

Master thesis laboratory  
Paesaggi Produttivi

# FORMA TERRAE

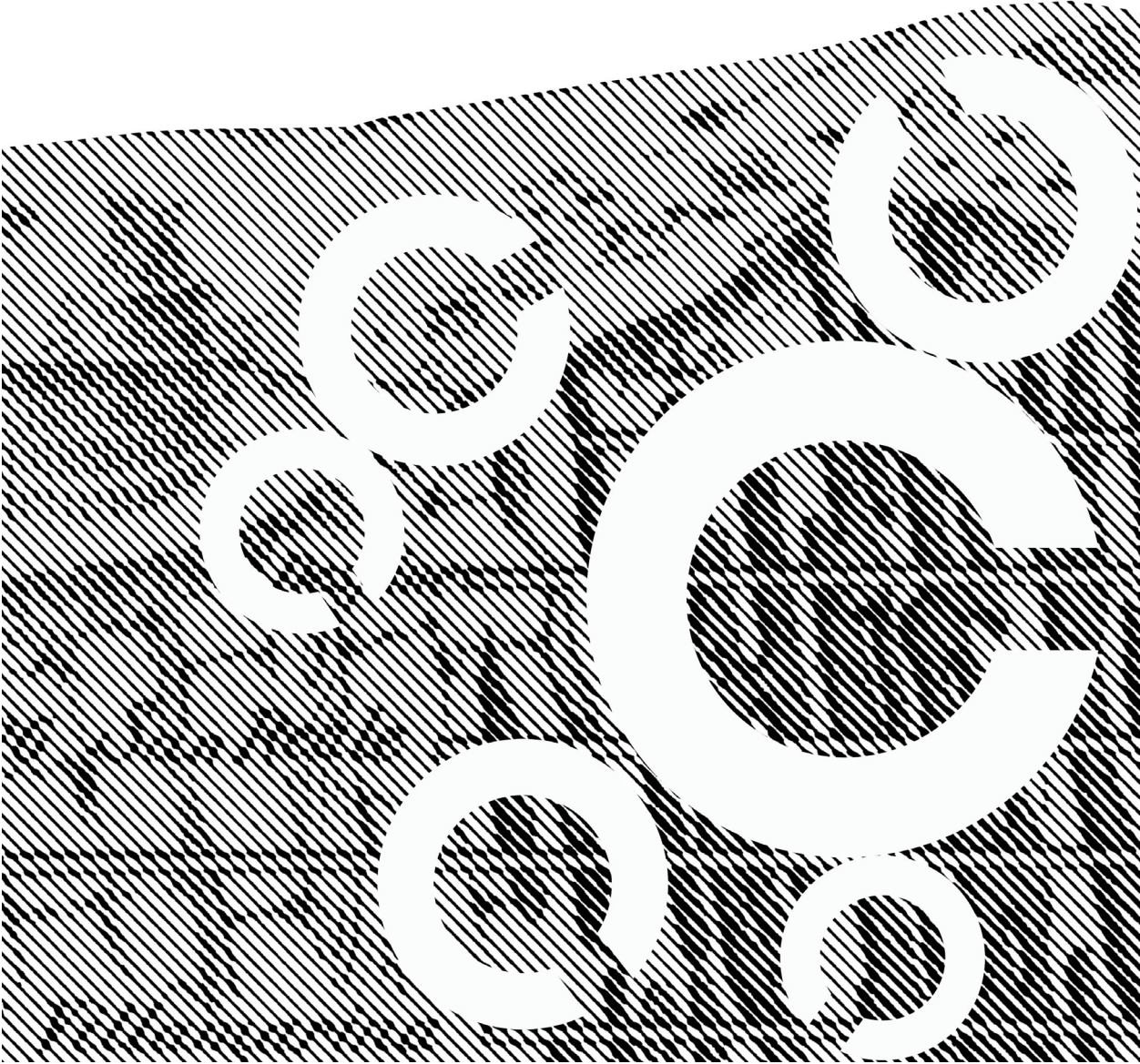
In this second cycle, the Thesis Laboratory Productive Landscapes proposes FORMA TERRAE, an investigation into the capacity of architectural and landscape design to work with the earth's morphology to give new meaning to place. The exploration centers on a form of production rooted in the land - specifically, the extractive processes of quarrying - where raw matter is drawn from the ground to construct the surface, in a continuous act of shaping and reshaping the landscape. The selected areas of study include major systems of urban quarries, vast voids in former mining territories, and extraordinary subterranean works, both architectural and infrastructural. These contexts embody a spatial experience intimately tied to the act of excavation and the corresponding material that has accumulated on the earth's surface. Within this framework, the Laboratory engages a notion of architecture that - in these specific conditions - emerges as a system inseparable from its geological and topographic context: a vast "archaeology of the earth". In this awareness, design recognizes the form of place as both precondition and essential matter of architecture, embracing a deeper responsibility toward ecological concerns, land consumption, soil reuse, and regenerative processes that regard mineral matter as "living" and as the tectonic foundation of contemporary landscape.

Scientific coordinators and academic leads  
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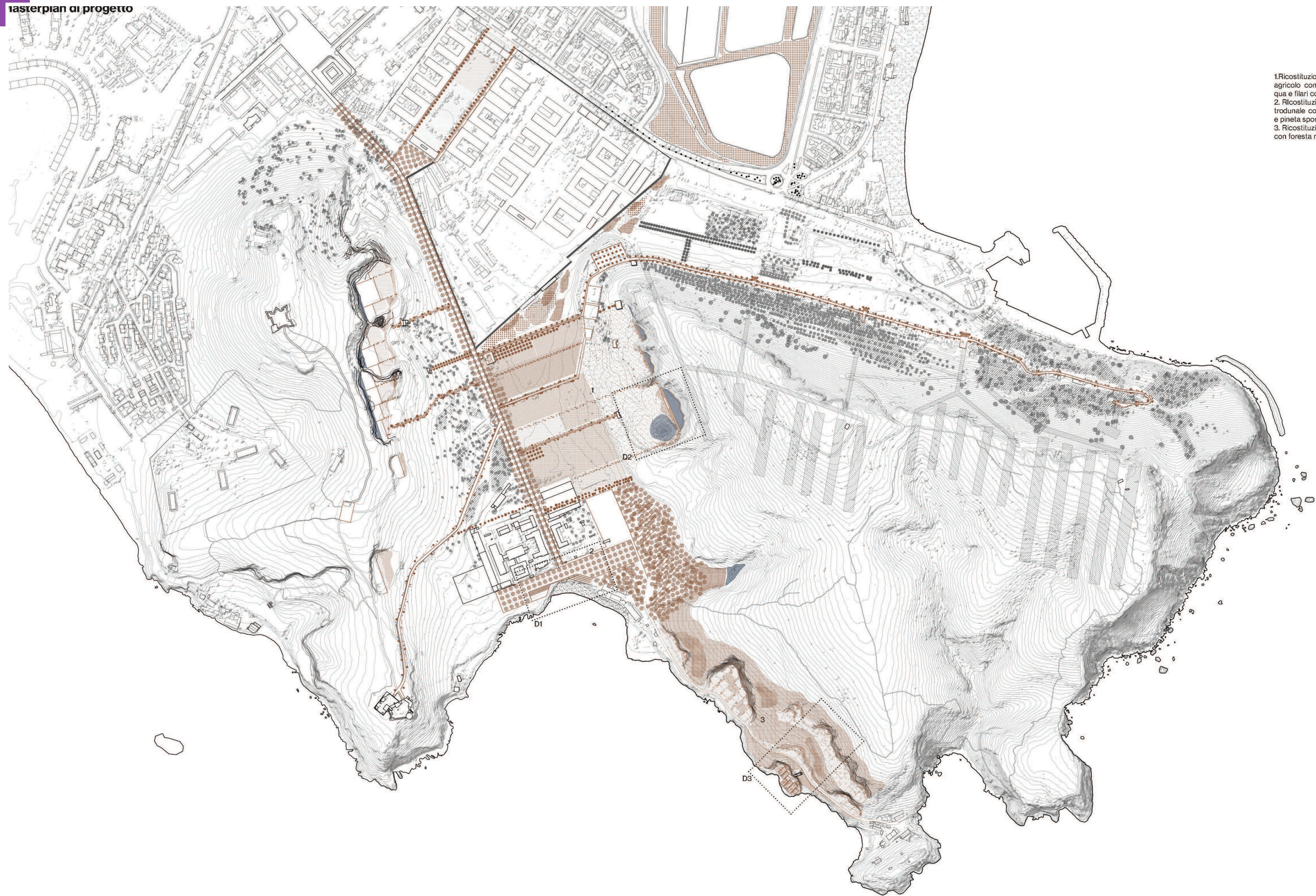
Students  
Cristiana Caddeo, Ilaria Corrias, Lorenzo Corrias,  
Martina Fanni, Alberico Farci, Silvia Ledda,  
Fabio Piludu, Benedetta Rombi



Please provide a 250-word text explaining the selection criteria used to choose the five projects representing the school in the Ribas Piera Prize. Detail the aspects evaluated, such as conceptual quality, innovation, thematic relevance, technical resolution, or any other criteria considered in the selection process with a single image, characteristic of the academic process, to accompany the text.

Forma Terrae Laboratory is a permanent thesis workshop that, between 2022 and 2024, was attended by 10 students. They explored the themes of excavating, cultivating, and extracting the soil for a new form of production, modeling, and ecology of public space. All the projects presented stood out for their excellent thematic framework and significant depth at various scales, as well as for their interpretation ranging from the scale of the city and its landscape to the morphologies and ecological structures of specific places. In some cases, there was also notable technical and architectural development. Five theses were selected to offer a representative cross-section of the different locations addressed - urban quarries in Cagliari and the mines of Sulcis Iglesiente - as well as to reflect a diversity of approaches and methodologies, and to highlight the centrality of landscape interpretation and design found throughout the work. In particular, these five projects distinguished themselves through their experimentation and the originality of the proposals, in which one can perceive the breadth of the topics covered and a strong alignment with the contemporary culture of landscape design. Moreover, the theses represent a critical and courageous engagement with the methods and techniques - as well as the cultural stance - needed to address the major issues of landscape residues within the city and industrial areas: a balance between the ideal and the concrete, the figurative and the utilitarian, the local and the global.



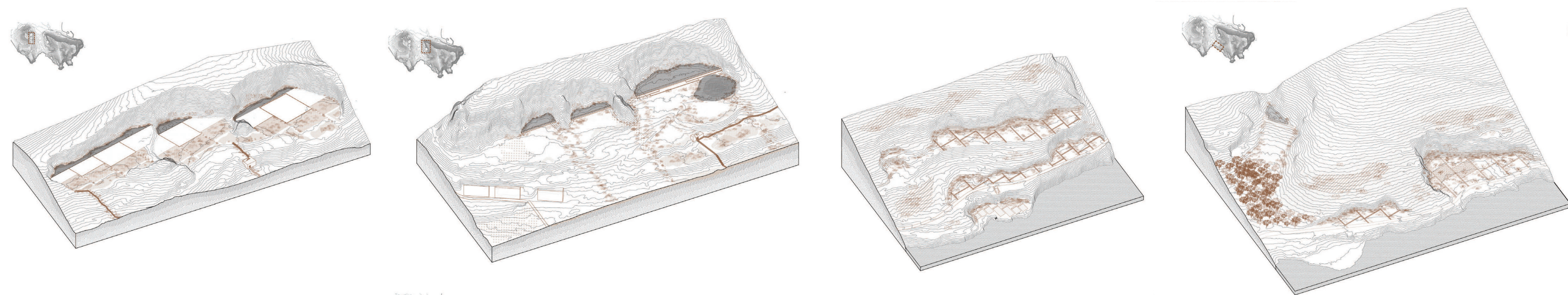


1. Ricostituzione del paesaggio agricolo con nuovi bacini d'acqua e filari come percorsi.
2. Ricostituzione della fascia retrodunale con pineta attrezzata e pineta spontanea.
3. Ricostituzione del bosco cavo con foresta mediterranea.

Country/City Italy / Cagliari  
 University / School University of Cagliari / Faculty of Engineering and Architecture  
 Academic year 2023/2024  
 Title of the project Oasis. Geometrizing the wild in the Calamosca promontory in Cagliari  
 Authors Ilaria Corrias



Title of the project	Oasis. Geometrizing the wild in the Calamosca promontory in Cagliari
Authors	Ilaria Corrias
Title of the course	FORMA TERRAE - Productive Landscapes
Academic year	2023/2024
Teaching Staff	Adriano Dessì, Giorgio Peghin, Luca Floris, Gabriele Sanna, Roberto Sanna, Andrea Scalas
Department / Section / Program of belonging	Department of Civil, Environmental Engineering and Architecture (DICAAR)
University / School	University of Cagliari / Faculty of Engineering and Architecture



**Written statement, short description of the project in English, no more than 250 words**

The peninsula of Calamosca and Capo Sant’Elia is the main landmark of the city of Cagliari and consists of two limestone promontories separated by a valley channel that leads to a sandy beach. Its strategic position has meant that over the centuries it has become a military settlement point that has made the place an almost isolated space from the rest of the city leading to the maintenance of the area in an almost wild state but which in fact clashes with the military geometrization of architectural elements and with the transformations of the territory resulting from the intensive exploitation of the soil, caused in particular by the limestone extraction processes that have affected the area over the last century. These processes have contributed to the modification of the place, both from a morphological point of view, altering its shape, and from an ecological point of view. The thesis interprets the complex construction dynamics of this symbolic place of the urban landscape of Cagliari by setting a new geometry of the wild made of niches, pauses, and platforms that reinterpret and make the complex history of the site re-emerge, in the continuity of an idea of a new urban park. The project, in fact, redefines the relationships between the fragments resulting from the different “histories” of the place through a design of the open space that predisposes and favors the ecological succession of this great altered mountain.

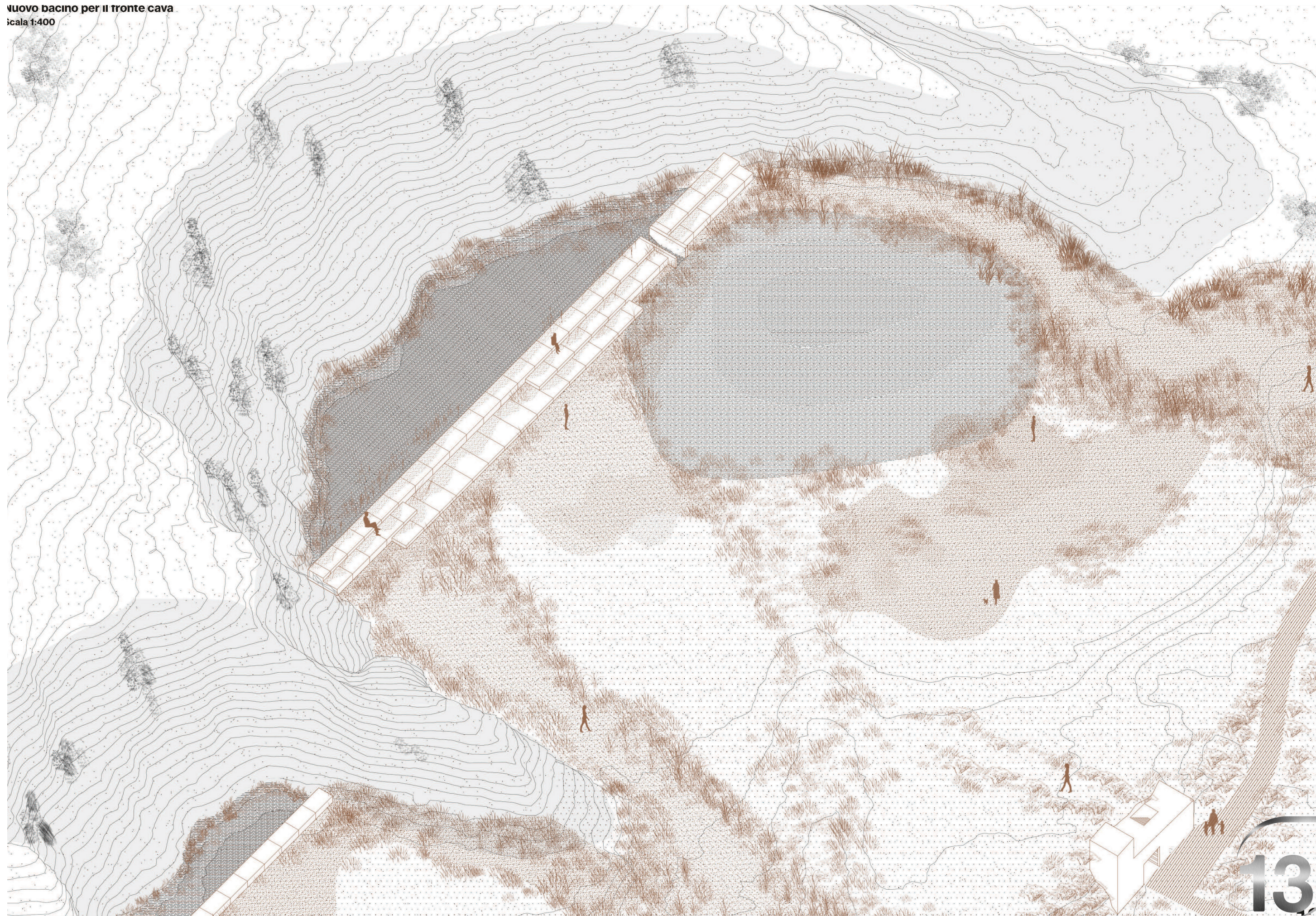
**Barcelona International Landscape Biennial**

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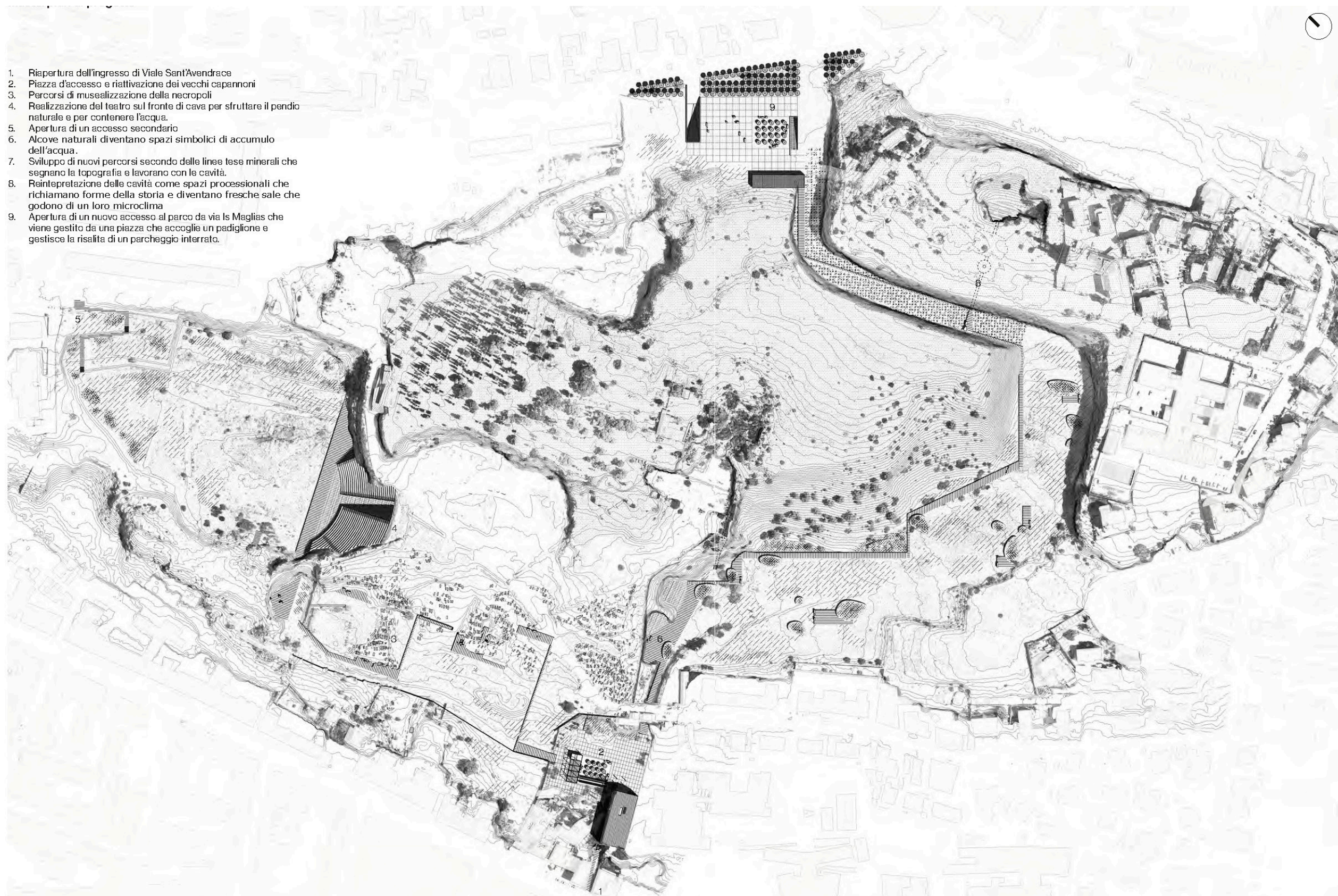
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nuovo bacino per il fronte cava  
scala 1:400







1. Riapertura dell'ingresso di Viale Sant'Avendrace
2. Piazza d'accesso e riattivazione dei vecchi capannoni
3. Percorsi di musealizzazione della necropoli
4. Realizzazione del teatro sul fronte di cava per sfruttare il pendio naturale e per contenere l'acqua.
5. Apertura di un accesso secondario
6. Alcove naturali diventano spazi simbolici di accumulo dell'acqua.
7. Sviluppo di nuovi percorsi secondo delle linee tese minerali che segnano la topografia e lavorano con le cavità.
8. Reinterpretazione delle cavità come spazi processionali che richiamano forme della storia e diventano fresche sale che godono di un loro microclima
9. Apertura di un nuovo accesso al parco da via Is Maglias che viene gestito da una piazza che accoglie un padiglione e gestisce la risalita di un parcheggio interrato.

Country/City

Italy / Cagliari

University / School

University of Cagliari / Faculty of Faculty of Engineering and Architecture

Academic year

2022/2023

Title of the project

In-Cavo. Design of new cavities between the ground and the hypogeum in the Tuvixeddu Quarry Park

Authors

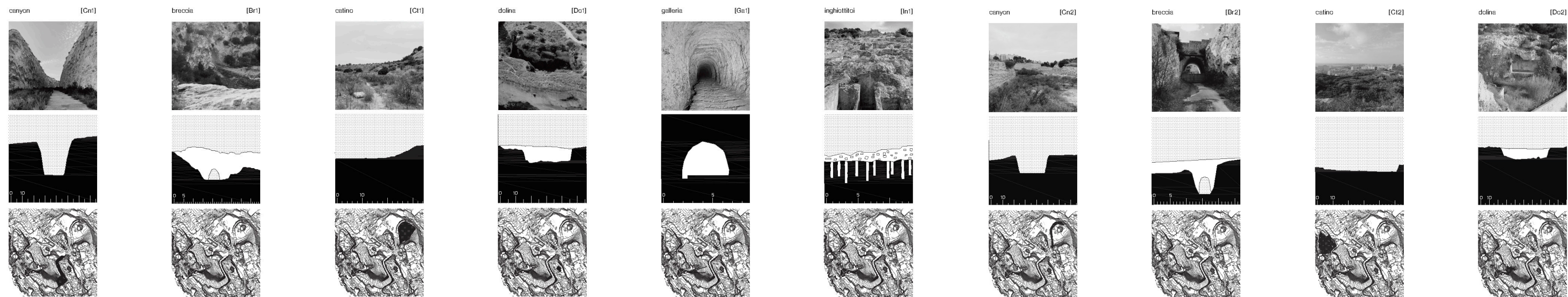
Martina Fanni



Title of the project	In-Cavo. Design of new cavities between the ground and the hypogeum in the Tuvixeddu Quarry Park
Authors	Martina Fanni
Title of the course	FORMA TERRAE - Productive Landscapes
Academic year	2022/2023
Teaching Staff	Adriano Dessì, Giorgio Peghin, Luca Floris, Gabriele Sanna, Roberto Sanna, Andrea Scalas
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Tassonomia di un paesaggio carsico



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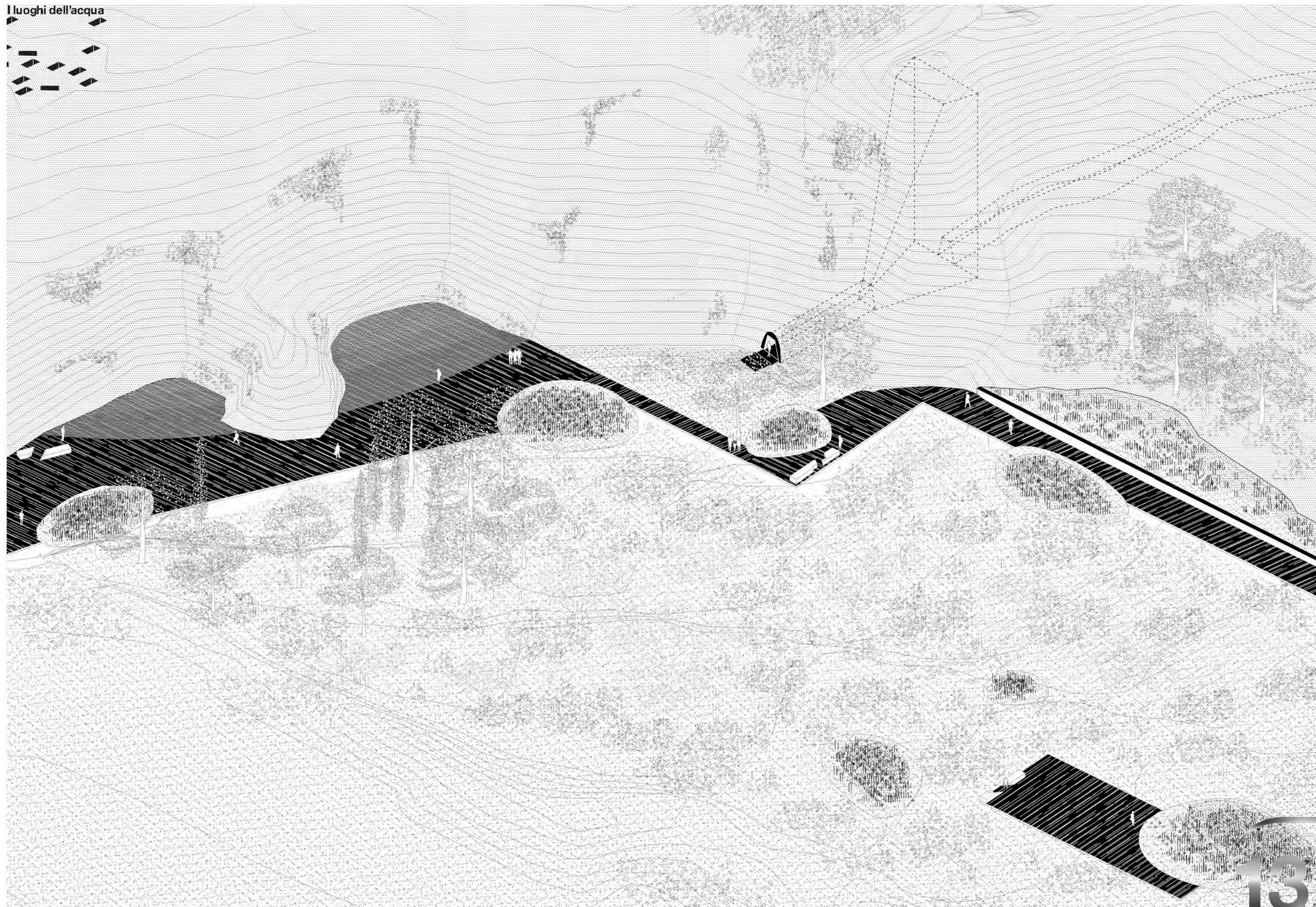
The hills of Tuvixeddu and Tuvumannu form a vast urban void that reflects a layered history of land transformations tied to burial practices and quarrying activities, which have shaped a deeply marked landscape. In the last century, soil exploitation played a crucial role in their exclusion from the urban context and in the loss of their centrality. Yet these very processes contributed to the formation of a new morphology, marked by a complex interplay of epigeal and hypogeal forms, each relating to the territory through its spatial scale and generating distinct types of space. These elements now define the new outlines of the hill and stand as unique and recognizable features of the contemporary landscape. Understanding them is essential to re-establish a genuine connection with the place. This seemingly devastated environment has gained a distinctive character through this “morphological evolution,” and still retains a strong identity. The voids become an expressive tool within the project, giving meaning and value to the solids—that is, what remains. The project aims to rediscover the genius loci by allowing these forms to emerge, while highlighting and completing the topography that defines them. By engaging with specific and singular places, the project seeks to express the site’s authenticity and formal diversity, animating the cavities through symbolic interpretation and re-rooting itself in the ground, working in dialogue with the enduring elements of the landscape: rock and water.

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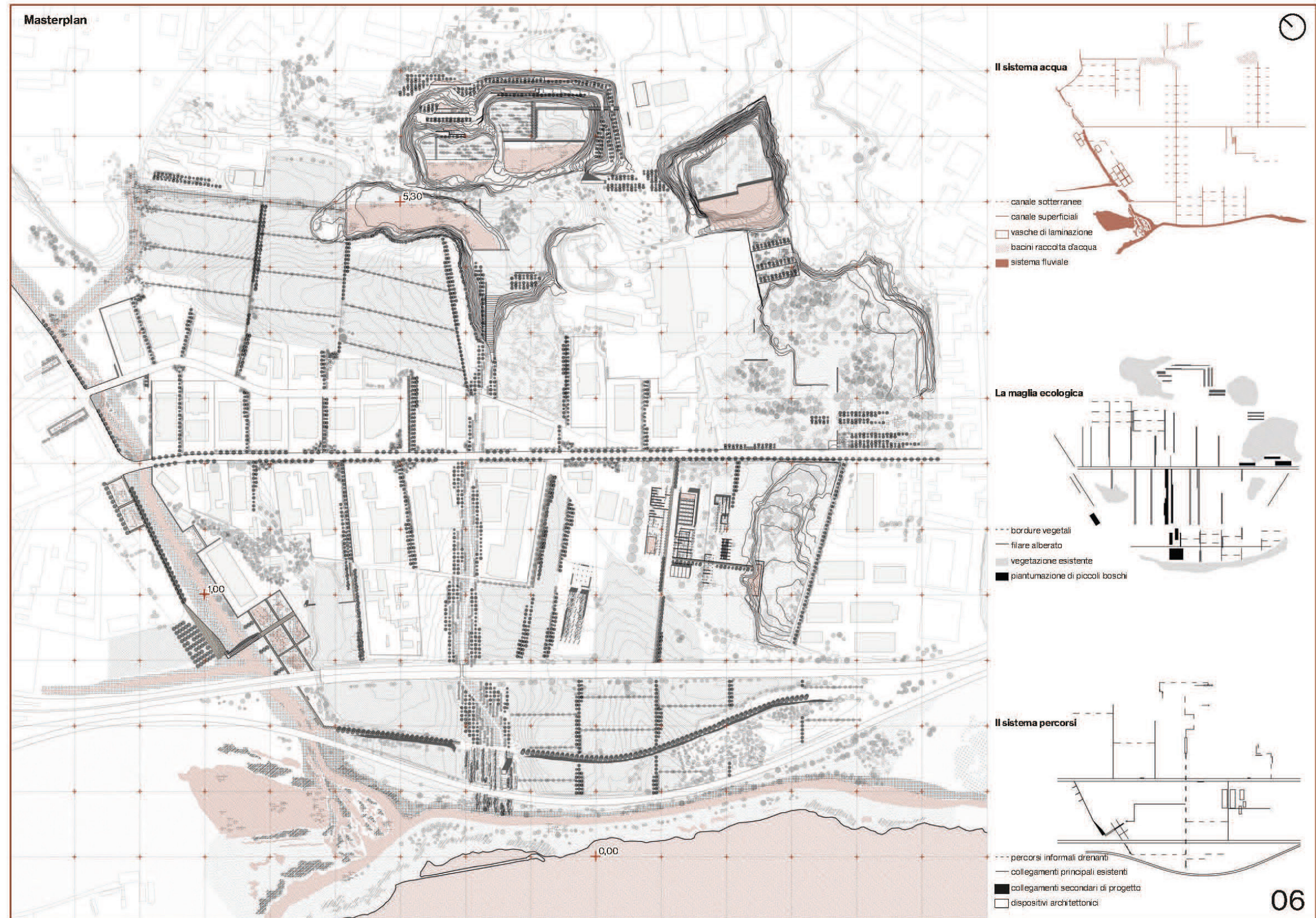
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Academic year

2022/2023

Title of the project

Quarry lakes. Design of an ecological ring between the Fangario quarries and the Santa Gilla lagoon

Authors

Silvia Ledda



Title of the project	Quarry lakes. Design of an ecological ring between the Fangario quarries and the Santa Gilla lagoon
Authors	Silvia Ledda
Title of the course	FORMA TERRAE - Productive Landscapes
Academic year	2022/2023
Teaching Staff	Adriano Dessì, Giorgio Peghin, Luca Floris, Gabriele Sanna, Roberto Sanna, Andrea Scalas
Department / Section / Program of belonging	Department of Civil, Environmental Engineering and Architecture (DICAAR)
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**Written statement, short description of the project in English, no more than 250 words**

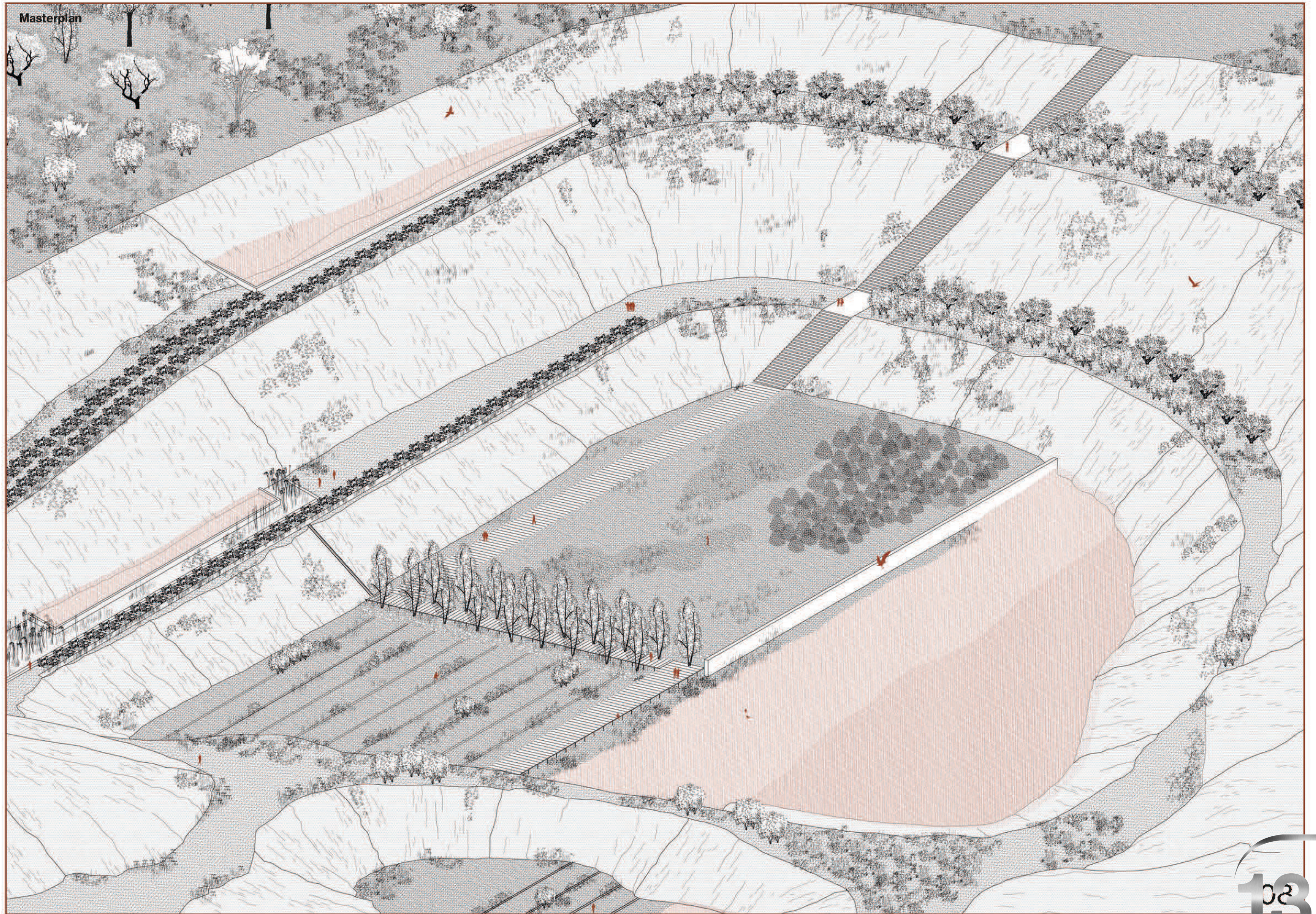
The Fangario Quarry, once an open-pit clay extraction site, is located in a transitional area between agricultural, industrial, and lagoon landscapes. This peri-urban zone has suffered from unregulated urban expansion, resulting in a degraded context marked by low-quality architecture scattered across abandoned farmland. The site's human history is clearly legible, as the landscape has been radically transformed from its original agricultural state. The extraction process has created a porous system of quarries which, due to the nature of the substrate, often fill with rainwater. This constellation of pits is part of the Rio Fangario watershed, which flows into the Santa Gilla lagoon. While these wetland ecologies are often viewed as marginal or problematic, this thesis aims to reframe them as territorial structures capable of generating a new spatial and ecological order. Today, the landscape appears fragmented, made up of disconnected compartments lacking mutual relationships. The design proposal seeks to overcome this isolation by exploring the potential interactions between the three water systems (ponds, stream, lagoon) through an intervention that not only brings clarity and identity to a formless context but also restores ecological balance. The project focuses on redefining the edges of these water bodies to create new connections. The voids left by fractal urban expansion become opportunities to enhance these marginal spaces, establishing a green network that links the various ecological systems and provides spatial continuity within a fragmented urban fabric.

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1. Ingresso al parco
2. Piastre di bonifica
3. Percorso pedonale e mezzi di lavoro
4. Sbarramenti dell'acqua
5. Piazza d'acqua
6. Laveria ottocentesca
7. Laveria novecentesca
8. Vivaio per le colture fitoestrattive



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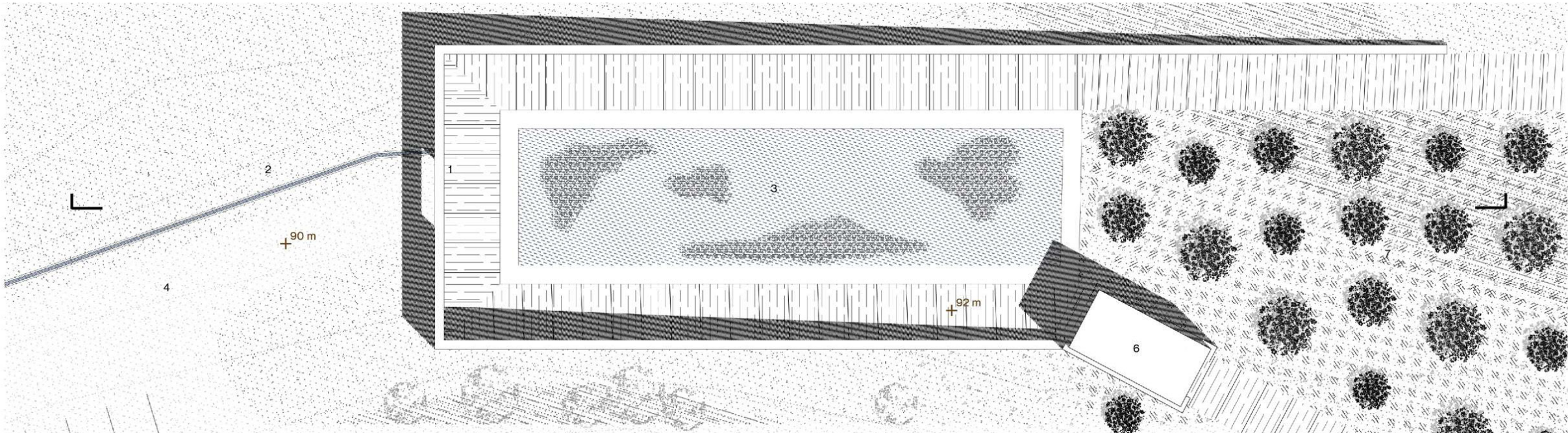
Rooting in the landscape. Project of filter gardens for the mining lands of Seddas Moddizzis

Authors

Benedetta Rombi



Title of the project	Rooting in the landscape. Project of filter gardens for the mining lands of Seddas Moddizzis
Authors	Benedetta Rombi
Title of the course	FORMA TERRAE - Productive Landscapes
Academic year	2023/2024
Teaching Staff	Adriano Dessì, Giorgio Peghin, Luca Floris, Gabriele Sanna, Roberto Sanna, Andrea Scalas
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The mine represents a well-organized system of passages and tunnels that root and infiltrate deep into the ground. A system of shapes that can be abstracted and re-proposed on the surface by rooting and superimposing other elements, such as the soil itself, vegetation, and water. This re-proposal is one of the tools in the realization of this project, which aims to restore value to the history of these places and make them accessible through re-mediation actions of the soil heavily polluted by processing waste. Specifically in the ‘Seddas Moddizzis’ washery, the object of the project, a phenomenon called tailing occurs in which the debris is dragged down by the water of the streams with variable regimes, flowing and accumulating in the wet area of ‘Sa Masa’, where it flows the artificial and natural water system historically used as a waste disposal network from mine production. Through the regularization of the water network in the adjacent ‘Seddas Moddizzis’ area, the project aims to feed and nourish new green areas planted with phytodepurative species located along the entire tailing area, in a temporal system of alternating cycles which have as their ultimate goal the remediation of the entire volume of polluted soil.

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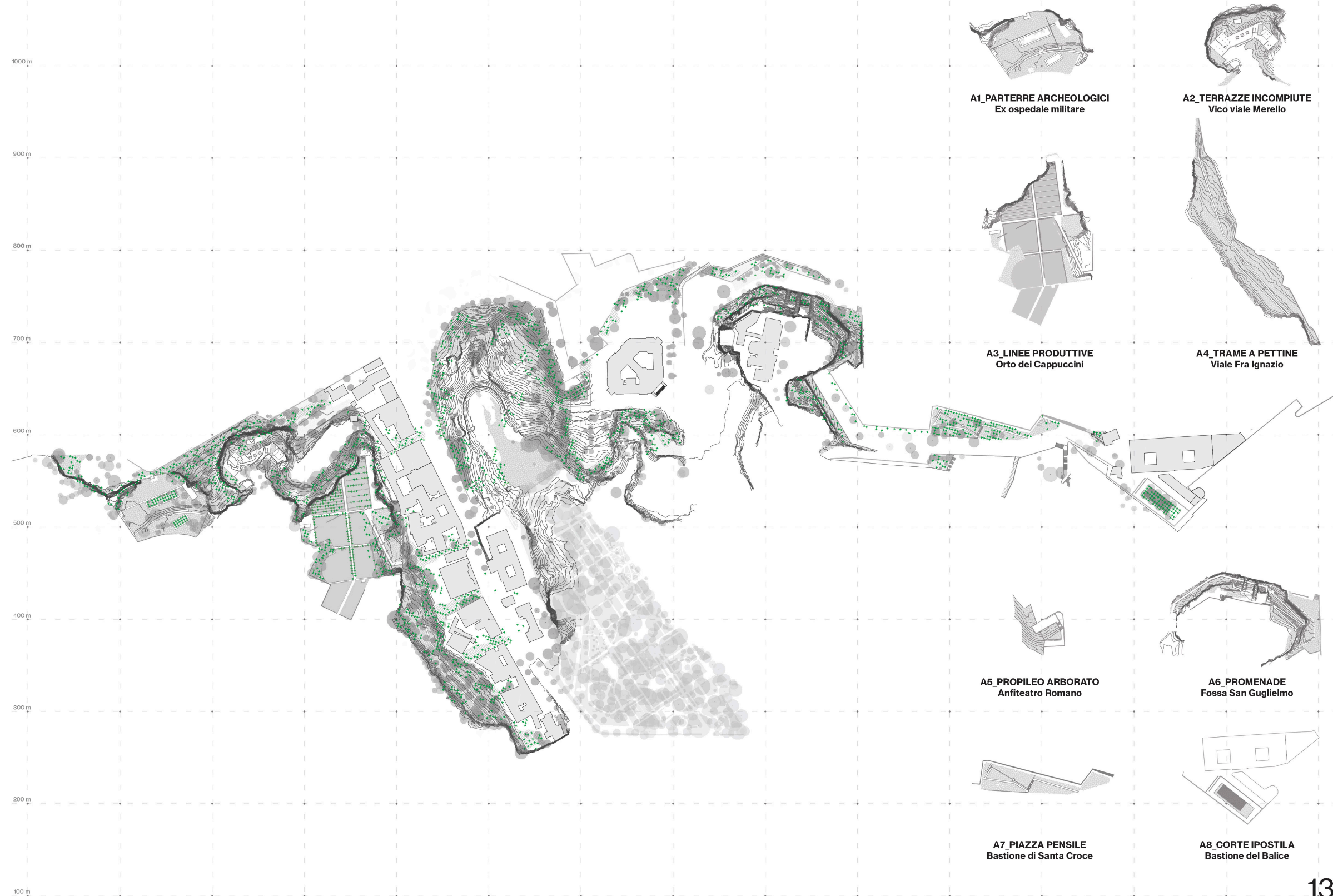






**MASTERPLAN  
INNESCHI SELVATICI**

1000 m  
900 m  
800 m  
700 m  
600 m  
500 m  
400 m  
300 m  
200 m  
100 m



13

**Country/City**

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University of Cagliari / Faculty of Faculty of Engineering and Architecture

**Academic year**

2023/2024

**Title of the project**

Wild handles. Ecological connections in the central system of the urban quarries of Cagliari

**Authors**

Fabio Piludu



TECHNICAL DOSSIER

Title of the project

Authors

Title of the course

Academic year

Teaching Staff

Department / Section / Program of belonging

University / School

Wild coves. Ecological connections in the central system of the urban quarries of Cagliari

Fabio Piludu

FORMA TERRAE - Productive Landscapes

2023/2024

Adriano Dessì, Giorgio Peghin, Luca Floris, Gabriele Sanna, Roberto Sanna, Andrea Scalas

Department of Civil, Environmental Engineering and Architecture (DICAAR)

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13

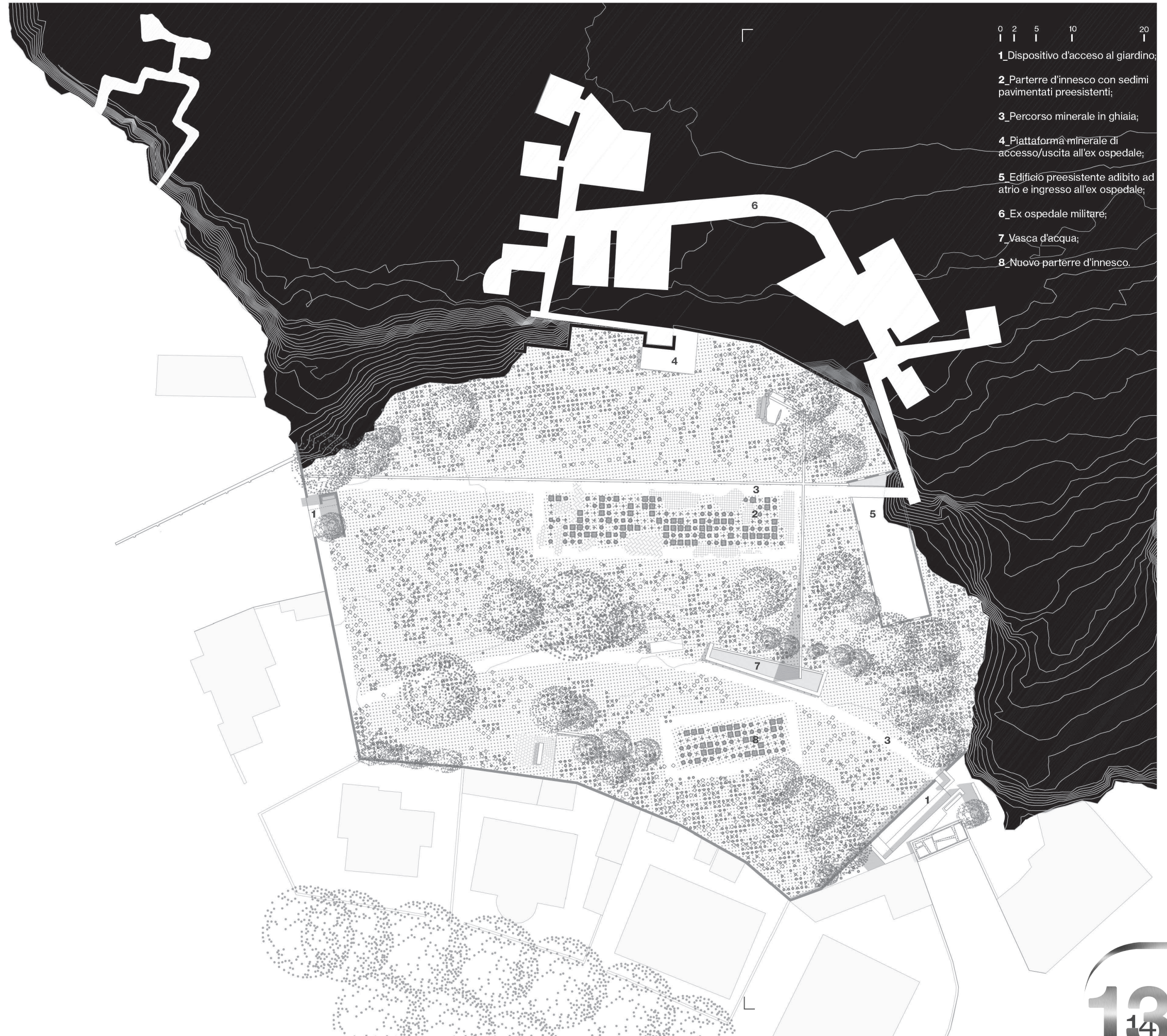
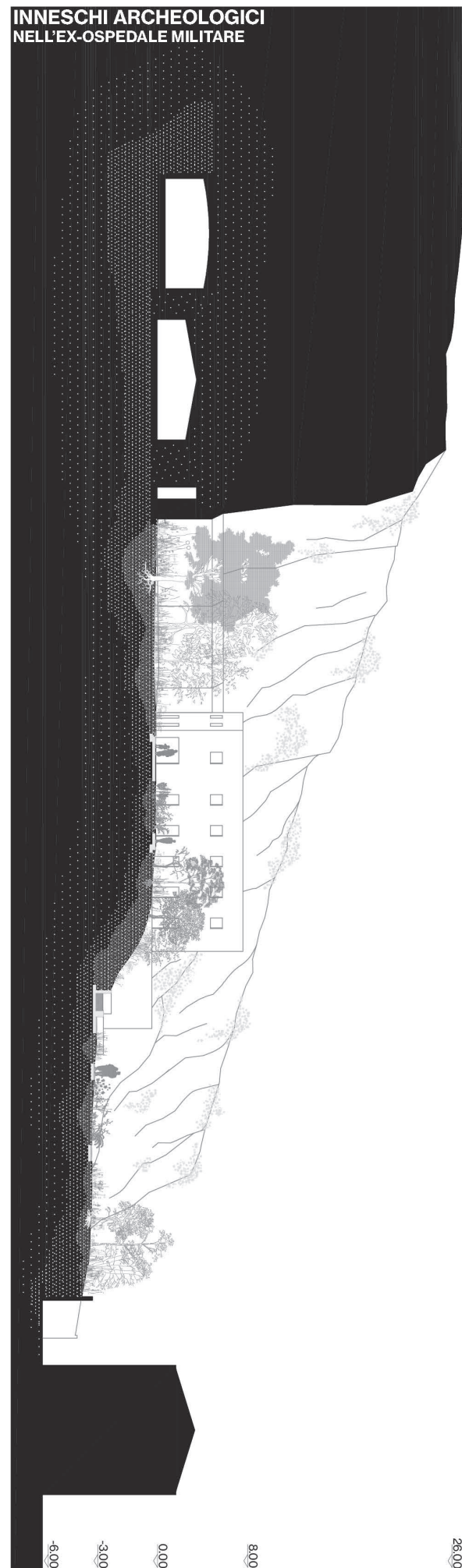


<i>Borago officinalis</i> L. (1753) H - 30-70 cm S - 2/5 E - sole F - ruvido A - marzo-agosto E - impollinatore C - annuale P - a macchia	<i>Echium vulgare</i> L. (1753) H - 30 - 90 cm S - 3/5 E - sole F - deciduo A - marzo-luglio E - medicinale C - perenne P - a macchia	<i>Viola cornuta</i> L. (1763) H - 10 - 20 cm S - 2/5 E - sole - mezz'ombra F - sempreverde A - aprile-settembre E - polifera C - perenne P - tappezzante	<i>Cistus creticus</i> L. (1762) H - 30 - 100 cm S - 3/5 E - sole F - sempreverde A - maggio-giugno E - stabilizzatore C - perenne P - tappezzante	<i>Miscopates orontium</i> L. (1753) H - 15-60 cm S - 2/5 E - sole F - lineare-lanceolato A - aprile-luglio E - impollinatore C - annuale P - lineare	<i>Viola sativa</i> L. (1753) H - 30-80 cm S - 2/5 E - sole F - deciduo A - aprile-giugno E - scotofessatore C - annuale P - rampicante
<i>Convolvulus arvensis</i> L. (1753) H - 30 - 100 cm S - 3/5 E - sole F - deciduo A - marzo-settembre E - invasivo C - perenne P - diffusa	<i>Allium triquetrum</i> L. (1753) H - 20-40 cm S - 3/5 E - mezz'ombra F - nastriforme A - marzo-maggio E - rifugio C - perenne P - tappezzante	<i>Bellis perennis</i> L. (1753) H - 05- 20 cm S - 3/5 E - sole - mezz'ombra F - rosettato A - febbraio-giugno E - impollinatore C - perenne P - tappezzante	<i>Lobularia maritima</i> L. (1814) H - 10 - 30 cm S - 2/5 E - sole F - sempreverde A - marzo-agosto E - impollinatore C - annuale P - diffusa	<i>Capsella bursa-pastoris</i> L. (1753) H - 10 - 50 cm S - 3/5 E - sole - mezz'ombra F - lobato-basale A - gennaio-maggio E - colonizzatore C - annuale P - interstiziale	<i>Taraxacum officinale</i> (Weber) (1760) H - 05 - 40 cm S - 3/5 E - sole F - deciduo A - marzo-maggio E - colonizzatore C - perenne P - rosulato
<i>Sonchus oleraceus</i> L. (1753) H - 30 - 100 cm S - 3/5 E - sole F - deciduo A - marzo-giugno E - pioniera C - annuale P - diffusa	<i>Oxalis pes-caprae</i> L. (1753) H - 15- 30 cm S - 2/5 E - sole F - deciduo A - marzo-giugno E - invasivo C - perenne P - colonizzante	<i>Helianthemum nummularium</i> L. (1768) H - 10 - 30 cm S - 2/5 E - sole F - sempreverde A - marzo-agosto E - stabilizzatore C - perenne P - tappezzante	<i>Crepis vesicaria</i> L. (1753) H - 20 - 80 cm S - 2/5 E - sole F - deciduo A - marzo-agosto E - colonizzatore C - annuale P - diffusa	<i>Rapistrum rugosum</i> L. (1765) H - 30 - 100 cm S - 3/5 E - sole F - deciduo A - marzo-giugno E - colonizzatore C - annuale P - diffuso	<i>Calendula arvensis</i> L. (1763) H - 10 - 40 cm S - 3/5 E - sole F - peloso-lobato A - ottobre-maggio E - impollinatore C - annuale P - a macchia
<i>Adonis aestivalis</i> L. (1762) H - 20-50 cm S - 2/5 E - sole F - linemente diviso A - aprile-giugno E - rifugio C - annuale P - puntuale	<i>Papaver rhoeas</i> L. (1753) H - 30 - 80 cm S - 2/5 E - sole F - deciduo A - aprile - luglio E - colonizzatore C - annuale P - puntuale	<i>Aira caryophylla</i> L. (1753) H - 10-40 cm S - 3/5 E - sole F - sottile A - aprile-giugno E - copertura C - annuale P - interstiziale	<i>Festuca ligustica</i> Bertol. (1919) H - 20 - 50 cm S - 2/5 E - sole F - sempreverde A - aprile-luglio E - stabilizzatore C - perenne P - tappezzante	<i>Avena fatua</i> L. (1753) H - 50 - 120 cm S - 4/5 E - sole F - lineare A - maggio-luglio E - copertura C - annuale P - diffusa	<i>Bromus diandrus</i> Roth (1963) H - 50 - 100 cm S - 3/5 E - sole F - arcuato-ruvido A - maggio-giugno E - copertura C - annuale P - diffusa

**Written statement, short description of the project in English, no more than 250 words**

The sea, in its continuous motion, delimits and identifies the island, tracing its boundaries and defining its relationships. Similarly, the urban form identifies a morphological system within which a coastline unfolds: irregular, hollowed out, jagged, stratified, rich in coves, where the soil shape meets the city and where formal and informal systems are arranged over time. Through the landscape project, the thesis work explores the urban littoral of Cagliari’s central quarry system, following its course, reading its bends as places of tension and possibility, places where the wild spreads, where the urban retreats. Following these limits, through a coasting made of proximity and distance, new ecological potential is revealed, fragments of wild continuity that time has silenced, circumscribed, or overwritten. In this fragmented system, interpreting the tension generated between the wild dimension and that of the 19th-century formal garden, the thesis reasons out a new ecological continuity through the use of the wildness, capable of making space in the residual component that the city offers and activating new ecological dynamics. A continuity that is not built by imposing connections, but by allowing the spontaneous conditions of the landscape of the quarry to suggest them.





- 0 2 5 10 20
- 1\_Dispositivo d'accesso al giardino;
  - 2\_Parterre d'innescò con sedimi pavimentati preesistenti;
  - 3\_Percorso minerale in ghiaia;
  - 4\_Piattaforma minerale di accesso/uscita all'ex ospedale;
  - 5 Edificio preesistente adibito ad atrio e ingresso all'ex ospedale;
  - 6\_Ex ospedale militare;
  - 7\_Vasca d'acqua;
  - 8\_Nuovo parterre d'innescò.