

STRATEGICAL LEVEL

TACTICAL LEVEL

1. Analysis for enhancement

- TAV 1.a Territorial framework
- TAV 1.b Competitive framework: Hospital and RSA
- Pharmacy and Hub Vax
- Service for Population

2. Knowledge and interpretation of the factory

- TAV 2.a Historical analysis
- TAV 2.b Constructive Survey
- TAV 2.c Degradation Survey
- TAV 2.d Elements, Connection, Distresses

3. Strategic evaluation

- TAV 3.a SWOT
- TAV 3.b Stakeholder mapping
- TAV 3.c Summary SWOT

4. Design scenario

- TAV 4.a Restoration and refurbishment project
- TAV 4.b Project solution
- TAV 4.c Parametric and Total costs of the investment

5. Feasibility, financing and management

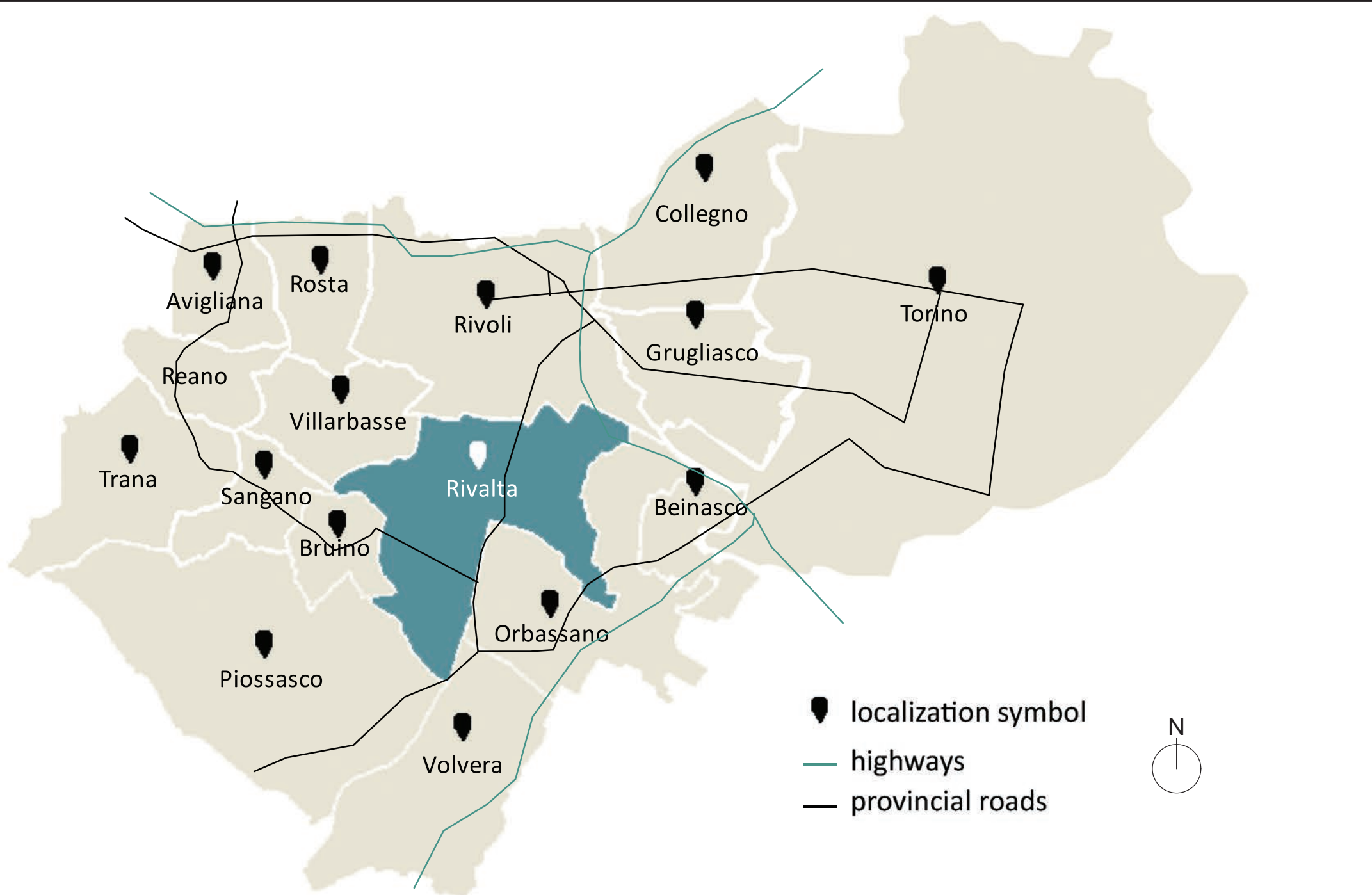
- TAV 5.a Ex-post Stakeholder Mapping
- TAV 5.b Involvement of stakeholders and financial notices
- TAV 5.c CBA
- TAV 5.d DCFA

KNOWLEDGE

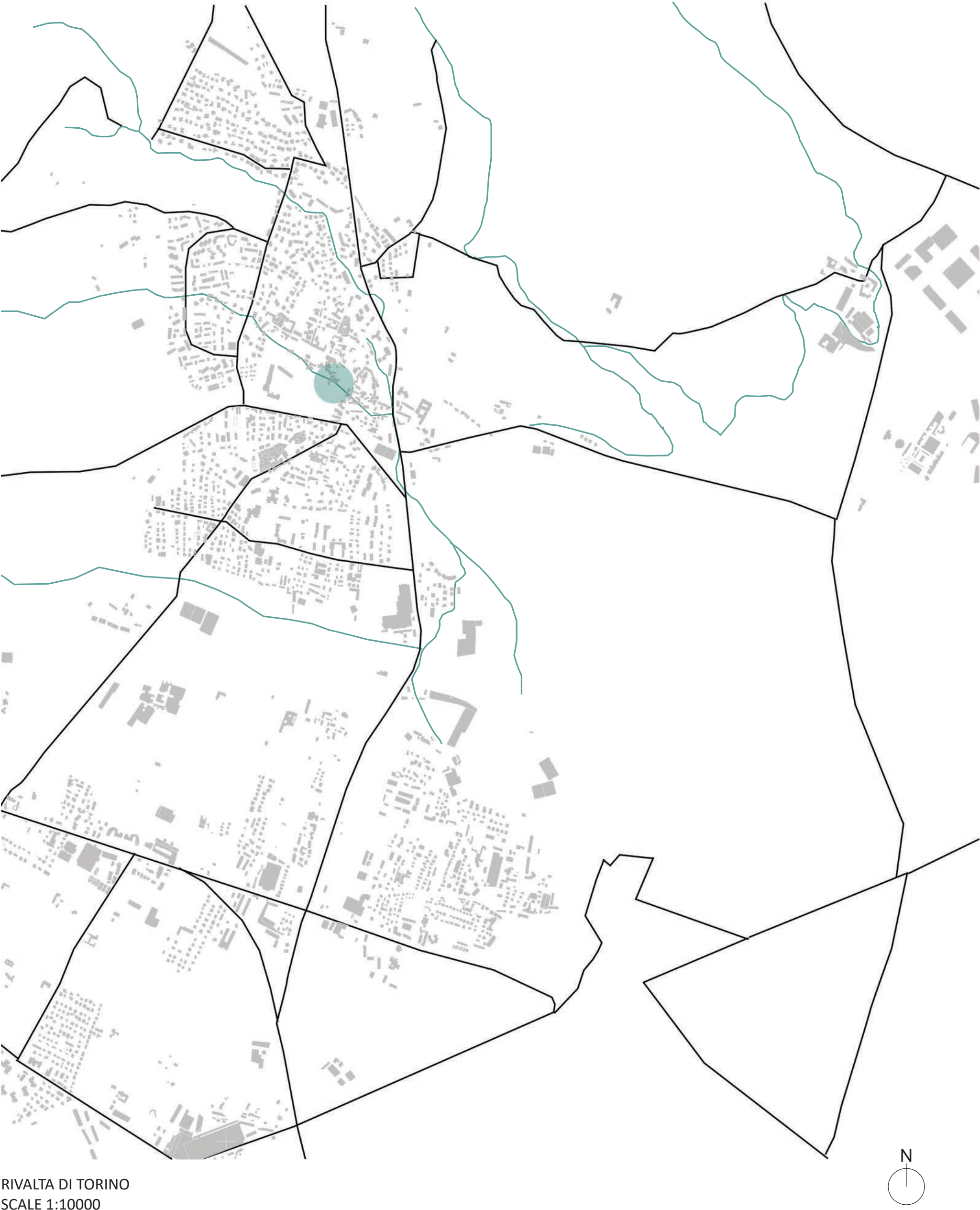
INTERPRETATION

DESIGN

TERRITORIAL FRAMEWORK



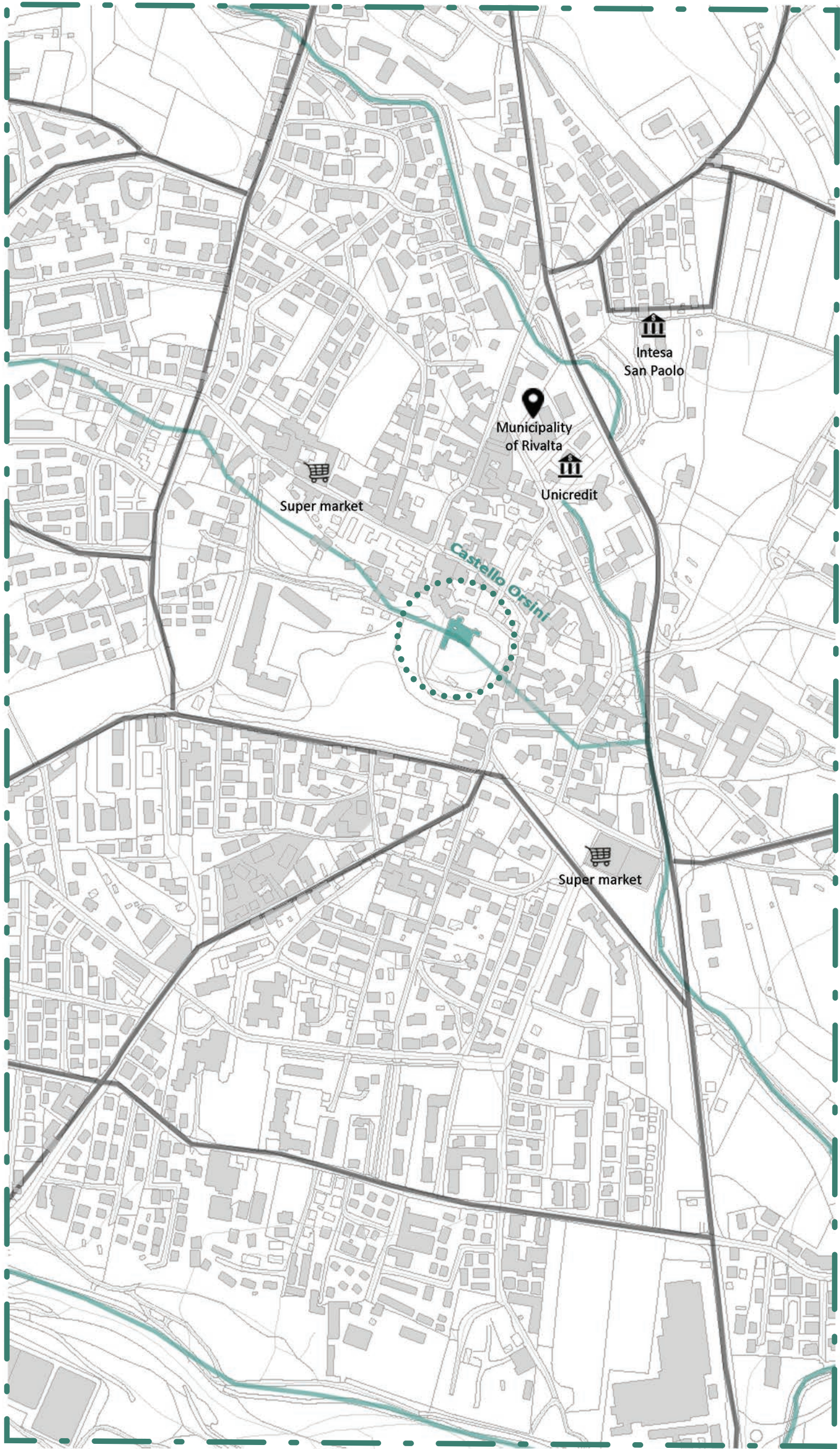
CONNECTIONS FROM RIVALTA AND NEIGHBOURING MUNICIPALITIES



RIVALTA DI TORINO
SCALE 1:10000



Rivalta is a municipality in the metropolitan area of Turin.
Located 15 km south-west of Turin.



RIVALTA DI TORINO
SCALE 1:5000

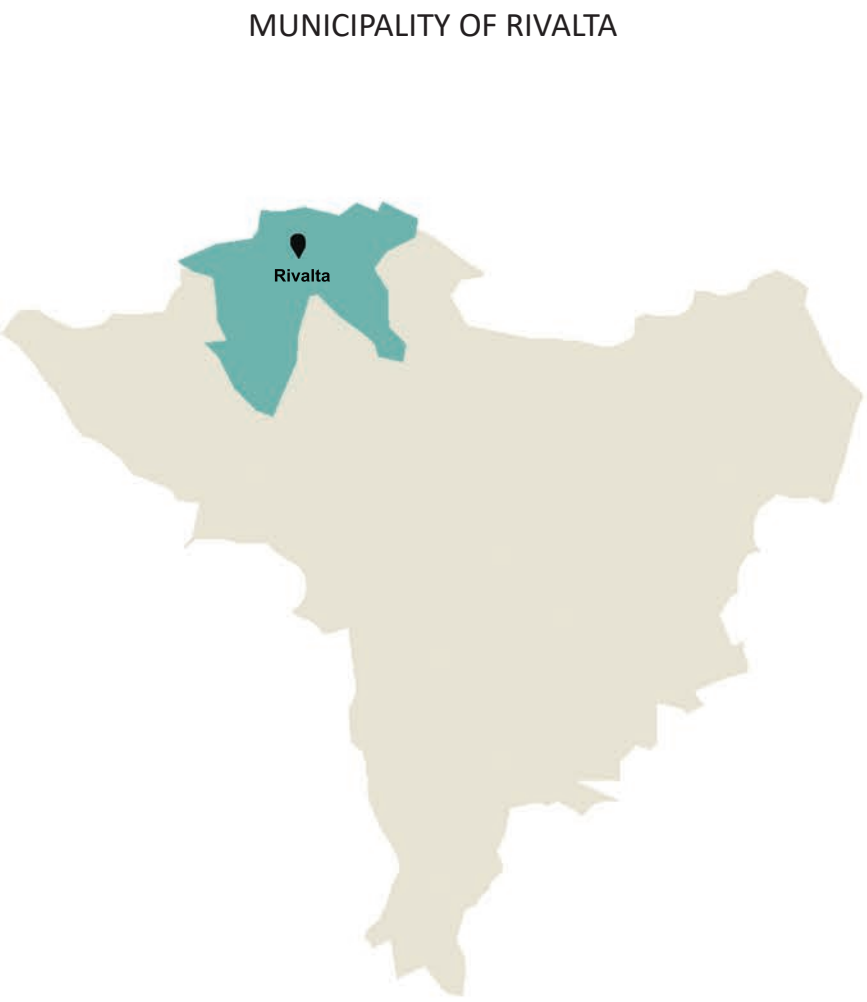


The city is identified as part 36 of the Regional Landscape Plan
that is characterized by being an urbanized territory

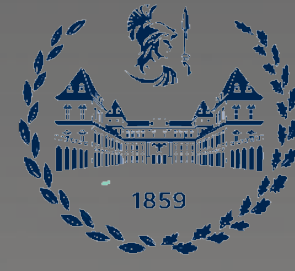


In the municipality of Rivalta there are many historical and cultural assets. It's relevant the particular shape of the urban fabric that sees the presence of a wall. Nearby we find the Monastery, the Civic Tower, the Church of the confraternity Santa di Croce and the Chapel of Saints Victor and Crown. The castle of Rivalta, of medieval origin, was founded on a rise of land that overlooked the surrounding countryside. Even today the building retains the original appearance of a fortress, surrounded by stone walls and a moat, once full of water. The castle was once accessed through a wooden drawbridge, now replaced by a fixed bridge in masonry. The robust entrance gate rises at the base of a crenellated tower. Around the castle there is a large park, entirely enclosed in the walls of the fortress.

ORSINI CASTLE
SCALE 1:500



Altitude: 295 m s.l.m.
Surface: 25.11 km2
Inhabitants: 20 112
Density: 800.96 ab/km2



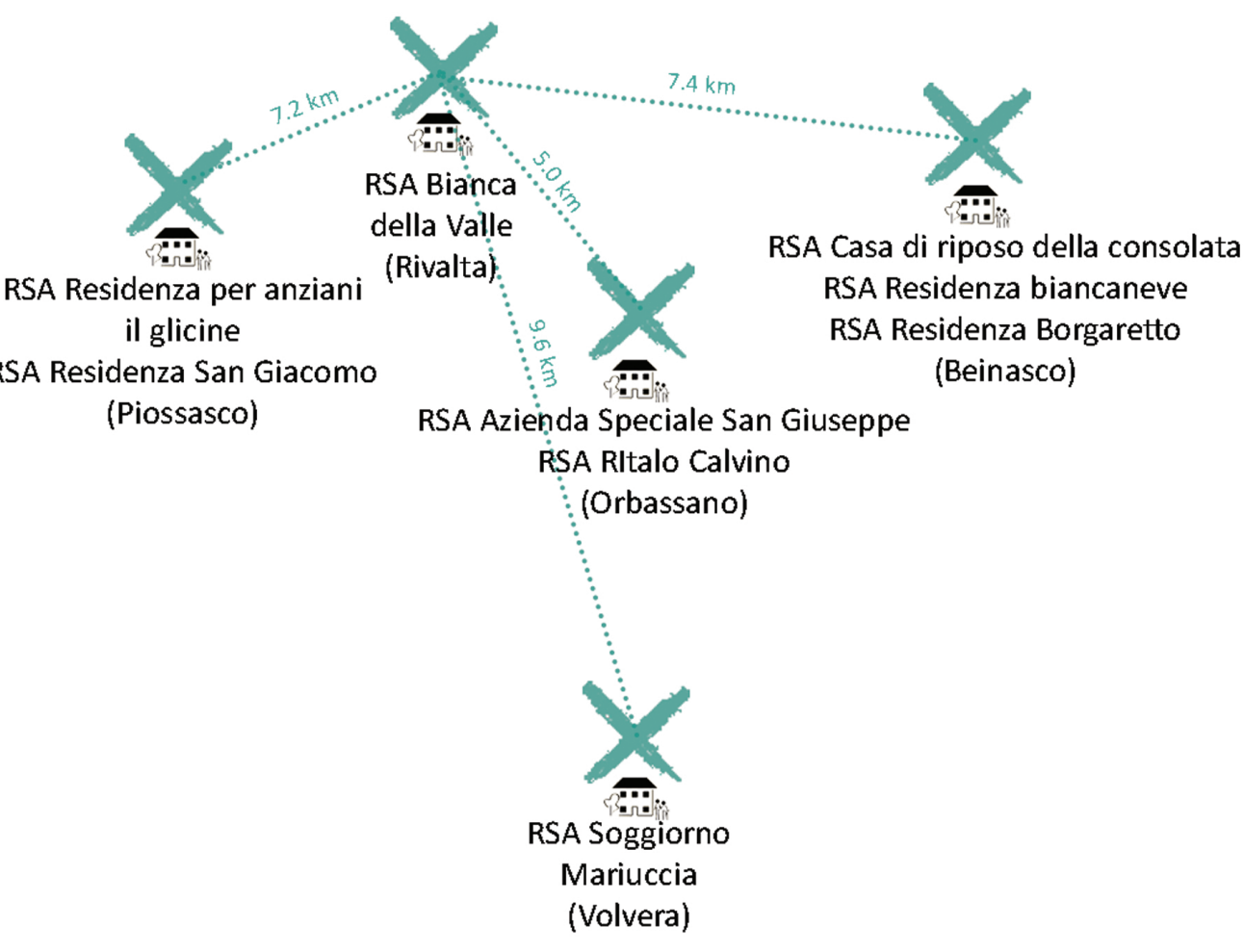
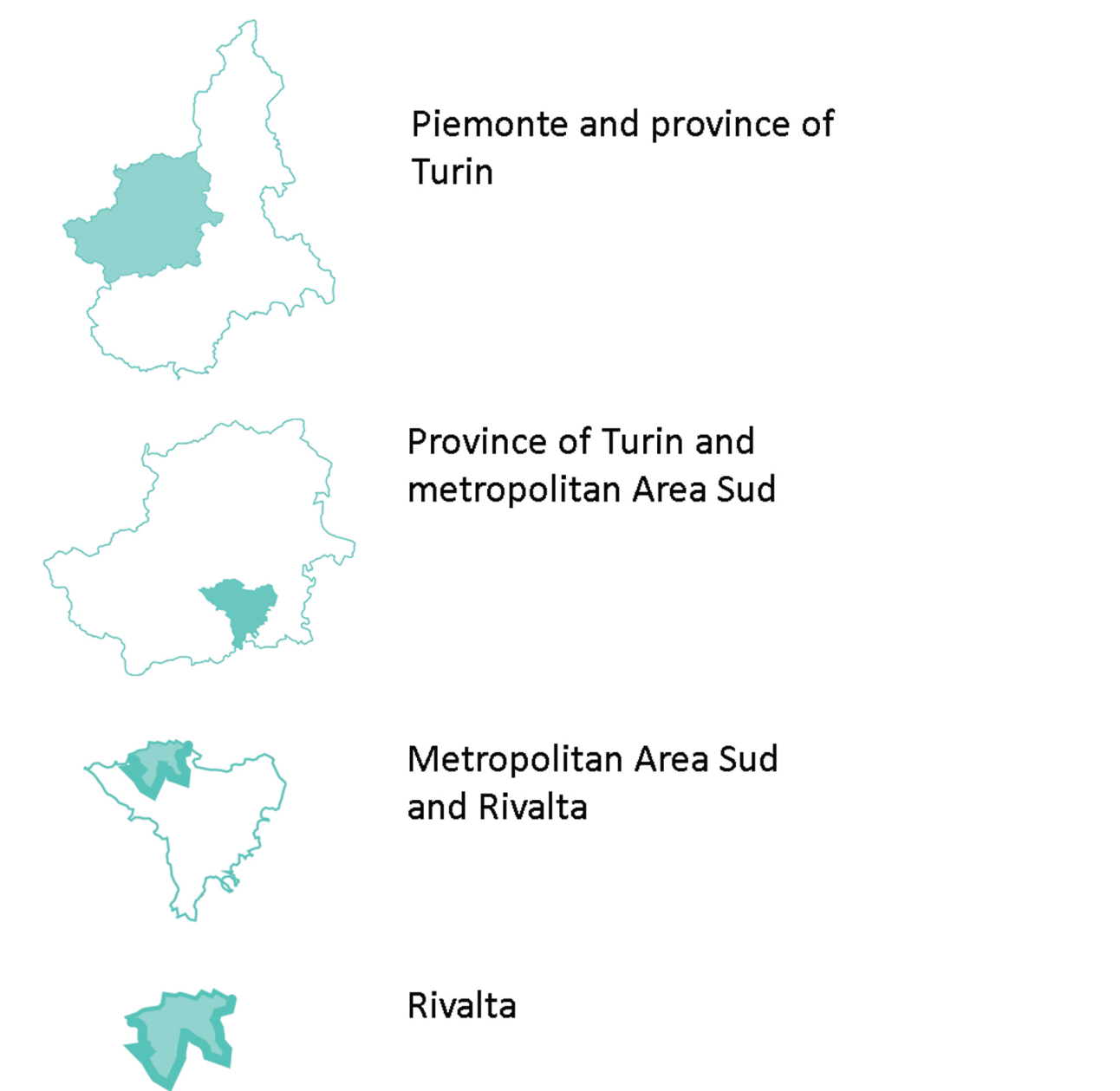
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ALESSANDRA VAGLI

COMPETITIVE FRAMEWORK : HOSPITAL AND RSA



Distance range from Rivalta to RSA of ASLTO3 scale ASLTO3

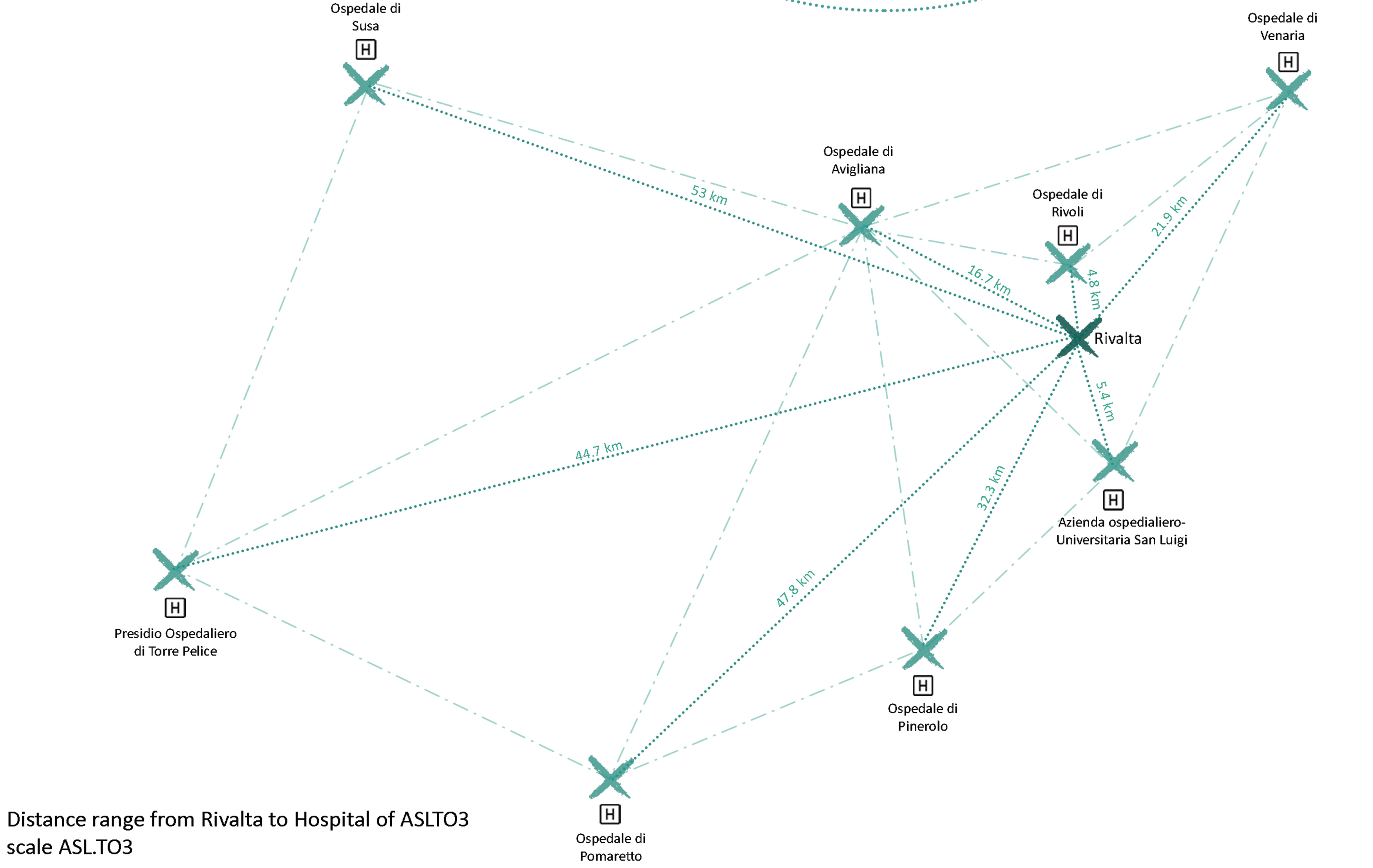
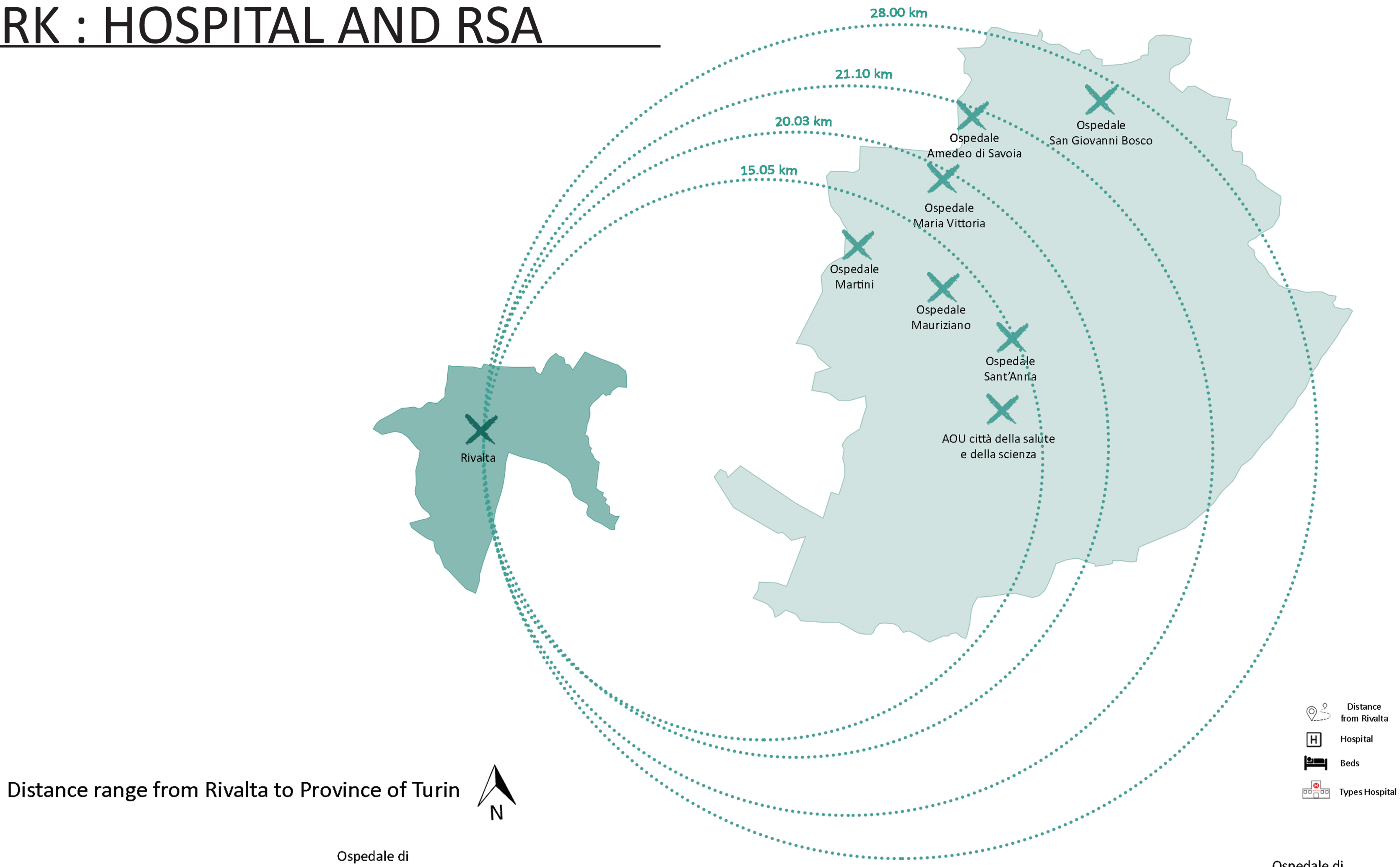
The analysis is carried out in different scales, the ASLTO3 scale and the Rivalta scale.

The cartographies realized take into account the distance of the hospitals and the RSA from Rivalta.

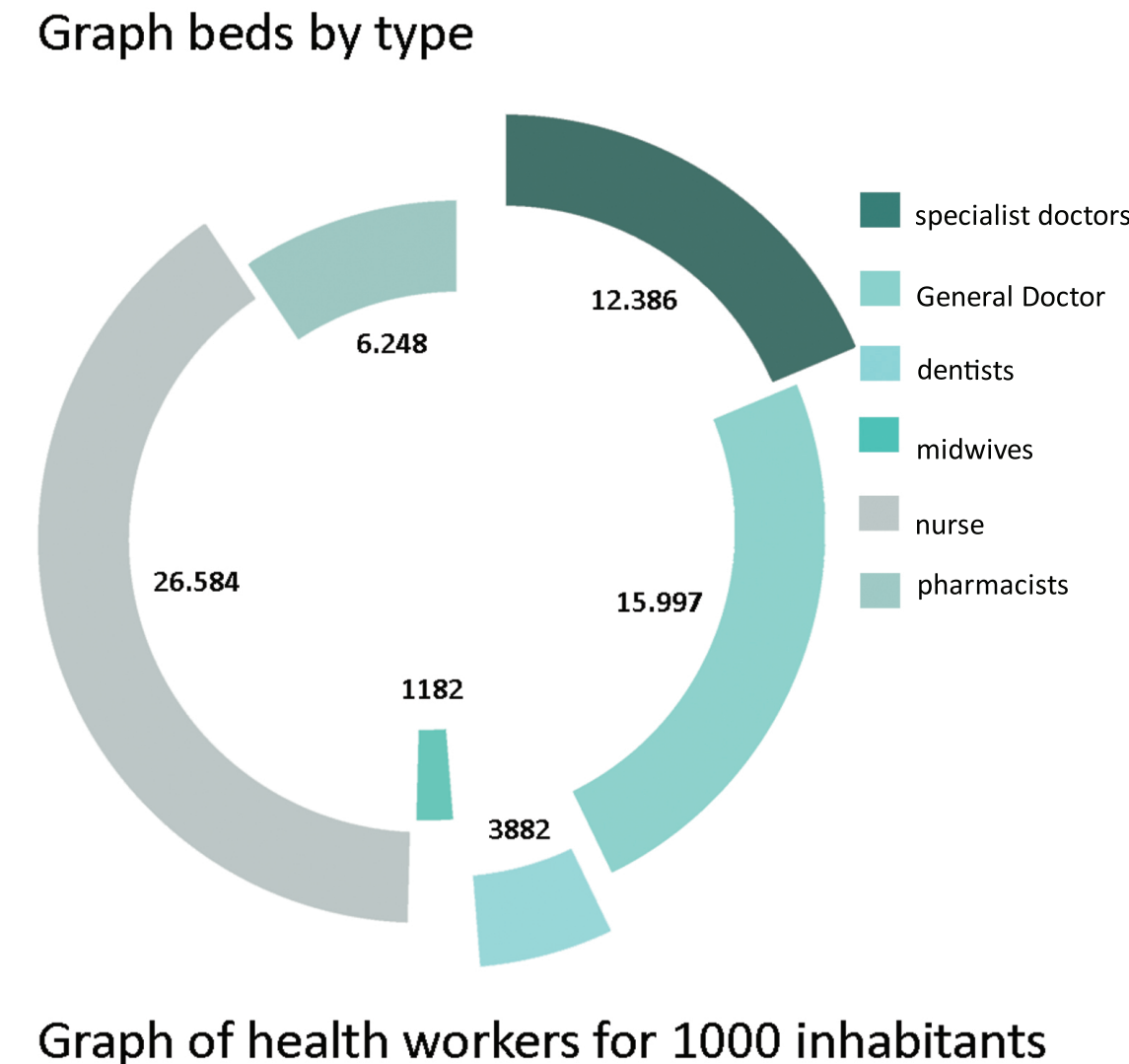
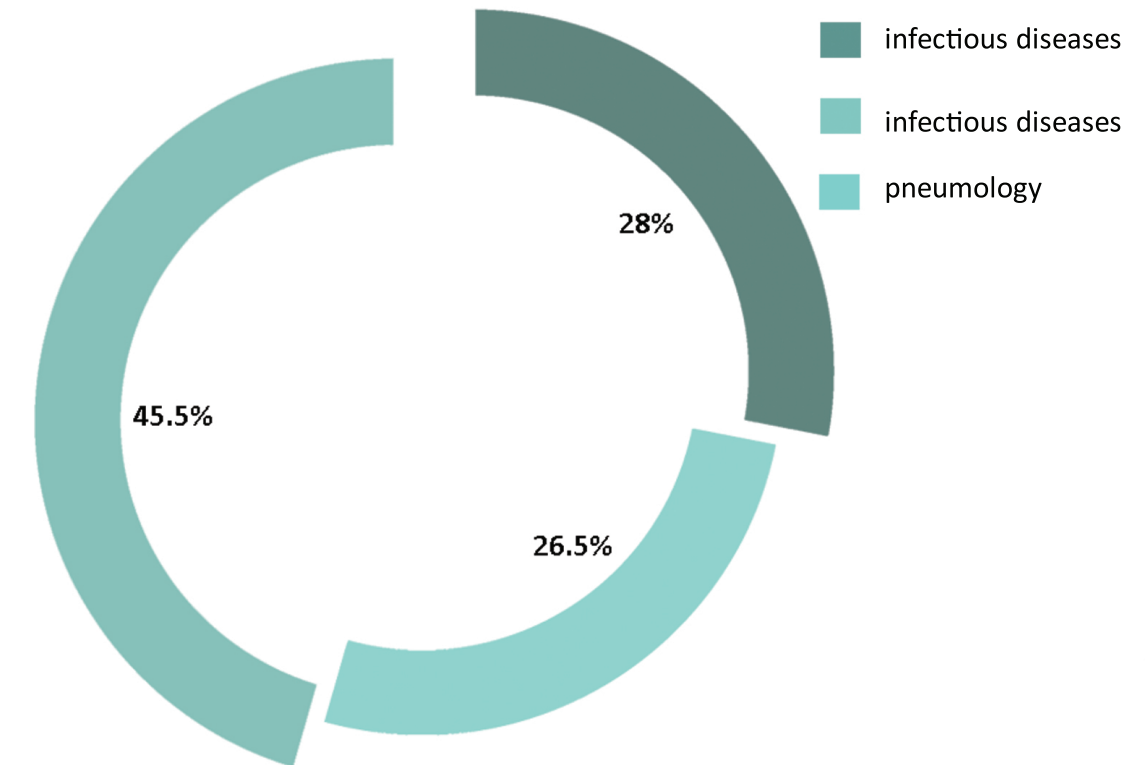
After careful research, it was found that the municipality of Rivalta is close to eight hospitals, within the ASLTO3.

The table is used to highlight the differences between the hospitals analyzed, starting from the distance from Rivalta, the beds and the specialization of them.

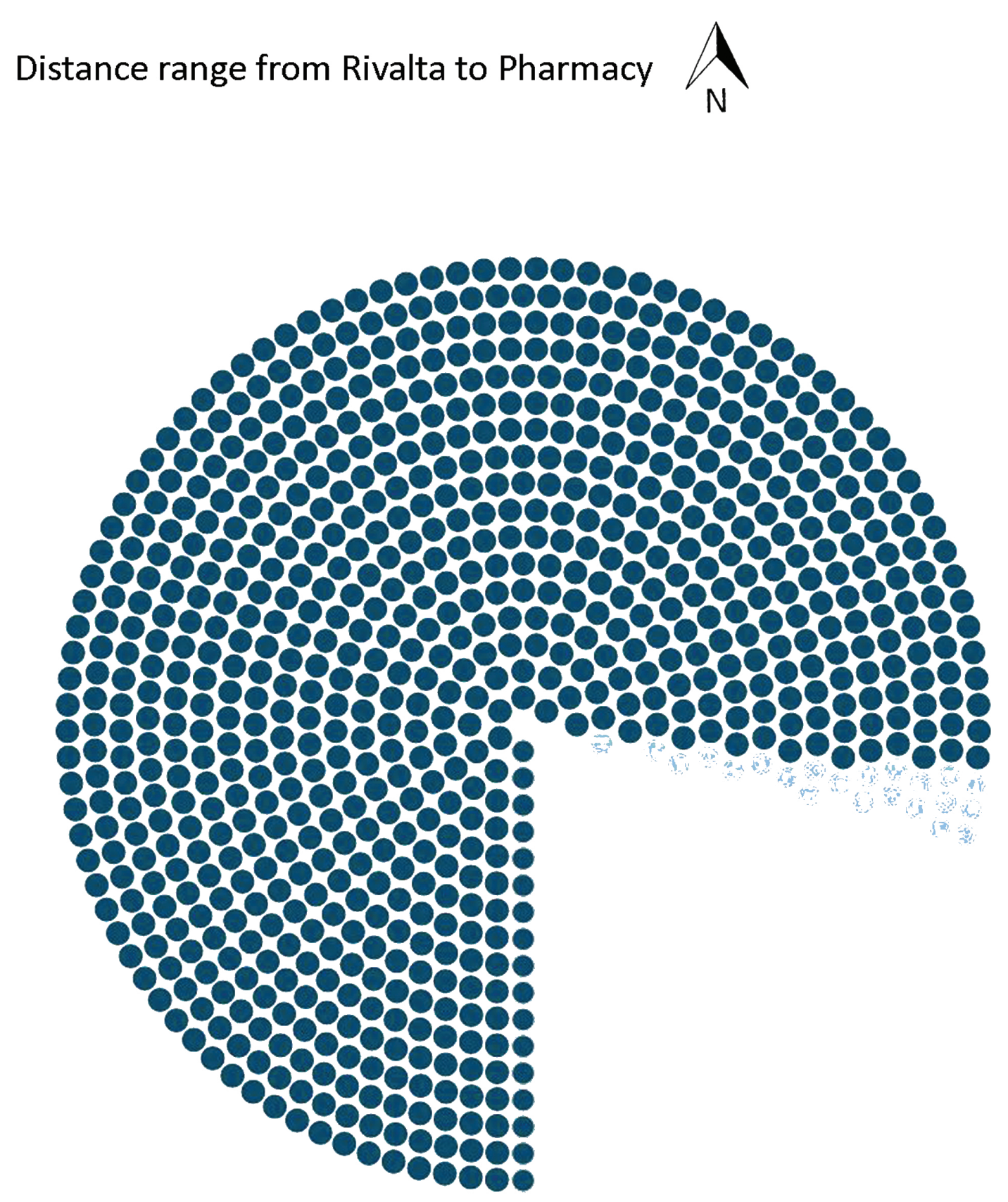
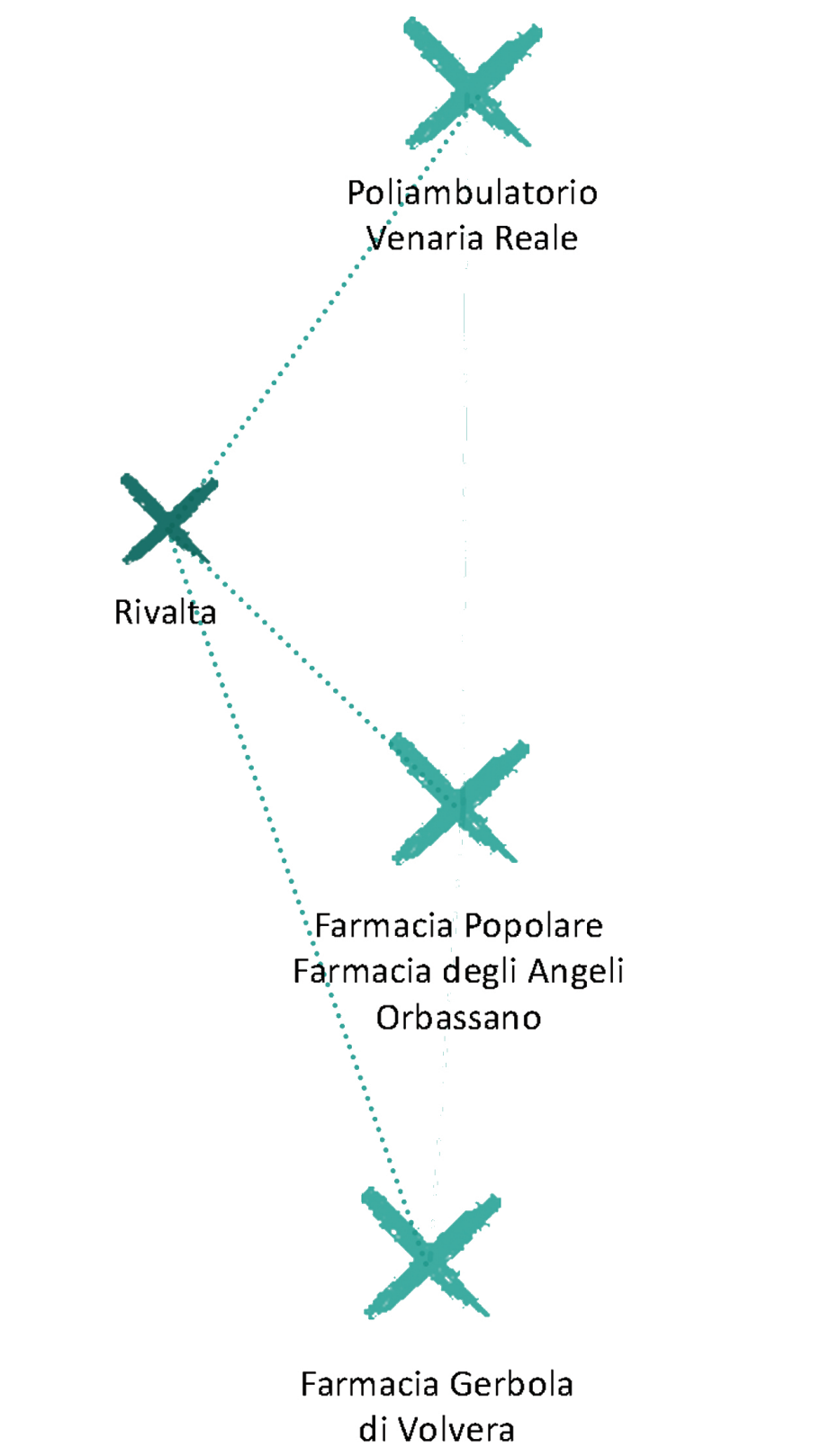
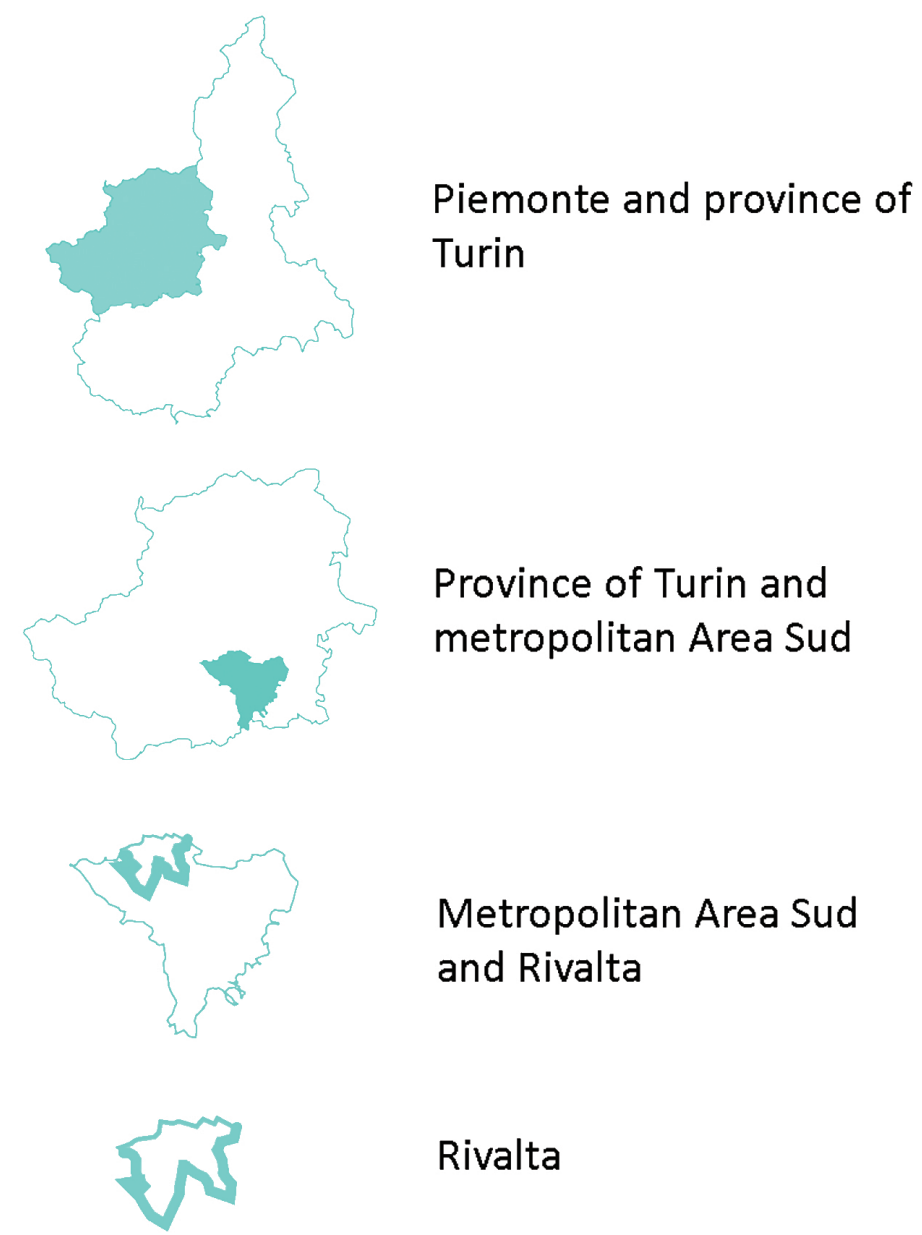
Souces:<https://www.regione.piemonte.it/web/temi/sanita/organizzazione-strutture-sanitarie/strutture-ospedaliere>, Regione Piemonte, <https://www.doveecomemicuro.it/strutture/ospedale-sant-agostino>



4.8 km	Ospedale di Rivoli	610	Polyclinic
5.4 km	Azienda ospedaliero-Universitaria San Luigi	343	University Hospital
16.7 km	Ospedale di Avigliana	Not found	Cardiology
21.9 km	Ospedale di Venaria	488	General surgery
32.3 km	Ospedale di Pinerolo	214	Traumatology
44.7 km	Presidio Ospedaliero di Torre Pelice	20	Rehabilitation centre
47.8 km	Ospedale di Pomaretto	347	Oncology
53 km	Ospedale di Susa	Not found	Polyclinic



COMPETITIVE FRAMEWORK: PHARMACY AND HUB VAX



- one point: 60 thousand people (second dose)
- one point: 60 thousand people (first dose)

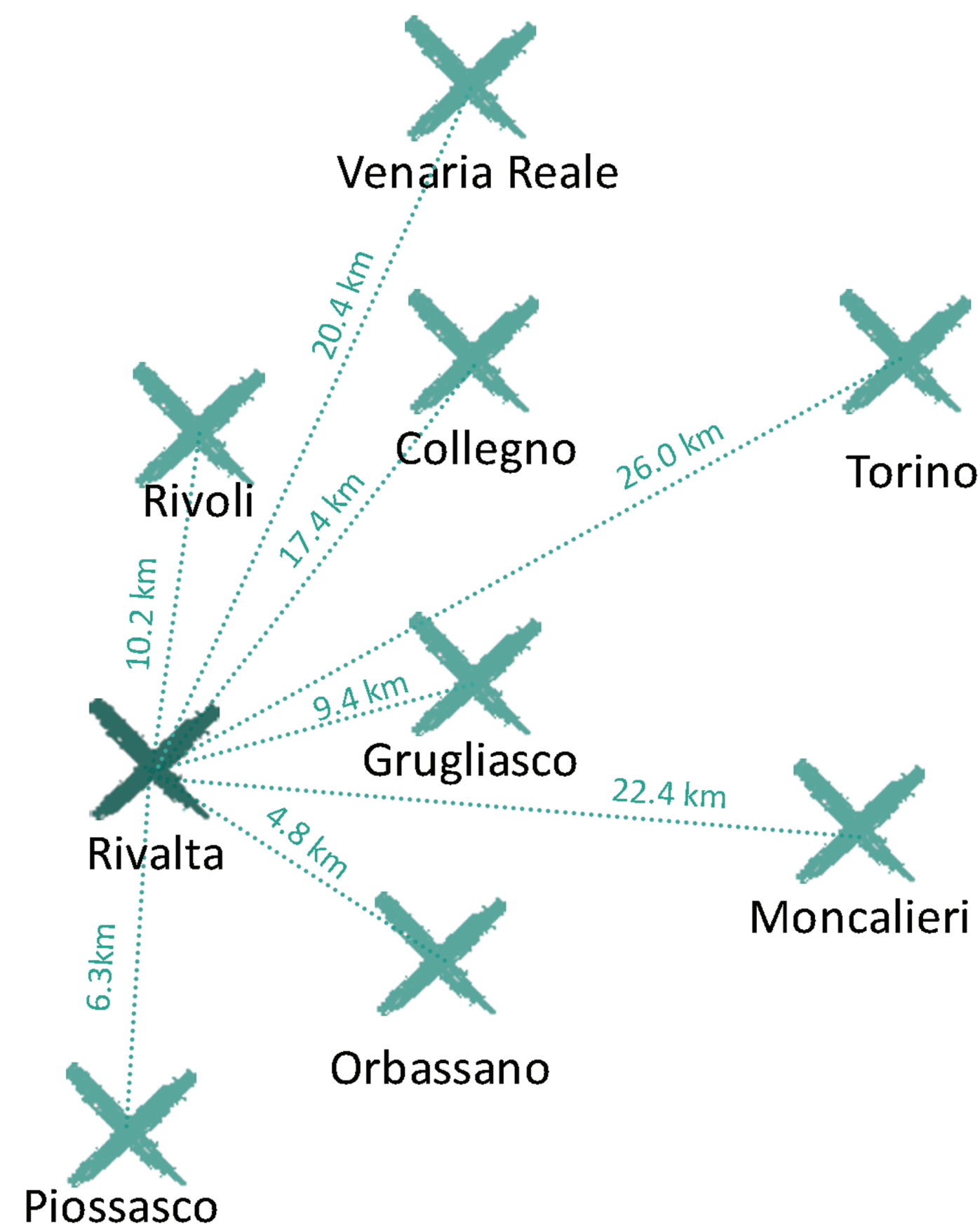
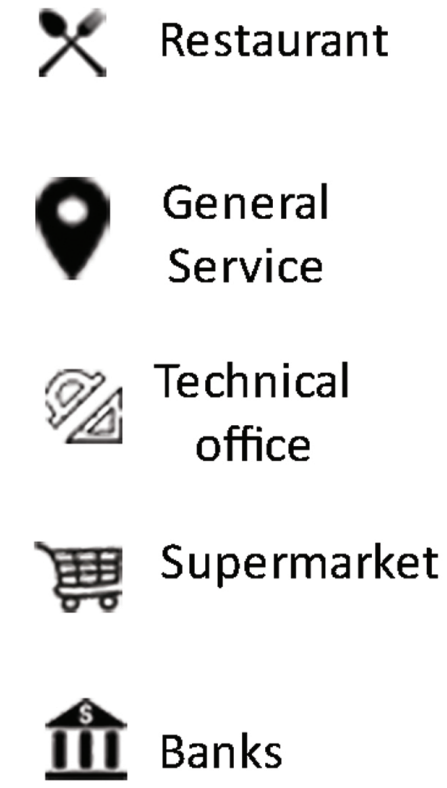
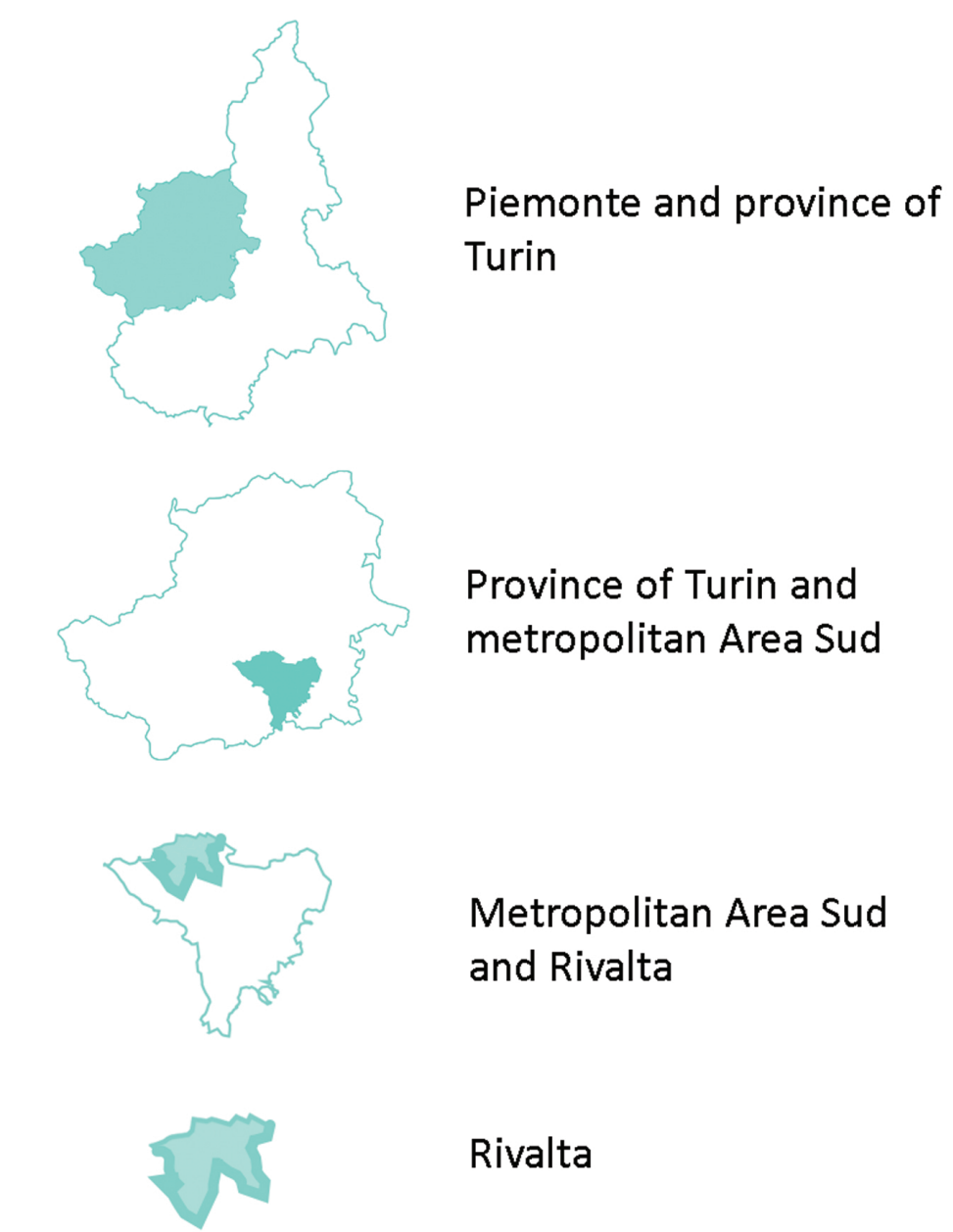
- ⛶ Pharmacy
- || Swab
- 🪡 Vax

The analysis is carried out in different scales, the ASLTO3 scale and the Rivalta scale. The cartographies realized take into account the distance of the pharmacy from Rivalta. The analysis shows the pharmacies inside the ASLTO3 and the pharmacies that carry out swabs and vaccines. The data show that only four pharmacies carry out vaccination against covid-19. One of these is located in the municipality of Rivalta.

⛶	FARMACIA MAGNANI	✓	
	FARMACIA BORGHESIO	✓	
	FARMACIA ACCADEMIA	✓	
	FARMACIA FACCI TOSATTI	✓	
	FARMACIA COMUNALE S. ANNA	✓	
	FARMACIA SANTA CHIARA	✓	
	FARMACIA COMUNALE ASM 20	✓	
	FARMACIA POPOLARE	✓	✓
	FARMACIA E.C.P.	✓	
	FARMACIA COMUNALE N.2 AZIENDA SPECIALE SAN GIUSEPPE	✓	
	FARMACIA COMUNALE N.1	✓	
	FARMACIA SAN GIUSEPPE	✓	✓
	FARMACIA DEGLI ANGELI	✓	
	FARMACIA SAN GIOVANNI SNC	✓	
	FARMACIA GAZZOLO	✓	
	BURIASCO	✓	
	FARMACIA CHIABRANDO	✓	
	FARMACIA COMUNALE ASM 19	✓	
	FARMACIA SAN VITTORE	✓	
	FARMACIA RUGGIERO	✓	
	FARMACIA COMUNALE DI RIVALTA	✓	✓
	FARMACIA DEMICHELIS	✓	
	MB MED SRL	✓	
	FARMACIA SINISI SNC	✓	
	FARMACIA DEL MOLINO	✓	✓
	GERBOLA DI VOLVERA	✓	

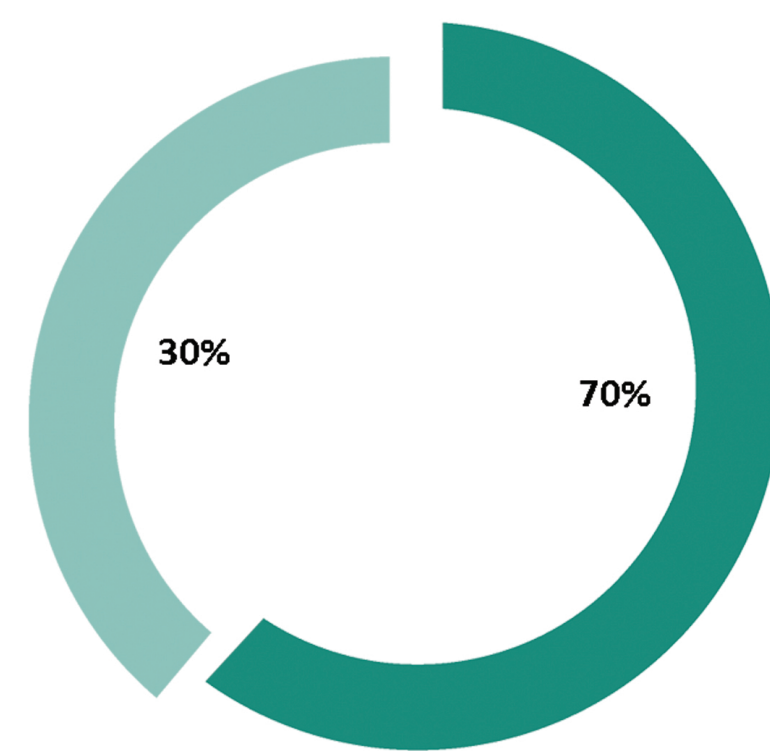
Sources:<https://tg24.sky.it/cronaca/approfondimenti/dati-vaccini-covid-italia>, Regione Piemonte

COMPETITIVE FRAMEWORK: SERVICE FOR POPULATION



Distance range from neighboring municipalities

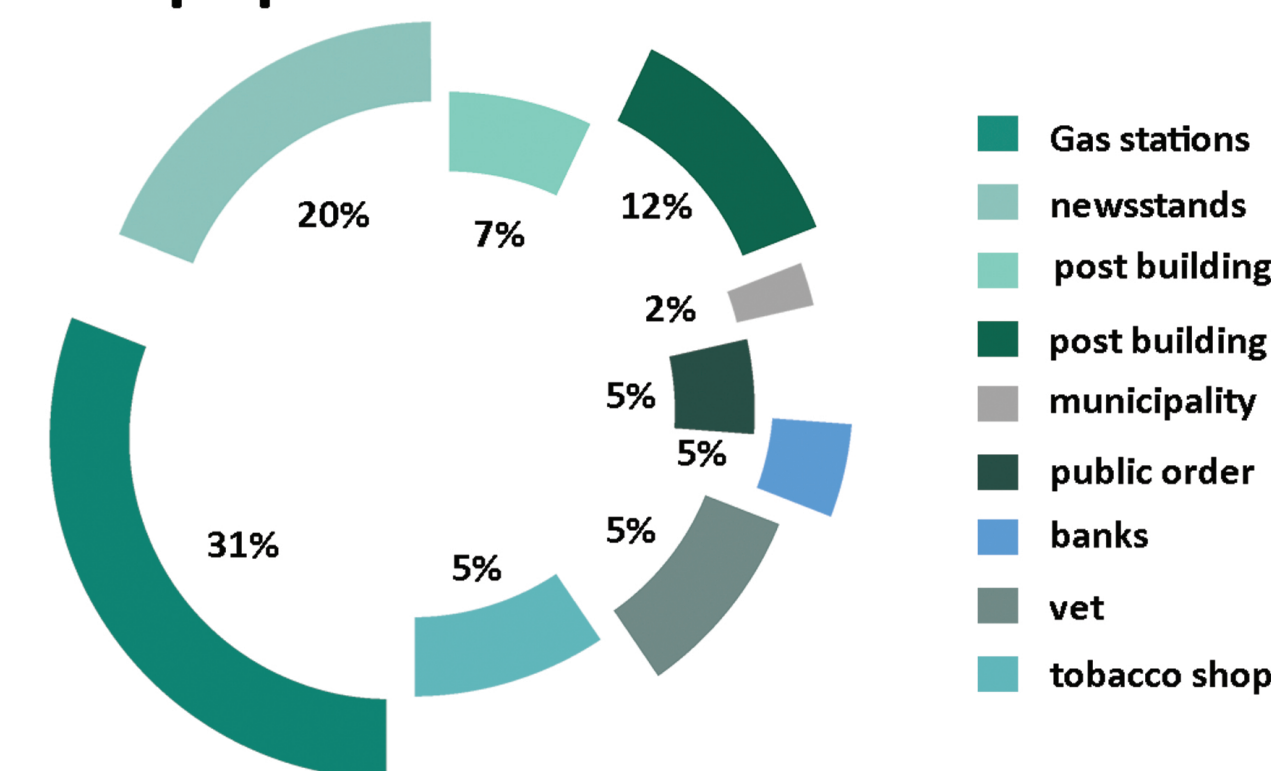
Map of services
Scale Castello Orisini



Graps of genric services and Essential services

TERRITORIAL ANALYSIS_ Service for population

Generic services (Restaurant, agencies ecc...)
Essential services



Graps of genric type of services

The analysis for the service is carried out in Rivalta scale. The cartographies realized shows the different services near the study area of Orsini Castel. The analysis is based on the distinction between services of first necessity and not, and then be represented in cartography. The graphs explain the types of basic services. This analysis was fundamental to understand the percentage of services that can be closed during a lockdown but especially how the user has changed from 2019 to today.



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HISTORICAL ANALYSIS

HISTORICAL MAPS

Sources:
<https://www.comune.rivalta.to.it>
https://it.wikipedia.org/wiki/Castello_di_Rivalta_di_Torino



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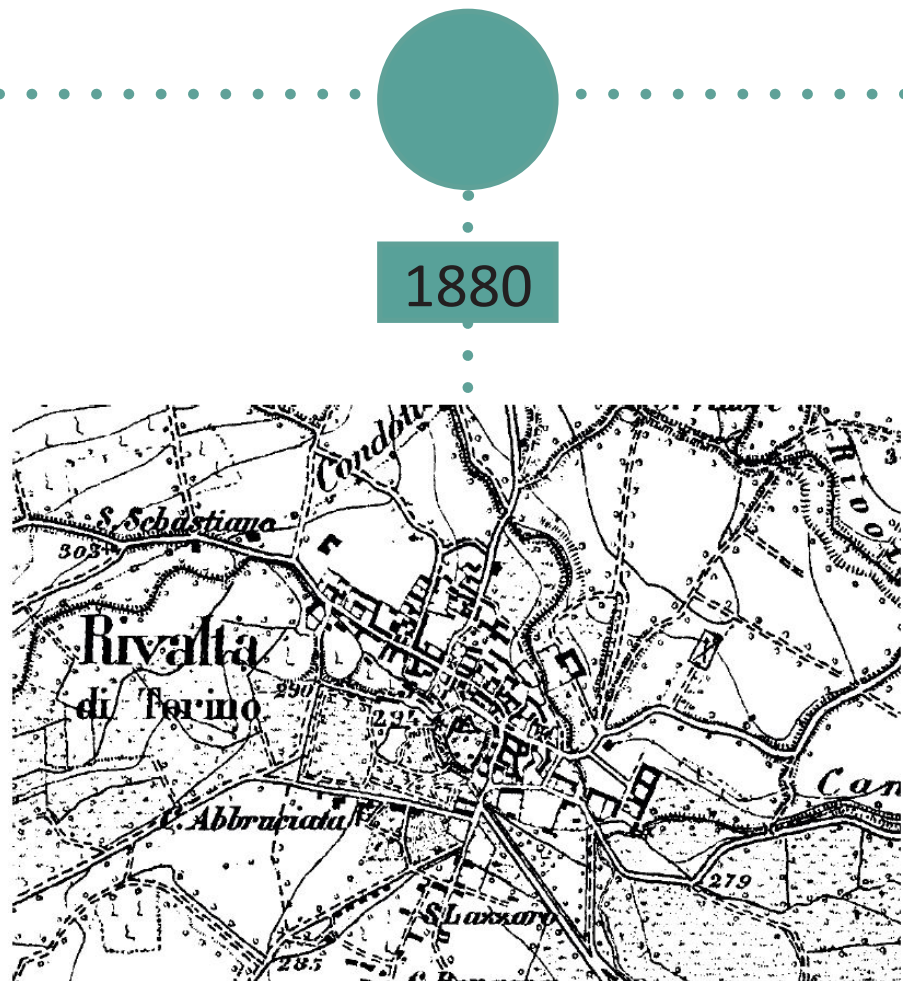
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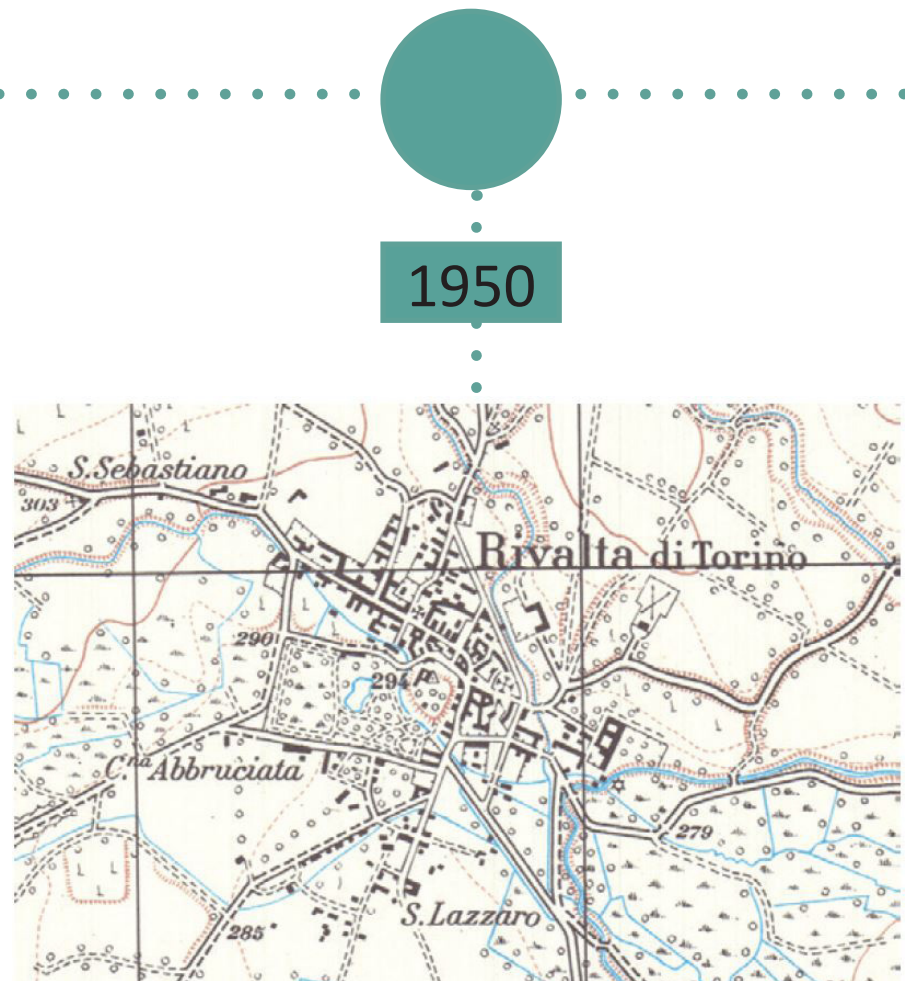
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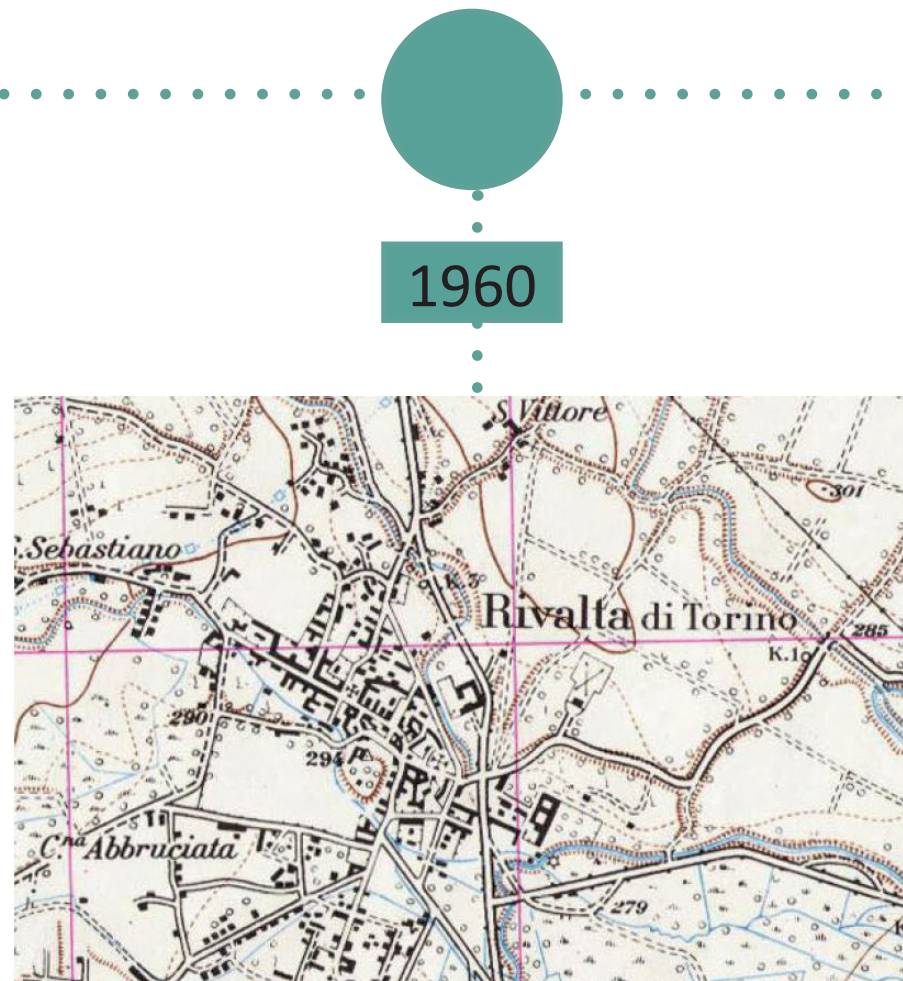
Napoleonic map
Source: <https://www.comune.rivalta.to.it>



IGM 1:25000
Source: <http://www.cittametropolitana.torino.it>



IGM 1:25000
Source: <http://www.cittametropolitana.torino.it>

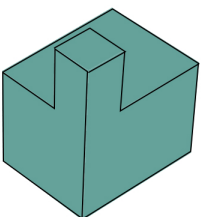


IGM 1:25000
Source: <http://www.cittametropolitana.torino.it>

HISTORICAL AND CONSTRUCTIVE PHASE OF THE ORSINI CASTLE

XII SEC

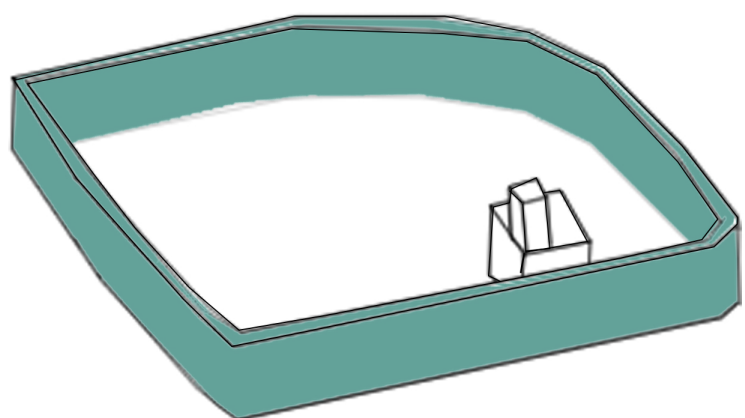
- 1062
First written documentation of Castello Orsini
- 1150
Construction of the "Torre Porta" with a drawbridge or tilting platform
- 1176
Emperor Frederick plunders and sets fire to the town and the castle of Rivalta
- 1187
Destruction of the fortress and settlement of Enrico VI



First nucleus is a tower traceable from the foundations and the ground floor

XIII SEC

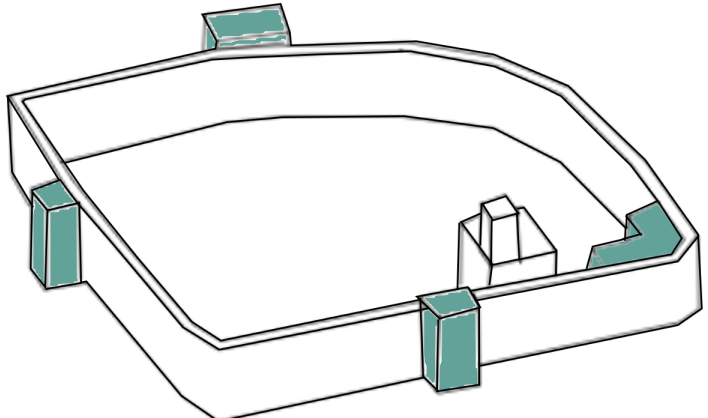
- 1200
The village around the castle begins to develop.
- 1229
Reconstruction of the fortress following the agreement of the Bishop of Turin with the lords of Rivalta
- 1297
Construction of the Castrum or a distinct element. It serves as a residence for the lords of the castle and Receptum where the inhabitants were sheltered in case of danger



Construction of the castle protection walls

XIV SEC

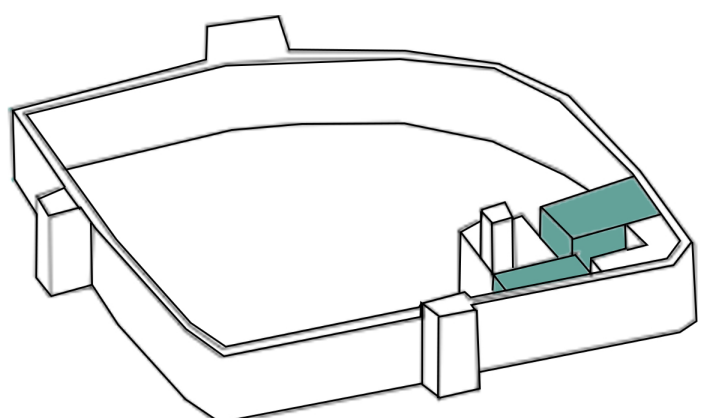
- 1300
The village is accessible by three doors that trace three different directions and on which develops the growth of Rivalta.



Three towers are placed against the walls as an access door too.
Construction of the first masonry buildings against the walls

XIV-XVI SEC

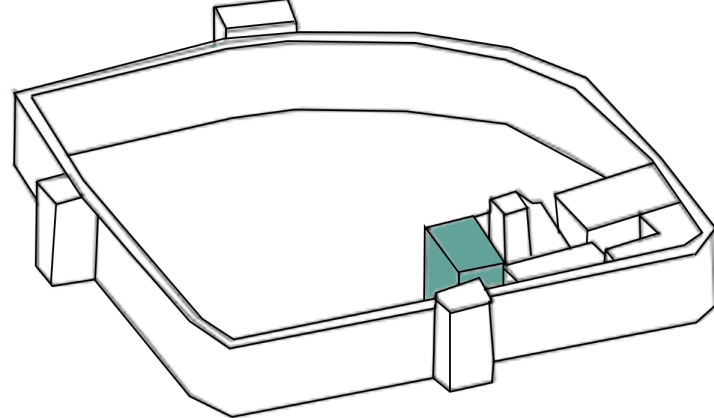
- 1444
The historical core of the city is divided into four parts, the castrum with fortified walls, the internal area of the recetto, Villanova Ripalte urban agglomeration ccentrale of lower density, extra villam Rippalte located outside the village but connected by waterways
- 1500
The "signori di Rivalta" became Orsini



Construction works in the northwest corner of the castle. The first tower is connected with new habitable environments

XVIII-XIX SEC

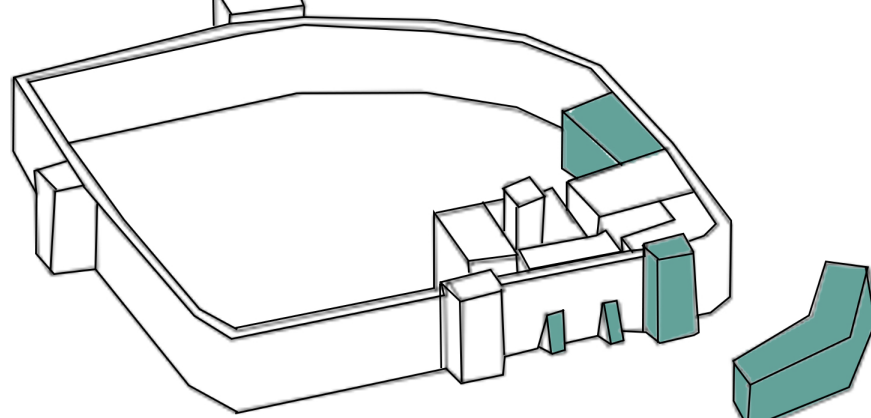
- 1794
Risbaldo Filippo Orsini died. The castle is inherited by Carlo Giuseppe Ignazio
- 1823
Gioachino sells the castle to Cesare della Chiesa di Benevello
- 1824
The tower is built in neo-Gothic style behind the entrance tower



Another residential building is flanked by the original walls

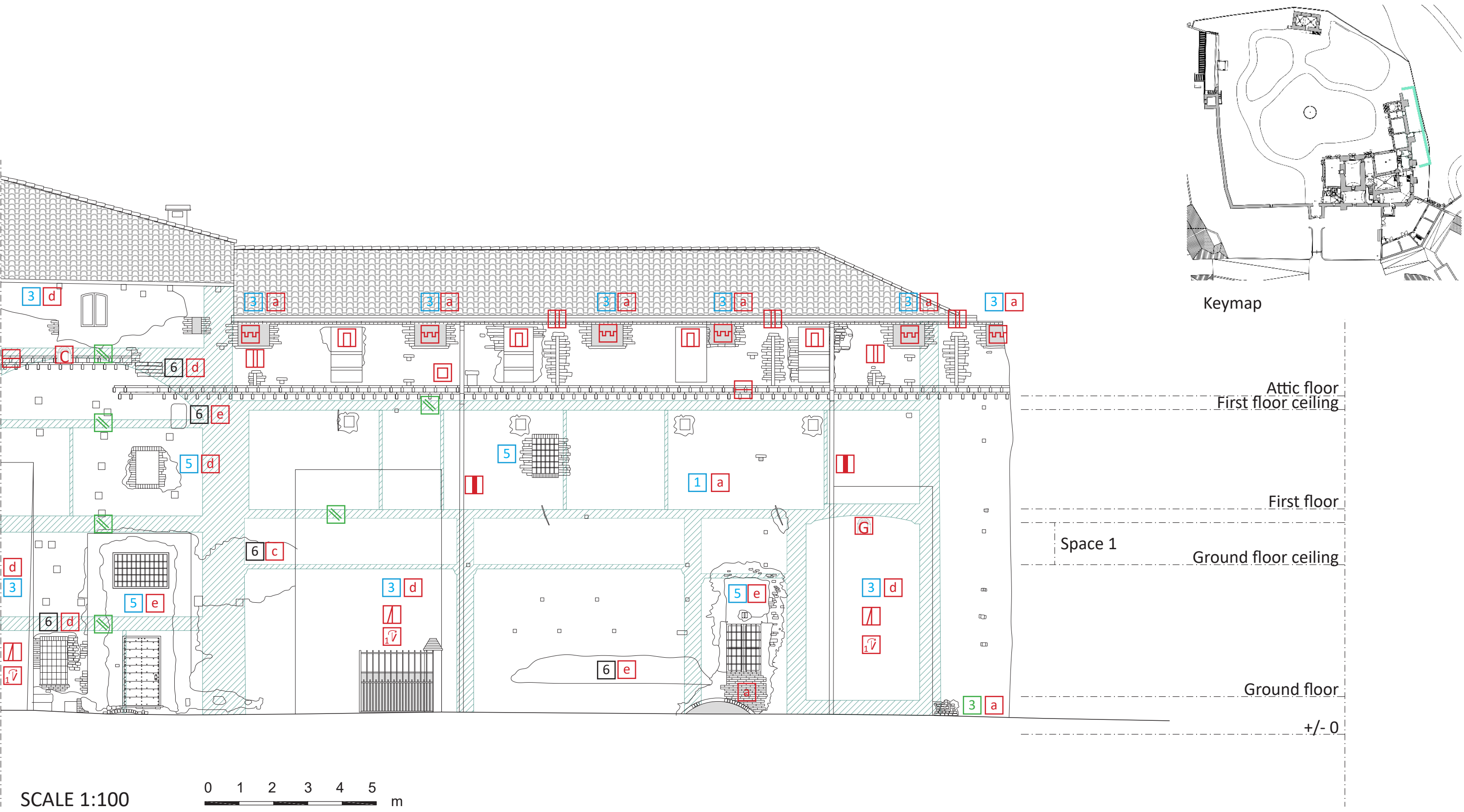
XX-XXI SEC

- 1912
Secondo Martino buy the castle
- 1931/35
Urban interventions are carried out through the creation of the square in front of the Municipal House and the walls were opened
- 2006
The Municipality buy the Castel Orsini



Another sleeve is made containing a chapel and residential and rural buildings

WEST FACADE ANALYSIS



PHOTOGRAPHIC SURVEY

THE FACADE

The portion in yellow has not been dated but it is possible that it is datable in a period between the original facade and the addition of the twentieth century. The possible reason for this addition is the repair following some stones falling



- Brick coursed rubble masonry
- Brick frieze
- Loophole
- 20th century wall
- Putlog holes
- Random rubble masonry

CHEMIN-DE-RONDE

From outside



Merlos and crenel

From inside



XVIII century masonry infill

TRANSFORMATIONS

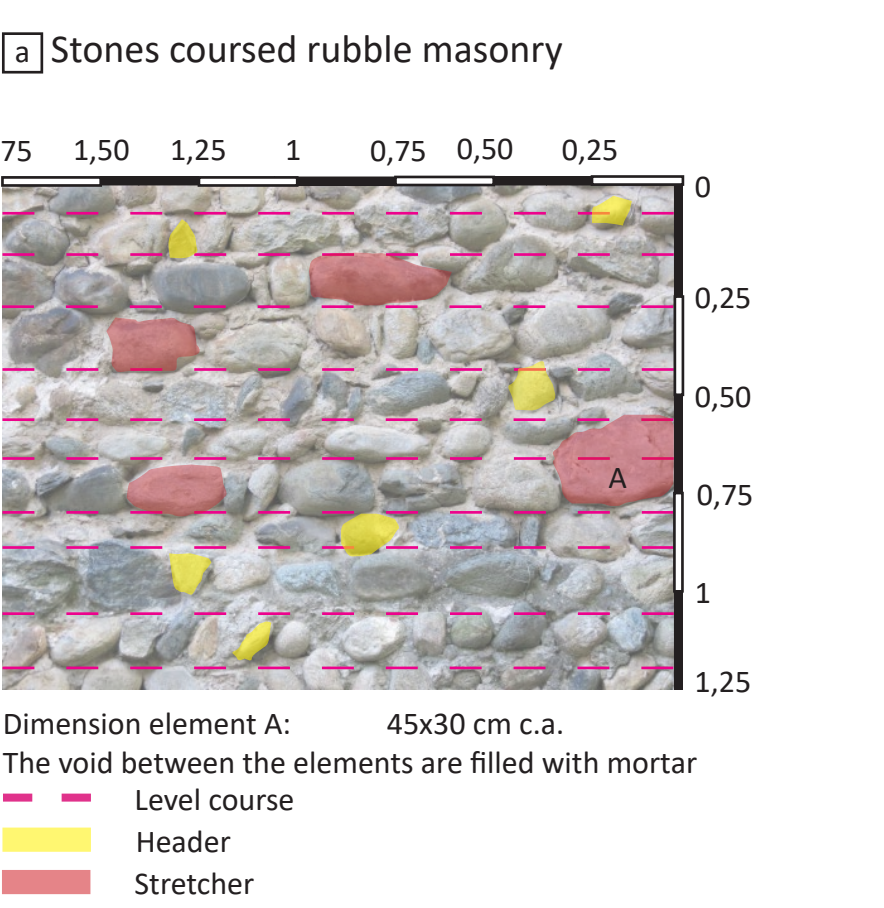


DETAILS OF THE FACADE



- Brick coursed rubble masonry
- Brick frieze

RULE OF THE ART

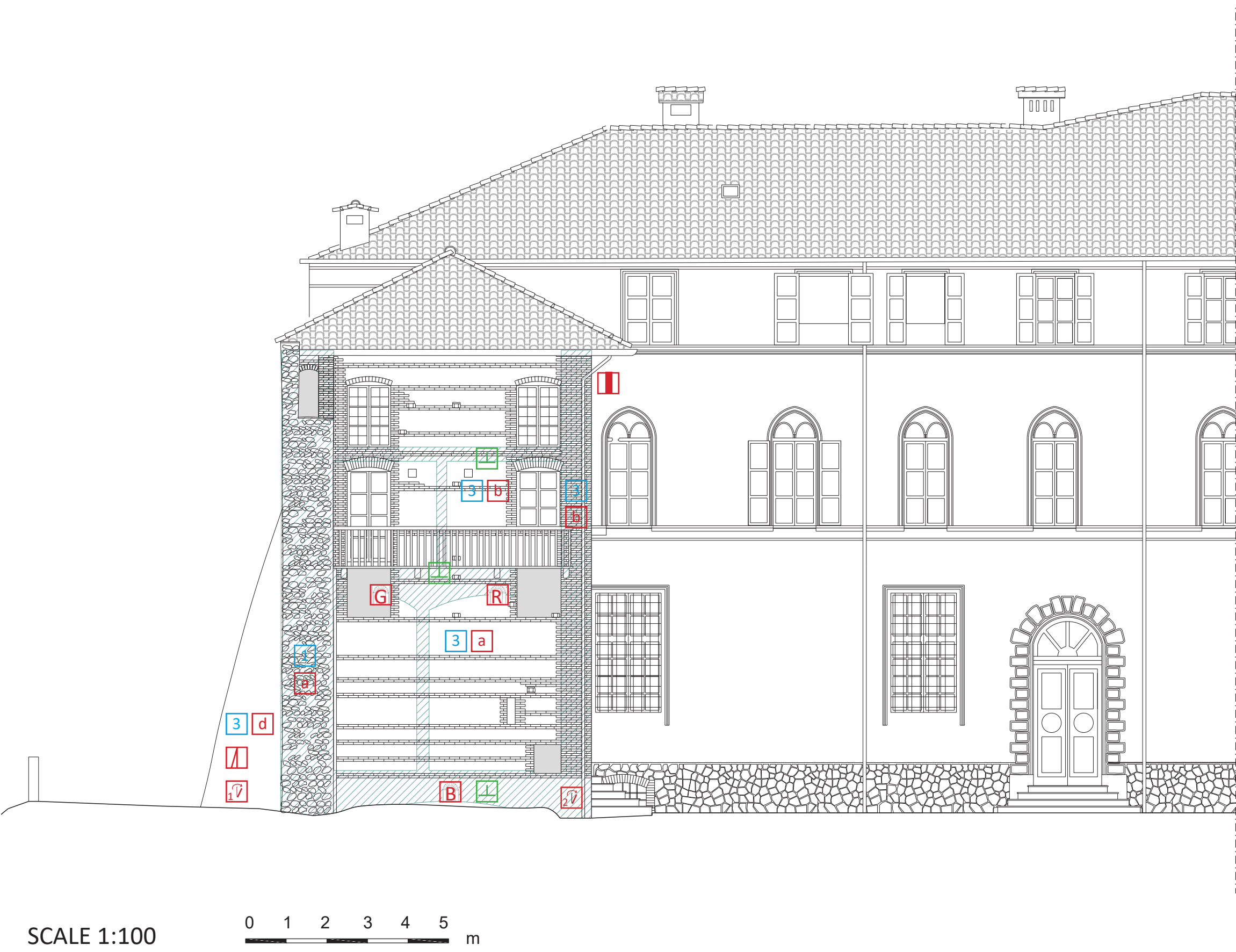


- Stones coursed rubble masonry
- Dimension element A: 45x30 cm c.a.
- The void between the elements are filled with mortar
- Level course
- Header
- Stretcher

STRUCTURAL ELEMENTS AND RULE OF THE ART

General symbology		
Sources of information - Direct survey - Historical source - Hypothesis - Unknown		Elevations and sections - Behind element - Plugged element
Type of masonry	Description	Photos
Dating - XII-XIII century wall - XV century wall - XVIII century wall - XIX century wall - XX century wall - Unknown	Type of masonry - Stones coursed rubble masonry - Bricks coursed rubble masonry - Random rubble masonry - Regular bricks masonry - Plastered masonry	- a - b - c - d - e
Costruction elements		
Type - Buttress - Merlon and crenel - Loophole - Putlog hole type 1 - Putlog hole type 2 - Anchor - Frieze - Hollow opening	Material - Bricks - Bricks + irregular stones - Bricks - Bricks + irregular stones - Metal - Bricks (The material indicated is related to the corresponding line in the "type" column)	- f - g - h - i - j - k - l - m - n - o - p - q - r - s - t - u - v - w - x - y - z
Floors		
Arrangement of the beam - Beams parallel to the facade - Beams orthogonal to the facade	Plan Section	
Vaults		
Type of vaults - Barrel vault - Cloister vault - Groin vault - Ribbed vault	Plan Section	- B - G - C - R
Distresses		
Type of distress - Type 1 collapse - Type 2 collapse	Cause Lack of clamping between the masonry and the buttress	7

SOUTH FACADE ANALYSIS



PHOTOGRAPHIC SURVEY

THE FACADE

The portion in yellow has not been dated but it is possible that it is datable in a period between the original facade and the addition of the twentieth century. The possible reason for this addition is the repair following some stones falling



Brick coursed rubble masonry
Chemin-de-Ronde
Putlog holes

UPPER PORTION



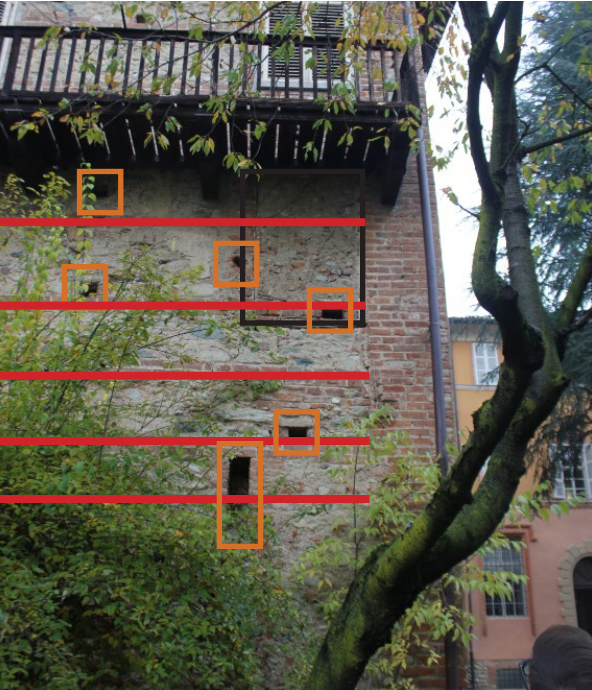
Brick coursed rubble masonry
Putlog holes

Chemin-de-Ronde



Chemin-de-Ronde

LOWER PORTION



Brick coursed rubble masonry
Putlog holes
Walled-up window

DETAILS OF THE ROOF



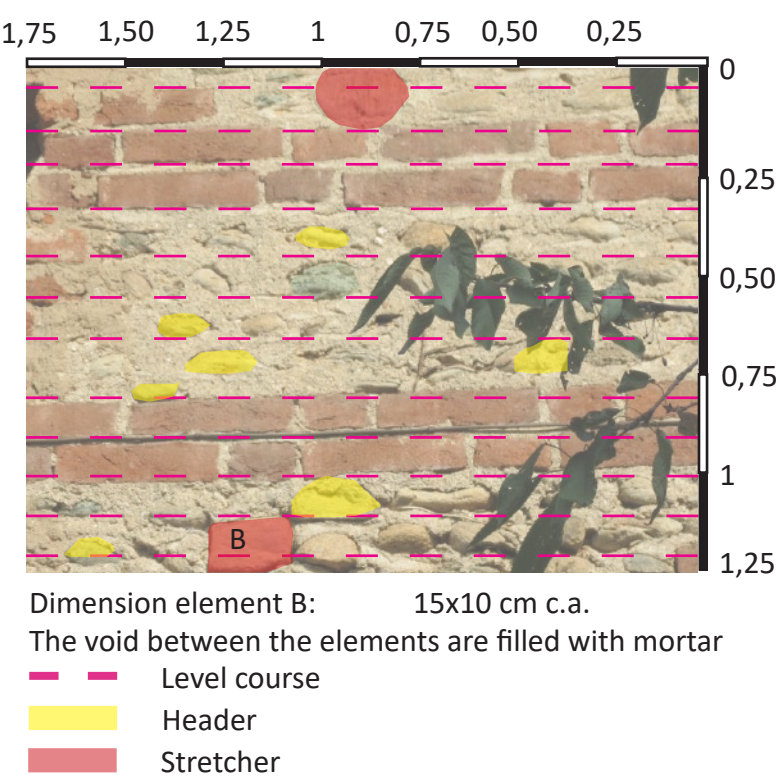
BUTTRESS



[a] Stones coursed rubble masonry

RULE OF THE ART

[b] Bricks coursed rubble masonry



STRUCTURAL ELEMENTS AND RULE OF THE ART

General symbology			
<u>Sources of information</u> ● Direct survey ● Historical source ● Hypothesis ● Unknown		<u>Elevations and sections</u> ■ Behind element ■ Plugged element	
Type of masonry	Description	Photos	
<u>Dating</u> 1 XII-XIII century wall 2 XV century wall 3 XVIII century wall 4 XIX century wall 5 XX century wall 6 Unknown	<u>Type of masonry</u> a Stones coursed rubble masonry b Bricks coursed rubble masonry c Random rubble masonry d Regular bricks masonry e Plastered masonry	a b c d e	
Costruction elements			
<u>Type</u> I Buttress II Merlon and crenel III Loophole IV Putlog hole type 1 V Putlog hole type 2 VI Anchor VII Frieze VIII Hollow opening	<u>Material</u> Bricks Bricks + irregular stones Bricks Bricks + irregular stones Metal Bricks (The material indicated is related to the corresponding line in the "type" column)	I II III IV V VI VII VIII	
Floors			
<u>Arrangement of the beam</u> I Beams parallel to the facade II Beams orthogonal to the facade	<u>Plan</u> <u>Section</u> I II I II		
Vaults			
<u>Type of vaults</u> B Barrel vault C Cloister vault G Groin vault R Ribbed vault	<u>Plan</u> <u>Section</u> B C G R B C G R	B G C R	
Distresses			
<u>Type of distress</u> 1 Type 1 collapse 2 Type 2 collapse	<u>Cause</u> Lack of clamping between the masonry and the buttress	1	

EAST AND COURT FACADE ANALYSIS



PHOTOGRAPHIC SURVEY

THE FACADE

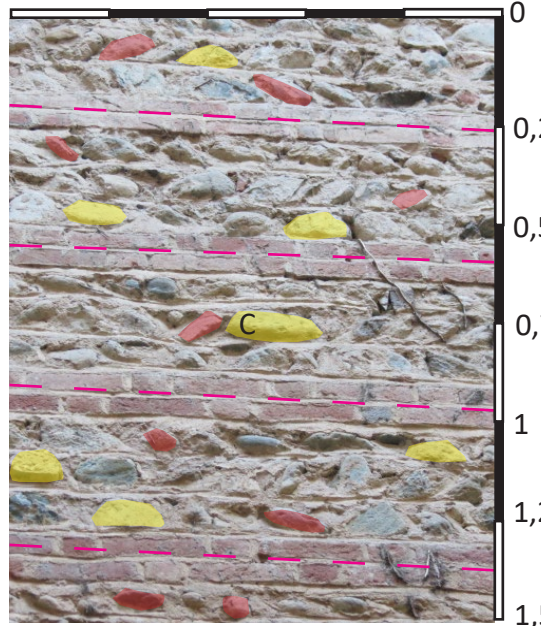
The east facade was entirely built in the eighteenth-century. We can see openings not aligned to the attic plan, opened with an intervention of the twentieth century. This creates internal tensions due to deviated forces, resulting in visible lesions and cracks in the facade.



DETAILS OF MASONRY



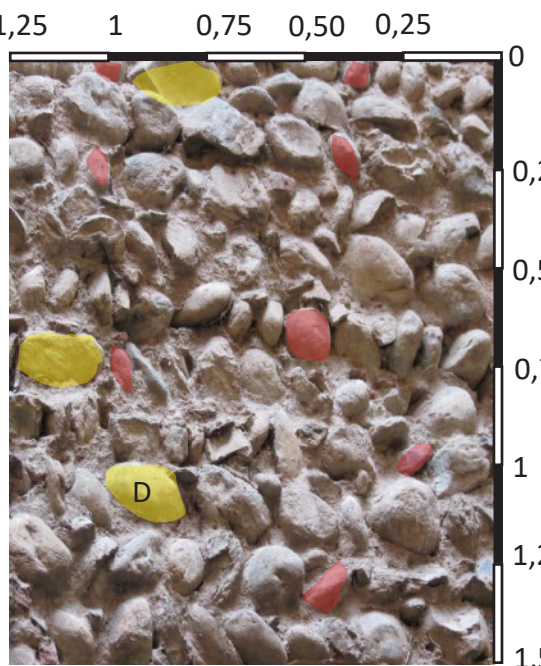
RULE OF THE ART



b Bricks coursed rubble masonry
Dimension element C: 25x8 cm c.a.
Dimension element D: 20x15 cm c.a.
The void between the elements are filled with mortar

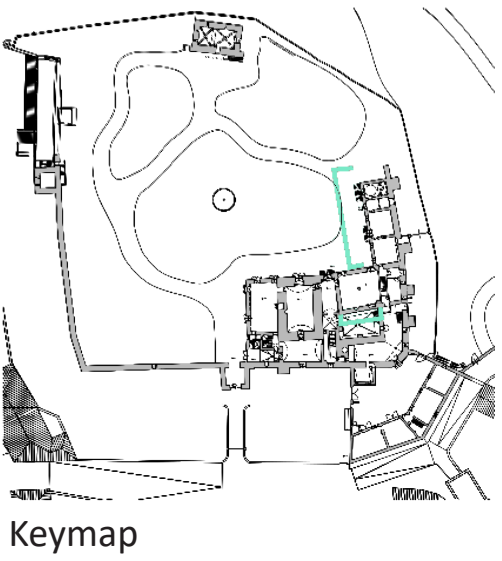
— Level course
— Header
— Stretcher

a Stones coursed rubble masonry



THE FACADE

The facade of the court is built between the fourteenth and fifteenth century. The medieval side of the inner courtyard belongs to a single building block with solid structures and masonry listed on the upper levels.



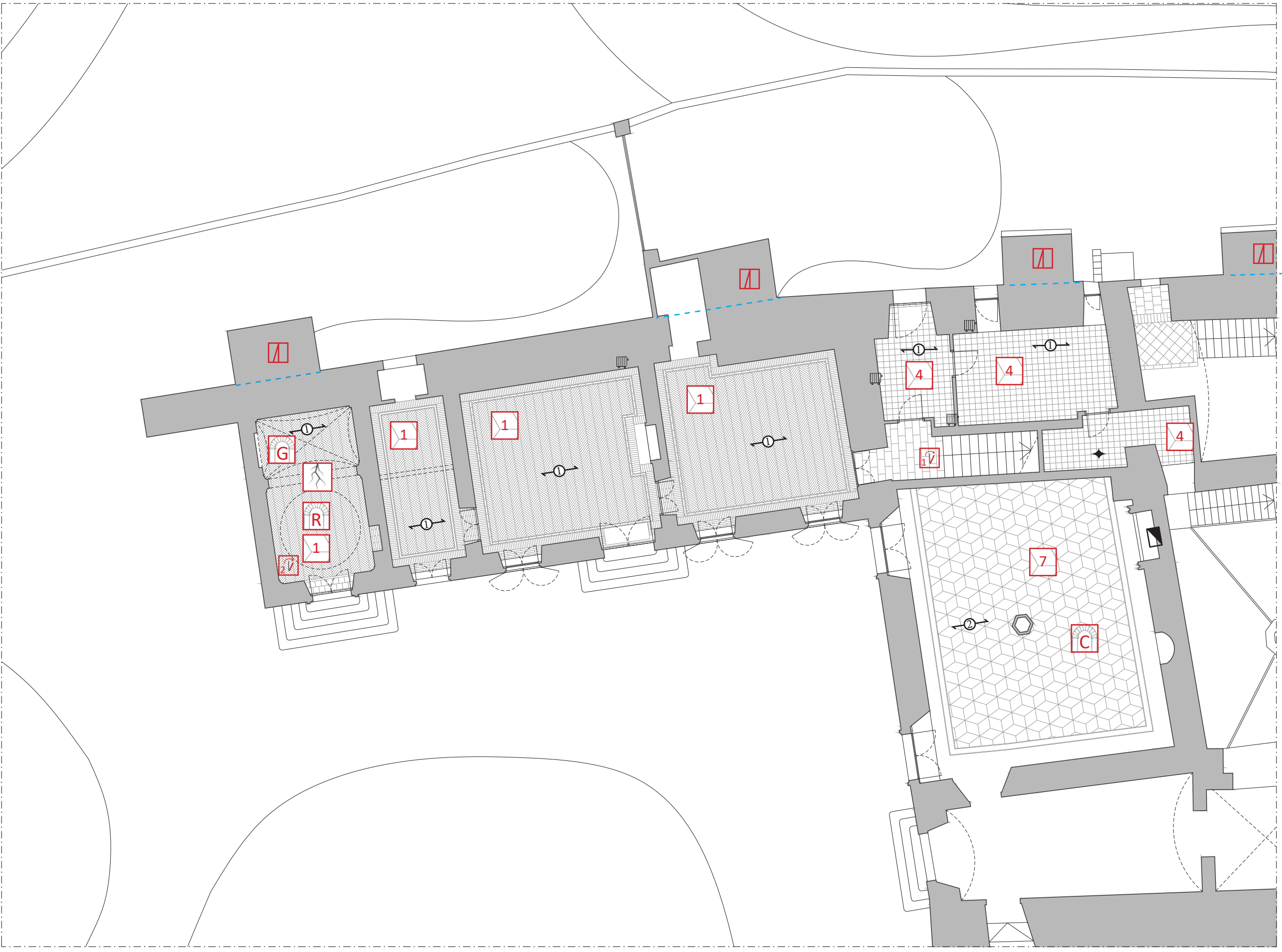
STRUCTURAL ELEMENTS AND RULE OF THE ART

General symbology			
<u>Sources of information</u>		<u>Elevations and sections</u>	
Direct survey Historical source Hypothesis Unknown		Behind element Plugged element	
Type of masonry	Description	Photos	
<u>Dating</u> 1 XII-XIII century wall 2 XV century wall 3 XVIII century wall 4 XIX century wall 5 XX century wall 6 Unknown	<u>Type of masonry</u> a Stones coursed rubble masonry b Bricks coursed rubble masonry c Random rubble masonry d Regular bricks masonry e Plastered masonry	a b c d e	
Costruction elements			
<u>Type</u> I Buttress II Merlon and crenel III Loophole IV Putlog hole type 1 V Putlog hole type 2 VI Anchor VII Frieze VIII Hollow opening	<u>Material</u> Bricks Bricks + irregular stones Bricks Bricks + irregular stones Metal Bricks (The material indicated is related to the corresponding line in the “type” column)	I II III IV V VI VII VIII	
Floors			
<u>Arrangement of the beam</u> I Beams parallel to the facade II Beams orthogonal to the facade	<u>Plan</u> I II <u>Section</u> I II		
Vaults			
<u>Type of vaults</u> B Barrel vault C Cloister vault G Groin vault R Ribbed vault	<u>Plan</u> B C G <u>Section</u> B C G	B G C R	
Distresses			
<u>Type of distress</u> 1 Type 1 collapse 2 Type 2 collapse	<u>Cause</u> Lack of clamping between the masonry and the buttress	1	

BASEMENT ANALYSIS



GROUND FLOOR ANALYSIS



Keymap

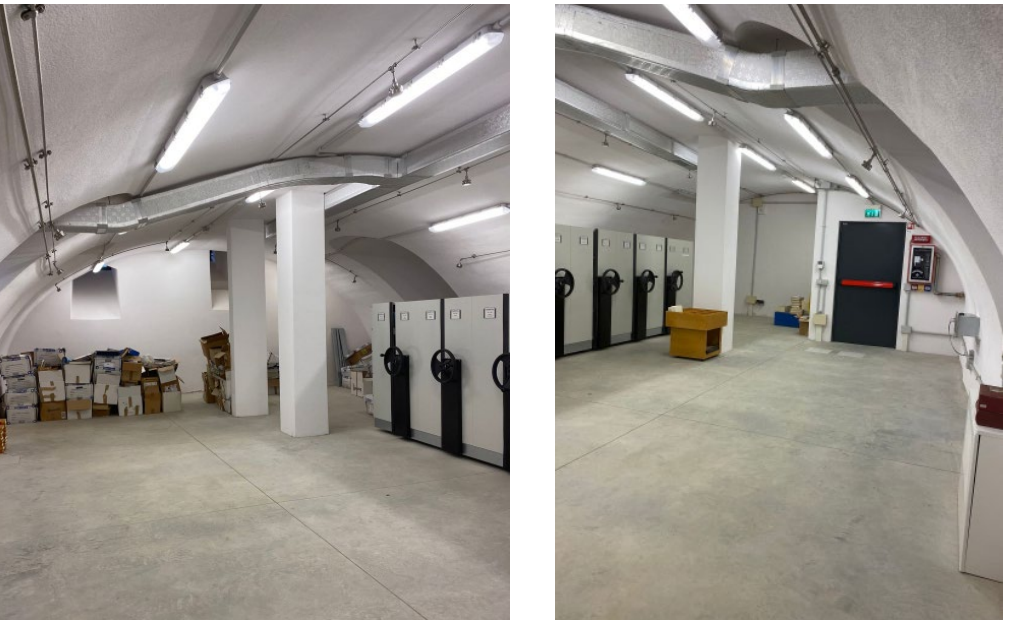
BASEMENT CEILING



PHOTOGRAPHIC SURVEY

BASEMENT

The basement houses the archive of the castle library. There are roofs with barrel vaults and stoneware floors.



In some portions you can see the original stone masonry

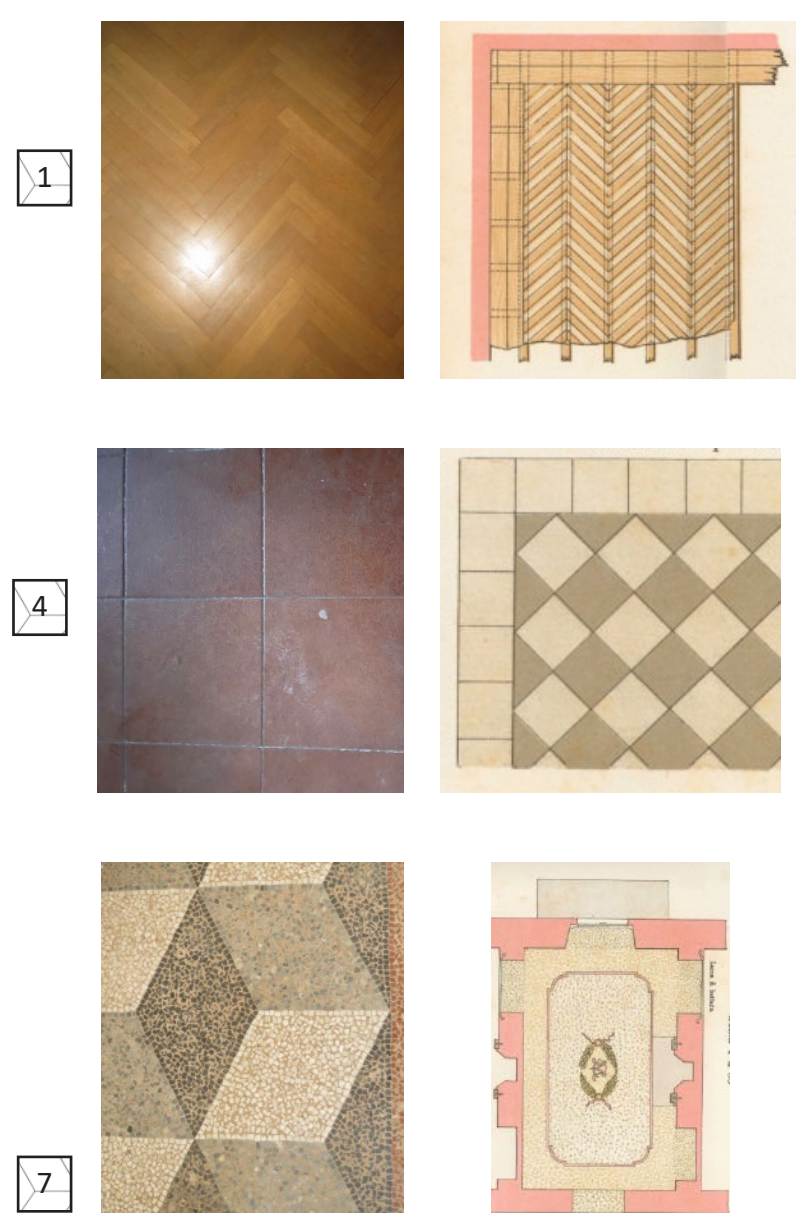


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Keymap

GROUND FLOOR CEILING

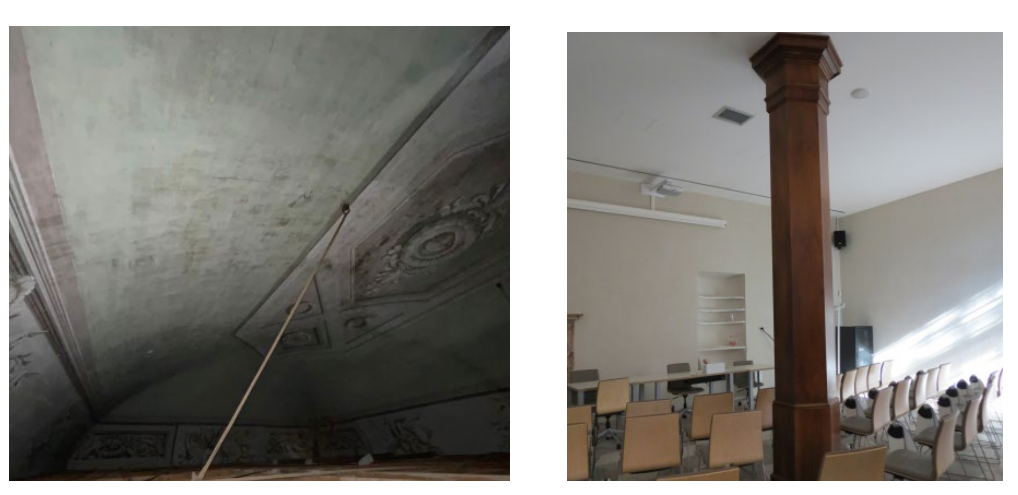


GROUND FLOOR

In the Chapel there are detachments of stucco, due to infiltrations, and a lesion in the lower part of the vault, in addition to numerous cracks



The original ballroom has been divided over times into levels that have hidden the cloister vault. It was also added the wooden column shown in the image



STRUCTURAL ELEMENTS AND RULE OF THE ART

General symbology	
<u>Sources of information</u>	<u>Plans</u>
● Direct survey ● Historical source ● Hypothesis ● Unknown	■ Sectioned walls
Masonry	
<u>Type</u>	
— — Leaning masonry  Buttress	
Horizontal elements	
<u>Arrangement of the beams</u>	
↔ Beams parallel to the facade  Beams orthogonal to the facade	
Floor	
<u>Type of floor</u>	
1 Wooden floor arranged in a herringbone pattern 2 Wooden floor arranged in planks 3 Rectangular tiles arranged in a herringbone pattern 4 Square tiles 5 Without flooring 6 Moquette 7 Venetian seminato floor arranged in a hexagons intersected pattern 8 Stoneware floor	
Vaults	
<u>Type of vaults</u>	
B Barrel vault C Cloister vault G Groin vault R Ribbed vault	
Fixture	
<u>Type of fixture</u>	
 Radiator ● Boiler  Fireplace ✦ WC	
Distresses	
<u>Type of distress</u>	
 Cracks  Type 1 collapse  Type 2 collapse	

G

 Groin vault

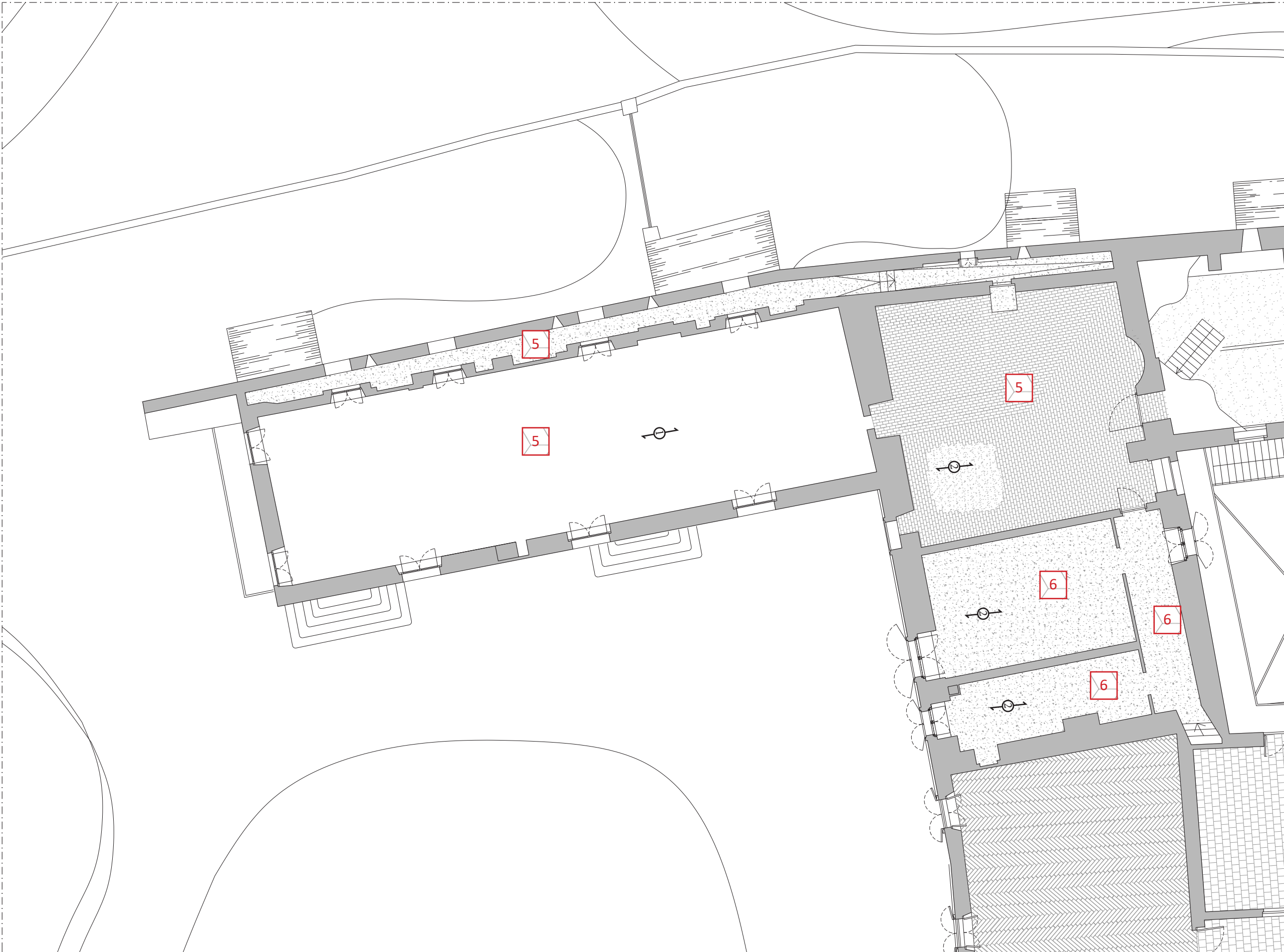
R

 Ribbed vault

FIRST FLOOR ANALYSIS



SECOND FLOOR ANALYSIS

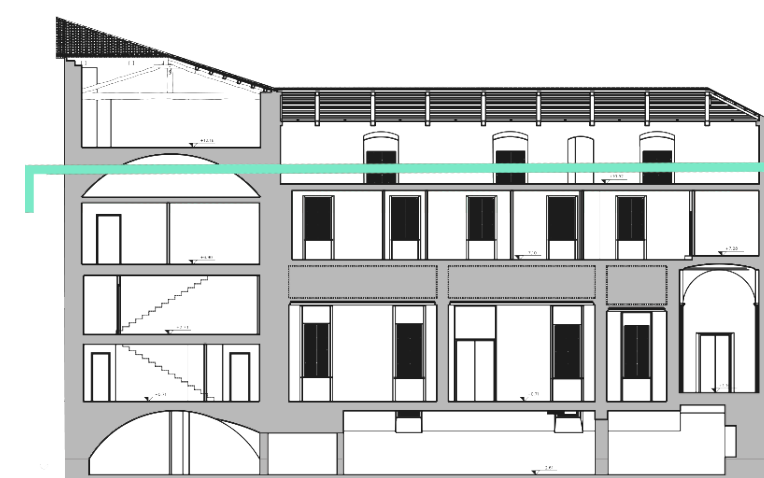
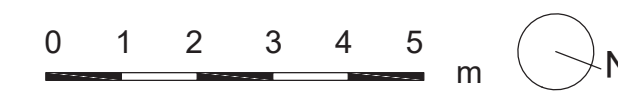


Keymap

FIRST FLOOR CEILING



SCALE 1:100



Keymap

FIRST FLOOR CEILING



PHOTOGRAPHIC SURVEY

FIRST FLOOR

The first floor of the eighteenth-century wing is characterized by a corridor on which we can find rooms and toilets. The first floor is entirely devoid of walls that connect orthogonally to the west facade. Except for the last room adjacent to the south facade, all rooms have a flat roof at a height of 3,00 m and non-structural partitions with thickness of 10 cm



Our hypothesis is that on the ground floor, adjacent to the rooms with wooden floors, there were service rooms



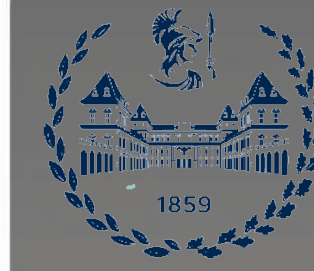
SECOND FLOOR

The rooms of the attic are accessible by a passage made during interventions following the construction of the eighteenth-century wing. Through a loft you can reach the rooms of the attic, divided into two portions: one characterized by a red moquette; another develops along the eighteenth-century wing and consists of a large hall with trusses which is accessible through the Chemin-de-Ronde.



STRUCTURAL ELEMENTS AND RULE OF THE ART

General symbology	
<u>Sources of information</u>	<u>Plans</u>
Direct survey Historical source Hypothesis Unknown	Sectioned walls
Masonry	
<u>Type</u>	
Leaning masonry Buttress	
Horizontal elements	
<u>Arrangement of the beams</u>	
Beams parallel to the facade Beams orthogonal to the facade	
Floor	
<u>Type of floor</u>	
1 Wooden floor arranged in a herringbone pattern 2 Wooden floor arranged in planks 3 Rectangular tiles arranged in a herringbone pattern 4 Square tiles 5 Without flooring 6 Moquette 7 Venetian seminato floor arranged in a hexagons intersected pattern	
Vaults	
<u>Type of vaults</u>	
B Barrel vault C Cloister vault G Groin vault R Ribbed vault	
Fixture	
<u>Type of fixture</u>	
Radiator Boiler Fireplace WC	
Distresses	
<u>Type of distress</u>	
Cracks Type 1 collapse Type 2 collapse	



Polytechnic of Turin
Department of Architecture and Design
Master's Degree Course in Architecture for the
Restoration and Enhancement of Heritage
A.A. 2021/2022

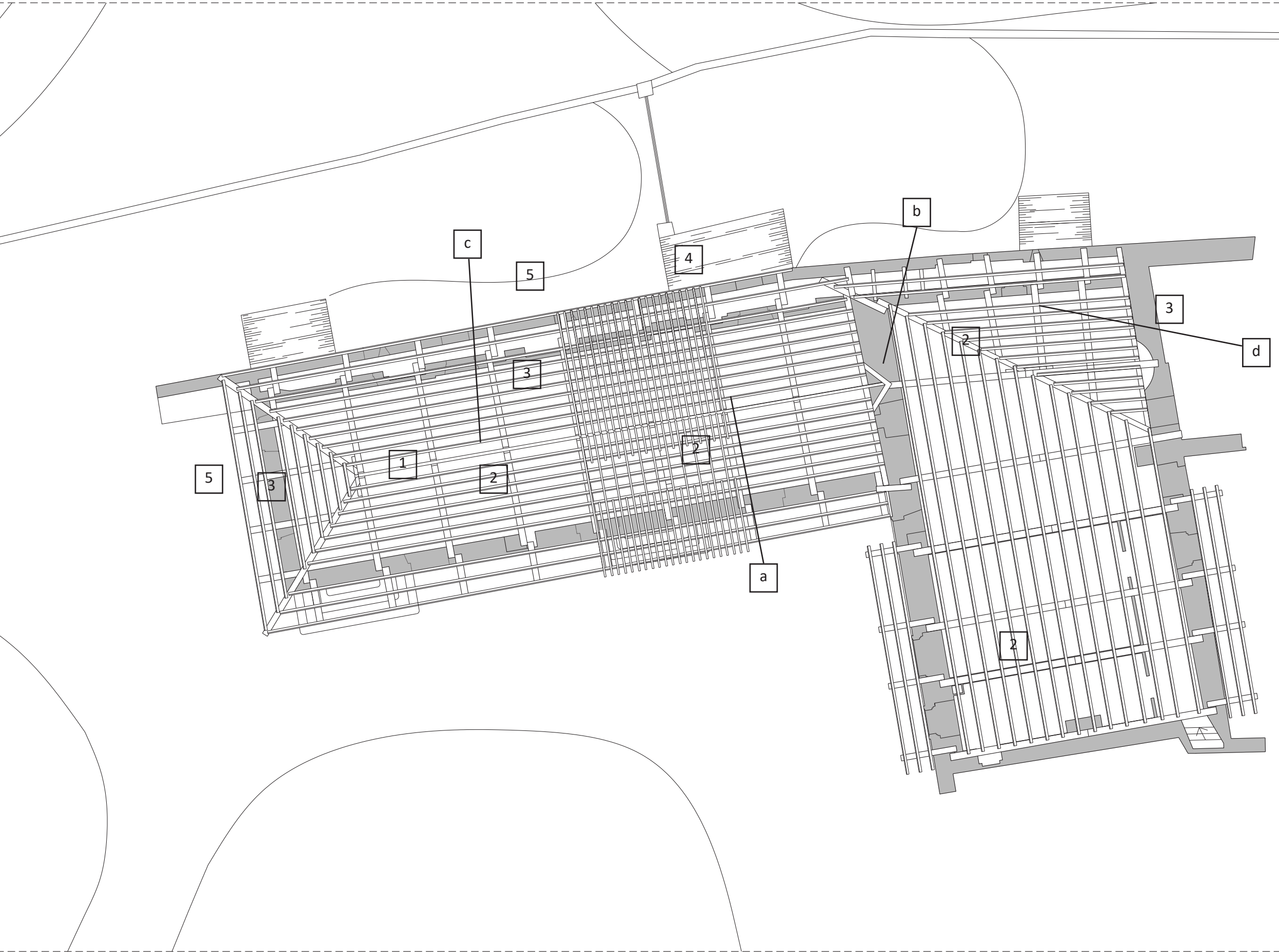
Atelier Heritage Restoration and Enhancement B
(01VQHPV)
Title theme:
The Orsini Castle in Rivalta di Torino (TO)

Teachers:
Cristina Coscia - Economic enhancement
Cesare Tocci - Restoration

TEAM n. 4:
SERENA BETTI
BENEDETTA CARETTI
FEDERICA COCUCCI
ALESSANDRA VAGLI

ROOF ANALYSIS

ROOF PLAN



ROOF COMPONENT

SCALE 1:100

- 1

RIDGE BEAM
- 2

RAFTER
There are 14 rafters. The dimensions vary from 20cm to 29cm because of the irregularities of the wood
- 3

PURLIN
5cm x 7 cm and 10cm x 13 cm. The dimensions vary due to the irregularities of the wood. They are arranged at regular interval
- 4

JOINTS
7cm x 5cm . They are arranged regularly at a distance of 16 cm each from above
- 5

DORMIENTE
Arranged along the outer perimeter walls

PHOTOGRAPHIC SURVEY



a Cover of the eighteenth-century sleeve, detail of the truss



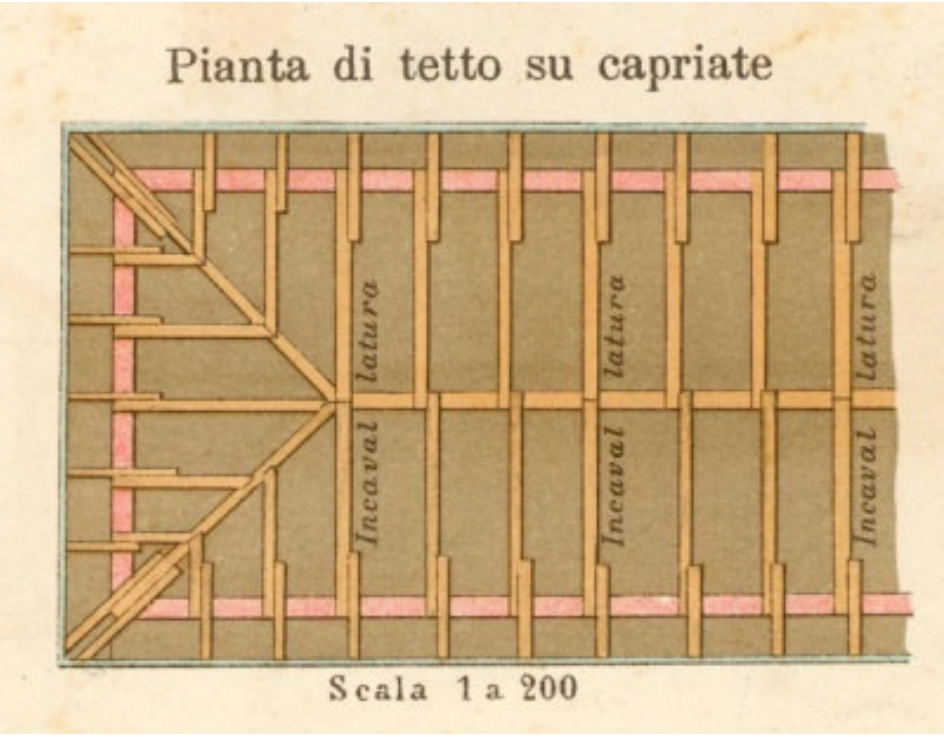
b Rafter between sleeve and right, probably not wooden but sheet metal



c Truss of the eighteenth-century sleeve seen from the fissures of the beams that currently cover it



d Detail of the attic room truss, you can notice the irregularity and cracks of the wood

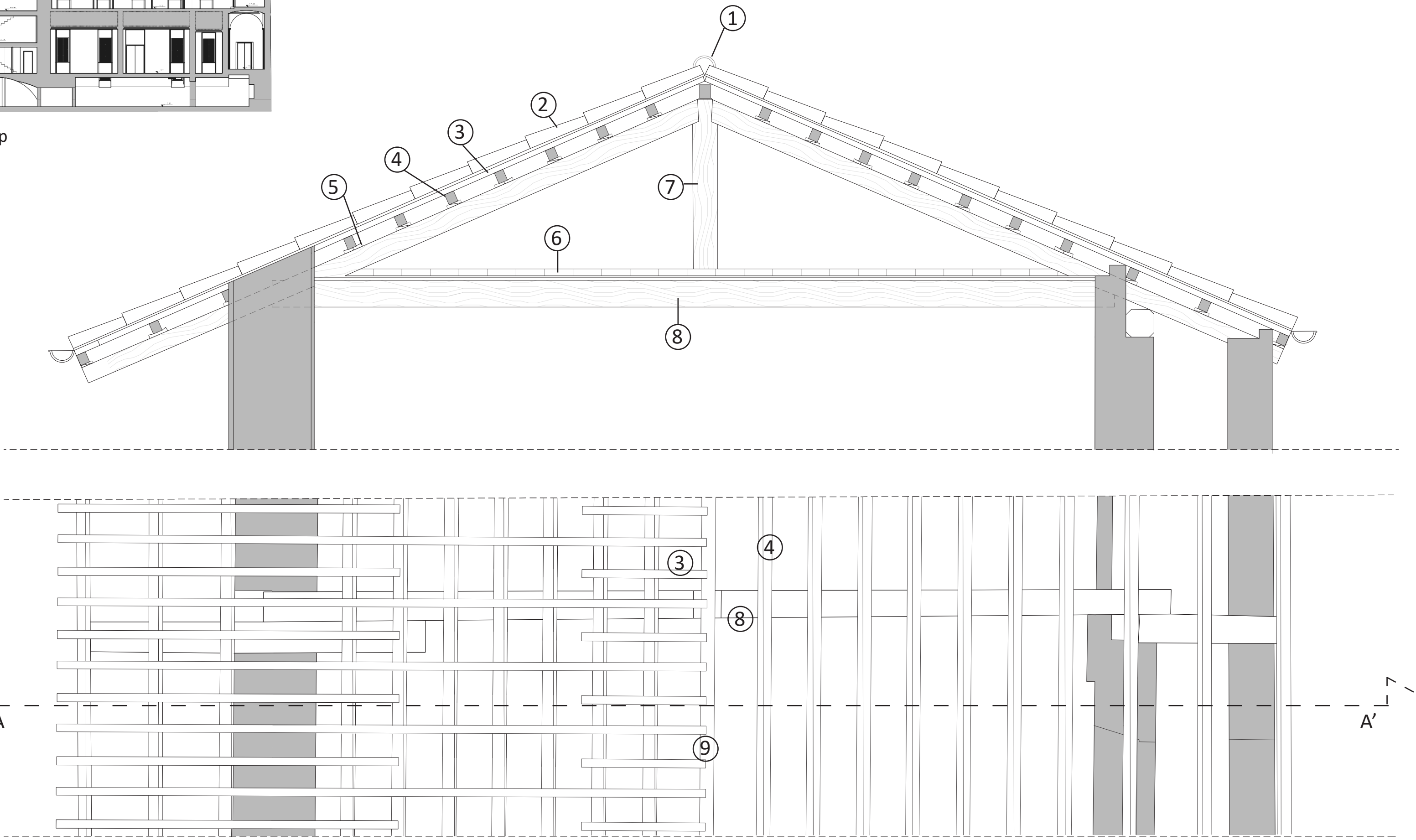


Musso e Copperi, Particolari di costruzioni murali e finimenti di fabbricati, Torino, 1884. Sezione - Armature di tetti Capriata a semplice catena e contro catena



Keymap

TRUSSES DETAIL



TRUSSES COMPONENT

SCALE 1:20

- 1

RIDGE TILES
- 2

TILES
- 3

TILE-HOLDER JOISTS
- 4

PURLIN
- 5

WOODEN ELEMENTS
- 6

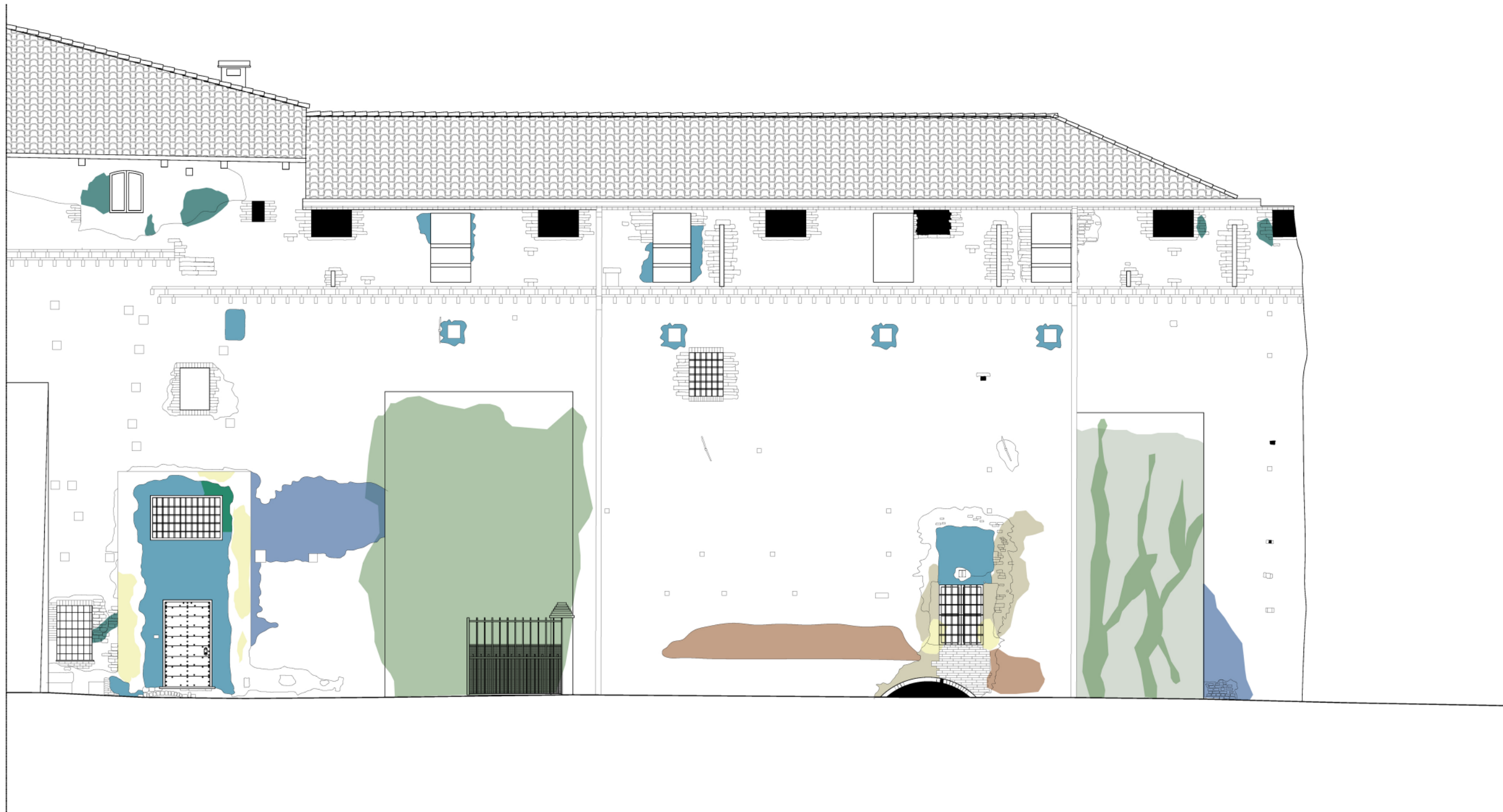
BOARDING
- 7

WOODEN MONK
- 8

RAFTER
- 9

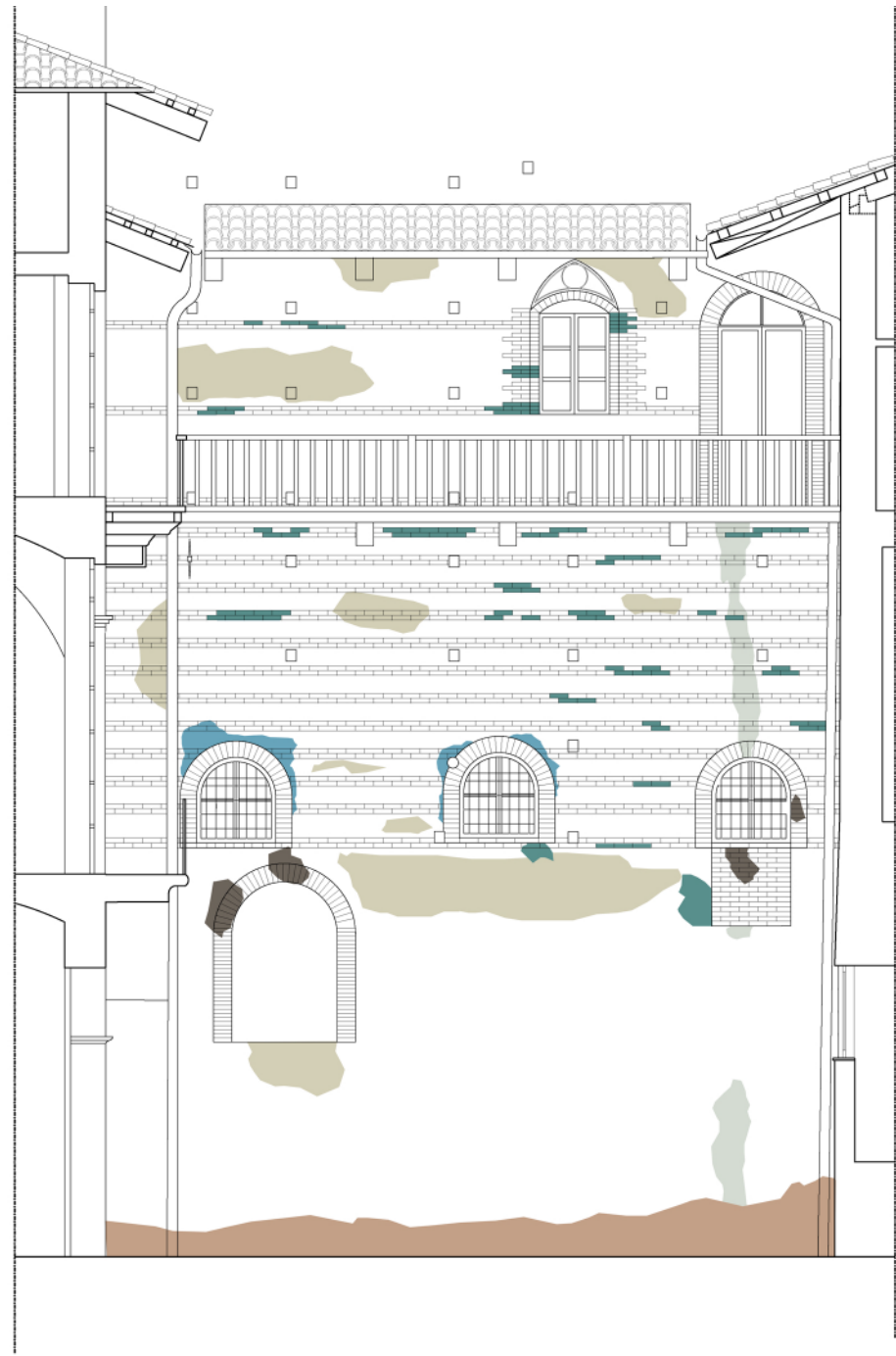
RIDGE BEAM

DEGRADATION ANALYSIS



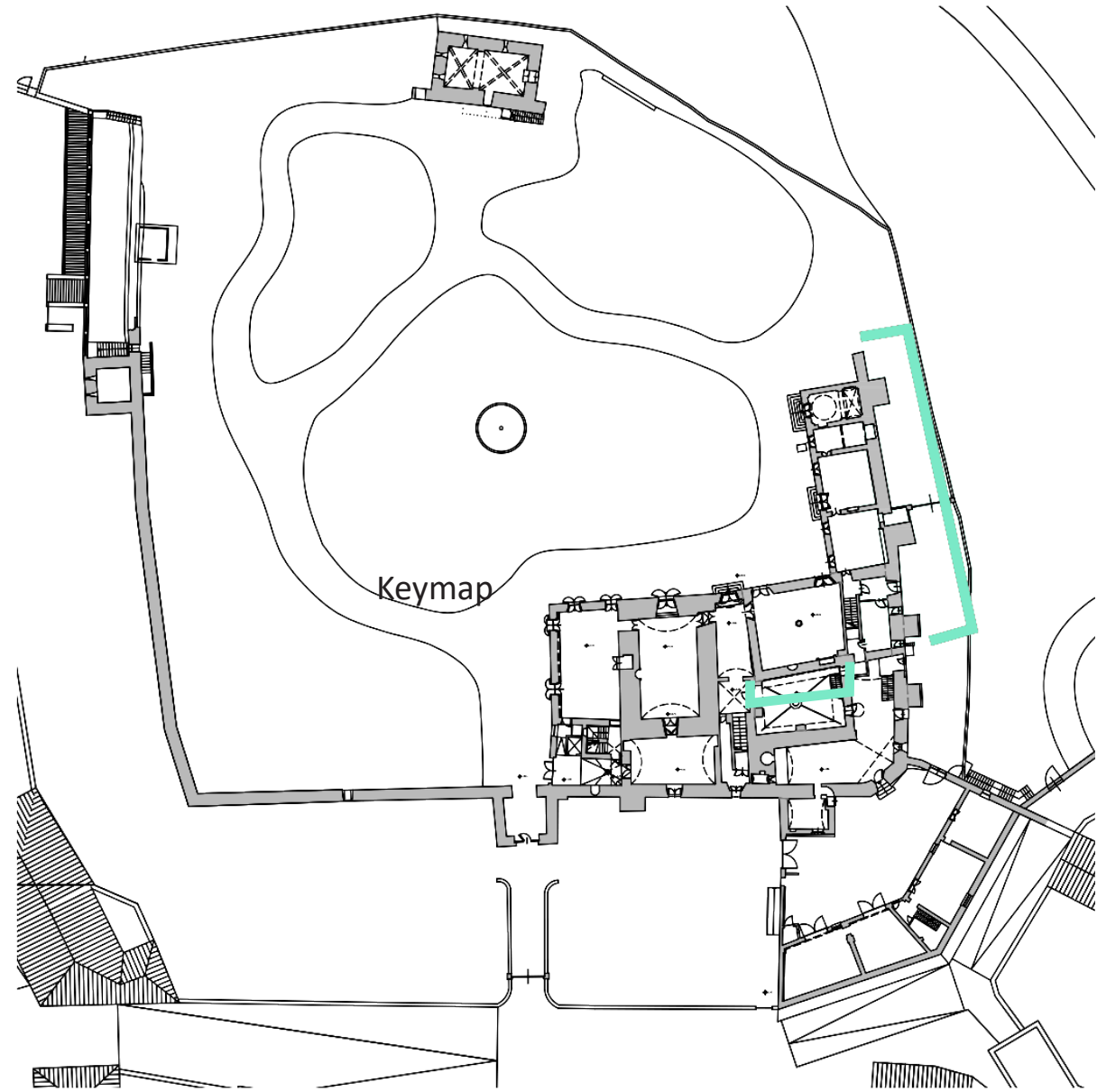
WEST FACADE

SCALE 1:100



COURT FACADE

SCALE 1:100



Keymap

HIVING	ADDITION	ALTERATION CHROMATIC	WITHDRAWAL OF MALTA	VEGETATION	BIOLOGICAL PATINA	CAPILLARY RISE	DETACHMENT	EFFLORESCENCE
Degradation that occurs through the variation of cavities of variable shape and size. CAUSE: Water inside the substrate, disgraceful action exerted by the crystallization pressure of the salts inside the pores of the material, leaching	Subsequent addition of non-compliant material to the original.	Alteration that manifests through the variation of one or more parameters that define the color. It may occur with different morphologies depending on the conditions and may refer to large or localised areas.	Runoff of the masonry parameter due to the flaking and degradation of the mortar beds Cause: Continuous exposure to meteorological agents	Presence of lichens, mosses and plants CAUSE: Accumulation of moisture, attack of autotrophic organisms	Thin layer, soft and homogeneous, adherent to the surface and biological in nature. It consists of microorganisms CAUSE: Action of autotrophic microorganisms, presence of moisture or water	Migration limit of water which is manifested by the formation of efflorescence and/or loss of material. It is generally accompanied by variations of color saturation in the area underlying. CAUSE: humidity, exposure to external agents	Continuity solution between surface layers of the material, both between them and with respect to the sub-layer. CAUSE: humidity, formation of ice in the surface layers, presence of saline formations, differential dilations between support and finishing materials, use of paint products, installation errors.	Crystalline or powdery or filamentous surface formation, usually whitish. CAUSE: Capillary rising humidity, condensation, presence of sulfates, wind action that accelerates the surface evaporation of water, additional substances in resurative treatments, degradation of interface between bricks and mortars.
REMOVAL OF HIVING ON THE BRICK 1. Initially it is carried out by means of a cleaning of the area where the degradation by the technique of mechanical brushing which involves the use of nylon brushes or broom to remove deposits superficial and little coexists. 2. Depending on the severity of the damage on the brick will proceed by consolidating compresses by the use of suitable mortars with those already present or through the replacement, where the size of the degradation is very serious, of the brick.	SUBSTITUTION 1. Replacement of the non spanned material by a more suitable material	REMOVAL OF THE ALTERATION CHROMATIC 1. Preliminary verification to determine what is the severity of the degradation same. 2. Then clean up of the portion affected by the degradation by the use of the mechanical brushing which involves the use of nylon brushes or broom to remove deposits superficial and little coexists. 3. It shall then proceed by means of the plaster consolidation where present degradation by use of a macroporous material	INTERVENTION ON MALTA'S WITHDRAWAL 1. Removal of degraded material 2. Cleaning surfaces with brass and water brushes 3. Restoration of portions with compatible mortar ignition	REMOVAL OF VEGETATION PEST 1. Check whether the vegetation is present on the prospects of the stables is harmful for the structure itself and whether need to eliminate it as it could cause structural disruption to the building. 2. If it is possible to proceed by the elimination of such problem is performed the eradication of weeds and pruning vegetation with stem located in close proximity. 3. If there are additional residues of vegetation shall be carried out by the use of brushes with nylon bristles or for the removal of loose deposits. 4. To relieve the resurgence of further degrading agents, as last passage, we proceed mediante the use of biocidal products which prevent the formation of new biological species on supercars.	REMOVAL OF BIOLOGICAL PATINA 1. Preliminary verification to determine what is the severity of the degradation same. 2. Cleaning of the area covered by degradation through the use of mechanical brushing technique which provides for the use of brushes in nylon or broom so as to eliminate surface deposits and little coexists. 3. If the form of degradation occurs more resistant and rooted is used direct water so as to soften the cohesive part and then removed with previous technology described. In case it was still the deeper the form of degradation proceed by technique nebulized water that softens the degradation itself.	REMOVAL OF THE ASCENT CAPILLARY - Intervention must be preceded the removal of the causes which lead to problems of ascent and infiltration; - Extraction of soluble salts through washing with distilled water. - In the event that the breakdown by the efflorescence is contained to the consolidation of finishing with products regregreganti to siliceous acid base applied to brush until rejected.	REINSTATEMENT OF SECONDMENT 1. Removal of material still anchored to the surface 2. Cleaning of the surface by means of soft bristle brushes 3. restoration of plaster	REMOVAL OF EFFLORESCENCE 1. Dry surface brushing 2. Cleaning the surface with acid-based detergents 3. Application of hydrophobic products



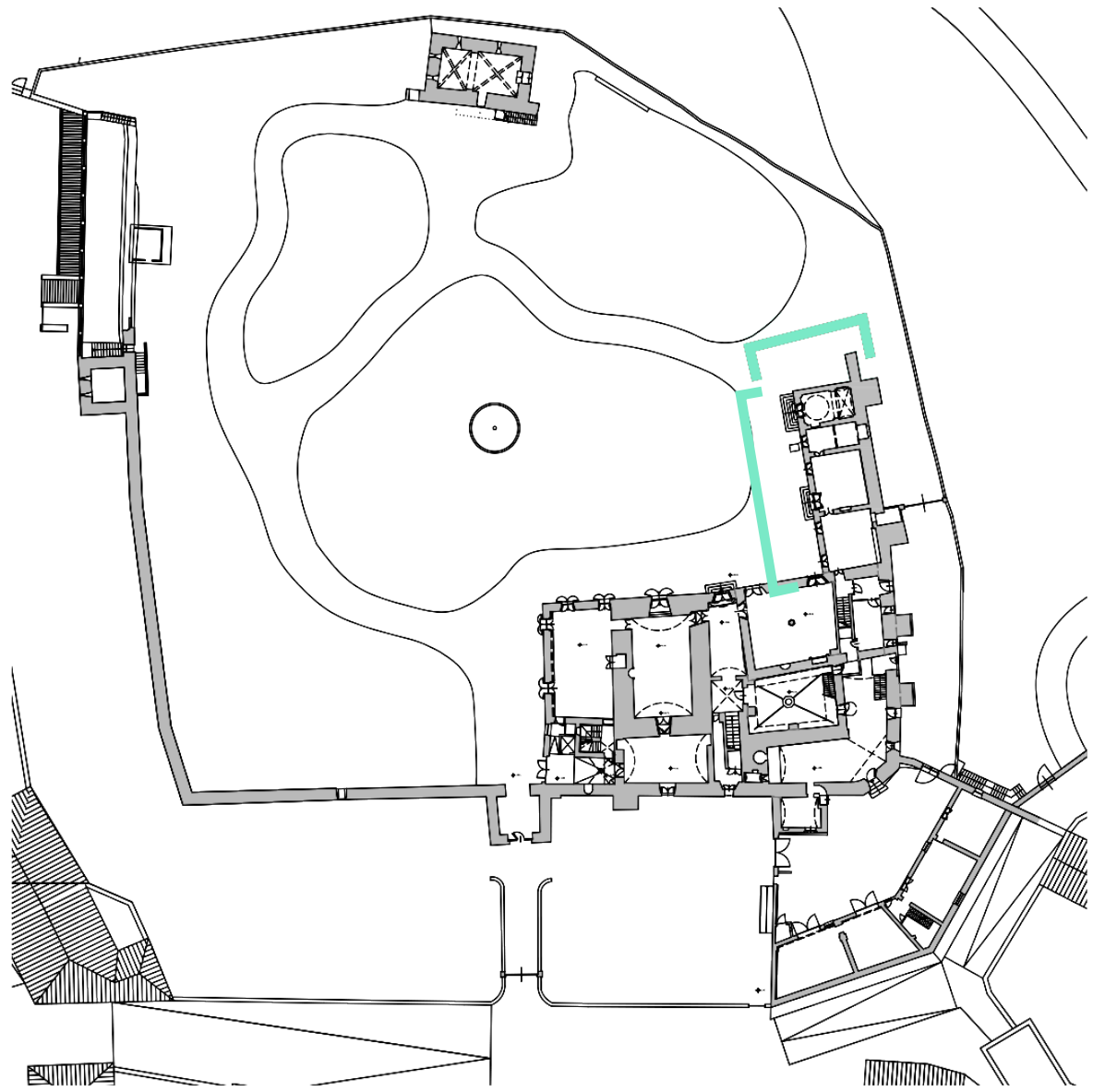
SOUTH FACADE

SCALE 1:100



EAST FACADE

SCALE 1:100



Keymap

DETACHMENT

Surface detachment of the material
CAUSE: humidity, frost cycles and thaw



RECONSTRUCTION OF THE SECONDED PART
1. Removal of material still anchored to the support
2. Washing the holder with soft bristle brushes
3. Restoration of equipment

ADDITION

Subsequent addition of non-compliant material to the original.



SUBSTITUTION
1. Replacement of the non spanned material by a more suitable material

ALTERATION CHROMATIC

Alteration that manifests through the variation of one or more parameters that define the color. It may occur with different morphologies depending on the conditions and may refer to large or localised areas.



REMOVAL OF THE ALTERATION CHROMATIC
1. Preliminary verification to determine what is the severity of the degradation same.
2. Then clean up of the portion affected by the degradation by the use of the mechanical brushing which involves the use of nylon brushes or broom to remove deposits superficial and little coexists.
3. It shall then proceed by means of the plaster consolidation where present degradation by use of a macroporous material

WITHDRAWAL OF MALTA

Runoff of the masonry parameter due to the flaking and degradation of the mortar beds
Cause: Continuous exposure to meteorological agents



INTERVENTION ON MALTA'S WITHDRAWAL
1. Removal of degraded material
2. Cleaning surfaces with brass and water brushes
3. Restoration of portions with compatible mortar ignection

VEGETATION

Presence of lichens, mosses and plants
CAUSE: Accumulation of moisture, attack of autotrophic organisms



REMOVAL OF VEGETATION PEST
1. Check whether the vegetation is present on the prospects of the stables is harmful for the structure itself and whether need to eliminate it as it could cause structural disruption to the building.
2.If it is possible to proceed by the elimination of such problem is performed the eradication of weeds and pruning vegetation with stem located in close proximity.
3. If there are additional residues of vegetation shall be carried out by the use of brushes with nylon bristles or for the removal of loose deposits.
4.To relieve the resurgence of further degrading agents, as last passage, we proceed mediante the use of biocidal products which prevent the formation of new biological species on supercars.

GAP

Lack of a portion of material
CAUSE: Possible disturbances, humidity, prolonged exposure to atmospheric agents

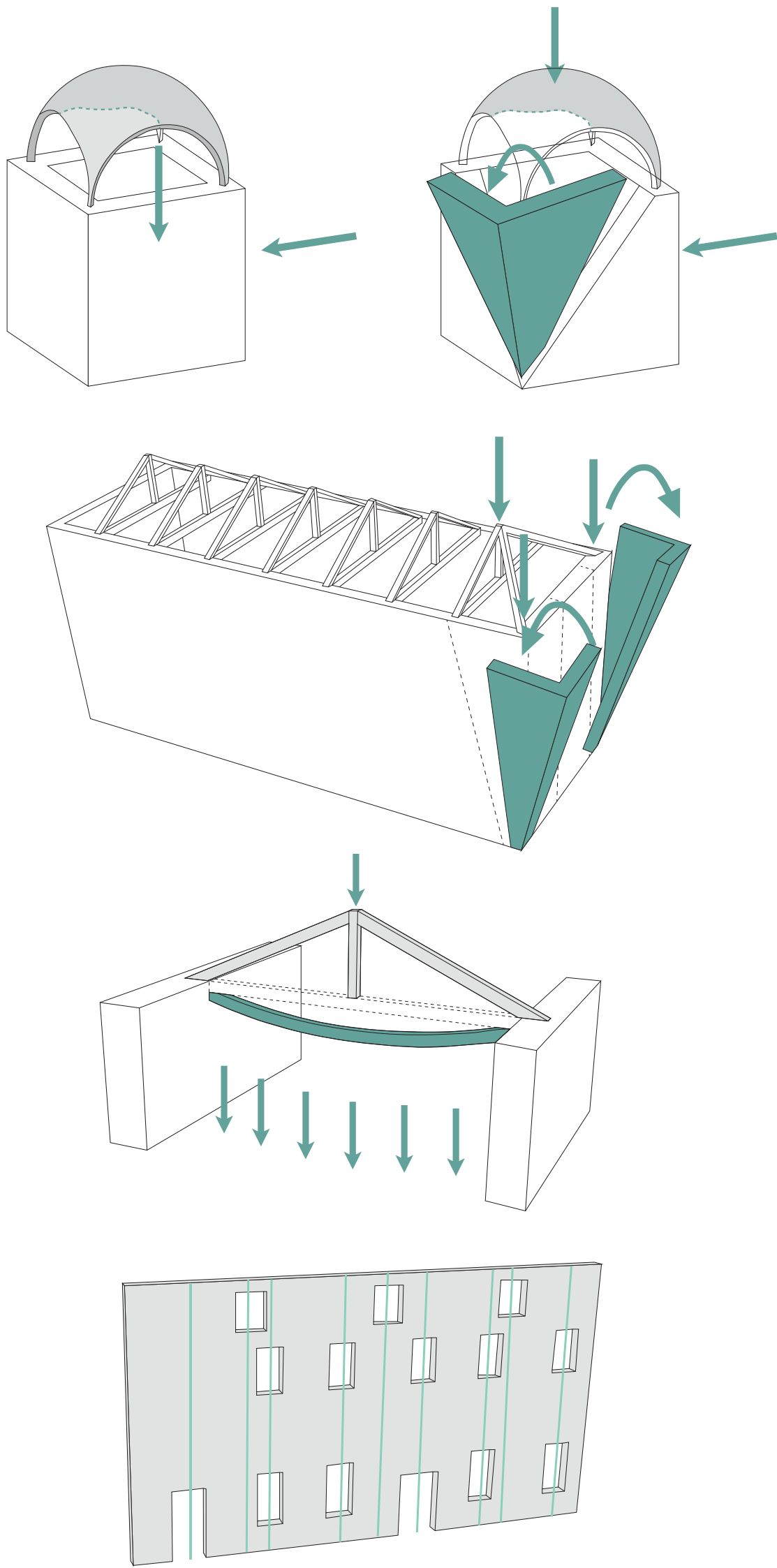


RECONSTRUCTION OF THE GAP
1. Cleaning of the area concerned
2. Rehabilitation of the area with compatible equipment

ELEMENTS - CONNECTIONS - DISTRESSES

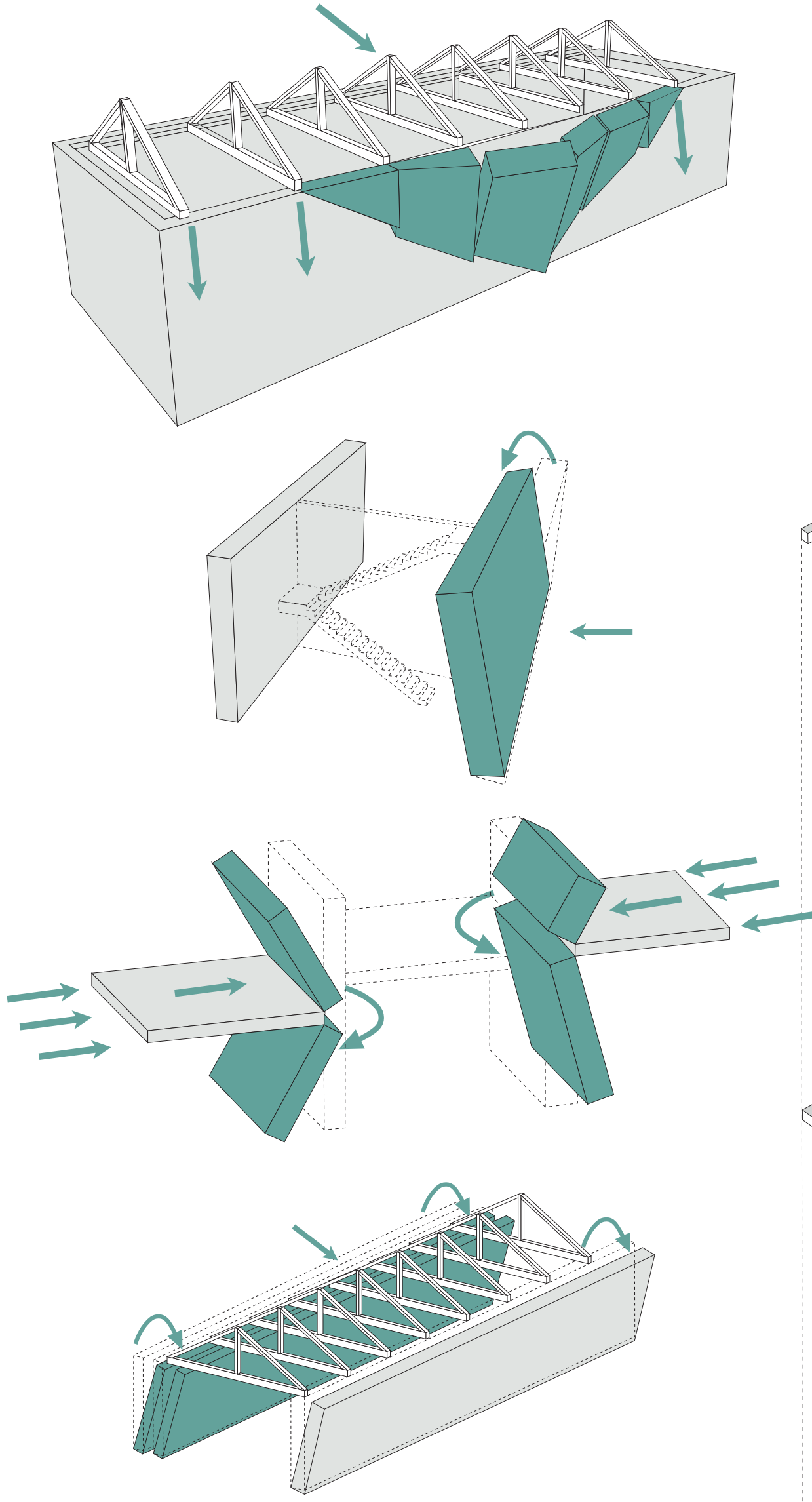
ELEMENTS

- 1 The vaulted chapel on the ground floor of the eighteenth-century wing presents a detachment of the crowning stucco, caused by infiltration, and a lesion on the lower part of the opposite side. This lesion, assuming the application of a horizontal force, would cause a weakening that would affect the underlying masonry, resulting in a “collapse of the angle” (II mode), with detachment along the diagonal and tilting outwards.
- 2 The pavilion roof has struts that transmit loads and thrusts to the cantonals of the southern facade. It can be assumed that the tipping occurs in the direction of thrust of the strut and occurs a rigid rotation delimited by fracture surfaces with diagonal course with respect to the hinges placed at the base of the strut. Inside the structure there are cracks and injuries on the corner walls of the south facade. Assuming the application of a horizontal force forces are generated that lead to the overturning of the angles according to the II mode.
- 3 The truss in the attic is another weak element. The chain, dated “September 1716” is inflected in the opposite direction to that of the load, this because of the “overturning” of the element under renovation of the attic. The inflection of the element is given by the load on the chain, due to the stump that discharges on it, which is at the same time bound to the perimeter masonry.
- 4 In addition, the façade of the eighteenth-century sleeve has openings not aligned to the attic plan, opened with an intervention of the twentieth century. This causes serious problems of load distribution because in load-bearing masonry structures the loads run perpendicularly to the facade. This creates internal tensions due to deviated forces, resulting in visible lesions and cracks in the facade.

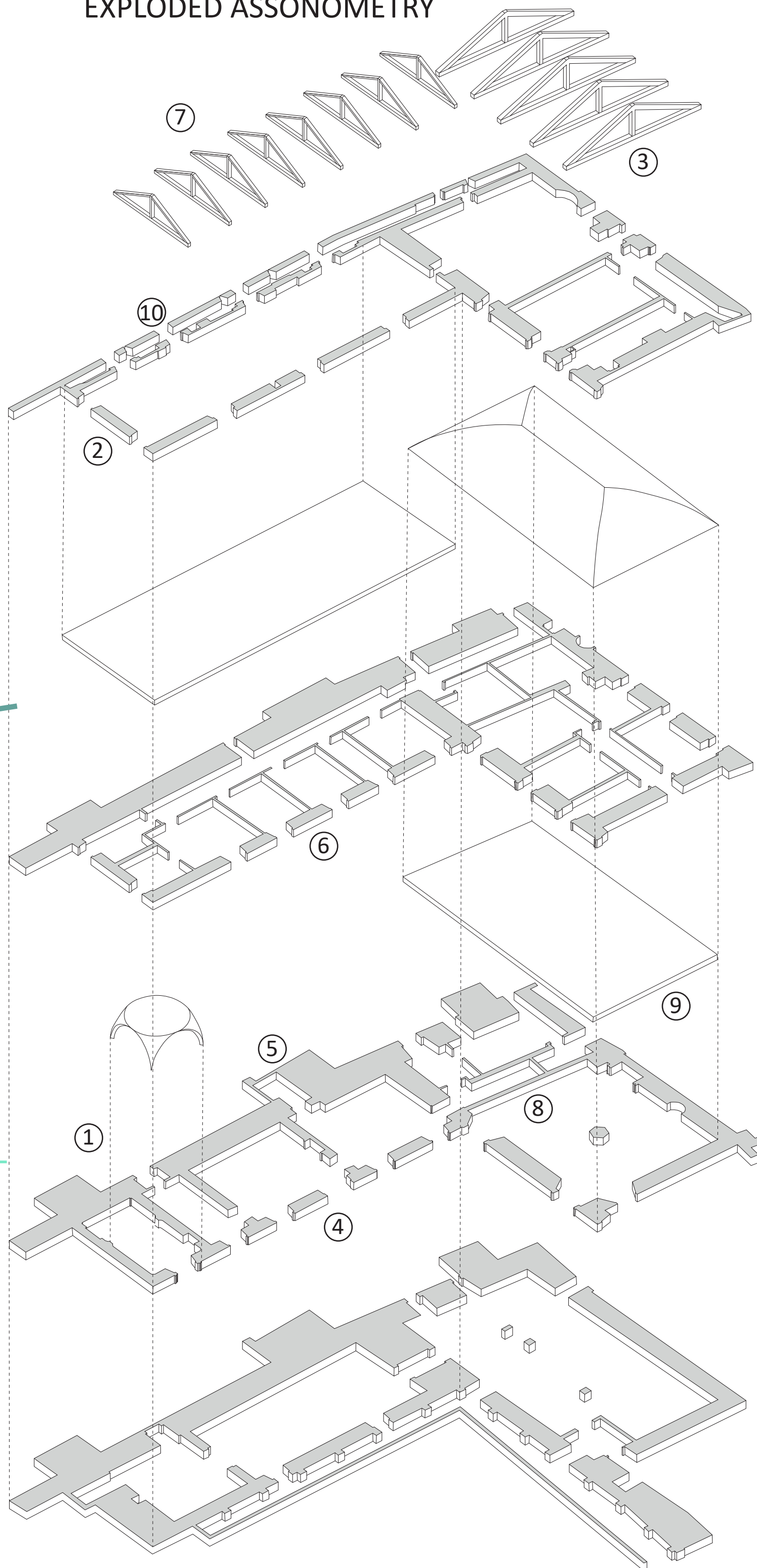


STRUCTURAL LAYOUT

- 7 Attention should also be paid to the connection between the load-bearing masonry and the wooden truss of the attic. The wooden elements generate vertical forces that must be discharged to the ground. For a correct behaviour of the structure the trusses must be well softened in the masonry and must have transversal constraints that connect the perimeter walls. When the connection is not effective, the application of a horizontal force generates rotating movements of the perimeter wall that involve a horizontal bending resulting in the wall turning outwards and collapse of the trusses.
- 8 In the design phase, the decision is to remove the staircase connecting the ground floor and the first floor built in the second half of the twentieth century in the spaces intended for Ballroom. The current configuration sees the presence of a transverse element that connects the two walls of the former salon, ensuring a correct opposition of horizontal forces coming from the two directions. With the removal of the ladder and the transverse wall, in case of application of a horizontal force the masonry would suffer the action of simple tipping inwards (I mode).
- 9 The Ballroom also has a floor added later that divides the environment. It is assumed that this slab is constructed of latero-cement and that it is connected to the masonry by a continuous kerb in reinforced concrete that represents a rigid diaphragm that connects the vertical walls and provides opposition to horizontal forces. If horizontal forces are applied to the floors of the surrounding areas, the walls of the hall, weakened by the removal of the kerb, will be subject to vertical bending (I mode) with rupture near the floors acting.
- 10 The last element analyzed is the Chemin-de-Ronde infill wall. This has the task of bringing to the load-bearing masonry the punctual loads of the wooden trusses that rest on it. Presenting a very high slenderness, the Chemin de Ronde could lead to internal tensions and a simple tipping mechanism in case of application of horizontal forces. This would involve the whole structure, as the overturning of the walls would also affect the opposite wall thanks to the action of trusses.

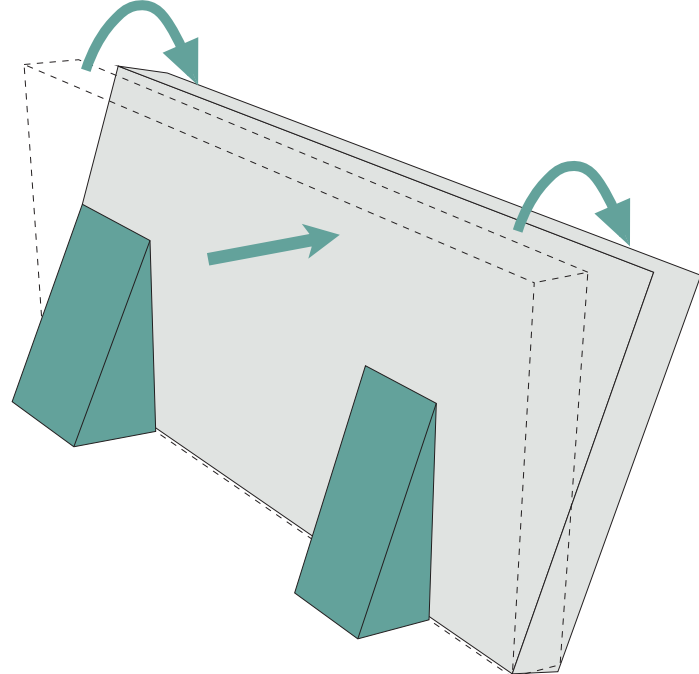


EXPLODED ASSONOMETRY

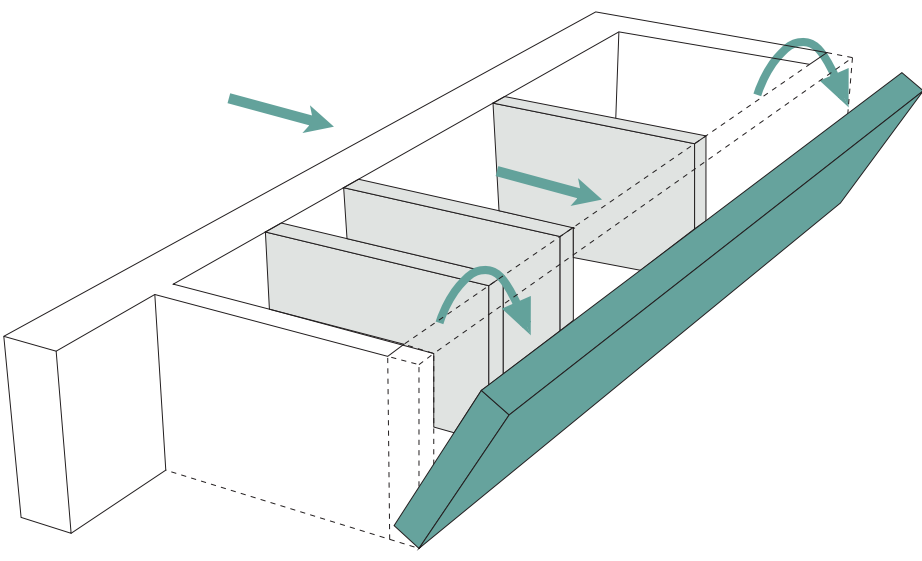


CONNECTIONS

- 5 One of the main problems is the lack of connection between the walls, as it can be seen between the external masonry of the western façade and the brick buttresses. This could generate a simple global overturning (I mode) caused by a horizontal force perpendicular to the direction of the wall, which would cause the tipping of the wall inwards, in the absence of transverse walls to support it.



- 6 The eighteenth-century sleeve presents as its main problem the absence of transverse walls that would form a rigid frame between the walls. On the ground floor we have the presence of a system of walls of great thickness that result, however, in a false compared to those of the basement. This involves the fact that these unload on the barrel vault that must distribute the loads so that they arrive on the ground. Not having effective depreciation, in case of application of a horizontal force, these would not treat the wall that could be subject to simple rollover (I mode). On the first floor there are therefore non-structural partitions of about 10 cm thickness that are not effective to counter horizontal forces. Consequently, when applying a horizontal force, the wall is subject to a simple overturning (I mode) as it is not held by external boundary walls through transverse walls.



1 Picture of the ground floor Chapel



3 Picture of the attic truss



4 Picture of the brick buttress



5 Picture of the attic



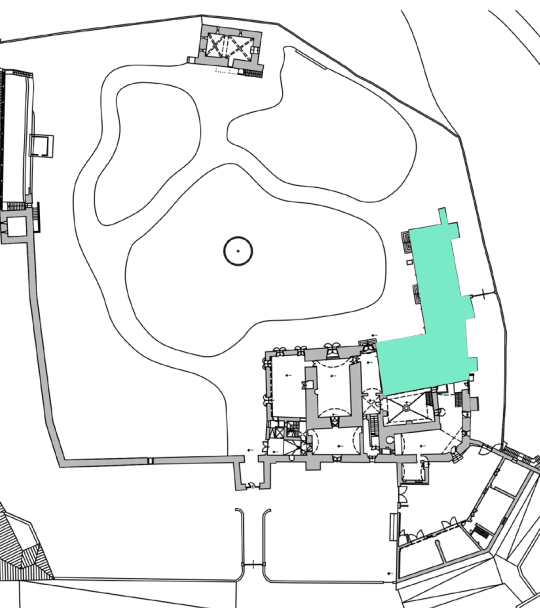
7 Picture of the stairs between the ground and the first floor



9 Picture of the south facade



10 Picture of the Chemin de Ronde



Keymap

SWOT HEALTH- SCALE ASL TO3

TOPIC	STRENGHTS	WEAKNSESS	OPPORTUNITIES	THREATS	VALUE	SENSITIVE ISSUES	STRATEGIC OBJECTIVES	SOURCES
HOSPITAL	1.Presence of eight hospital near Rivalta: Avigliana Hospital, Pinerolo Hospital,Pomaretto Hospital, Rivoli Hospital, Susa Hospital, Torre Pellice Hospitl, Venaria Hospital and University hospital San Luigi Orbassano 2.Development and implementation for about 7 years of innovative projects ⁽¹⁾ 3.Reorganization of hospitals carried out in recent years by regional indications to achieve homogeneity of services and fairness of distribution ⁽²⁾ 4.Implementation of 46 projects and seminars with voluntary associations ⁽³⁾ 5.Provisions and containment measures for personnel costs and expenditure ⁽²⁾ 6.Experimentation in emergency medicine departments during the pandemic of the “Audioteca project” in the ward, to support psychologically and emotionally the patient who found himself deprived of the possibility of receiving visits from his loved ones ⁽⁴⁾	1. The ASL TO3 despite being among the most virtuous is the one that receives less funding than others with a lower share of capital allocated per resident inhabitant in the territory ⁽²⁾	1.Patto della Salute 2019 e Piano strategico metropolitano 2021: -Reorganisation of the emergency network ⁽²⁾ -Implement and monitor the implementation of telemedicine and telediagnostic services recently decided by the metropolitan strategic plan ⁽²⁾ ⁽⁵⁾ -Presence of primary care services for the management of chronic patients ⁽²⁾ -Reinforcement of specialist outpatient services and/or technicians ⁽²⁾ -Make reservations either by telephone or through the Sistema Piemonte website ⁽²⁾ -Strengthening of the activity of Sisp swabs and serological tests with direct access ⁽²⁾ -Expand the network of “Covid Hotels” for asymptomatic positive subjects waiting for the negativization ⁽²⁾ 2. Piemonte Economica Sociale 2016: - Use of technologies in Asl To3 concerning: app for access to the portal, research on healthcare professionals 2.0, development of the E-learning platform for the management and sharing of contents ⁽¹⁾	1.The gradual reduction of resources could create difficulties for maintaining welfare levels ⁽²⁾	++/-	Presence within ASL TO3 of hospitals in which the focus was on technological development with the use of apps and platforms to improve the quality of service and organization also aiming at the creation of a community of practice in which you can share information and propose its projects to attract funding. A number of voluntary initiatives and partnerships have been implemented in ASL TO3: Healthy Lifestyles, Safety Culture, Participation-Citizenship, Protective Behaviors, Relationship Person-animal-environment, Immediately Needed Rescue and Art & Health , Media Dance. Have allowed to constantly improve the service Sensitivity and closeness has been demonstrated to the sick patients of Covid to whom the “Audioteca project” has been dedicated and to whom it is being tried to realize a network of Covid Hotels Despite all these initiatives,ASL TO3 appears to be the least publicly funded	The use of the e-learning platform could be widely exploited for crowdfunding initiatives in order to involve a large group of funders. An appropriate and equitable allocation of state funds should also be sought. The use of technologies and telemedicine would improve the management of hospitals and clinics, making it possible to make up for the difficulty of finding specialist doctors	1. www.ascomtorino.it 2.Patto della salute 2019 https://www.comune.susa.to.it/it-it/download/richieste-comitato-dei-sindaci-valsusa-valsangone-12-11-2020-57033-51-1165-ef9fc2639a-b85a5911b6f982329a50e0 3.Piano locale della prevenzione 2020 4.Monografia Covid-19 5.Piano strategico metropolitano http://www.cittametropolitana.torino.it/cms/risorse/sviluppo-economico/dwd/psm/scheda_asse6.pdf

SWOT HEALTH- SCALE RIVALTA

TOPIC	STRENGHTS	WEAKNSESS	OPPORTUNITIES	THREATS	VALUE	SENSITIVE ISSUES	STRATEGIC OBJECTIVES	SOURCES
HOSPITAL RSA PHARMACIES VACCINAL HUB	1.Presence of two hospitals near Rivalta: Rivoli Hospital and University Hospital Company San Luigi Gonzaga in Orbassano. University Hospital Company San Luigi Gonzaga in Orbassano is bordering the municipality of Rivalta and in recent years has been the subject of a process of renovation and reorganization of the complex resulting in improved cost control and expenditure on staff, this hospital is an important attractor ⁽¹⁾ 2.Presence of 5 RSA within the metropolitan district south, of which one within the municipality of Rivalta (Bianca della Valle) 3.Presence of 26 Pharmacies in the southern metropolitan district, of which four in the municipality of Rivalta 4.Possibility to carry out Covid-19 vaccine in the Municipal Pharmacy of Rivalta or in the nearby hub in the town of Orbassano or in the 3 pharmacies of Volvera, Venaria or Orbassano	1.No hotspot in the municipality of Rivalta for free swabs 2.Absence of vaccination hubs in the municipality of Rivalta 3.Presence in the hospital of activities not related to needs or less than the actual needs	1.Patto della Salute 2019 e Piano Strategico Metropolitano 2021: -Implement and monitor the implementation of telemedicine and remote diagnostic services recently decided by the strategic metropolitan plan, this would allow equal accessibility to the health system on the territory ⁽²⁾ ⁽³⁾	1.The gradual reduction of resources could create difficulties in maintaining welfare levels ⁽²⁾	+/-	Good presence of health services within the metropolitan district south although in the municipality of Rivalta there are no hospitals Proximity to the University Hospital Company San Luigi Gonzaga di Orbassano of national importance and seat of the university faculty of Medicine and Surgery which is an important attractor Presence in the town of Rivalta of a Rsa and of pharmacies in which it is possible to perform Covid-19 vaccine but no free swabs, absence of vaccination hub	Development of the network related to outpatient services according to a logic of appropriateness and in the perspective of integration hospital/ territory and homogeneous area, also for the purpose of improving waiting lists. Economic and financial balance Development and use of technologies and telemedicine that would allow the inhabitants of Rivalta to receive health care at home without moving to neighboring municipalities to carry out visits or diagnosis	1.http://www.sanluigi.piemonte.it/delibere/DL33/Allegati/30223.pdf 2.Piano strategico metropolitano http://www.cittametropolitana.torino.it/cms/risorse/sviluppo-economico/dwd/psm/scheda_asse6.pdf 3. Patto della salute 2019 https://www.comune.susa.to.it/it-it/download/richieste-comitato-dei-sindaci-valsusa-valsangone-12-11-2020-57033-51-1165-ef9fc2639a-b85a5911b6f982329a50e0

SWOT SERVICES- SCALE METROPOLITAN AREA SUD

TOPIC	STRENGHTS	WEAKNSESS	OPPORTUNITIES	THREATS	VALUE	SENSITIVE ISSUES	STRATEGIC OBJECTIVES	SOURCES
SHOPPING MALLS NEIGHBOURHOOD SHOPS MEDIUM SHOPS FUEL DISPENSERS BEVERAGE AND FOOD SHOPS	1.Numerous services for citizens in the south metropolitan area: 28 shopping malls and 43 banks ⁽¹⁾ 2.Presence of 883 neighbourhood shops with an increase of 1.49% from 2007 to 2010 ⁽¹⁾ 3.Presence of 55 shops of medium facilities with a reduction of 1.78% from 2007 to 2010 ⁽¹⁾ 4.Presence of 13 markets ⁽¹⁾ 5.Presence of 46 fuel dispensers 6.Presence of 251 beverage and food shops with an increase of 9.13% from 2007 to 2010 ⁽¹⁾ 7.The unemployment rate declined significantly, from 11.9% in 2015 to 8.4% in 2019 ⁽¹⁾	1.Rate of increase of the enterprises positive (+0.17%) but contained regarding 2016 when it was attested +1.2% ⁽²⁾	1.Regional bonuses and contributes : -to support businesses and activities affected during lockdown for coronavirus emergency ⁽³⁾ -to support the micro, small and medium-sized enterprises ⁽³⁾ 2.Strategic plan of the metropolitan city of Turin: -Network and strengthening networks that is to join and share information through the use of networks to pursue objectives -Promoting the ecosystem for entrepreneurship and social impact investment ⁽²⁾ -European funds: In the face of the Covid crisis, Europe has made a large amount of resources available to individual countries to develop projects that contribute to the implementation of one of the EU's sectoral policies, or to finance the operation of an organisation pursuing an aim of general European interest. Our country will benefit strongly from the appropriations provided by the Recovery Fund: this is a figure of almost 209 billion euros ⁽²⁾	1.Pandemics or emergency situations that could force the closure of activities not deemed to be essential	++/-	In recent years there has been an increase in services for citizens in the southern metropolitan area leading to a decrease in the unemployment rate. The growth rate of companies has grown but is still low compared to the average of recent years. The pandemic has put a strain on the tertiary sector, many activities have remained closed by decree because not considered essential, the European Union has allocated funds provided by the recovery fund to resolve these difficulties	The use of the objectives set out in the Metropolitan City's Strategic Plan will allow the development of a sharing network and aid between individual activities and enterprises, helping to strengthen the local economy by connecting it to the major European strategic axes	1.https://geoportale.comune.orbassano.to.it/sites/default/files/altri_elaborati/RELAZIONE%20illustrativa%20progetto%20preliminare.pdf 2.http://www.cittametropolitana.torino.it/cms/risorse/territorio/dwd/pianificazione_strategica/pdf/Report_PS_IRES_totale_definitivo.pdf 3.https://www.regione.piemonte.it/web/pinforma/notizie/bonus-piemonte-istruzioni-per-riceverlo

SWOT SERVICES- SCALE RIVALTA

TOPIC	STRENGHTS	WEAKNSESS	OPPORTUNITIES	THREATS	VALUE	SENSITIVE ISSUES	STRATEGIC OBJECTIVES	SOURCES
SHOPPING MALLS NEIGHBOURHOOD SHOPS MARKETS MEDIUM SHOPS BANKS BEVERAGE AND FOOD SHOPS FUEL DISPENSERS	1.Presence in the municipality of Rivalta of 188 neighboring shops, 16 shops of medium structure, 5 supermarkets, 3 markets, 11 fuel dispensers ,36 shops of beverages and food and 3 banks ⁽¹⁾ 2.Creation of free training sessions on new digital sales systems ⁽²⁾ 3.Adherence of certain commercial activities to home delivery during the pandemic 4.Involvement of commercial operators and associations in the Fiera di Primavera ⁽²⁾	1.Closure of shops deemed not essential during the pandemic period	1.Project “Territorio e Impresa”: -with 68 commercial operators involved in collaboration with Confesercenti Turin and Province ⁽²⁾ 2.“Distretto Diffuso”: -collaboration with the municipalities of Piossasco and Bruino ⁽²⁾ 3.Support through an annual fee to market participants ⁽²⁾ 4.European funds and bonuses: -to support activities and businesses affected during lockdown for coronavirus emergency	1.Pandemics or emergency situations that could force the closure of activities not deemed to be essential	+/-	The City of Rivalta has many services and commercial activities for citizens, many of them have also joined the delivery services during the closure due to the emergency Corona-Virus. There are also many initiatives that the Municipality carries out for the realization of training meetings on digital sales systems, also dealing with the involvement in fairs	The European initiatives will help the recovery of local activities affected by the emergency situation, there are also many projects and agreements that the City of Rivalta closely to improve the quality of services and innovation of the business. The distretto diffuao will be able to be a valid aid for the recovery of the fields and will have the objective to construct an intercommunal system that has like center the commerce, its places and its guidelines allowing to involve a wide public	1.https://geoportale.comune.orbassano.to.it/sites/default/files/altri_elaborati/RELAZIONE%20illustrativa%20progetto%20preliminare.pdf 2.http://www.comune.rivalta.to.it/ 3.http://www.cittametropolitana.torino.it/cms/risorse/territorio/dwd/pianificazione_strategica/pdf/Report_PS_IRES_totale_definitivo.pdf 4.https://www.regione.piemonte.it/web/pinforma/notizie/bonus-piemonte-istruzioni-per-riceverlo



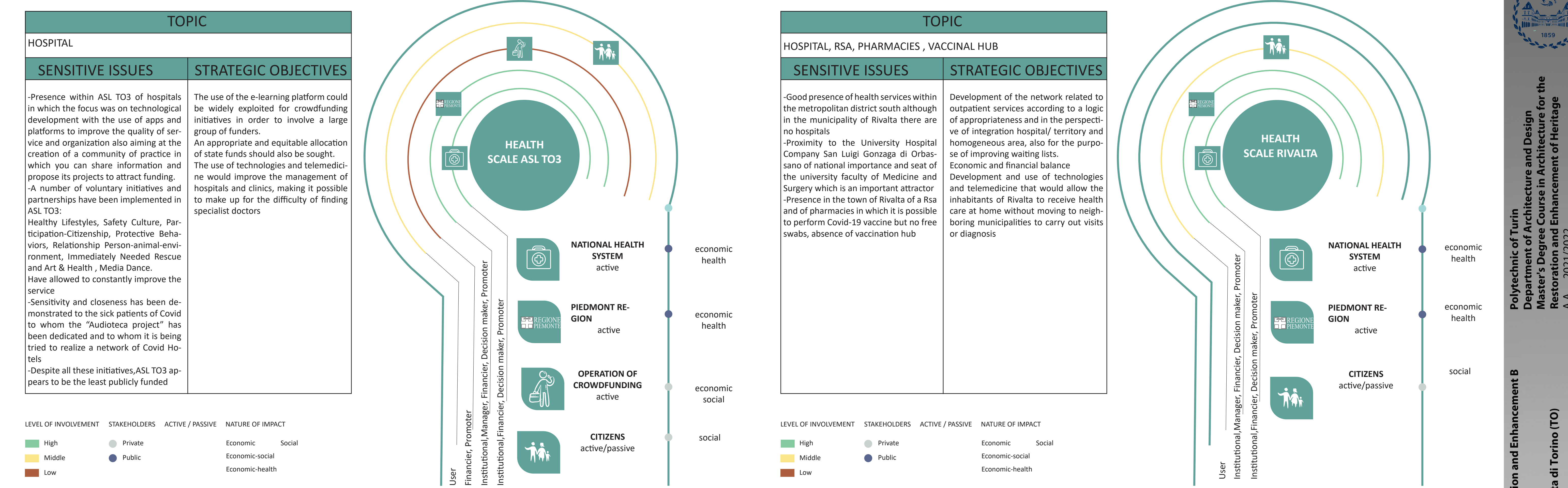
Polytechnic of Turin
Department of Architecture and Design
Master's Degree Course in Architecture for the Restoration and Enhancement of Heritage
A.A. 2021/2022

Atelier Heritage Restoration and Enhancement B (01VQHPV)
Title theme:
The Orsini Castle in Rivalta di Torino (TO)

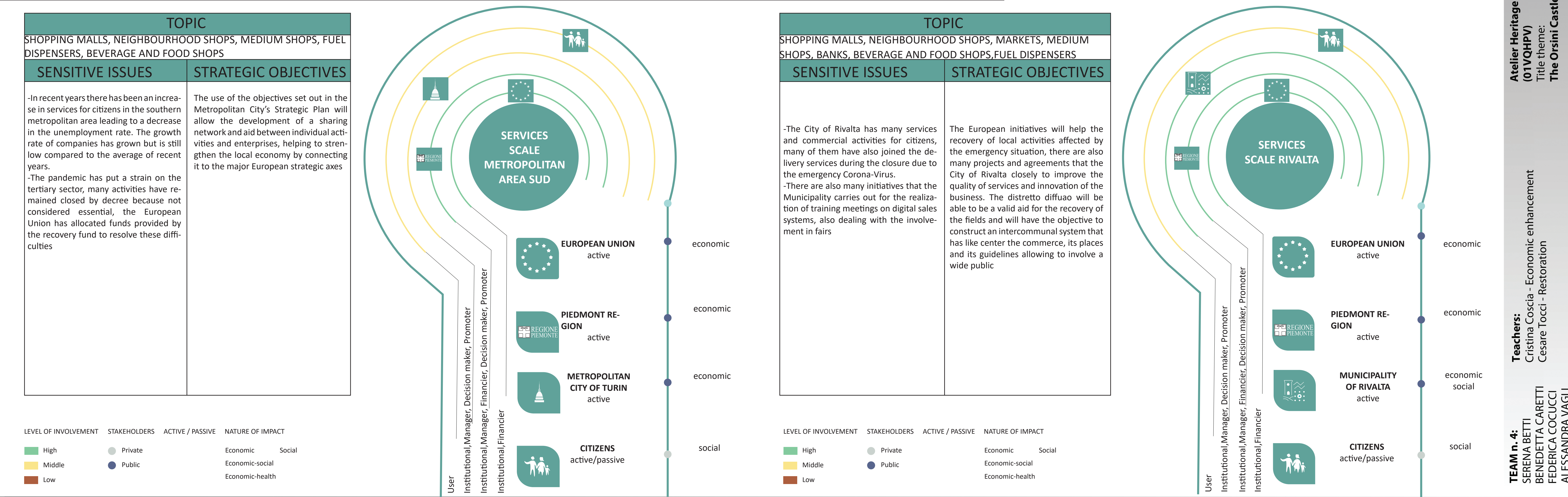
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STAKEHOLDER MAPPING HEALTH : UNESCO MODEL WITH CIA INTEGRATIONS



STAKEHOLDER MAPPING SERVICES : UNESCO MODEL WITH CIA INTEGRATIONS



SUMMARY SWOT: (RIVALTA AREA + ARCHITECTURAL HERITAGE AREA)



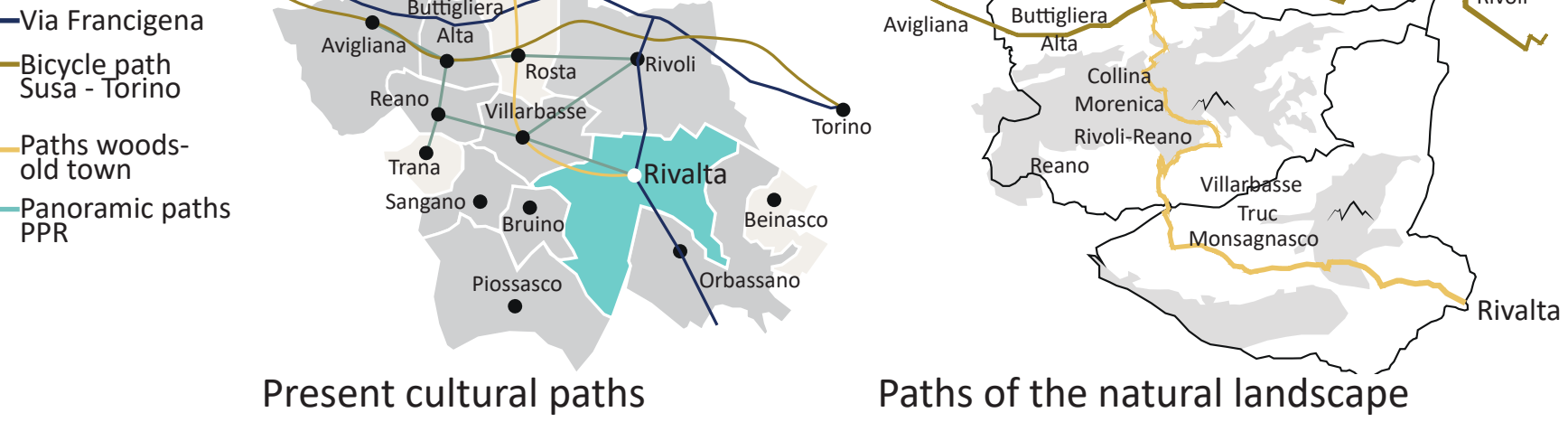
THEMES	TOPIC	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS	SENSITIVE ISSUES	STRATEGIC OBJECTIVES	SOURCES	VALUE	
GREEN SPORT EDUCATION	Green Areas	Rivalta municipality contains a significant important green protected area on the perimeter of Sangone River that provides a variety of environmental benefits to the town which is recognised by UNESCO as part of the Collinapo protected system. Castello Orsini contains one of the largest green areas of Rivalta located both in central location of the city.		There is a local interest for the protection and development of the natural elements and parks on Rivalta	The protected natural green areas of the po river superpose in some areas with the urban mesh of Rivalta putting in potential danger the biome of the river side	The municipality of Rivalta has a protected green area that has great benefits for the city but there is the risk that it could overlap with the urban mesh, Castello Orsini contains one of the largest green areas of the city. In the city are absent parks and green areas of modest size in which to interact, while the green areas of the Castle are little exploited. The City of Rivalta offers for its citizens basic sports facilities but in the neighbouring municipalities there are more specialized facilities, most of these facilities are private and not affiliated. The City of Rivalta offers its citizens numerous initiatives and support regarding investment in kindergarten and strengthening of projects and laboratories, in Rivalta are absent secondary schools and universities.	- Greater monitoring of the green areas of the Po to avoid damage to the river biome caused by an overlap of the urban projects and allocation of funds for the development of new parks in the municipality of Rivalta and recovery of areas of the Castle to promote community interaction and the creation of places for sharing - Increase in sports facilities agreed by the municipality of Rivalta - The allocation of funds and ministerial financing will help to the realization of new structures in the City of Rivalta and this will help to reduce the pollution due to the displacement in neighbouring municipalities - Design of new structures and sports fields - Involvement and use of areas outside the Orsini Castle for sports activities	http://www.comune.rivalta.to/it/comune/uffici-comunali/sport-e-associazione	(+/-)	
	Sport Nodes	In Rivalta: existence of different sport facilities in neighbouring areas Rivalta Center offers basic sport facilities for its citizens.	Lack of different sport facilities. Fully private sport facilities at Rivalta Center	In Rivalta: Annual bonus for registrations to sports activities of their sons for 205 families Renovation of some sports areas Applications for funding for the Sports in Parks project and for the Ministerial Call for Sport and Suburban Urban Regeneration Design.	Possible need for transportation to reach different sport facilities which is not sustainable					
	Education Nodes	A lot of education nodes in Rivalta: from nursery to primary school Education facilities and extra-scholastic activities close to the Castello Orsini	Lack of secondary schools and universities in Rivalta di Torino	In Rivalta: Decline in the agricultural employment rate from 1991 to 2011 Craft businesses decreased by 19 units from 2016 to 2020.	In Rivalta: Activities for inhabitants over 60+ Third Age University. Funds and appropriations for nurseries and for proposals to strengthen training opportunities Extra openings and parental support	Emigration of young people because of lack of secondary schools and universities	Risk of total disappearance of craft businesses			
	First sector		In Rivalta: Increase of enterprises (+2) in the sector "Agriculture, Silviculture, Fishing". "Premio Comuni Virtuali 2014": New attention to the preservation of green areas, through good land management practices: the promotion of young firms and the spread of urban gardens. "Fiera di Primavera": Exhibition of local and Piedmontese crafts.	In Rivalta: Decline in the agricultural employment rate from 1991 to 2011 Decrease (-4) in companies operating in the manufacturing sector Decrease (-5) in companies operating in the construction sector	"Contratto di Fiume del Torrente Sogone": "Associazione Comuni Viribus" "Territorio e Impresa"					
ECONOMY	Second sector	In Rivalta: "Contratto di solidarietà": The Auto Aero company used this mechanism (5/07/2021) so that no workers would be fired after the pandemic "Superbonus 110%": involves a tax deduction of 110% of the expenses incurred for energy efficiency measures and reduction of seismic risk in buildings. Impact of employment in the trade sector increase from 1991 to 2011 (3.9%).	In Rivalta: The industrial employment rate nearly halved from 1991 to 2011. Decrease (-4) in companies operating in the manufacturing sector Decrease (-5) in companies operating in the construction sector	"Territorio e Impresa": Initiative that aims to develop useful strategies to improve the quality of services in the area and innovation of the company business. "Bonus per il Commercio Locale": "Territorio e Impresa" "Distretto Diffuso del Commercio Colline del Sogone" "Riqualificazione del Centro Storico Basso"	The Auto facility is a company included in the list of industries at risk of major accidents.	In the municipality of Rivalta there was an increase in companies in the primary sector but the employment rate is down compared to 1991-2011. There are also many initiatives and strategies to improve quality, but few of these proposals have been implemented. As for the secondary sector, there was a halving of the employment rate from 1991 to 2011, many are the projects allocated by the union, regional and municipality for companies. In the tertiary sector the employment rate has increased but some companies have been closed, there are many planned initiatives that need to be completed. The extracommerce sector has grown most in recent years, both in terms of employment rate and number of units. Although there were closures these were on average lower than in other municipalities, or even lower than average. Rivalta's employment performance is in line with that of the neighbouring metropolitan municipalities, but it is above the regional and Italian average in several respects. There has been an increase in the employment rate and there have also been many initiatives for the employment of citizens with short-term placements and recruitment. In recent years there has been an increase in research and innovation projects, due to the increase in funds allocated. However, only 1% of these projects have been completed.	- Implementation of planned strategies and initiatives to create a network involving the primary sector with the population - Implementation and completion of projects allocated by the European Union. To implement the proposed initiatives to enhance the value of the tertiary sector of Rivalta and to create a network with neighbouring municipalities, involving citizens (especially the younger ones) - Implement the European initiatives planned for companies affected by the Covid and think about long-term policies for the exploitation of enterprises - The municipality should continue with policies for the recruitment and employment of citizens - Policies should be adopted for the enhancement and development of the territory and local companies - Extension of project funds to other areas and sectors such as tourism, culture and education - Completion of ongoing projects	1: to.camcon.it 2: to.camcon.it 3: Rivaltaemilia.it 4: camconmetropolitano.torino.it 1: Rivaltaemilia.it 2: to.camcon.it 3: comune.rivalta.to.it	(++/-)	
	Trade sector			Wholesale trade businesses decreased by two units. Transportation and megastore companies decreased by 5 units, with no substitutions.	"Bonus per il Commercio Locale": "Territorio e Impresa" "Distretto Diffuso del Commercio Colline del Sogone"					
	Tertiary sector "Extracommerce"		Impact of employment in the "extracommerce" sector increase almost doubled from 1991 to 2011. Communication and information services companies increased by one unit. Travel agencies and business support services companies increased by 4 units.	Accommodation and food services businesses decreased by 1 unit. Real estate companies decreased by 3 units. Companies involved in other services decreased by 4 units.						
	Employment/Unemployment		Employment rate increase between 1991 and 2019. Female employment rate increased from 1991 to 2011, exceeding the regional average. "Spentimenti Lavori" "Cantiere di Lavoro" "Infirma Lavori"	The youth employment rate (15-29) declined from 1991 to 2011, falling below the regional average. Male employment rate declined slightly from 1991 to 2019, but is above the regional average.	"Catalogo degli incentivi per le imprese": The Piedmont Region has provided incentives for the recruitment of certain categories of people (women, young people, disabled people) for the two-year period 2021-2022. "Garanzia Giovani"	Risk of young people fleeing to more competitive places in the job market.				
Cohesion Policy		Increase in Research and Innovation projects from 2007 (54% of the total) to 2020 (86%). 99% of projects in the 2007-2013 cycle have been completed. Funds for business incentives increased from about 7 million to more than 28 million from 2007 to 2014.	In 2014, 96% of the projects funded were Research and Innovation projects, drastically reducing funds to other areas. Only 1% of projects in the 2014-2020 programming cycle have been completed.	Projects with more funding: "Maturazione tecnologica e sviluppo per l'integrazione di un sistema motore aeronautico Spicy" "Contratto di Sviluppo - GE AVO 5 S.R.L.U." "Fleet Management Optimization through 4.0 enabled smart maintenance"						
REAL ESTATE		- The residential sector has grown in recent years but sales of non-residential buildings are divergent from real estate market, compared to residential ones. - Over the past three months, the real estate market has remained stable overall in all categories.	- In the eight different areas of Rivalta there is a large gap between only residential and non-residential areas. - The trend in residential sales has drastically dropped due to the pandemic, with a decrease of -1.7% per year, with a number of units equal to 227 units. - The C1 area in north-west of Rivalta di Torino is the one with the highest price per square meter and is located outside the historic center.	The prices for buying selling and renting could stabilize in the medium-economic range, in a population of medium-high income level. This facilitates the real estate market by also encouraging new families to move from the city of Turin to a neighbouring but well-stocked area.	The low price of the tertiary sector could incentivize an anomalous entry of large markets in the historic center of the town	In recent years the residential real estate sector has grown but the sales trend has drastically decreased due to the pandemic, instead there has been an increase in sales of non-residential buildings. Overall the market has remained stable over the past three months. There are price differences within the market: in the north-west area outside the historic center there is the highest price per square meter.	- A stable and homogeneous price trend per square meter would facilitate the housing market, encouraging new families to move and avoiding large chains besieging the historic center		(+/-)	
	PROCESS	The Rivalta Municipality cares of territorial government theme, due to this reason it invests a lot on advanced territorial planning tools. The Rivalta's Municipality is part of ASSOT - "Agenzia per lo sviluppo del Sud-Ovest di Torino" which has promoted the Protocol of understanding to activate "Contratto di Fiume". A strategic plan, in concert with Piedmont Region, is "Piano particolareggiato zona B2.5" (2016). Moreover many social, cultural and conservation activities have been activated to promote the Rivalta Castle as central cultural node, such as the transfer of the Municipal library in its spaces and the financing of several restoration work.	The pandemic situation due to Covid-19 has determined a stop of the cultural and social events, and the necessary changes in the management of Administration Authorities, with a delay in deadlines. Sport associations despite being very numerous, are not particularly active.	If the Municipality of Rivalta continues improving the use of territorial government tools and promoting social-cultural projects, and on the other the protection of the landscape management will enhance even more. If there will be a continuous relation between Castello Orsini and Policlinico di Torino, both sides will profit from it in terms of cultural and social enhancement.	The Covid-19 pandemic situation has determined several changes, demographically and in the territorial asset, so the landscape and urban management will have to be updated. If there will be a continuous relation between Castello Orsini and Policlinico di Torino, both sides will profit from it in terms of cultural and social enhancement.	Presence of numerous territorial agreements and processes that have objectives on the one hand local and supra-local and on the other the protection of the landscape and the conservation of the architectural heritage, of which Castello Orsini is part.	- Expansion of the sponsor network for the financing of cultural restoration and promotion - Enhancement of the territory and local companies - Extension of project funds to other areas and sectors such as tourism, culture and education - Completion of ongoing projects	Inspections 26/10/2021 and 02/10/2021 Google maps	(++/-)	
	Events	Possibility to follow events remotely Free entrance Variety of events Castle as the main attraction Entrance in the late afternoon and evening. The activity of the joint associations is active throughout the year. The activity of the joint associations organize many events at the end of the summer. Rivalta has a large number of associations.	The Covid Pandemic decreased the organization of the events and fundraising to help.	Renewal of the corridor project for revenge, organization of events and fundraising to help.		The city of Rivalta is very active and offers numerous events throughout the year able to involve all citizens of all ages, breaking down walls and limitations: photo exhibitions, music and art, concert seasons, literary and theater meetings, white nights, summer evenings, live shows, festivals and Christmas lights in the streets and neighborhoods. The same Orsini Castle is involved in these activities. The city of Rivalta has numerous associations that constitute a great wealth for sustenance and growth.	- The initiatives and events present in the town of Rivalta and in the Castle are very numerous able to involve a large catchment area, you should continue on this path: promoting events and attracting more and more sponsors and financiers to keep this community alive - The associations in Rivalta are very active and present throughout the territory, the design of new structures and tensile structures constitute new meeting points	https://www.comune.orbascano.to/it/it-news/comuni-per-attivita-per-iniziativa-progetti-ed-eventi-per-il-2022	(+/-)	
	Associations			After the covid pande- mia there is a decrease in cultural associations.	Provision of funds for some municipal associations					
LIBRARIES AND MUSEUMS	Libraries	Library in the West Area with the highest number of volumes, the most number of events, has an outside area with a garden; is set in a historical building (Castello Orsini); has 7/9 of the SBM selected services.	The disabled adaptation services and the information alphabetization program are missing the target in concentrated on the younger people, and there's not a lot of services for older people, like the home delivery.	The high number of events cover different topics and alphabetic program are missing the target in concentrated on the younger people, and there's not a lot of services for older people, like the home delivery.	Lack of services and events for elder people; home delivery service is lacking.	The Castello di Rivalta houses the "Silvio Grimaldi" library, collaborates with numerous associations to promote events inside and outside. Reading is a social and economic aid that helps the intellectual growth of the entire community. In Rivalta there are no museums and the Orsini Castle is not managed by the regional Piedmont Museums, it is open to the public because of the municipal library.	- Extend the opening of the Library during the weekend. - Designing spaces and places accessible to all. - Events and activities the entire population from the youngest to the oldest. - Promoting and enhancing the Orsini Castle on a large scale with the possibility of attracting more and more people. - Propose the transformation of the Orsini Castle into a museum and integration into the network "Abbonamento Musei".		(+/-)	
	Museums		There is a high demand, it is located on the Piemonte region, therefore, the cinematic culture is important. The historical and of the castle for cinematographic use.	Possibility to create new cinemas or projection events, providing a service that has never been there for people	Becoming unable to provide services that satisfy its population's needs. The adaptation of new cinematographic uses interfere with the current library	In the city of Rivalta there are no cinemas or cinemas, but the municipality in summer organizes shows and screenings in the framework of "Festate a Rivalta". In the City of Rivalta there are no theatres but there are many events of theater performances held in the Orsini Castle and concert collaborations with the Conservatory Giuseppe Verdi, the Teatro Regio and the Musical Initiative. Rivalta and its Castle lack infrastructure to enhance their image and able to attract more people.	- Continue to realize events and theatrical performances in the Orsini Castle - Continue to organize screenings and summer shows in the city of Rivalta - Create a local sharing network that can inform and attract more people and financiers	Becoming unable to provide services that satisfy its population's needs Becoming unable to provide services that satisfy its population's needs Failure on positioning itself as one of the localities involved in this known network		
	Cinema		The theatrical culture is present. The castle's qualities as a scenario are numerous and important to consider.	Rivalta di Torino lacks theatres. It's population has to travel in order to have access to them. Not enough recovery of foundations to invest in new scenarios.	Chance to create cultural events. Includes diverse spaces that are adequate for the theatrical display.	Becoming unable to provide services that satisfy its population's needs. Lack of attractions to generate the promotion of theater foundations				(+/-)
	Theatres		Rivalta is located near the city of Torino. It is surrounded by urban centers, however, it does not have one. Has a cultural recognition that helps in the consolidation of a cinema and theater network.	It is not part of the consolidated network present in Piedmont. As a consequence, it lacks from infrastructure when it comes to entertainment services. The promotion of the castle as an important center does not reach surrounding towns and the city	Contemplation of becoming part of this network and enhance this aspect. Its location is ideal for the creation of the local network.	Failure on positioning itself as one of the localities involved in this known network. The loss of the municipality as a sponsor of the castle				
Networks										
Infrastructure, mobility and accessibility		In Rivalta: High accessibility of the area subway. Presence of an extensive network of provincial roads linking with the surrounding municipalities. Presence of a cycle network. Proximity of the Castle of Rivalta to cycling routes connecting with the metropolitan city of Turin. Proximity of the Castle of Rivalta to the stops of public transportation.	Rivalta: Strong traffic block and Pollution High impact on infrastructure urban sprawl The nearest motorway junctions are: Orbascano 4 km from the old town. No direct connection to motorway. Absence of a 271 in the historic center of Rivalta Castle of Rivalta: Presence of architectural barriers in the non reusable areas of Orsini Castle Fragmented bicycle Network	Rivalta: Strengthening of polarity subways Growth of host centres the System Ferroviario Metropolitano. Construction of new railway line Torino-Lione passing by Rivalta. Castle of Rivalta: Return, after the covid epidemic, of the use of all study stations	Rivalta: Risk of isolation for neighboring municipalities and infrastructures does not work even better. Within the Municipality of Rivalta there are few accommodation facilities and the lack of projects that encourage the local tourist offer.	- Procurement of public funds for the disposal of architectural barriers and the continuation of restoration works that will contribute to the opening of areas that are not viable today - Attract new investors and financiers also private - Implementation of the infrastructure network with the construction of the cycle path that will connect with the hospital San Luigi Gonzaga and the railway line Metropolitan Project with stops Orbascano and Rivalta	http://www.cittametropolitano.torino.it/cms/risorse/territorio/dwd/pianificazione-territoriale/otc2/av-5-1_difluvio.pdf http://www.comune.rivalta.to/it/files/14amm_trasp/13bandi_gara-contratti/2016/pse/2016ccababili_2_Elaborati2016grafi.pdf Inspections 26/10/2021 and 02/10/2021	(+/-)		
	Services	Rivalta: Presence of parking spaces. Renovation work on the urban layout of the old town centre. Presence of a nearby hospital in the city of Rivoli and Orbascano (10 minutes by car). Castle of Rivalta: Presence of stalls for bicycles at the entrance of castle. Presence of a library, possibility to consult books and presence of study stations.	Rivalta: No public space for the community Lack of hospitals in the municipality of Rivalta Reduction of workstations in Castello di Rivalta, due to the Covid-19 epidemic compared to the situation before the Covid-19	Increase health in Rivalta Increases the services in Rivalta. Return, after the covid epidemic, of the use of all study stations						
	Labor Force		The age slots of 25-49 and 50-64, are mainly employed people and the age slot of 15-24 are mainly students.		The municipal project to accompany the work in favor of unemployed unemployed residents called Experiments Lavoro has been updated with City Resolution n. 122 of 17 May 2018.	The 9,2% of the currently economically active people are unemployed.			http://www.comune.rivalta.to.it/attivita/progetti/esperimenti-lavoro-2020	
	Mobility		The 14,43% of the population moves inside the comune for work and/or studies	42,73% of the population goes out from the city for work or study on a daily basis.	Tramvia da Mancasale a Rivalta. Il Comune ha ottenuto i finanziamenti che serviranno per il progetto della nuova tramvia.	The trend in mobility is to move as much and in an unpredictable way, generating a complex and unequal mobility that could accentuate the gap between Slow and hyper-mobile populations.	Growth of demographic trends and migratory flows, in the area there is a very low number of illiterate people and a high number of graduates	- The implementation of the initiatives envisaged by the Region will help improve the social and cultural inclusion of migrants. The initiatives of the Municipality of Rivalta will allow new job opportunities for the unemployed	http://dati.censimentipermanenti.istat.it/	(+/-)
Foreigners		There are 6 groups of foreigners in the piedmont, divided on their geographical origin, Europe, Africa, Asia, America, Oceania, Apollide	As Rivalta is a population of less than 20000 people, there is no specific information about the nationalities of the foreigners.	Petrarca 6 - Civic language training for foreigners, encourage the participation of third-country nationals in training activities. Impact - consolidating migrant integration planning. To respond in an organic and coherent way to the needs and needs of people of foreign origin, through a strategy based on the coordination of different policies.						
TOURISM		Castello Orsini: Proximity to parking lot, Presence of library, Large gardens suitable for outdoor events, Organization of cultural events in situ	Castello Orsini: Lack of exploitation and knowledge of users on a large scale Presence of a substantial unrestored part	Castello Orsini: Realization of an institutional place, Realization of a union between public and private: receptivity	Castello Orsini: Lack of effective enhancement, Progressive process of the degradation caused by the lack of funds	Piedmont is a territory that offers numerous Unesco sites and cultural events, however the system of connections and infrastructures does not work even better. Within the Municipality of Rivalta there are few accommodation facilities and the lack of projects that encourage the local tourist offer.	- Implementation of accommodation offers, enhancement and promotion of the architectural heritage of Rivalta and its Castle by focusing it on a wider network of assets	Pdf file "reti acqua 10-10-06.pdf"	(+/-)	
	HOSPITAL RSA PHARMACIES VACCINAL HUB	In Rivalta: Presence of two hospitals near Rivalta. University Hospital Company San Luigi Gonzaga in Orbascano is providing the municipality of Rivalta with a large number of services. This hospital is the subject of a process of renovation and reorganization of the complex resulting in improved cost control and expenditure on staff. This hospital is an important attractor. Presence of 5 RSA within the metropolitan district south. Presence of 26 Pharmacies in the southern metropolitan district. Possibility to carry out Covid-19 vaccine in the Municipal Pharmacy of Rivalta.	No hotspot in the municipality of Rivalta for free swabs. Absence of vaccination hubs in the municipality of Rivalta: Presence in the hospital of activities not related to needs or less than the actual needs	Patto della Salute 2019 e Piano Strategico Metropolitano 2021: Implement and monitor the implementation of the Metropolitan Plan of Health and well-being. The decision by the strategic metropolitan plan, this would allow equal accessibility to the health system on the territory. The transformation of the former library of Piazza Martiri which today houses some medical studies and soon new services of the ASL	The gradual reduction of resources could create difficulties in maintaining welfare levels	Good presence of health services within the metropolitan district south although in a large number of Rivalta there are no hospitals. Proximity to the University Hospital Company San Luigi Gonzaga di Orbascano of national importance and seat of the university faculty of Medicine and Surgery which is an important attractor. Presence in the town of Rivalta of a Rsa and of pharmacies in which it is possible to perform Covid-19 vaccine but no free swabs, absence of vaccination hub.	- Development of the network related to outpatient services according to a logic of appropriateness and in the perspective of integration hospital/territory and homogeneous area, also for the purpose of improving citizens' needs - Economic and financial balance - Development and use of technologies and telemedicine that would allow the inhabitants of Rivalta to receive health care at home without moving to neighboring municipalities to carry out visits or diagnosis	http://www.sanluigi.piemonte.it/deliberare/0133/Allegati/2023-3.pdf http://www.cittametropolitano.torino.it/cms/risorse/territorio/dwd/pianificazione-territoriale/otc2/av-5-1_difluvio.pdf https://www.comune.orbascano.to/it/risorse/default/mse/atrti_elaborati/RELAZIONE/2018bus	(+/-)	
	SHOPPING MALLS NEIGHBOURHOOD SHOPS MARKETS MEDIUM SHOPS BANKS BEVERAGE AND FOOD SHOPS FUEL DISPENSERS	In Rivalta: Presence in the municipality of Rivalta of 188 neighboring shops, 16 shops of medium structure, 3 supermarkets, 3 markets, 14 fuel dispensers, 26 shops of beverages and food and 5 banks. Creation of free training sessions on new digital sales systems. Numerous initiatives of the municipality to support families and economic activities. Bonuses for the purchase of computer equipment, bonuses for rents and loans, a 40% reduction in the waste tax for companies forced to close, food and pharmaceutical bags delivered to the home and support for home delivery activities.	Closure of shops deemed not essential during the pandemic period.	Project "Territorio e Impresa": With 68 commercial operators involved in collaboration with the Municipality of Rivalta and Province. "Distretto Diffuso": collaboration with the municipalities of Piossasco and Pinerolo. Support through an annual fee for market participants. European funds and bonuses: Support for businesses affected during lockdown for coronavirus emergency. Support to households and economic activities by the Municipality of Rivalta	Pandemics or emergency situations that could force the closure of activities not deemed to be essential	The City of Rivalta has many services and commercial activities for citizens, many of them have also joined the delivery services during the closure due to the emergency Corona-Virus. There are also many initiatives that the Municipality carries out for the realization of training meetings on digital sales systems, also dealing with the involvement in fairs	The European initiatives will help the recovery of local activities affected by the emergency situation, there are also many projects and agreements that the City of Rivalta closely to improve the quality of services and innovation of the business. The distretto difuso will be able to be a valid aid for the recovery of the fields and will have the objective to construct an intercommunal system that has like the center the commerce, its places and its guidelines allowing to involve a wide public	https://www.comune.orbascano.to/it/risorse/default/mse/atrti_elaborati/RELAZIONE/2018bus https://www.cittametropolitano.torino.it/cms/risorse/territorio/dwd/pianificazione-territoriale/otc2/av-5-1_difluvio.pdf https://www.comune.orbascano.to/it/risorse/default/mse/atrti_elaborati/RELAZIONE/2018bus	(+/-)	

RESTORATION AND REFURBISHMENT PROJECT

CULTURAL PATHS IN THE CONTEXT

The aim of the project is to better connect Rivalta with the neighboring municipalities and reconnect it to the cultural routes already present on the territory, so you can visit the surrounding beauty. The aim is to create various paths, using eco-friendly technologies and zero environmental impact on the territory such as bicycles or electric scooters

Legend



TRANSPORT FOR CULTURAL PATHS

Realization of a public system of sharing of bicycles and electric scooters through the rent of the same with a sharing service that can be daily or monthly

Membership

Bicycles and scooters can be rented in the info point of the cultural itineraries located in the garden or via app. The app will give you the opportunity to orient yourself along the way and to share information with others or report any anomalies or problems

Use

Bicycles can be rented by daily or monthly subscription. The itineraries are designed to visit one or two centers present in the cultural itineraries

Use

Scooters can be rented through two types of subscription:
-Unblock Daily offering unlimited unlocks for 24 hours and 15 minutes of ride included
-Unblock monthly that offers 2 daily breakouts and one hour of incusa travel per day

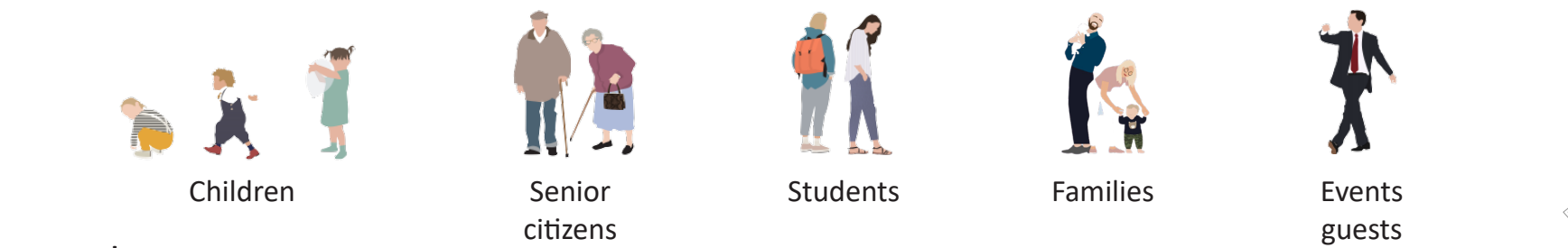
Cost

Bicycles:
-Daily 10€ adult
5€ children/students
-Monthly 30€
Scooters:
-Unblock Daily 4€
-Unblock monthly 25€

FUNCTIONAL MASTERPLAN

In the Castello Orsini di Rivalta in Turin there is a restoration and re-functionalization that will bring back to use the historical artifact currently in a state of decay and partial abandonment. In the Castle will create a pole of meeting and comparison of the different realities of the territory. We have tried to remain as faithful as possible to the problems that emerged from the strategic objectives, inserting new activities that could meet the real needs of the community of Rivalta. One of the main interventions of the project consists in the demolition of two floors in the dancing hall so as to restore it to its original distribution at full height, with the aim of bringing to light the frescoes of the pavilion vault. We rethought the vertical links trying to improve the fruition and accessibility of the Castle, deciding to remove the flight of stairs present in the eighteenth-century sleeve and inserting two new connections an external block to the West and one to the body to the North already existing

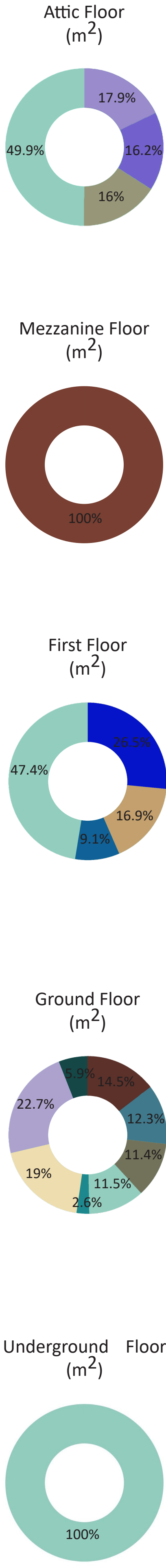
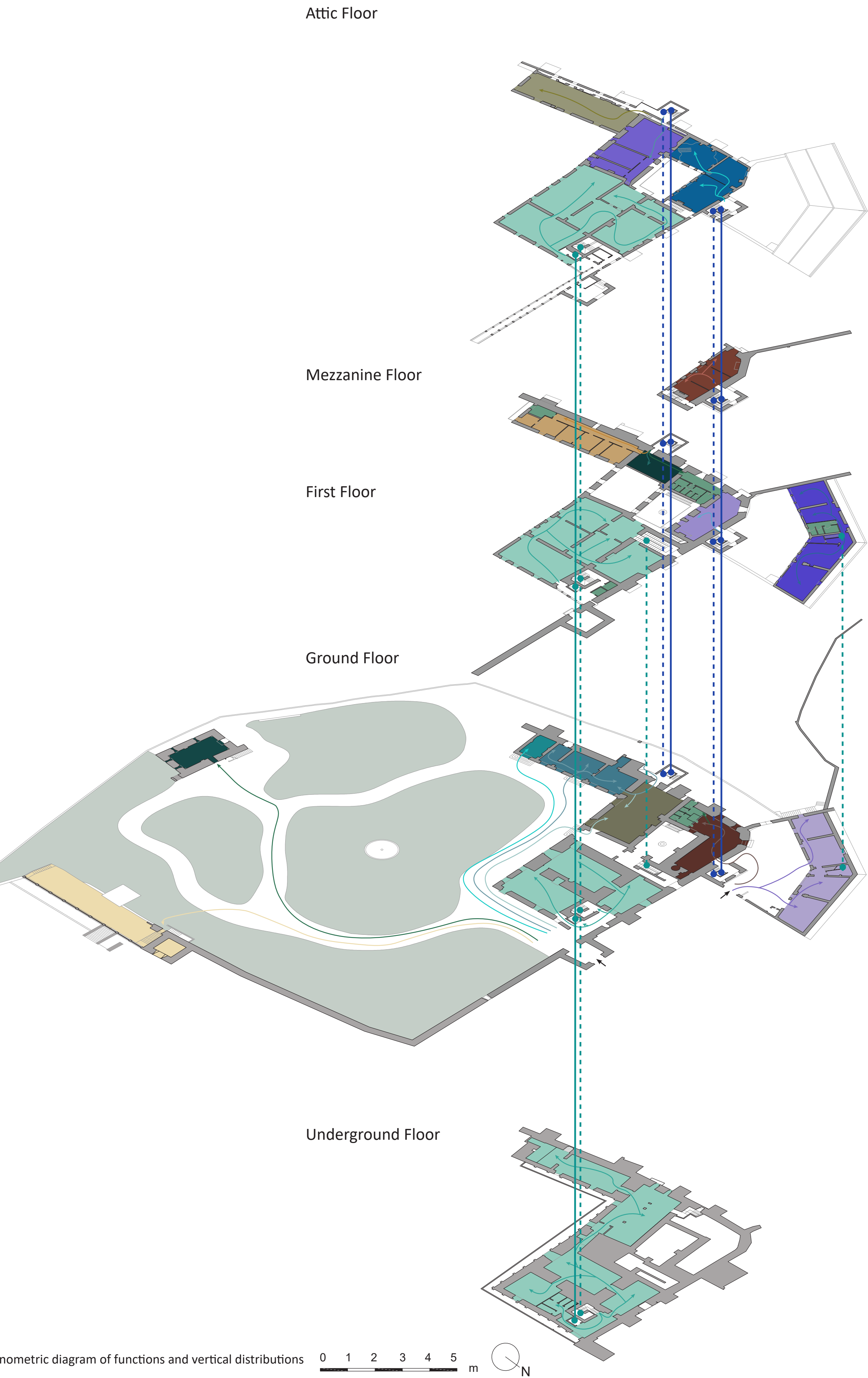
Types of users



Legend

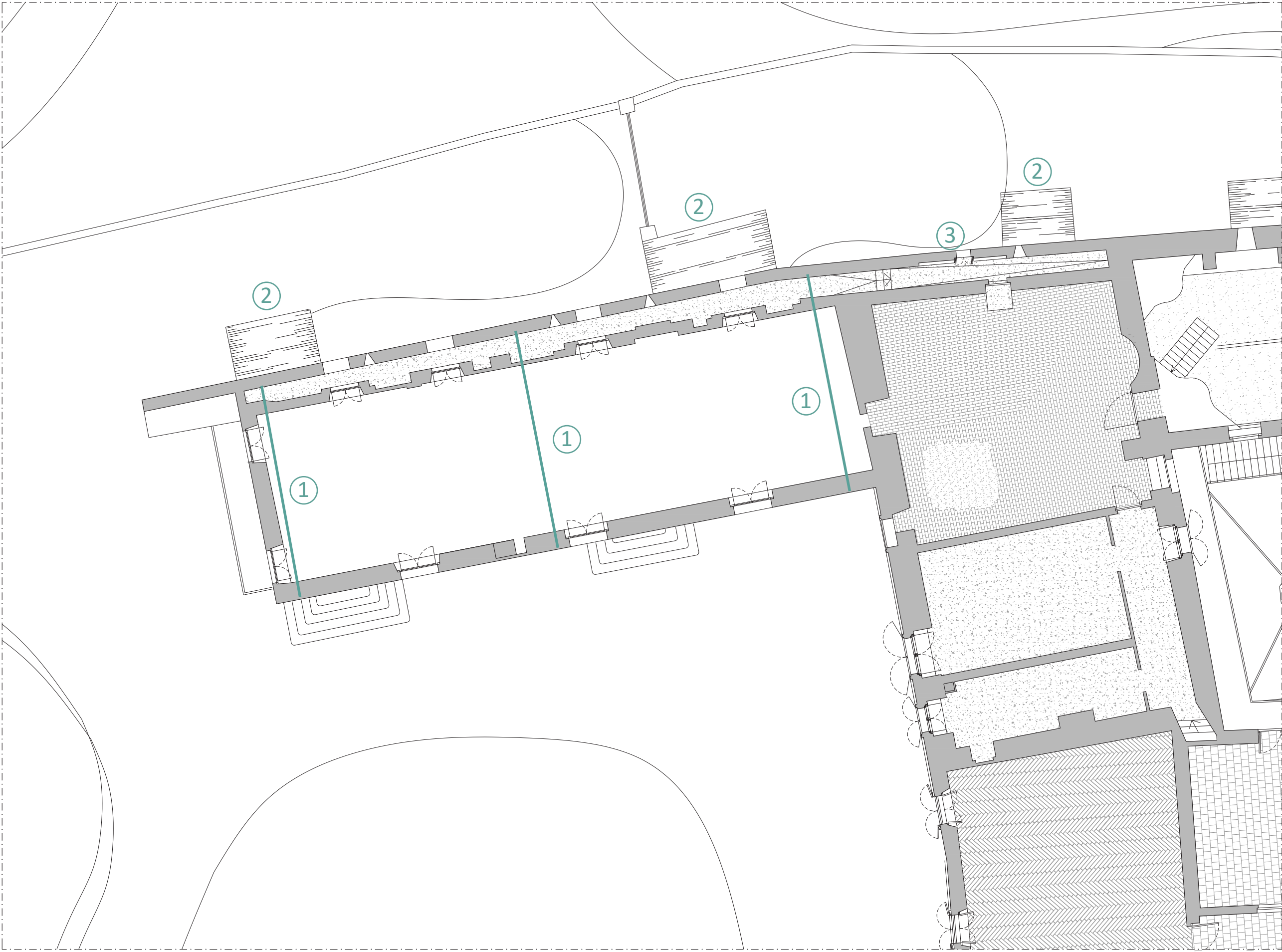


NEW FUNCTIONAL SCENARIO



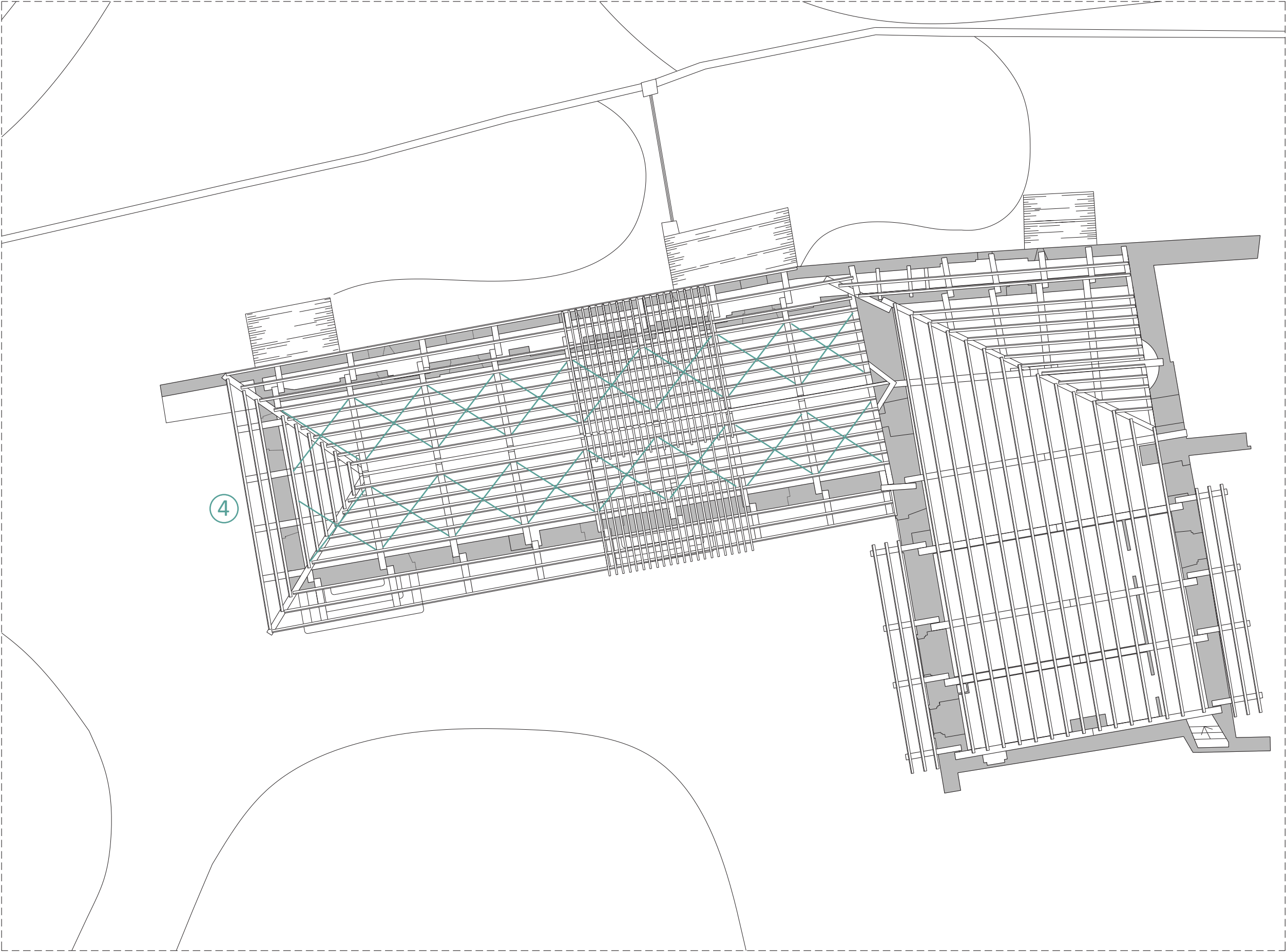
LIBRARY AND HISTORICAL ARCHIVE The library remains one of the predominant activities within the castle, as well as the cultural engine of the castle of Rivalta. In the underground floor, a space dedicated to the recovery of twisted books will be added to the current archive 1204mq	OPENING HOURS Mon 10.00-18.00 Tue 10.00-18.00 Wed 10.00-18.00 Thu 10.00-22.00 Fri 10.00-19.00 Sat 10.00-18.00 Sun close
MUSEUM RIVALTA CASTLE The idea is to set up a part of the castle as a museum of Rivalta and the Orsini family where you can watch the exhibition interactively with a dip in the history and customs of the time. The ticket has a separate cost and can be attached to the visit of the general castle. Everything can be managed from the castle itself 155.56mq	OPENING HOURS Mon close Tue 10.00-18.00 Wed 10.00-18.00 Thu 10.00-18.00 Fri 10.00-18.00 Sat 10.00-20.00 Sun 10.00-20.00
EXHIBITION ROOM The area dedicated to exhibitions is located in the eighteenth-century sleeve, a large space where local artists or from other places can present their works and cultural initiatives to the public. The exhibition will have a separate cost compared to the view of the castle 110.56mq	OPENING HOURS Mon close Tue 10.00-18.00 Wed 10.00-18.00 Thu 10.00-18.00 Fri 10.00-18.00 Sat 10.00-20.00 Sun 10.00-20.00
ESCAPE ROOM We have decided to be an escape room up our sleeve, this game will allow you to involve an audience of all ages with puzzles and tricks. The management is entrusted by entrepreneurs already included in the sector 106mq	OPENING HOURS Mon close Tue 17.00-0.00 Wed 17.00-0.00 Thu 17.00-0.00 Fri 17.00-0.00 Sat 17.00-0.00 Sun 17.00-0.00
COFFEE SHOP We have decided to include a cafeteria in this wing of the castle for the use of the castle but also for external citizens 59.79mq	OPENING HOURS Every day from 8.00 to 18.00, Sat. and Sun. 8.00-0.00
RESTAURANT-BISTROT In the upper wing of the castle we have inserted a bistro-restaurant to attract not only visitors to the castle and members of associations, guests to events and players but also to all the public of Rivalta and neighboring villages 120mq	OPENING HOURS Mon close Tue 12.00-0.00 Wed 12.00-0.00 Thu 12.00-0.00 Fri 12.00-0.00 Sat 12.00-0.00 Sun 12.00-0.00
ASSOCIATION FOR ELDERLY Following the swot we found a lack of activities for the elderly, consequently we decided to include a wing for cultural associations that could interest this type of public. The associations will be managed by external bodies, among the various associations the Nucleus for Universities of the Third Age and the Auser association already present in the municipality of Rivalta for the promotion and enhancement of the elderly in society 181.64mq	OPENING HOURS Mon close Tue 10.00-18.00 Wed 10.00-18.00 Thu 10.00-18.00 Fri 10.00-18.00 Sat 10.00-20.00 Sun close
AFTER-SCHOOL The after-school activity proposal will consist in the assistance and support of elementary and middle school students for the study and performance of their homework. Access will be granted to members and management will be entrusted to associations or entities that promote school education 79.42mq	OPENING HOURS Mon 10.00-18.00 Tue 10.00-18.00 Wed 10.00-18.00 Thu 10.00-18.00 Fri 10.00-18.00 Sat close Sun close
EVENTS ROOM This function is inserted in the ballroom to host conferences, literary, artistic and cultural salons of all kinds. Participation will be allowed through the purchase of a ticket for the event 76.72mq	OPENING HOURS On reservation
ENTERPRISE TRAINING The idea is to also involve the workers inside the castle, then insert training courses for companies and for the workers themselves and put them in contact with each other so as to find work. The management will be offered by specific bodies and the courses will be paid for by those who use them 125.56mq	OPENING HOURS Mon close Tue 10.00-18.00 Wed 10.00-18.00 Thu close Fri 10.00-20.00 Sat 10.00-20.00 Sun close
INFO POINT - RENTAL BIKE AND SCOOTER Tourist information office and organization of cultural itineraries to visit the local beauties with the possibility of renting bicycles or electric scooters 106mq	OPENING HOURS Every day from 8.00 to 18.00, Sat. and Sun. 8.00-0.00
WINE BAR EXHIBITION Food and wine market present in the scuderie. On the ground floor it will be possible to organize courses for sommeliers, taste wines from the Piedmont area and purchase, learn about and purchase products 153mq	OPENING HOURS Mon close Tue 10.00-0.00 Wed 10.00-0.00 Thu 10.00-0.00 Fri 10.00-0.00 Sat 10.00-0.00 Sun 10.00-0.00
GASTRONOMIC EXHIBITION Food and wine market present in the scuderie. On the first floor it will be possible to taste and discover the flavors of the Piedmont area, it will be possible to buy the products. 172mq	OPENING HOURS Mon close Tue 10.00-0.00 Wed 10.00-0.00 Thu 10.00-0.00 Fri 10.00-0.00 Sat 10.00-0.00 Sun 10.00-0.00

PROJECT SOLUTIONS



SCALE 1:100

CONSOLIDATION OF THE WOODEN ROOF



Keymap

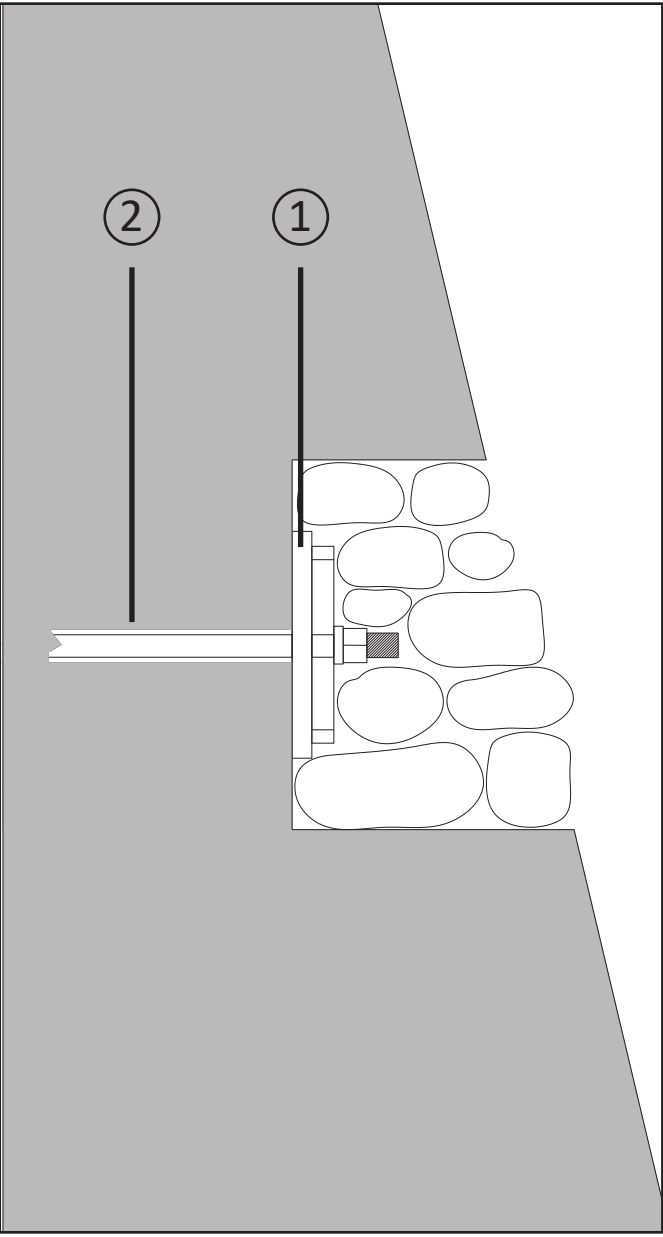
CONNECTIONS

- 1 The designed solution adopted for the floor in the attic of the eighteenth-century wing involves the use of tie-rods for connecting the load-bearing elements of the floor to the walls
- 2 During the survey and the analysis of the facades, we noticed the lack of a stable connection between the buttresses and the masonry, highlighted by cracks along the elements. In order to cope with this problem, it is suggested the insertion of metal bars with metal plates. The intervention consists in executing a hole on the buttress for the insertion of the keyhole, made with a metal plate with 4 welded wings, which will then be covered with stones similar to the existing ones, in the underframe to make the intervention still recognizable. Mortar injections will be carried out to fill in the blanks and to insert the metal rod.

ELEMENTS

- 3 The Chemin-de-Ronde has compensations made in successive stages and portions of the Castle's masonry severely damaged. In order to avoid overturning mechanisms and further injuries under the actions of horizontal forces, compensation and damaged masonry should be paid. To do this we chose the technique of "stitching" to obtain a better connection of the walls.
- 4 The trusses of the eighteenth-century wing consist of two struts, a king-post and a tie beam that counteract the thrust of the rafters. The connections between these elements can be improved with metal brackets. In addition, the link between the masonry and the wooden elements must be improved. In order to realize this connection it is assumed to connect punctually the trusses to the masonry with metallic plates, nailed to the chain and softened between them through transverse bars. It is also assumed the insertion of metal elements in the inclined plane of the roof layers to stiffen and stabilize the structures.

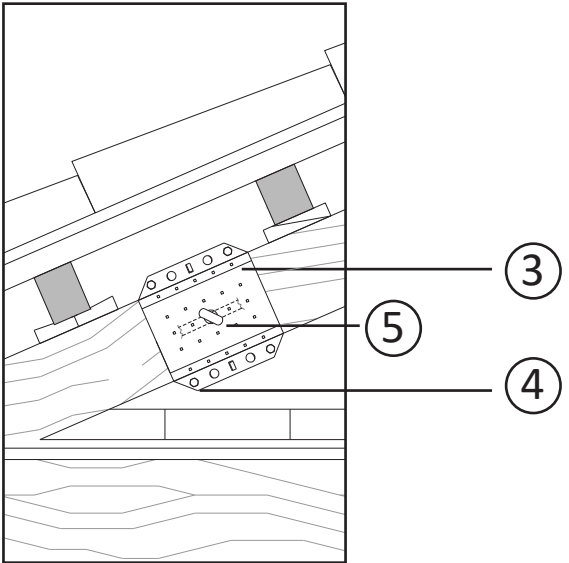
DETAIL OF METAL BAR AND METAL PLATE FOR THE BUTTRESS



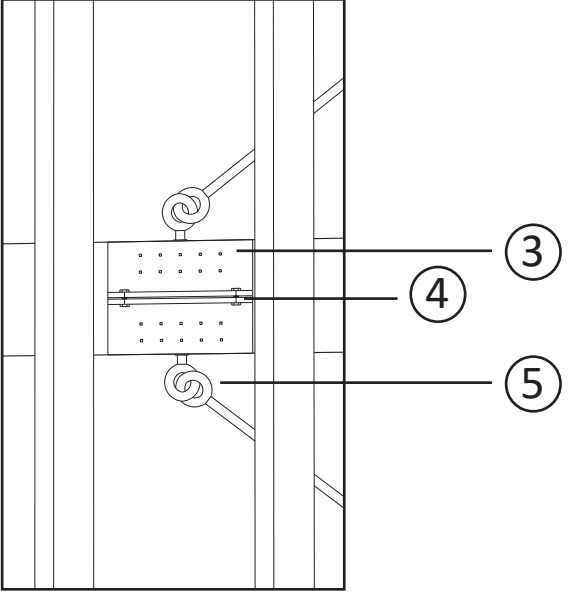
Section of the buttress

- 1 Metal plate 30x30x2,5 cm 2 Tie rod ϕ 30 mm

DETAIL OF METAL ELEMENTS IN THE INCLINED PLANE OF THE ROOF



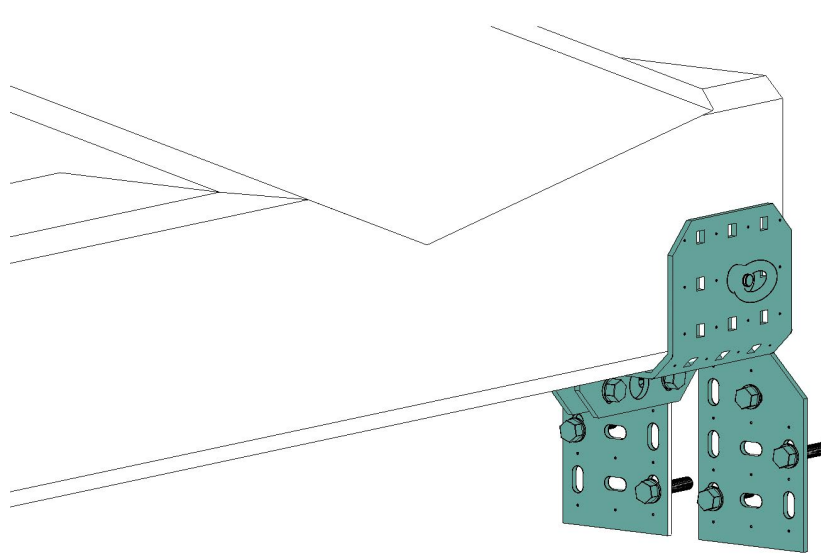
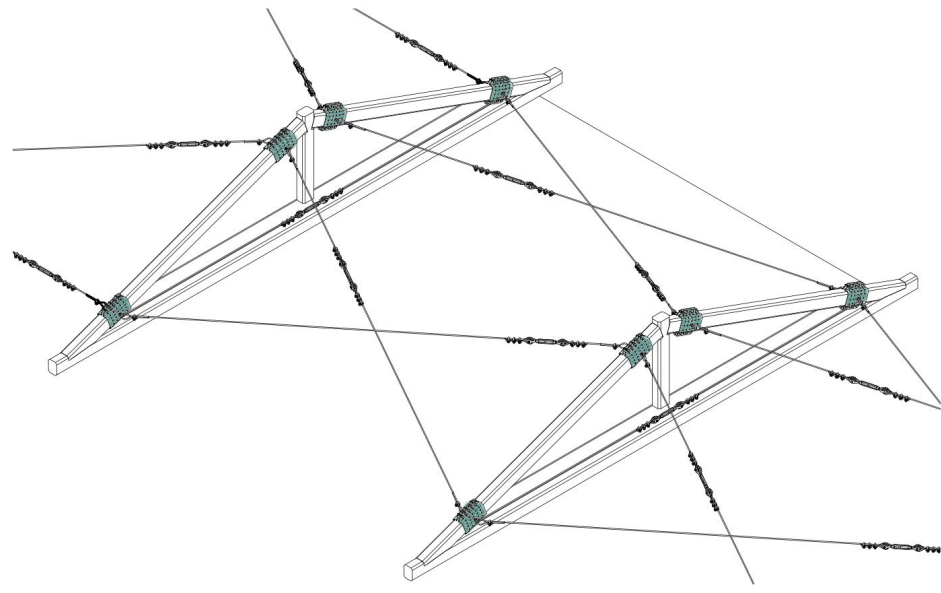
Section of the roof



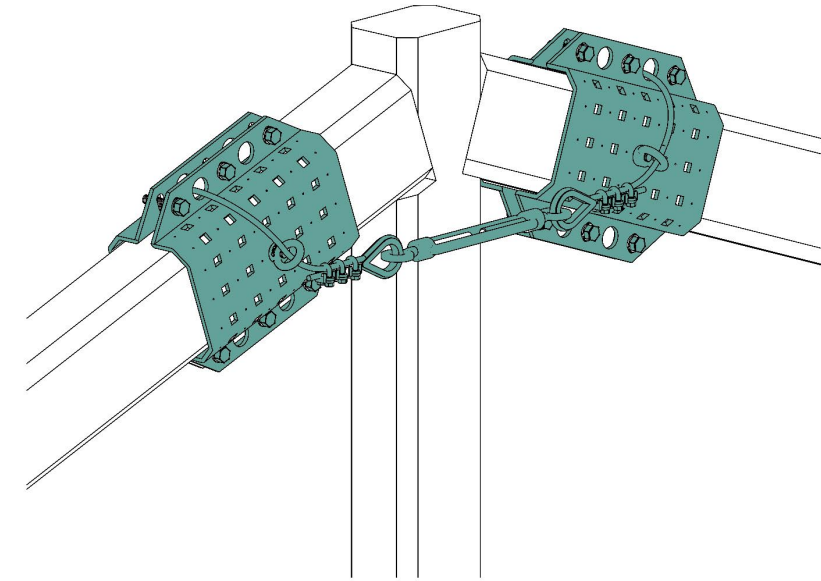
Plan of the metal elements

- 3 Metal band 150 x 7 mm 4 Bolts ϕ 12 mm 5 stranded steel ϕ 12 mm

The intervention involves the insertion of counter-winds in the inclined plane of the roof to counteract the effects of horizontal actions and prevent the overturning of the trusses. The Metal bands are attached to the struts and connected by tie rods to ensure the containment of horizontal forces.



Through the insertion of a flange in correspondence of the masonry, the structural continuity is restored and the transfer of forces from the truss to the vertical load-bearing elements is guaranteed.



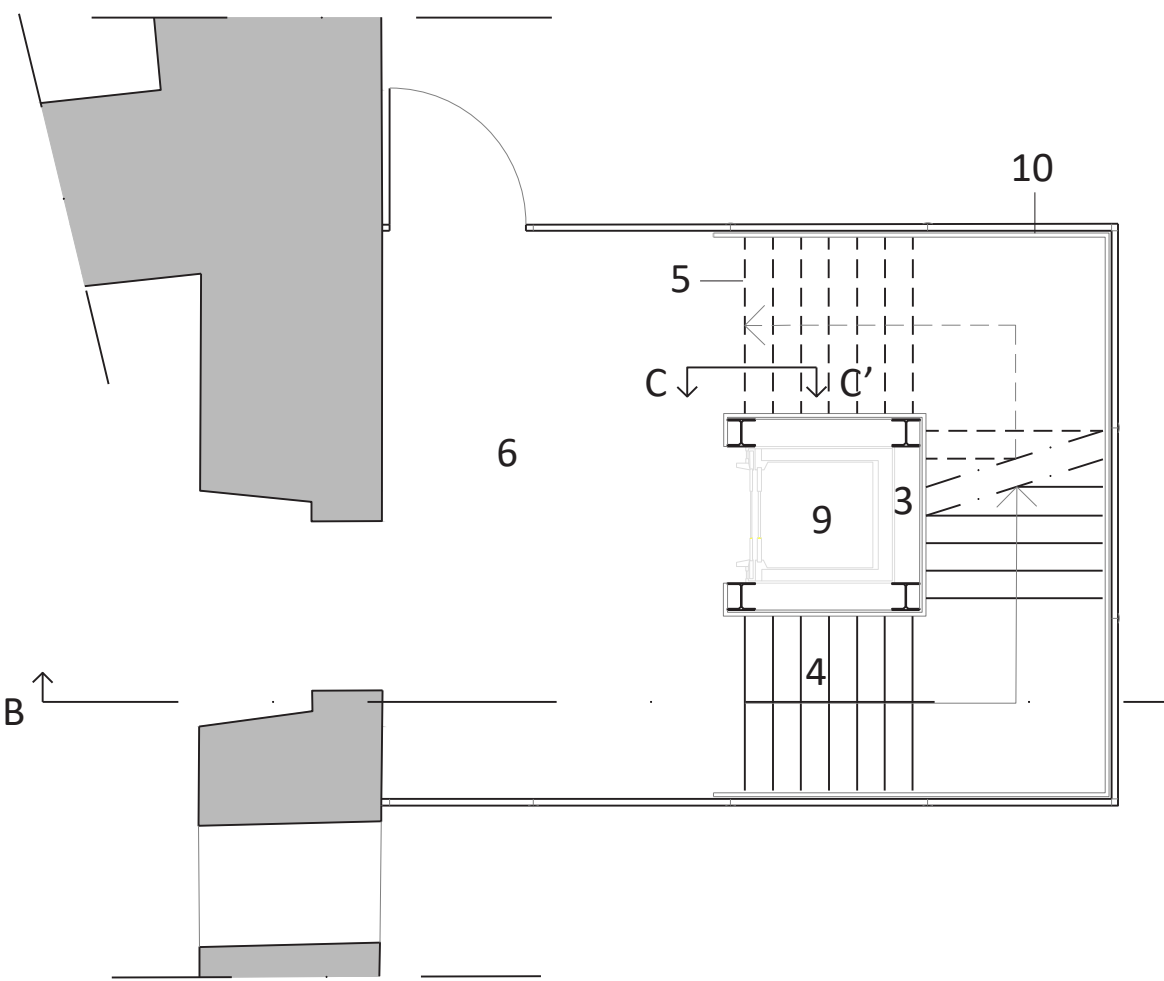
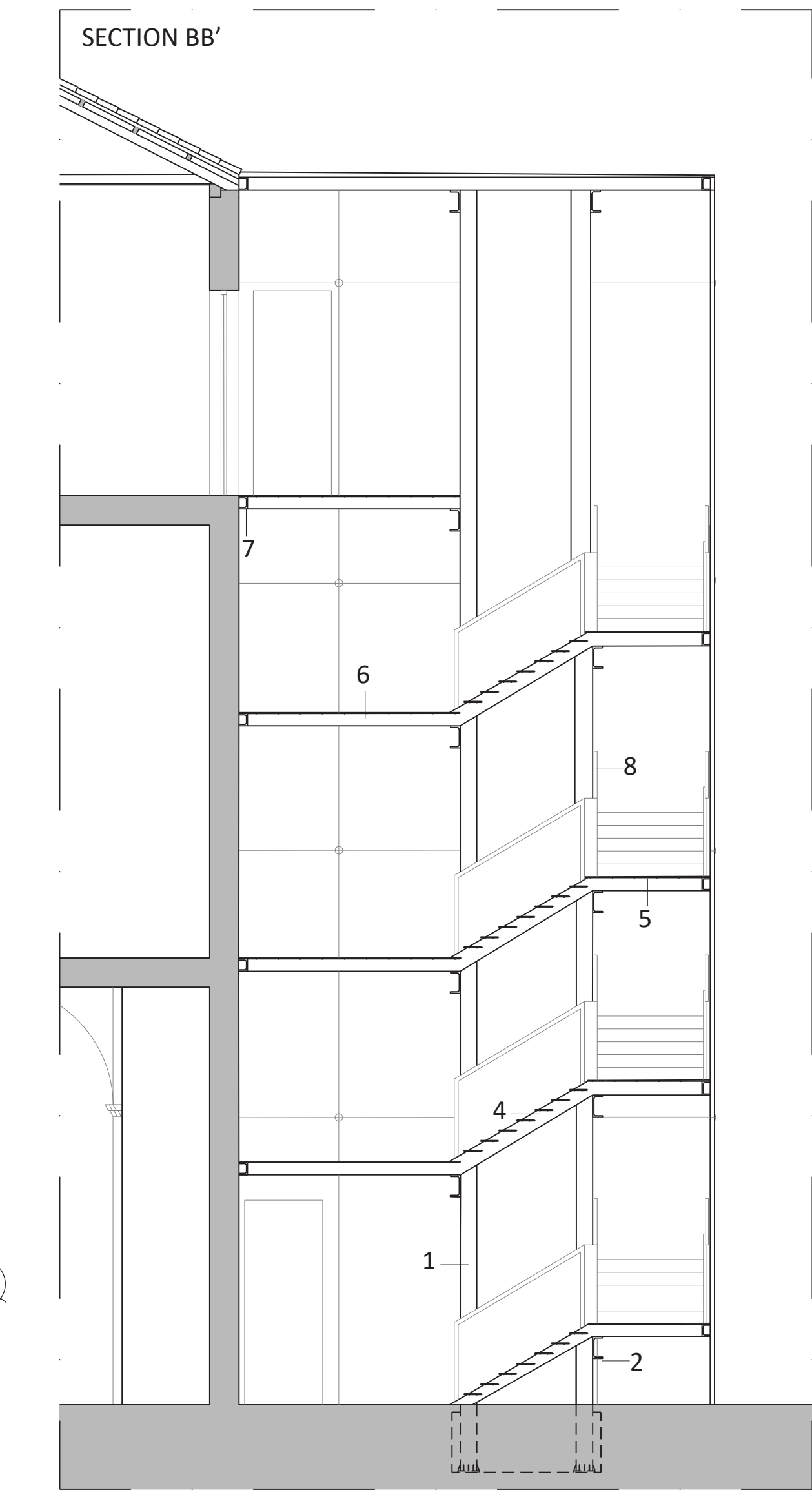
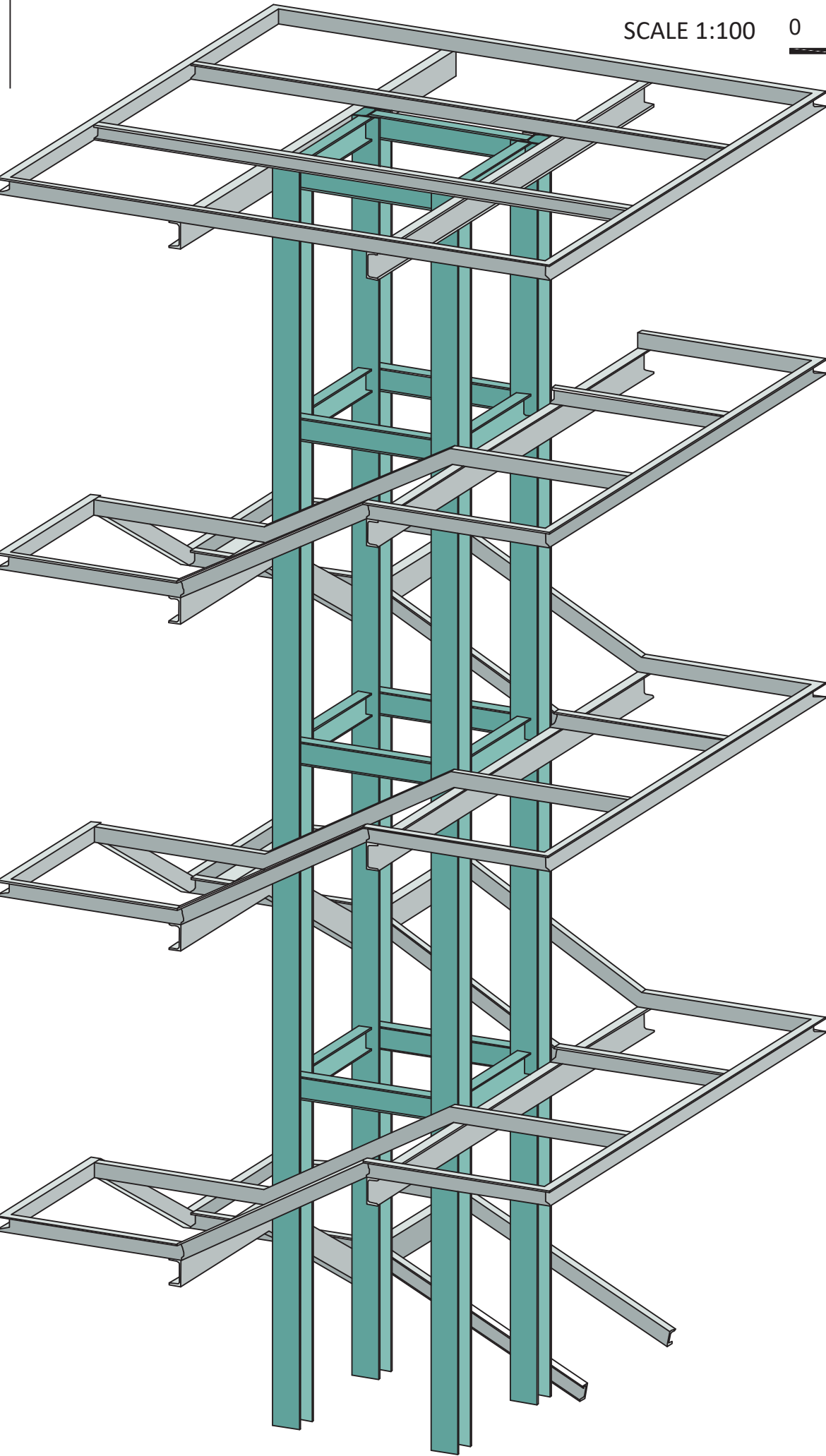
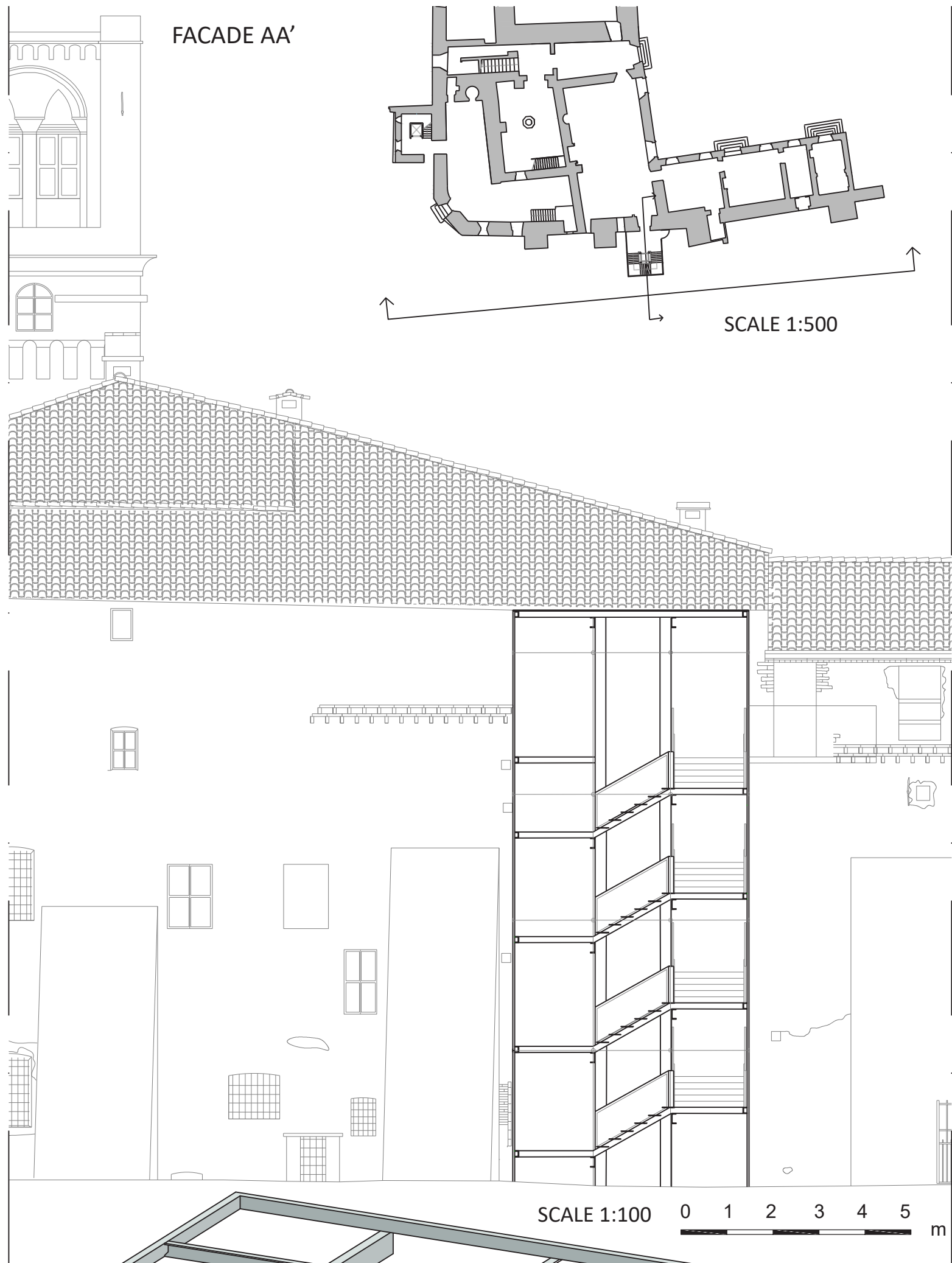
The intervention involves the insertion of coupled metal bands that wrap the wooden elements of the truss and are fixed without drilling the wood. Transfer of forces between elements is ensured by steel stranded.

The images are taken from the website of RESISTECTO, an engineered solution for the consolidation of wooden trusses, designed to maintain the balance of the roofs and to ensure their safety. The system integrates with existing trusses to properly redistribute the forces and restore balance to the coverage. The belts are designed to have maximum compatibility with the wood, avoiding damage to the truss.

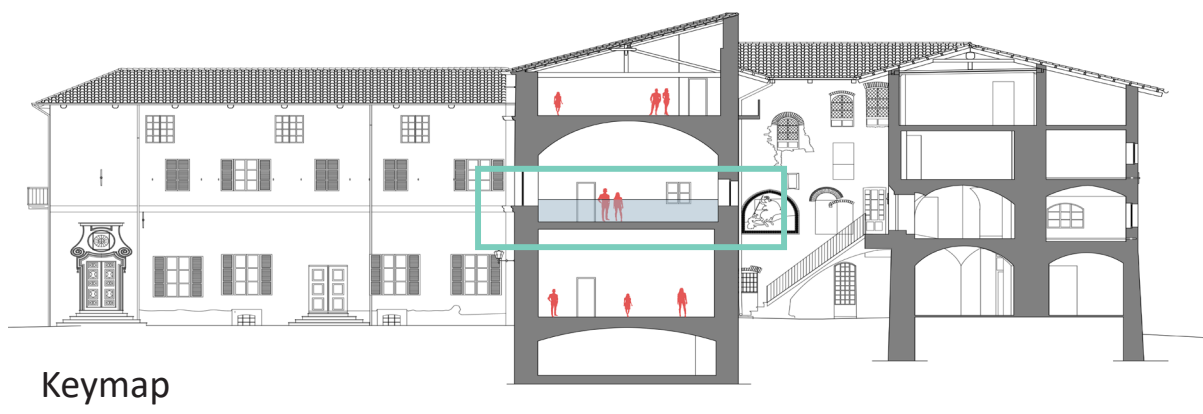


<https://www.calcolostrutturale.com/resistecto-la-soluzione-per-il-consolidamento-delle-capriate-lignee/>

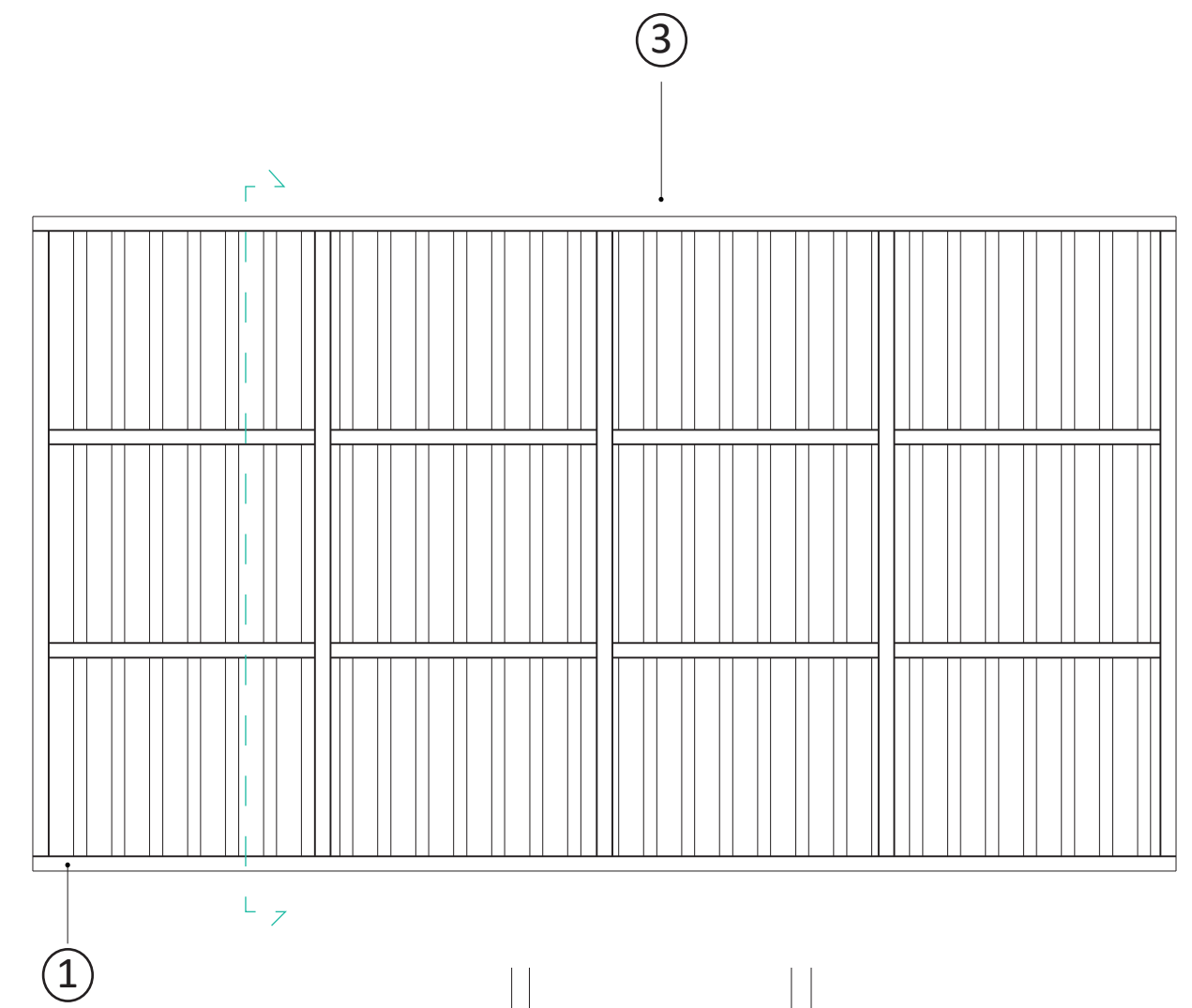
PROJECT SOLUTIONS



- 1) STEEL PILLAR HEA 300
- 2) MAIN "C" BEAM STAIRCASE BODY IN UPN 280 STEEL
- 3) IPE 240 STEEL MAIN ELEVATOR BEAM
- 4) STEEL SHEET THICKNESS 5 MM
- 5) STEEL BAR 10X10 MM
- 6) STEEL PLATE 5 MM
- 7) STEEL JOIST "C" 160
- 8) RAILING IN GRILLED STEEL
- 9) ELEVATOR
- 10) GLASSES

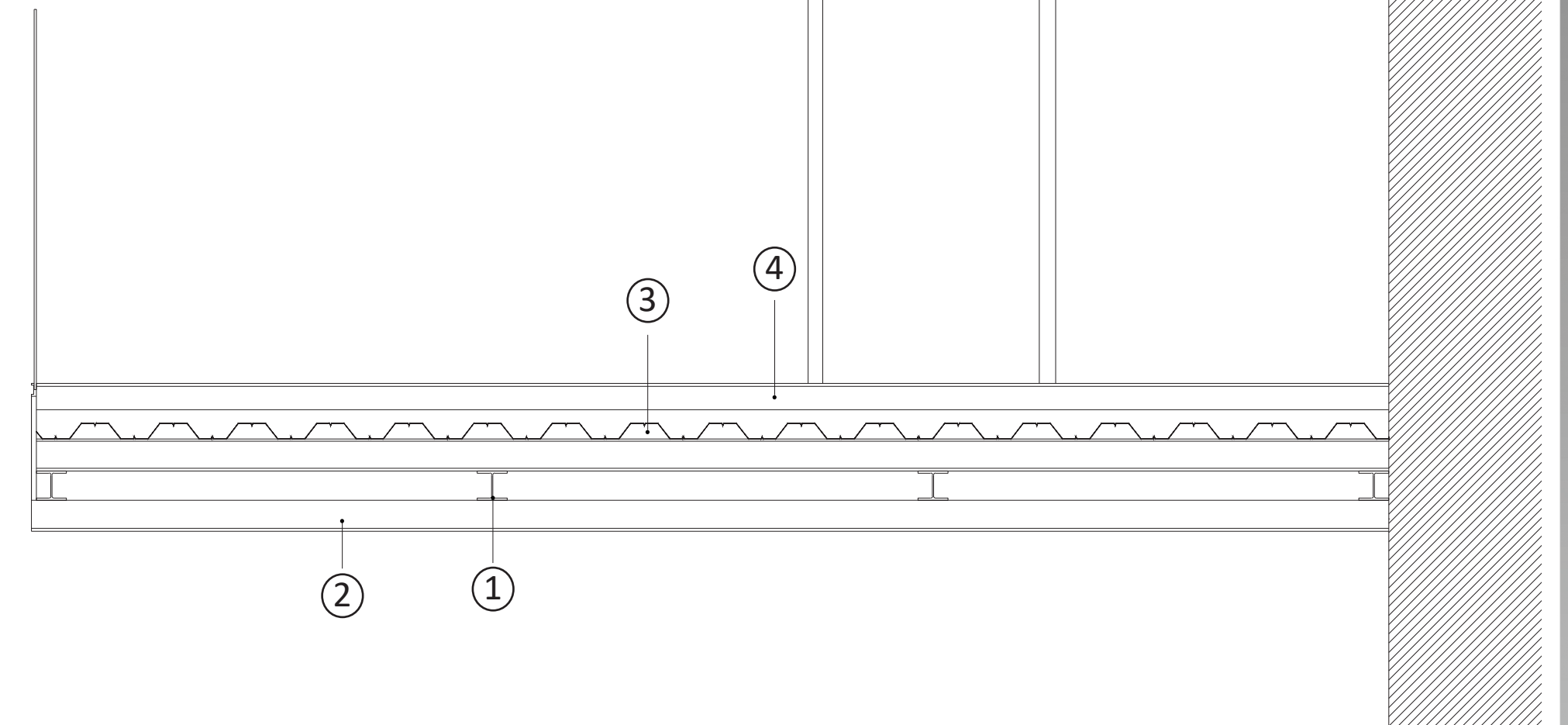
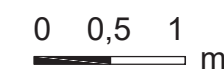


STEEL LOFT
SCALE 1:50

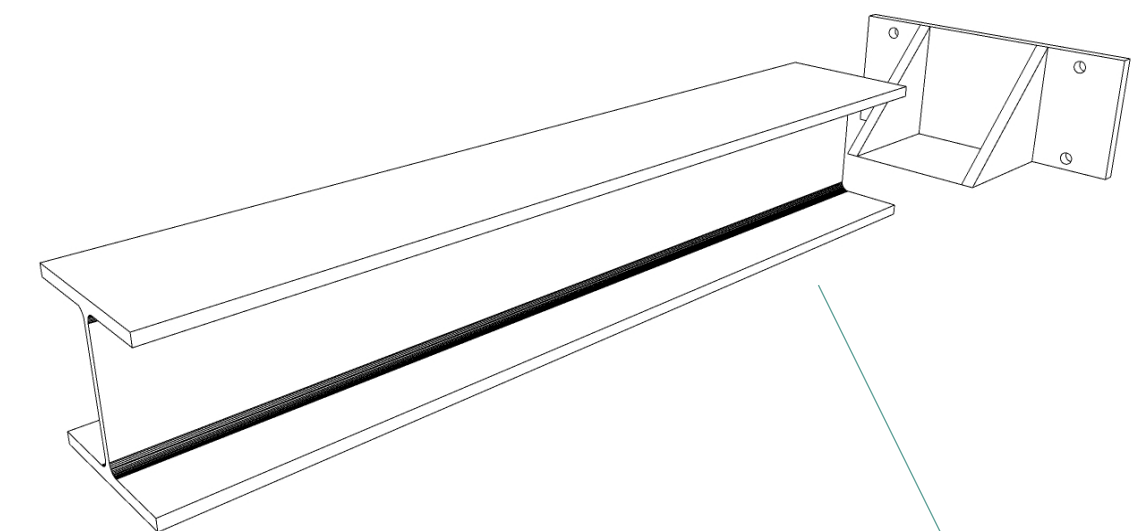


- ① IPE 180
- ② Countertop
- ③ Corrugated sheet
- ④ Concrete casting
- ⑤ Metal Shoe 100 x 140 mm
- ⑥ Bolt $\phi 16$

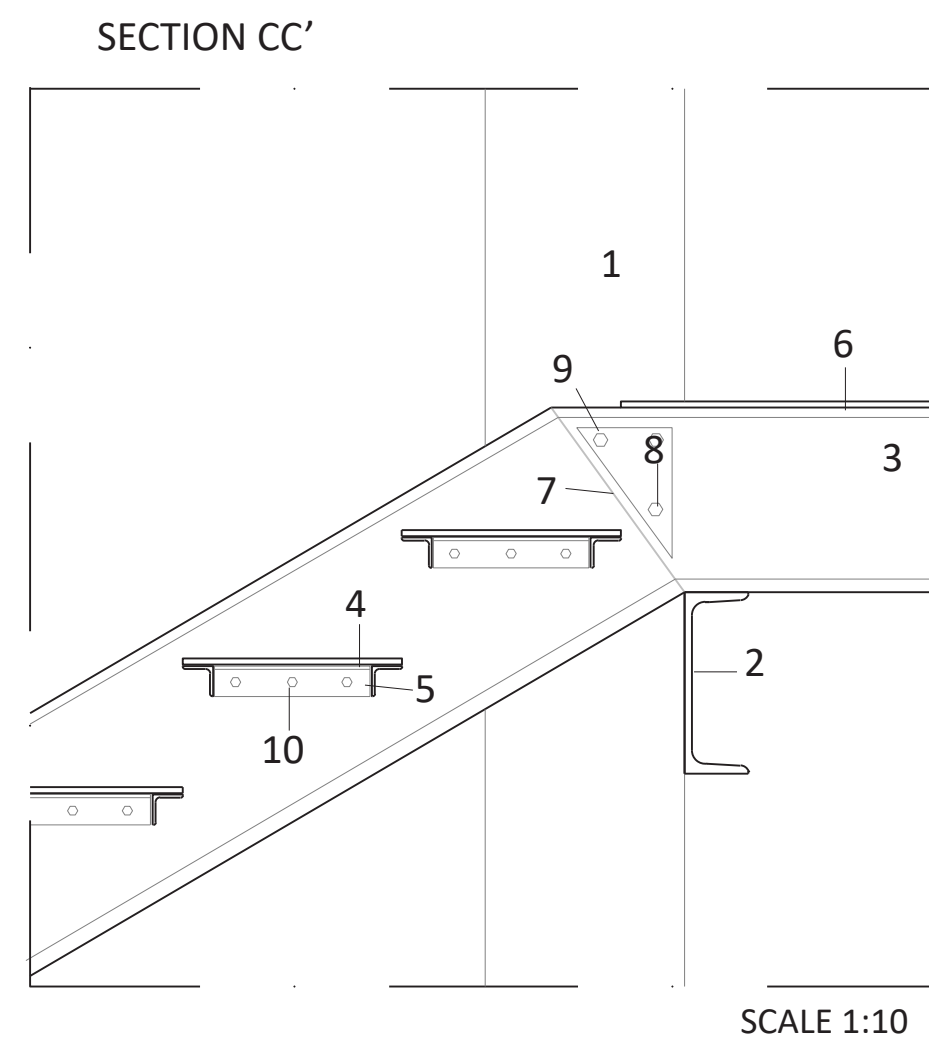
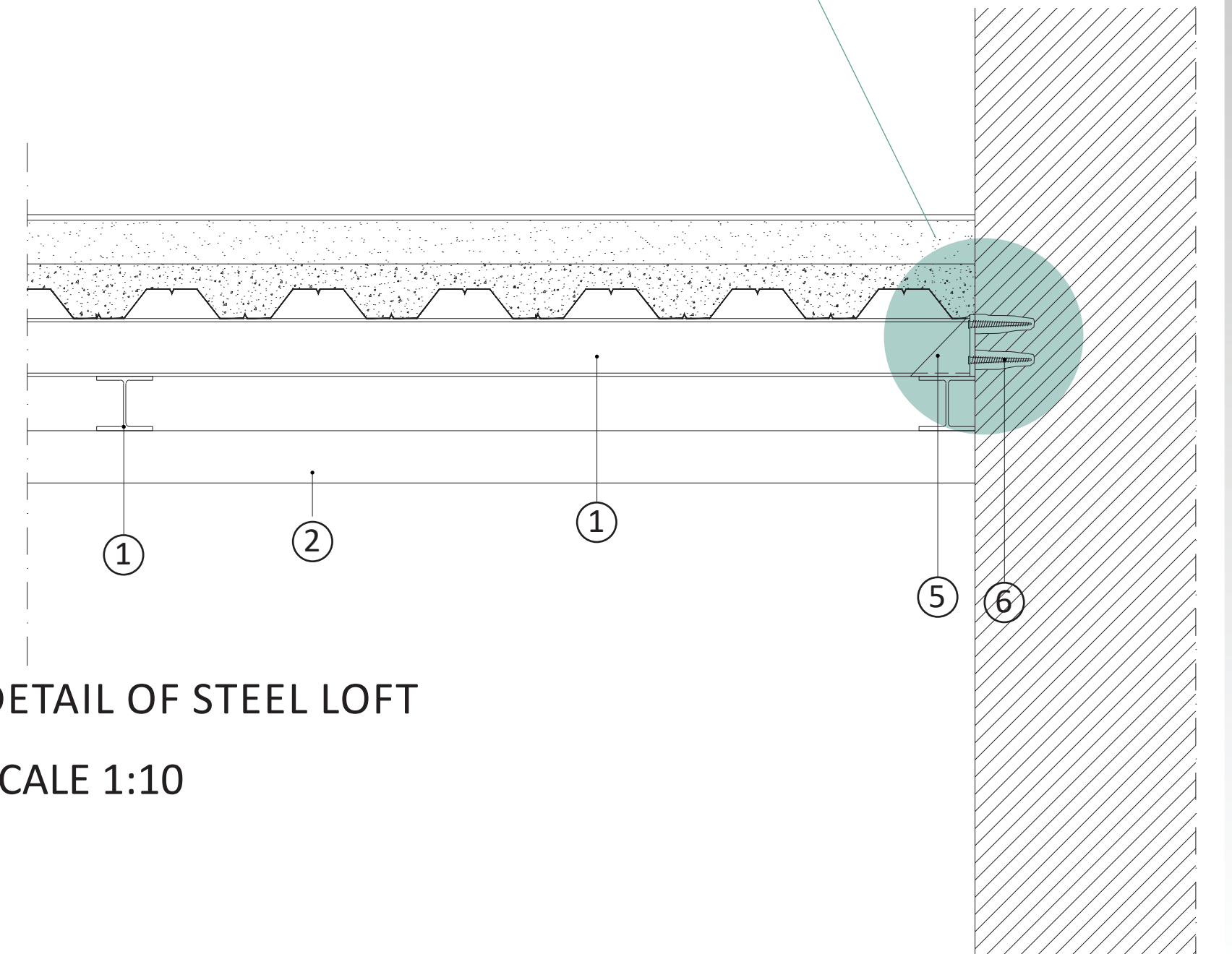
STEEL LOFT
SCALE 1:20



IPE ATTACK



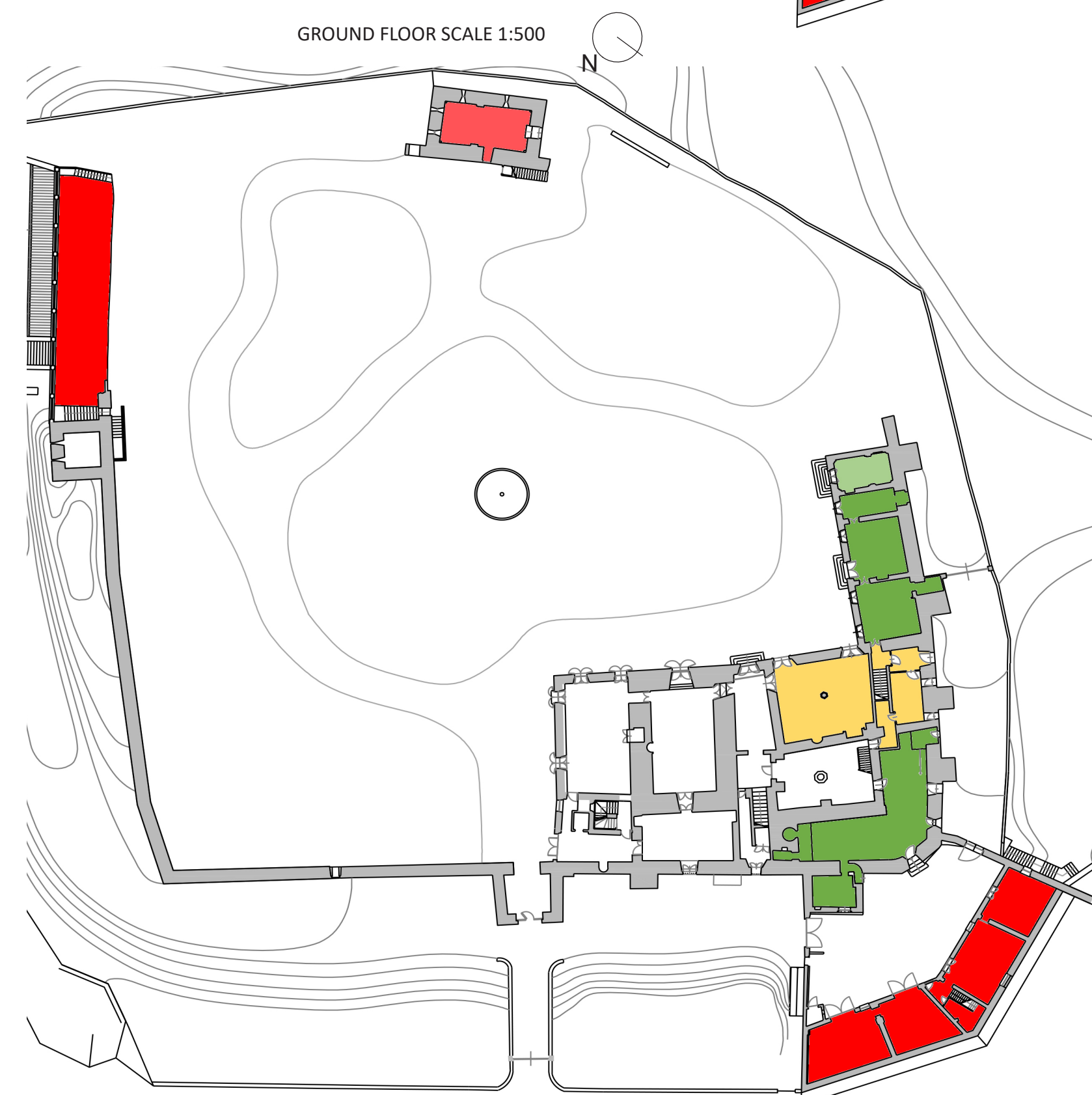
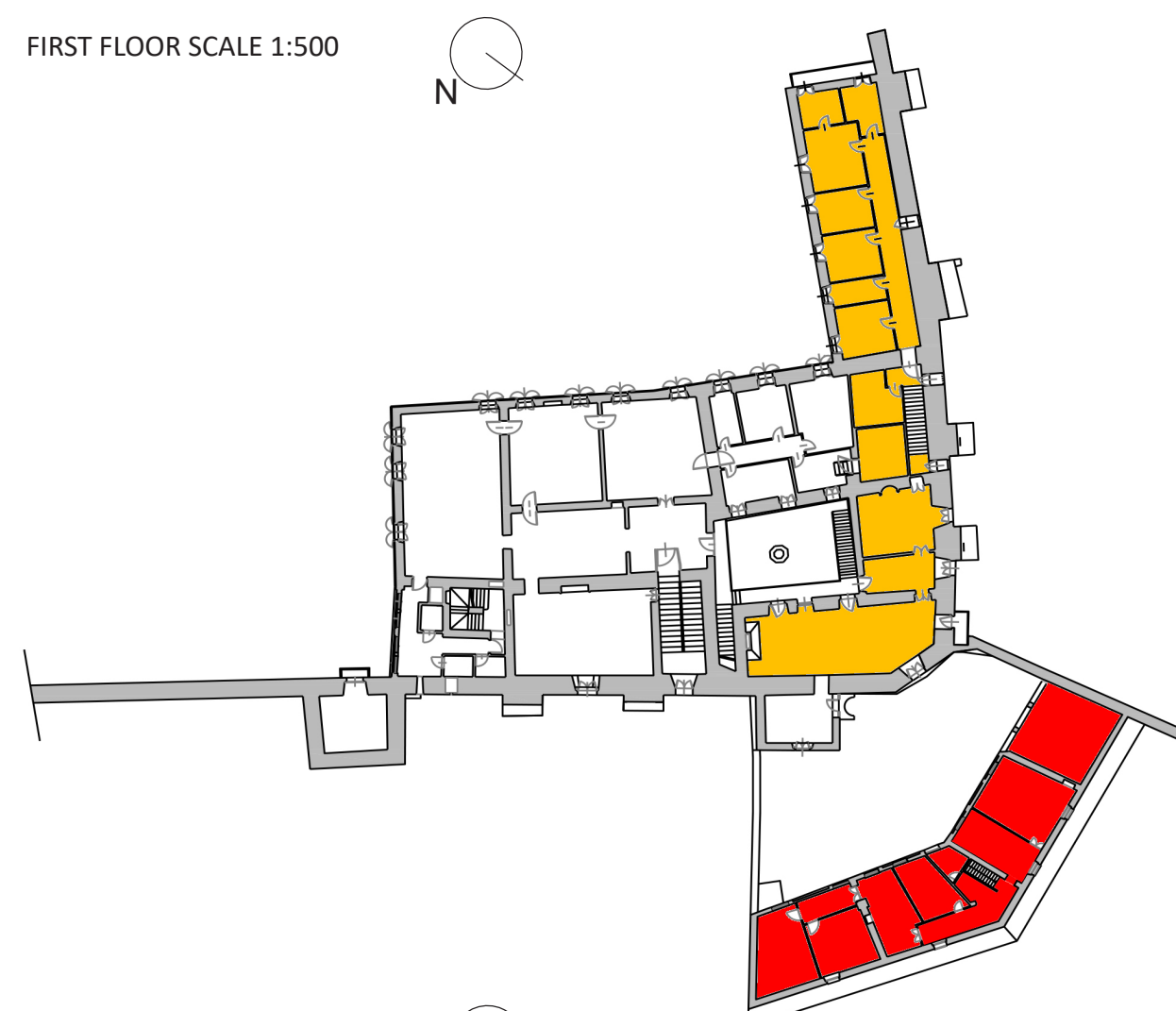
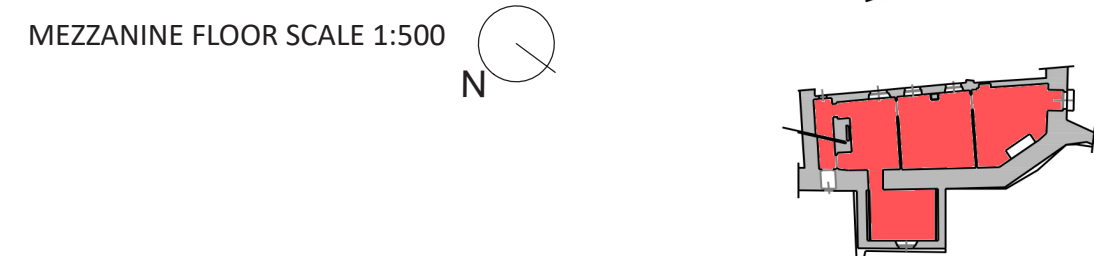
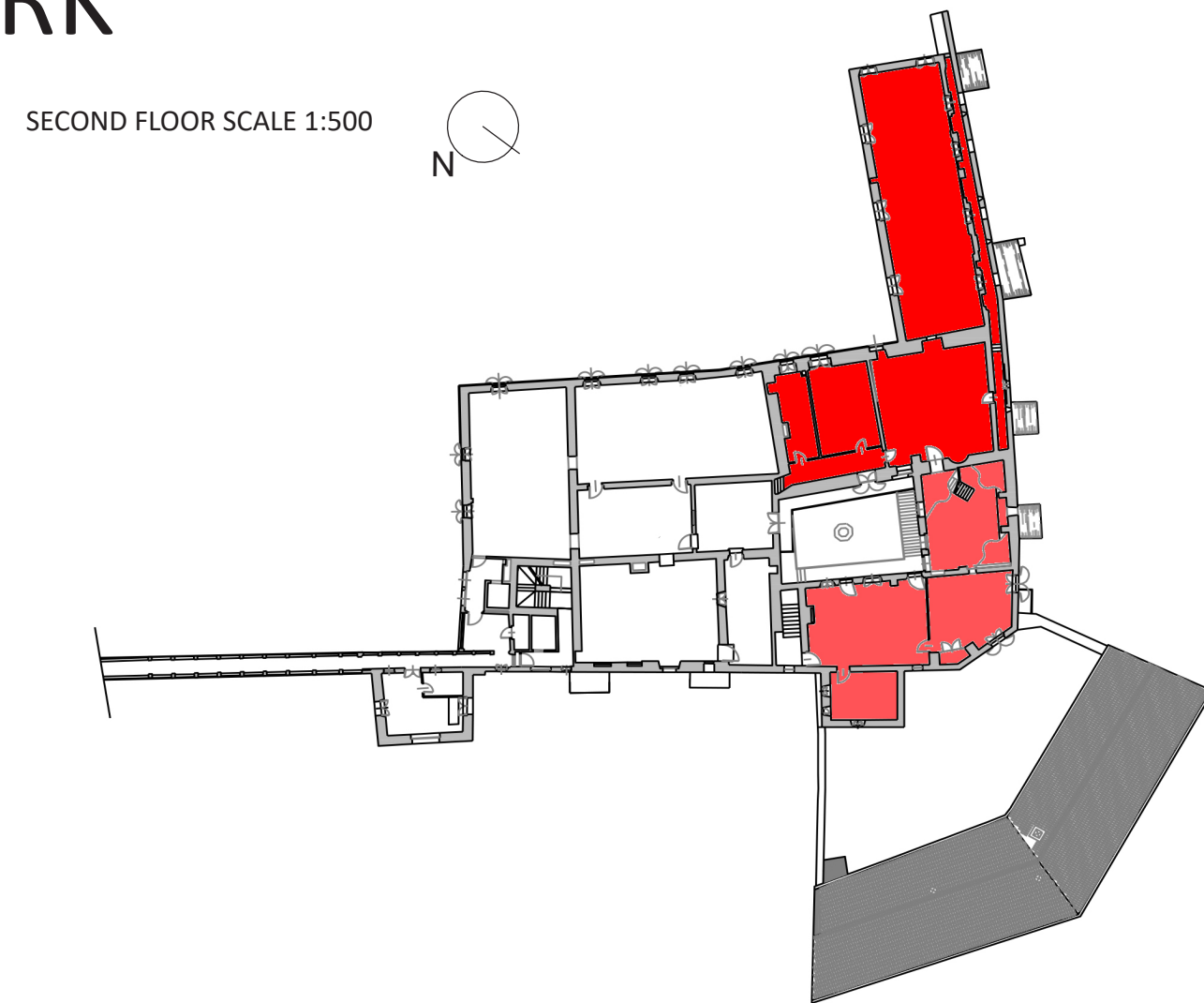
DETAIL OF STEEL LOFT
SCALE 1:10



- 1) STEEL PILLAR HEA 300
- 2) MAIN "C" BEAM STAIRCASE BODY IN UPN 280 STEEL
- 3) STILL JOIST "C" 160
- 4) SHEET METAL STEP
- 5) BOLTED CORNER
- 6) LANDING WITH SHEET METAL FLOORING
- 7) WELDING
- 8) BOLTED PLATE
- 9) BOLT $\phi 12$
- 10) BOLT $\phi 10$

SECOND FLOOR SCALE 1:500

1.a	GOOD STATE OF CONSERVATION (CONSERVATION AND RESTORATION INTERVENTIONS) Preparation of the construction site. Survey and diagnostics. Excavations. Cleaning and surface interventions. Restoration works (minimal or/and not widespread or partial). Rustic works.
1.b	GOOD STATE OF CONSERVATION (CONSERVATION AND RESTORATION INTERVENTIONS WITH REGULATORY ADAPTION/REFUNCTIONALIZATION) Preparation of the construction site. Survey and diagnostics. Excavations. Cleaning and surface interventions. Restoration works (minimal or/and not widespread or partial). Rustic works.Plant insulation. Demolition and removals.
1.b	GOOD STATE OF CONSERVATION (CONSERVATION AND RESTORATION INTERVENTIONS WITH REGULATORY ADAPTION/REFUNCTIONALIZATION AND SPECIFIC SET UP) Preparation of the construction site. Survey and diagnostics. Excavations. Cleaning and surface interventions. Restoration works (minimal or/and not widespread or partial). Rustic works.Plant insulation. Demolition and removals. Specific set up.



BUREAUCRACY
By bureaucracy we mean the organization of people and resources destined for the realization of a collective goal according to the legal principles of a given system. We therefore intend all the municipal practices for the start-up of the restructuring.

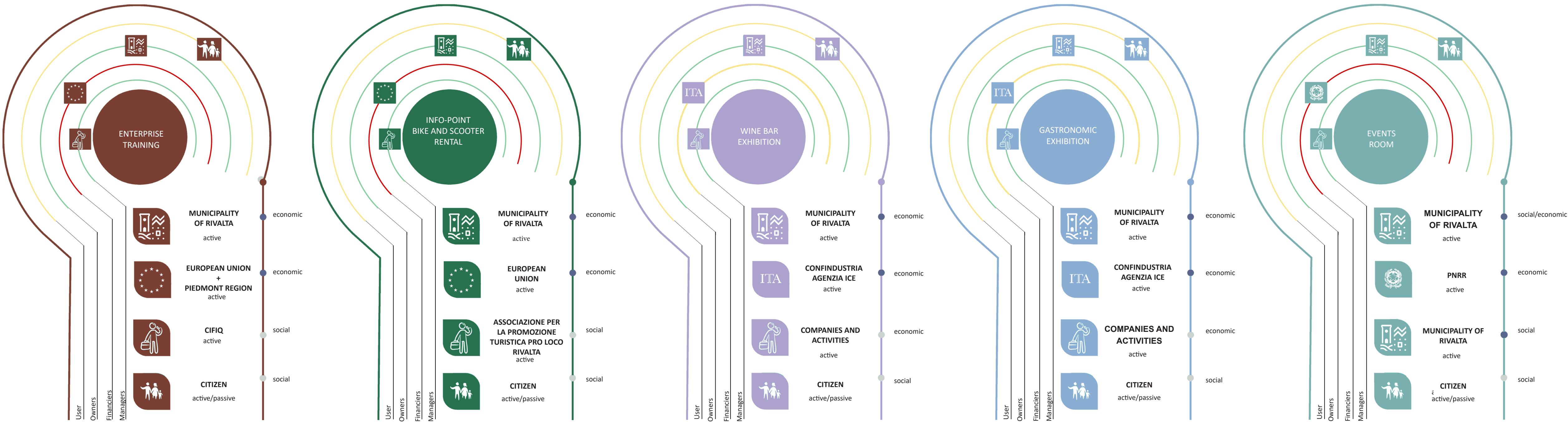
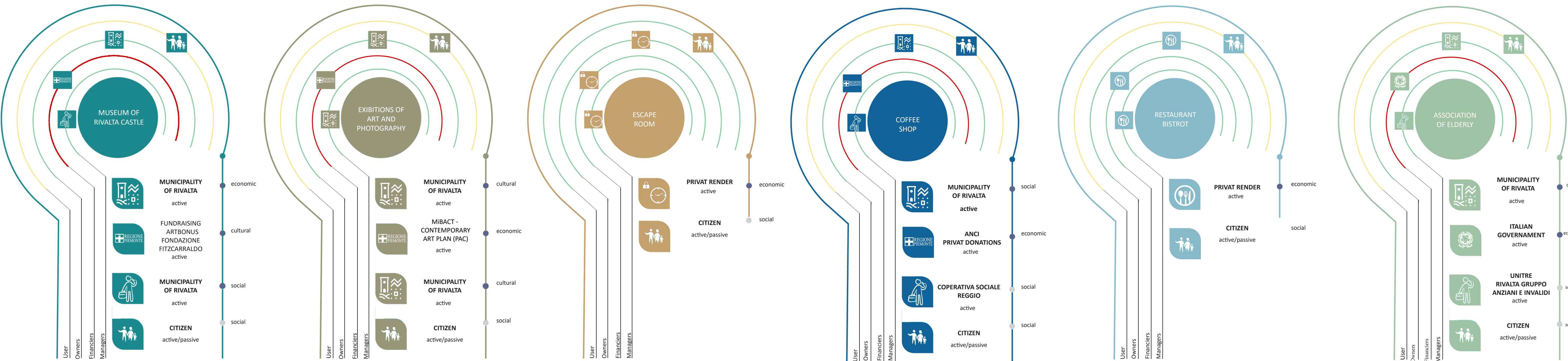
2.a	MEDIUM STATE OF CONSERVATION (CONSERVATION AND RESTORATION INTERVENTIONS) Preparation of the construction site. Surveying and diagnostics. Excavations. Cleaning and surface interventions. Restoration works (on average widespread). Rustic works.
2.b	MEDIUM STATE OF CONSERVATION (CONSERVATION AND RESTORATION INTERVENTIONS WITH REGULATORY ADAPTION/REFUNCTIONALIZATION) Preparation of the construction site. Surveying and diagnostics. Excavations. Cleaning and surface interventions. Restoration works (on average widespread). Rustic works. Consolidations (some structural interventions). Constructions. Doors and windows, Insulation, Plants (mostly to be replaced or ex novo). Demolitions and removals.
2.c	MEDIUM STATE OF CONSERVATION (CONSERVATION AND RESTORATION INTERVENTIONS WITH REGULATORY ADAPTION/REFUNCTIONALIZATION AND SPECIFIC SET UP) Preparation of the construction site. Surveying and diagnostics. Excavations. Cleaning and surface interventions. Restoration works (on average widespread). Rustic works. Consolidations (some structural interventions). Constructions. Doors and windows, Insulation, Plants (mostly to be replaced or ex novo). Demolitions and removals. Specific set up.

3.a	BAD STATE OF CONSERVATION (CONSERVATION AND RESTORATION INTERVENTIONS) Preparation of the construction site. Surveying and diagnostics. Excavations. Cleaning and surface interventions. Restoration works (significant and widespread). Consolidations (significant structural interventions). Rustic works. Doors and windows.
3.b	BAD STATE OF CONSERVATION (CONSERVATION AND RESTORATION INTERVENTIONS WITH REGULATORY ADAPTION/REFUNCTIONALIZATION) Preparation of the construction site. Surveying and diagnostics. Excavations. Cleaning and surface interventions. Restoration works (significant and widespread). Consolidations (significant structural interventions). Constructions. Rustic works. Doors and windows. Insulation. Plants (ex novo). Demolitions and removals.
3.c	BAD STATE OF CONSERVATION (CONSERVATION AND RESTORATION INTERVENTIONS WITH REGULATORY ADAPTION/REFUNCTIONALIZATION AND SPECIFIC SET UP) Preparation of the construction site. Surveying and diagnostics. Excavations. Cleaning and surface interventions. Restoration works (significant and widespread). Consolidations (significant structural interventions). Constructions. Rustic works. Doors and windows. Insulation. Plants (ex novo). Demolitions and removals. Specific set up.

TOT	7,381,352.00 €
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TIME SCHEDULE	0 year												1 year												2 year											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
bureaucracy																																				
construction site																																				
survey and diagnostics																																				
demolition and dismantling																																				
excavations																																				
consolidations																																				
surface cleaning operations																																				
constructions																																				
isolation																																				
installations																																				
restoration works																																				
doors and windows																																				
rustic works																																				
furnishings																																				
site dismantling																																				

EX POST STAKEHOLDER MAPPING



LEVEL OF INVOLVEMENT

- High
- Middle
- Low

- Private
- Public

STAKEHOLDERS

ACTIVE / PASSIVE

NATURE OF IMPACT

REVENUE FROM MANAGEMENT OPERATIONS

- COST/REVENUE FROM RENT
- COST/REVENUE FROM RENT
- COST/REVENUE FROM RENT

- COST/REVENUE FROM RENT
- COST/REVENUE FROM RENT

- COST/REVENUE FROM TICKET
- COST/REVENUE FROM RENT

- COST/REVENUE FROM ACTIVITIES
- COST/REVENUE FROM RENT

- COST/REVENUE FROM ACTIVITIES
- COST/REVENUE FROM RENT

The project led to the re-functionalization of the building.

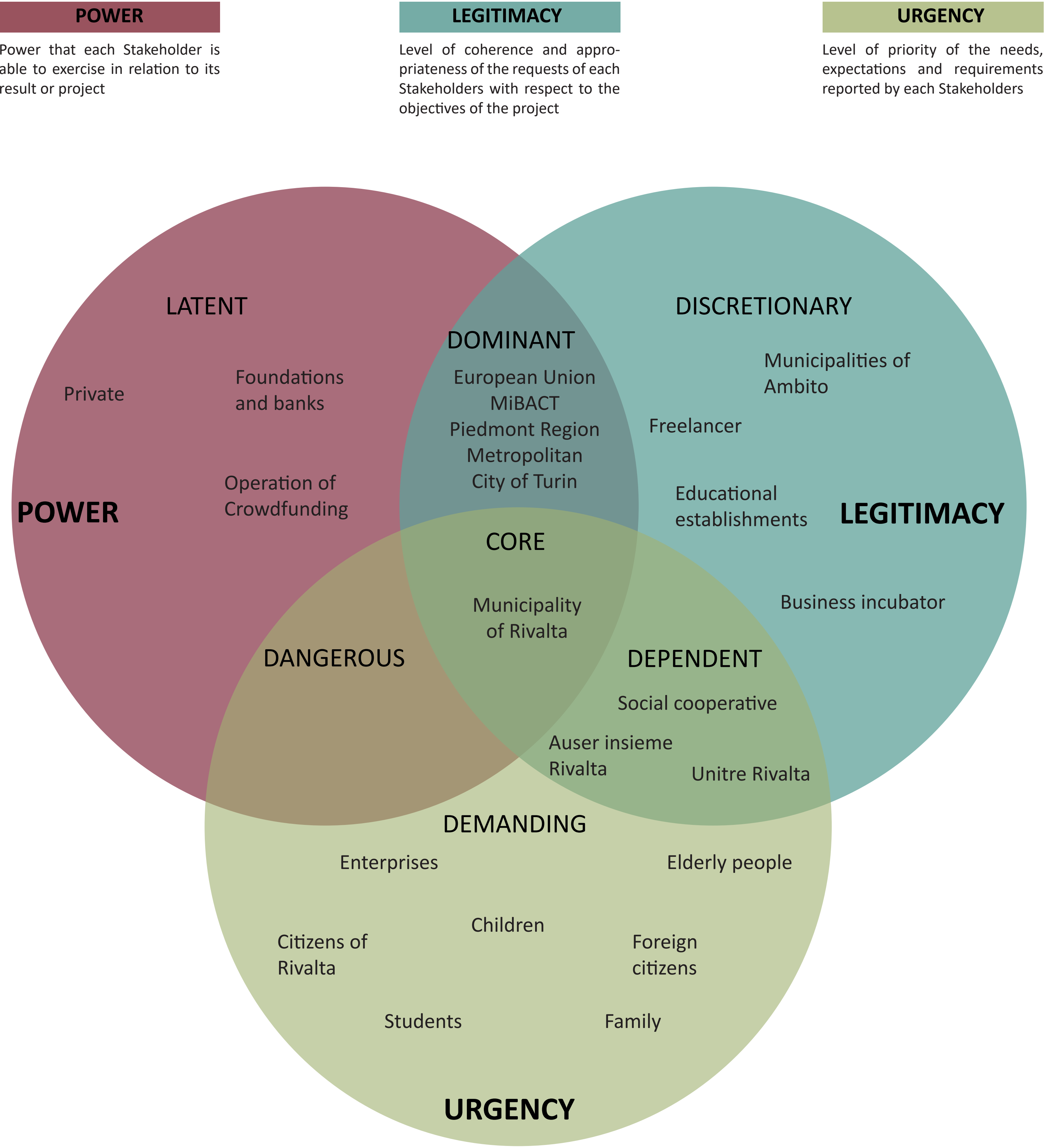
This led to the implementation of the stakeholder analysis. For each function a scheme has been created that distinguishes the different stakeholders.

They are divided between private individuals, directly involved, and public bodies. They can be financiers, users and managers.

The level of involvement in the re-functionalisation practice is reported.

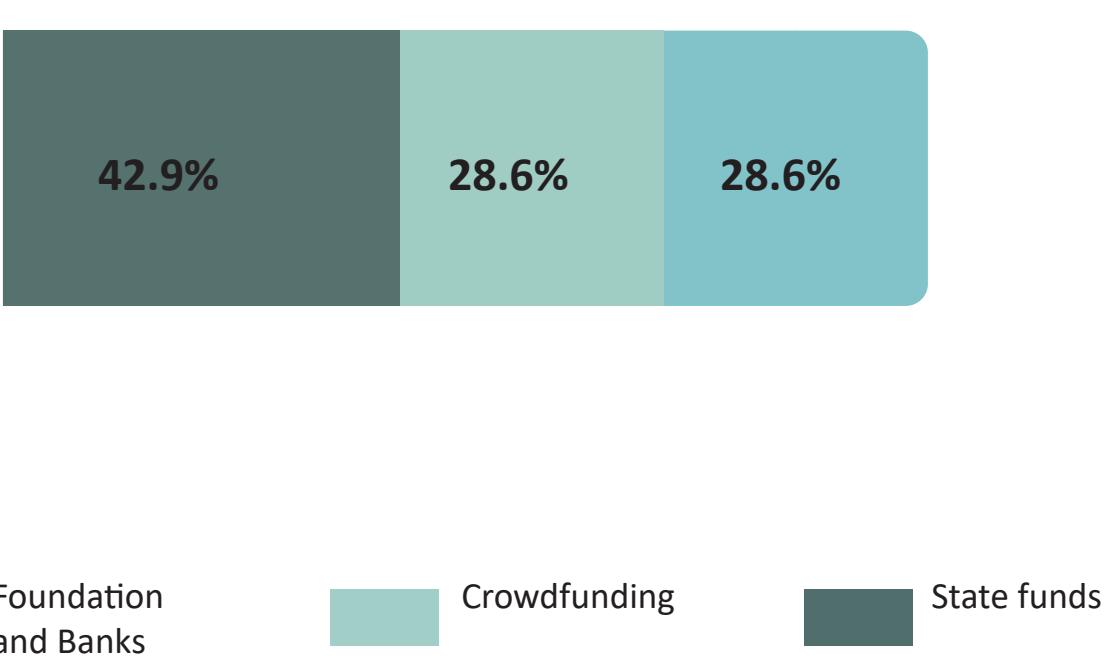
INVOLVEMENT OF STAKEHOLDERS AND FINANCIAL NOTICES

“SALIENCE MODEL” EX POST MODEL



Sources: https://www.governo.it/sites/governo.it/files/PNRR_CULTURA.pdf,
<https://www.compagniadisanpaolo.it/it/contributi/bando-space-spazi-di-partecipazione-al-centro/>,
<https://www.fondazione crt.it/bandi-progetti/restauri-cantieri-diffusi/>,
<https://www.fitzcarraldo.it/ricerca/fattibilita.htm>,
<https://artbonus.gov.it/116-9-comune-di-rivalta-di-torino.html>

DISTRIBUTION OF FUNDS



FINANCIAL NOTICES

COMPAGNIA SAN PAOLO - NOTICE SPACE

The call is addressed to SPACES (that is, permanently organized physical places), open to citizenship with its own constant frequency, managed or co-managed by entities eligible to receive contributions from the Company that act as cultural and civic principals dedicated to a specific territory or community and therefore characterized by a strong relationship with those who attend them; spaces of cultural and social inclusion, multifunctional, possibly open to spontaneous and informal use by the inhabitants of the territory, are managed according to criteria of economic sustainability and interested in strengthening it. The request must be submitted by an entity that manages or co-manages the space open to the public and to the citizenship object of the application. This space must be located in Piedmont, Liguria and Valle d'Aosta. *

FOUNDATION CRT - CANTIERI DIFFUSI

The protection of the historical artistic, historical and architectural heritage in the landscape and environment has a contemporary meaning, an identity link with the life of the community for the patrons of the 21st century as the Foundations. The objective of this project is to recover the real estate and movable property subject to protection, and promote the knowledge and full use of the places by increasingly large sections of the public.

FUNDRAISING - ARTBONUS

Artbonus è una campagna di crowdfunding avviata per raccogliere donazioni in denaro per il sostegno della cultura, più specificatamente per il progetto “Rivalta e il suo castello: un presente da vivere” che si occupa della tutela del patrimonio culturale, lo sviluppo della cultura e il rilancio del turismo del Castello Orsini di Rivalta.

FUNDRAISING - FONDAZIONE FITZCARRALDO

The project is part of a wider and already initiated program of redevelopment of the Castle of Rivalta, a historic building dating back to the year 1000, functional to the location of the city library on three floors of the main wing. The project, commissioned by the municipal administration, in collaboration with the Fitzcarraldo Foundation and the Social Cooperative Bear, and funded by the Compagnia di San Paolo, as part of a call for proposals for the promotion of cultural heritage, aims to contribute to the strengthening of the role of cultural heritage for the communities of reference, recognising the newrestored Castle and in the library being set up inside the characteristics of identity element for the development of the territory. Fondazione Fitzcarraldo followed a phase of staff training and listening and participatory design aimed at designing, for the subsequent construction in 2019, the furniture of the library included in the Castle Park. In 2019, a monitoring of the flows in the library was also carried out. *

MiBACT - FUND FOR THE PROMOTION OF READING, PROTECTION AND VALORISATION OF THE BOOK HERITAGE

These funds are allocated by the Ministry of Cultural Heritage to:

- Purchase of books;
- Purchase/rental of furniture;
- Purchase/rental of equipment, computer media, hardware and software;
- Cataloguing, maintenance and protection activities also entrusted to third parties;
- Activities to promote reading such as themed events, meetings with authors, reading workshops etc. (costs for setting up and services, technological services, communication and promotion);
- Expenses for external staff, guests and speakers (logistics, travel and subsistence expenses).

EUROPEAN COMMISSION AND ITALIAN GOVERNMENT - PNRR FOR THE RESTORATION AND OTHER CONSERVATION WORKS ON BUILDINGS OF HISTORICAL AND ARTISTIC INTEREST

It provides restoration and redevelopment of historic rural buildings and characteristic elements of the landscape, giving priority to eco-compatible solutions. Includes rural architecture census activities and collection and exchange of knowledge on rural heritage and landscape.

MiBACT - CONTEMPORARY ART PLAN (PAC)

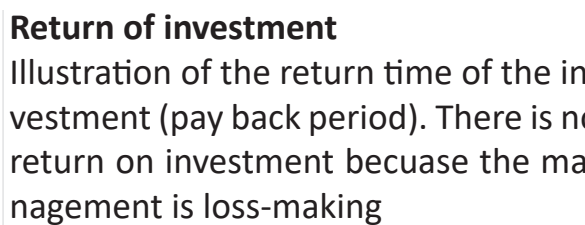
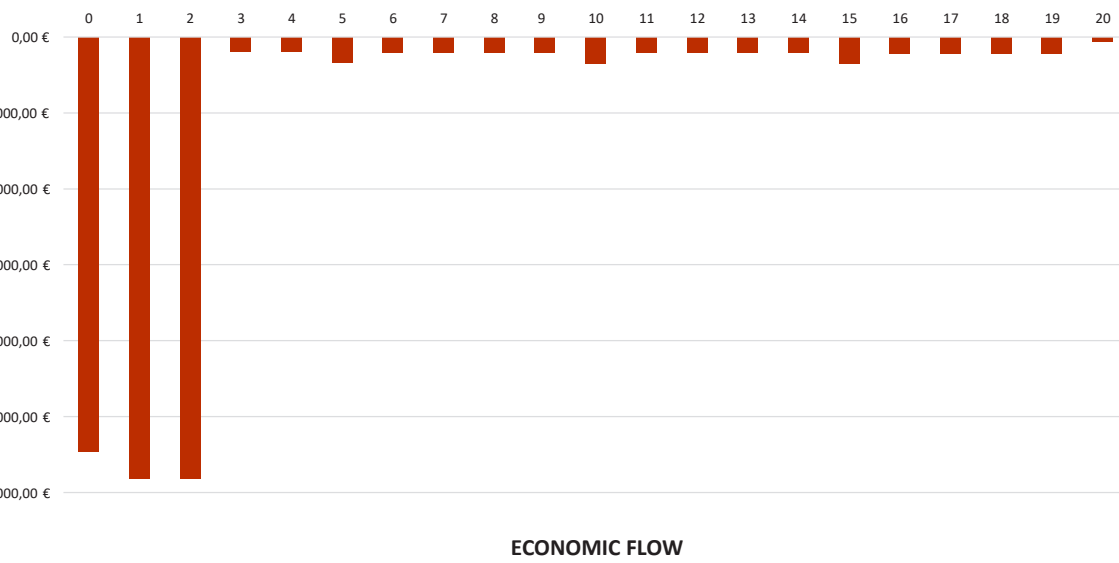
With the aim of increasing the public heritage of contemporary art, PAC2021 supports museums and places of public culture that intend to expand the collections of contemporary art already in place or start a project to expand their collections with a path dedicated to contemporary creativity. PAC2021 supports and encourages the quality and continuity of the increase of public collections of contemporary art, as well as through the financing of acquisitions, also through the support to the production of new works, the acquisition of collections and archives linked to the contemporary and the enhancement of donations already received from places of public culture.*

* Notices and projects currently expired but that we consider relevant and useful for the application to our refunctionalization project



Atelier Heritage Restoration and Enhancement B
(01VQHPV)
Title theme:
The Orsini Castle in Rivalta di Torino (TO)

TEAM n. 4:
SERENA BETTI
BENEDETTA CARETTI
FEDERICA COCUCI
ALESSANDRA VAGLI



Reference was made to the CCNL, National Collective Labour Agreement, for the salary of the staff recruited

5.c

Atelier Heritage Restoration and Enhancement B
(01VQHPV)
Title theme:
The Orsini Castle in Rivalta di Torino (TO)

Polytechnic of Turin
Department of Architecture and Design
Master's Degree Course in Architecture for the
Restoration and Enhancement of Heritage
A.A. 2021/2022

TEAM n. 4:
SERENA BETTI
BENEDETTA CARETTI
FEDERICA COCUCI
ALESSANDRA VAGLI

Feasibility, financing and management

COST BENEFIT ANALYSIS MANAGEMENT (CBA)- SUMMARY

PESSIMISTIC SCENARIO (NO FUNDS)

Economic NPV	- 8.879.727,50 €
Economic IRR	
Annual discount rate	5,0%

Expected number of visits	1.000
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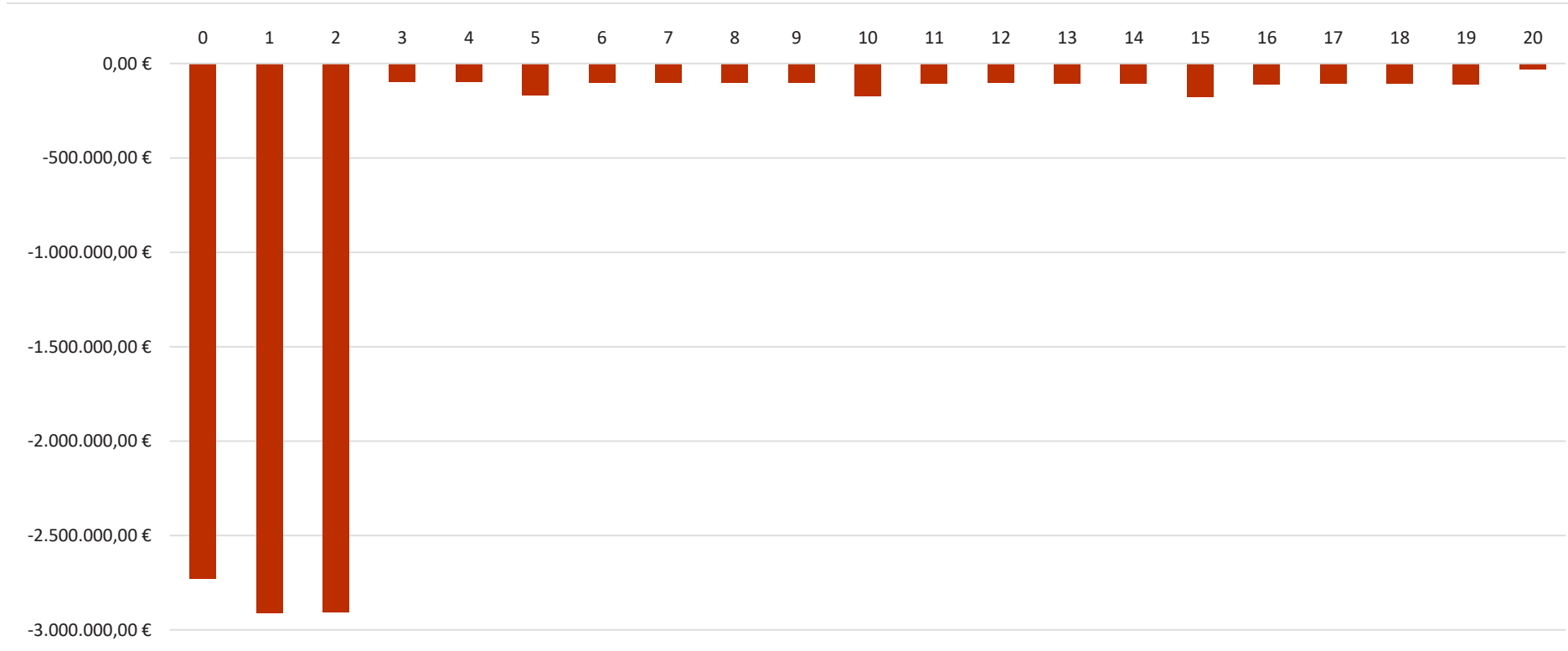
Considerations

In the pessimistic scenario, the municipality lacks state funds and subsidies or from banking companies or private donations. The number of annual visitors are 1.000 for both the museum and the exhibition hall, in the room events rented we assumed a ticket

cost of € 5 providing an annual occupancy of 100 days per 365. The municipality does not recover the initial investment under management with a percentage of costs not covered in the twenty-first year that is the nineteenth of management equal to 9,1%.

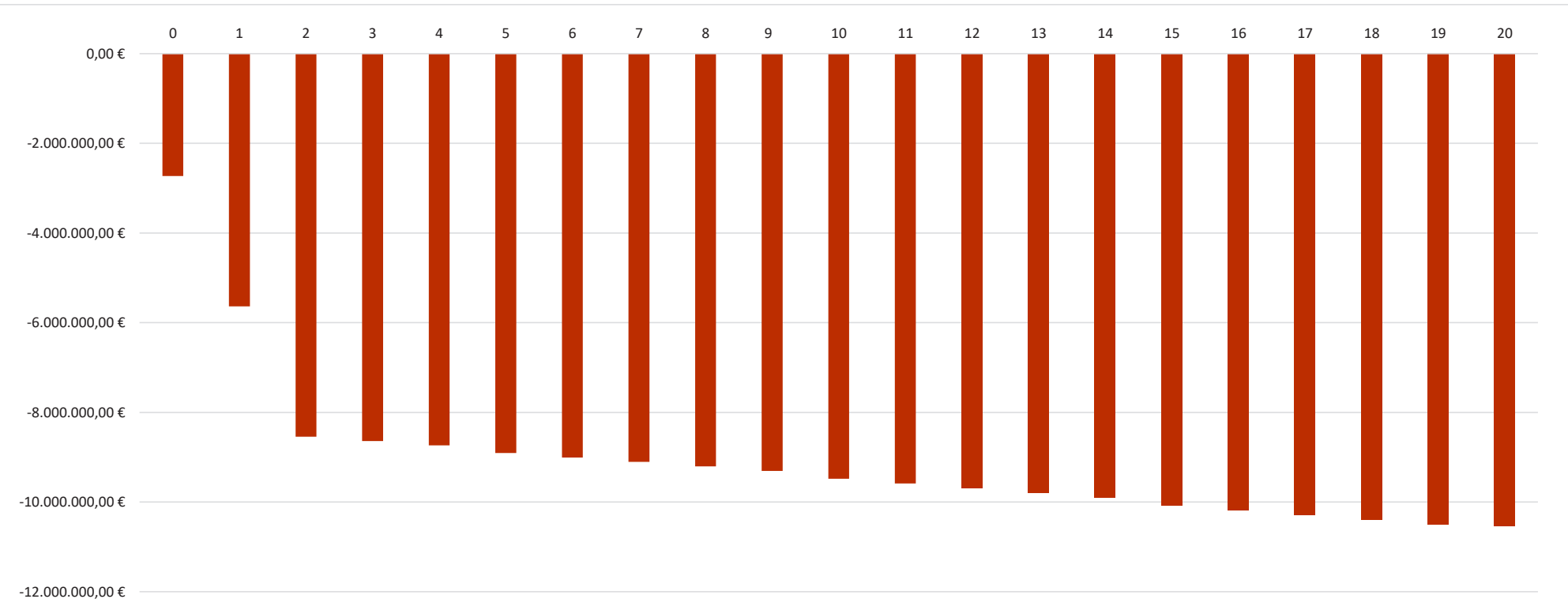
Economic Flow

Cash flow performance (20 years). Negative cash flow for 20 years



Return of investment

Illustration of the return time of the investment (pay back period). There is no return on investment because the management is loss-making



INTERMEDIATE SCENARIO (PATIENTLY WITH FUNDS)

Economic NPV	- 4.463.146,36€
Economic IRR	-4,1%
Annual discount rate	5,0%

Expected number of visits	6.000
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Considerations

In the intermediate scenario, the partial funding does not include funds from private individuals or donations. The only ones taken into consideration are the state ones and coming from the Compagnia San Paolo. The annual number of visitors are 6.000 people

People for both the museum and the exhibition hall, in the event hall we considered a ticket cost of 25 € assuming an annual occupancy of 100 days out of 365. The municipality does not have a recovery of the investment in the nineteen years of management.

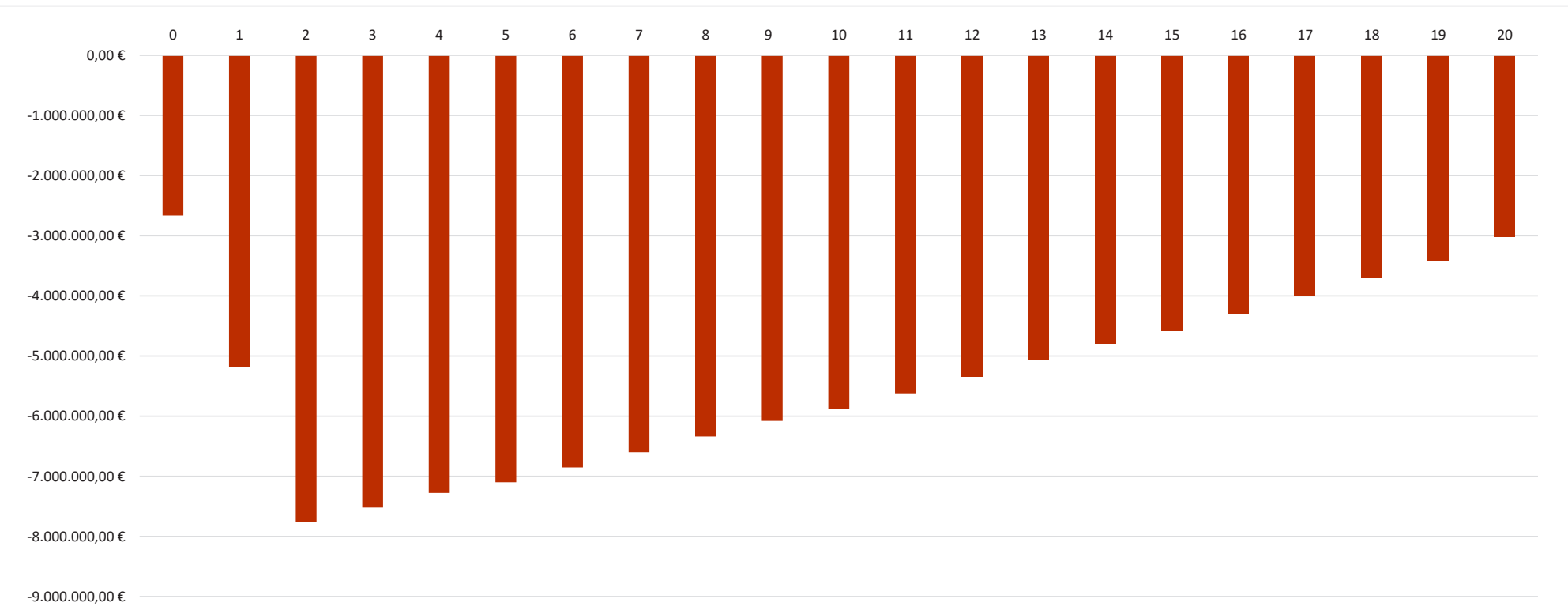
Economic Flow

Cash flow performance (20 years). Positive cash flow from the third year



Return of investment

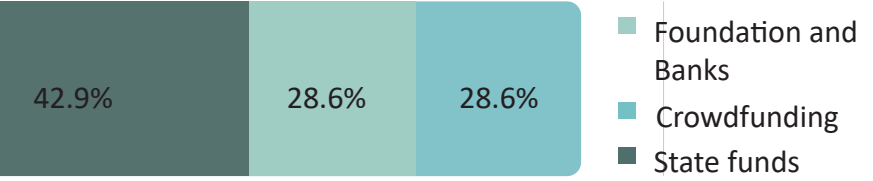
Illustration of the return time of the investment (pay back period). There is no return on investment because the management is loss-making, there seems to be a slight recovery from the negative scenario



OPTIMISTIC SCENARIO (WITH FUNDS)

Economic NPV	1.395.734,26€
Economic IRR	7,3%
Annual discount rate	5%

Expected number of visits	10.000
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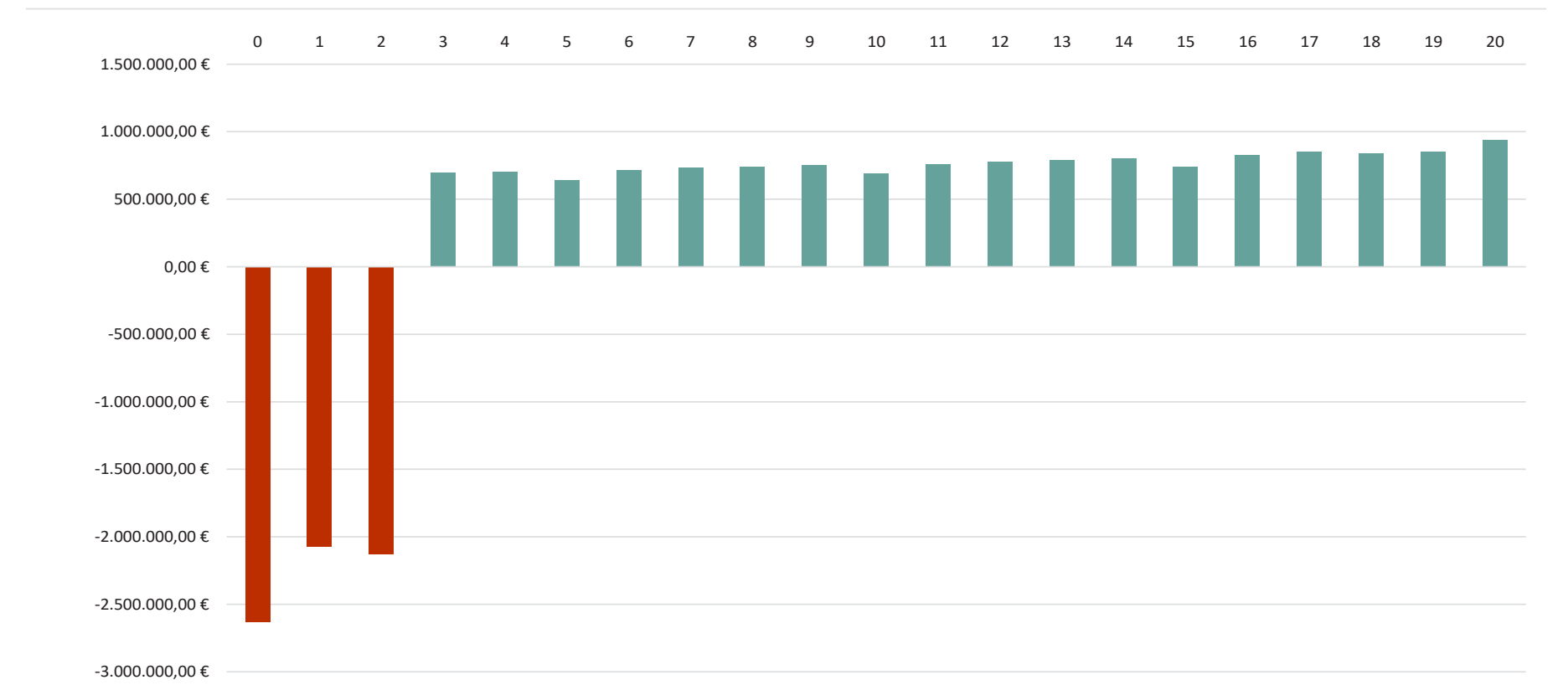
Considerations

In the optimistic scenario, all financiers coming from private donations, fundraising, banks and institutes and ministerial contributions are considered. The return of the investment is from the thirteenth year that is from the tenth year of management. In this scenario we

have expected an annual number of visits equal to 10.000 people and for the event room for rent we considered a ticket cost of 40 € per person calculated for a occupancy of 200 days per 365.

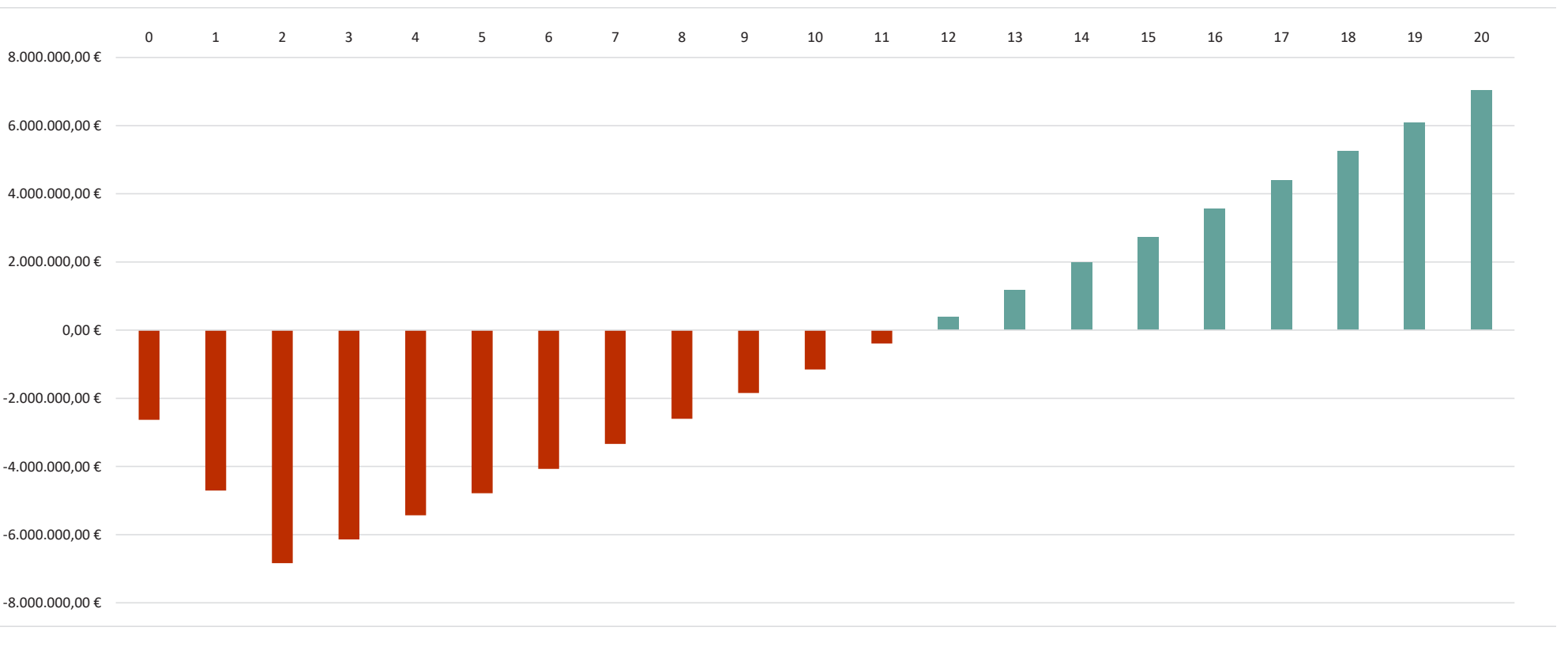
Economic Flow

Cash flow performance (20 years). Positive cash flow from the third year



Return of investment

Illustration of the return time of the investment (pay back period) after the twelfth year



DISCOUNTED CASH FLOW ANALYSIS MANAGEMENT (DCFA) - AREA ESCAPE ROOM

OWNER Municipality of Rivalta

MANAGER Private person

🕒

OPENING HOURS

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

close

17.00-0.00

17.00-0.00

17.00-0.00

17.00-0.00

17.00-0.00

17.00-0.00

🔧

WORK

In the first two years there is no payment of the rent as we have adopted as choice the free concession. The operator will take care of the set-up and the related costs and will pay the rent once the restructuring is completed

🏠

ESCAPE ROOM

We have decided to be an escape room up our sleeve, this game will allow you to involve an audience of all ages with puzzles and trick

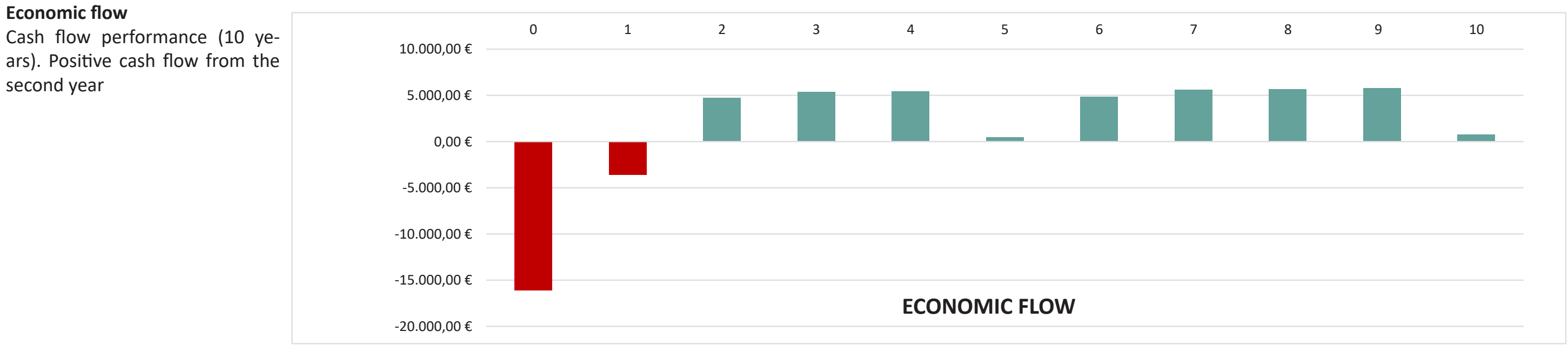
👤

USERS

For an estimate of the users we have considered an average of 40 people per day distributed in 6 sessions of an hour, within 6 hours of work. The number of consumers has been estimated for 150 working days per year

COSTS	Quantity	Euro mq./mc/u.		Quantity* Euro	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Fitting-out costs (+VAT)	set up furnishings themed enigma			30.500,00 €	15.250,00 €	15.250,00 €									
Technical costs (+VAT)	5% Fitting-out costs			1.451,19 €	725,60 €	725,60 €									
Social security contributions	4% Technical cost			47,58 €	23,79 €										
General expanses	1% Fitting-out costs			237,90 €	118,95 €										
TOTAL				32.236,67 €	16.118,34 €	16.118,34 €									
MANAGMENT							1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%
Personnel costs (charges to be paid by the state, salaries and accessories)															
Receptionist ¹	2	1.369,73	Euro/month	32.873,52 €	/	32.873,52 €	33.268,00 €	33.667,22 €	34.071,22 €	34.480,08 €	34.893,84 €	35.312,57 €	35.736,32 €	36.165,15 €	36.599,14 €
TOTAL				32.873,52 €	0,00 €	32.873,52 €	33.268,00 €	33.667,22 €	34.071,22 €	34.480,08 €	34.893,84 €	35.312,57 €	35.736,32 €	36.165,15 €	36.599,14 €
FIXED COSTS							1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%
Activity costs (maintenance and operation)															
Location	100 mq	6,00	Euro/mq	7.200,00 €	/	/	7.200,00 €	7.286,40 €	7.373,84 €	7.462,32 €	7.551,87 €	7.642,49 €	7.734,20 €	7.827,01 €	7.920,94 €
Ordinary cleaning	100 mq	10,00	Euro/mq	1.000,00 €	/	1.000,00 €	1.012,00 €	1.024,14 €	1.036,43 €	1.048,87 €	1.061,46 €	1.074,19 €	1.087,09 €	1.100,13 €	1.113,33 €
Solid waste	100 mq	3,00	Euro/mq	300,00 €	/	300,00 €	303,60 €	307,24 €	310,93 €	314,66 €	318,44 €	322,26 €	326,13 €	330,04 €	334,00 €
Insurance		10000,00	Euro/year	10.000,00 €	/	10.000,00 €	10.120,00 €	10.241,44 €	10.364,34 €	10.488,71 €	10.614,57 €	10.741,95 €	10.870,85 €	11.001,30 €	11.133,32 €
TOTAL				18.500,00 €	0,00 €	11.300,00 €	18.635,60 €	18.859,23 €	19.085,54 €	19.314,56 €	19.546,34 €	19.780,90 €	20.018,27 €	20.258,49 €	20.501,59 €
VARIABLE COSTS OF ACTIVITY							1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%
Activity costs (energy, heating, cooling...)															
Electricity	100 mq	9,00	Euro/mq	900,00 €	/	900,00 €	910,80 €	921,73 €	932,79 €	943,98 €	955,31 €	966,78 €	978,38 €	990,12 €	1.002,00 €
Heating	100 mq	8,00	Euro/mq	800,00 €	/	800,00 €	809,60 €	819,32 €	829,15 €	839,10 €	849,17 €	859,36 €	869,67 €	880,10 €	890,67 €
Cooling	100 mq	24,00	Euro/mq	2.400,00 €	/	2.400,00 €	2.428,80 €	2.457,95 €	2.487,44 €	2.517,29 €	2.547,50 €	2.578,07 €	2.609,00 €	2.640,31 €	2.672,00 €
Equipment renewal ²				5.000,00 €						5.000,00 €					5.060,00 €
Water	100 mq	1,30	Euro/mq	130,00 €		130,00 €	131,56 €	133,14 €	134,74 €	136,35 €	137,99 €	139,65 €	141,32 €	143,02 €	144,73 €
Internet and telephone	2 op	1000,00	Euro/year	2.000,00 €	/	2.000,00 €	2.048,20 €	2.072,87 €	2.097,74 €	2.148,39 €	2.172,91 €	2.148,39 €	2.174,17 €	2.200,26 €	2.226,66 €
TOTAL				11.230,00 €	0,00 €	6.230,00 €	6.304,77 €	6.380,43 €	6.456,99 €	6.534,48 €	6.612,89 €	6.692,25 €	6.772,55 €	6.853,82 €	6.935,14 €
PROMOTION OF ACTIVITIES							1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%
Promotion, marketing, communication, enhancement															
Website		5.500,00 €	Euro/year	5.500,00 €	/	5.500,00 €	5.566,00 €	5.632,79 €	5.700,39 €	5.768,79 €	5.838,02 €	5.908,07 €	5.978,97 €	6.050,72 €	6.123,32 €
Website maintenance	1 year	150,00	Euro/year	150,00 €	/	/	/	151,80 €	153,62 €	155,47 €	157,33 €	159,22 €	161,13 €	163,06 €	165,02 €
Promotion (advertising)		1%	Revenue		/		692,20 €	/	/	/	/	/	/	/	/
TOTAL				5.650,00 €		5.500,00 €	6.258,20 €	5.784,59 €	5.854,01 €	5.924,26 €	6.021,38 €	6.067,29 €	6.140,10 €	6.213,78 €	6.288,34 €
TOTAL COSTS					16.118,34 €	72.021,86 €	64.466,57 €	64.691,47 €	65.467,76 €	71.253,38 €	67.774,45 €	67.853,00 €	68.667,23 €	69.491,24 €	75.385,14 €
BENEFITS							1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%
Admission tickets															
Expected number of visits ³	6000 people				/	6000	6072	6145	6219	6293	6369	6445	6523	6601	6680
	35% free	0,00	Euro/People	0,00 €	/	0,00 €	0,00 €	0,00 €	0,00 €	0,00 €	0,00 €	0,00 €	0,00 €	0,00 €	0,00 €
	30% full price	24,00	Euro/People	43.200,00 €	/	43.200,00 €	44.773,94 €	46.405,22 €	48.100,00 €	49.854,96 €	51.662,22 €	53.522,22 €	55.436,66 €	57.406,66 €	59.433,33 €
	35% reduced price	12,00	Euro/People	25.200,00 €	/	25.200,00 €	26.460,00 €	27.840,00 €	29.340,00 €	30.960,00 €	32.700,00 €	34.560,00 €	36.540,00 €	38.640,00 €	40.860,00 €
TOTAL				68.400,00 €	0,00 €	68.400,00 €	70.892,80 €	72.603,69 €	74.474,93 €	76.503,69 €	78.703,69 €	81.083,69 €	83.643,69 €	86.383,69 €	89.303,69 €
TOTAL REVENUES					0,00 €	68.400,00 €	69.220,80 €	70.051,45 €	70.892,07 €	71.742,77 €	72.603,69 €	73.474,93 €	74.356,63 €	75.248,91 €	76.151,89 €
ECONOMIC FLOW					-16.118,34 €	-3.621,86 €	4.754,23 €	5.359,98 €	5.424,30 €	489,39 €	4.829,24 €	5.621,93 €	5.689,39 €	5.757,67 €	766,76 €
Time (year)					0	1	2	3	4	5	6	7	8	9	10
DISCOUNT FACTOR		8%			1	0,925925926	0,85733882	0,793832241	0,735029853	0,680583197	0,630169627	0,583490395	0,540268885	0,500248967	0,463193488
CASH FLOW DISCOUNTED					-16.118,34 €	-3.353,57 €	4.075,98 €	4.254,93 €	3.987,02 €	333,07 €	3.043,24 €	3.280,34 €	3.073,80 €	2.880,27 €	355,16 €
RETURN OF INVESTMENT					-16.118,34 €	-19.740,19 €	1.132,37 €	10.114,21 €	10.784,29 €	5.913,70 €	5.318,63 €	10.451,17 €	11.311,33 €	11.447,06 €	6.524,43 €

Annual discount rate	8%
Economic NPV	5.381,40 €
Economic IRR	14%



For an estimate of the users we have considered an average of 24 people: 12 can attend the University by paying an annual fee, the other 12 people will be assisted by paying a fee per hour of 2.22 euros for a daily service of 8 hours

FIXED COSTS							1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%
Activity costs (maintenance and operation)														
Location	103 mq	5,00	Euro/mq	515,00 €	/	/	515,00 €	521,18 €	527,43 €	533,76 €	540,17 €	546,65 €	553,21 €	559,85 €
Ordinary cleaning	103 mq	10,00	Euro/mq	1.030,00 €	/	1.030,00 €	1.042,36 €	1.054,87 €	1.067,53 €	1.080,34 €	1.093,30 €	1.106,42 €	1.119,70 €	1.133,13 €
Solid waste	103 mq	3,00	Euro/mq	309,00 €	/	309,00 €	312,71 €	316,46 €	320,26 €	324,10 €	327,99 €	331,93 €	335,91 €	339,94 €
Insurance		10000,00	Euro/year	10.000,00 €	/	10.000,00 €	10.120,00 €	10.241,44 €	10.364,34 €	10.488,71 €	10.614,57 €	10.741,95 €	10.870,85 €	11.001,30 €
TOTAL				11.854,00 €	0,00 €	11.339,00 €	11.990,07 €	12.279,56 €	12.570,93 €	12.875,67 €	13.190,64 €	13.511,21 €	13.837,00 €	14.168,04 €

TOTAL COSTS					2.527,94 €	44.623,84 €	43.116,06 €	43.635,46 €	44.157,06 €	46.686,94 €	45.223,18 €	45.765,86 €	46.315,05 €	46.870,83 €	49.457,28 €
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TOTAL REVENUES	0,00 €	43.824,00 €	44.349,89 €	44.882,09 €	45.420,67 €	45.965,72 €	46.517,31 €	47.075,52 €	47.640,42 €	48.212,11 €	48.790,65 €
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ECONOMIC FLOW	-2.527,94 €	-799,84 €	1.233,83 €	1.248,63 €	1.263,61 €	-721,22 €	1.294,12 €	1.309,65 €	1.325,37 €	1.341,27 €	-666,63 €
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Time (year)	0	1	2	3	4	5	6	7	8	9	10
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CASH FLOW DISCOUNTED	-2.527,94 €	-740,59 €	1.057,81 €	991,20 €	928,79 €	-490,85 €	815,52 €	764,17 €	716,06 €	670,97 €	-308,78 €
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RETURN OF INVESTMENT	-2.527,94 €	-3.327,78 €	433,99 €	2.482,46 €	2.512,25 €	542,39 €	572,90 €	2.603,78 €	2.635,02 €	2.666,64 €	674,64 €
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1. Reference was made to the CCNL, National Collective Labour Agreement, for the salary of the staff recruited
2. It has been suggested that the specific equipment of the activity should be periodically replaced every five years
3. We have expected a presence of 24 users per year:
 - Half of them, paying an annual fee of € 100, will be able to attend university
 - The other half may be assisted by a cost per hour of 2.22€ per 8 hours of care calculated for an average of 200 days per year

Cash flow development (10 years). Positive cash flow from the third year but in the fifth and in the tenth year there is a negativization of the economic flow



Return of investment
Illustration of the return time of
the investment (pay back period)
after the second year