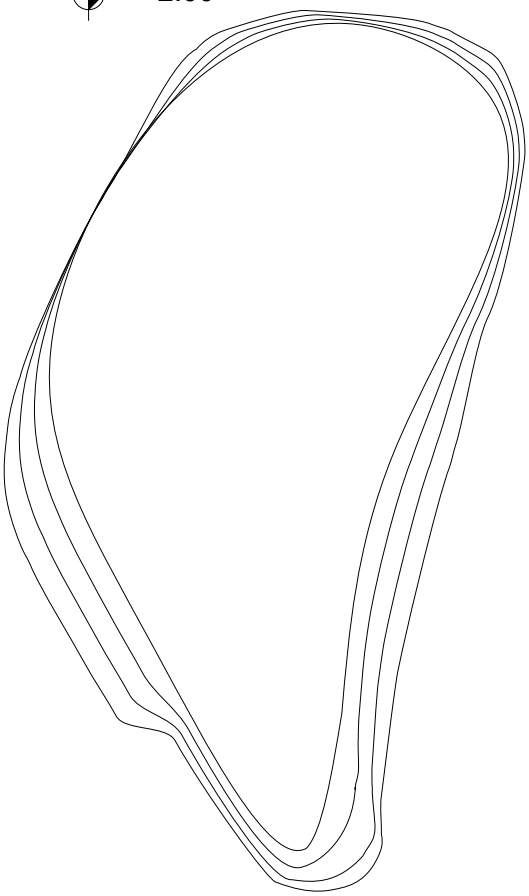
+4.00

Events

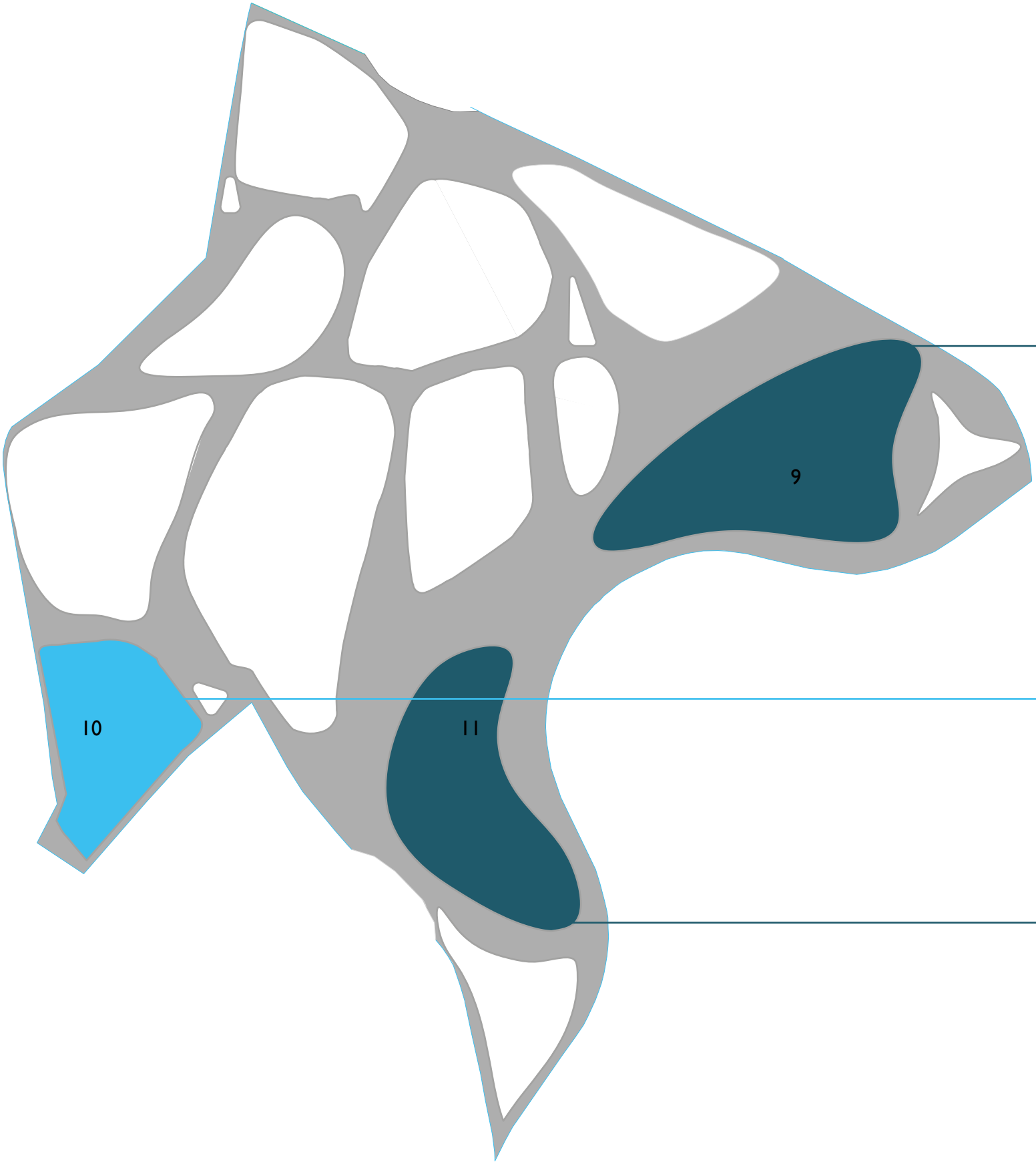


+2.00

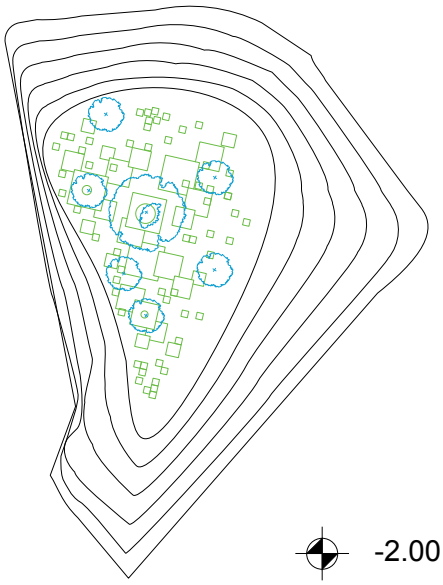
Gathering Area



LEARNING CENTERS



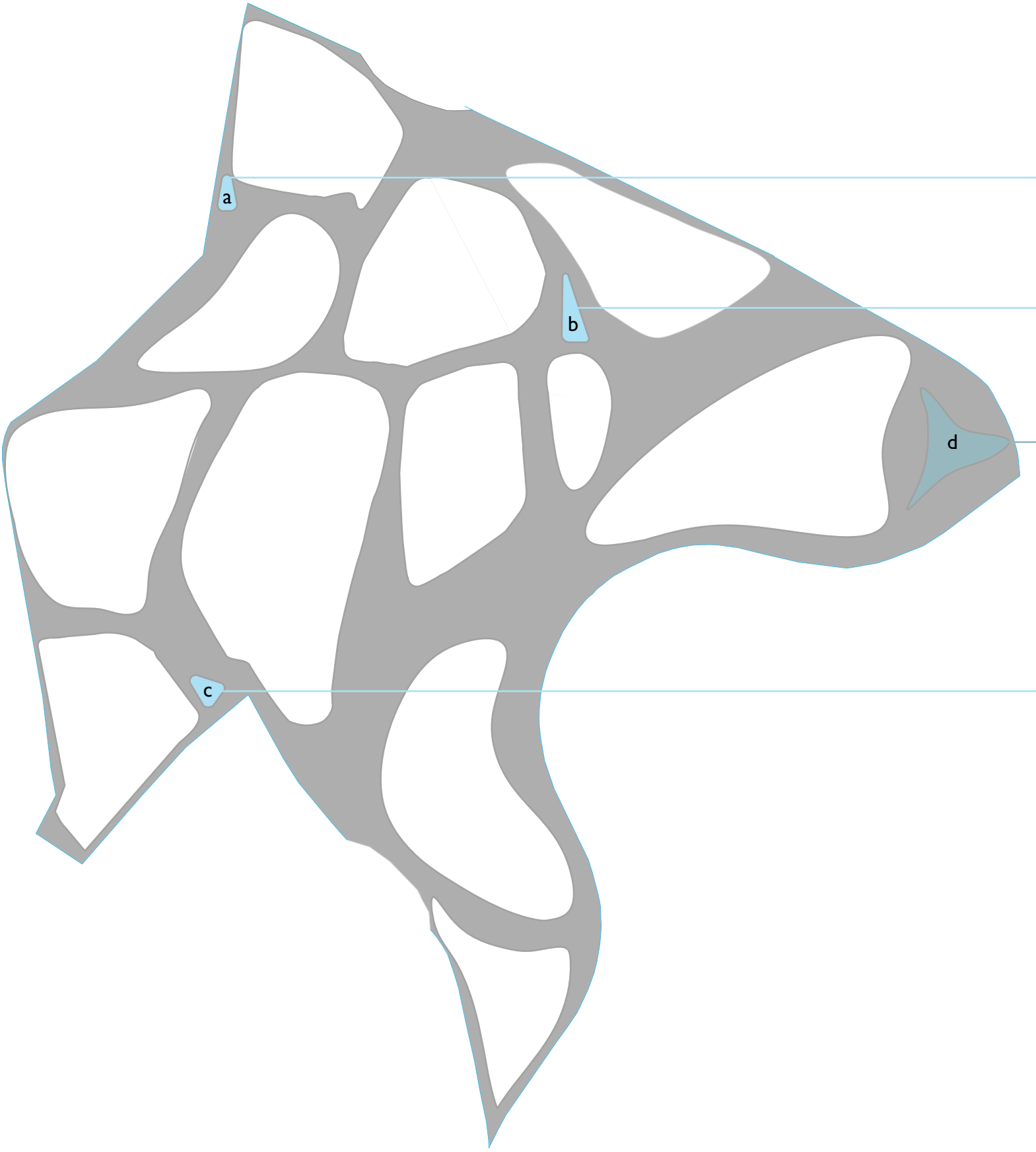
Library A



Open-Air workspace

Library Z

OTHERS

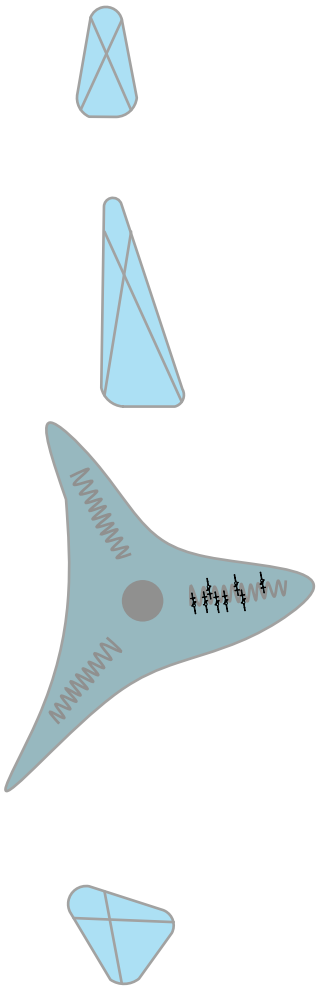


Natural Air Conditioning

Natural Air Conditioning

Bcycle Parking Zone

Natural Air Conditioning



The building's program is grouped into 5 major functions.

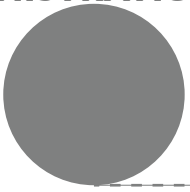
WORKING EXPERIMENT

MEETING POINTS

NEW FRIENDSHIPS

ONE-WAY COMMUNICATION

ADMINISTRATION



SPATIAL PROGRAM

research rooms,
lab rooms,
photographic studio,
offices, storage,
music, recording, video, tv and radio studio
living lab
fab lab
Listening, viewing and games room
workrooms

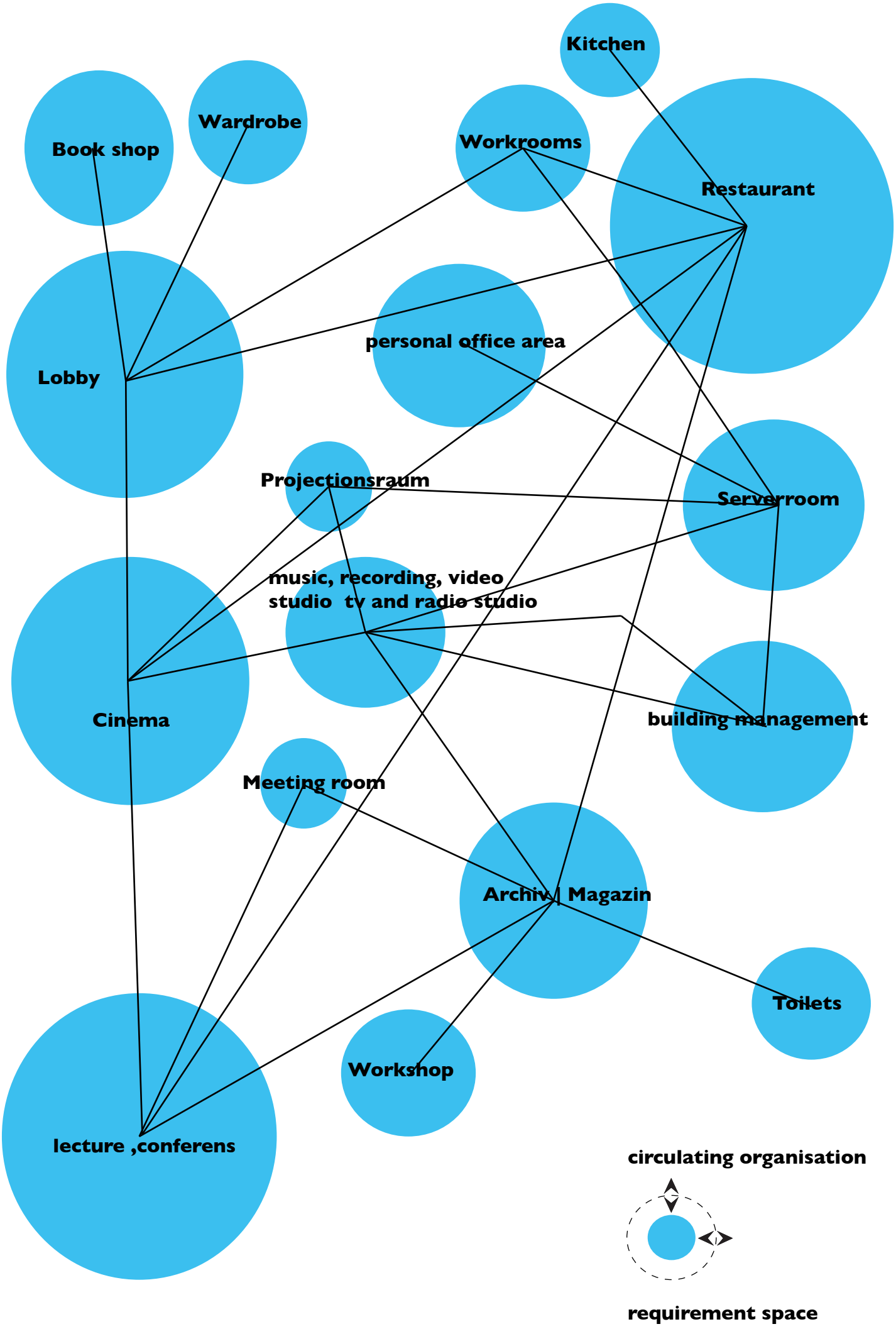
IT-and other equipment areas
café
commercial premises
restaurant
Book shop
Lounges, "oases"

Green areas
multi-purpose hall
Sport areas
interactive spaces
Event -Exhibition space

lecture, workshop and conference room,
cinema
book presentations
library collections area
pop up spots

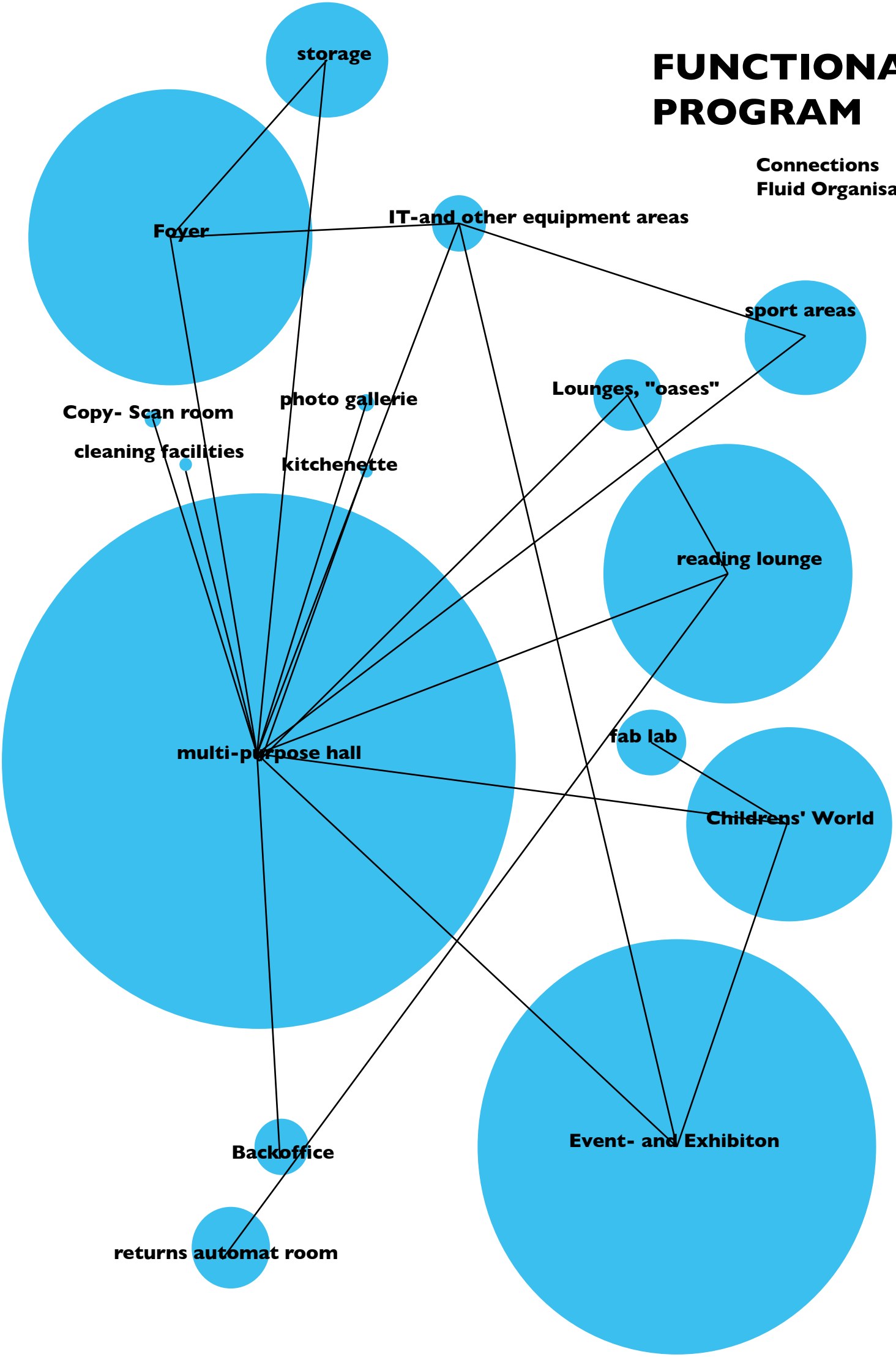
staff lounge
Personal office area
returns automat room

OTHERS : cleaning facilities
toilets ,building management

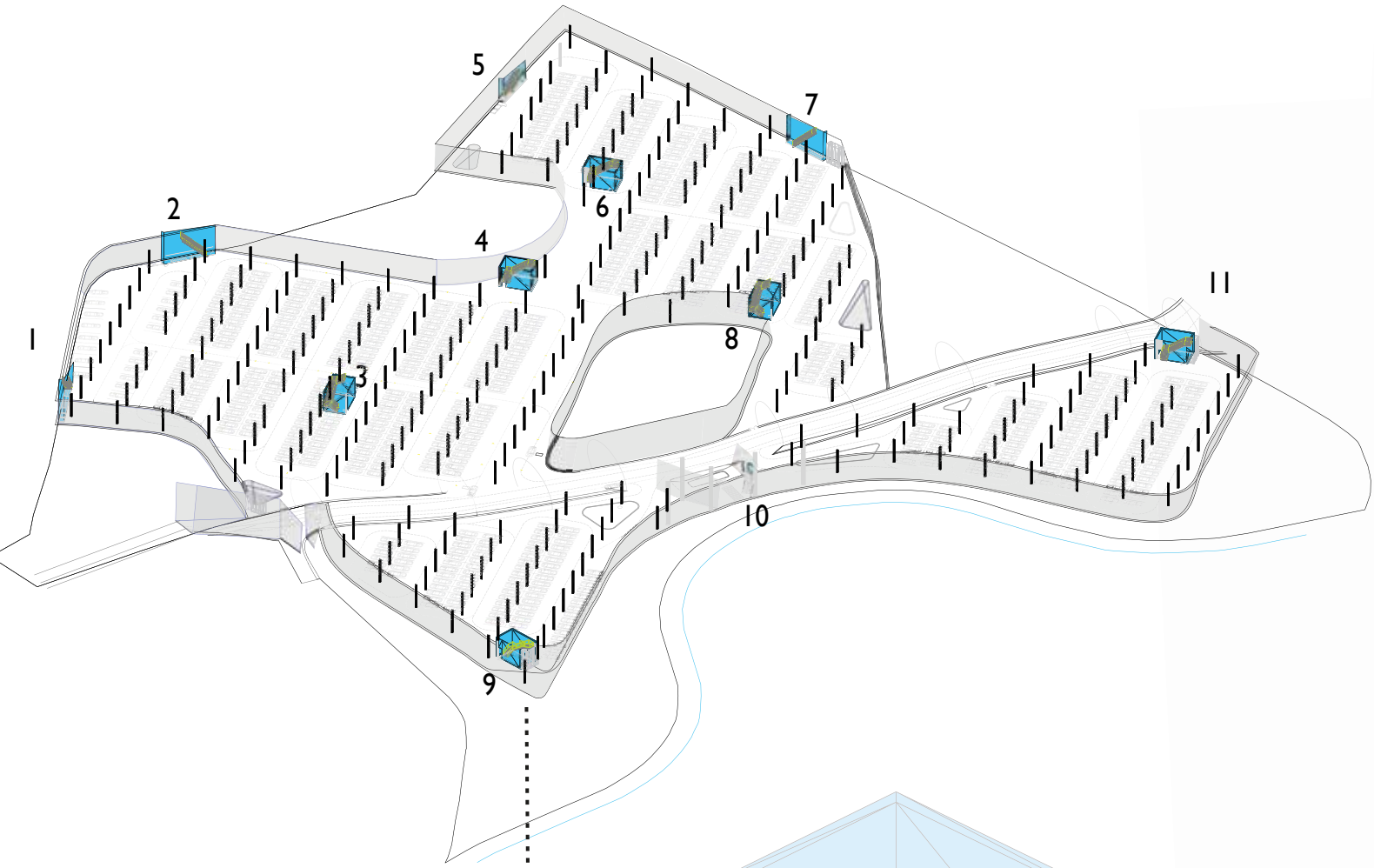

Kitchen
Book shop
Wardrobe
Workrooms
Restaurant
Lobby
personal office area
Projectionsraum
Serverroom
music, recording, video
studio tv and radio studio
Cinema
building management
Meeting room
Archiv | Magazin
Toilets
Workshop
lecture ,conferens
circulating organisation
requirement space

FUNCTIONAL PROGRAM

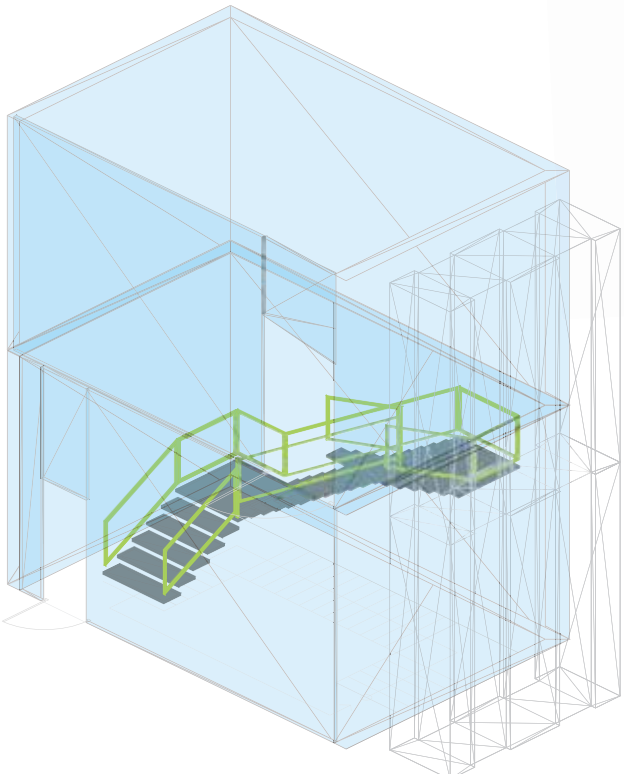
Connections
Fluid Organisation



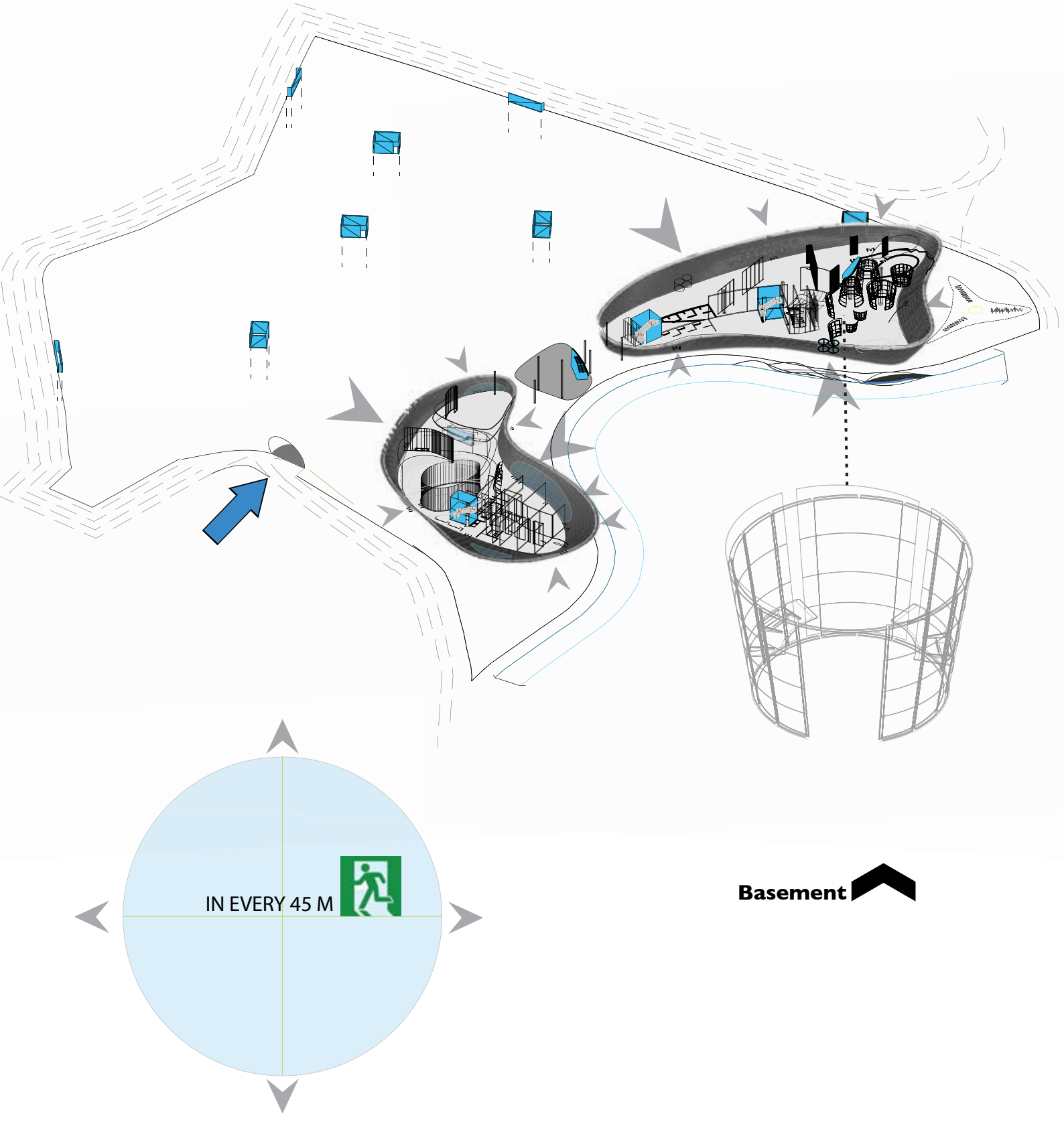
Basement



x 11 stairs



First Floor

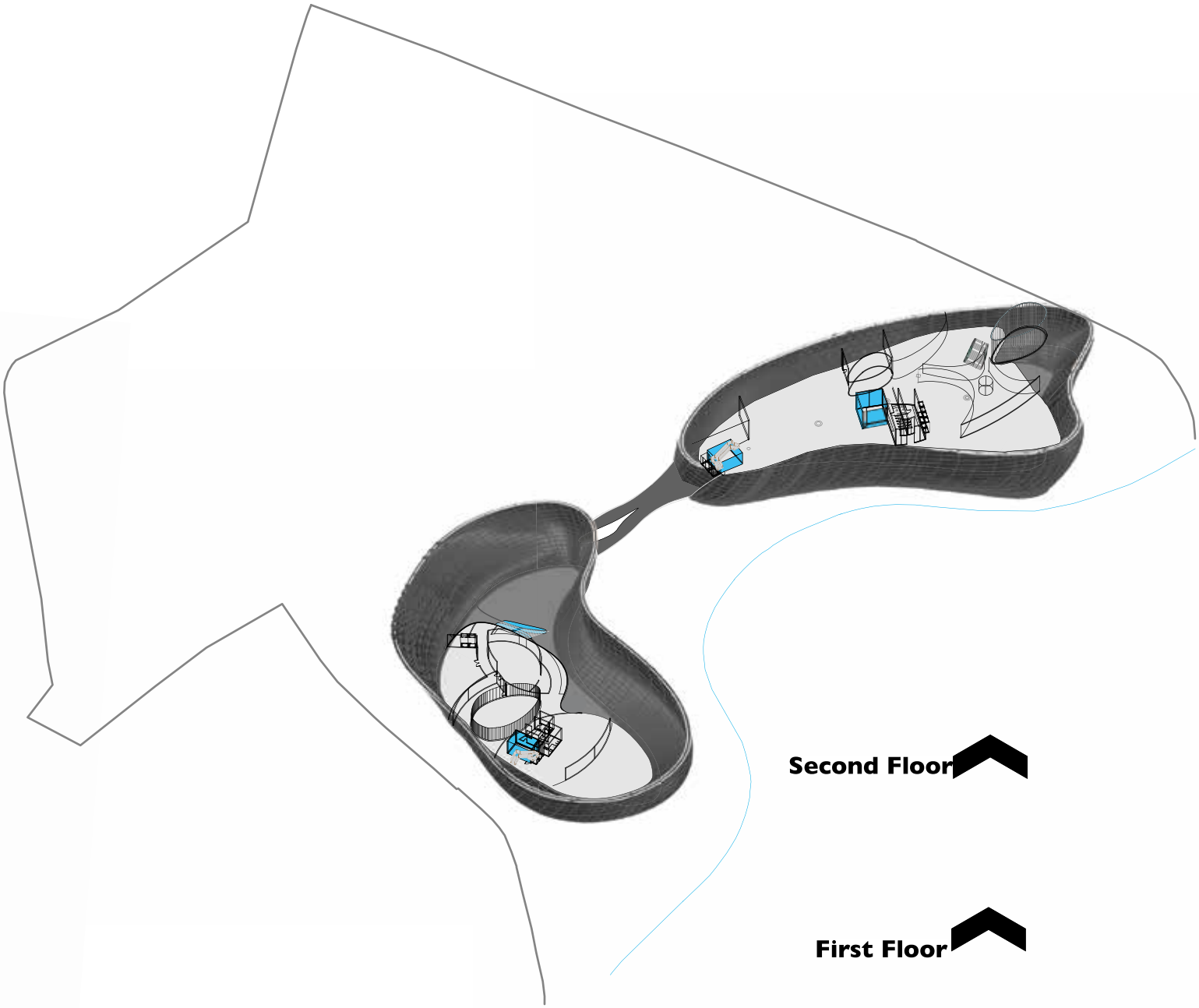


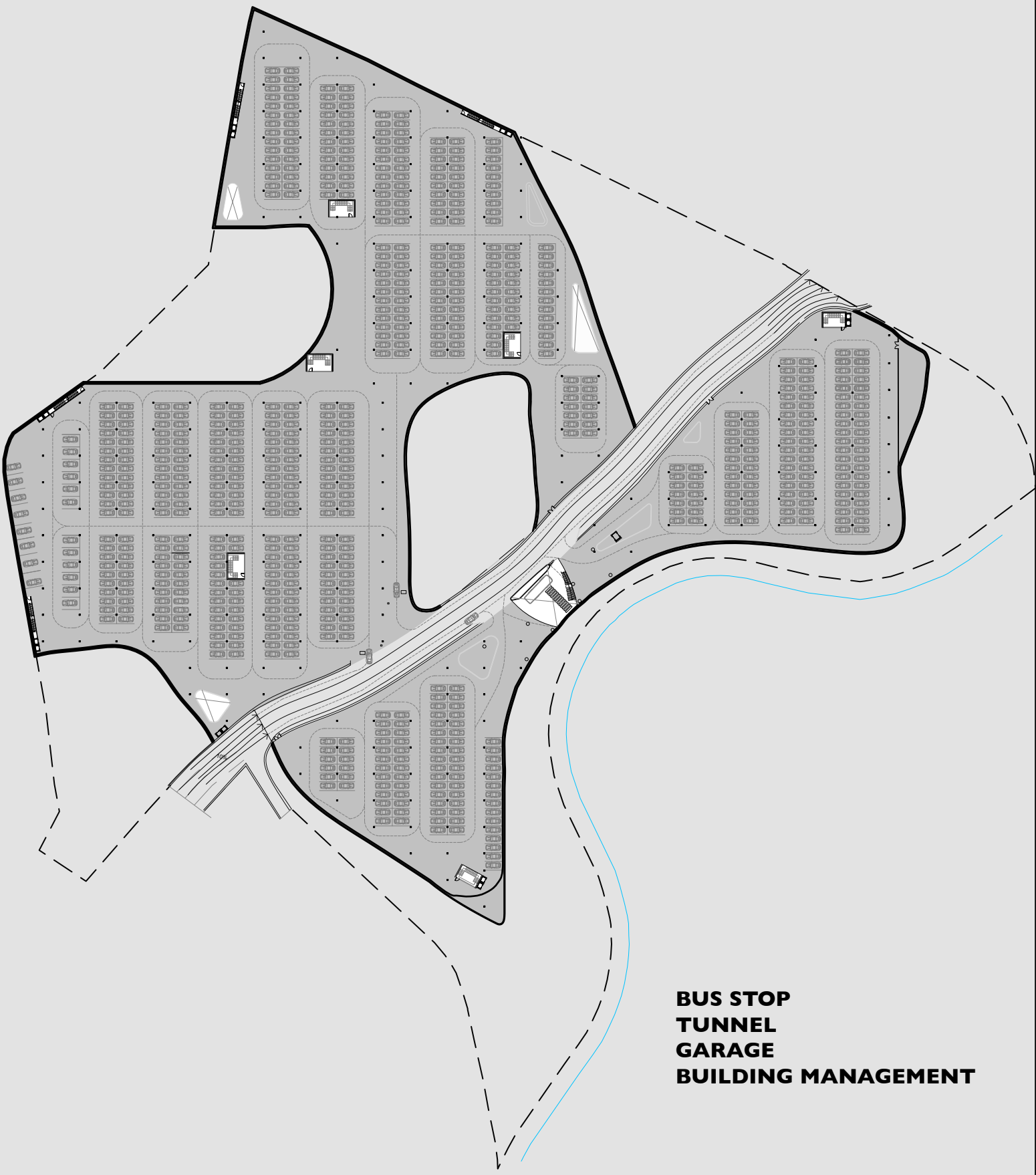
second floor

First Floor

Basement

third floor



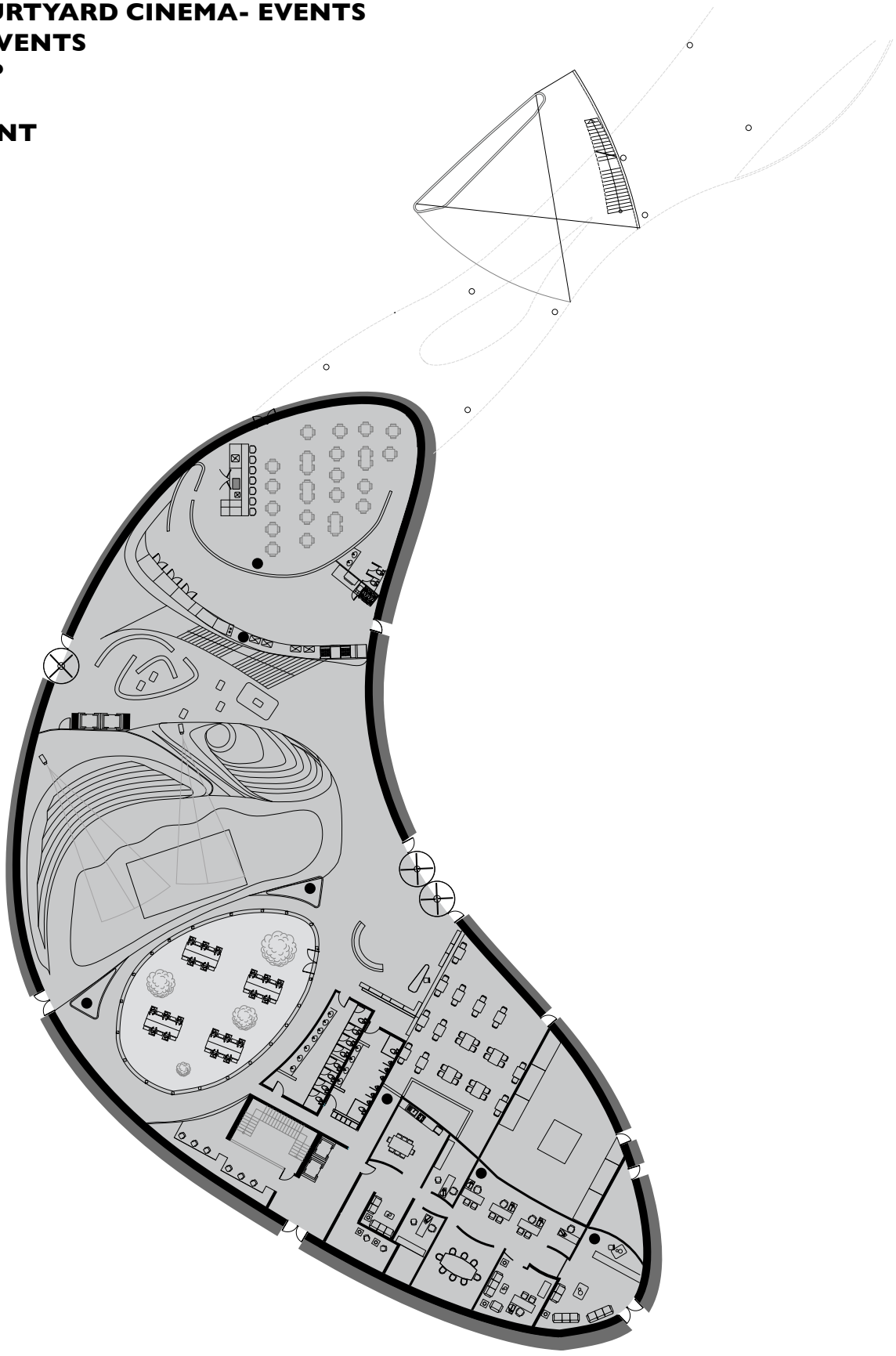


BUS STOP
TUNNEL
GARAGE
BUILDING MANAGEMENT

5 200m

N
5 10 20 50 100 200

FOYER
CAFE -STORE BUCHSHOP
ADMINISTRATION
WC
INNER COURTYARD CINEMA- EVENTS
CINEMA- EVENTS
BUCHSHOP
KITCHEN
RESTAURANT



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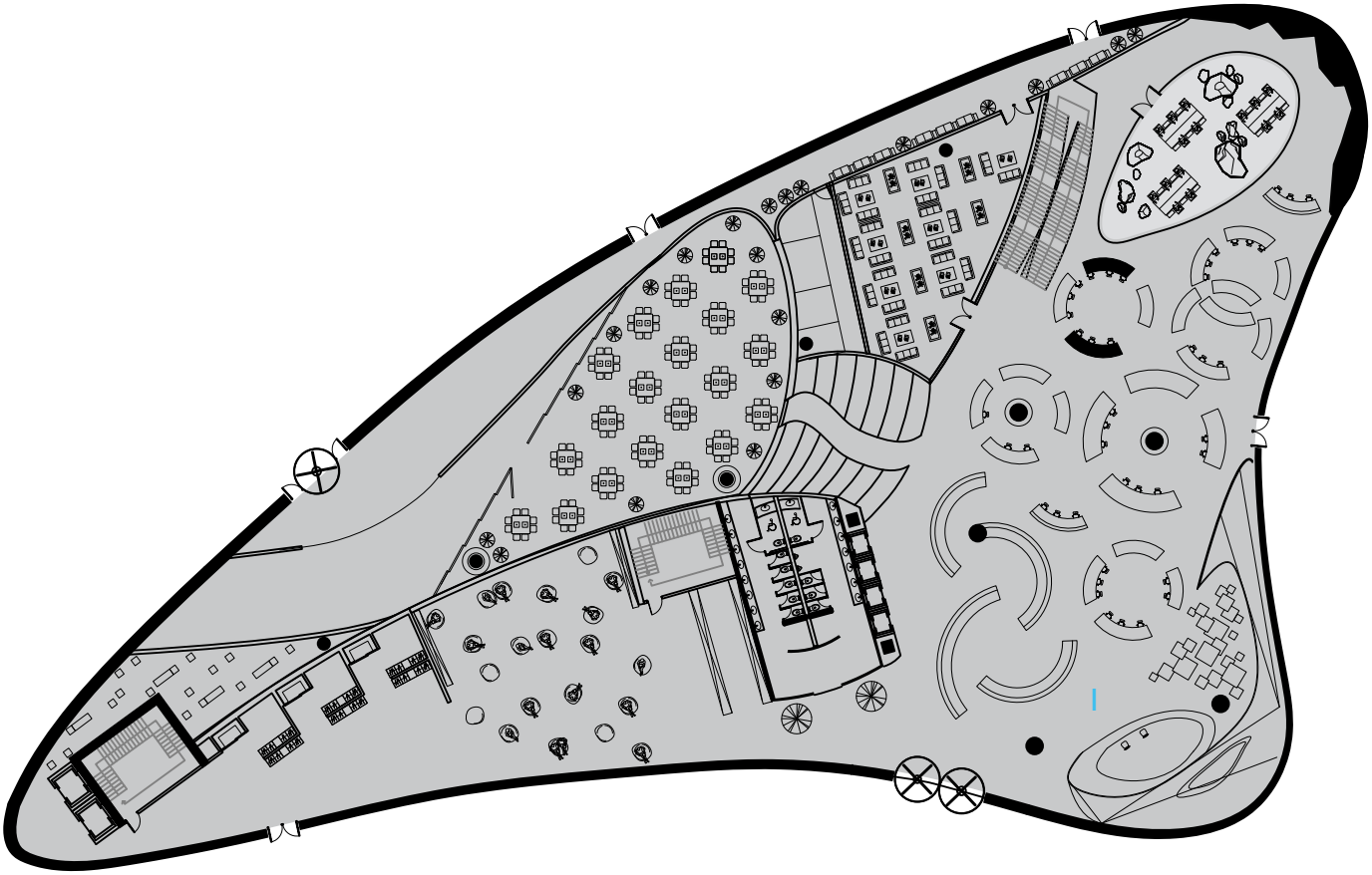
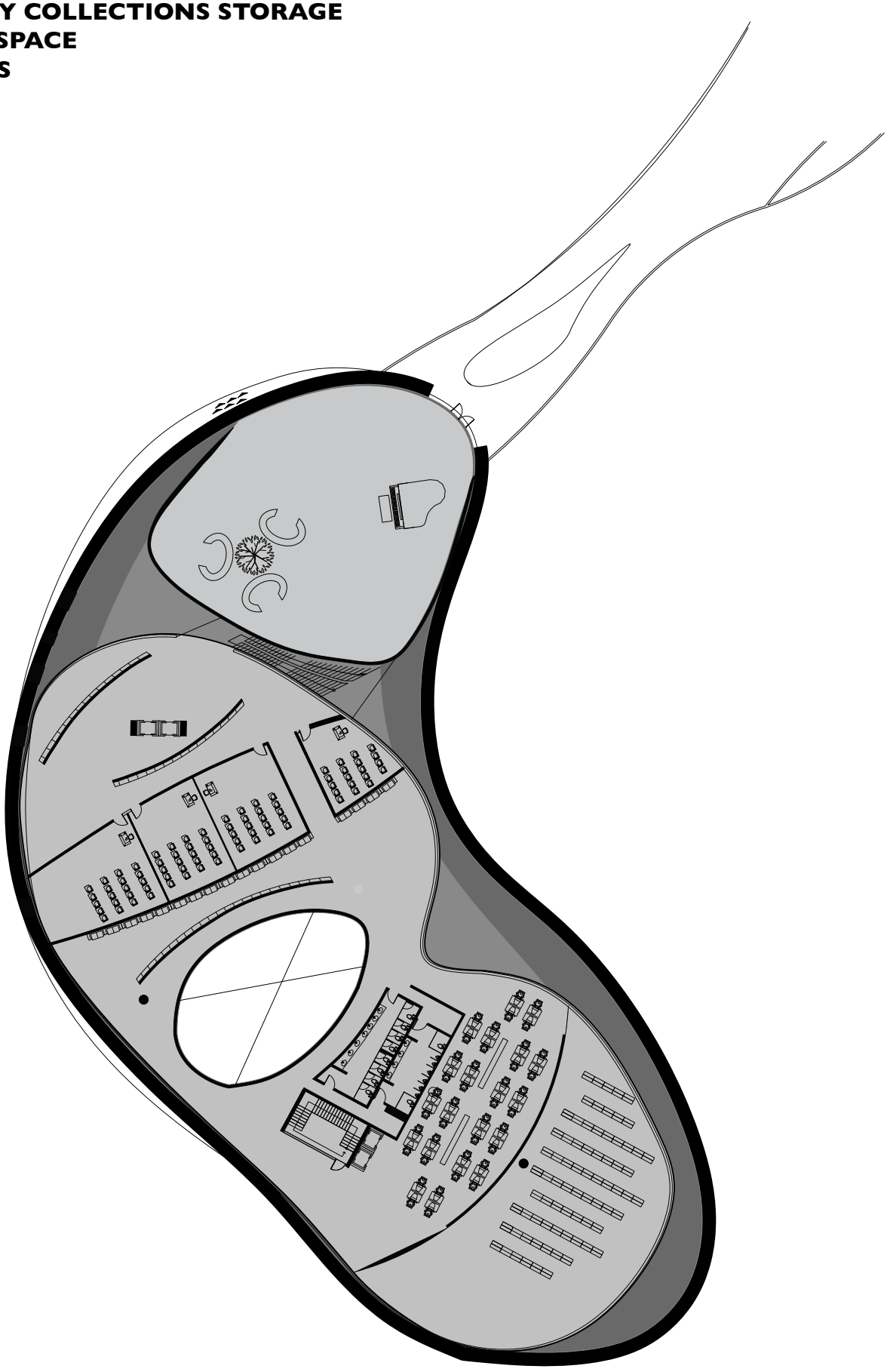


FOYER
GARDEROBE
BUCHSHOP
EVENT- AUSSTELLUNGSBEREICH
RESTAURANT KÜCHE
FREIHANDBEREICH
LESEBEREICH
KINO- VERANSTALTUNGSSAAL
VERWALTUNG
RETURN AUTOMAT ROOM
RÜCKGABEAUTOMATEN
WC
SERVERROOMM
INNENHOF
ARTRIUM

MULTI PURPOSE HALL
LECTURE, WORKSHOPS
& CONFERENCE ROOM
LIBRARY COLLECTIONS STORAGE
WORK SPACE
TOILETS



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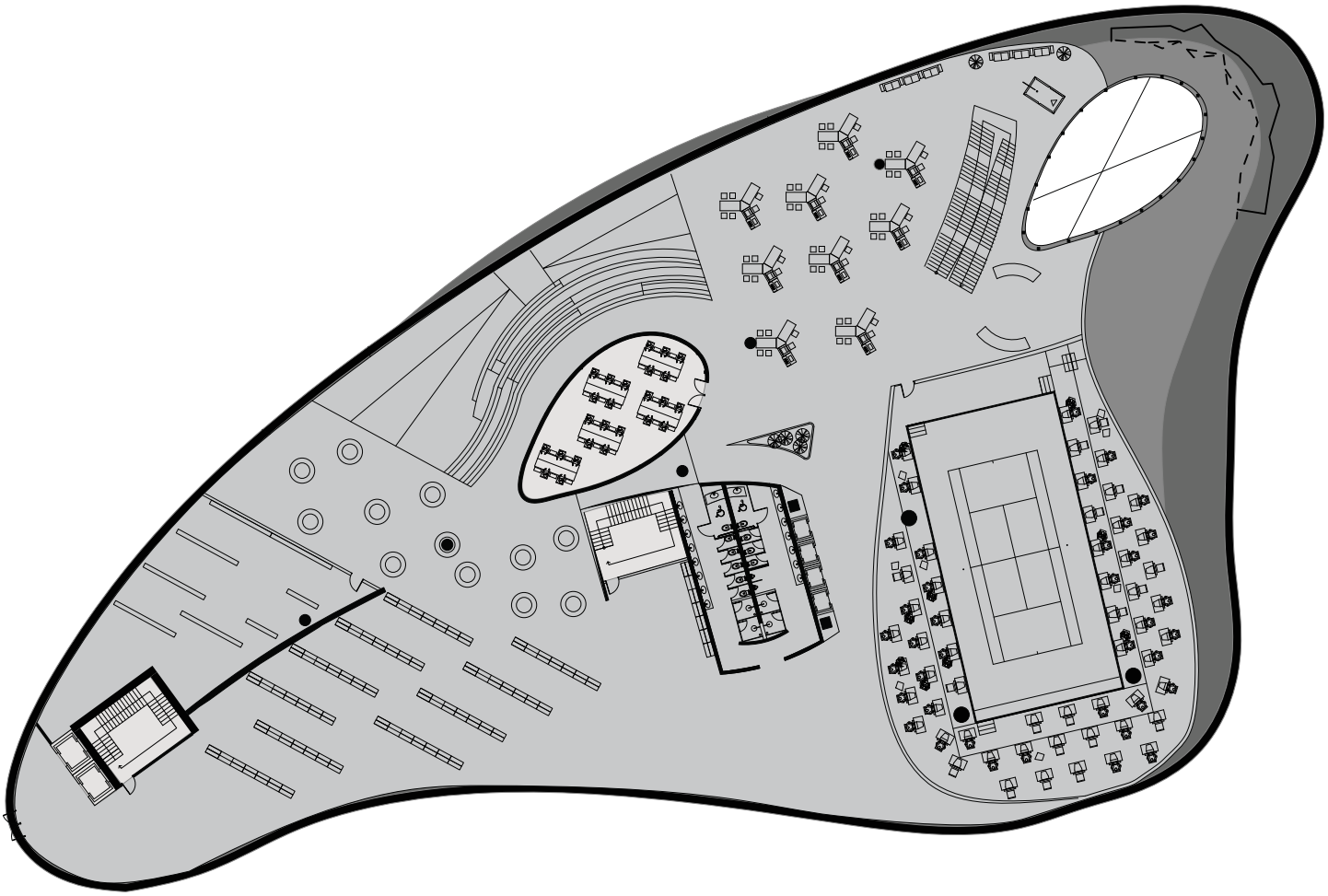
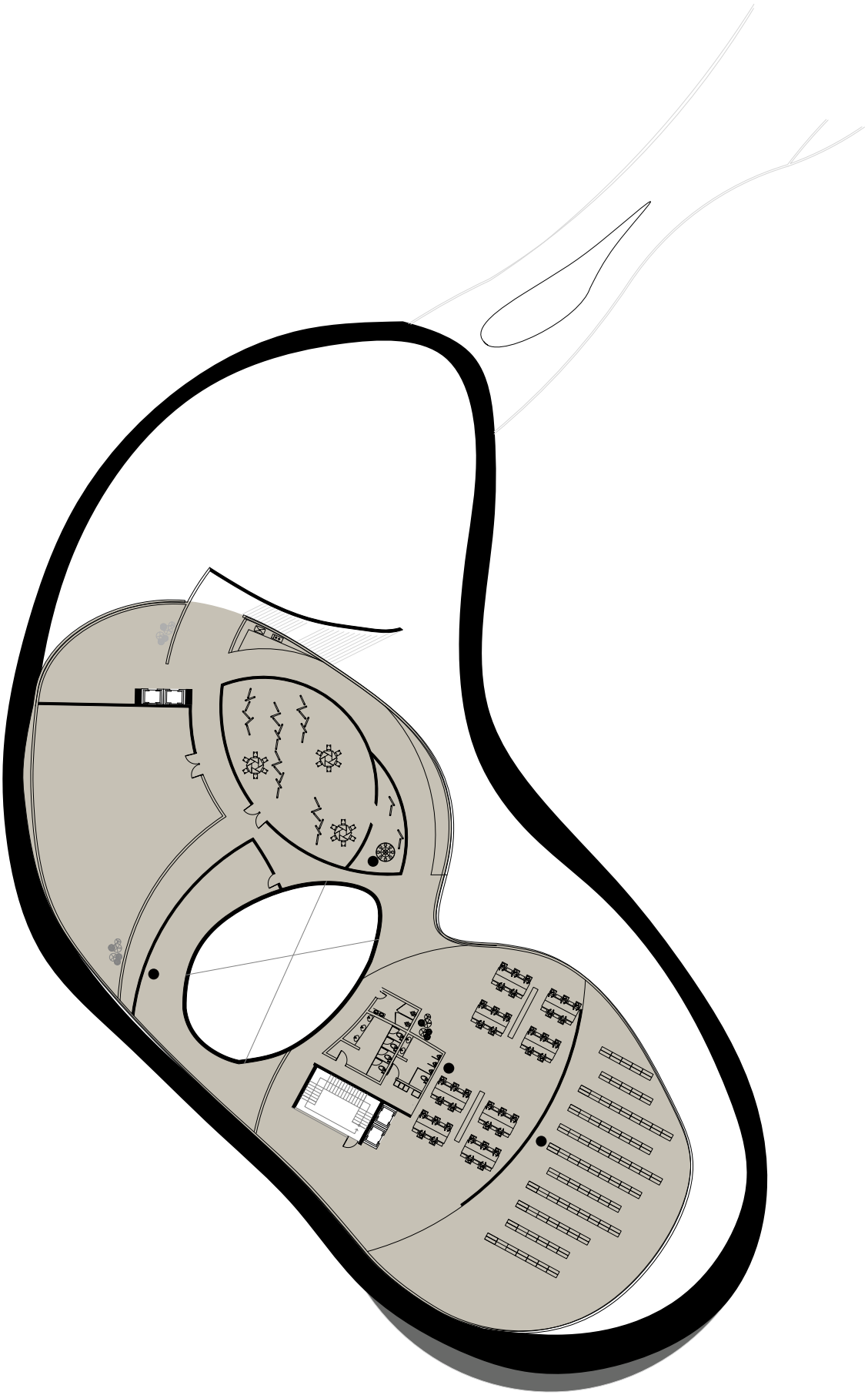


PC LAB & AND VOLLEYBALL AREA
INNER
TOILETS
STAIRS SIT
PC LAB
IT AND EQUIPMENT AREA
INTERACTIVE SPACE
FAB LAB
RESEARCH ROOM

5 10 20

CHILDRENS WORLD
EVENT AREA FOR CHILDREN
WORKING LOUNGE
TOILETS
LIBRARY COLLECTIONS AREA



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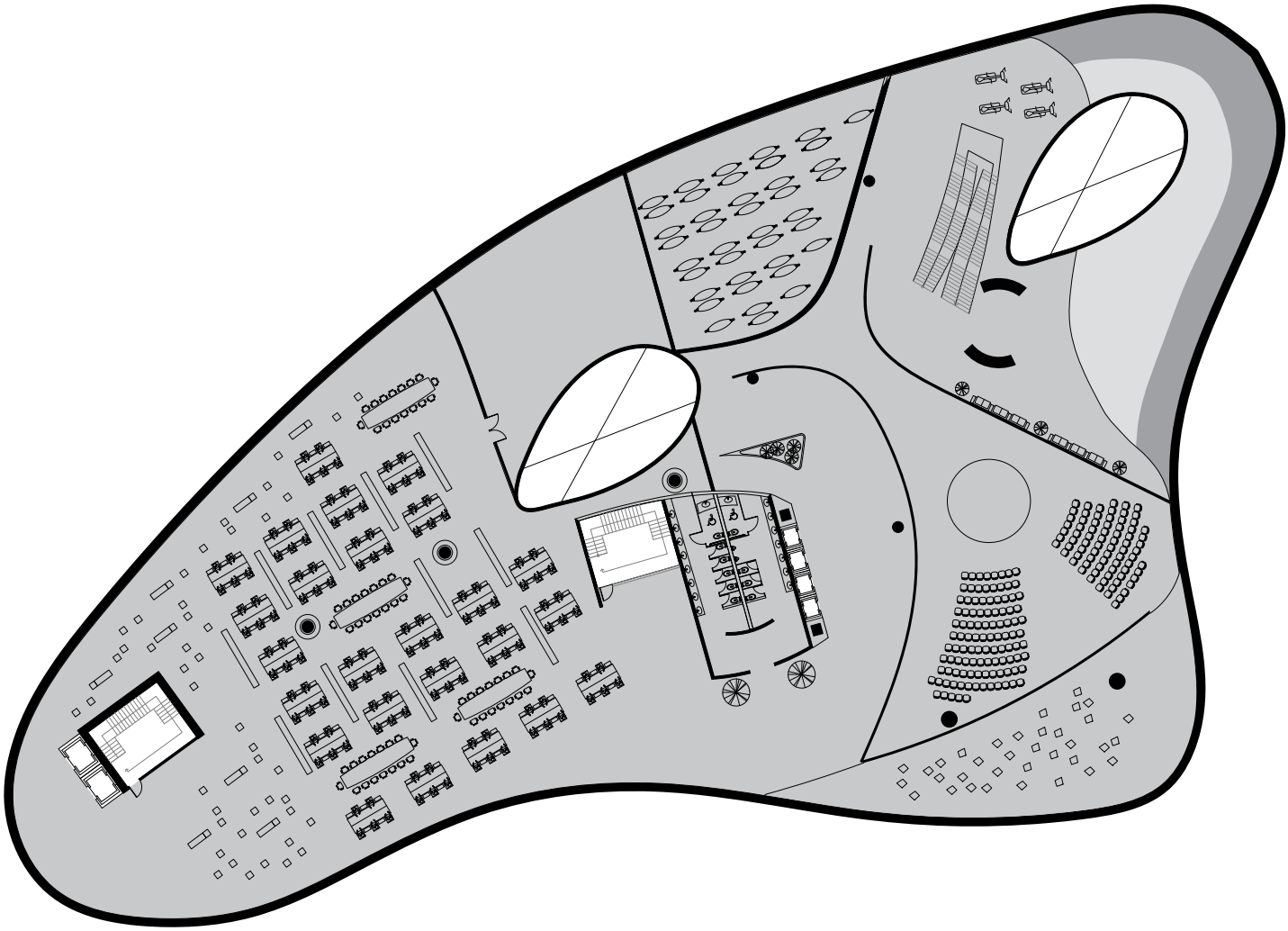
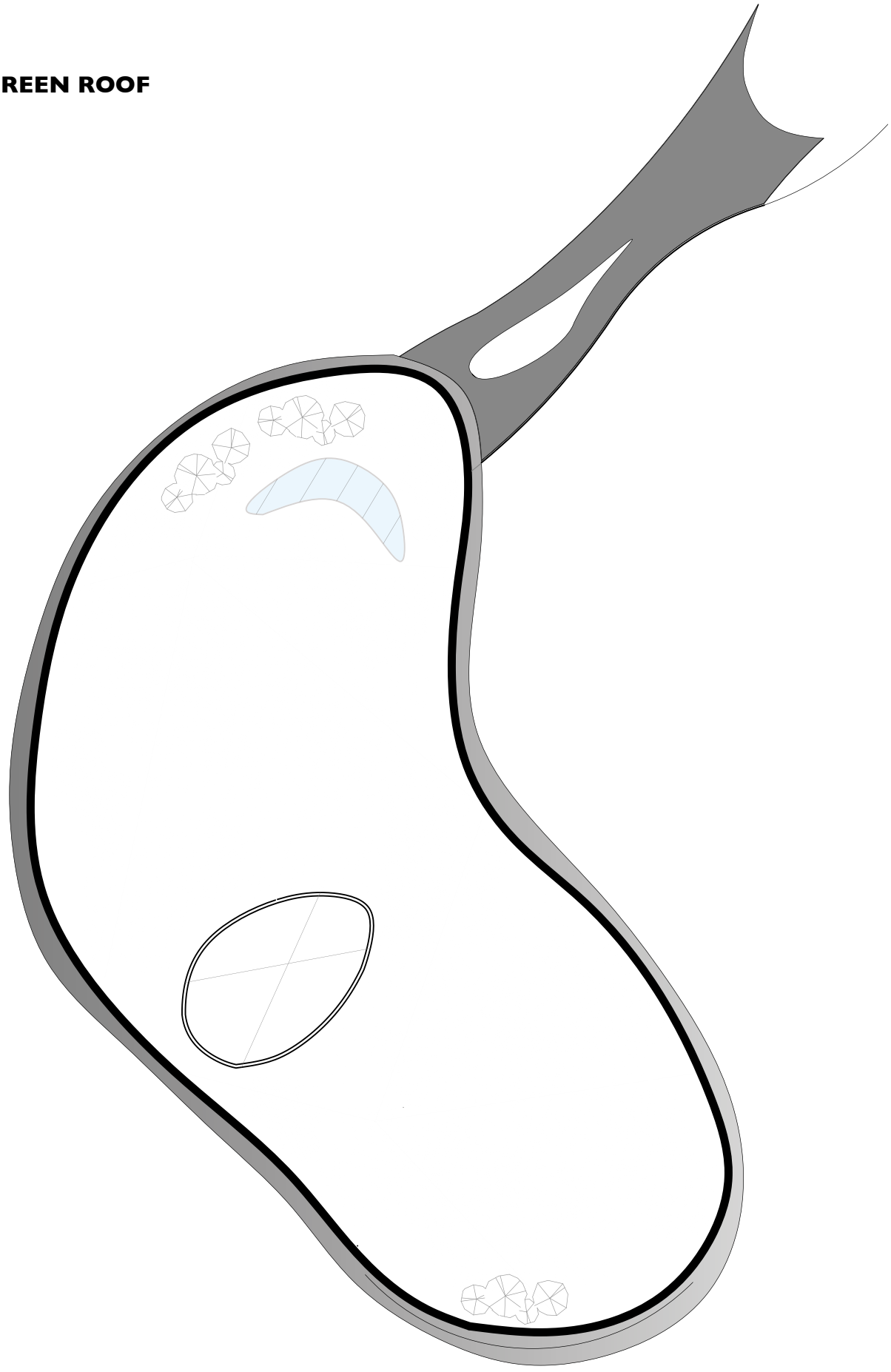


PROJECTION ROOM
MUSIC,RECORDING, RADIO STUIO
PERFORMANS
BOOK PRESENTATIONS
TEACHING GROUP WORK SPACE
SPORT GALLERIE
TOILETS

5 10 20

GREEN ROOF



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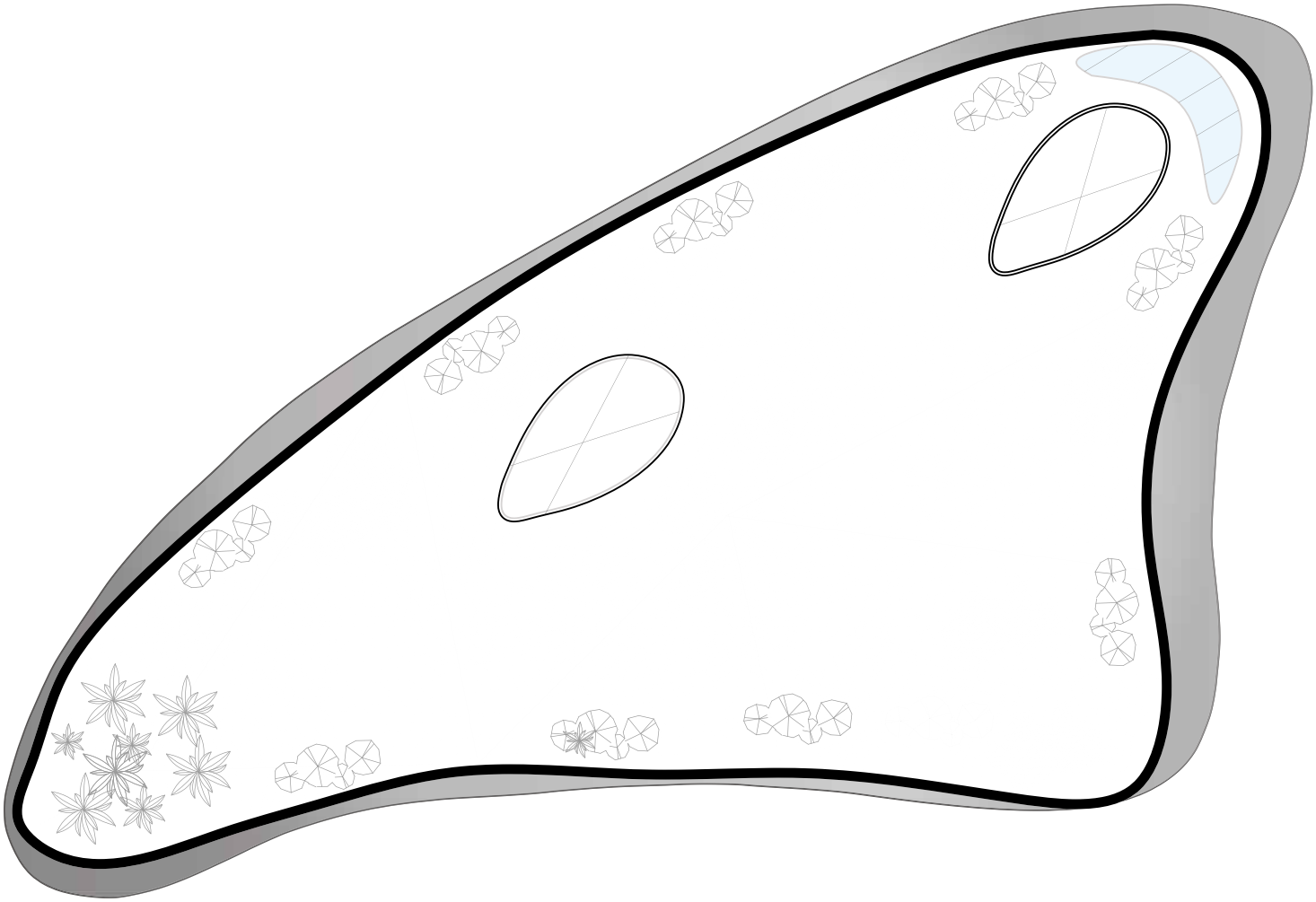
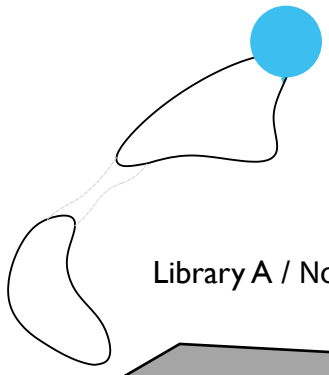


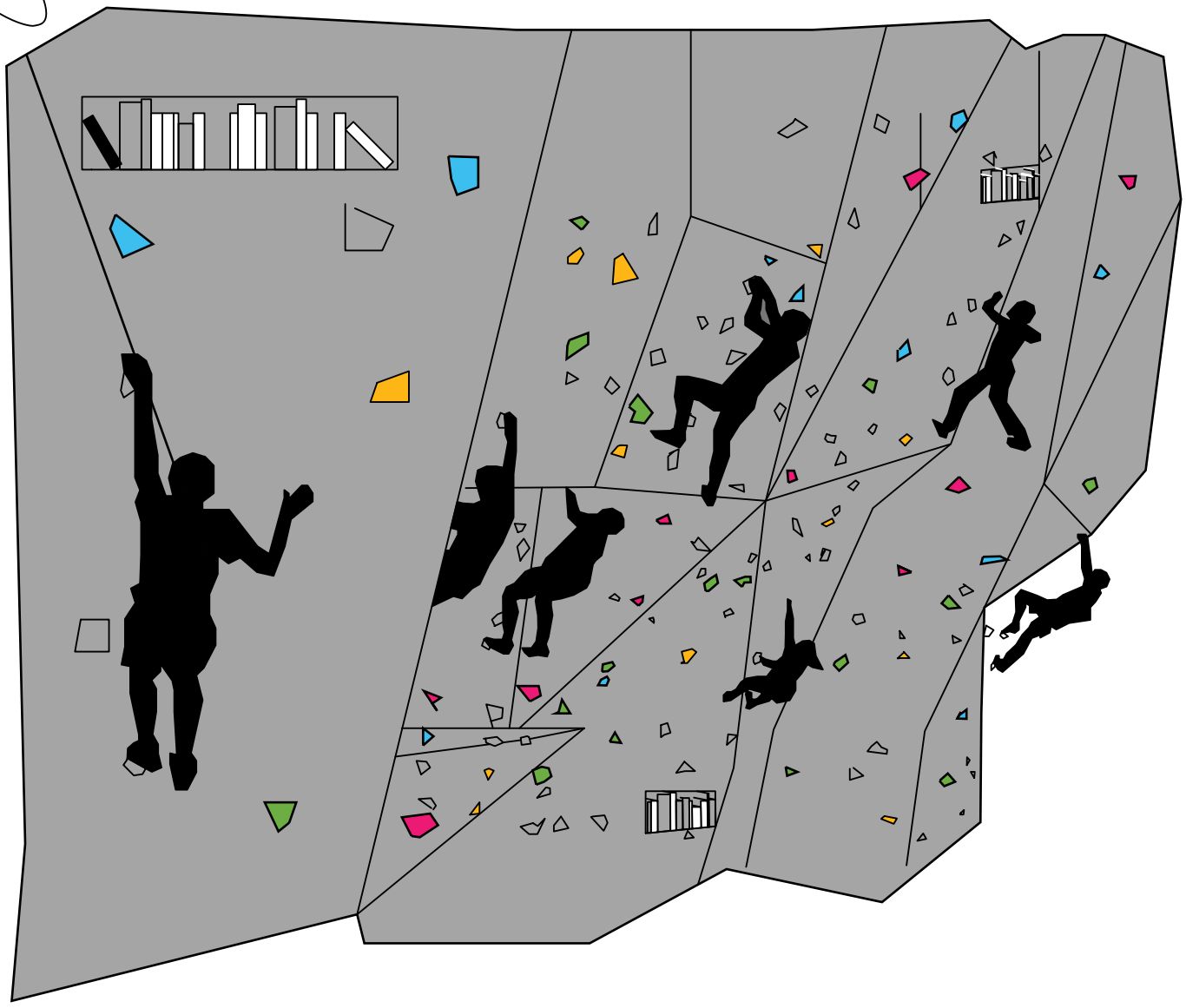
GREEN ROOF



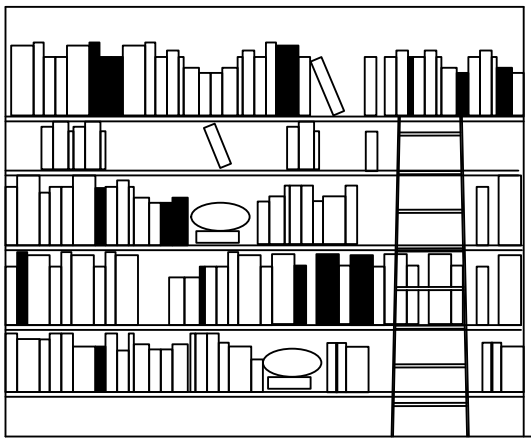
Library A / North Site

CLIMBING BOOKRACK

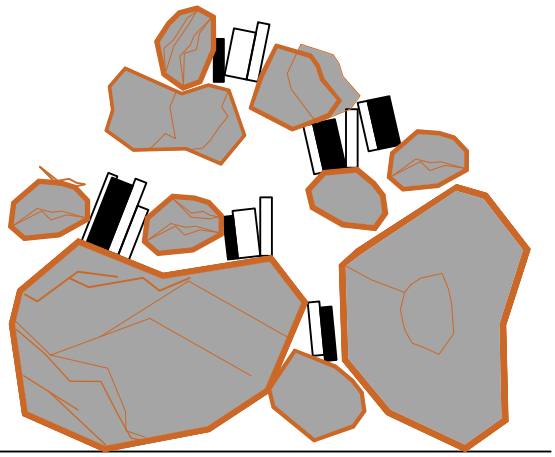
23M
HIGH



OLD LİBRARİES

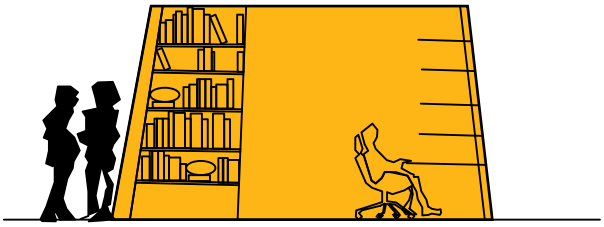


NEW VERSION



Library A First floor

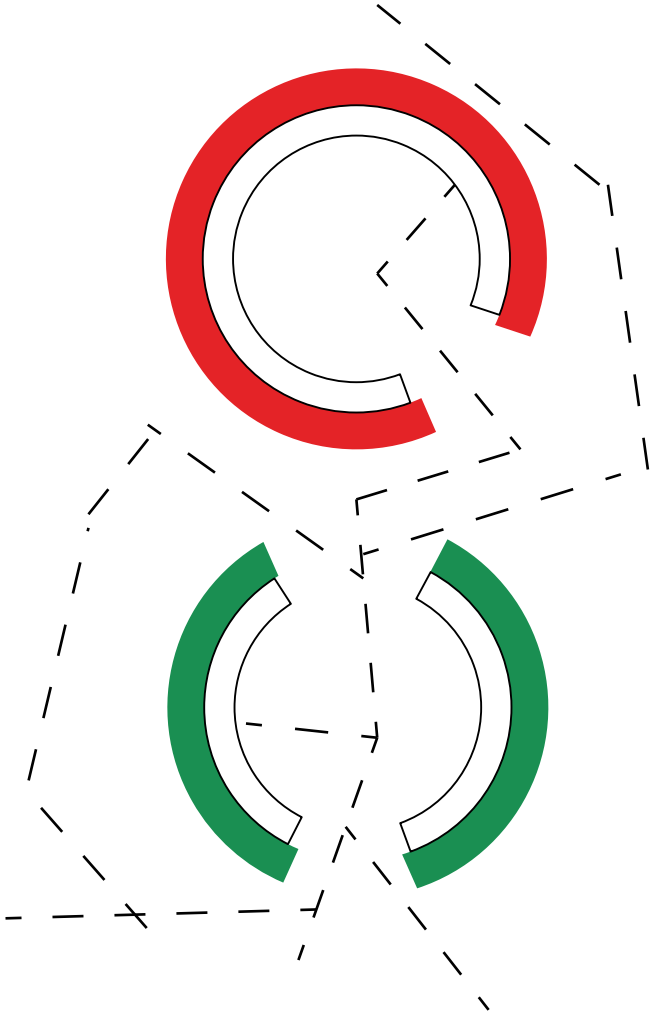
WORKING CONES

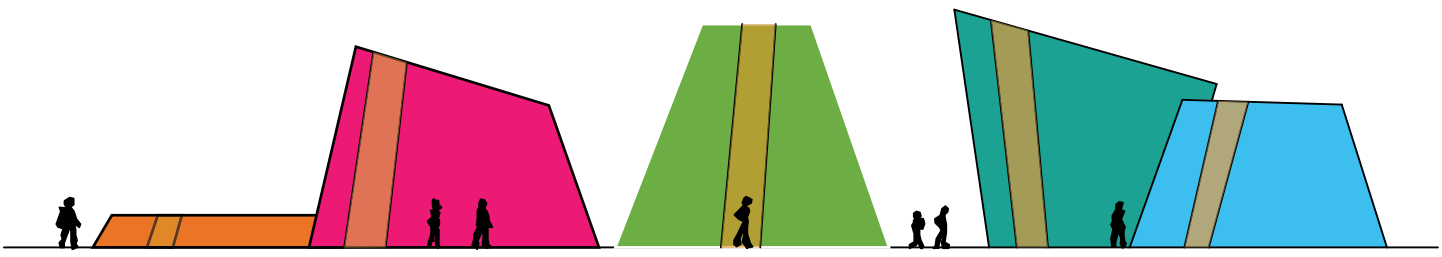


Working cones on the ground level of İSTech Library building A is conceived as a cone geometry, the shape provides many structural advantages apart from an aesthetic statement.

All the vertical posts and brackets that are holding the horizontal surfaces, are pointing to the central point of the structure.

All the vertical surfaces support the horizontal ones and vice versa.

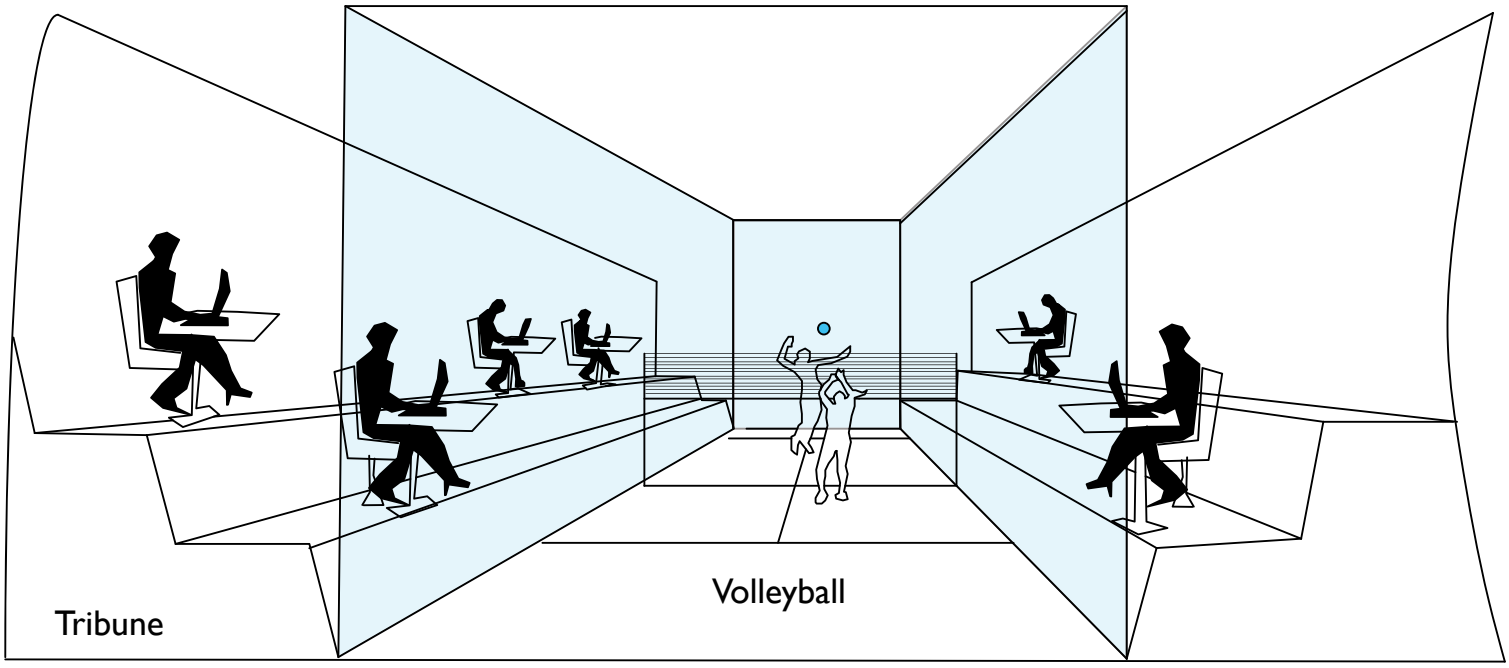




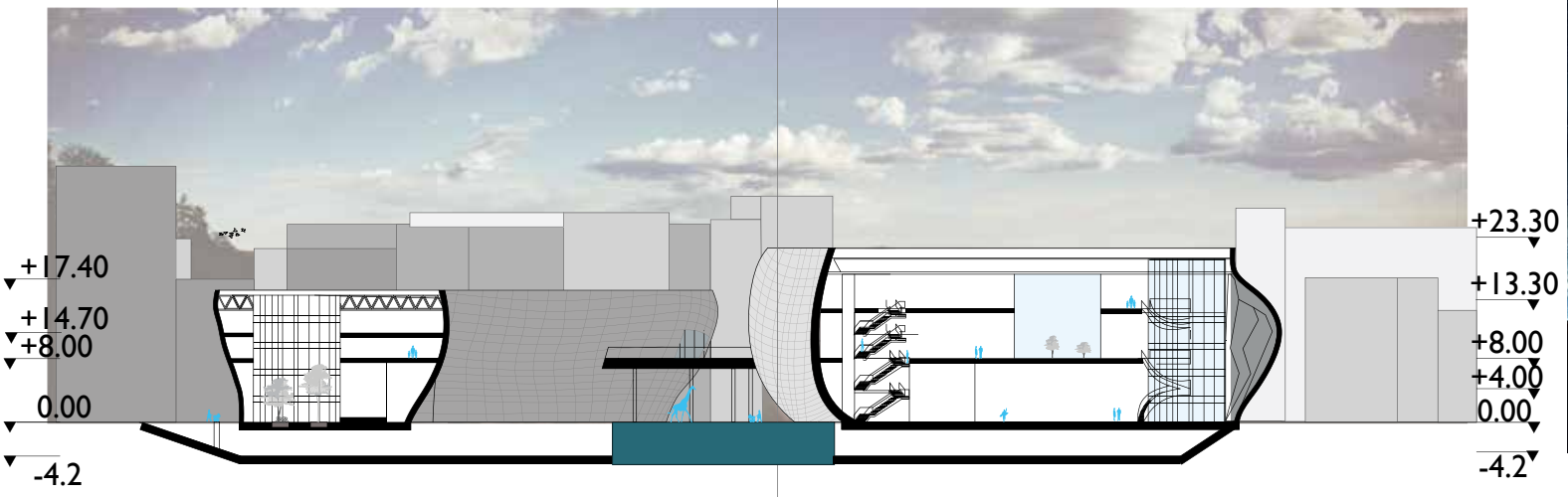
Library A /Second floor

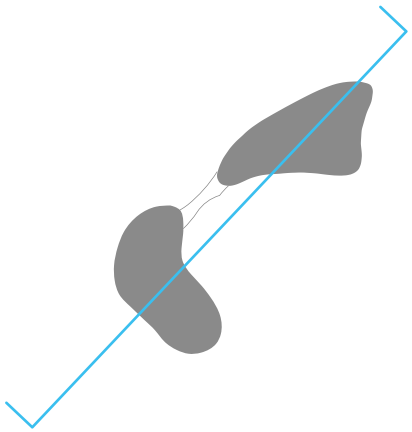
ALTERNATIVE WORKING SPACES

IT - ROOM

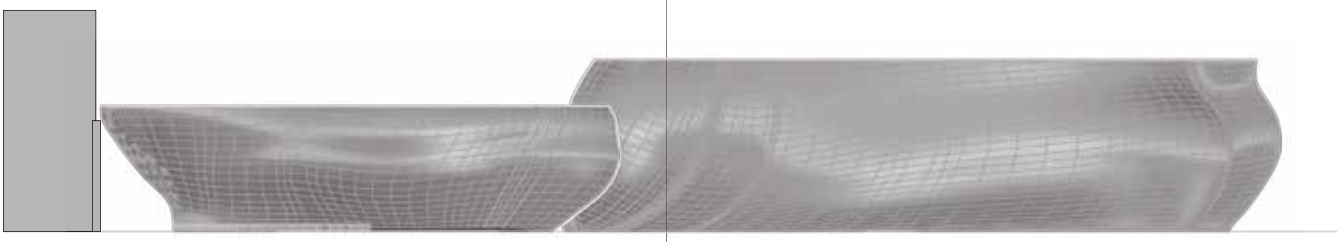


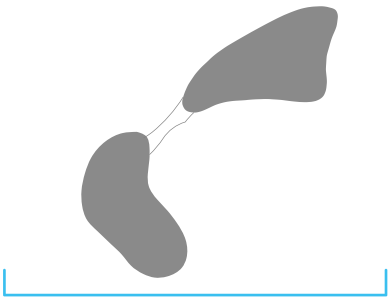
SECTION 01





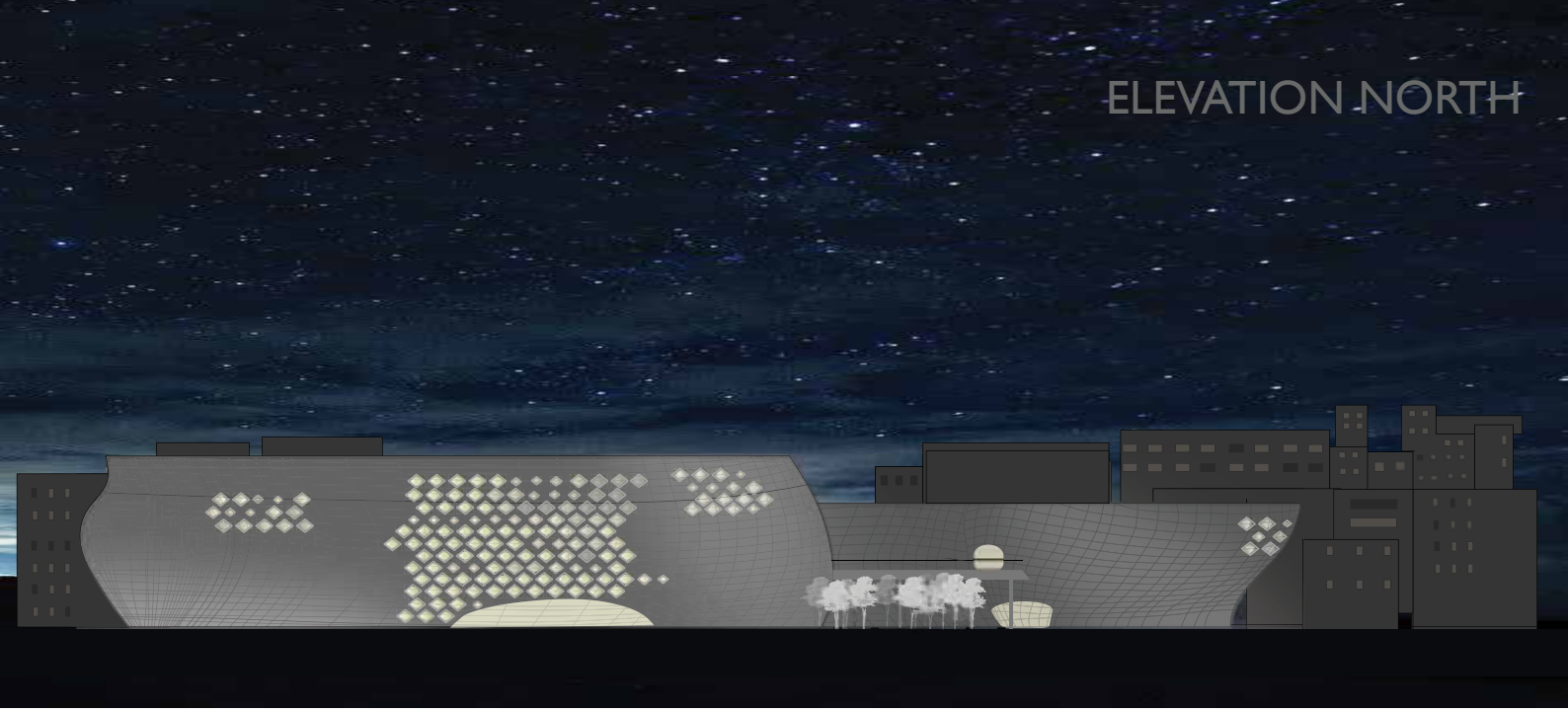
ELEVATION SOUTH

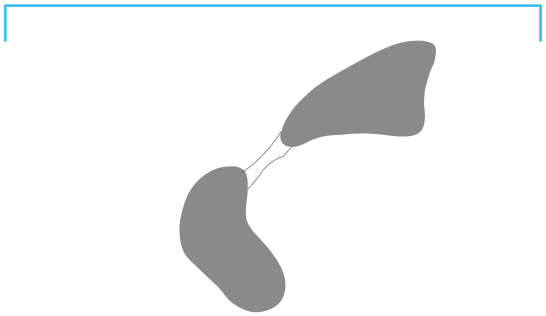




5 10 20 m

M 1/1000





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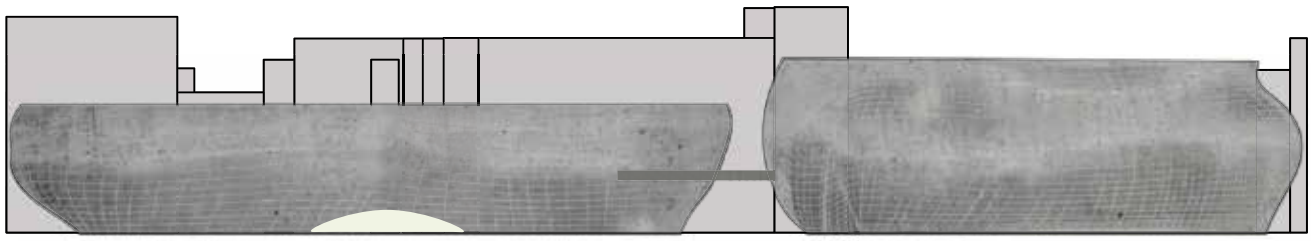
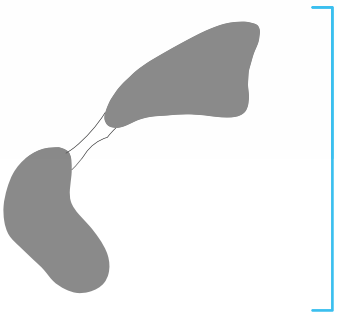
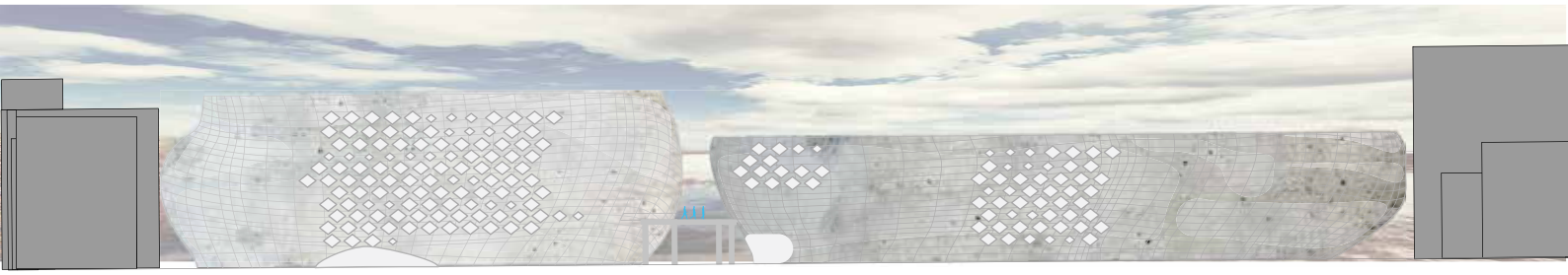
ELEVATION EAST

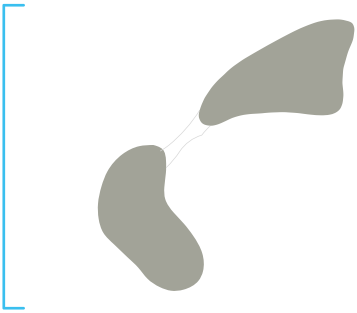




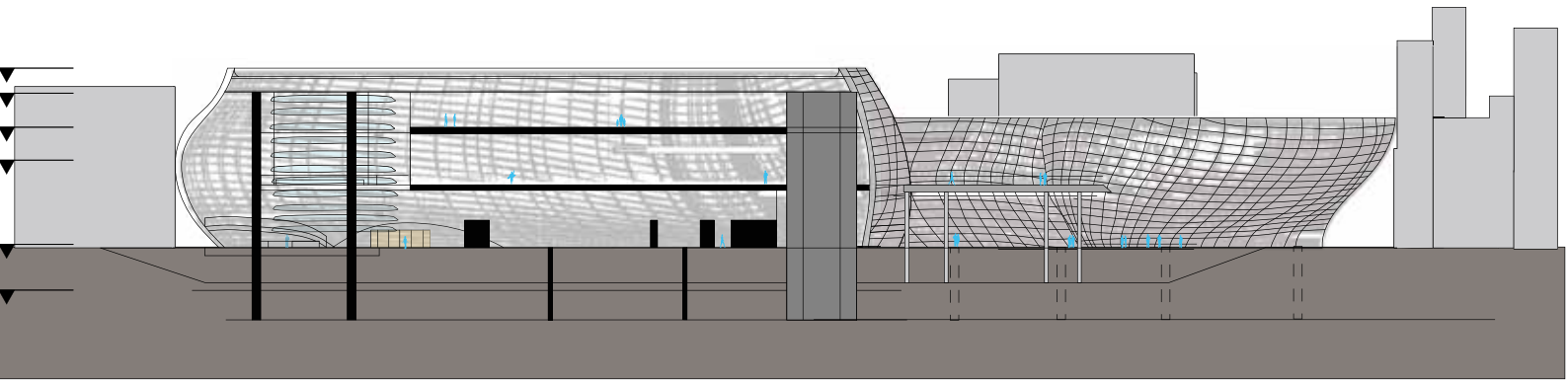
5 10 20m

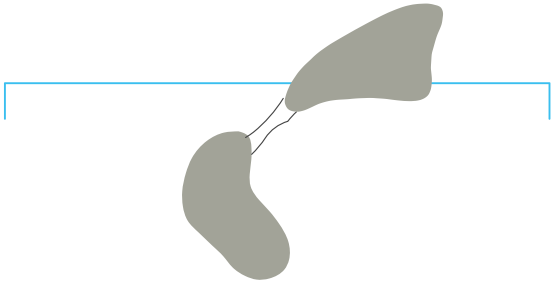
ELEVATION WEST





SECTION 02





5 10 20m

1/1000

Project Data

Site area: 41.500 m²

Buildings Area: 14 000 m² + (Tunnel, garage)

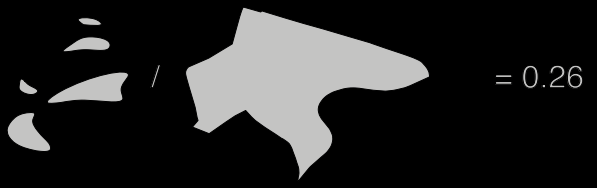
Outdoor space : 35 000 m²

Car parking : 650

Daily circulation : 5000 people

Waterfrond walk& bicycle road: 5.8KM

Adress : Pazar yolu sokak, osmanağa mahallesi, ,
kadıköy, istanbul, 34714



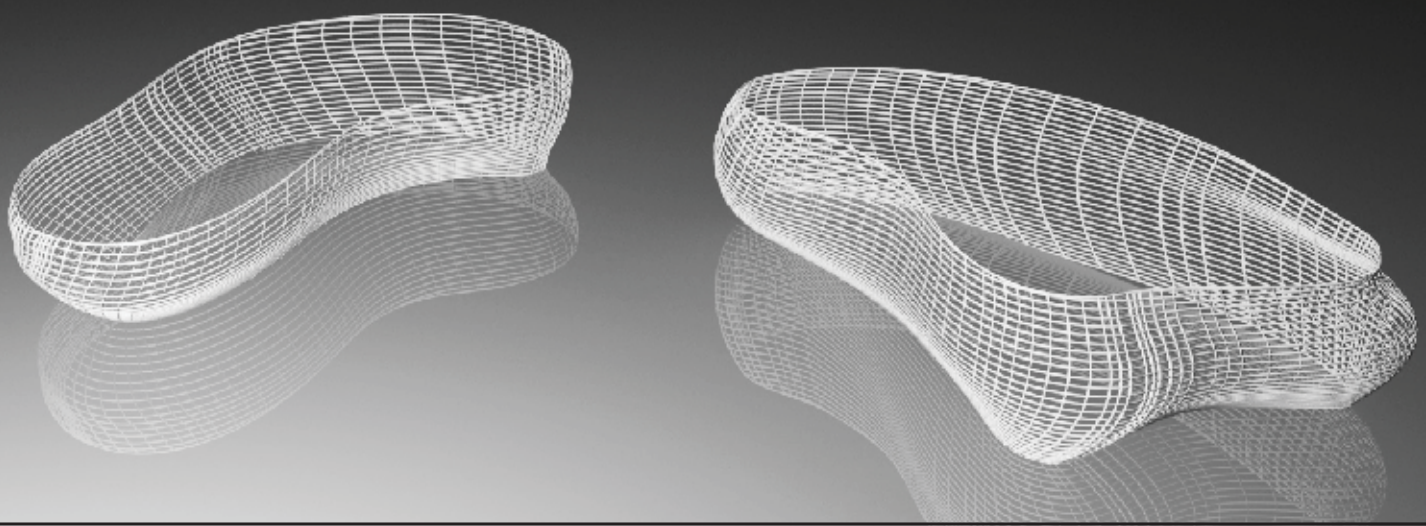


Fig 30 Soma one ocean

Fig 30 Soma one ocean

The windows in the concrete shells of the cones were planed by inserting steel shapes in the shuttering.
The roof structure consists of steel trusses with spans of up to 17 m.
The slap above the ground floor level is a composite steel and concrete elements and a top layer of concrete.

The roof construction span from the reinforced concrete cones to the columns and the trusses in the main facade.

The steel beams were later connected to the concrete cones using dowels.

The cones were conceived as unstressed reinforced concrete shells whit wall thicknesses of 60 cm.

The slabs of the concrete cones were made of steel trusses, whit a span of 30 m having to be bridged in the main cone.

These slabs were inserted after pouring the concrete cones and in the final state they carry the accessible planted roof areas.

Fig 31

PINE

The stone pine is a coniferous evergreen tree that can exceed 25 metres in height

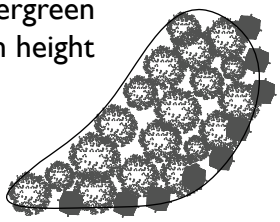


Fig 32

JUDAS TREE

This species forms a small tree up to 12 metres in height and 10 metres in width.

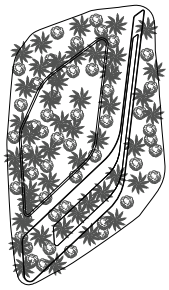
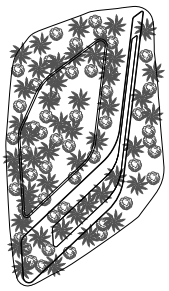


Fig 33

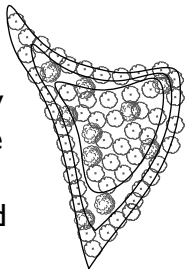
WISTERIA



They can climb as high as 20 m above the ground and spread out 10 m laterally. The leaves are alternate, 15 to 35 cm long, pinnate, with 9 to 19 leaflets. The flowers are produced in pendulous racemes 10 to 80 cm long, purple, violet, pink or white

Fig 34

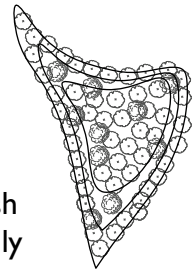
MAGNOLIA



This is a medium to large evergreen tree which may grow 37 m tall. It typically has a single stem or trunk and a pyramidal shape. The leaves are simple and broadly ovate, 12–20 cm long and 6–12 cm broad, with smooth margins

Fig 35

SILK TREE

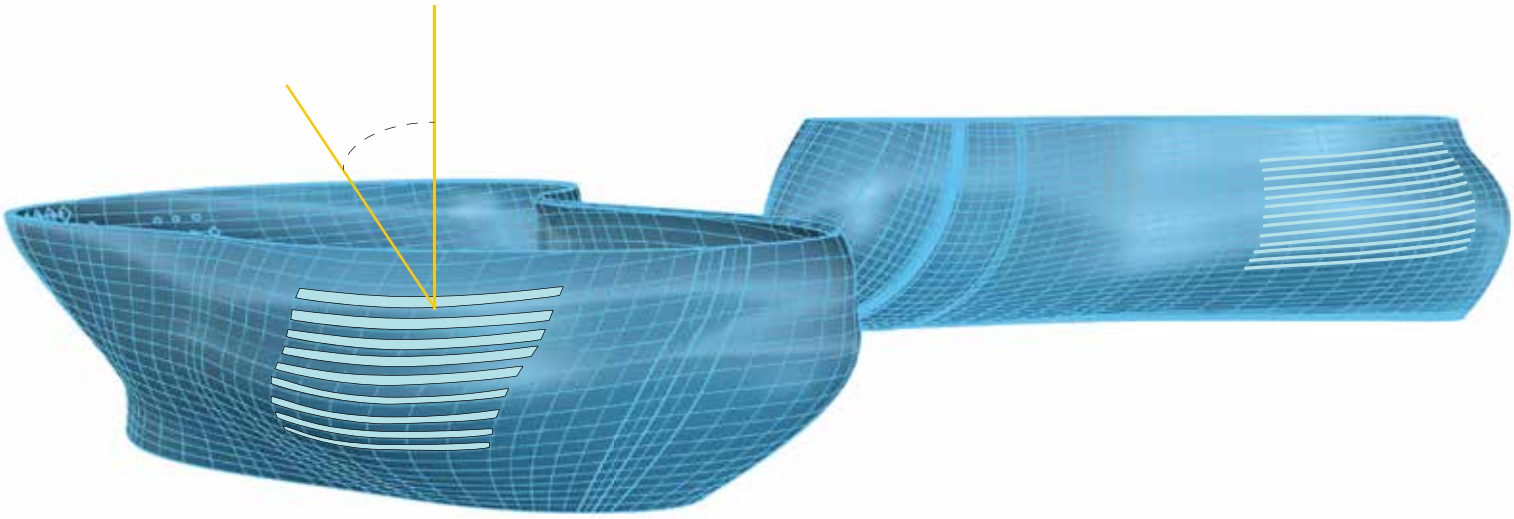


It is a small deciduous tree growing to 5–16 m tall, with a broad crown of level or arching branches. The bark is dark greenish grey in colour and striped vertically as it gets older.

KINEMATIC FACADE

FORM

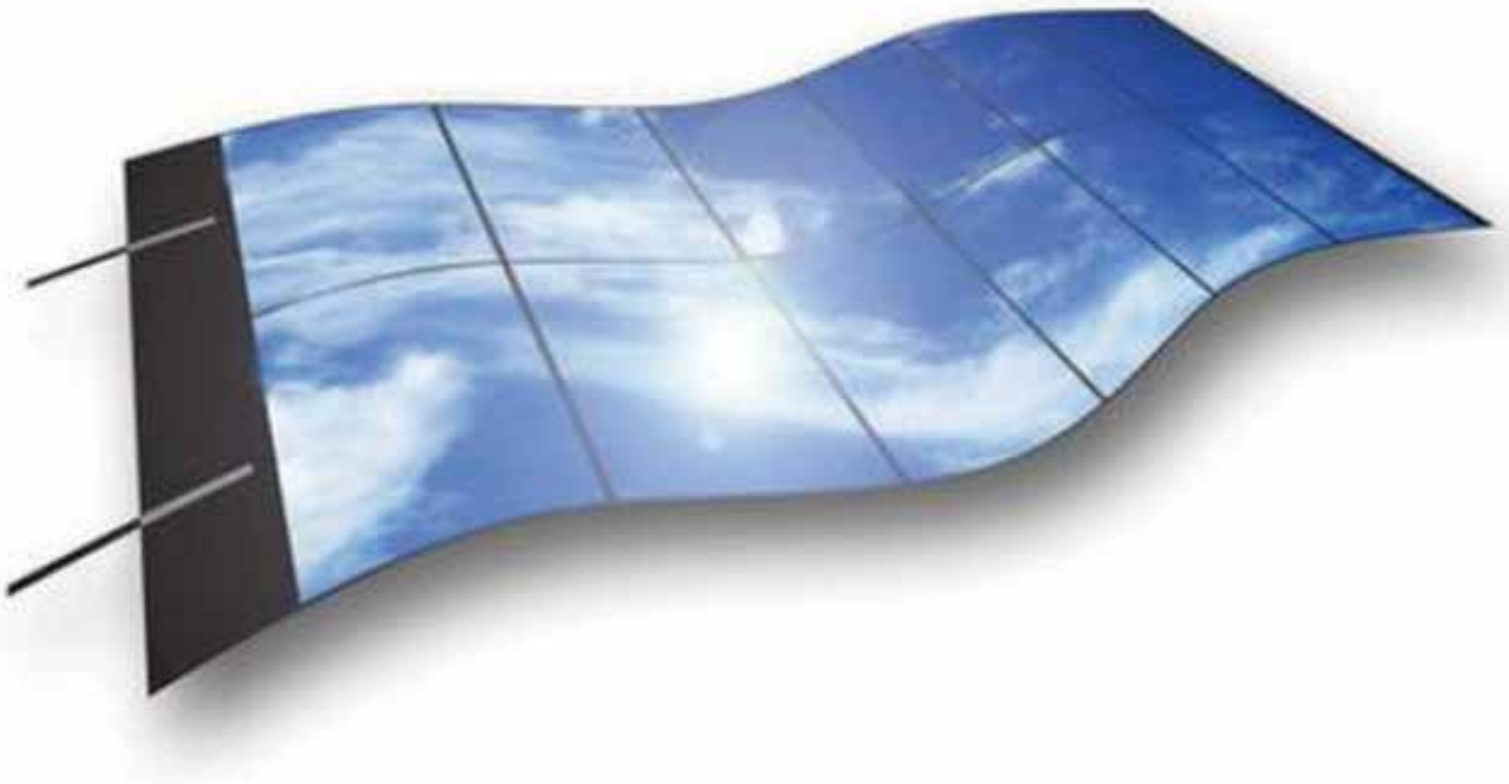
stippled surface creates
lower angles of incidence



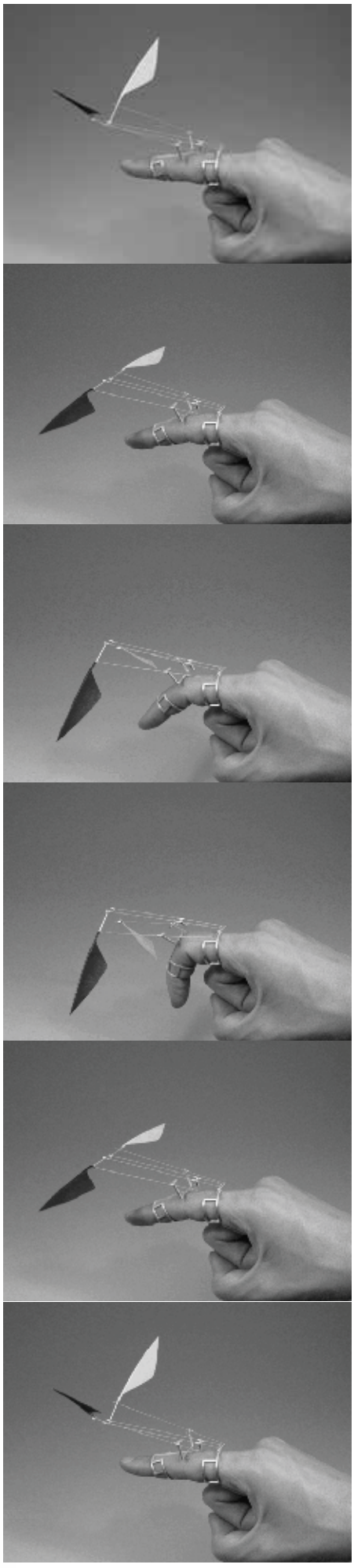
The flexible solar panel moduls on kinematic facade

Cells Performans - 300 Watts 3.5 kg / m2

Annual Production - 81.5 kW (DC) 67,400 kWh (AC)



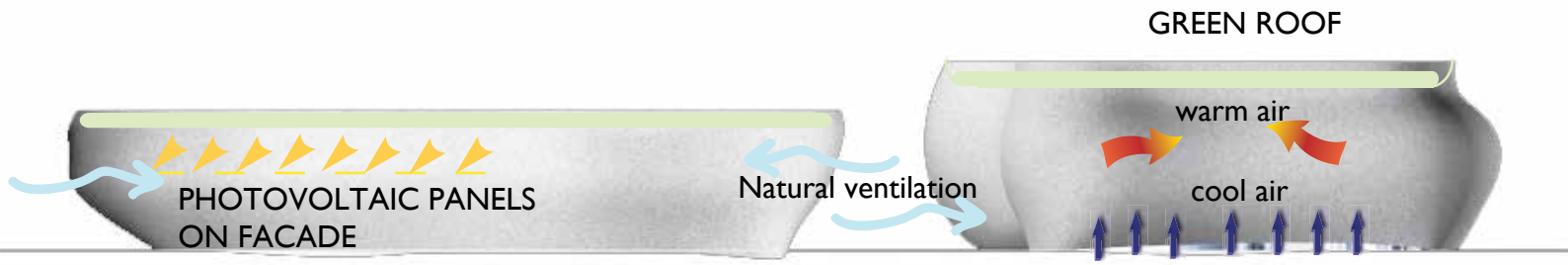
STRUCTURE



MATERIAL

The South facades covered with lammella which made of Glas fiber reinforced polymer and flexible solar panels on the top.
A computer controlled bus- system allows the synchrınozation of the actuators which can follow the sunlights.
For the needed energy to make the outdoor space during nightlong usefull Kinematic lammells use solar cells, which convert sunlight into electricity.

CLIMATE CONCEPT

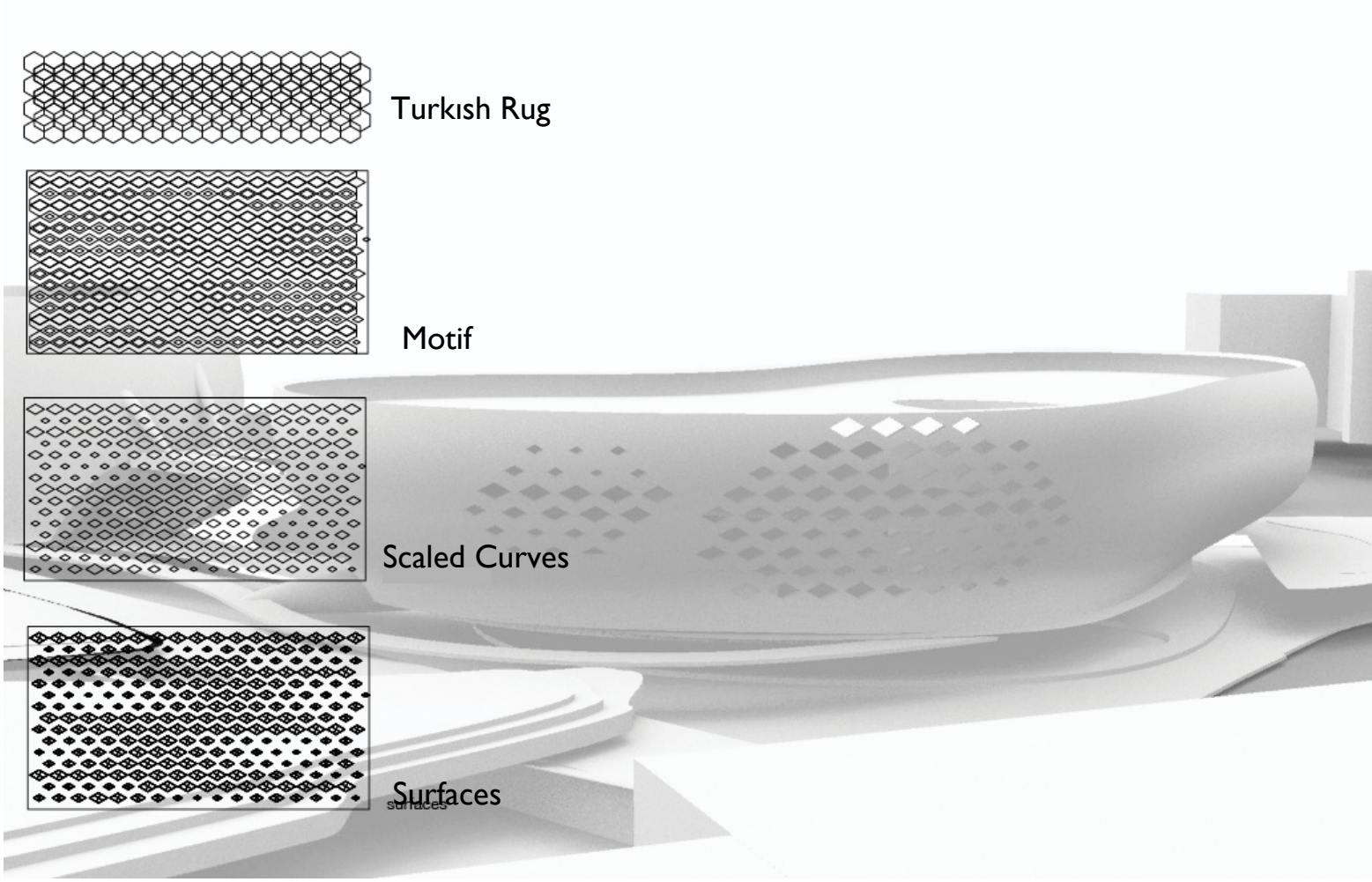


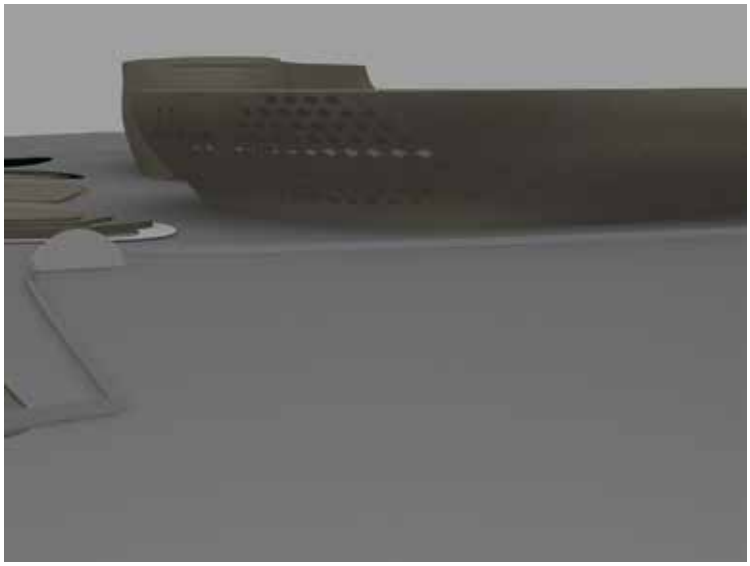
Storage mass (unstreesed reinforced concrete shell)

The photovoltaic panels integrated into the roof will be genereting solar electricity over the year for park anb the buildings.

Togehther with the optimized building envelope,this system createsncomfortable conditions for the library visitors and a sustainable building operation,
mainly by renewable energy input.

DISSOLVING PATTERN





N

RIVER SITE RENDER

SOURCE LIST

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Deutscher Bibliotheksverband e.V. (dbv), 17. September 2013

Soma ‘theme pavilion expo yeosu one ocean’s

http://www.incomediary.com/top-20-most-awesome-company-offices

IMAGE INDEX

fig01 ;https://buchhaendlerblog.wordpress.com/category/bucherliebe/page/6/

fig02 wwwgodandus.blogcu.com (06.2014)

fig03 http://images.adsttc.com/media/images/55e8/46fe/9f02/4f00/000e/large_jpg/

fig 04 www.projepedia.com

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fig 16 https://en.wikipedia.org/wiki/Epic_of_Gilgamesh

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fig20 http://www.librarybuildings.info/denmark/black-diamond-royal-danish-library

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fig 23http://www.mkutup.gov.tr/tr/Sayfalar/default.aspx

fig 25 http://tanitim.bilgi.edu.tr/media/2014_kutuphane_HSYN0899.jpg

fig 26 http://tanitim.bilgi.edu.tr/media/2014_kutuphane_HSYN0899.jpg

fig 27http://www.nytimes.com/2014/02/13/garden/table-manners-at-work.html?_r=3

fig 28 http://www.boredpanda.com/coolest-offices-in-the-world/

fig 29http://library.harvard.edu/sites/default/files/ToTheStacks.pdf

fig 29b travel.nationalgeographic.com

fig 30 SOMA one ocean www.bustler.net

fig 31/32/33/34/35 en.wikipedia.org

THANK YOU

Ein herzliches Dankeschön geht an die Beck Familie ,die mich bei der Erstellung meiner Diplomarbeit unterstützt haben.

Besonderer Dank gilt Professorin Dorthe Kuhlmann für die Betreuung meiner Diplomarbeit

Ich möchte mich bei meinen Freund herzlich bedanken, denn ohne seine moralische Unterstützung wäre ich niemals fertig geworden.

Vielen Dank auch an mein Bruder inal für die liebevolle Unterstützung, den Rückhalt und den ZuspruchAbschließend möchte ich mich auch bei meine Eltern bedanken, denn ohne sie wäre dieses Studium niemals möglich gewesen.

Thank You.

BACKGROUND

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Architecture Master

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Thomas HERZIG Architects - 'Life Ball' project 2008 summer
Koray Construction o, santiye staji- Bursa Guzel Bir Yer project 2008 summer
Altay group -interior project 2009 winter
Metin HEPGULER office - rezidans, shopping mall ,hotel project 2009 summer
Han TUMERTEKIN office - tarlabasi urban planing, umraniye complex 2010summer
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