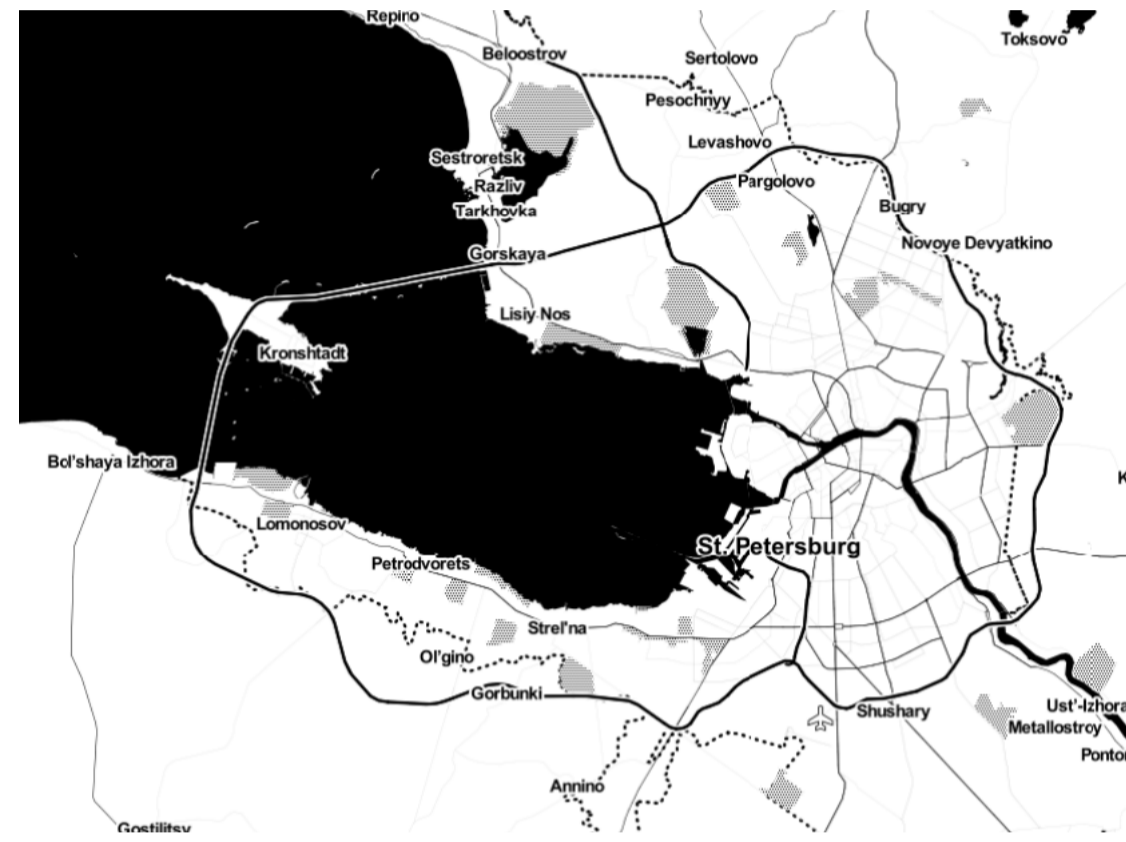
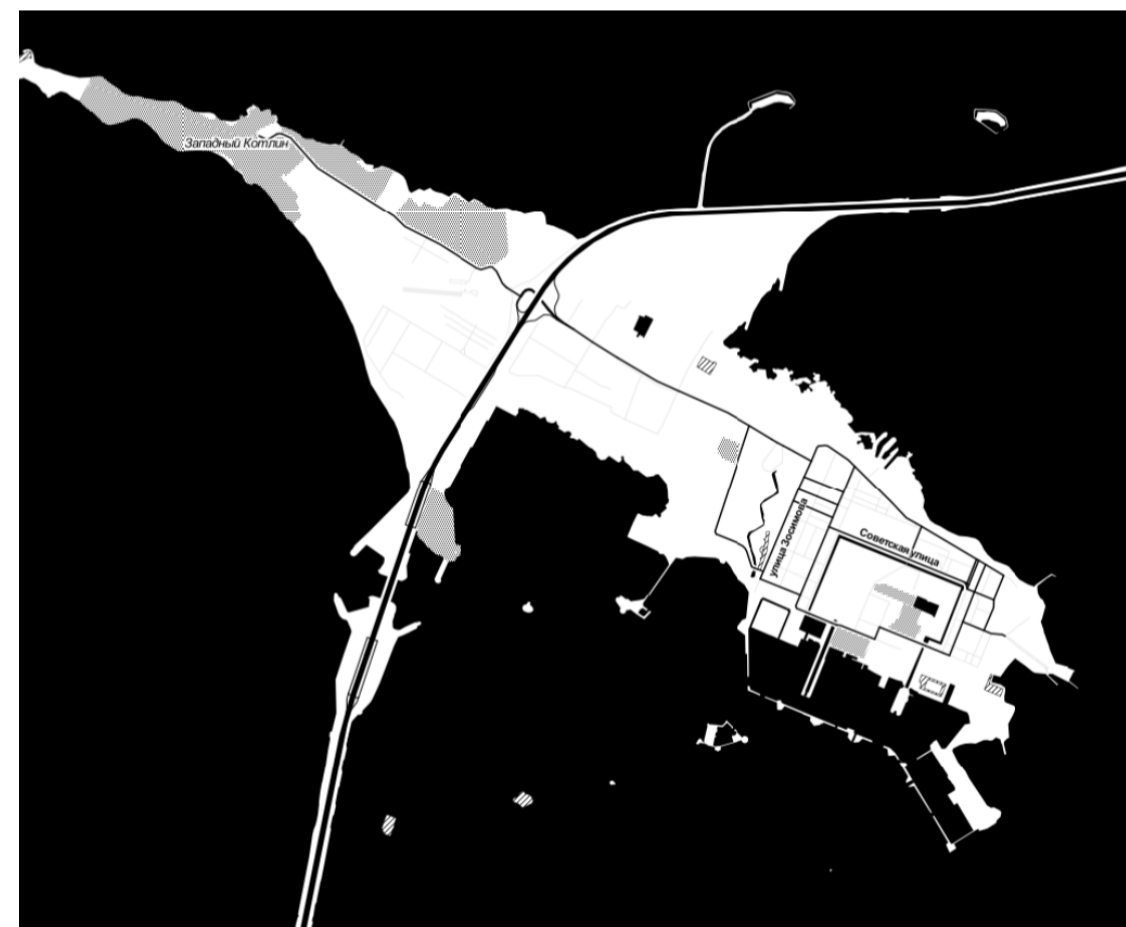


Kronstadt is a pleasantly quiet city and naval base on Kotlin Island, 30 kilometers into the Gulf of Finland from Saint Petersburg. This town and its naval fortresses — a UNESCO heritage site — have protected Saint Petersburg and the north-west flank of Russia for centuries. A small place with a population of 43,000, resembles a Saint Petersburg in miniature, with similar architecture and layout. It's technically a suburb of Saint Petersburg, but Kronstadt has its own independent spirit, and has been crucial to the identity and survival of the city it guards.

Thanks to tectonic cataclysms, the place where the island of Kotlin is located has descended and risen, becoming the seabed before ultimately turning into an island. All of these motions has led to a unique alternation between marine and continental sediments, creating quite specific geological structure of the valley. In addition to this, Neva river has been washing away the lower layers of island for centuries, forming its current shape which resembles a bird's eye view of a prehistoric animal that may have been one of the inhabitants.



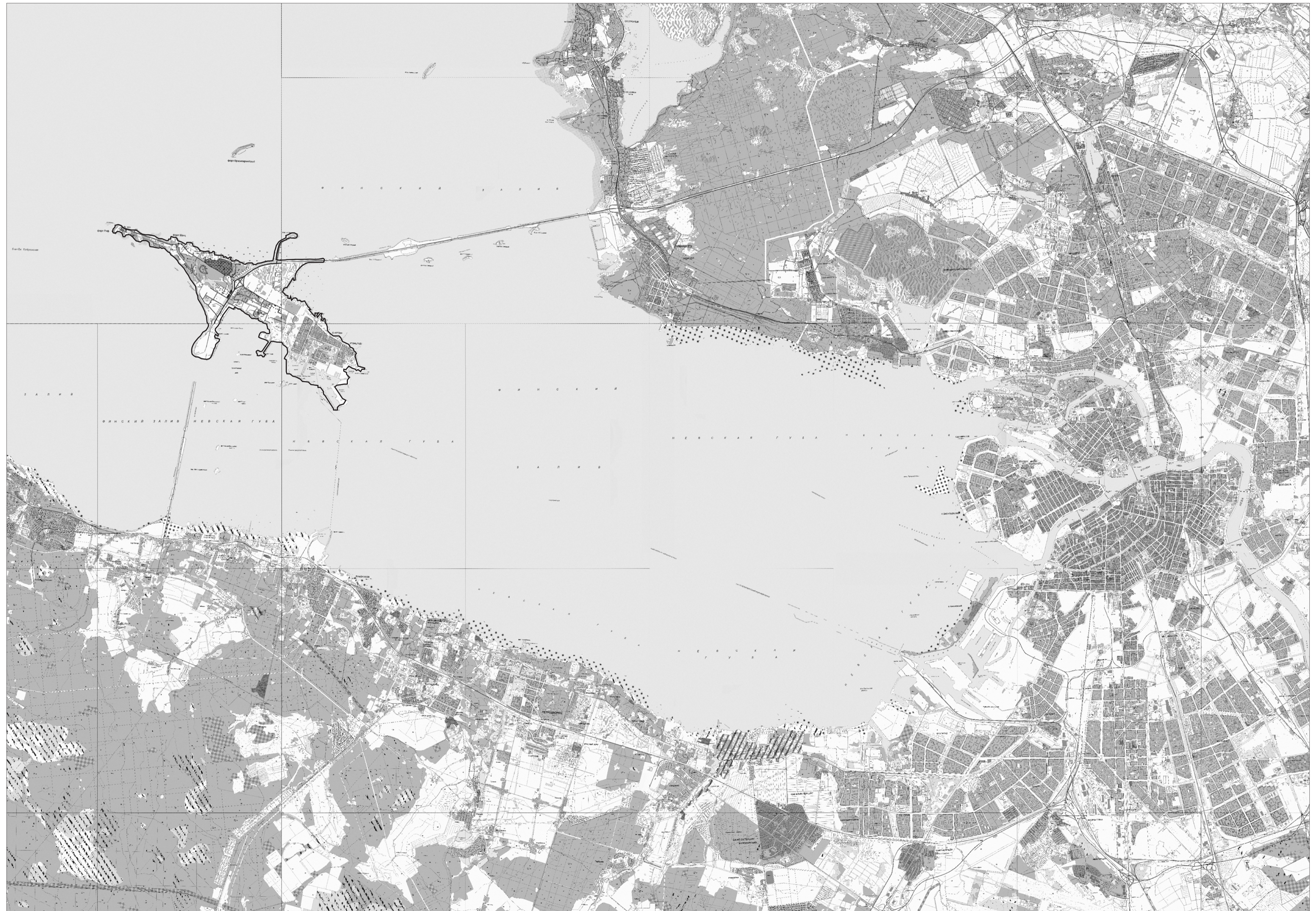
POSITION OF THE ISLAND IN RELATION TO CITY OF SAINT PETERSBURG AND MAIN MARINE AND CONTINENTAL CONNECTIONS

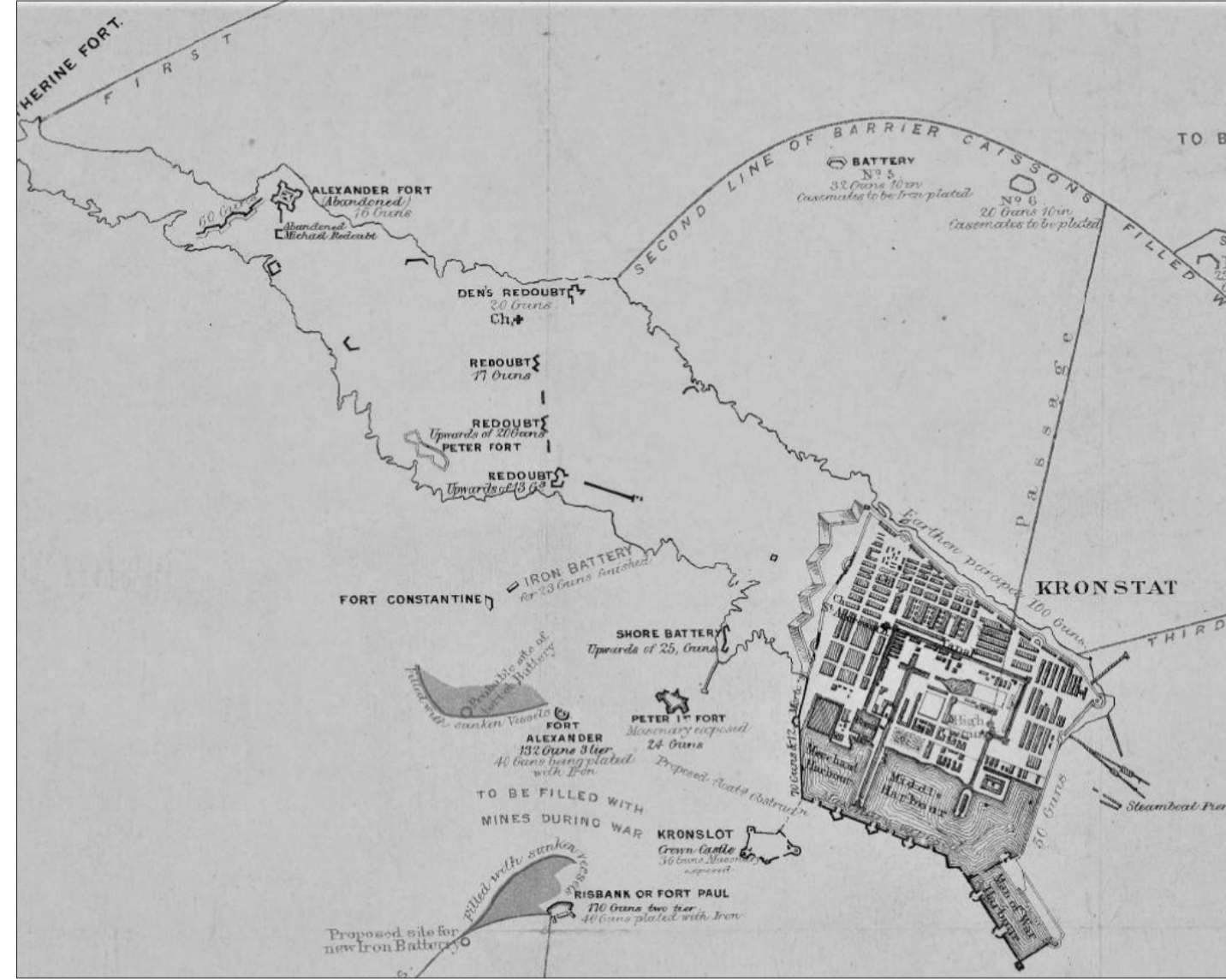


POSITION OF THE CITY OF KRONSTADT ON THE KOTLIN ISLAND AND THE MAIN CONNECTING AXES

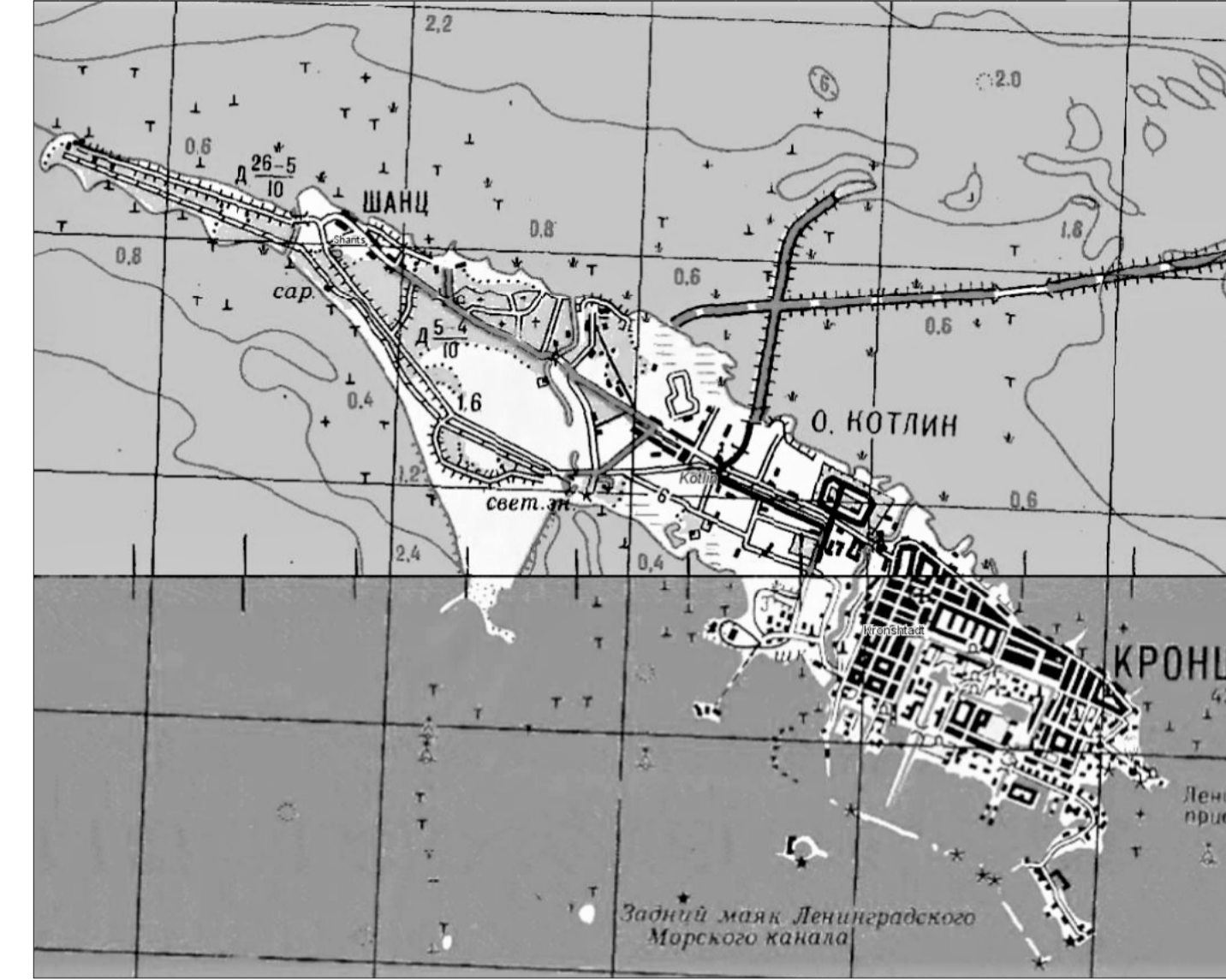
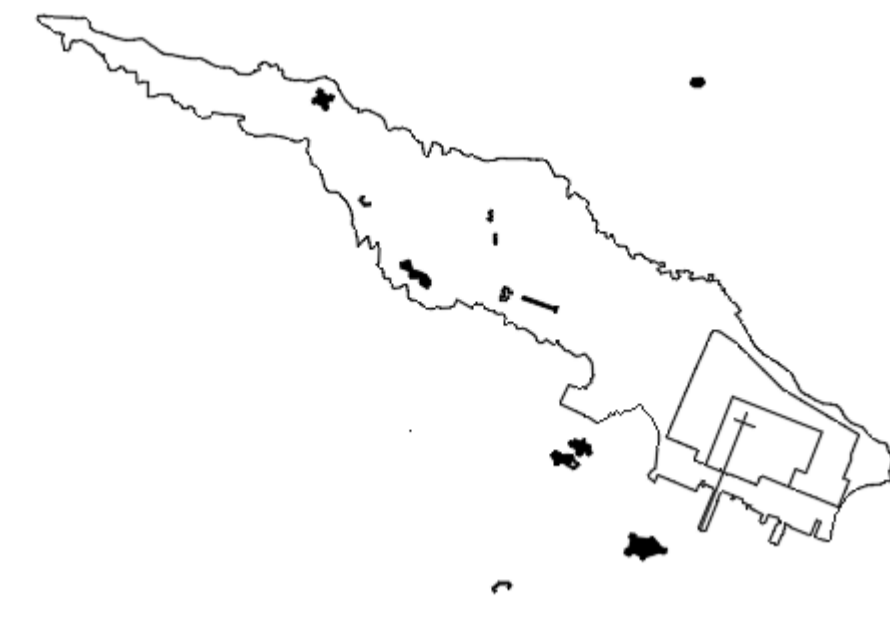


VIEW OF THE OLD FORTIFIED CITY OF KRONSTADT THAT WAS MAIN POINT OF DEFENSE FOR CENTURIES

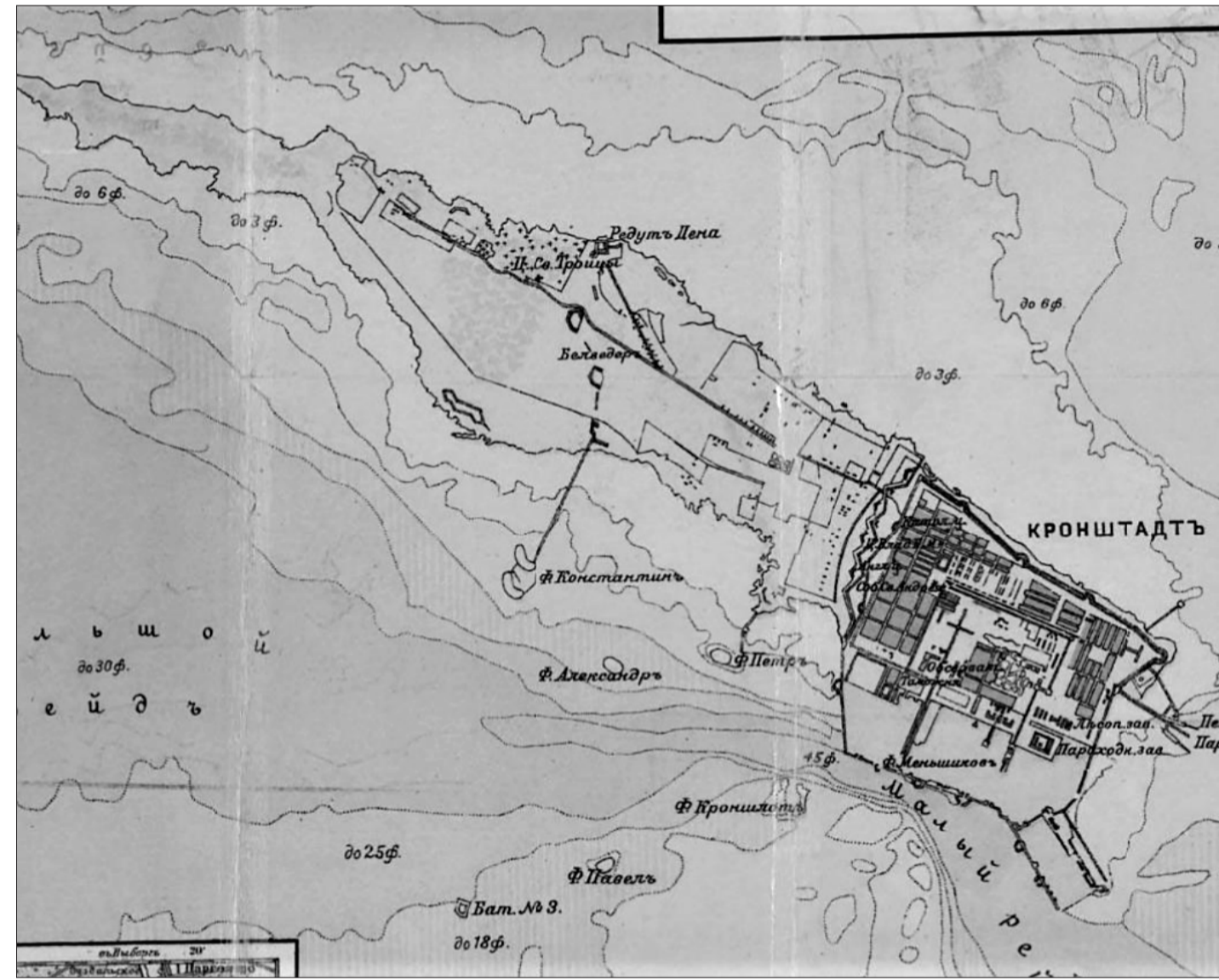
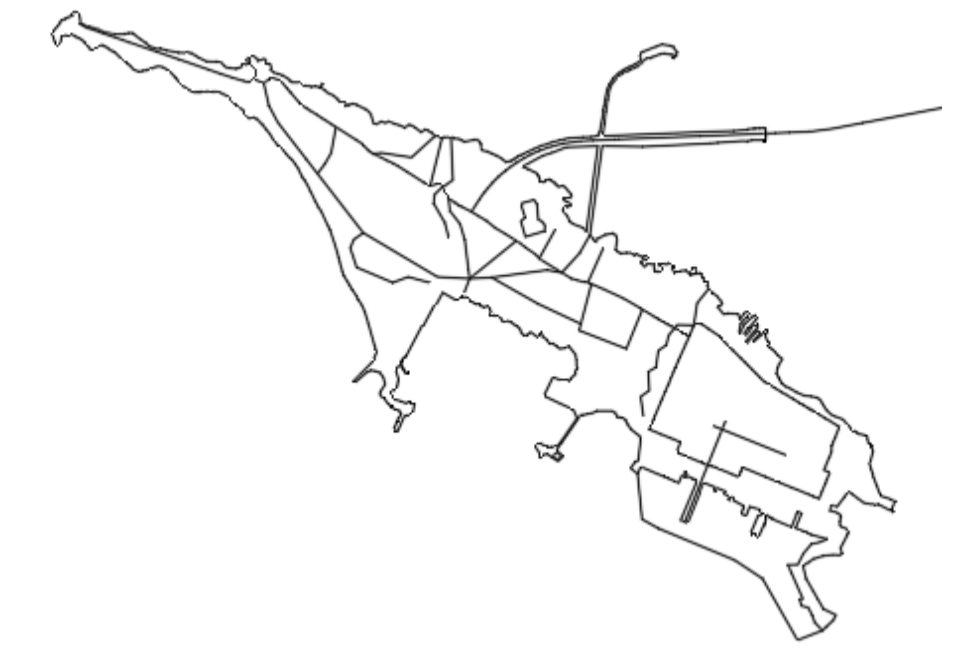




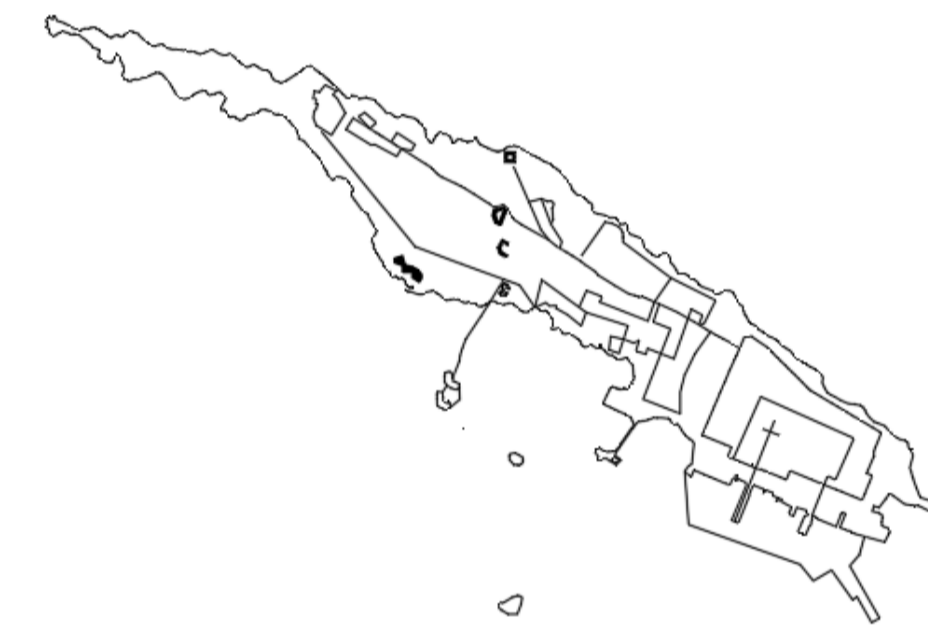
1850
 FROM THE YEAR 1703, WHEN THE ISLAND BECAME AN OFFICIAL NAVAL BASE, THROUGHOUT ITS TERRITORY IT IS POSSIBLE TO IDENTIFY A CONTINUOUS SPROUT OF DIFFERENT FORTIFICATIONS, CANALS, DOCKYARDS AND EVENTUALLY HOUSING AND PUBLIC BUILDINGS.



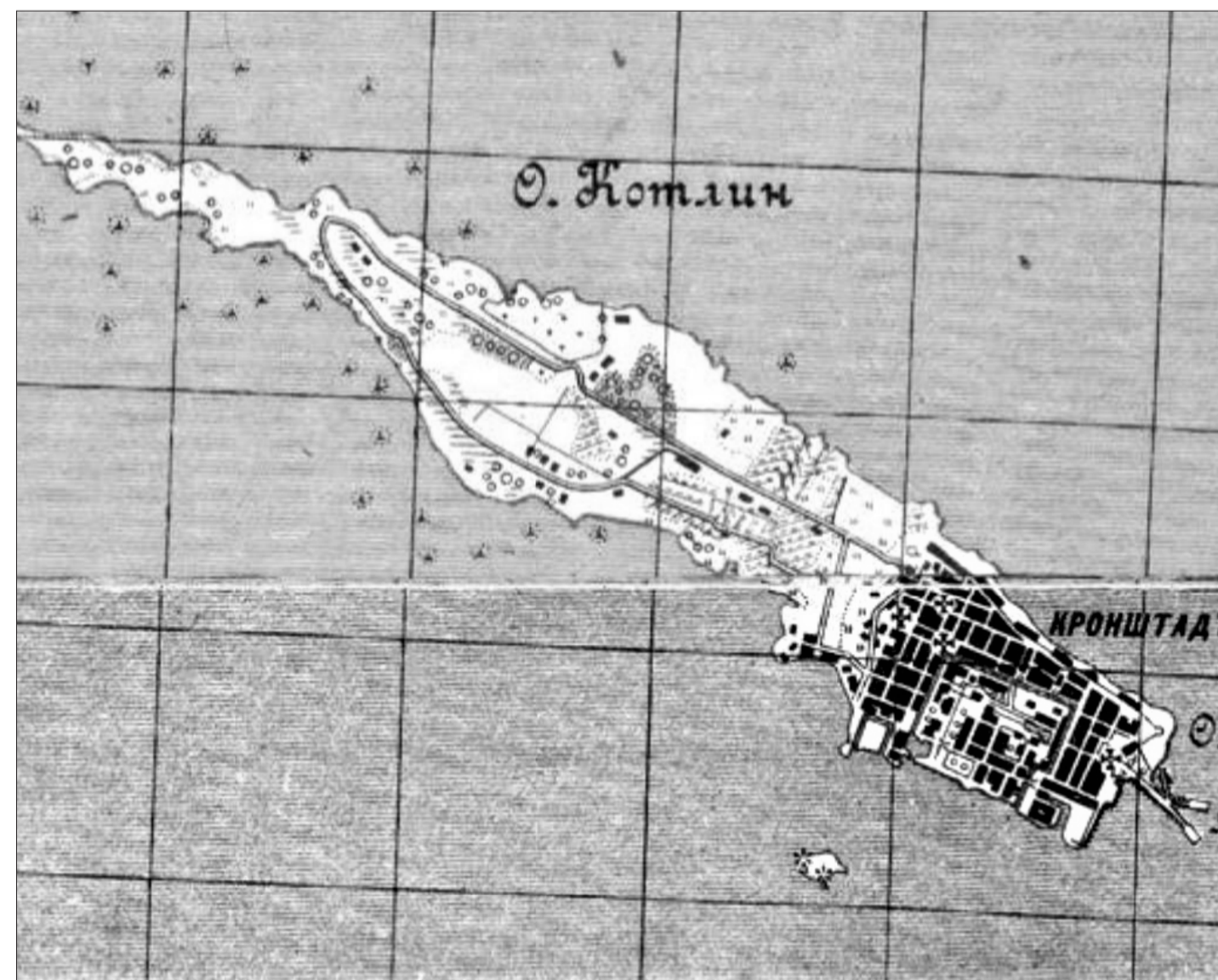
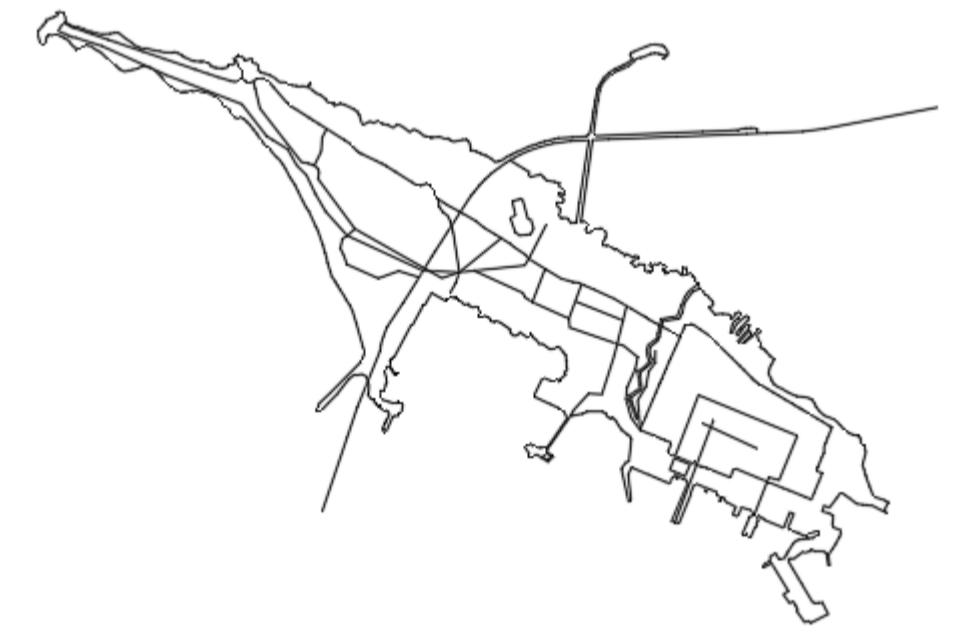
1885
 ISLAND 'REACHES' THE CONTINENTAL PART WITH NEW CONNECTIONS BUT IN PRACTICE IT STAYS CLOSED FOR THE PUBLIC ALLOWING ONLY ENTRY WITH A SPECIAL PERMISSION. THIS SETTING WILL LAST UNTIL 1996.



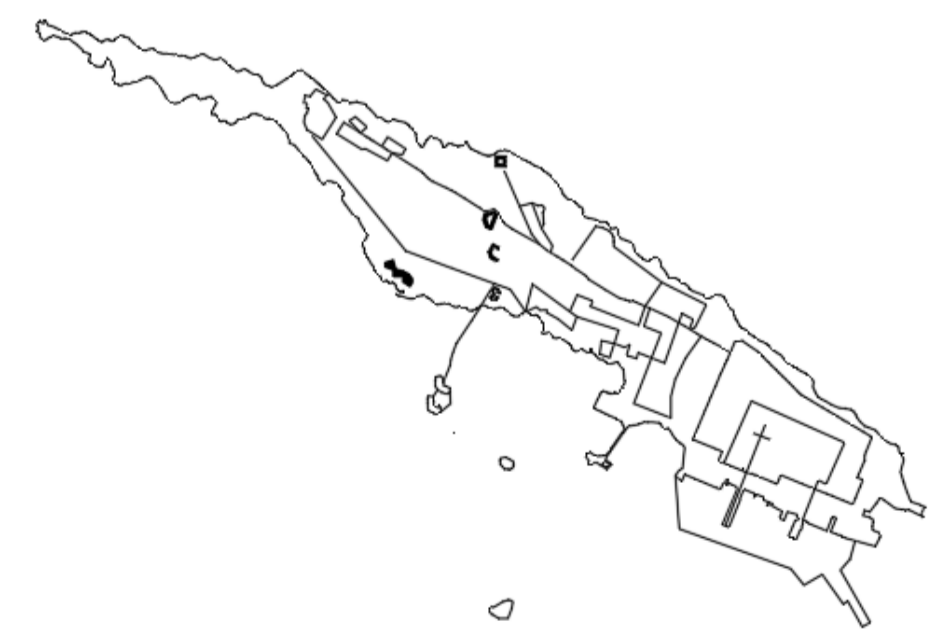
1900
 IN PREVIOUS HALF OF THE CENTURY ADDITIONAL SET OF FORTIFICATIONS GREW ON THE ISLAND, GRANITE FORTS BECAME VULNERABLE AND EVENTUALLY EXCHANGED FOR EARTH ONES. KRONSTADT STARTED CONNECTING WITH OTHER HALF OF THE ISLAND.



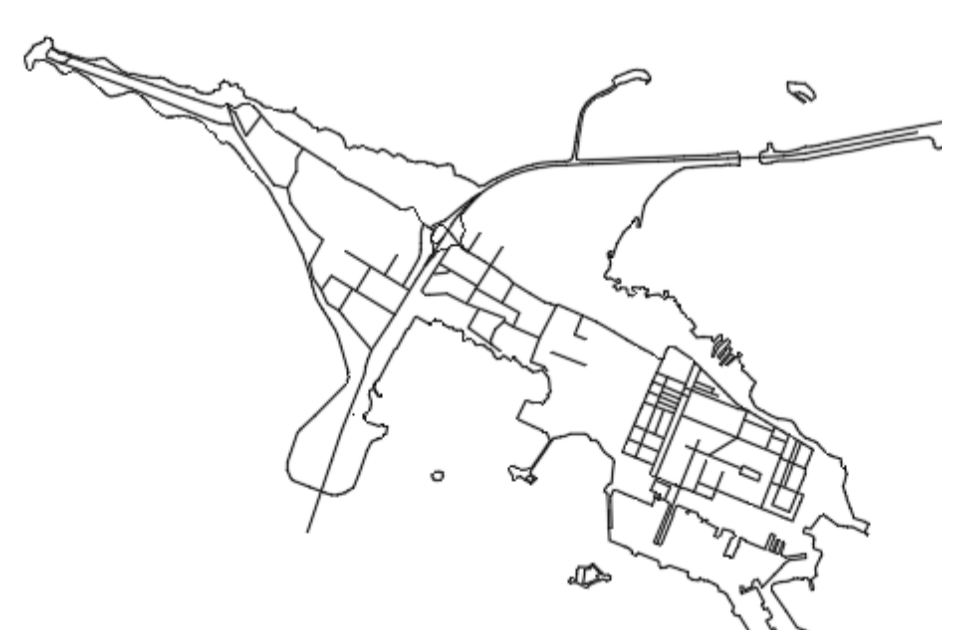
1990
 BEFORE THE 1996, WHEN THE CITY FINALLY OPENED ITS DOORS TO THE VISITORS, ISLAND WENT THROUGH LANDSCAPE CHANGES DUE TO EROSION, NEW DAMS FOR FLOOD PROTECTION APPEARED AS AN IDEA AND OVERALL CONNECTION AND ACCESSIBILITY ON THE ISLAND STARTED DEVELOPING.



1941
 IN 1921 KRONSTADT WAS THE SETTING ITSELF FOR AN UNSUCCESSFUL REBELLION AGAINST THE COMMUNIST GOVERNMENT OF THE EARLY SOVIET STATE; THIS SPECIFIC YEAR THE CITY IS RAIDED BY GERMAN LUFTWAFFE, SIEGE BEGUN AND THE ISLAND WAS ISOLATED.



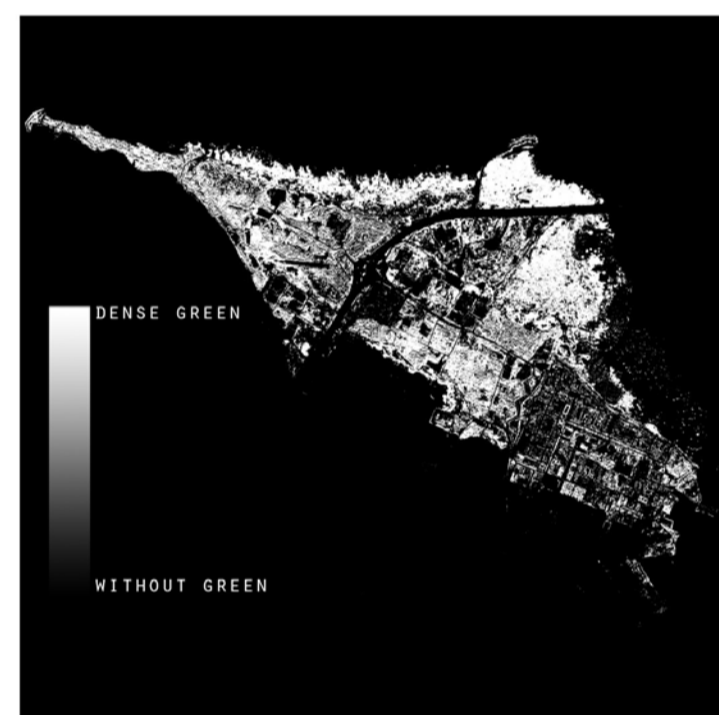
2001
 THE CITY HAS BEEN OPEN TO THE PUBLIC FOR 5 YEARS, 'WINGS' OF THE ISLAND CONNECTED WITH THE CONTINENTAL PART DRASTICALLY IMPROVING THE ACCESSIBILITY. NEW SETTLEMENTS STARTED APPEARING OUTSIDE THE BORDERS OF OLD KRONSTADT AND ISLAND FINALLY STARTED RECOGNIZING ITS POTENTIALS FOR FUTURE DEVELOPMENT.



LANDSCAPE AND ENVIRONMENT



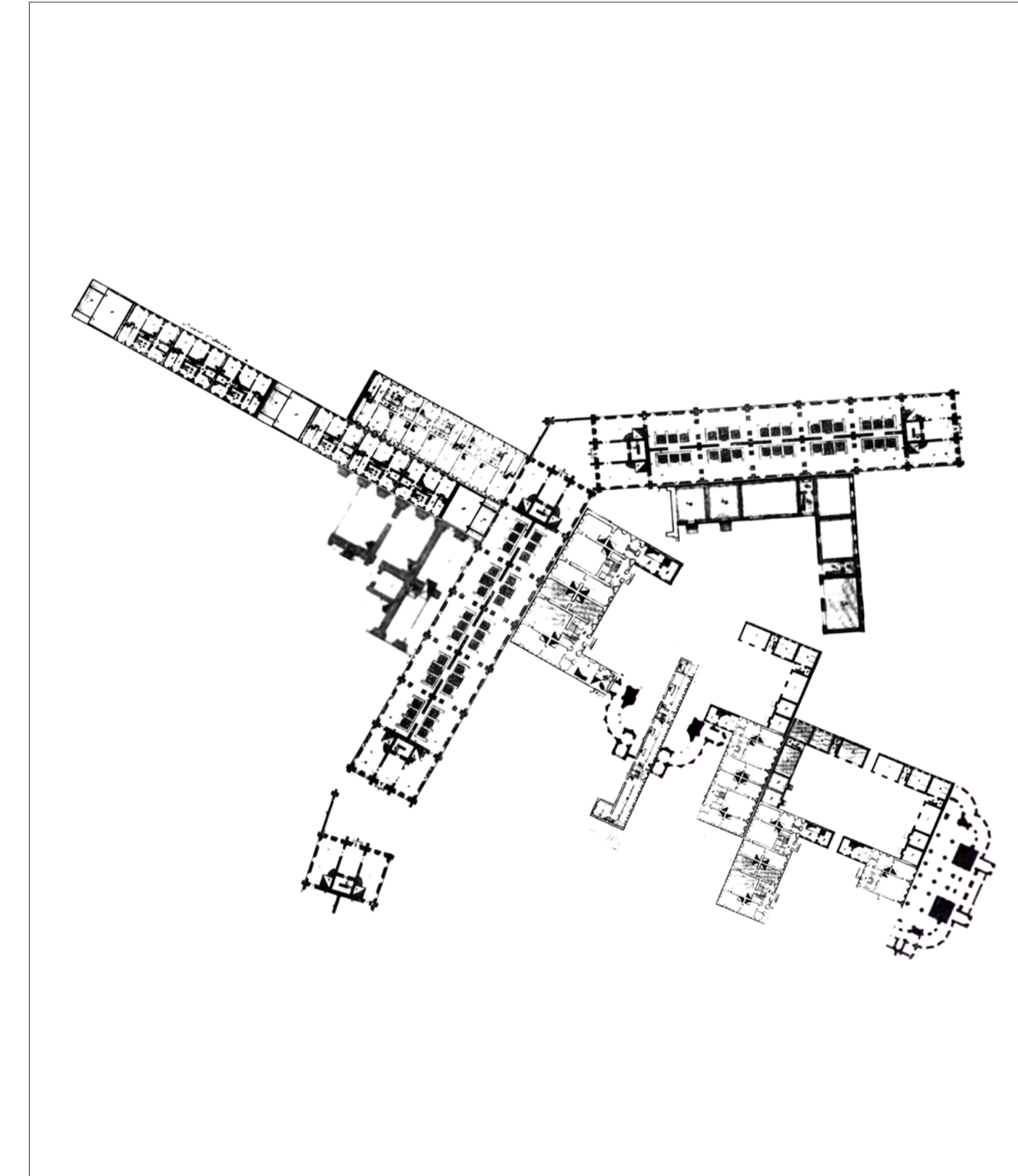
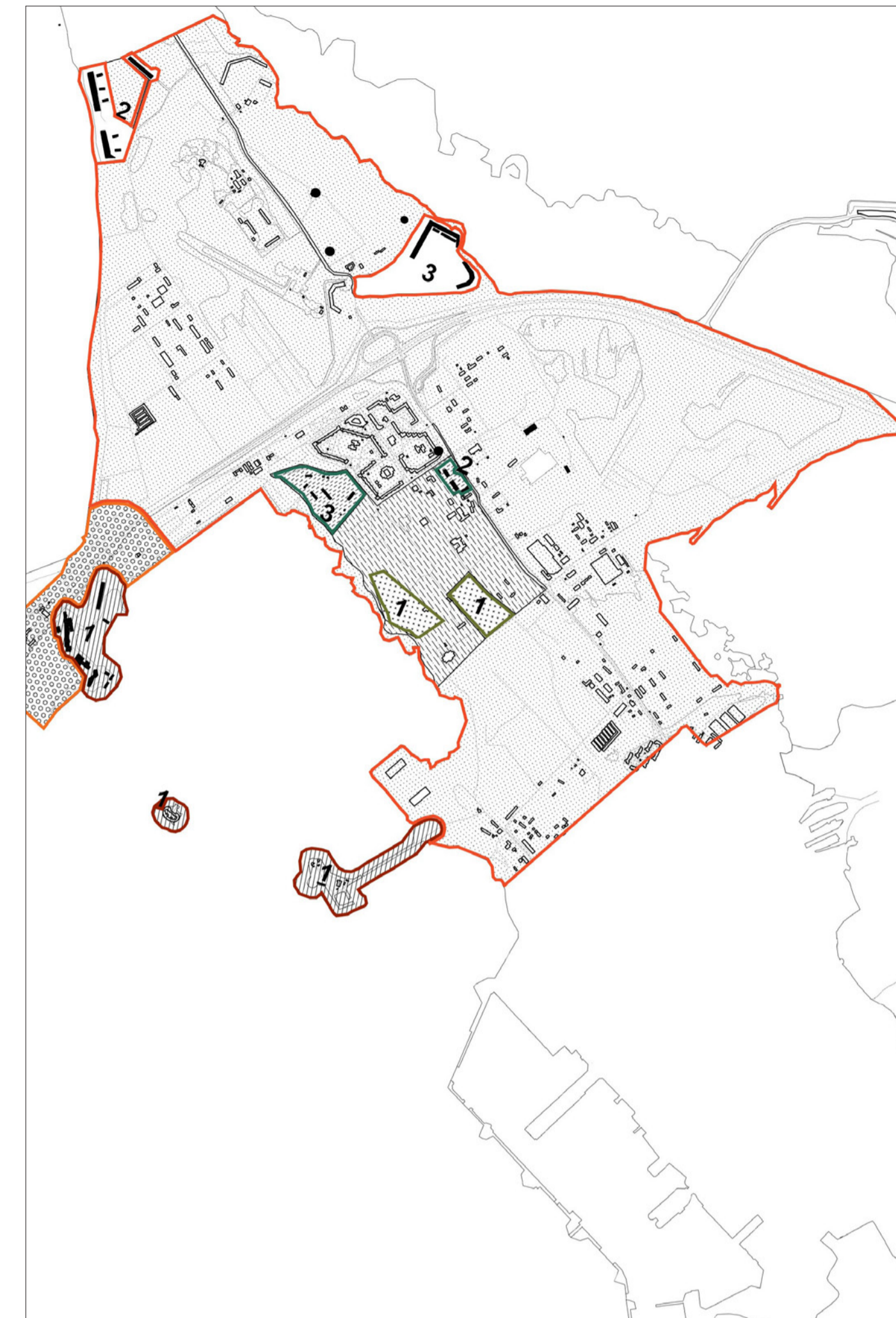
The environment of Kronstadt is characterized by multiple overlapping elements. The landscape is composed of largely spread forests that are intertwined with wetlands throughout the island. Forest continuity is broken by meadows and anthropization forms such as cemeteries and parks, providing the gaps in landscape composition. The natural spread is divided into two large parts with the construction of the highway that dissects the island. The environment is characterized by direct contact of the built environment and natural landscape since the typology of the buildings requires such a setting. Another important element that is a part of the Kronstadt environment is the beaches that are creating a separate atmosphere related to the water and cut from the rest of the island by the forest border. Although the east part of the island is characterized by the dense urban fabric the west part has a dominant landscape feature that overpowers the built structure.



AREAS ALONG THE SEA



forms of the waterfront. Approaching from south-west road that is one of the island's connection with continental part of the country, coastline takes the form of the disorganized and for the most part unregulated beach with lower and higher type of vegetation that continues to spread throughout the area. As it is shown on the maps, the only built structures that reach the water are mostly just remains of the military and defense architecture of the past and facilities for military trainings, with traces of recreational activities. Regarding the accessibility from the inner part of the island, road infrastructure is developed and concentrated mostly in the middle part which leaves only smaller paths and walkways to actually reach the coast. On the opposite, north-east coast of the island, approaching the waterfront is far less possible due to the dense vegetation and its unregulated growth. Beaches, even in degraded form, are almost not present at all. Whole line of the immediate connection with water is characterized by small forests slowly developing into wetlands and eventually just becoming the Baltic Sea. Regarding the functions that take place on the very end, mainly industrial facilities managed to outreach this front, creating the unique image of Kronstadt.

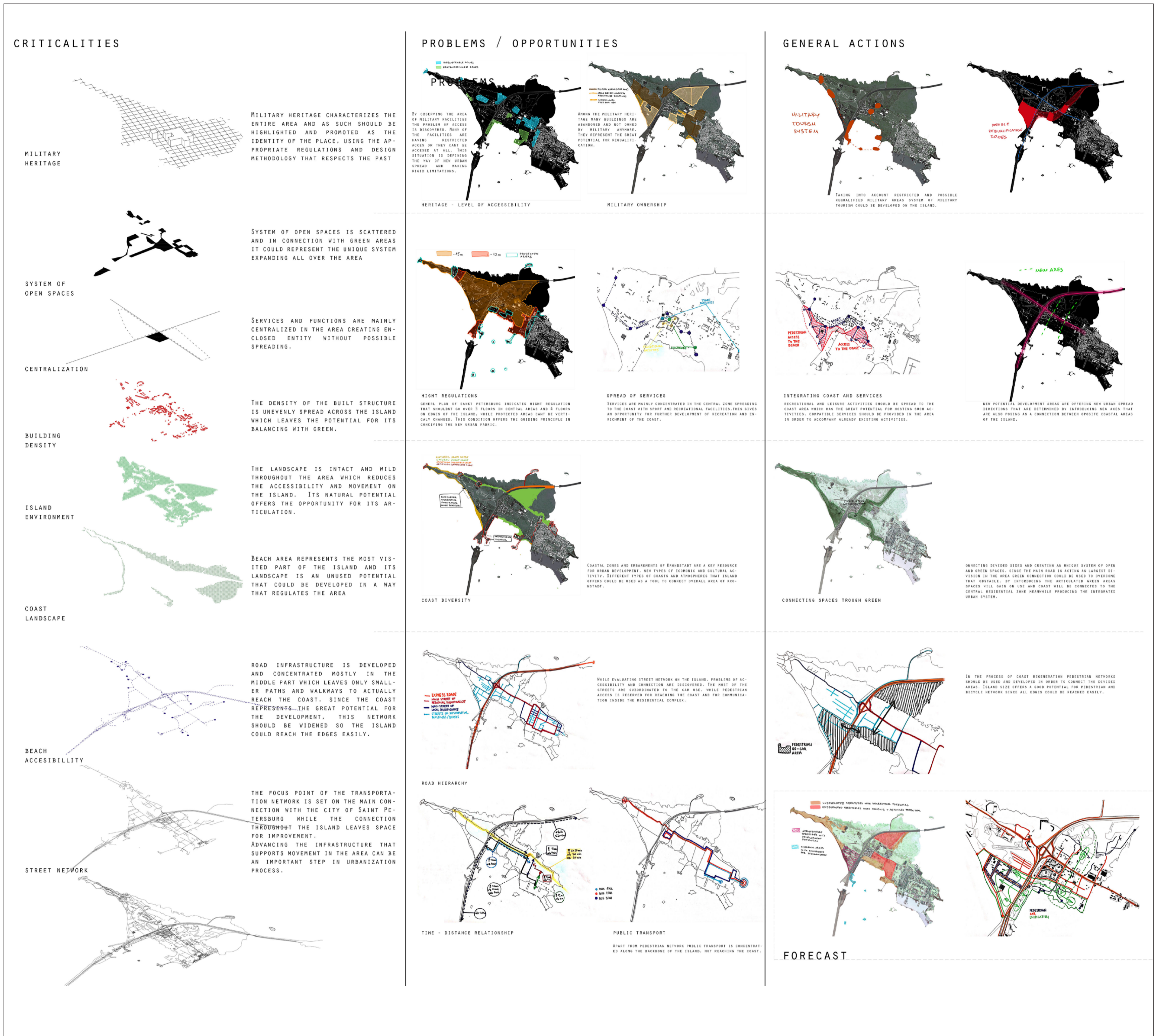
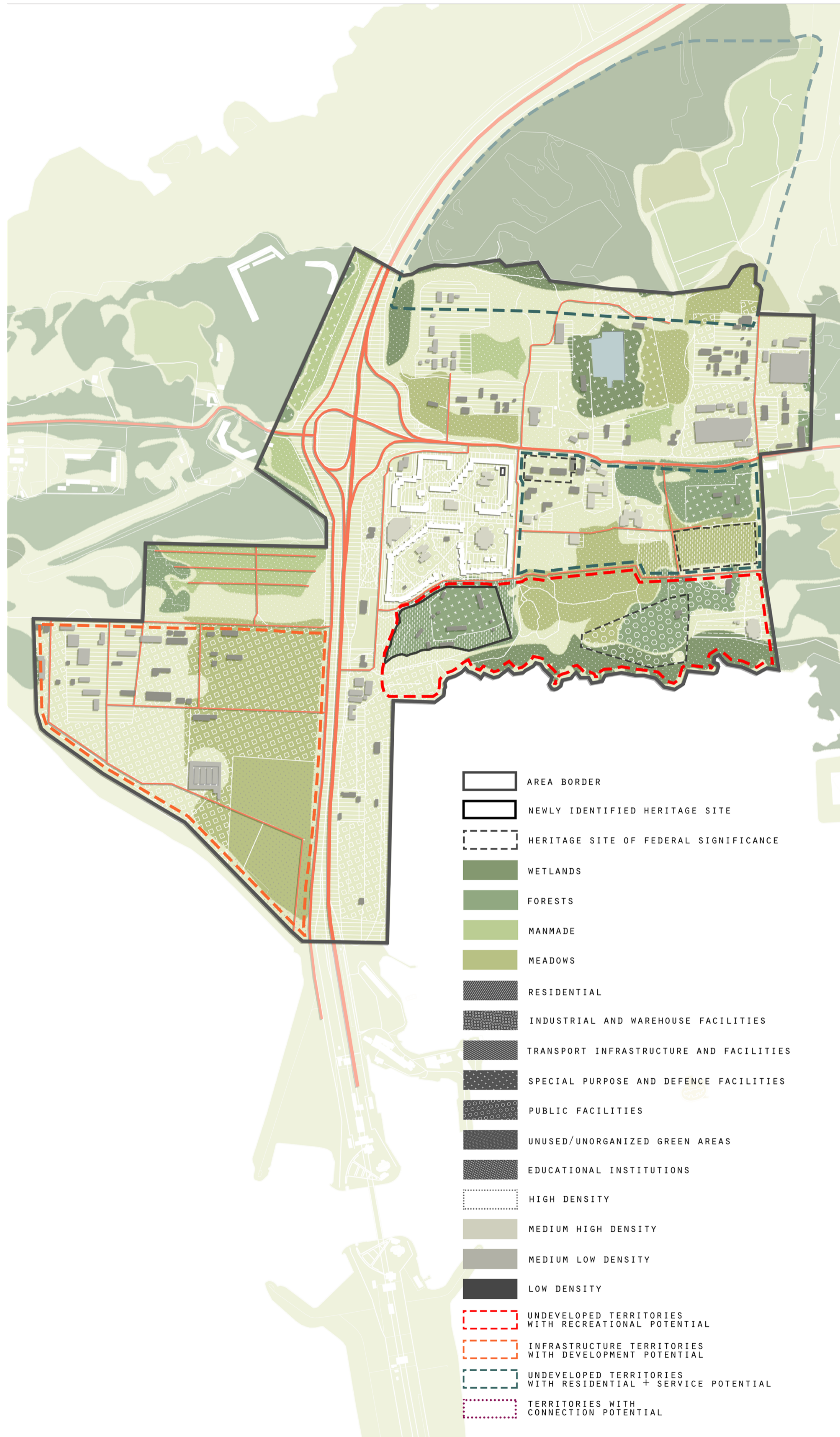


SYSTEM OF URBAN FUNCTIONS



Understanding the functional organization of this part of the island is closely connected with understanding the development of the morphological structure throughout the location. Detachment of the form implies the possibility of the existence of multiple systems working as separate entities, which is to be inspected. Undeniably highest density of built structure can be seen in the central zone of the island, and it is the point from which form starts to disperse across the map. Significant part of the built structure outside of the central block is either hosting industrial / production activities, or on the other hand nothing at all - shacks, garages, ruins, remainings spread across the meadows and small forests. This kind of layout followed with large transportation infrastructure on the one hand and open unused green spaces on the other hand, shifts even more focus toward the main residential block of the island and the public facilities accompanying it. However, this nucleus is not the only home of the collective equipment - traditionally seen as just buildings that host public programs. Water distribution systems, land use regulations or transport infrastructures are equally capable of constituting a collective around them. Collective equipment can be seen as spaces of intersection and reconfiguration of political struggles, and their role in catalysing processes of social transformation, collective self-care and alternative forms of governance. As such, collective equipments are key devices in the formalization of popular culture.





After thorough analysis of the context, island is understood as an entity divided into two main categories of the environment, natural and urban. The main idea of the project is to create a transitional zone, to connect those separated entities and to establish an island as a whole. Starting from the scale of the entire island, after adopting the requirements made by general plan of San Petersburg main planning goals are made.

1. Reuse of abandoned military structures - Military heritage characterizes the entire area and as such should be highlighted and promoted as the identity of the place. Among the military heritage many buildings are abandoned and not owned by military anymore. They represent the great potential for requalification and as such could be used for establishing of the military tourism route (Figure 1a) that would induce further exploration and use of the island.
2. Establishing green connection - The landscape is intact and wild throughout the area which reduces the accessibility and movement on the island.

Coastal zones and embankments of Kronstadt are a key resource for urban development, new types of economic and cultural activity. Different types of coasts and atmospheres that island offers could be used as a tool to connect overall area of Kronstadt. Connecting divided sides and creating an unique system of open and green spaces (Figure 1b). Since the main road is acting as largest division in the area green connection could be used to overcome that obstacle. By introducing the articulated green areas spaces will gain on use and coast will be connected to the central residential zone meanwhile producing the integrated urban system.

3. Pedestrian road network - road infrastructure is developed and concentrated mostly in the middle part which leaves only smaller paths and walkways to actually reach the coast. Since the coast represents the great potential for the development, this network should be widened so the island could reach the edges easily. While evaluating street network on the island, problems of accessibility and connection are discovered. The most of the streets are subordinated to the car use, while pedestrian access is reserved

for reaching the coast and for communication inside the residential complex. In the process of coast regeneration pedestrian networks should be used and developed in order to connect the divided areas. (Figure 1c) Island size offers a good potential for pedestrian and bicycle network since all edges could be reached easily.

Secondary goals included: Heritage accessibility, integrating coast and services, maintaining the height regulations. After the analysis of the uses and potentials of all island areas, the location for the urban project is set. Based on the available land positions from general plan of san Petersburg, proximity to the proposed green and military network and as a location with a high potential for residential development. Location covers the only unused area possible for development and industrial area that was framing the large protected green space with the proposal to replace it with the residential function. Intervention spreads along the main street that connects the urban and natural part of the island.



DEVELOPMENT ZONES:

1 NORTH COAST ZONE: NEW GREEN SETTLEMENT AS AN EXTENSION TO EXISTING BUILT ENVIRONMENT OF THE ISLAND WITH SPECIAL FOCUS ON THE WATERWAY ACCESSIBILITY

2 ZONE OF FUTURE MILITARY TOURISM SITE (DEVELOPMENT IN PROGRESS SINCE 2019) WITH ADDITIONAL FOCUS ON EXTENDING SPORT AND LEISURE ACTIVITIES TO THE SOUTH COAST OF THE ISLAND

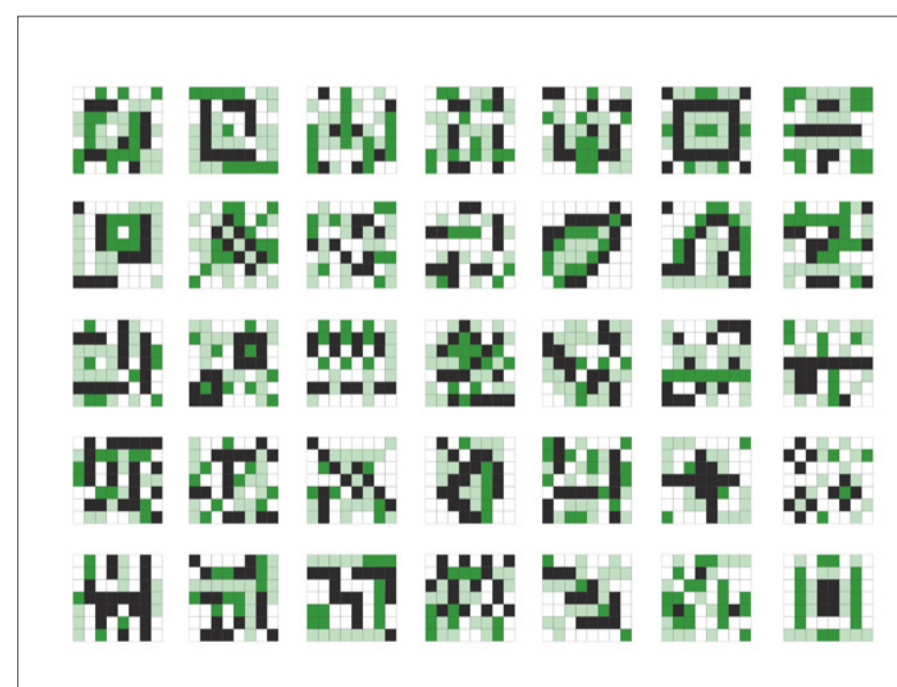
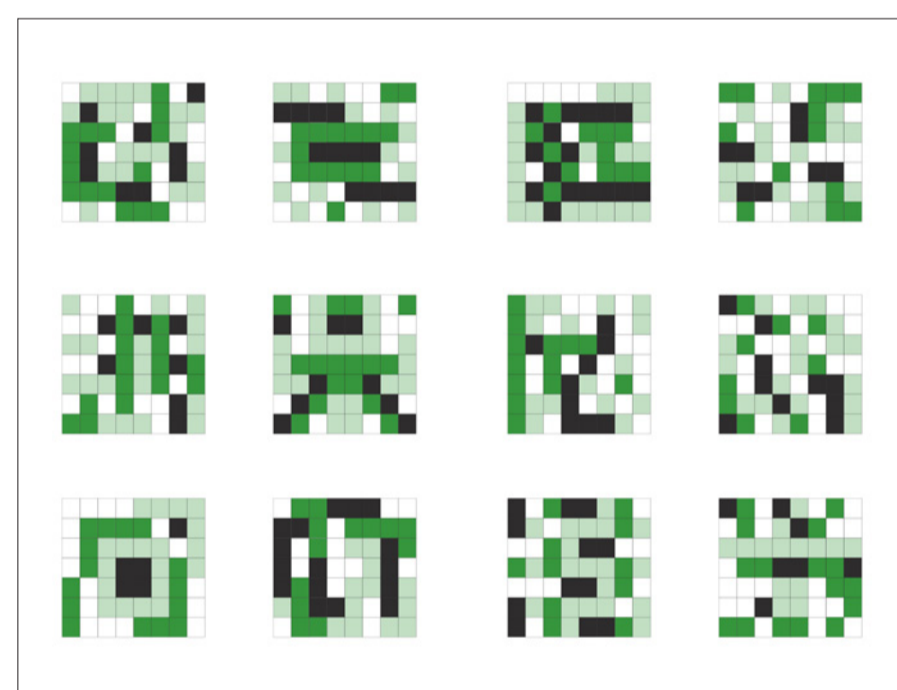
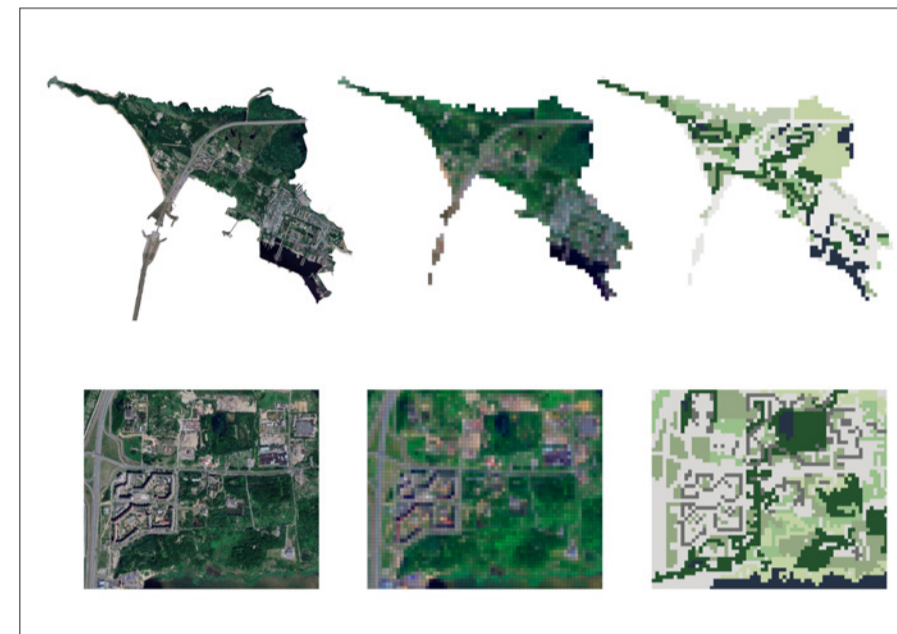
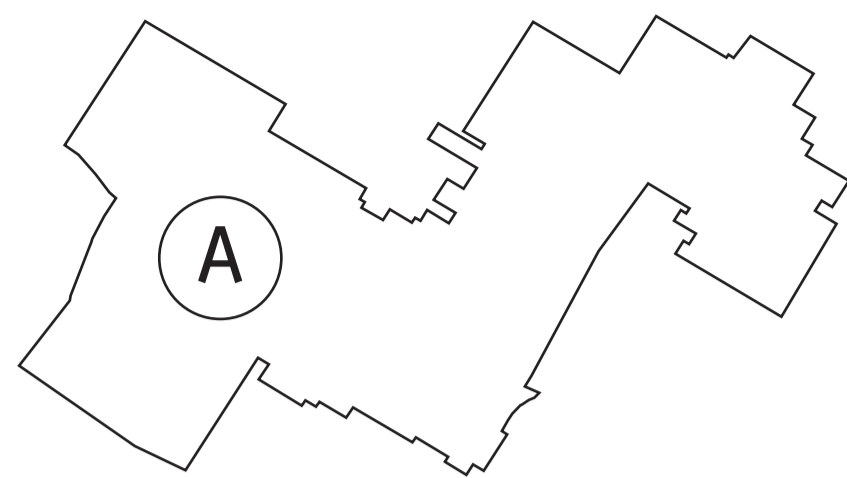
3 PRESERVATION ZONE OF ISLAND'S FLORA AND FAUNA

4 DEVELOPMENT OF PETROVSKIY DOK AND CORRESPONDING PUBLIC SPACES

0 150 450







STRATEGY OF DESIGN DEVELOPMENT



MASTERPLAN



GROUND FLOOR PLAN

GENERAL PRINCIPLES

Public and private functions are integrated with complementary urban areas surrounding the public domain of green spaces. The layout of the blocks that generally follow the main private domain, which is defined by the public and private areas and the main street, is based on the existing urban fabric and the proposed street network.

FROM INITIAL CALCULATIONS:

AREA DEDICATED TO DEVELOPMENT AND ROADS 16.204
 AREA DEDICATED TO PUBLIC SERVICES 10.864

PRIVATE DOMAIN

- COMMERCIAL FRONT
- RESIDENTIAL BUILDINGS
- OFFICE
- SUPPORTING FACILITIES

PUBLIC DOMAIN

- EDUCATION
- CULTURE
- HEALTH
- SUPPORTING FACILITIES
- SPORT AND RECREATION

GREEN ROOFS

- PRIVATE GREEN
- PUBLIC GREEN
- UNARTICULATED GREEN SURROUNDING
- GREEN CORRIDOR

ROAD NETWORK

- PROPOSED PEDESTRIAN ROADS
- PROPOSED CAR ROADS
- EXISTING ROAD NETWORK

LEGEND

- 5: NUMBER OF FLOORS TO BE BUILT THROUGH THE COMPLEX AND LOW DENSITY OF GREEN SPACES
- 4: HIGH DENSITY AND GREEN SPACES
- 3: MEDIUM DENSITY AND GREEN SPACES
- 2: LOW DENSITY AND GREEN SPACES
- 1: VERY LOW DENSITY AND GREEN SPACES

STATISTICS

AREA OF GREEN SPACES AND UNDERGROUND ROADS AND DISTRICTS IN NUMBER OF CONNECTIONS IN THE STUDY AREA

TOTAL AREA: 274.000 (200000)
 AREA OF GREEN SPACES: 10.864 (100000)
 AREA OF PUBLIC SERVICES: 16.204 (160000)

CONCLUSIONS

THE STREET NETWORK IS FORMED BY THE PROPOSED PEDESTRIAN AND CAR ROADS. THE MAIN STREET IS THE SPINE OF THE PROJECT. THE SECONDARY STREETS ARE LINED WITH DWELLINGS. THE PERPENDICULAR STREETS WERE LAID OUT TO A PLAN. THESE DISPOSITIONS OF OPPOSING BENDS AND ABRUPT CORNERS, WHICH INTERRUPTED THE PERSPECTIVE, ACCENTUATED THE PRIVATE CHARACTER OF THESE SECONDARY STREETS.

THE OBJECTIVE OF THIS PROJECT WAS TO PROPOSE A WAY TO ORGANIZE AN URBAN COMPLEX INTEGRATED WITH GREEN, AND OFFER AN EXPERIMENTAL WAY OF RESIDENCE THAT WOULD INCLUDE URBAN SPACES ON ALL LEVELS AND THAT WOULD OBTAIN SIGNIFICANCE BY REFLECTING PRESENT MORPHOLOGY IN A NEW WAY. IN ITS PHYSICAL, PROGRAMMATIC, AND SOCIAL ASPECTS, IT BUILDS A COMMUNITY COMPLEX THROUGH THE ESTABLISHMENT OF PATTERN ORDER THAT REPRESENTS ADAPTABLE SYSTEM THAT IS OPERATIONAL AT MULTIPLE SCALES.

On the given area multiple centers and areas for residential groupings are observed, referring to the existing urban fabric and green areas, while the protected forest area is completely preserved.

Using the immediate context as a resource for the understanding the way of life on the island and as a reference for basic organization of the settlements main block types are designated.

By observing the composition matrix in the adjacent existing structure, the present operative strategy is adopted and the grid is imposed on the area in order to bring the island to operational scale and extend the present urban composition.

This way, space of the project is divided into the equal parts for the purpose of interacting with the environment in an orderly manner. Using the Hoornse Kwadrant project by MVRDV as a reference for this kind of approach, typological system that offers permeability and lowers urban density is developed, while at the same time produces private public spaces on top of the structures.

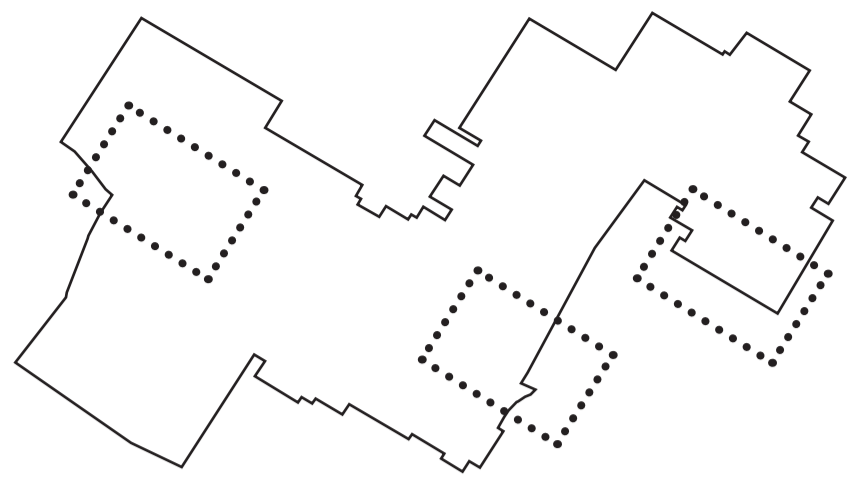
With an aim to create an urban system and strategy that could be later extended and more developed by need, the modular system is genesis steps adopted. The traditional block system present in the area is preserved and translated in the system of modular elements overlapping with each other and forming a dynamic urban tissue that could be later extended by the same principle.

Structural principle of the operating with modular elements in the fixed conditions is applied according to the present natural context.

After introducing spatial patterning as a principle, the project is set in a linear manner in order to act as a spatial and physical connection between built and natural area. As a way to vertically extend the urban space and to integrate it with green and residence, the modular patterning allowed extensions of the open spaces on multiple floors creating an urban system that vertically develops through the area.

With an aim of integration residential urban area with green, ground floor plan acts as a permeable urban tissue that allows activity and life to pass through and like that, forms a connection between separated sides of the island. The road network develops starting from the main street that is used as a spine on which the facilities, such as commerce and schools, are grouped. On both sides there are streets lined with dwellings. The perpendicular streets were laid out to a plan. These dispositions of opposing bends and abrupt corners, which interrupted the perspective, accentuated the private character of these secondary streets.

The objective of this project was to propose a way to organize an urban complex integrated with green, and offer an experimental way of residence that would include urban spaces on all levels and that would obtain significance by reflecting present morphology in a new way. In its physical, programmatic, and social aspects, it builds a community complex through the establishment of pattern order that represents adaptable system that is operational at multiple scales.



SCHOOL - VIEWS

SCHOOL - GROUND PLAN

OFFICE BUILDING - VIEWS

OFFICE BUILDING - PLANS

OFFICE BUILDING - SECTION

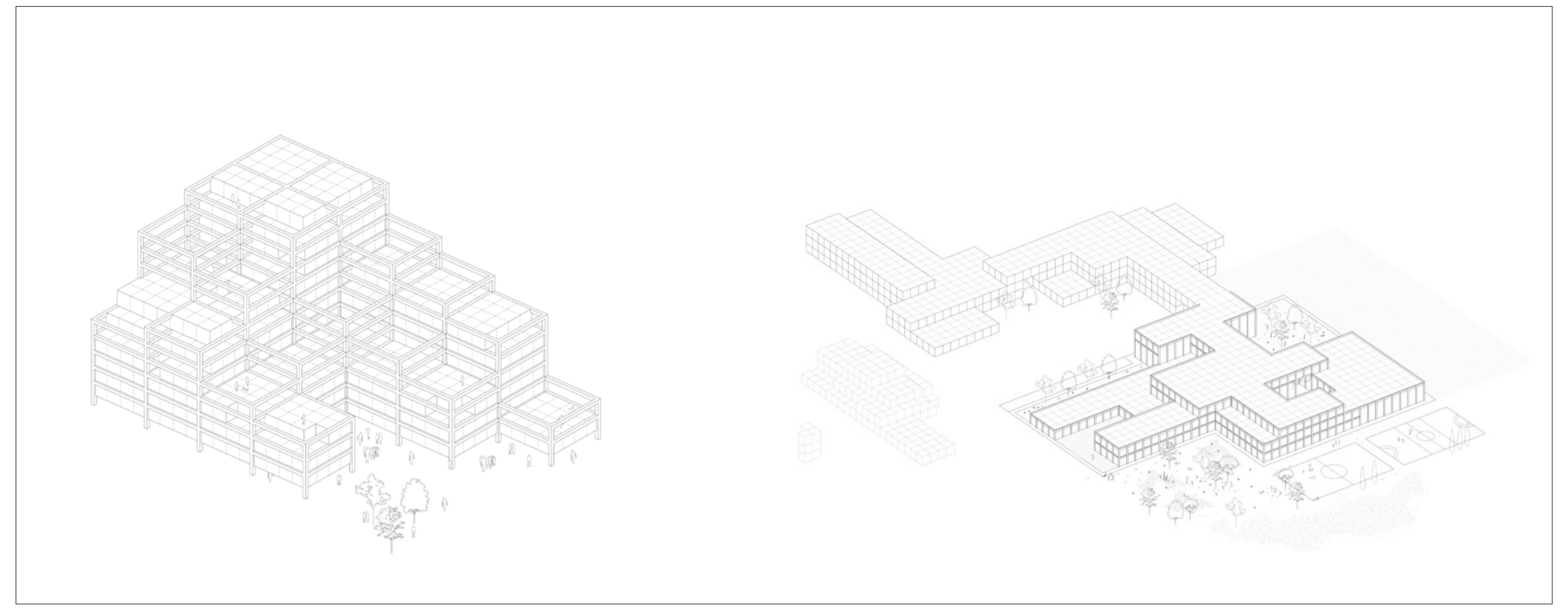
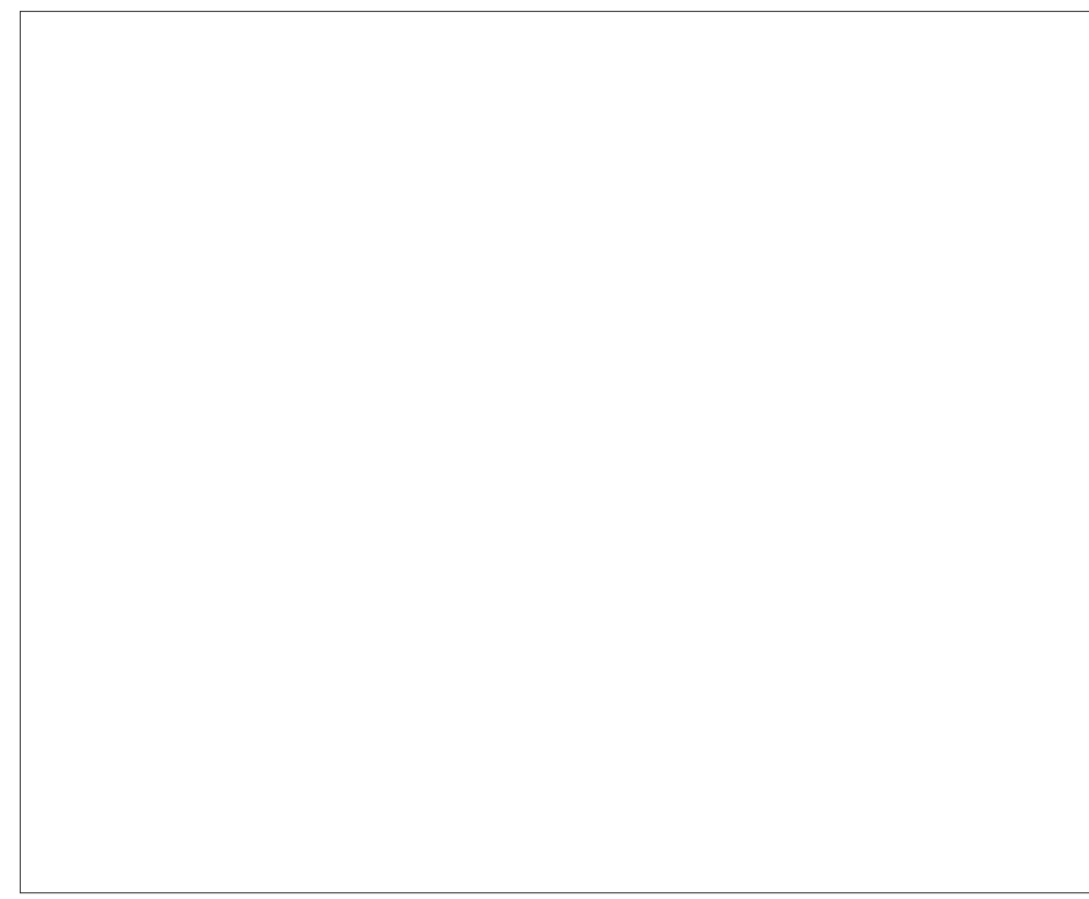
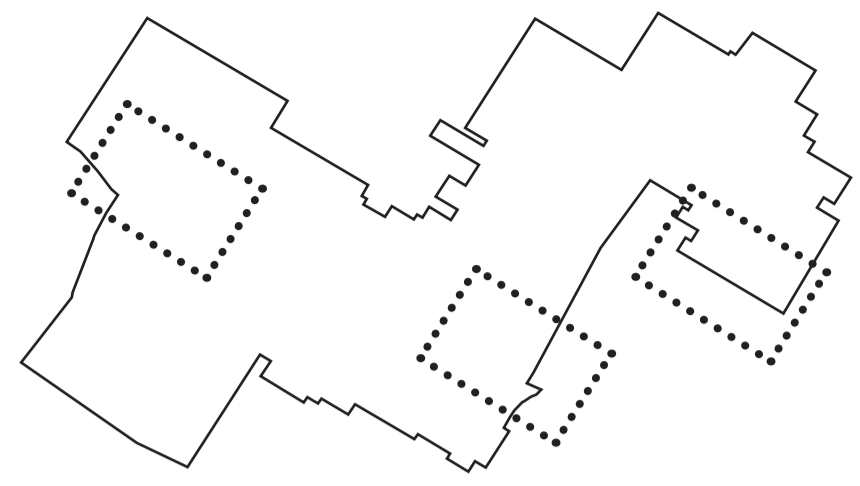
VIEW

PLAN VARIATIONS

CLOSE-UP PLAN

APARTMENTS TYPOLOGY - ORIENTATION

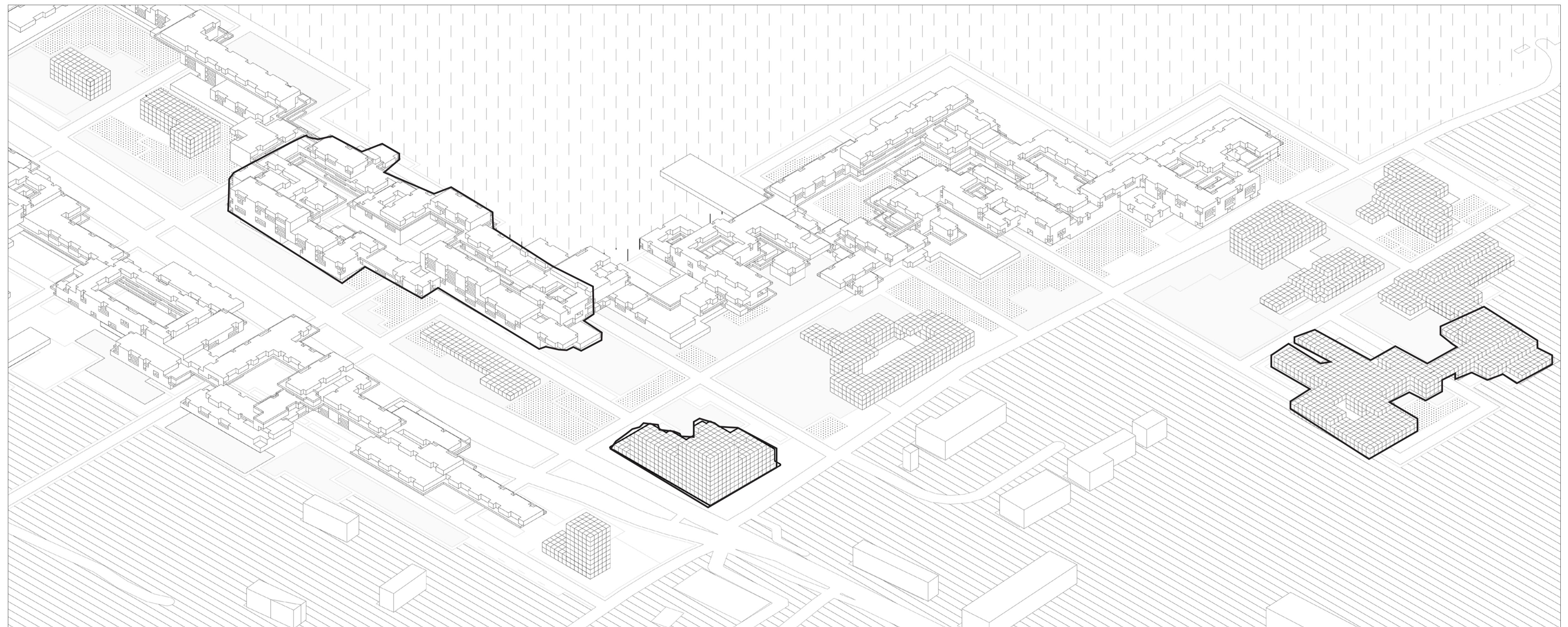
RESIDENTIAL BUILDINGS - SECTION



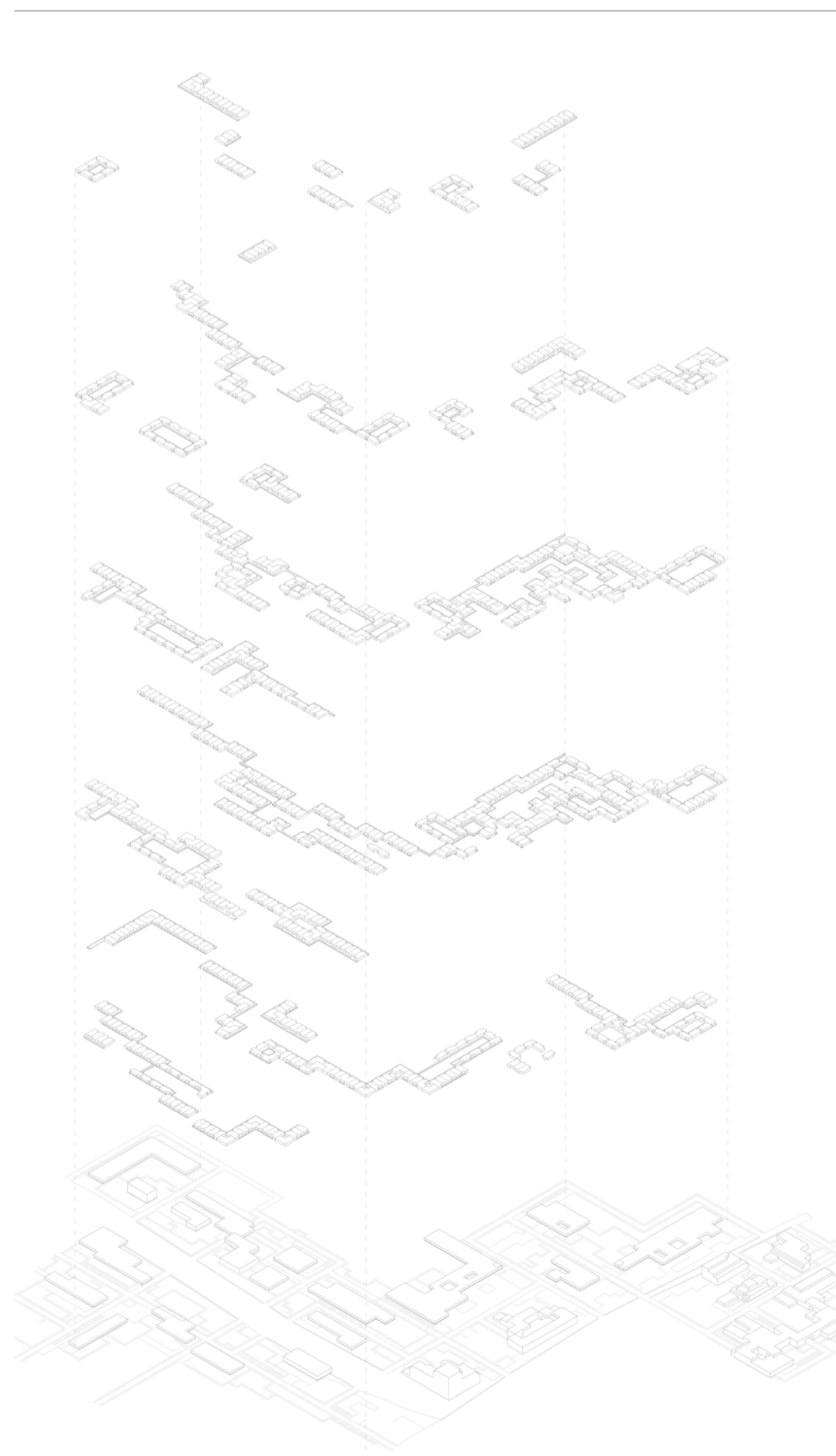
RESIDENTIAL COMPLEX

OFFICE BUILDING

SCHOOL



AXONOMETRY OF THE WHOLE COMPLEX WITH MARKED BUILDINGS THAT WERE DEVELOPED IN DETAIL



EXPLODED AXONOMETRY OF THE COMPLEX



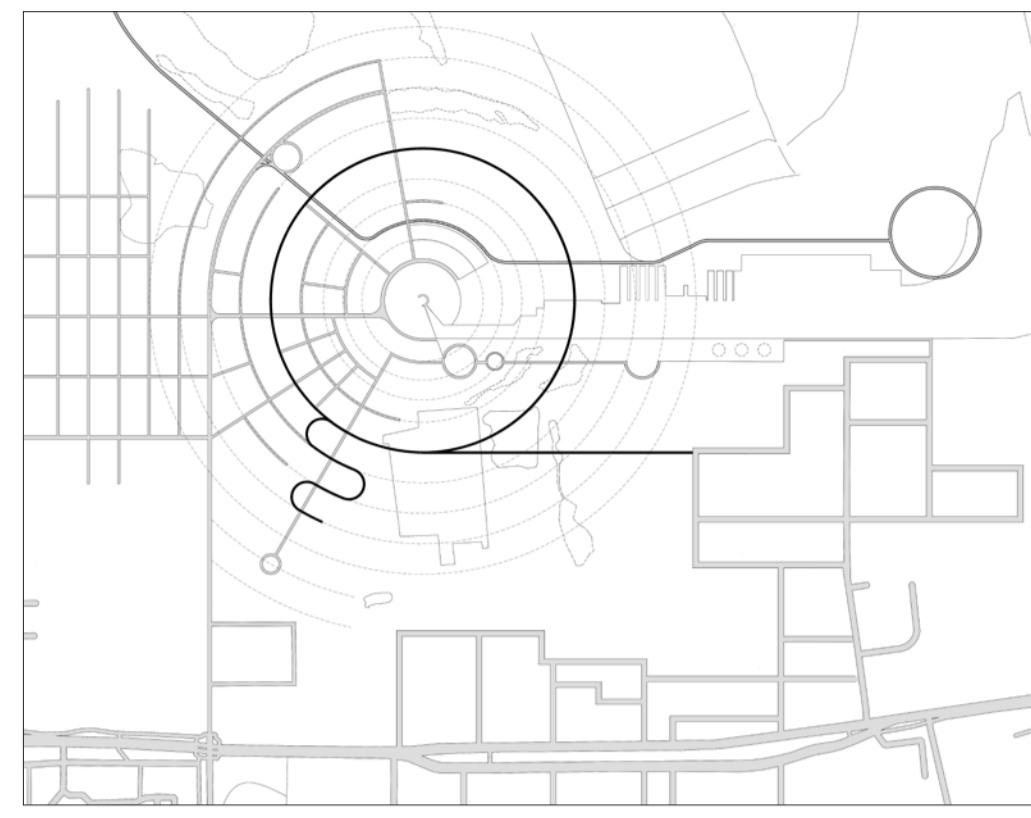
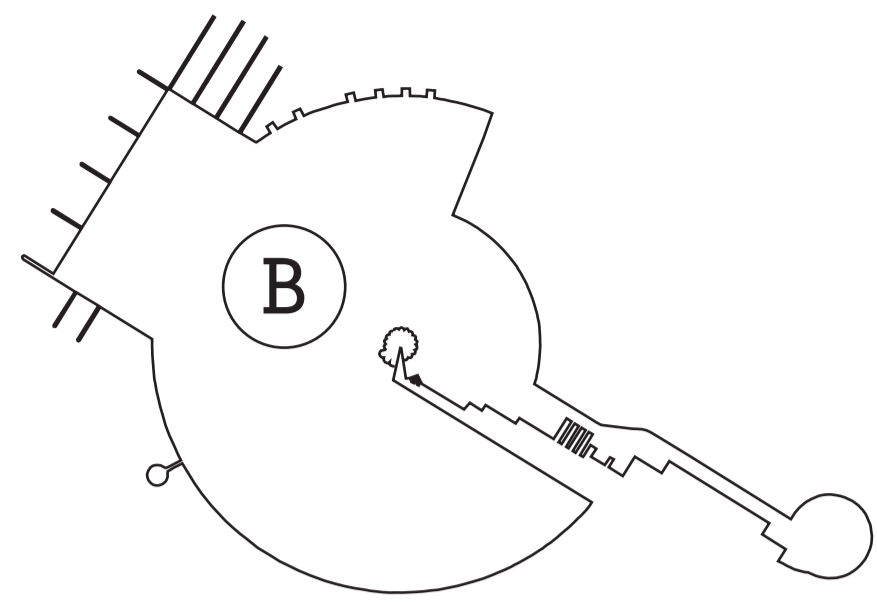
RESIDENTIAL COMPLEX



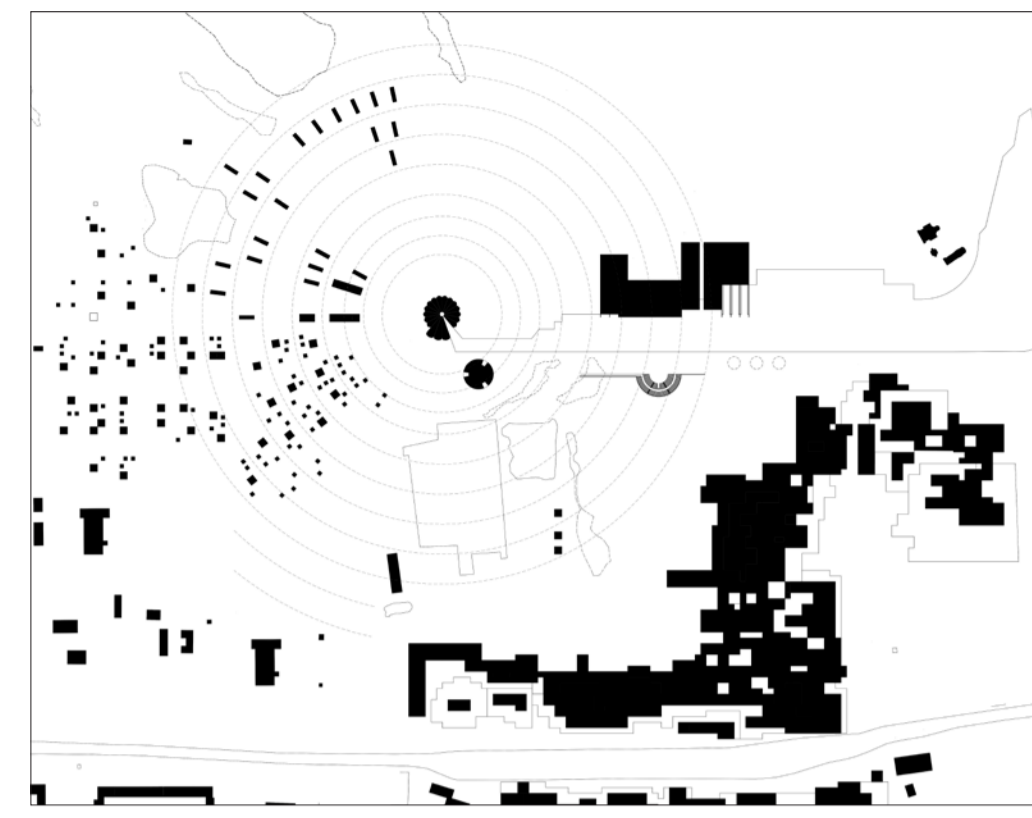
OFFICE BUILDING



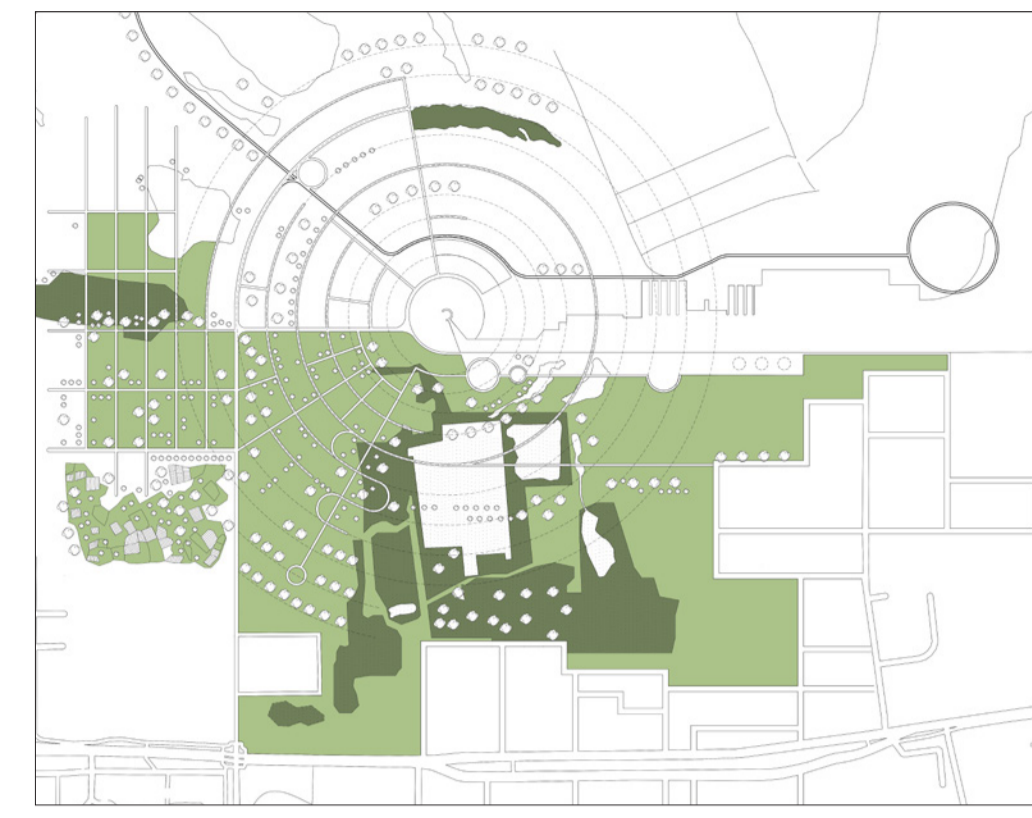
SCHOOL



NETWORK OF ROADS



BUILT ENVIRONMENT



LANDSCAPE - GREEN AREAS



LANDSCAPE - WATER ELEMENT

- ① NEW GATE FOR KRONSTADT
- ② STANDARD DACHA SETTLEMENT
- ③ RADIAL INTERPRETATION OF DACHA
- ④ TERRACED MULTIHOUSING UNITS
- ⑤ NEW PUBLIC TRANSPORT STATION
- ⑥ TERRACED MULTIHOUSING - DOUBLE
- ⑦ DOCKS - HARBOUR
- ⑧ LANDSCAPE AMPHITHEATRE
- ⑨ SPORT OBJECT
- ⑩ CHURCH ENSEMBLE

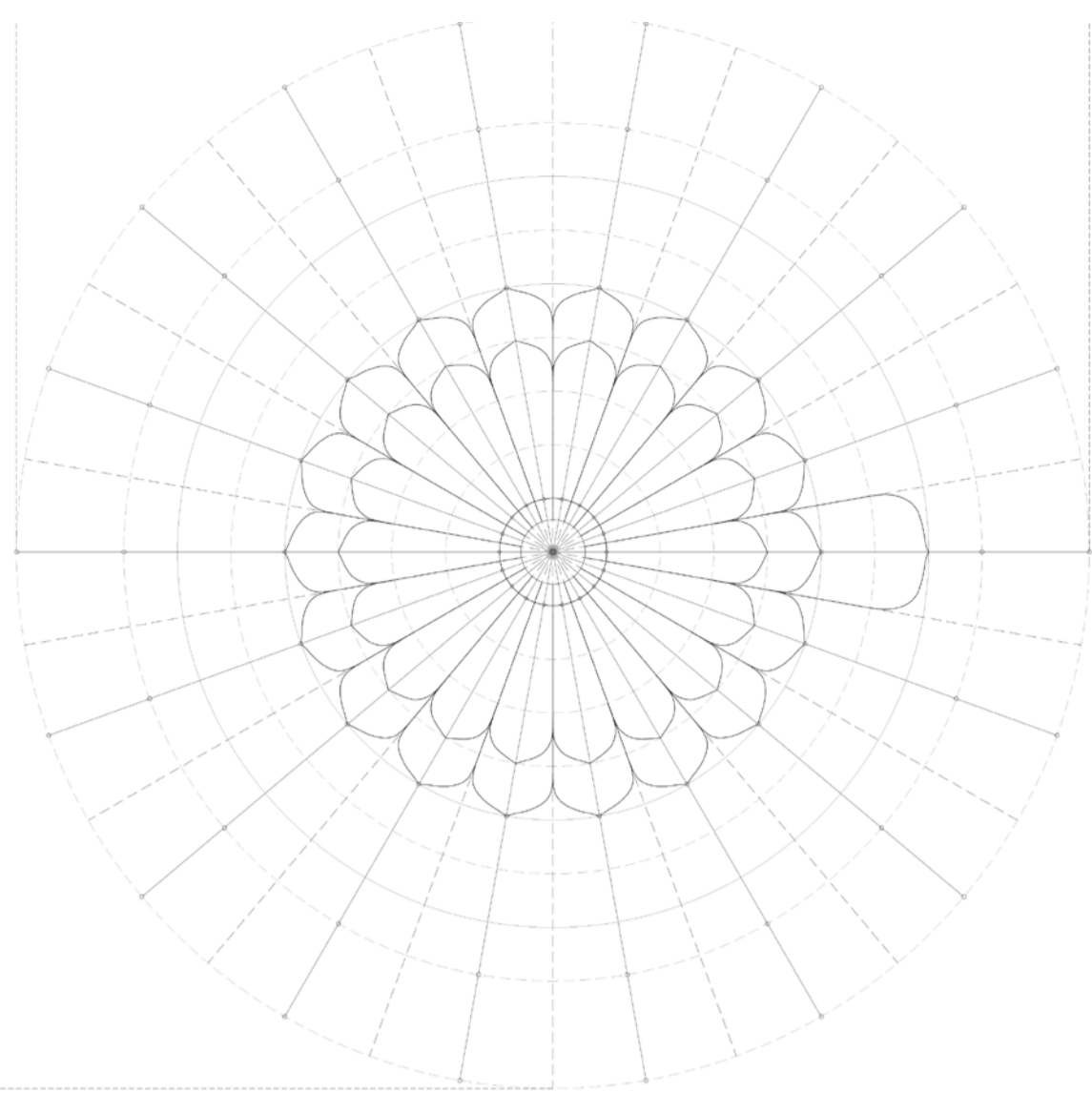
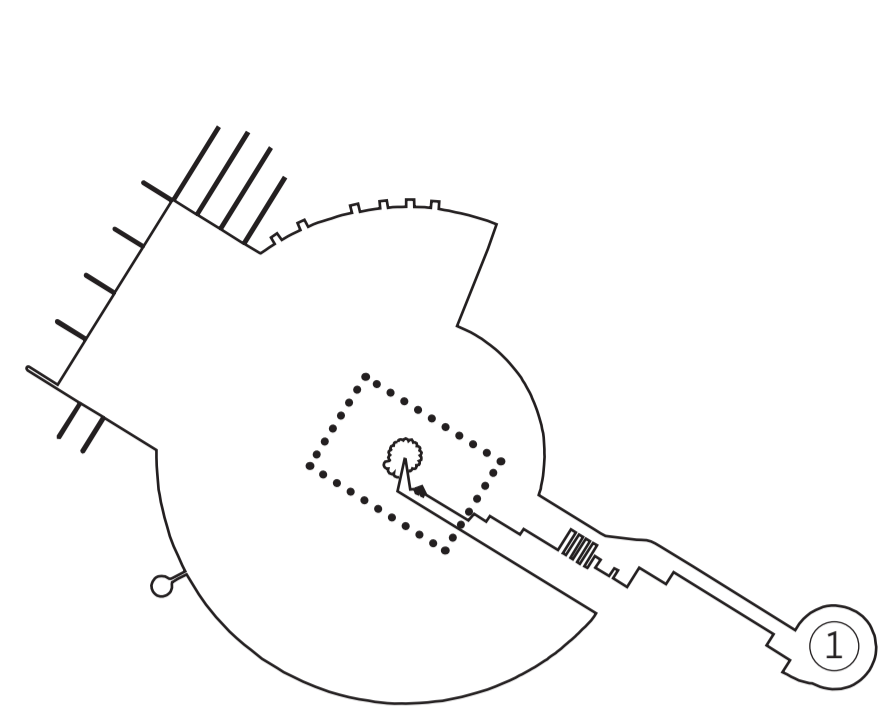


General aim of the project was to, in accordance with the current geographical, political and socio-economic characteristics, identify the potentials of a place with a unique combination of natural and historical values like the ones observed on the island of Kotlin, and to approach them with a desire for further development of the area. Taking into account the existence and ongoing development of the project which focuses on transforming parts of the island into an open-air military museum and on emphasizing a unique set of fortifications from different developmental points of the island - following work took path towards designing a new settlement following the principles of the green city and towards finding an appropriate new symbol of the city. Main motivation behind the project proposal lies in the recent demilitarization of the area which creates a spectre of opportunities for further amelioration of Kronstadt's accessibility and for generation of new architectural ensemble of the city.

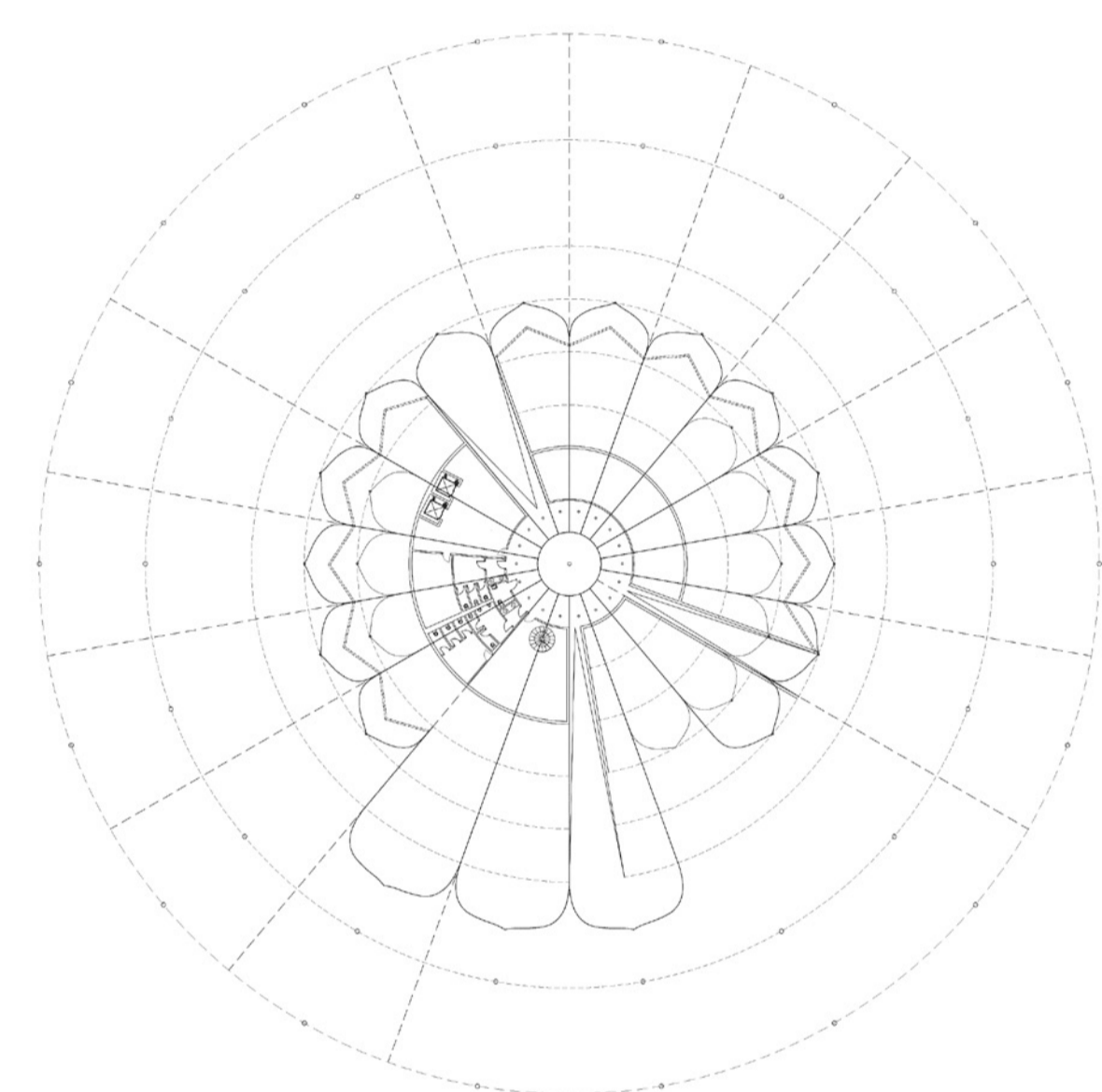
The architectural ensemble, by simple definition, represents the unity and harmony of the spatial compositional solution of a complex of buildings or structures and as a word of French origin, it directly translates as 'integrity' or 'connect-edness'.
Noted that the perception of the architectural ensemble directly correlates with a time of the year, level of illumination or presence of people

and that it is often significantly affected by environmental conditions, this project proposal emphasizes the process of composing the ensemble in relation to landscape and in presence of water.

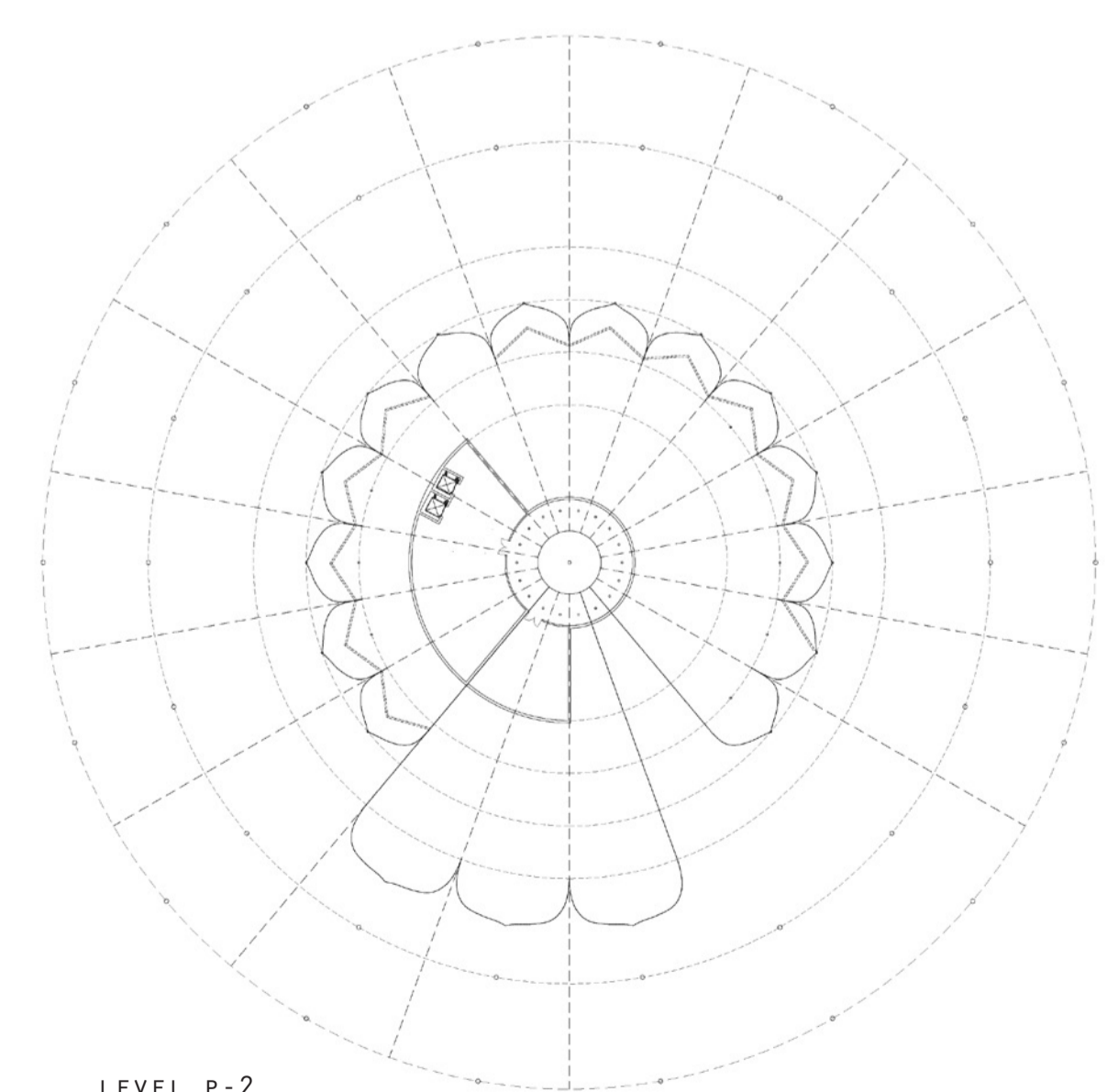
By introducing a new canal that would enable water traffic to reach the heart of the island, first step of the project aims towards answering the question of overall accessibility of Kronstadt, creating a new entrance, gate of the island, directly connected to the harbour of Saint Petersburg. This kind of approach is partially motivated by the future increase of the people influx, a result of the island embracing and developing military tourism, and with that idea in mind it offers a completely new first impression of the place. Further into the design development, this very contact point between the inner part of the island and the new canal becomes the node, new point of reference and new generator of future built environment.



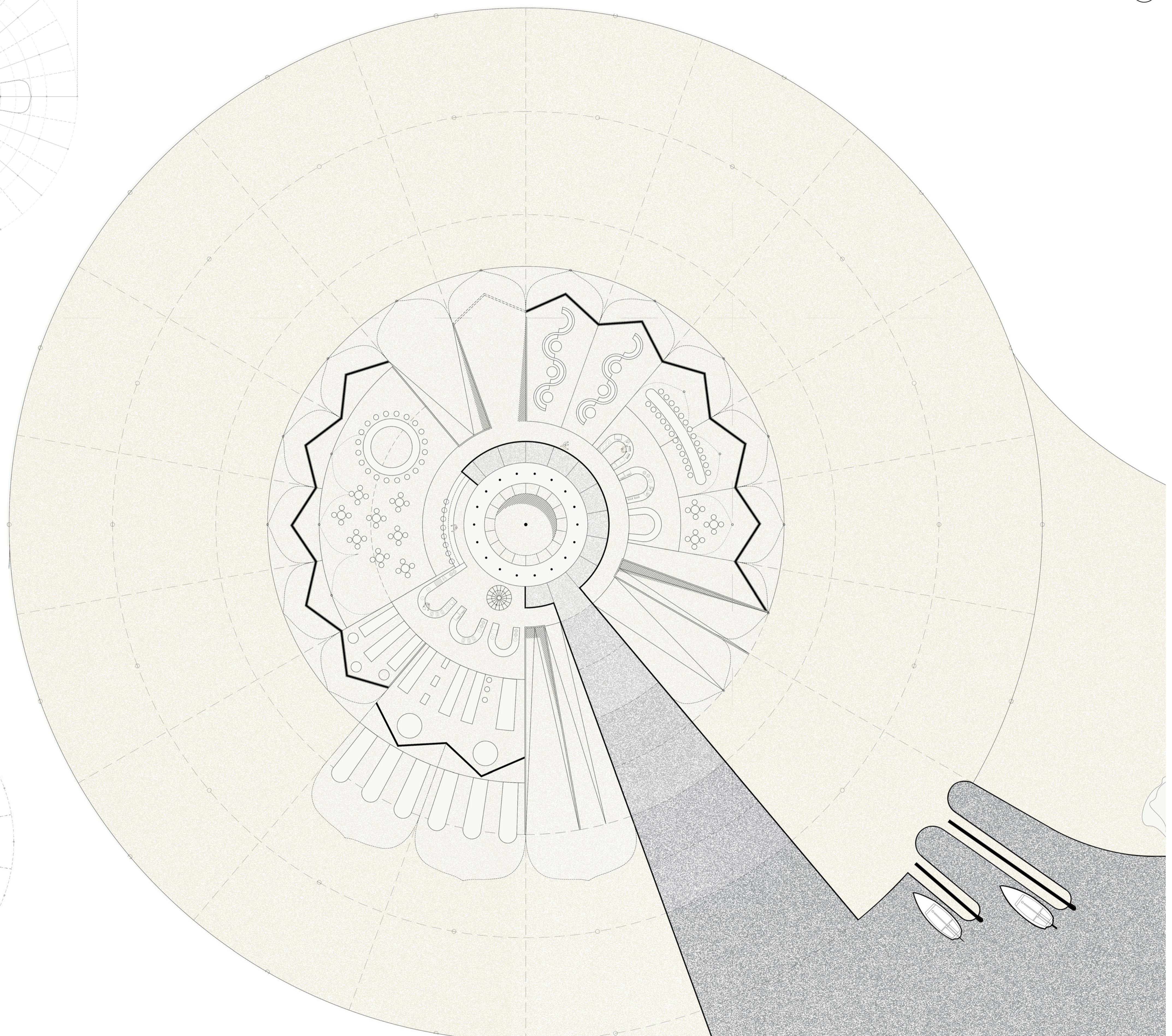
SET OF DIFFERENT-SIZED PETALS



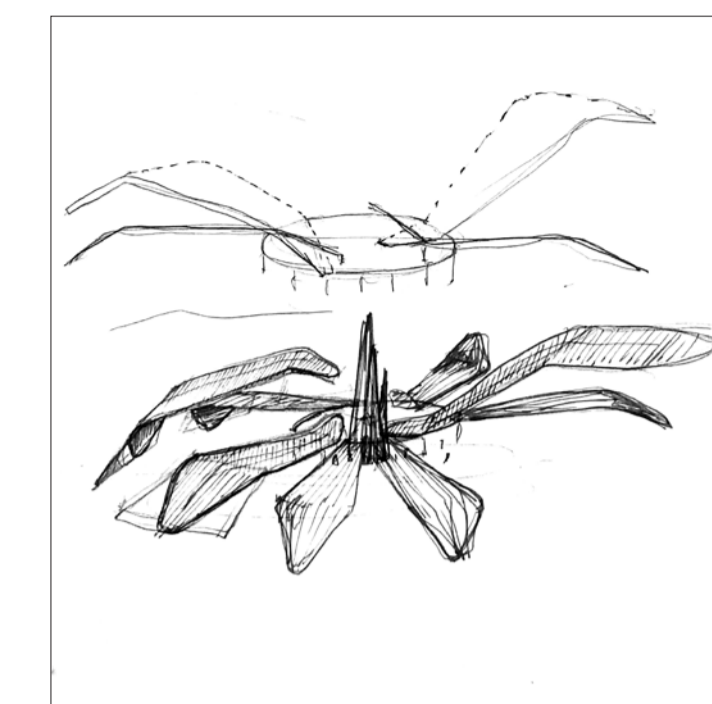
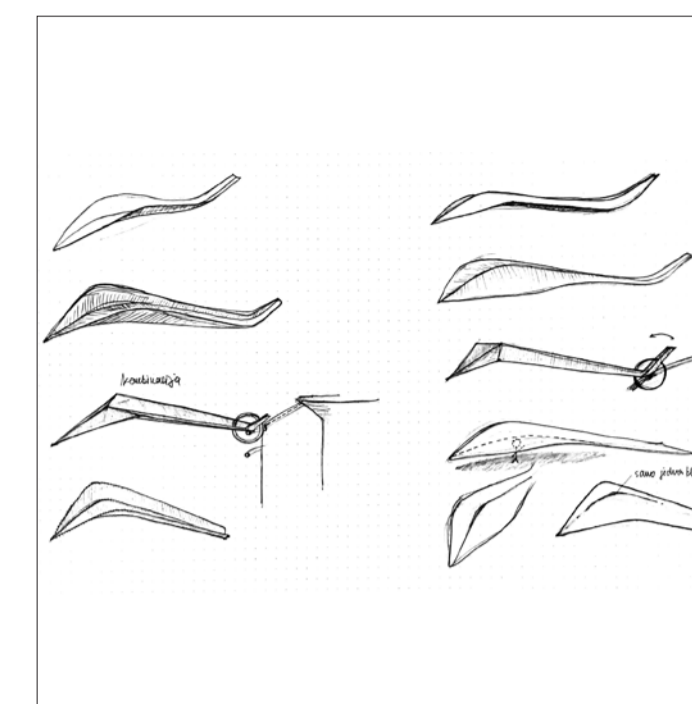
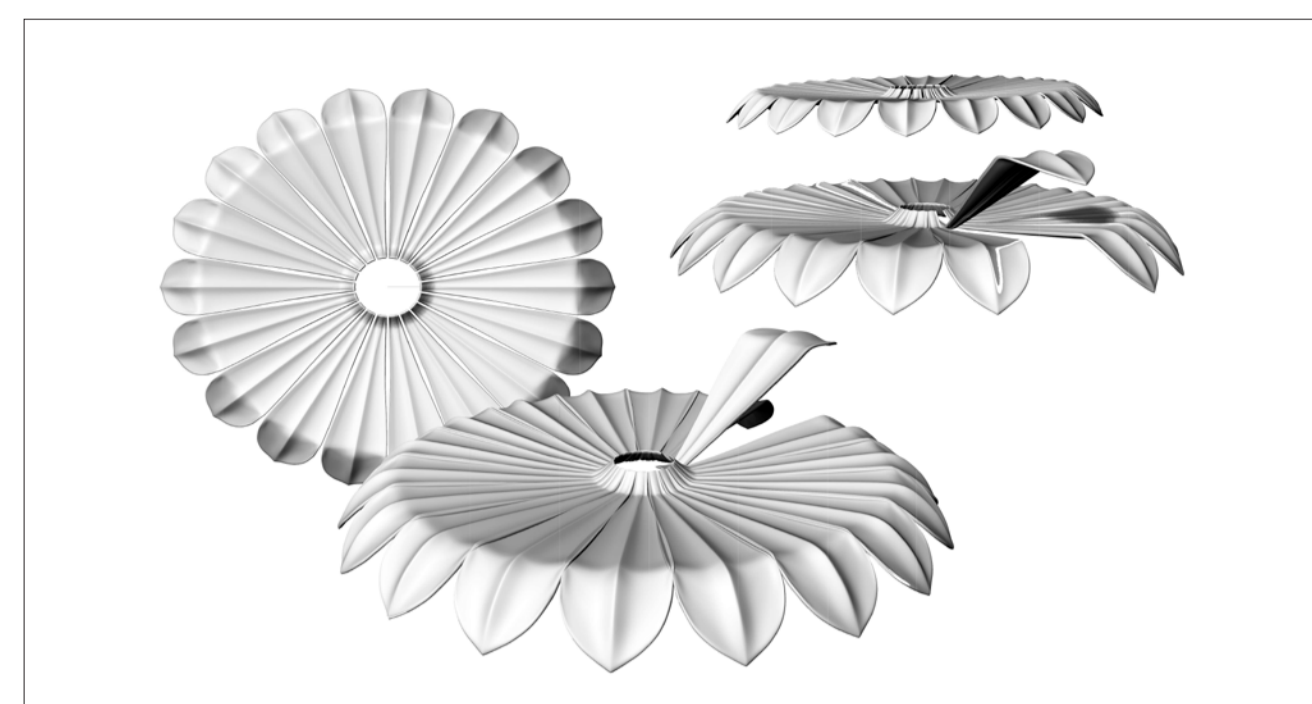
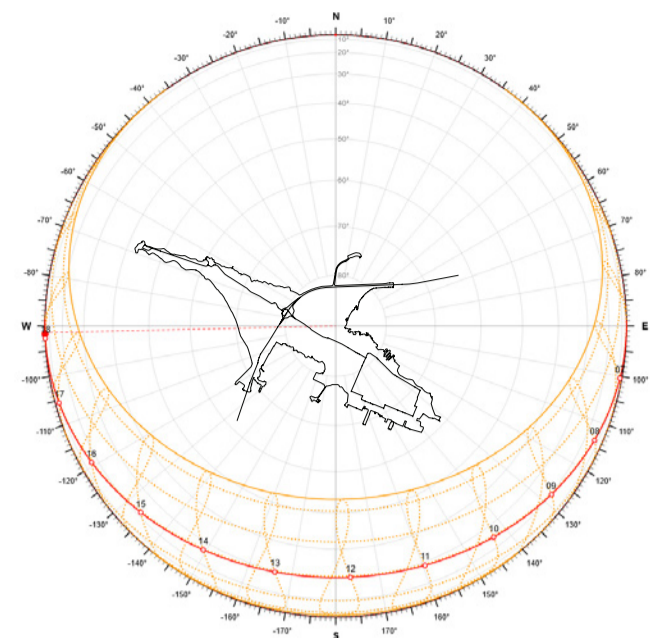
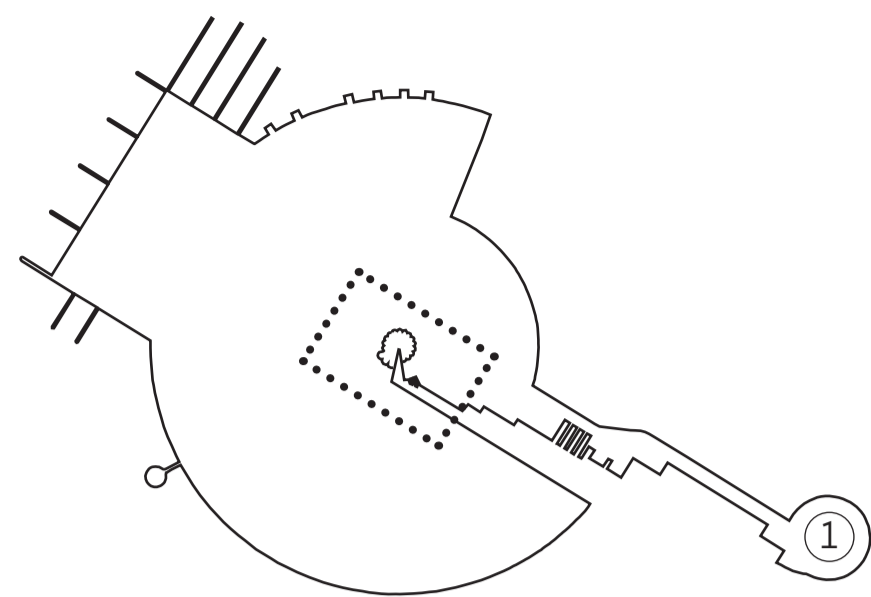
LEVEL P-1



LEVEL P-2



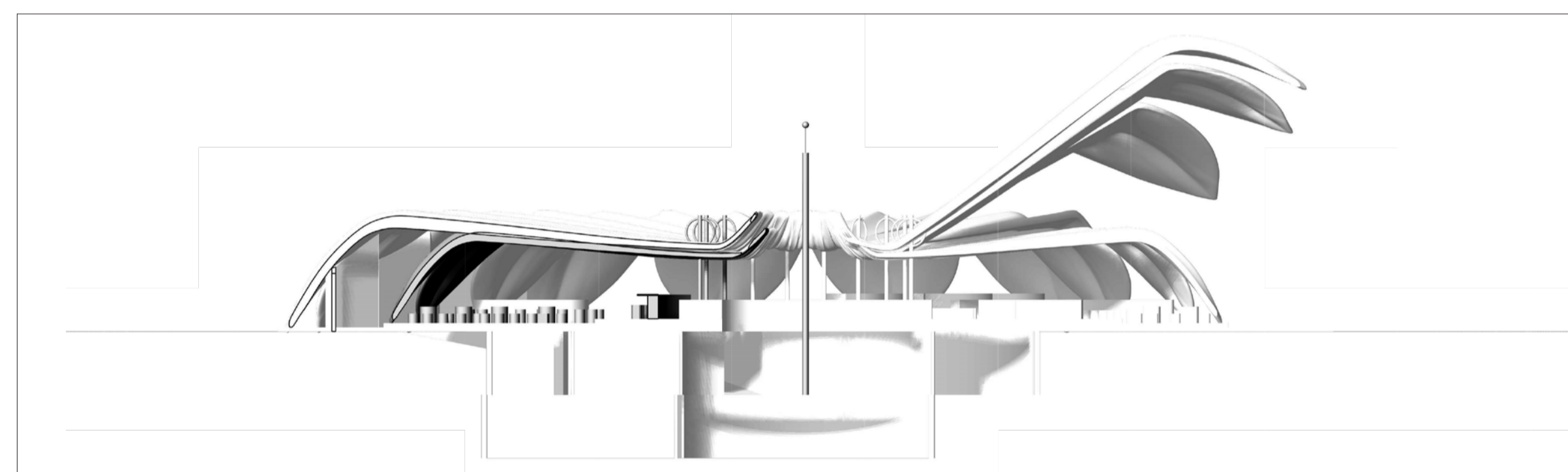
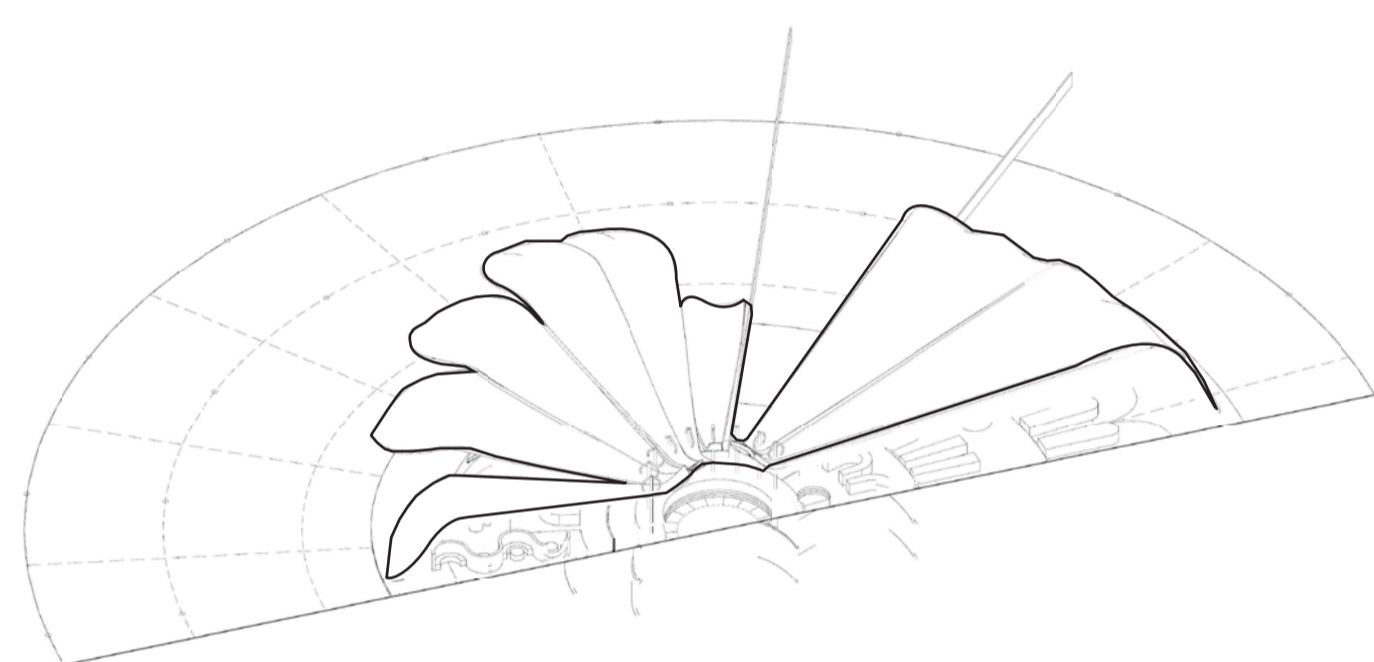
PROJECT B - NEW GATE OF KRONSTADT, PLAN



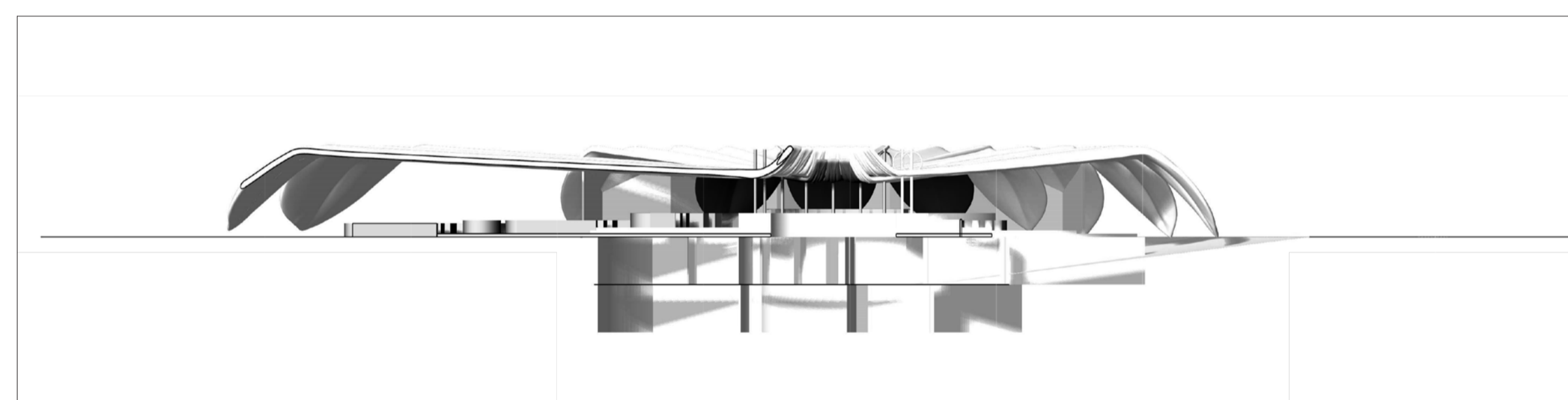
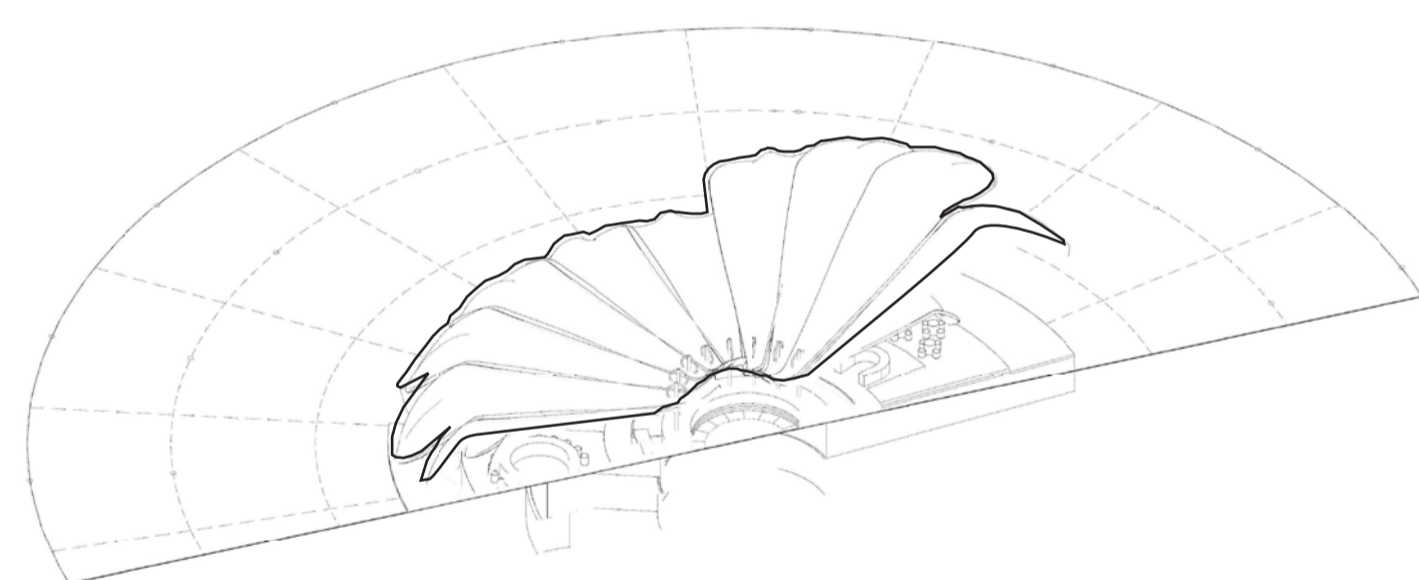
DEVELOPMENT PHASE OF PETAL DESIGN



DIFFERENT PETAL POSITION DEPENDING ON THE AMOUNT OF SUNLIGHT

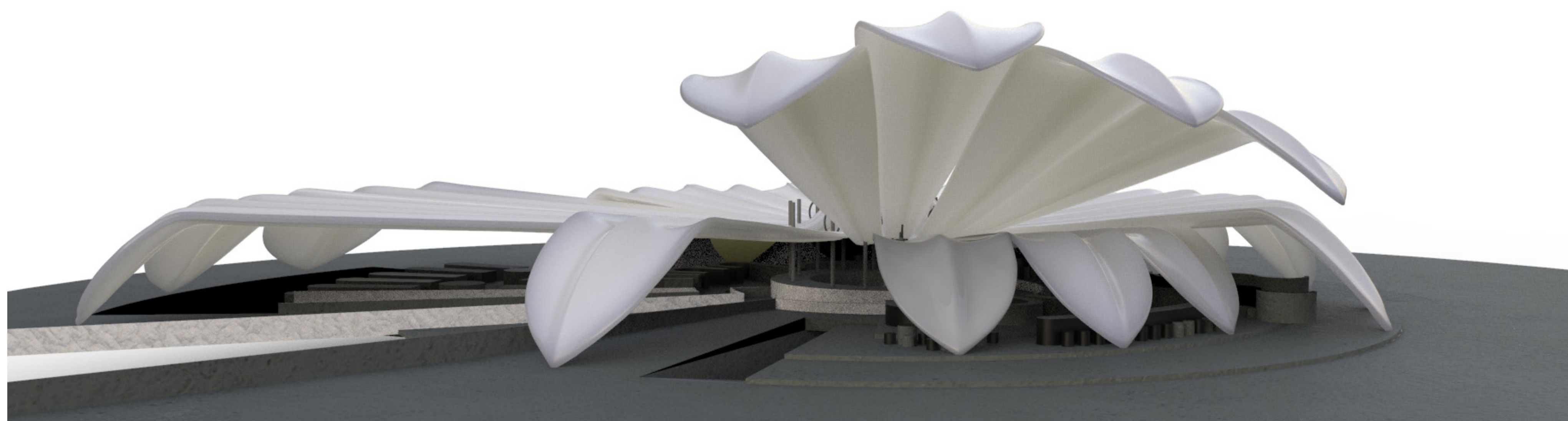


SECTION A

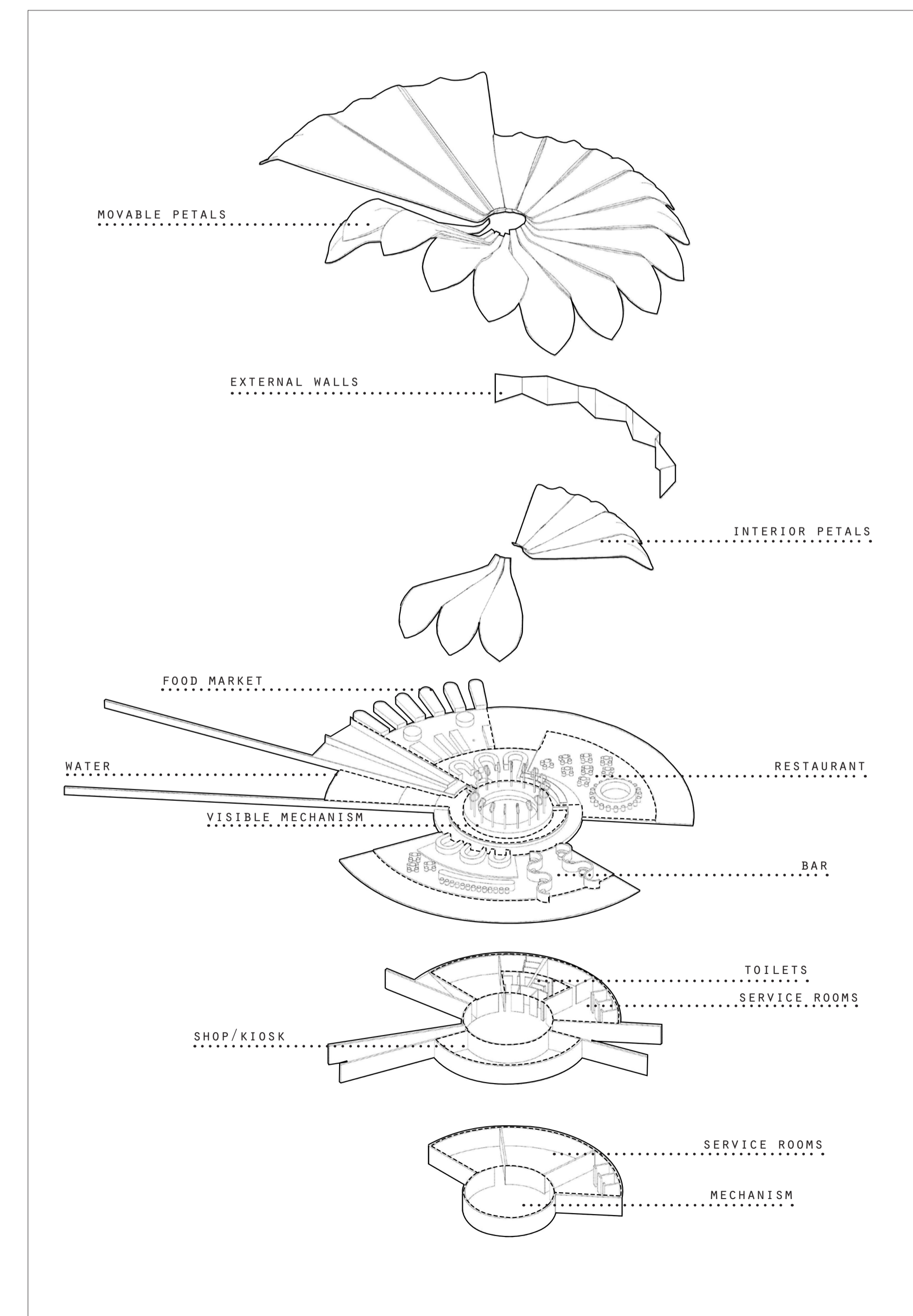


SECTION B

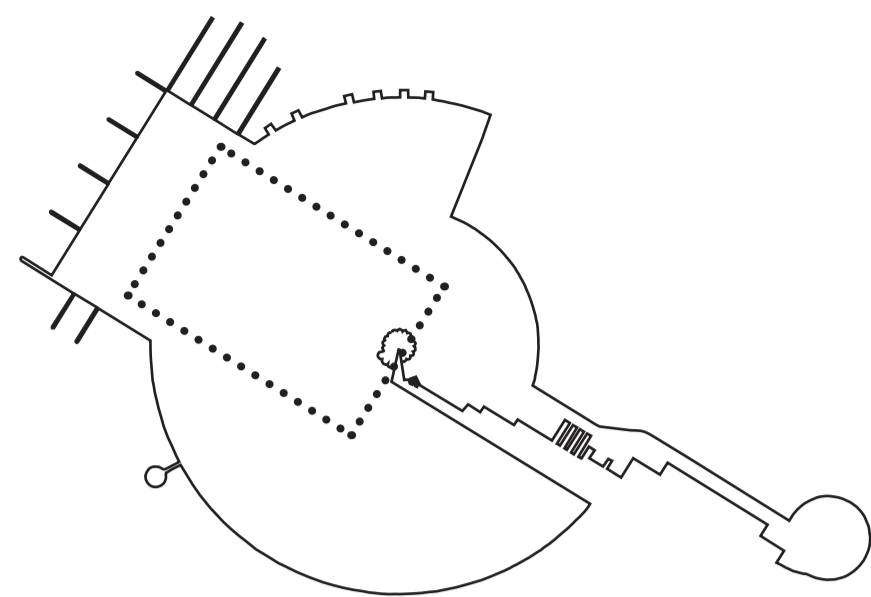
AXONOMETRIC SECTIONS A & B



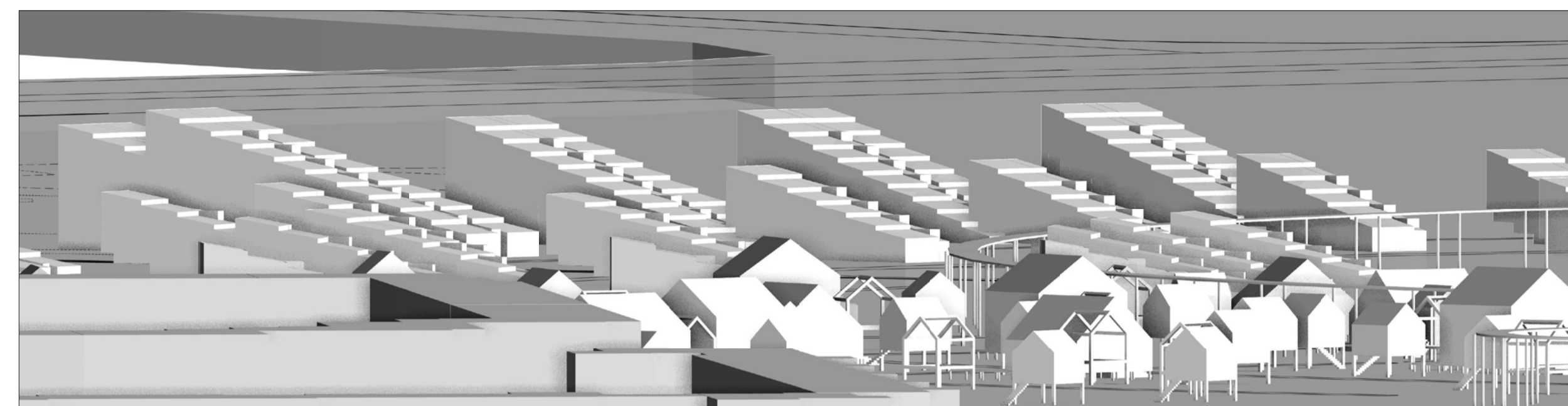
3D VISUALIZATION



EXPLODED AXONOMETRY



DACHA SINGLE HOUSING UNITS - 3D MODEL



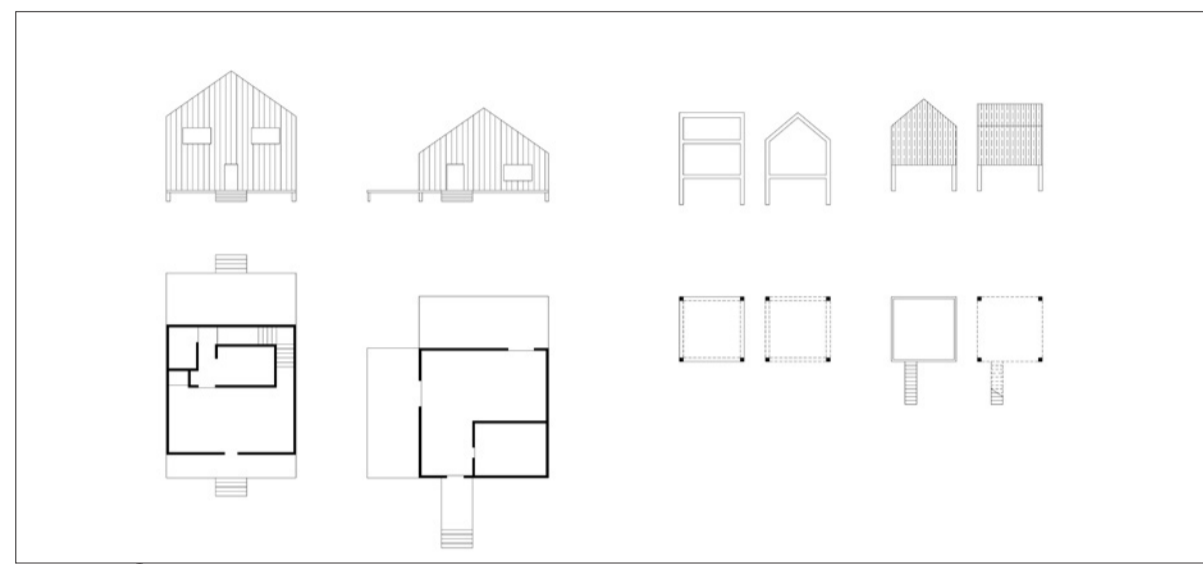
TERRACED MULTI HOUSING UNITS - 3D MODEL



DACHA: INTRODUCTION



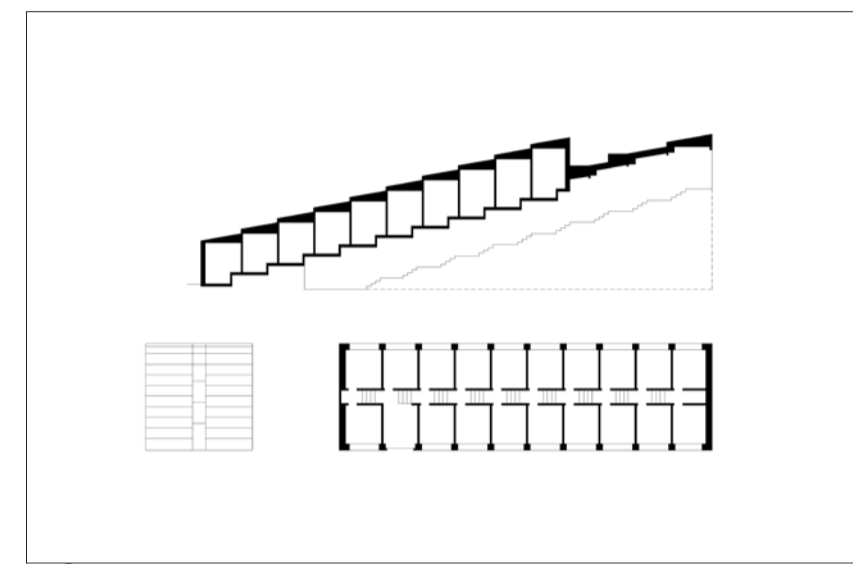
DIALOGUE I



DACHA - UNITS

Dacha – a ubiquitous settlement pattern on the edges of the cities became a fundamental part of the urban practice/experience in Russia. The everlasting issue that comes with the relation between town and countryside in this case is not being 'blurred' by the creation of a conventional suburb but maintains the both identities in one – two parallel existences.

In this way, the third existence is being created – dacha, a dwelling type widely accessible to the largest part of the urban population of Russia that requires understanding and design approach, but is also a development pattern that offers lessons of its own. This cultural phenomenon stands for so much more than just "a house with garden", it is a remnant of the system that allowed the sprout of small shacks, houses and vegetables on plots that would later become an escape from urban reality.



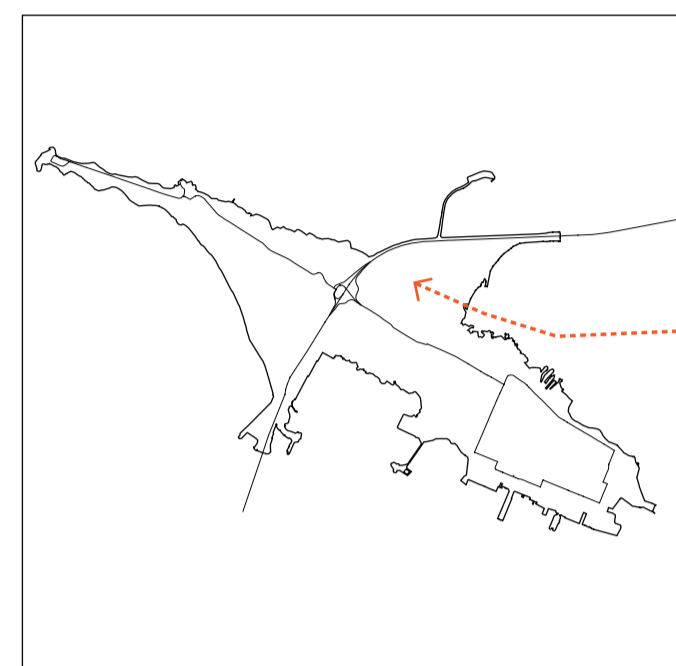
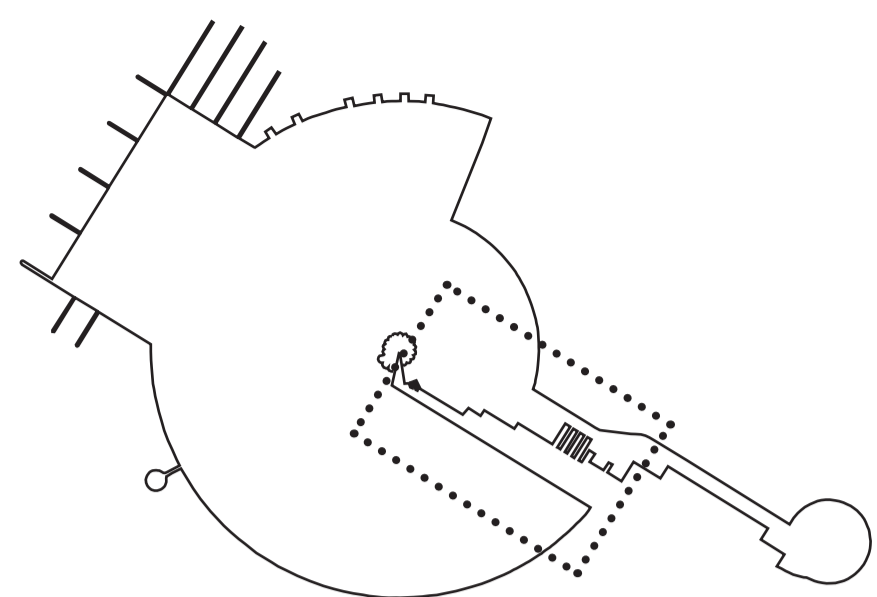
TERRACED MULTI HOUSING

Today dacha is part of russian psyche and is deeply rooted in the general concept of summer leisure and memories that come with it, and every attempt in reimagination carries with itself a number of questions.

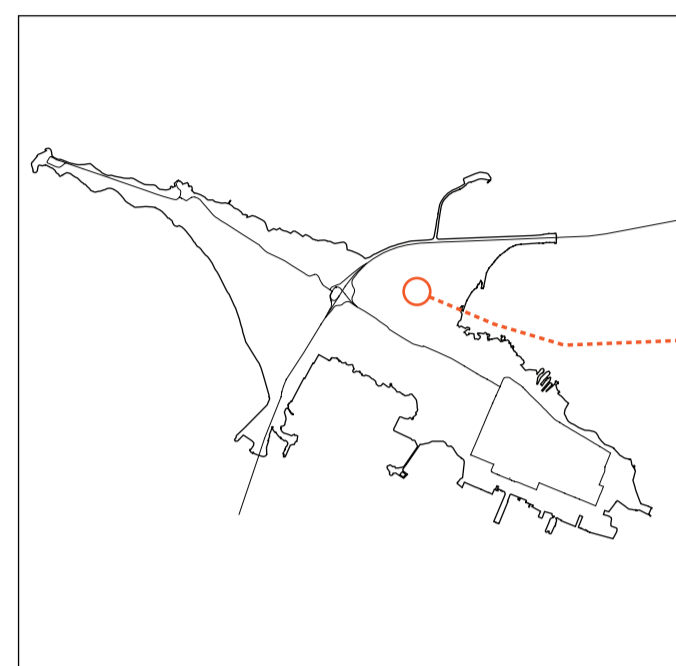
The obvious overlap between the concept of "garden city" and the unique idea of dacha community allows for a conceptualization of the settlement that can offer the best of the both worlds, a rural getaway in the middle of an urban area. By creating both radial and orthogonal systems of single and multihousing units throughout the north coast, emerges the low density neighbourhood, surrounded by vast public and private green areas. In this very case, standard single dacha units are having their own private gardens as a part of the property, while terraced object, although without private gardens, enjoy shared green and water spaces.



LEFT BRANCH OF THE PROJECT - DACHA VILLAGE, SINGLE AND MULTI HOUSING



CANAL: INTRODUCTION



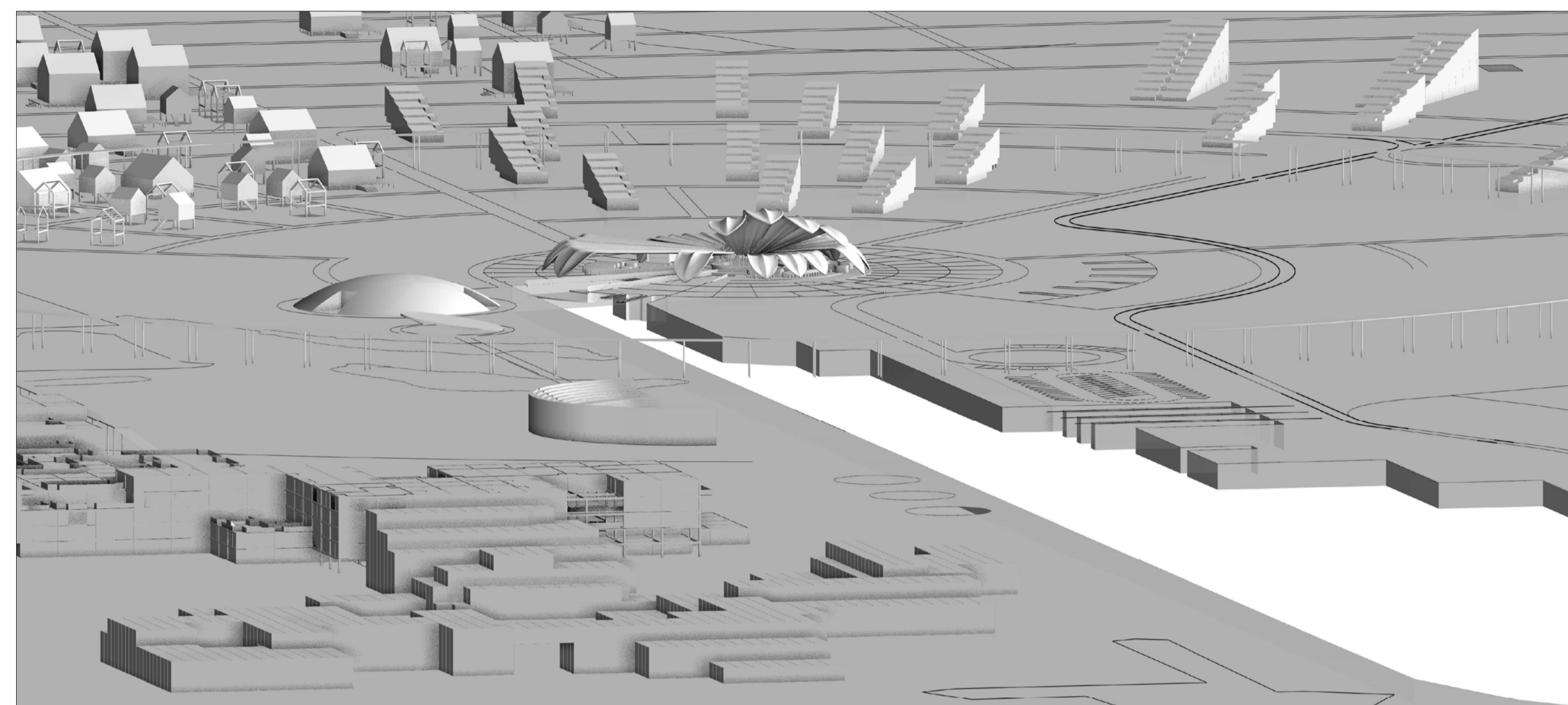
REACHING POINT



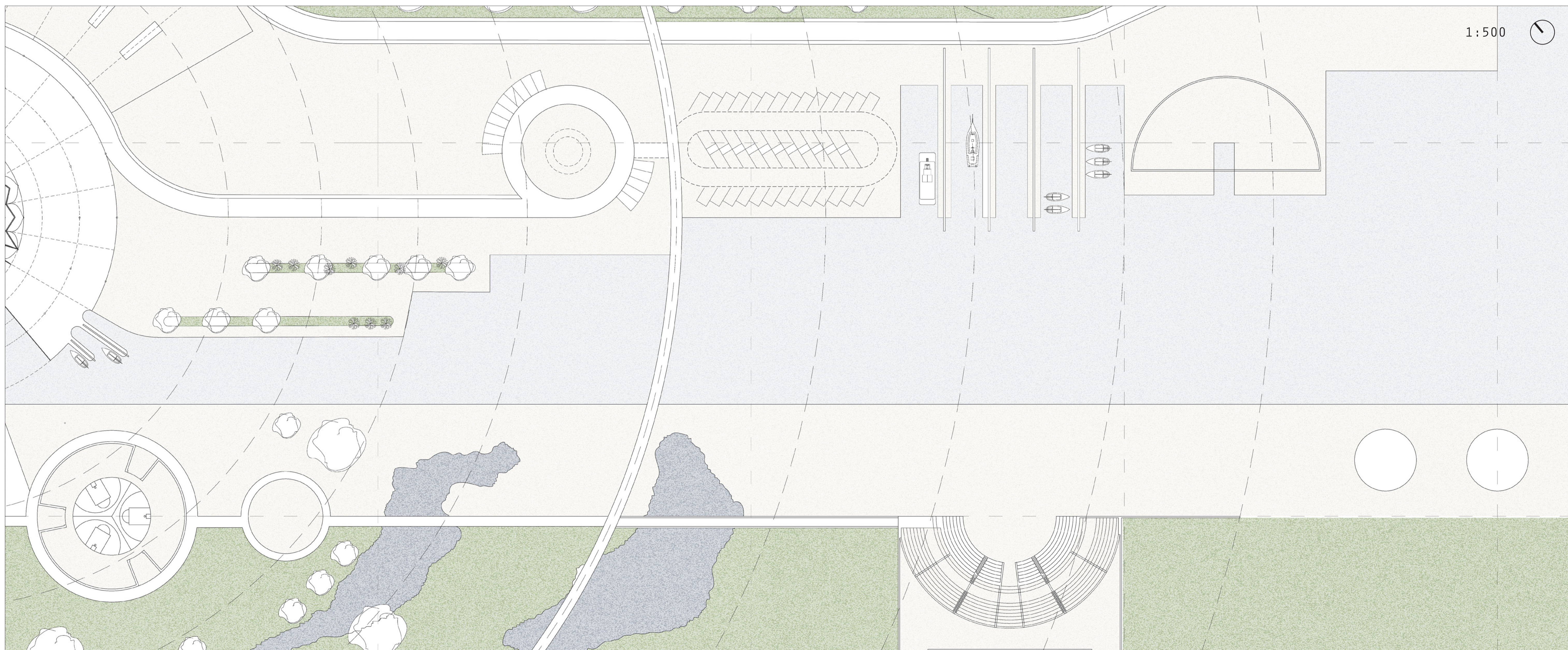
MOVEMENT GENERATOR



DIALOGUE



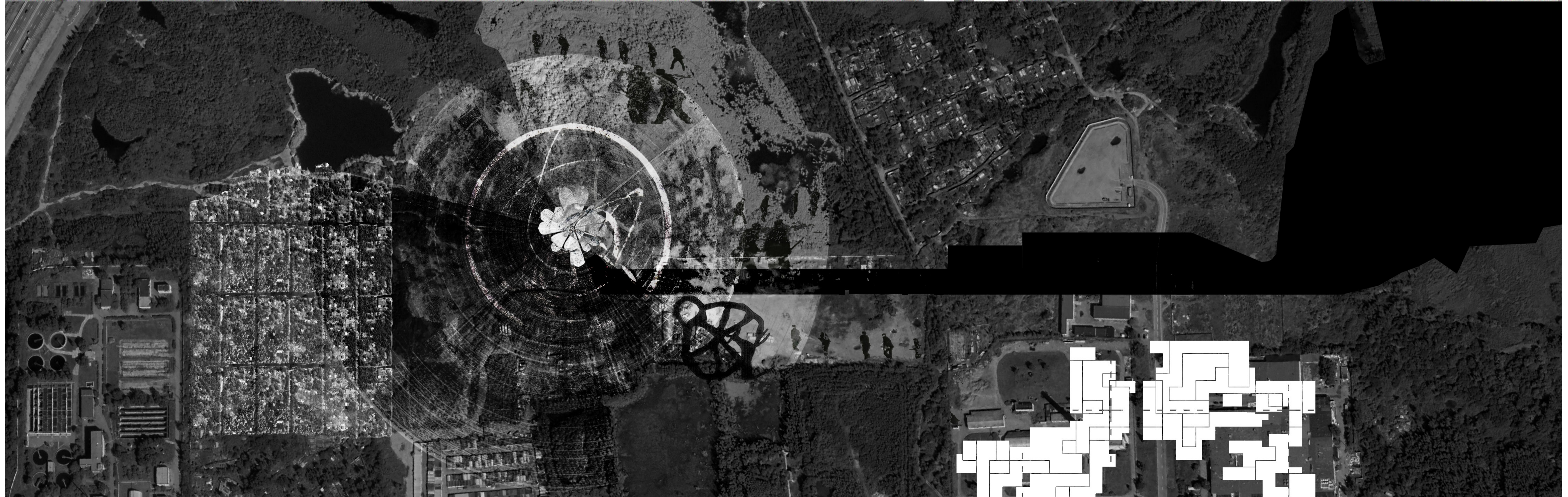
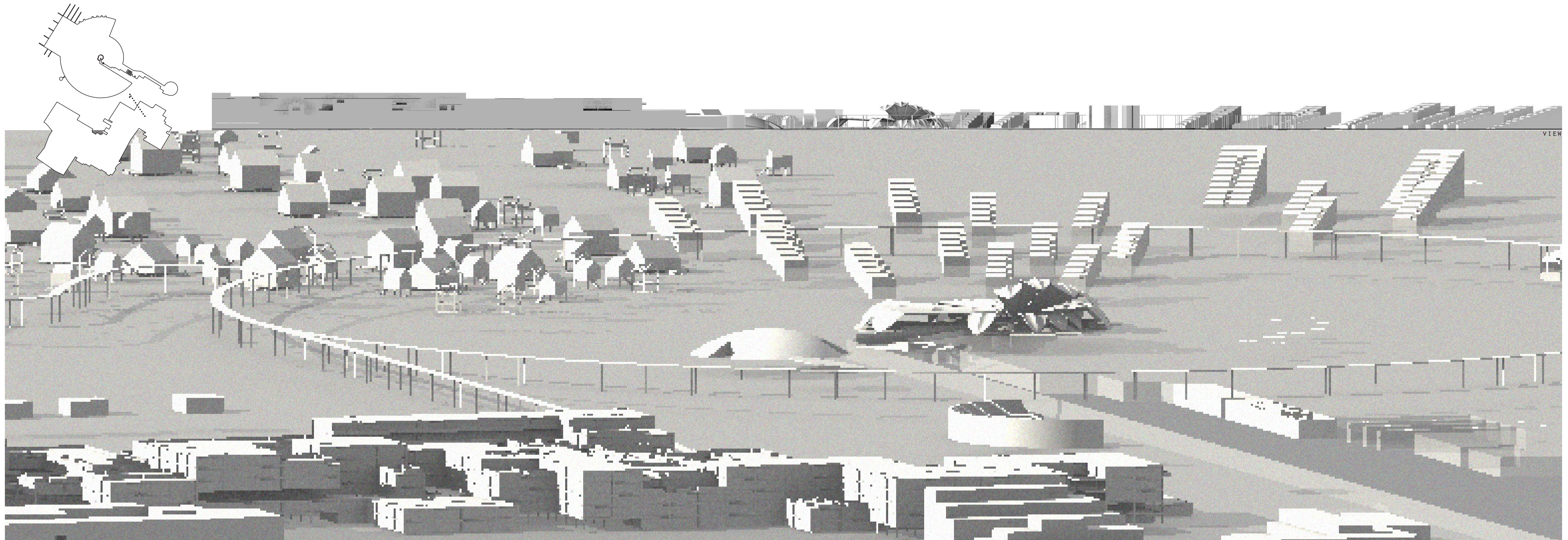
RIGHT BRANCH OF THE PROJECT - CANAL WITH THE NEW HARBOUR



1:500



RIGHT BRANCH OF THE PROJECT - CANAL WITH THE NEW HARBOUR



AXONOMETRIC REPRESENTATION