



A Swedish Prison

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Master's thesis in architecture

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Abstract

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The construction of a prison is an endeavour which seldom sets out to manifest architectural beauty or comfort. Instead, prison design has historically focused on resolving issues of security and logistics as well as to materialise a kind of punishment and discipline in a society. From the outside, the prison demonstrates and justify that the offender is punished for their actions. Though there inside, such ritual of punishment may become a process individual reformation. Namely, to assist those who have failed to be a law abiding citizen by building them up, educating them and give them the strength to be able to leave such place as better people.

The purpose of this thesis is to propose a design of a Swedish prison, which manifest a more radiant architecture. With the term 'Swedish' it is implied that the thesis, as a design project, seeks to benefit and translate how Swedish prison service operates. Through research by design, the premise will be set to speak in the discourse of penology, architecture and tectonics. In this terrain of thought, it will be argued if a more radiant and proud architectural atmosphere could fit the undertaking of a Swedish prison and yet balance the rituals of incarceration.

Keywords : prison design, correctional facility, imprisonment

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I. Introduction

1. Student background

Education

Master of Architecture
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2018-2020

Autumn, 2019

ARK636 - Master's thesis preparation course 1
ARK641 - Master's thesis preparation course 2 (Material Turn)
ARK258 - Matter, space, structure 3

Spring, 2019

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ARK626 - Architectural heritage and transformation
ARK595 - Resistant Architecture: 1968 and beyond

Autumn, 2018

ARK650 - Sustainable development and the design professions
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Bachelor of Architecture
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Gothenburg, Sweden
2014-2017

Practice

Internship
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2017-2018

2. Preface

The idea of bringing penal architecture into the subject of my master's thesis is a commitment I would not have dared to without the encouragement and support of my dear friends and fellow students.

Moreover, as the 2020 pandemic and its consequences may have strengthened the solitude one can suffer throughout the process of a master's thesis, I am even more thankful for all the discussions and meetings I yet had during this period.

Thus, I would like to especially thank Gustav Tidman and his colleagues at Specialfastigheter and the Swedish Prison and Probation Service for their generosity, interest and knowledge in correctional facilities and its operation in Sweden.

Furthermore, I wish to gratefully acknowledge the guidance of my tutor Mikael Ekegren and my examiner Björn Gross and thank them for their patience and thoughtful criticism and advice throughout the process.

Lastly, the completion of my master's thesis would not have been possible without the support of my dear partner Klara and my mother, Cecilia, who never wavered in their belief in me.

Thank you

3. Background

As Sweden experience a continuing rise of population and crime, in tandem with stricter laws and sentences, a pressing situation has emerged within the state agency of the Swedish judicial system that are responsible for the incarceration of suspects during pre-trial, trial and convicts after sentencing. The Swedish Prison and Probation Service (SPPS) states in their yearly statistical report for 2018 that the data indicates an increased inflow of clients and a growth of total sentence months amongst clients (Kriminalvården, 2019, p. 3). As of March 30th, 2020, the average occupancy rate in prisons with male clients are 97,50% and 93,77% in prisons with female clients. However, if one excludes the temporary occupancies which SPPS arranged, for example by letting two clients share one cell, the average occupancy rate for both male and female rise to around 104% (Kriminalvården, 2019, 2020). Consequently, SPPS suggests that such changes will call for an expanded capacity of prisons and remand prisons in the forthcoming years (Kriminalvården, 2019, p. 3).

Already in 2018 did the director general of SPPS, Nils Öberg, state the agency's decision to commit to extend and develop existing prisons and remand prisons located in thirteen different municipalities over a ten-year period. Such an effort is estimated to add 900 prison accommodations and 200 remand prison accommodations, covering approximately half of the predicted future requirement. Additionally, SPPS states that the agency intends to construct a new prison in the Malmö region which could facilitate approximately 300 clients. (Kriminalvården, 2018)

In the wake of a forthcoming development and construction of prisons and remand prisons in Sweden, further questions are invoked within the field of architecture which partly plan and design these structures of enchainment. It is seldom a desired task for an architect to set out to plan the design of a building which historically expressed such antagonism towards the ideals of architecture, such as beauty or comfort. It can be argued that architecture shall strive to befit the community and society it serves, thus one may wonder how architecture shall then shelter as well as cage those who has failed to do so. Within a nation, the place of confinement acts as a location where the citizen carries out their sentence as well as their path to be remedied from their unlawful persona; rituals which historically has been carried out in dire buildings.

Over recent decades of judicial reform, the Swedish rites of discipline and punishment has been altered and it is not any longer only punishment which is the means of a sentence. Today, SPPS acts on the notion of reducing recidivism in crime in addition to make society more safe and secure (Kriminalvården, n.d.). Therefore, imprisonment now calls for a penal architecture which support and translate those rituals. The thesis intends to invoke a discourse on the design of correctional facilities in Sweden, and specifically review how such a typology may be constructed to endorse its dwellers to take part in the crucial journey of the sentence, that is to rehabilitate and reintegrate a client back to society.

4. Problem statement

The quality of an atmosphere in a building is one of various qualities architects may consider when planning and conceiving structures of a kind. One may say that an atmosphere is a spatial character formed out of things, both physical and mental, and fused into the moments that take place in the vicinity of place, space, and mind. Thus, it is a character that speaks to our own. Surely, it is undoubtedly so that physical environments are involved in the chain of reactions which sparks our mood in a room. However, to think of how happiness or sadness is achieved in a room is to look into the infinity of causalities that leads to our state of being. Herein lies one of the more difficult as well as joyous consideration of the architectural craft, that is to envision the life of as well as in a building. In other words, to commit our mind to conceiving an environment where others can gather a moment of being. Nevertheless, this magniloquent quest often leads its way to a pandemonium of what is actually happening, felt, thought, seen, and said at a space or place. Yet is there not another joy, to find something we never sought.

Prisons, much like any other building, conceive not only an atmosphere but also a ritual. In the place of prisons, the rite of incarceration has historically performed five sorts of objective: incapacitation, denunciation, deterrence, retribution, and rehabilitation. These are all very socially connected acts which also come to relate to the space it takes place in. Incapacitation, for instance, restrict the offender from their freedom in the community, thus, to prevent that person from committing further crimes outside the prison. Consequently, security to achieve such becomes a very present thing in the atmosphere of prisons and all it entails in the conceiving of security. This may be sensed from the enclosing high walls with its locked gate, the chain of barbed wire which rests on top, and the fenced windows and the frugal fixed interior.

Then again, as this quest for security may be conceived yet it also enacts other sets of aspects within such atmosphere. For example, to be the one of those who security is placed upon, may experience a different sensation of atmosphere, that is enchainment. Moreover, the gestalt of a building influences the idea of a place that the individual finds themselves in, and not only for inmates but also the visitor and operative. Thus, does one come to look at those who offended, those who are to be rehabilitated, as more criminal than they were before they faced such prison. Is the prison architecture, as a consequence of its conflicting objectives, at risk of performing an atmosphere which not only fails to endorse a path away from crime, but indeed reinforce a criminal persona? Strictly speaking, could the weight of the will for incapacitation and perhaps punishment outbalance the objective of rehabilitation?

5. Purpose and research question

The intention of this thesis is to examine the architectural tradition of correctional facilities in Sweden and propose a design of such typology that seeks to invoke a discussion on what experience of space should be intended for the ritual of a prison. Through such conjecture of design, the thesis also aims to rejuvenate the architectural thinking of spaces and places that due to its operative nature, such as prisons, has been abstained to be dealt with in terms of spatial quality and as a work of architecture.

Thus, the thesis seeks to respond to the question:

What can a prison be?

6. Methodology and delimitations

Methodology

The primary approach for this thesis is formulated through two stages of inquiry that transition from research on design into research through design. Firstly, through gathering and discussion of architectural theory, built references and historic literature, a trajectory of ideas and themes is settled to be the basis of the secondary stage of design which as a creative process finds stimulus and guidance in past findings. In concrete terms, the author has through this approach sought to both understand the specific context of the subject at hand, but also strived to establish a plateau of ideas which may inform and shape a form generative and sense-making idea in order to achieve a final design proposal.

Delimitations

As the thesis is conducted in the studio Building and Tectonics it limits itself to foremost focus on the spatial and tectonic design of penal architecture and how architectural qualities can be expressed to the prisoner, visitor, and worker as it also upholds basic penal requirements such as security and logistics. Therefore, may the thesis not present a completely feasible proposal for a correctional building, but rather propose a speculative work of theoretical architecture that can suggest a different and perhaps strange morphology of its kind, that of which may serve to influence forthcoming works of prison architecture.

II. Analysis

7. History

Swedish penal typologies and ideologies

The need of judicial punishment in a society has over its course invoked various arguments for its use. One may state that retribution is necessary to restore the imbalance of moral justice caused by the perpetrator towards the victim. Moreover, as system of enforcing punishment in society came to require penal structure which could dwell those who faced imprisonment as a consequence to their deeds, it consequently gave rise to architectural styles and traditions within this penal sphere. (Evans, 1982)

The quality of these facilities that would host prisoners during their sentence would over the course of its history be reformed and shaped by the very culture and community it served. Moreover, as one may witness in Swedish penal history, prison systems would not only come to be developed within Sweden, but also immigrate from other nations and continents. (Rudstedt, 1994; Åman, 1976)

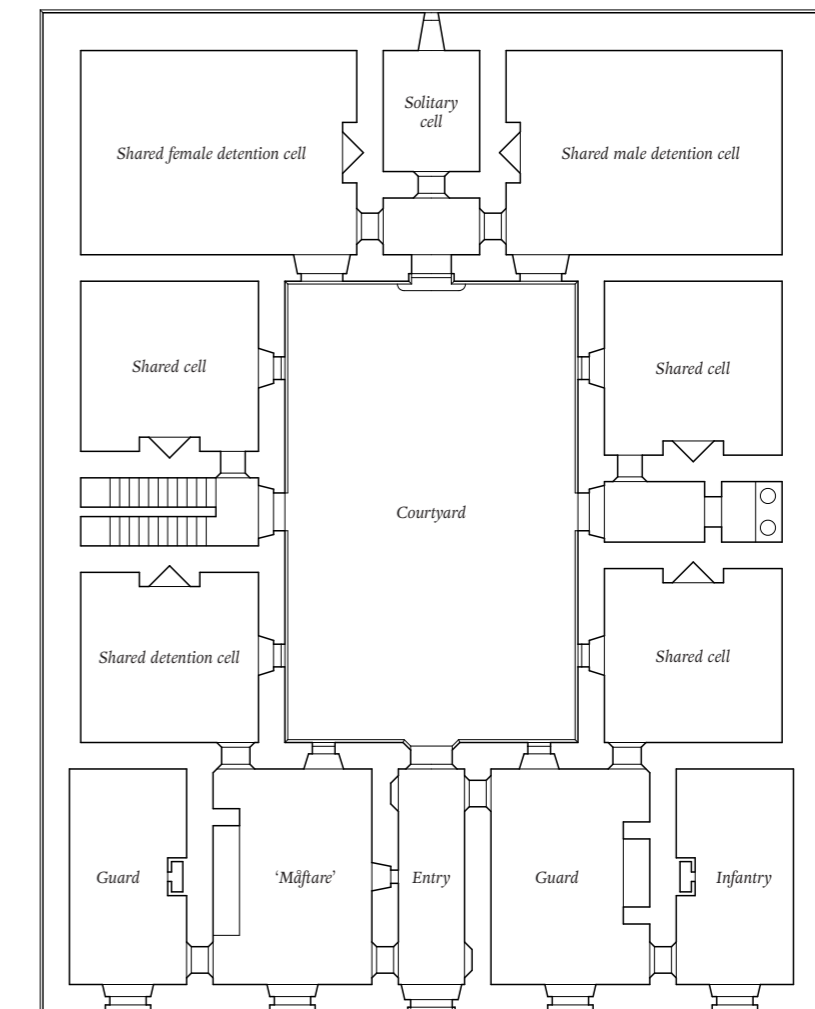
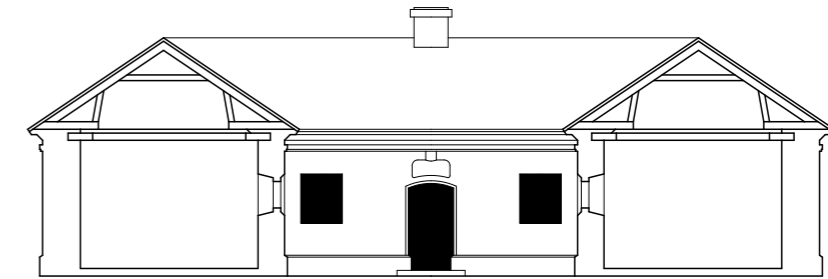
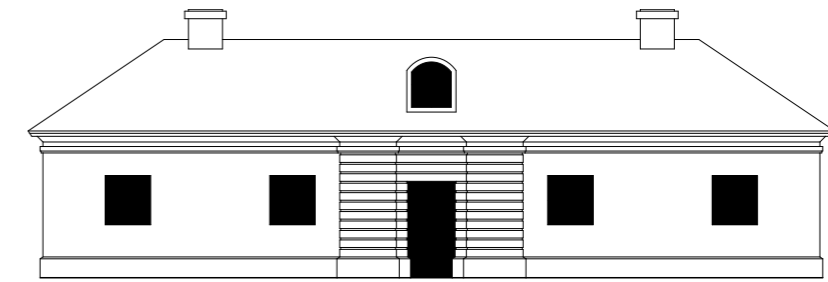
19th century

At the turn of the century incarceration was just one of numerous practices of punishment in Sweden. The additional forms of judicial justice could be flogging, public humiliation, mulct, banishment or death. Thus, those imprisoned was at this time a minority group compared to the total amount of individuals who were judicially punished.

By then there existed 35 prisons within the present border of Sweden. These were all what one might call prison dormitories (Swedish translation, 'gemensamhets- och logementsfångelser'), where one room or vault would be shared by numerous prisoners. However, the building which contained these penal dwellings were spread to different kinds of topologies. There were the ones that were kept in vaults within the fortress walls and others who dwelled in cells inside castles or town halls, but there were also those who were confined in buildings built specifically for imprisonment. (Åman, 1976, p. 84)

An example of the latter was the county jail (Swedish translation, 'länshäkte') in Karlstad built in the 1750s, designed by the Swedish architect Carl Hårleman (1700-1753) who perhaps is more known for his rococo style represented in aristocratic institutions such as palaces and manors (Åman, 1976, p. 87). However, in the county jail the exceptionally ornamental and theatrical style of the Late Baroque is nowhere to be seen. The plan for the county jail

*Next page:
County jail in
Karlstad, built
in the 1750s.
Architect Carl
Hårleman.*



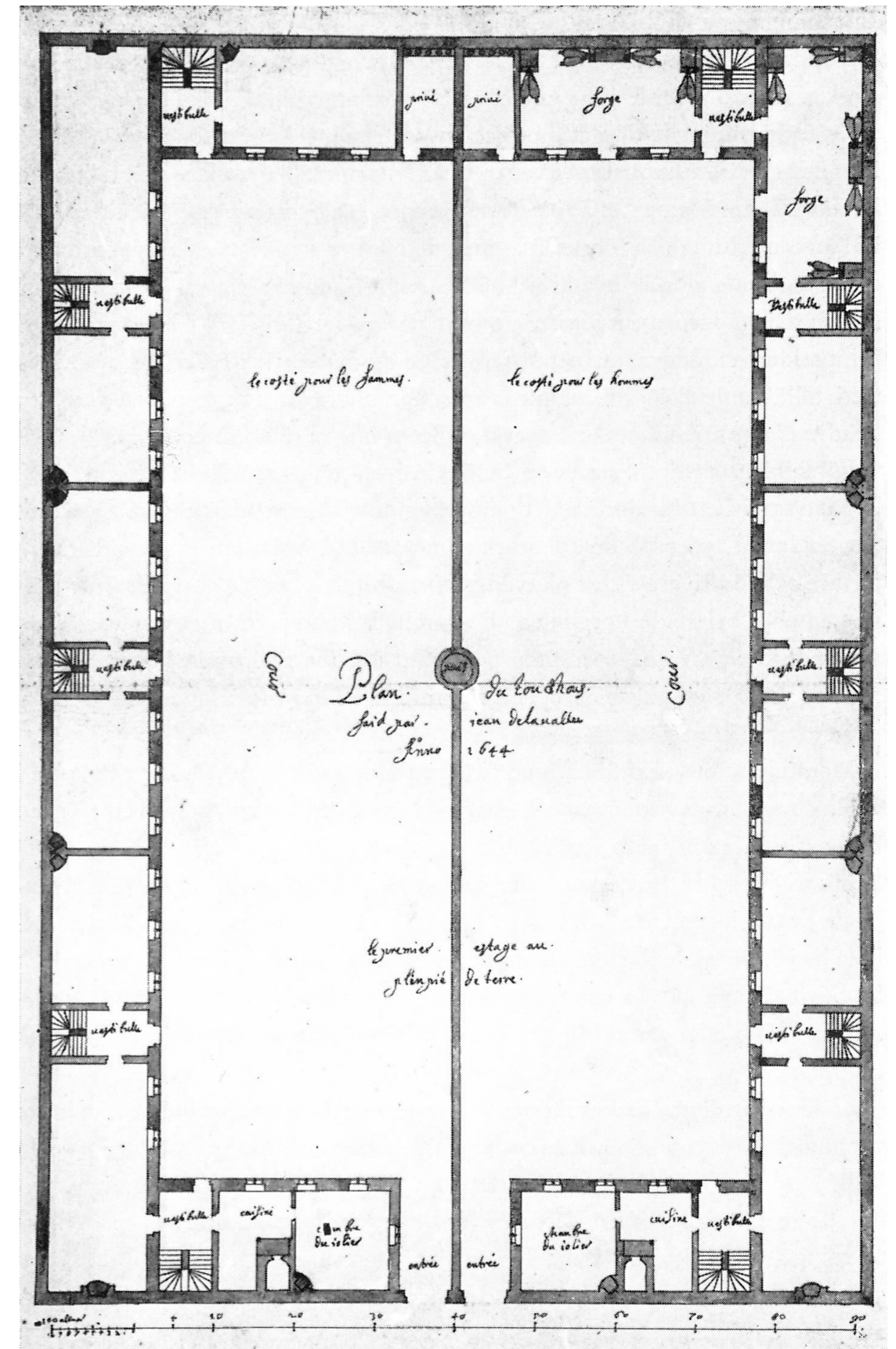
portrays a string of rooms, mostly cells, ordered around an outdoor courtyard. Barely no windows can be seen along the outer facade except where the entrance and administrative functions are organized. A small window aperture on the opposing side is the only cell with a window facing the outside freedom which ironically also happens to be the solitary cell.

Possibly could these architectural traits expressed in Hårleman's design hint its kinship to a hundred years older drawing for a so-called house of correction by the Swedish-French architect Jean de la Vallée (1624-1696). Here the plan consist of four rows of houses around a rectangular courtyard, where the basis for each housing element consists of a stairwell flanked by two dormitories. Similar to Hårleman's scheme are the outer walls monolithic and windowless meanwhile the elevation towards the courtyard contain windows and entrances. A lengthwise wall divides the courtyard into two for each sex, and at the end of the wall near the two archways one finds the prison guard's housing with kitchen. Meanwhile, at the opposing end, on the right side where the male section is designated, the plan specifies an area where a forge is suggested, while the opposing female side has been left unspecified.

The model used by Vallée originated from a house of correction called 'Rasphuis' in Amsterdam established in 1596, which originally had been a monastery for nuns before since it was converted for another kind of penance. These houses of correction were both in Stockholm and Amsterdam a prison establishment for criminals and beggars which featured penal hard labour that aspired to force those who stood outside labour into it (Åman, 1976, p. 46).

However, the collective organization of prisoners spread around different typologies such as mentioned previously came to be reformed throughout the mid nineteenth century as the Swedish parliament throughout the years of 1840 and 1841 came to see a growing opinion towards a prison reform, which would take its inspiration from the prison systems practiced in United State (Rudstedt, 1994, p. 15).

The two systems that was most discussed were the so called Philadelphia and Auburn systems which originated from prison facilities built in these two cities. The principal for these systems would differ from the previous examples, in its form of prison management that based its principle of keeping prisoners in solitary confinement rather than in shared cells. The noteworthy reasoning for such solitary management was that the sentence would not only serve to punish the criminal, but moreover aim to reform the prisoner to not relapse into crime after the time



Next page:
Fig. 2. Draft for a house of correction in Stockholm, 1644. Architect Jean de la Vallée.

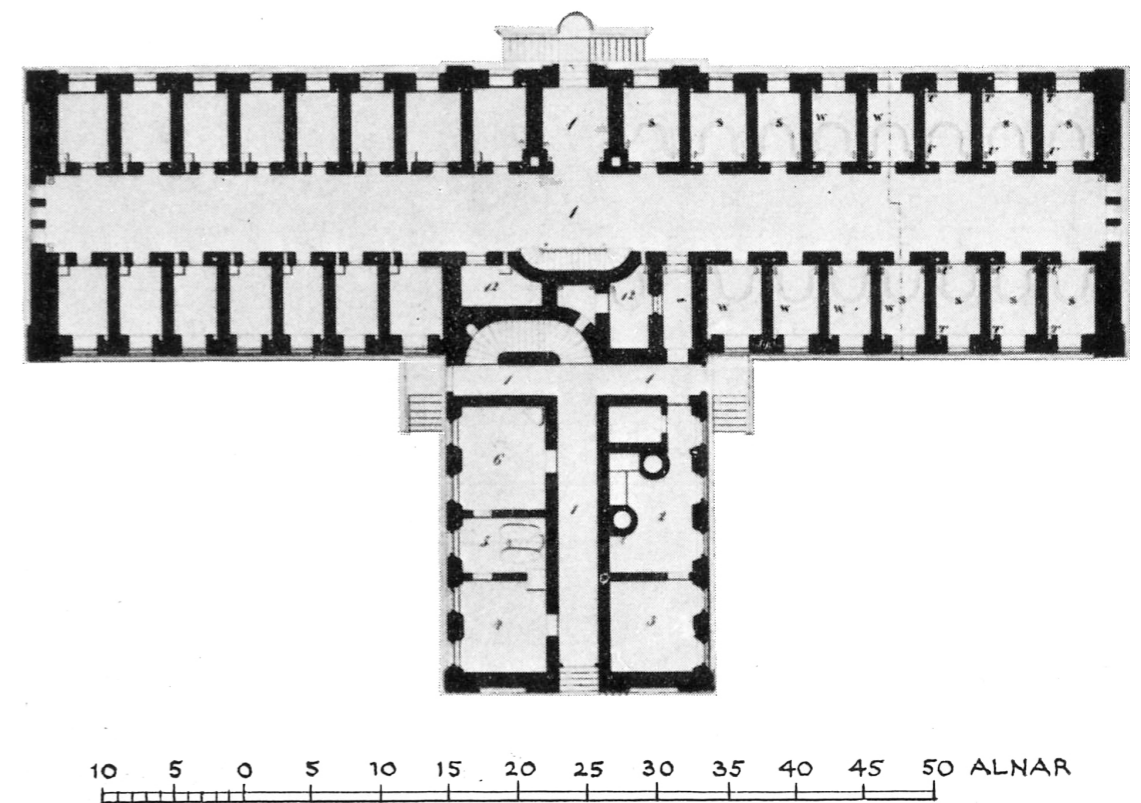
spent in prison. While the houses of correction had focussed attention on the tangible reality of productiveness, turning the useless into the useful, the reforming prisons would concentrate on the moral transformation of their inmates, turning evil into good. (Evans, 1982, p. 57)

As the new system now demanded seclusion between prisoners it came to have an effect on the architecture that would facilitate such kind of operation. From 1846 to 1898, 42 new cell prisons were built all around Sweden, spanning from Pajala in the north to Ystad in the south. Although all were constructed with the solitary principle in mind, these were established as four kinds of categories. The most common one was the county prison (Swedish translation, 'länsfängelse') that varied in sizes of approximately 66 to 102 cells depending on their location. As the reform also had initiated standardisations for the layout of prisons to uphold these new principles, many county prisons came to share similar traits even as these would be expressed at different scales. (Åman, 1976, p. 123-124)

A standard drawing for a county prison from around 1850 explicitly illustrates the fundamental idea of the Philadelphia system by its long centralized hallway with solitary cells all along, streamlining the surveillance of those compartments. The oddly shaped cells adjacent to the stairs hosted those who committed any kind of illicit behaviour while serving their sentence. The T-shaped plan locates the administrative department perpendicular to the centre of the cell unit. Herein was the prison director's office and an additional office for the other personnel. The director also had access to a residence, and the same went for some of the personnel. There were also a kitchen, a storage and sometime also a courtroom (Swedish translation, 'tingsal') for detention hearings. Furthermore, it can be observed that the cells have slightly varying widths, so that the cell doors on each side of the corridor do not coincide. The explanation for this departure from the otherwise rational planning was to avoid prisoners from being able to see their fellow prisoner on the other side of the corridor, in case opposing doors would be opened simultaneously. (Åman, 1976, p. 116)

The architect and historian Robin Evans (1944-1993) states in his book *The fabrication of virtue* (1982) that the principal ingredient of the nineteenth century prisons was that solitude was to create the preconditions for introspection by obliterating the rest of the world (1982, p. 419). Evans argued that violence was replaced by calmness and instead of personification of authority, it would be depersonalization which configured the prisoner:

'Still the walls of a reformed prison bred despair, re-



Next page:
Fig. 3. Standard
plan for a Swedish
county prison,
around 1850.

placing the terror of physical pain with the bewilderment of solitude. Thus, the major agency of compulsion were not the governor, the chaplain or even the officers, but the building itself, inescapable, all-compassing and not subject to hostility, for bricks and stones, blameless in themselves, absorb passion and hatred endlessly. The reformed prison was, from this point of view, a subtle and brilliant retribution that vested in a place properties that had hitherto been vested in persons.' (Evans, 1982, p. 419)

20th century

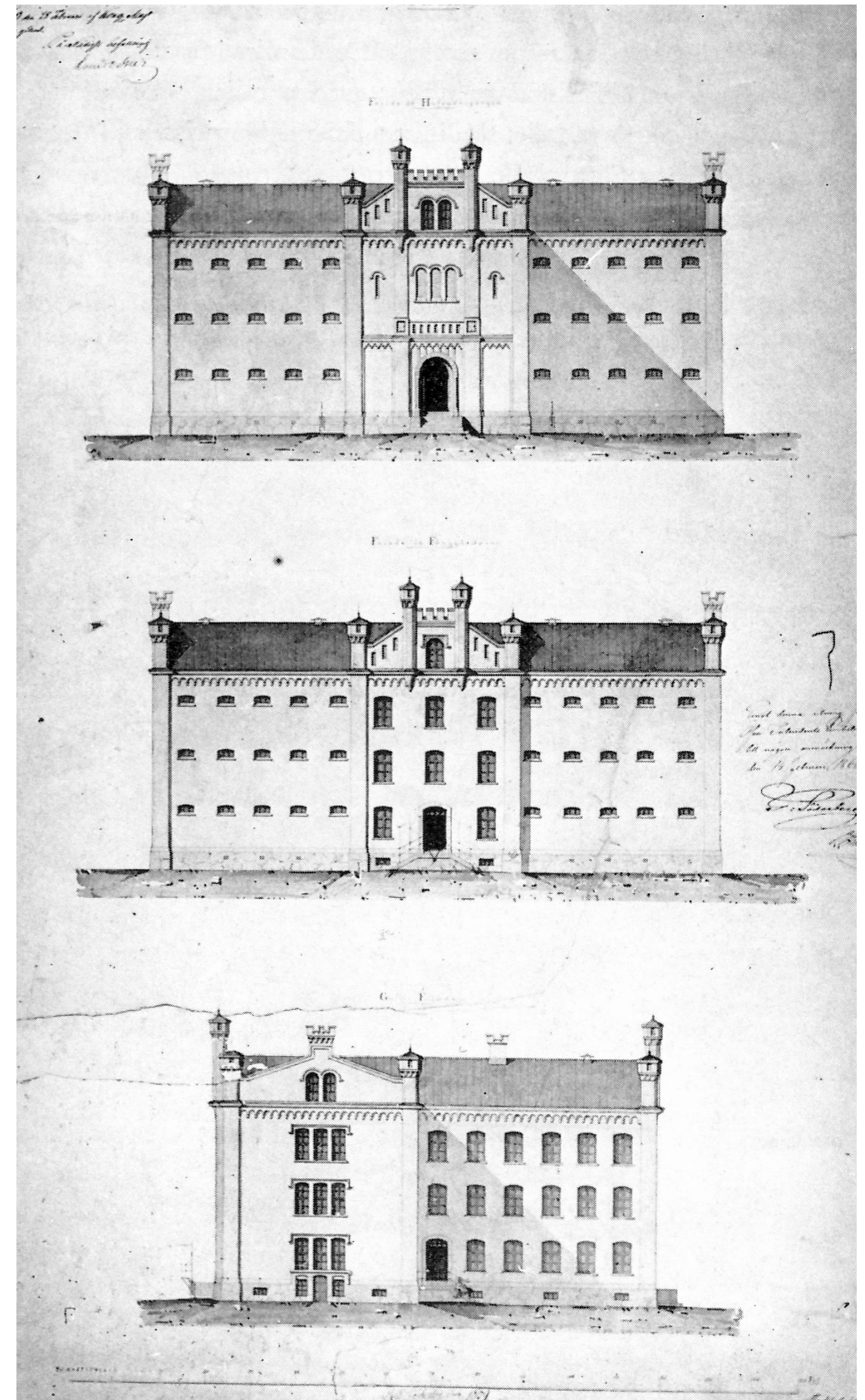
On the New Year's Eve of 1900 one found 2450 prisoners within the Swedish penal system, yet at the same day, fifty year later, this figure had decreased to 2401. One of the key reasons for such decline may be attributed to the reduction of the duration of the prison sentence, meaning, a greater number of convicts could pass through the prison system each year than had been the case fifty years earlier. Thus, the capacity of prisons established throughout the previous century was yet able to manage the current penal service even as the Swedish population in tandem had grown by 2 million.

Only in Sweden's largest cities, Stockholm, Göteborg and Malmö, were new central prisons built around the beginning of the twentieth century. However did these prisons not differ so much from their predecessor, other than in their scale and capacity. The tradition of separate system was still practiced and therefore much of the layout and architecture left unchanged. Possibly, was a lone noteworthy development seen from the outside were the roof design became more intricate with a touch of the Swedish Empire era style. (Åman, 1974, p. 371-372)

Hence, the period between 1892 to 1916 could be referred to as the palmy days of the separate prison system in Sweden, where the prisoner usually first after three years of their sentenced was allowed to partly participate in some communal work practice. However, it was also at the end of this period that doubt and criticism started to grow amongst the prison officials which resulted in a gradual decrease of the solitary period of the sentence from three years to finally six months for adults and three months for youngsters in 1934. The definitive end of the separate system came in 1945 when the solitary imprisonment of prisoners was as good as abolished other than to be used as a disciplinary measure. (Åman, 1974, p. 374)

Thus, the Swedish prison service had once again returned to a communal prison system, yet what at the time remained was only buildings customized for a correctional

*Next page:
Fig. 4. Elevations
for a county pris-
on in Uppsala,
built 1859-1862.
Architects Carl
Nestor Söderberg
and Wilhelm
Theodor Anck-
arsvärd.*



treatment that Sweden now had abandoned. There were a scarce access to facilities for communal leisure, work and meals. Moreover, most of the prisons built in the beginning and mid nineteenth century either were or soon to be over one hundred years old and the hygienic standard was lacking compared to the contemporary standard of the twentieth century. As a result were the antique prisons either closed or refurbished to fit the needs of the new system. For example, where the central galleries in the county prisons sealed to then instead function as dining halls for prisoners to share their meals together (Åman, 1974, p. 378).

Moreover were there two notable incubations of new penal institutions that was built during the aftermath of the second prison reform; one with a seven meter high wall and a second with no wall at all. The later was a juvenile prison in Roxtuna which facilities were dispersedly located in a forest near the lake Roxen. Around thirty one story buildings summarized the institution hosting both housing for the inmates, which were referred to as students, as well as residences for the staff. In each student building was nine single rooms along a corridor which connected to some communal rooms. In the other buildings, one could find kitchens, gym, workshops and administration. As it began its operation, it became a startling example of correctional treatment; it was a prison that did not look like one. It had a progressive policy were the stay at Roxtuna was not about being punished, but instead to be rehabilitated and educated. The low occupancy of 75 inmates and therapeutic orientation was at the time an unprecedented practice within the Swedish prison system. (Åman, 1974, p. 392-394)

Though in contrast, came the establishment of Kumla prison in 1965 which positioned itself within a rectangular wall measuring 600 meters long and 250 meters wide. The rectangle within was sectioned into four units by additional inner walls. In the first walled cell one located the two U-shaped central prison buildings with a total capacity of 195 clients. Next to it were the finance department, administration, central guard, and also the sole fenced entrance to Kumla. Furthermore, on the other side there were three additional prison buildings with a total capacity of 240 and next to it was a factory for the inmates to work in. The communicate between each area took place only in underground culverts.

Just as the case of Roxtuna, but in a much different manner, did Kumla present itself as a new development of Swedish prison service. The building committee had in their process referred to four main policies that stated that the inmates should be distributed as smaller

*Next page:
Fig. 5. The
underground
culvert inside
Kumla Prison,
12 February
1965, Örebro
Kuriren.*



groups of fifteen, to affirm a sufficient area of movement, employing the inmates into intensive and modern labour and to ensure the security and surveillance of the establishment both through the architecture as well as equipment and guardsmen. Furthermore, one could also state as the fifth principle that the scale of the prison would be set to achieve the lowest possible capital cost for each inmate, which in total had been estimated to be for 450 inmates.

While Roxtuna received criticism for being too nice, the contrary was stated about Kumla. It was described as degrading and inhumane; the visual panorama of the prison block windows only foretold about the massive wall, the neighbouring block building and the grass lawn, meanwhile the daily communication took place in a long windowless tunnel. To summarize the criticism that was stated, it argued that the prison environment had a physiological effect which badly matched the ruling policy of the Swedish prison service that advocated for treatment and rehabilitation of inmates throughout their sentence.

Meanwhile, the architectonic prototype for the nineteenth century prison had been castles and fortresses and even though they may have aimed to abandon such genealogy, still these establishments consisted of walled off buildings on small plots, often with a hint of corner towers and crenellations. Thus, the prototype for the new prisons in the 1950-60s came to be a prisoner-of-war camps or even concentration camps; a large amount of low rising buildings, spread over a rather larger area within high fences or walls. (Åman, 1974, p. 398)

To summarize, it could be argued that care and treatment, coupled with punishment are incompatible concepts, as all care and treatment is dependent on a certain amount of voluntariness, which naturally is hard to occur in a prison. The Swedish prison care policy has, therefore, since the great reform in 1946, sought to prevent the factual effects of the deprivation of liberty itself through various efforts and continues to be developed (Rudstedt, 1994, p. 233). Such reforms towards rehabilitating the offender and reducing criminal recidivism foremost came to affect the social work within the prison rather the space itself. However, it could be argued that the space and place of a prison should remain just as relevant for its use as is commonly done for example educational and health care institutions. Still the prison facilities constructed throughout the 1980-2000 continued to morphological relate to their predecessor of the 60s, as in being organized as low rising blocks of buildings in a quadrilateral fenced area with desolate lawns, lacking any signs of effort towards inspiring a supporting atmosphere or sense of a *genius loci*.

*Next page:
Fig. 6. The prison
wall of Kumla, 12
February 1965,
Örebro Kuriren.*



8. Theoretical framework

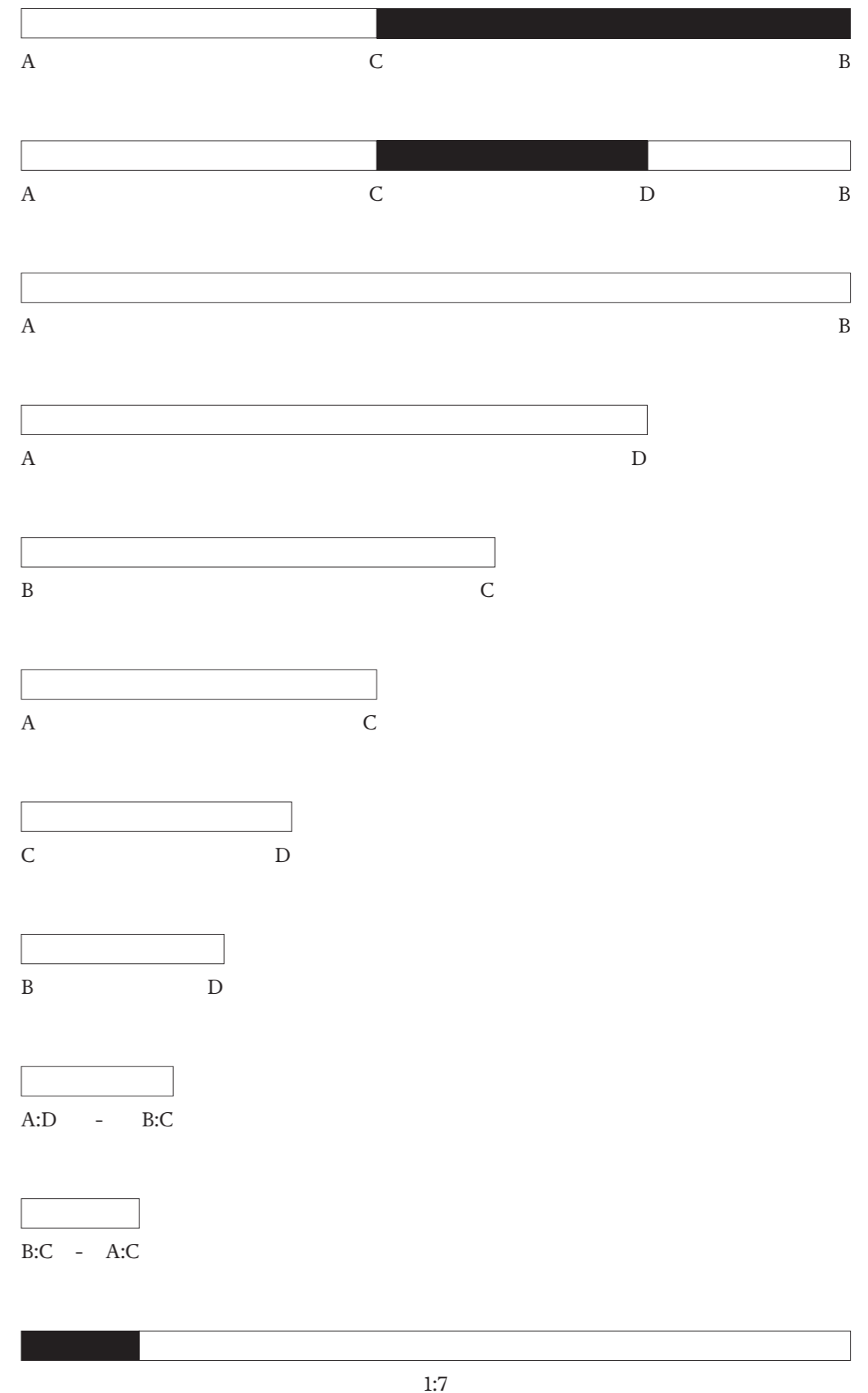
Plastic number system

During the years from 1920 to 1991, the Dutch Benedictine monk and architect Dom Hans van der Laan (1904-1991) developed a proportional system, that which he sought to be an improvement compared to previous discovered ratios such as the golden ratio. Van der Laan aimed to develop a proportion system that would relate to the human ability to differentiate sizes. To estimate such ratio of an order, Van der Laan developed a sorting test with 36 pebbles, which diverged in size, that he then asked his students to arrange. He asked them to form groups of the pebbles that seemed to be of the same order of size. According to Van der Laan's recollection, nearly all students came to form 5 groups with 7 pebbles in each. By then studying the ratio between each group, Van der Laan came to notice that the proportion between a smaller and a larger group of pebbles could be averaged to 3:4. (Voet, et al., 2017, p. 23)

As a result, Van der Laan came to the conclusion that the key to make architecture, readable to the eye and easier to sense the tectonic order of a space, was to arrange the different elements of the space in accordance with how humans discern the orders between things in nature, much like the phenomena he observed with the pebbles. By using the plastic number of 3:4, Van der Laan would subdivide a primal measure in order to generate five additional measures, forming an additive geometric progression. Inspired by musical scales, Van der Laan proceeded to formulate his own scale for design which based itself on three orders with eight measures per order. He would then go on to practice these ratios of measures in his architecture as well as furniture and cloth designs. (Voet, et al., 2017, p. 25-35)

However, the methodology he would go on to argue for in his treatise *Architectonic Space: Fifteen Lessons on the Disposition of the Human Habitat* (1977) would not only be phrased as a design tool but moreover as a philosophy of space. Van der Laan argued that his belief in architecture did not reside in the being of space, but in the way in which we connect to it. For him, a space could only be inhabited when there was a bond between the space and the experience of that space. Accordingly, to achieve such bond between the mind and space, Van der Laan meant to form a perceivable order in space, a spatial system governed by proportional relations, i.e. the plastic number. As with the pebbles, our sense would then be able to organize the surrounding through such ratio that relates to how we sense things. (Voet, 2016, p. 3)

*Next page:
The Plastic Number,
a continuous series of
eight parts interrelat-
ed by 3:4, or AC:CB*



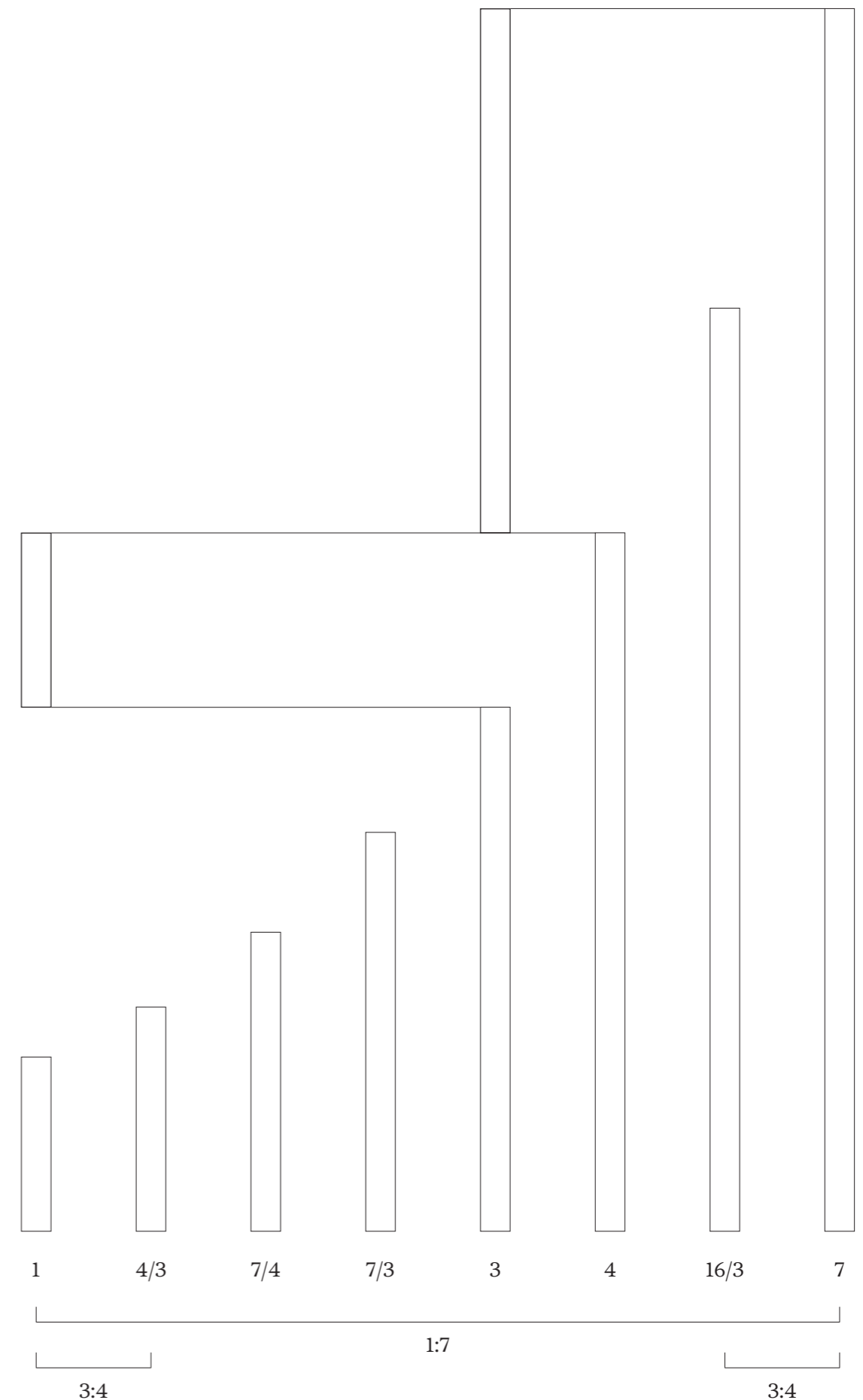
Form follows ratio

The plastic number came to be a design tool which Van der Laan perpetually practiced in his design of textiles, furniture and buildings in a liturgical setting. As the proportions of the objects would generate an atmosphere possible of binding with the mind through the sense of the observer and therefore a proper means when creating things alongside God's own creations, such decree would never be proven. Although such manifesto may hold a reasoned train of thought, such arguments sails on a tide of elation and euphoria spawned by the heavenly body of a dogma, overpassing the absolute scope architecture prohibits. Thus came Van der Laans methodology to not only limit his design, but moreover, his open-mindedness to architecture as a whole, for example by condemning Le Corbusier's Ronchamp as a 'non-architectonic grouping of forms' and never discussing relatable figures, such as Frank Lloyd Wright and Mies van der Rohe, who had shared a similar interest in spatial-dynamic effects throughout their design (Voet, 2016, p. 12-13).

Overlooking such dogmatic wrangle, the plastic number may be valued for its flexibility and the infinite scale of such system. Namely, does it allow itself to be based on any primordial measure, such as the size of a brick, to then generate measures of scaling order. Hence may it enable a proportional interrelationship to be expressed throughout the whole organism of a building, spanning from construction elements and furniture to façades and site. Although the legitimacy of the ratio of 3:4 may be challenged, its form's generative purpose undeniably results in an architecture with a quantitative ratio left to be sensed.

Although proportion has been a central principle to form spaces with a robust and enjoyable atmosphere, such has seldom been the purpose of prisons. Yet if a decree would be brought upon the status of the prisoner's lived environment, as in reach of this thesis, the means of preparation become a potential method to suggest an architecture that aims to be remedial rather than penal.

*Next page:
Measuring system
based on the plas-
tic number; one
order, containing
eight measures*



9. Reference study

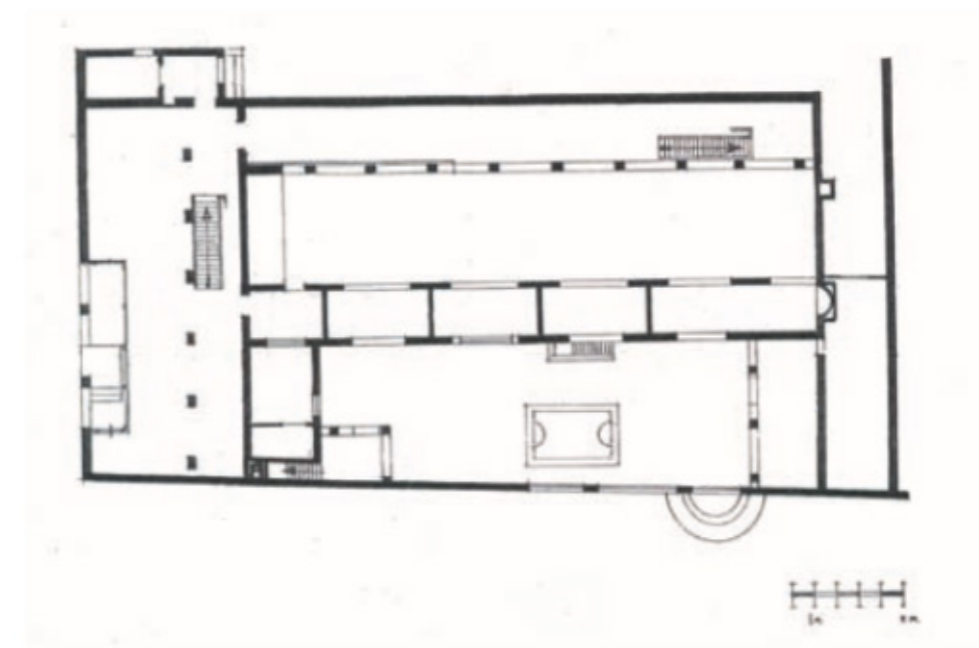
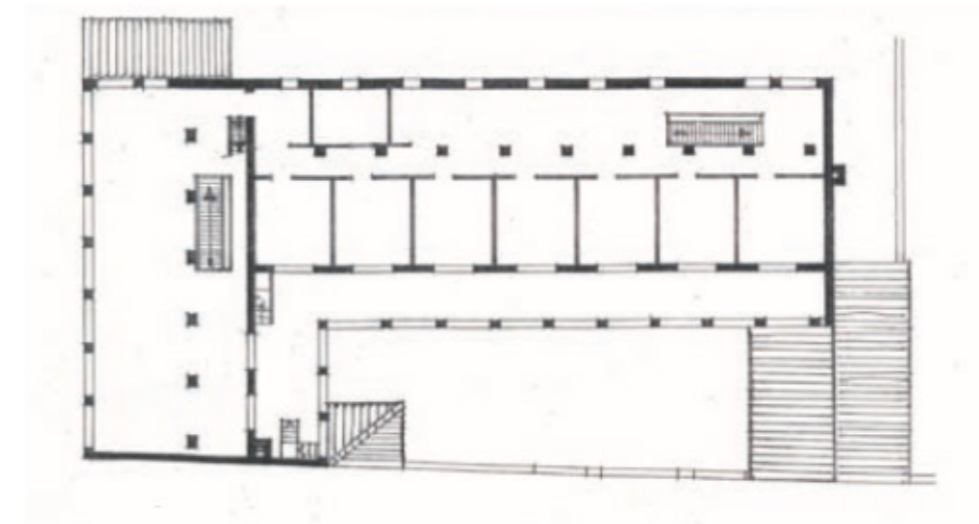
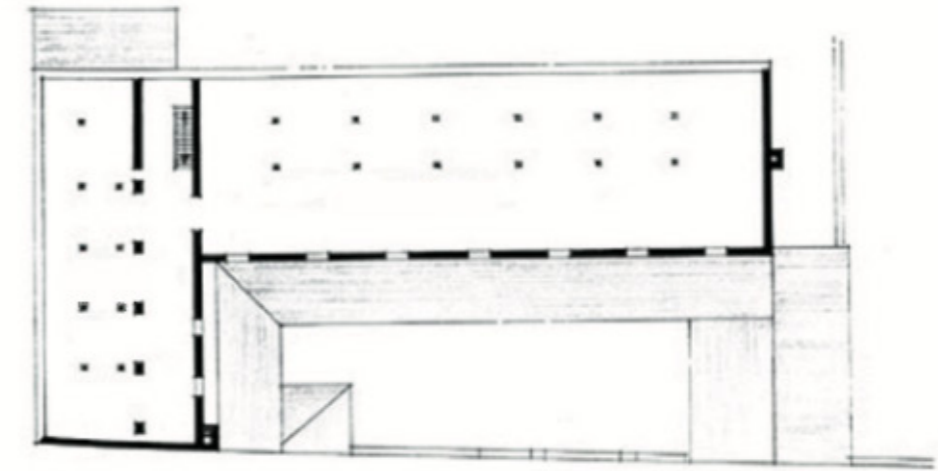
Residence and office in Schaijk, Netherlands Jan de Jong

In 1945, Hans van der Laan had begun a teaching class for practicing architects in Breda and 's-Hertogenbosch that focused on ecclesiastical architecture. Although the aim was to introduce the architects to church design and restoration, Van der Laan taught it through his own architectural theory on the plastic number. Amongst the approximately 370 architects that he had as students between 1946 and 1973, one of them was the architect Jan de Jong (1917-2001) who came to enter the course after advice from his previous professor and architect Marinus Jan Granpré Molière (1883-1972). De Jong soon became fascinated by the plastic number and even temporarily closed his own practice to investigate the possibilities of its use. De Jong's investigation soon bore fruit and from 1956 he had abandoned his past design methodology to instead base his practice on the plastic number.

The way in which Jan de Jong took on and mastered the principles of the Bossche School came to be visibly expressed in his home and office in Schaijk. Within the plot, he began to redesign and rebuild the homestead he had formed before being influenced by Van der Laan. The first creation was a wall in his garden with a small gazebo that he built in the early 1950s. In addition, he built a small house as a kind of model to clearly show clients what they could expect from him. In the end he even demolished his own house, designed by himself in English country house style, to then replace it with a new house that echoed the order and size of the plastic number.

The spacious residence and office blends together within one L-shaped three floor building where the 'kantoor' is located adjacent to the dwelling. On the ground floor, the living room spreads out to about 24 meters and is bordered between an arcade and a row of nook-like rooms which beams daylight into the living room. The entrance to the residence faces a private courtyard meanwhile the office has its own entryway, which faces a more open courtyard which immediately connects to the homestead's gate entrance. The second floor above the ground floor office room features a drawing room, sparsely furnished with drawing desks in a row along the windows and the adjoining arcade. On the other side a row of seven bedrooms fills the neighboring arcade-like aisle with doors. Finally, the third floor consists of an archive of the office and yet another living room in the attic.

Next page:
Fig. 7. Floor plan
of Jan de Jong's
residence and of-
fice, built between
1962 and 1967.



10. Site analysis

Prisons have historically been located in both urban and rural environments and facilitated in buildings of various typologies, depending on the time and the context of its occurrence. Moreover, as a consequence of its design to prevent unauthorized entrance and exit, prisons have generally expressed a secluded relationship to its surroundings. Prison buildings have historically been based on a standardize plan which then could be erected on numerous sites with various contexts, such as the county prisons built throughout Sweden during the mid-nineteenth century. However, the contemporary Swedish prison is commonly situated in a levelled agricultural landscape or a forest glade. For this thesis the prison is suggested to be located in a rural environment with low topographic stresses within the county of Skåne.

The site is located three kilometers east of central Ystad and 200 meters north from the shore of Östersjön. The city of Ystad currently has an operating prison three kilometers northwest of the proposed site, however, in a more suburban industrial landscape. The site embodies a mixed coniferous forest area in between two roads named Österleden and Militärvägen. Nearby buildings and facilities consist of a villa area to the west and numerous shooting ranges towards north. The road to the prison and its parking lot connects to Österleden which is en route to Ystad and Nybro.

*Next page:
Fig. 8. An ortho-
photo displaying
the eastern region
of Ystad. The black
and white symbols
mark the location
of the current and
suggested prison.*



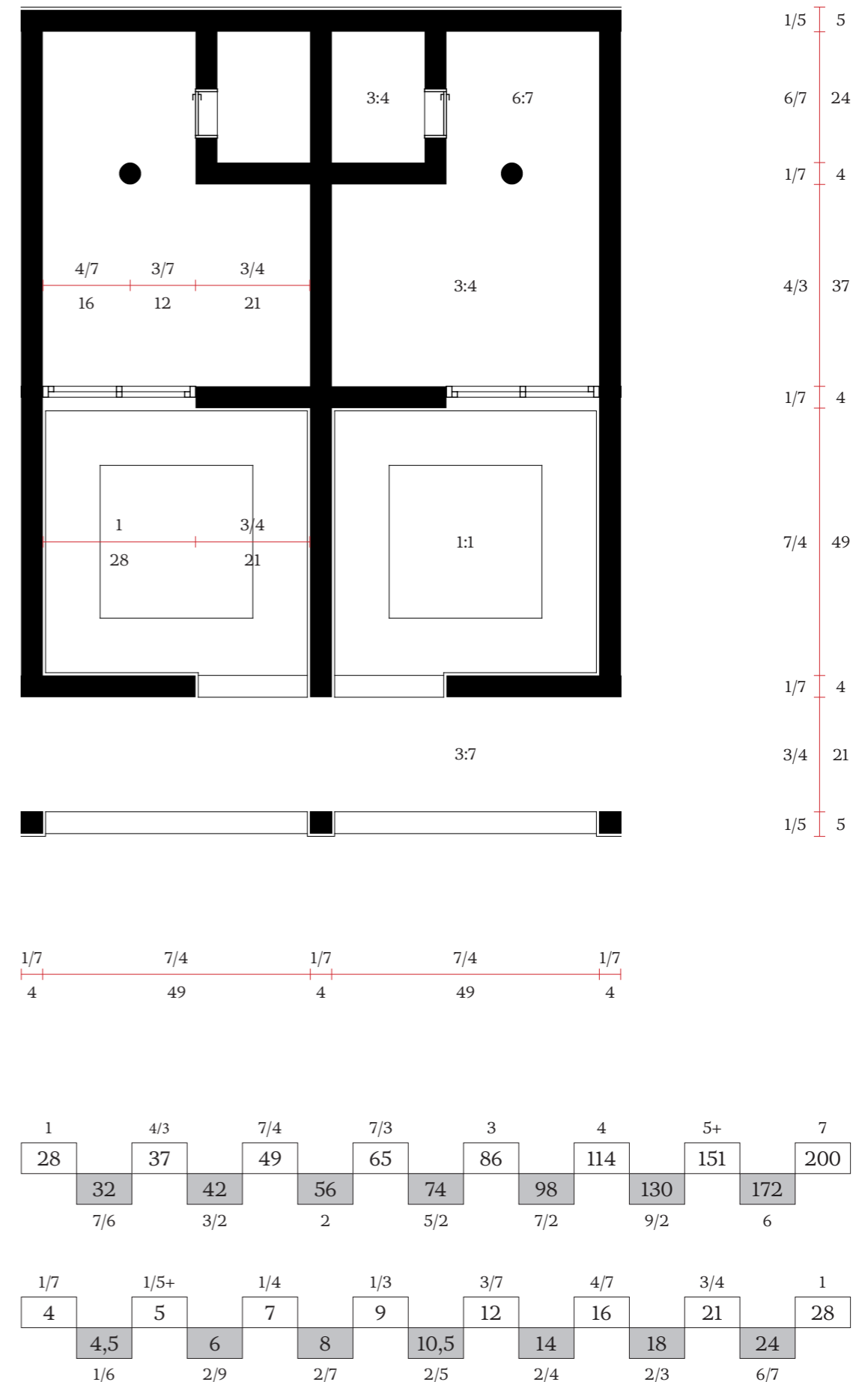
11. Discussion

The architecture of the prison presented here base its arrangement around the idea of how space must transition from one to another, and how the order and proportions may express and make those movements within the architecture sensible. In order to achieve such moment in mind as one perceives the length and width of the structure, the design has been influenced by certain measures which shares a proportional interrelationship that is expressed in relation to its surrounding elements and spaces.

For example, each prison cell connects to a courtyard that vessels the crossing from the public arcade to the private cell, where the courtyard infuses a kind of ambivalence between the two. As a minor garden, the courtyard becomes an outdoor area that the intern may leverage privately yet also exhibit openly to those who passes by. Orderly, the movement from the arcade to the courtyard and into the cell articulates the horizontal measures of 21, 28, 37 and 49 decimetre. Firstly, the arcade express both the smallest and largest orders of these four lengths, moreover performing the most extreme two dimensional ratio of the three spaces, i.e. 3:7. Meanwhile, the courtyard embodies only the most major dimensions yet also the most neutral ratio of the three, relating to its idea of ambivalence. Lastly, the cell room together with its inner nook exhibit all four measures through their spatial structure. Here the room has the width and length of 37 and 49 decimetre, where the latter is expressed divided into 28 and 21 decimetre, thereby giving cause for the measures of the nook and bathroom. Moreover, does the elevation perform the same ratio as the room's own dimension, through the notable ratio of 3:4.

Together the sequence of these spaces visually expresses a proportional order spanning from 12 to 49, where the difference between each order of measure has the ratio of 3:4. Thus, through such system, the penal architecture gains its guidance to craft a place of involuntary dwelling that echoes a riddle and the idea of its form. Numerous numerical patterns are manifested throughout the building, consistently following the methodology and principle of the plastic number. By striving to make the spaces readable through its proportions, the goal is to make a penal architecture that can generate a rich tectonic experience within its walls.

*Next page:
Floor plan with
measurements of
the cell and its
courtyard. The
table describes the
numeric value of
the orders of size,
expressed in two
successive meas-
ures-systems.*



III. Design proposal

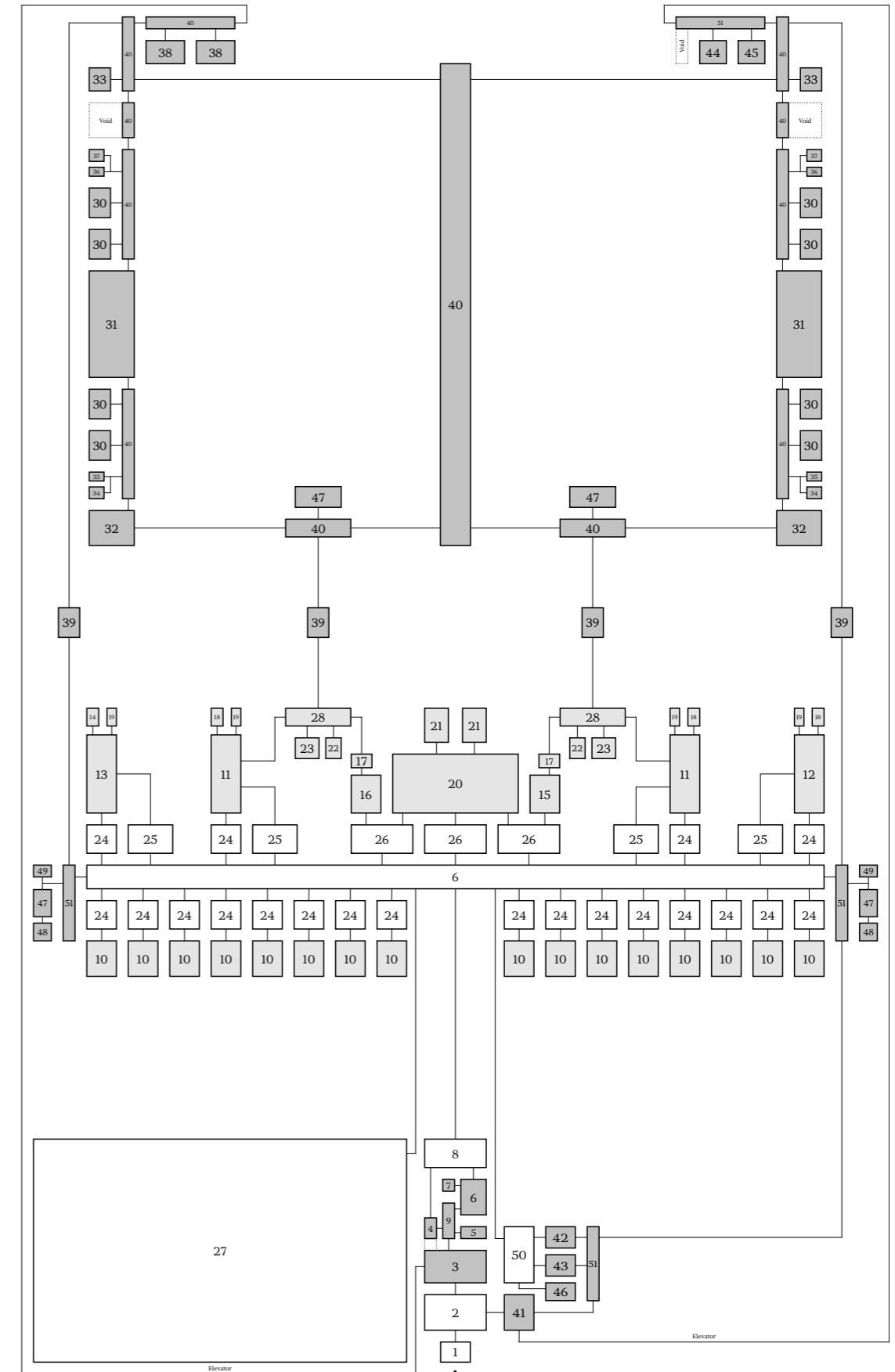
12. Space program

No.	Space	Quantity	m ²	Total
Admission areas				
1	Entrance portal	1	17	17
2	Entrance courtyard	1	63	63
3	Security entrance	1	57	57
4	Reception	1	7	7
5	Strip search room	1	8	8
6	Meeting room	1	26	26
7	Lavatory	1	4	4
8	Meeting courtyard	1	50	50
9	Corridor	-	12	12
Prison areas				
10	Prison cell	16	30	480
11	Common room	2	66	132
12	Exercise room	1	66	66
13	Wood workshop	1	66	66
14	Sawdust collector	1	6	6
15	Multifaith space	1	32	32
16	Study space	1	32	32
17	Office room	2	8	16
18	Storage	3	6	18
19	Lavatory	4	4	16
20	Brewery hall	1	211	211
21	Inventory room	2	18	36
22	Drug screen facility	2	9	18
23	Storage room	2	14	28
24	Minor courtyard	20	24	480
25	Medium courtyard	4	36	144
26	Major courtyard	3	50	150
27	Garden	1	2200	2200
28	Corridor	-	66	66
29	Arcade	-	498	498
Administration areas				
30	Office room	8	18	144
31	Office space	2	135	270
32	Office kitchen	2	48	96
33	Conference room	2	14	28
34	Handicap lavatory	2	5	10
35	Lavatory	2	3	6
36	IT and electrical room	2	3	6
37	Cleaning storage room	2	5	10
38	Changing room	2	26	52
39	Staircase	4	20	80
40	Corridor	-	870	870
Service areas				
41	Delivery entrance	1	32	32
42	Waste room	1	18	18
43	Dry storage	1	18	18
44	Cold storage	1	18	18
45	Freezer storage	1	18	18
46	Garden storage	1	15	15
47	HVAC room	2	23	46
48	Sprinkler riser room	2	23	46
49	IT and electrical room	2	6	12
50	Service courtyard	1	50	50
51	Corridor	-	147	147

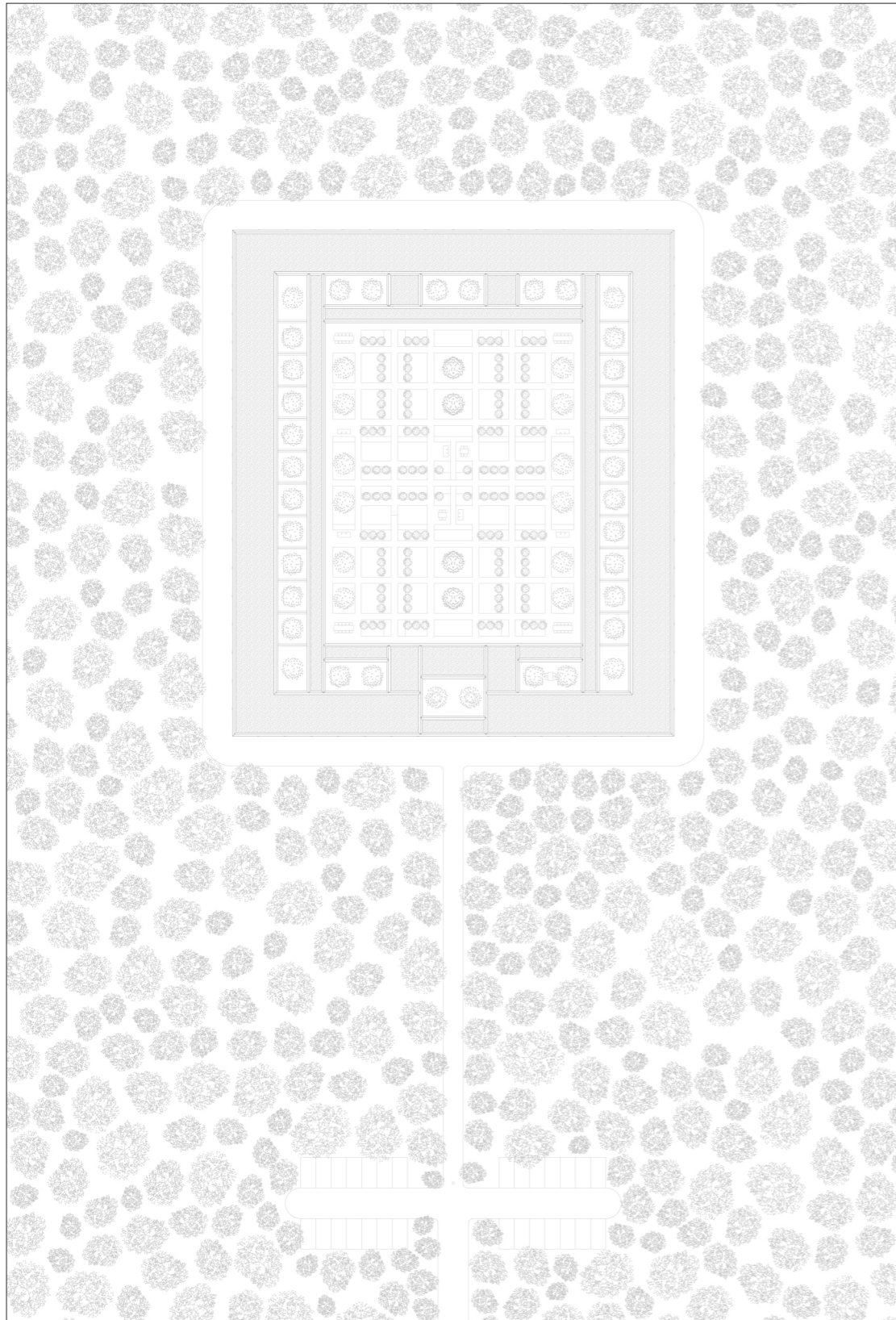
Interior area: 3279

Exterior area: 3652

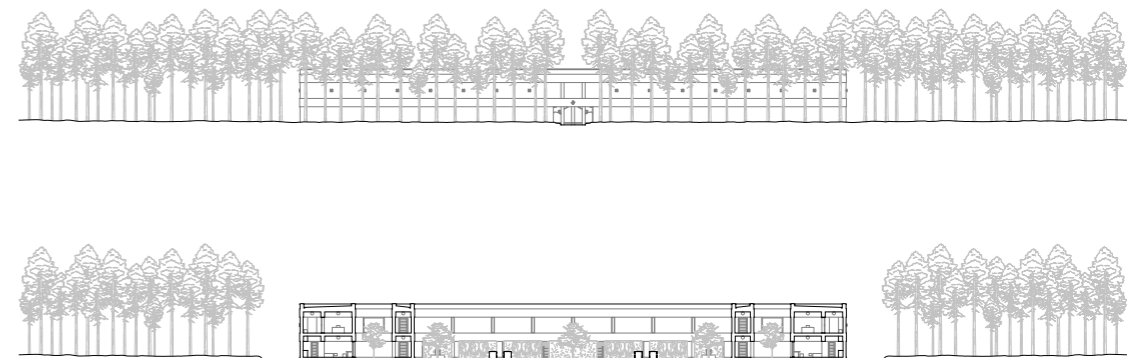
Gross area: 6931



13. Site

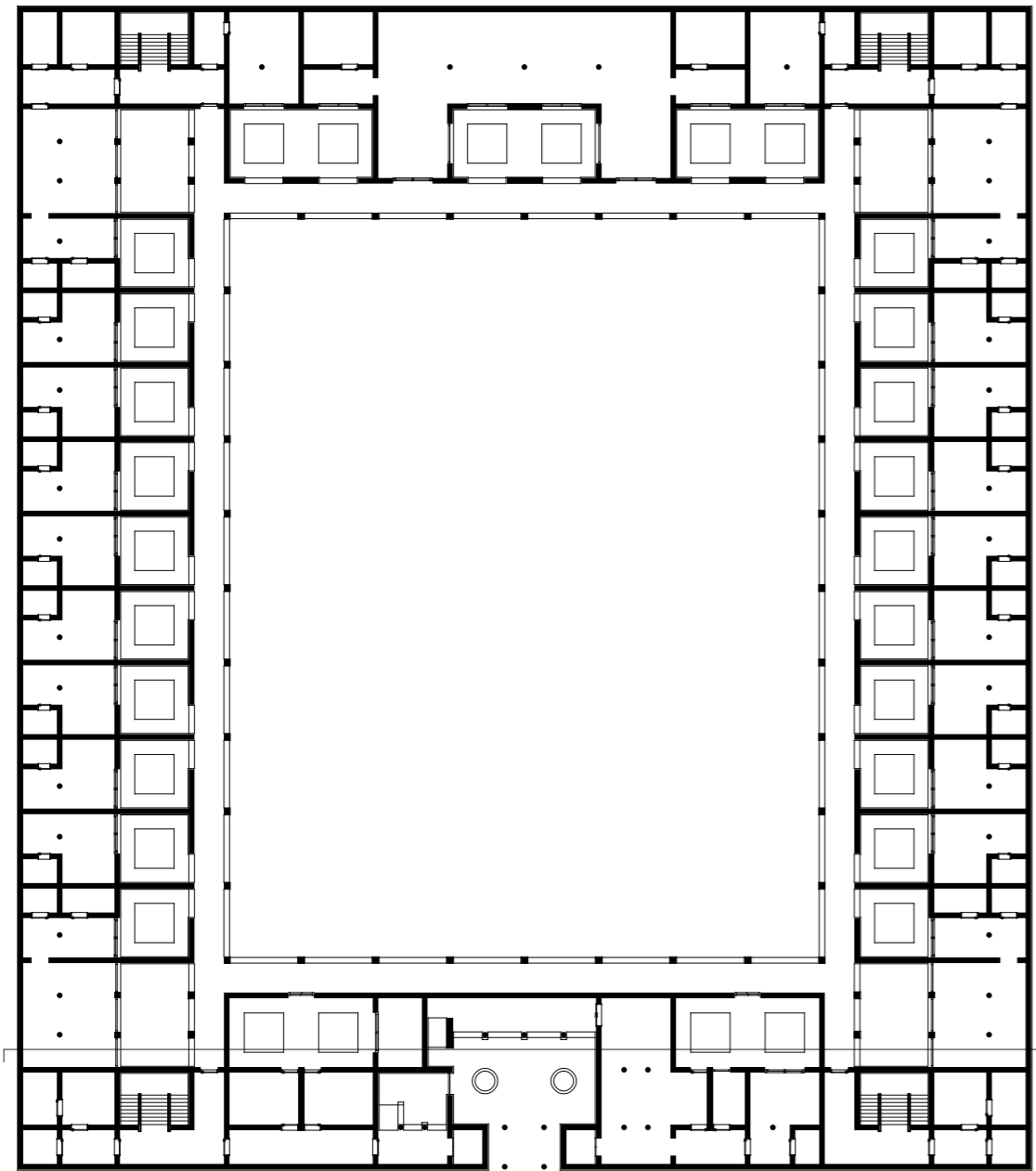


Site plan, 1:1000

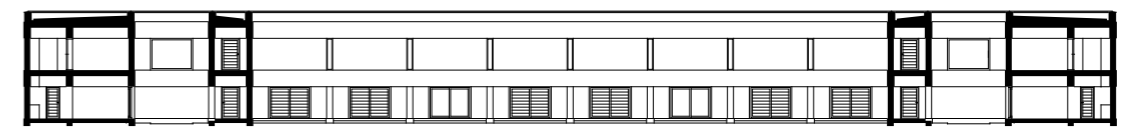
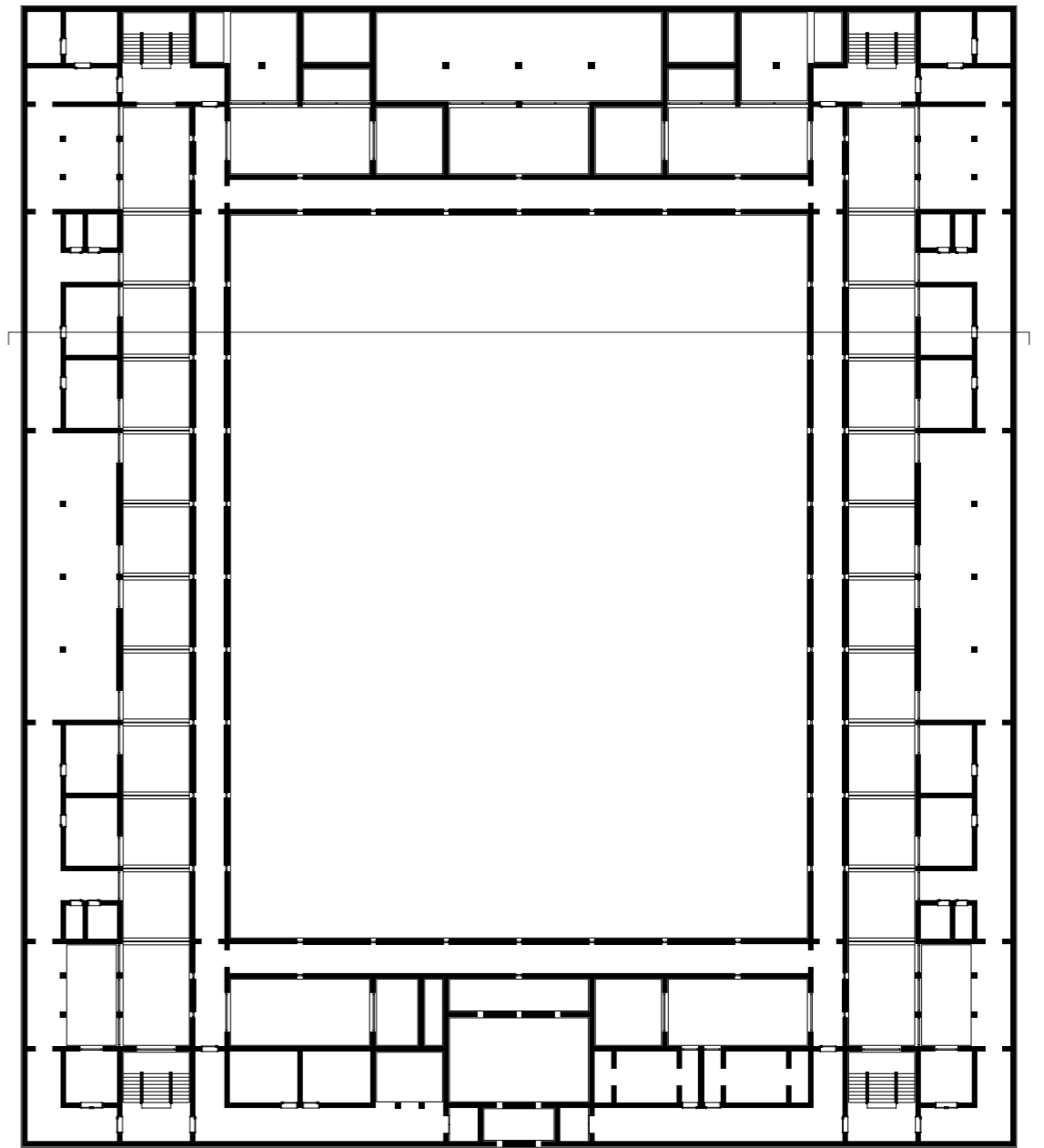


Site section, 1:1000

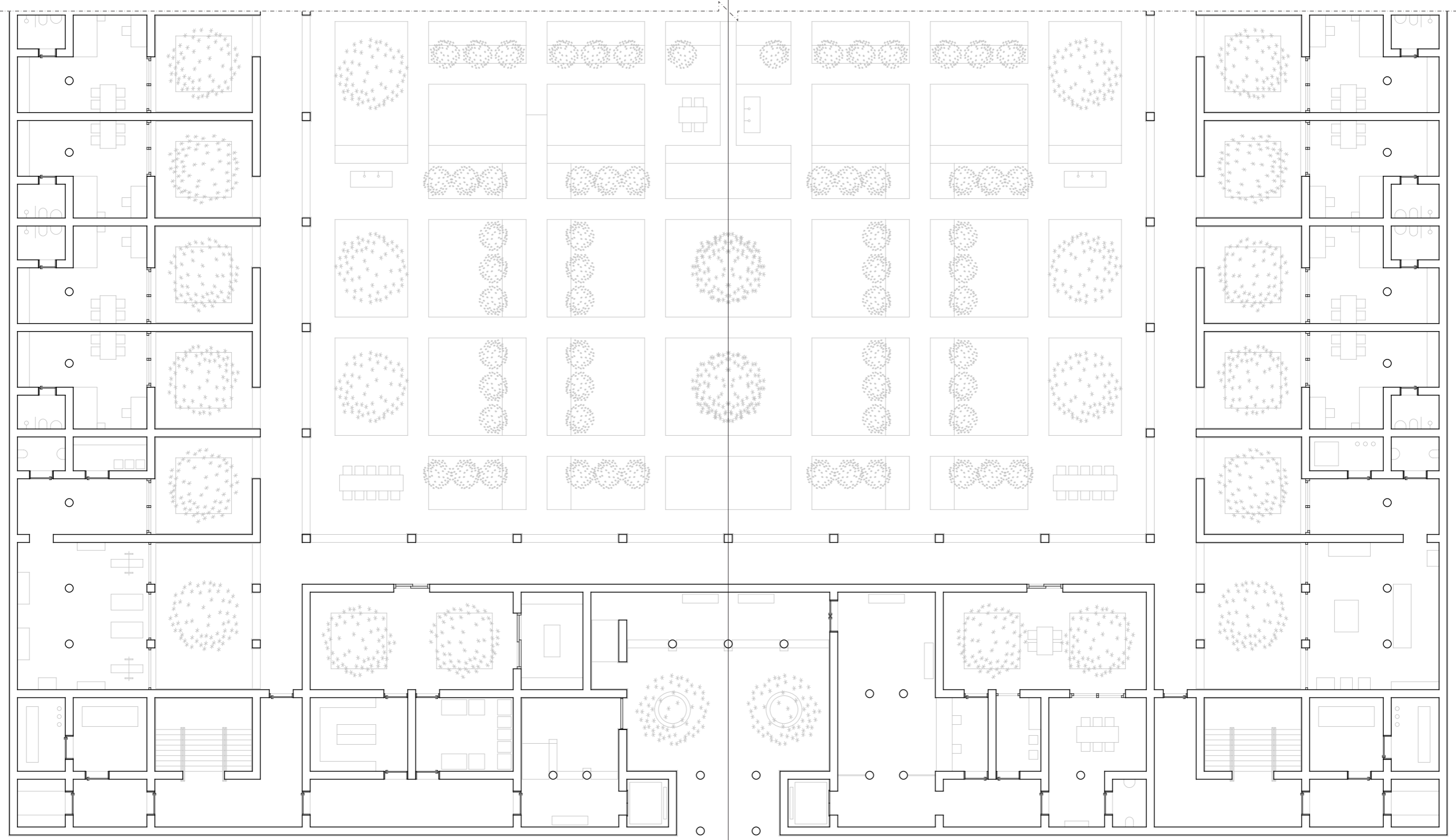
14. Floor plan



Ground floor, 1:500

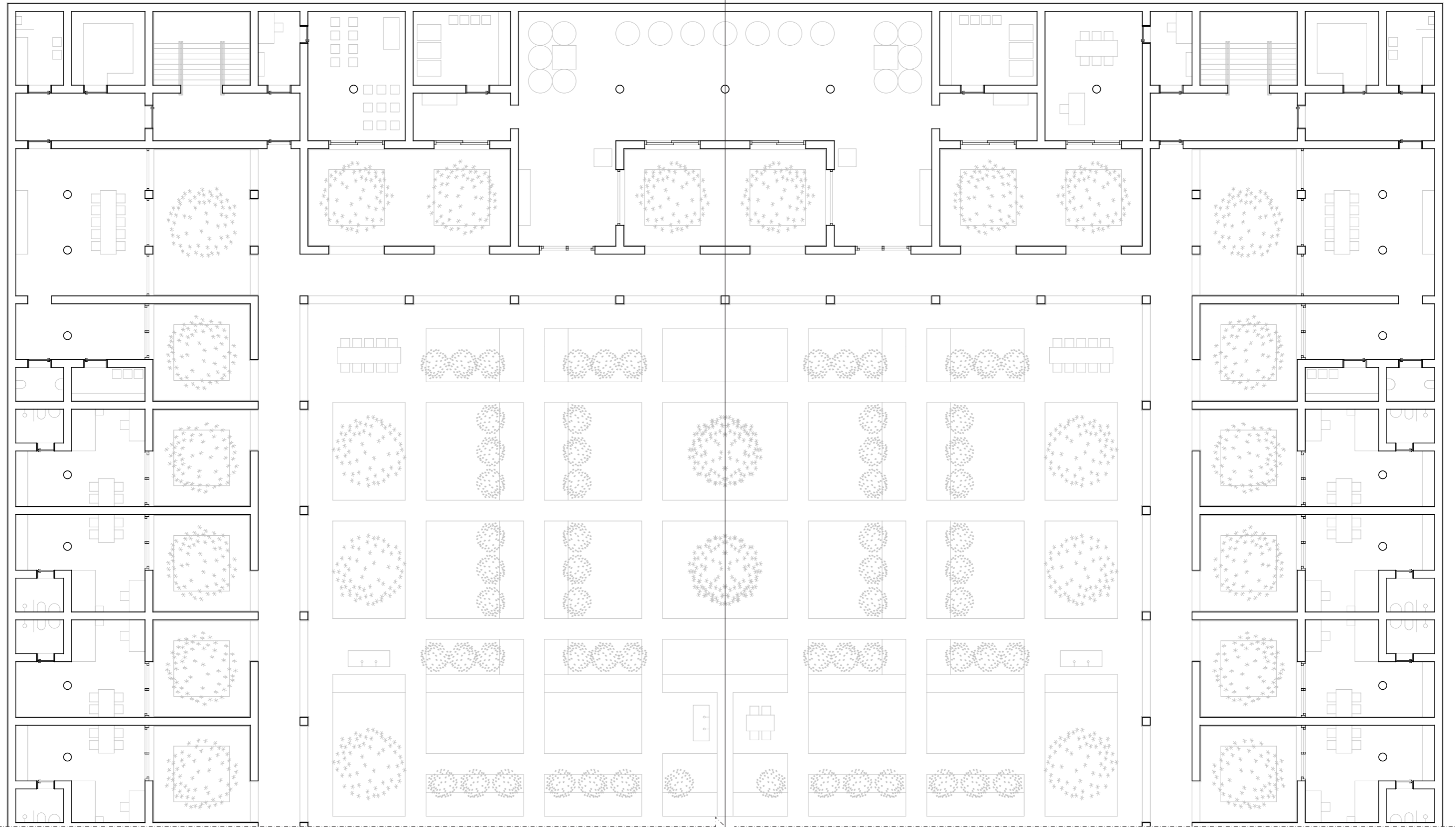


Second floor, 1:500



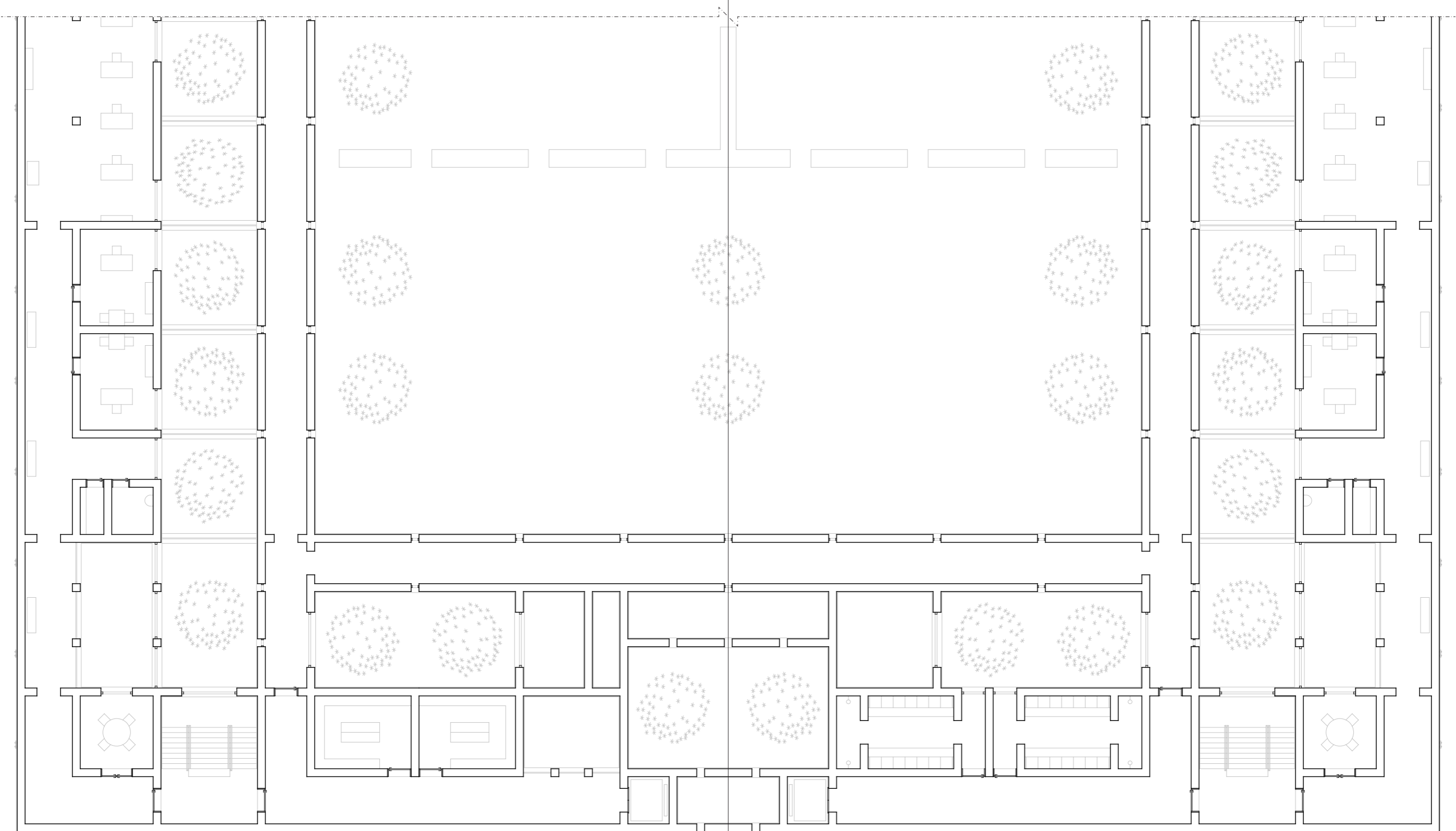
Ground floor, southern bisection, 1:200





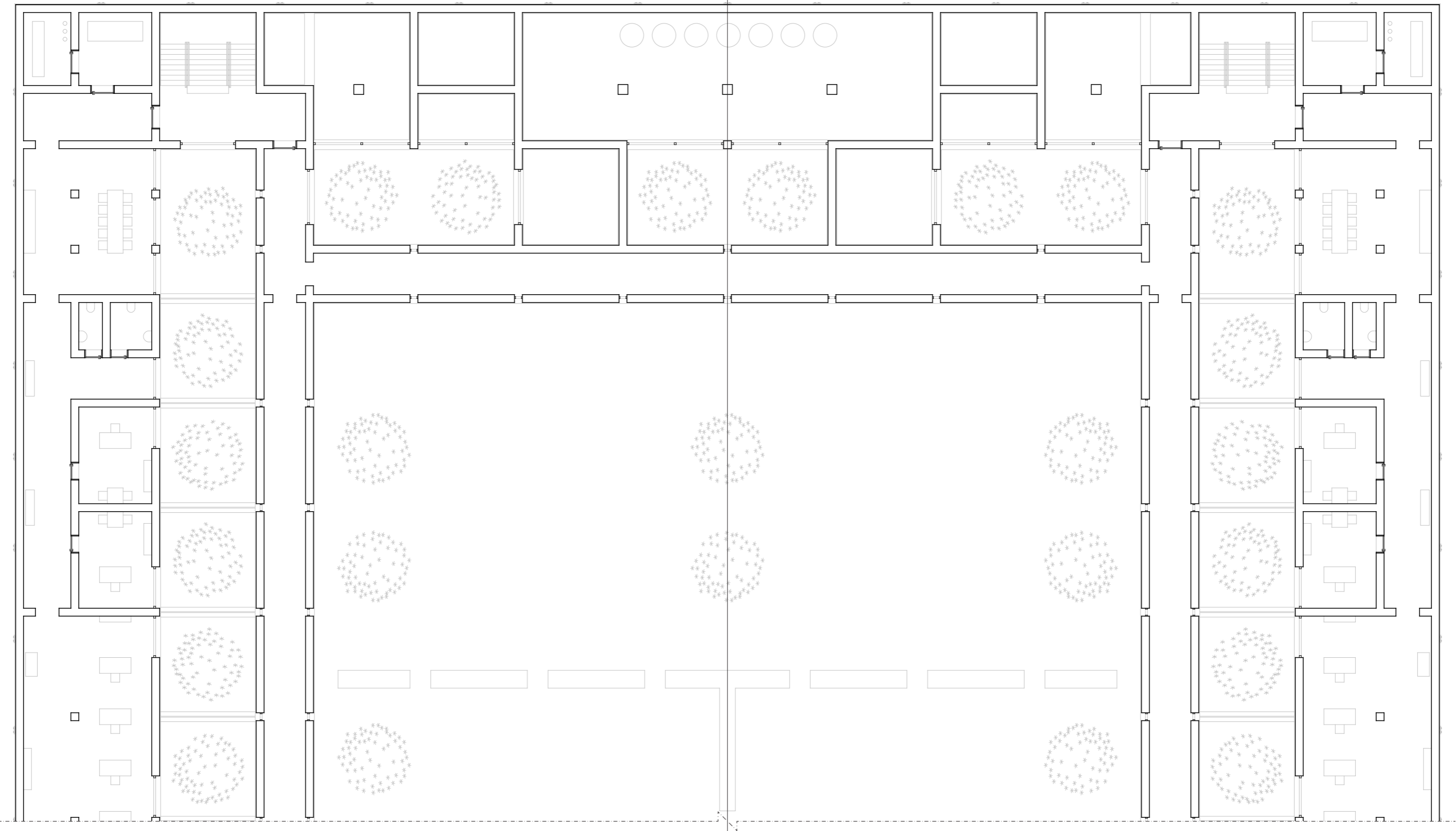
Ground floor, northern bisection, 1:200





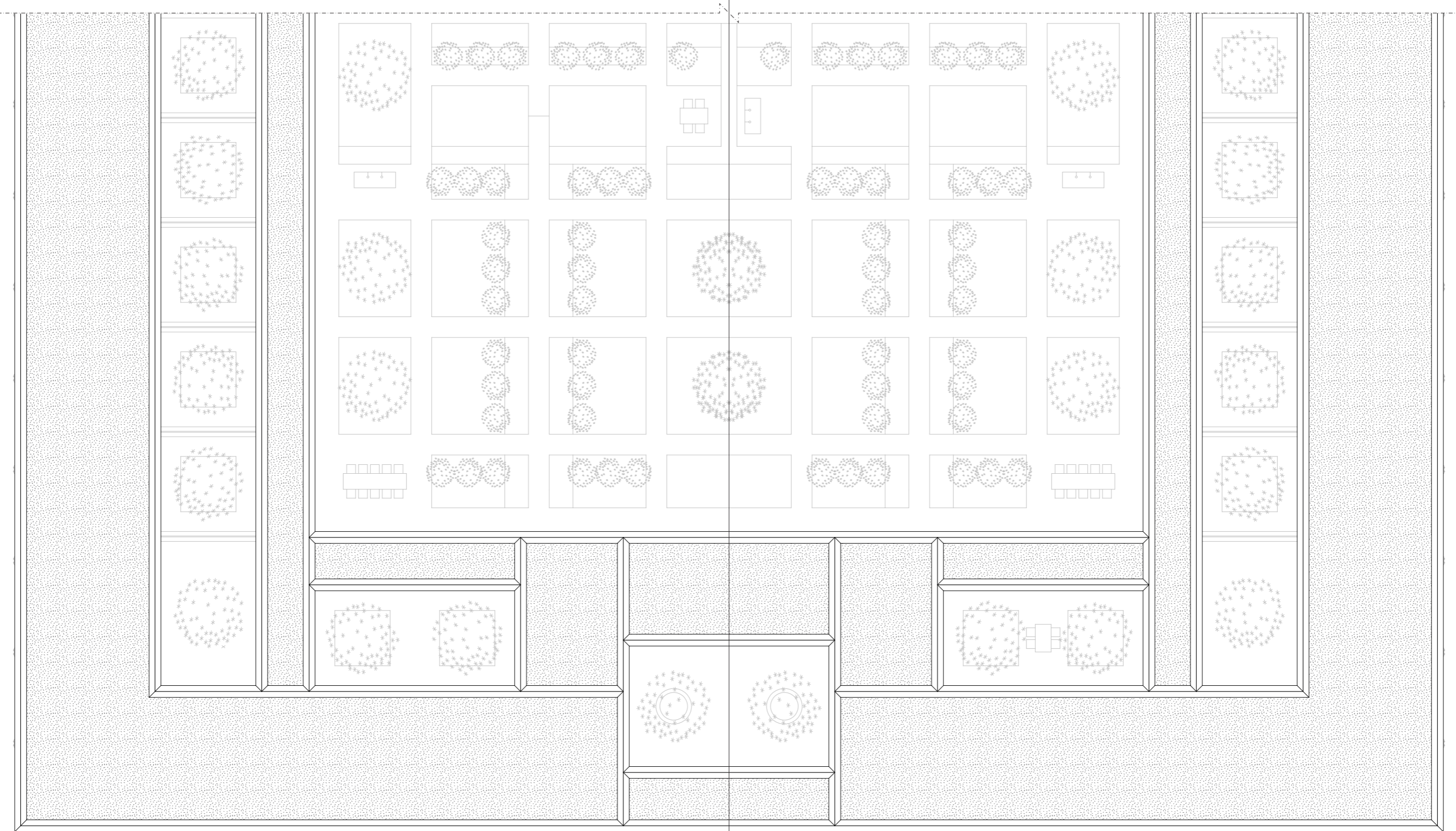
Second floor, southern bisection, 1:200





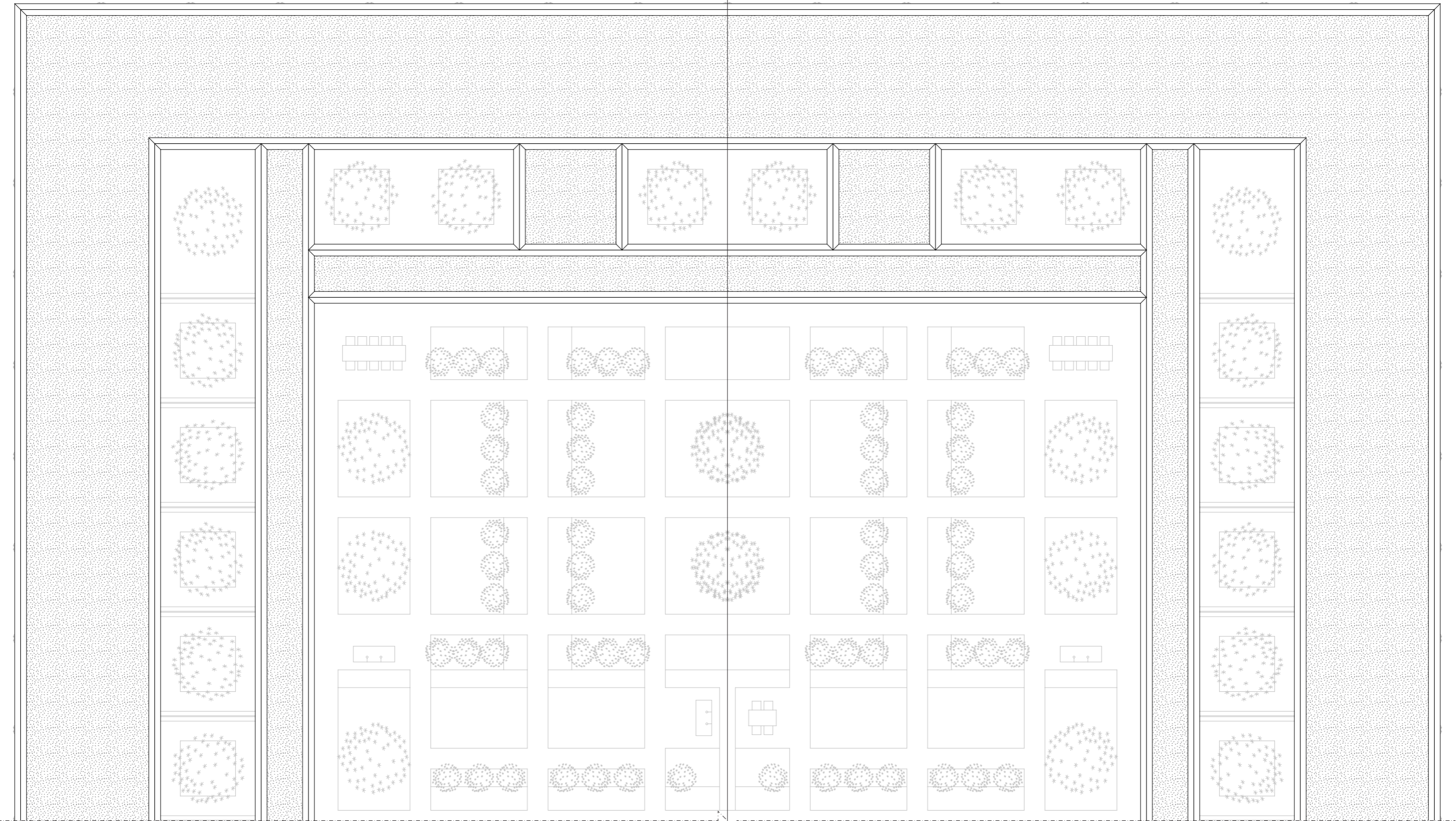
Second floor, northern bisection, 1:200





Roof plan, southern bisection, 1:200

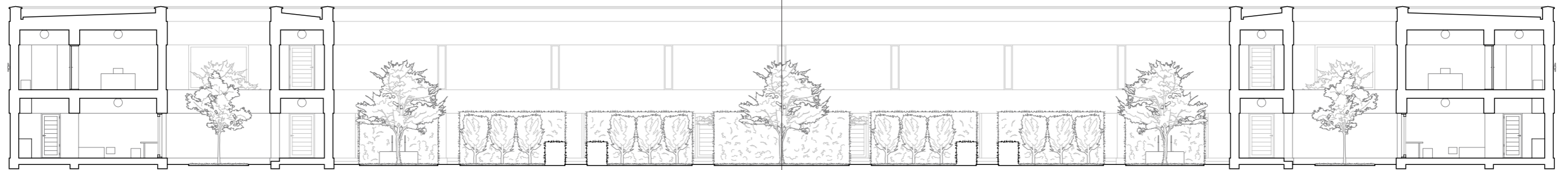
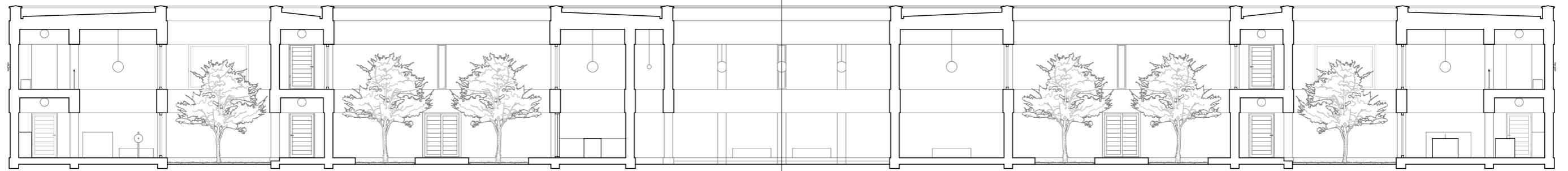




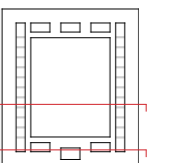
Roof plan, northern bisection, 1:200

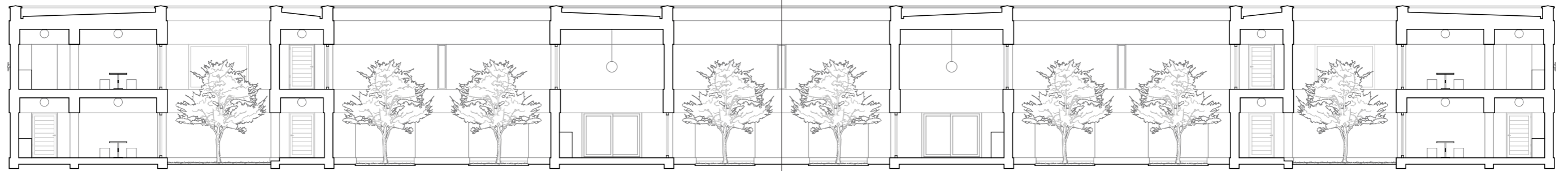


15. Section

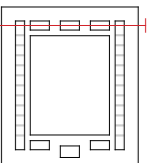


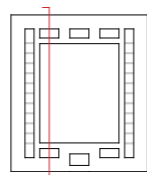
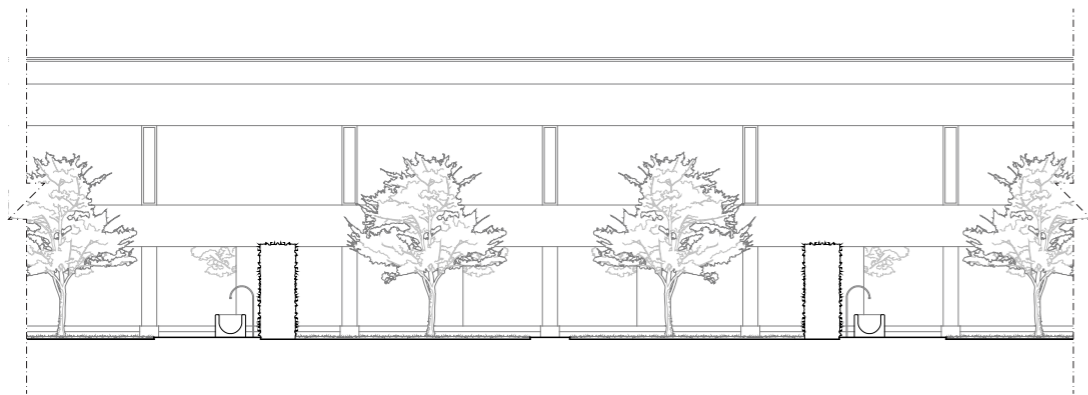
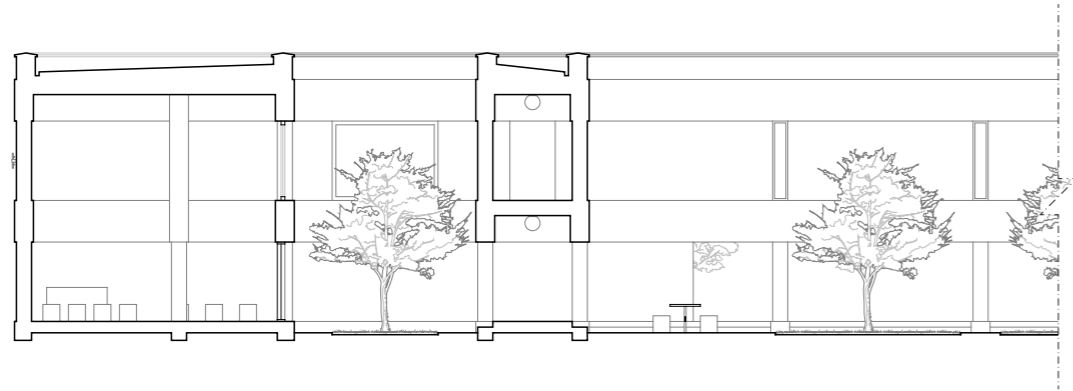
Section towards north, 1:200



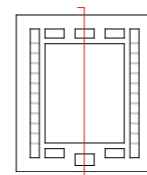
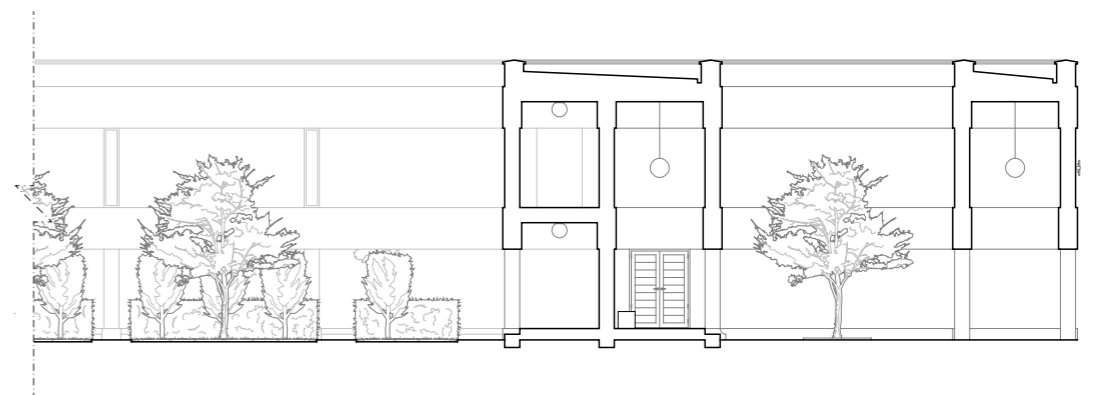
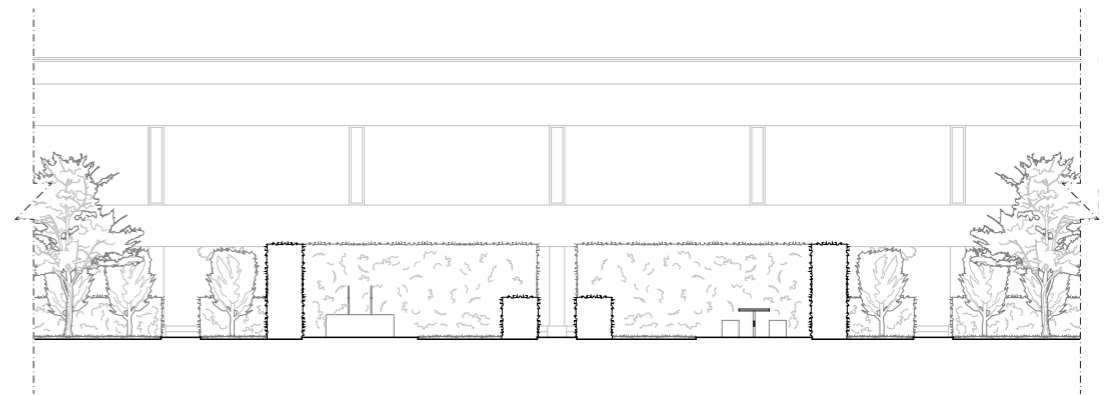


Section towards north and south, 1:200

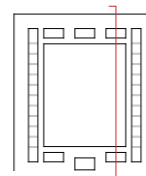
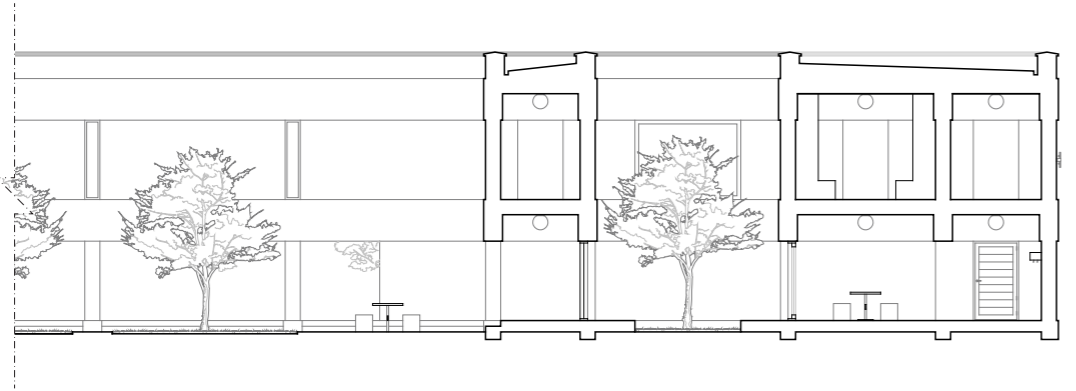
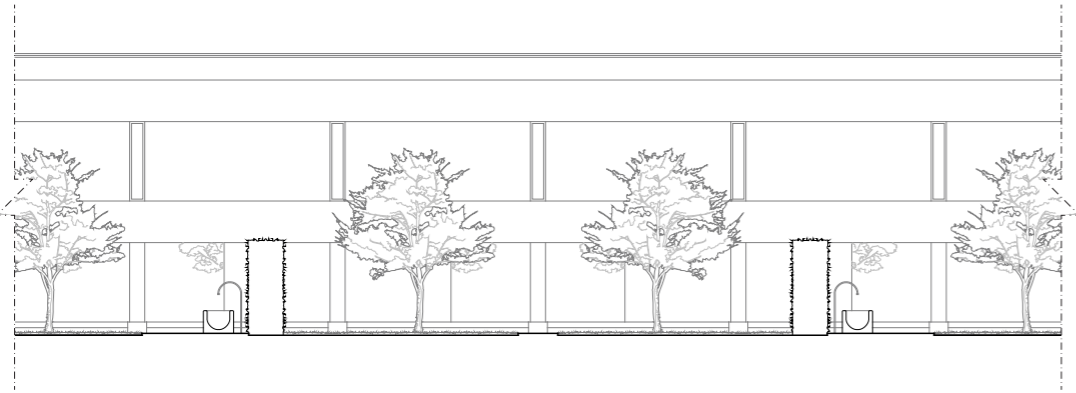
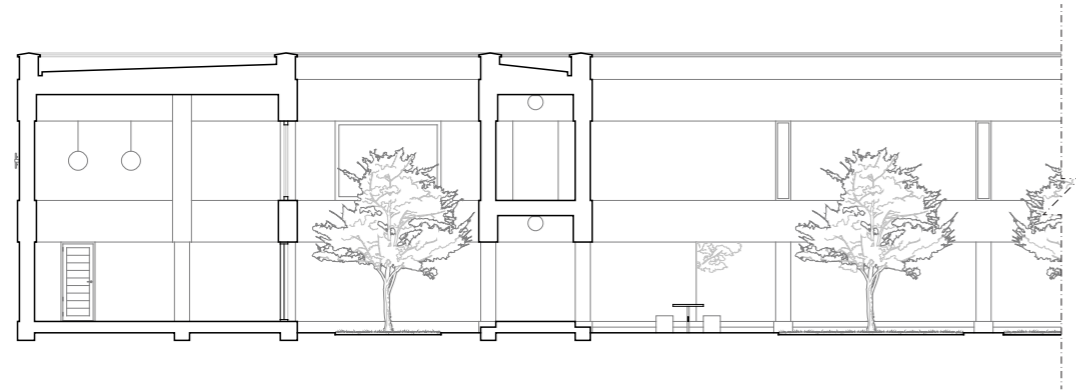




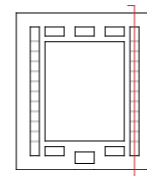
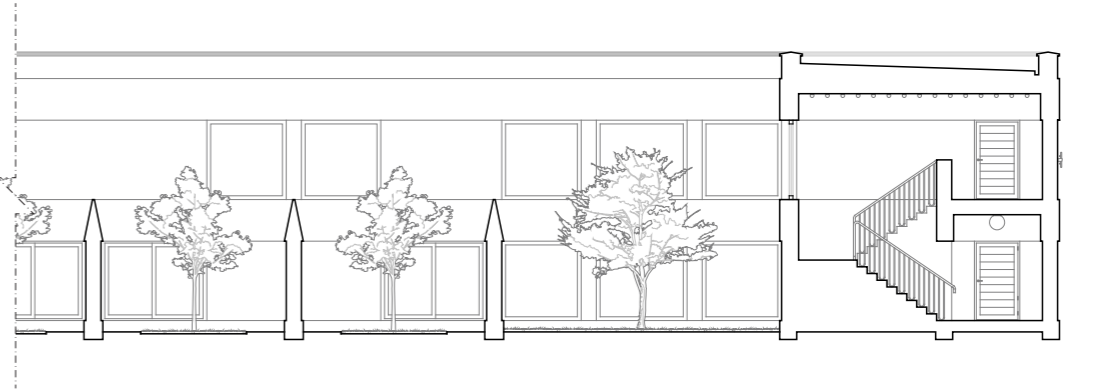
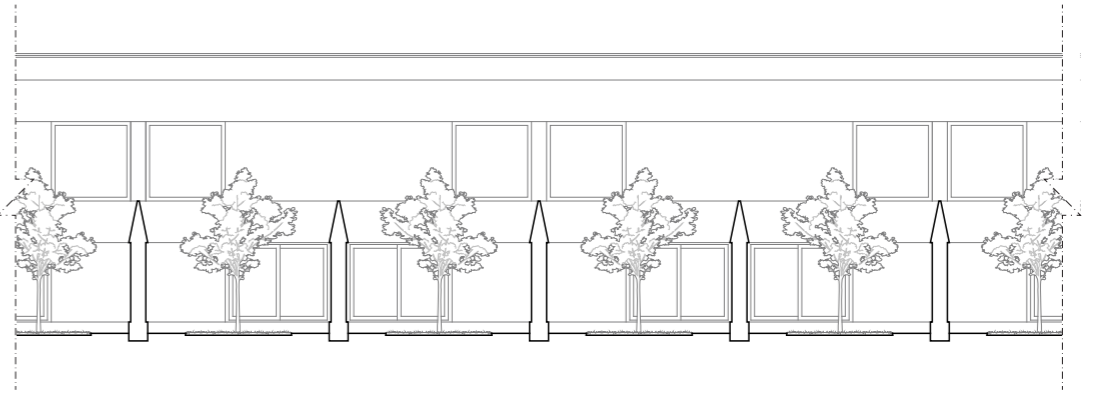
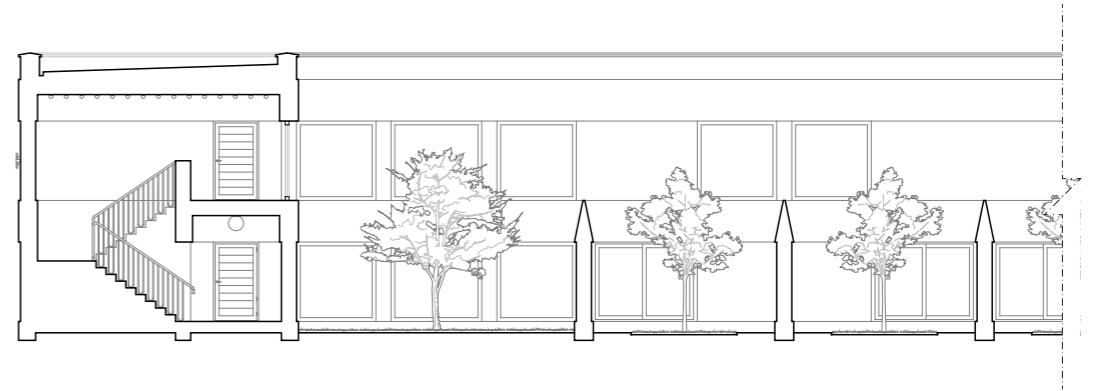
Section towards east, 1:200



Section towards east, 1:200

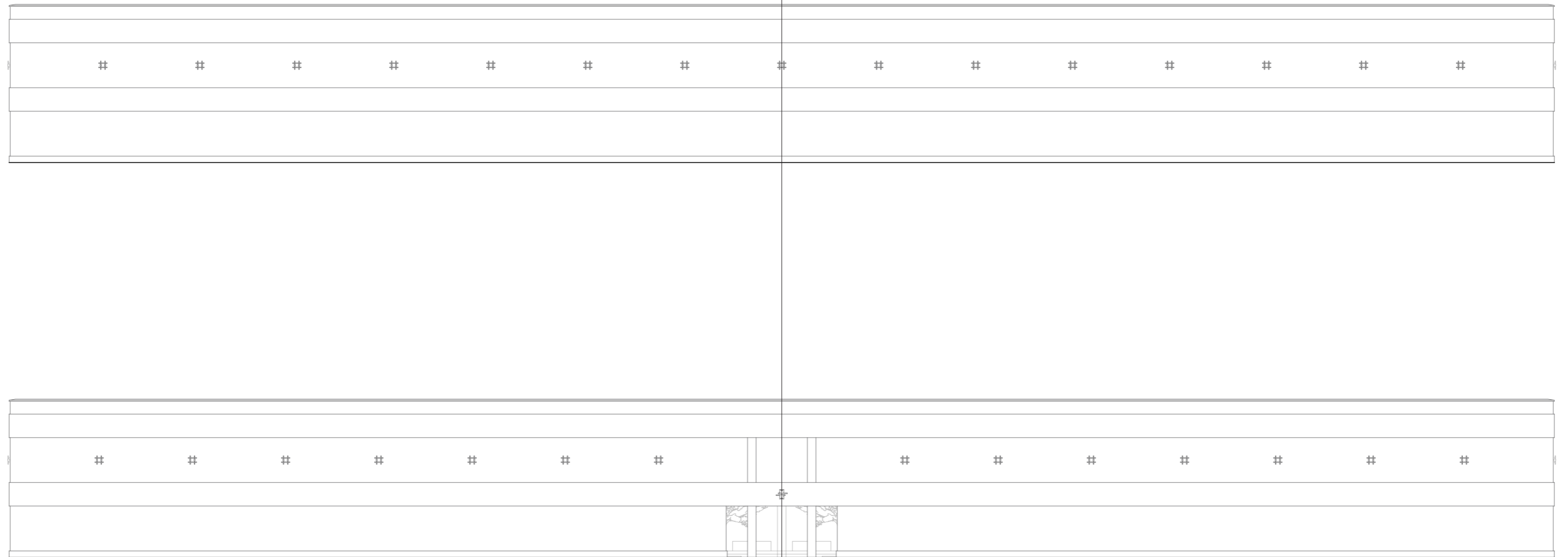


Section towards east, 1:200

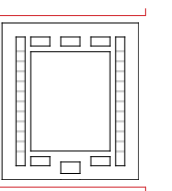


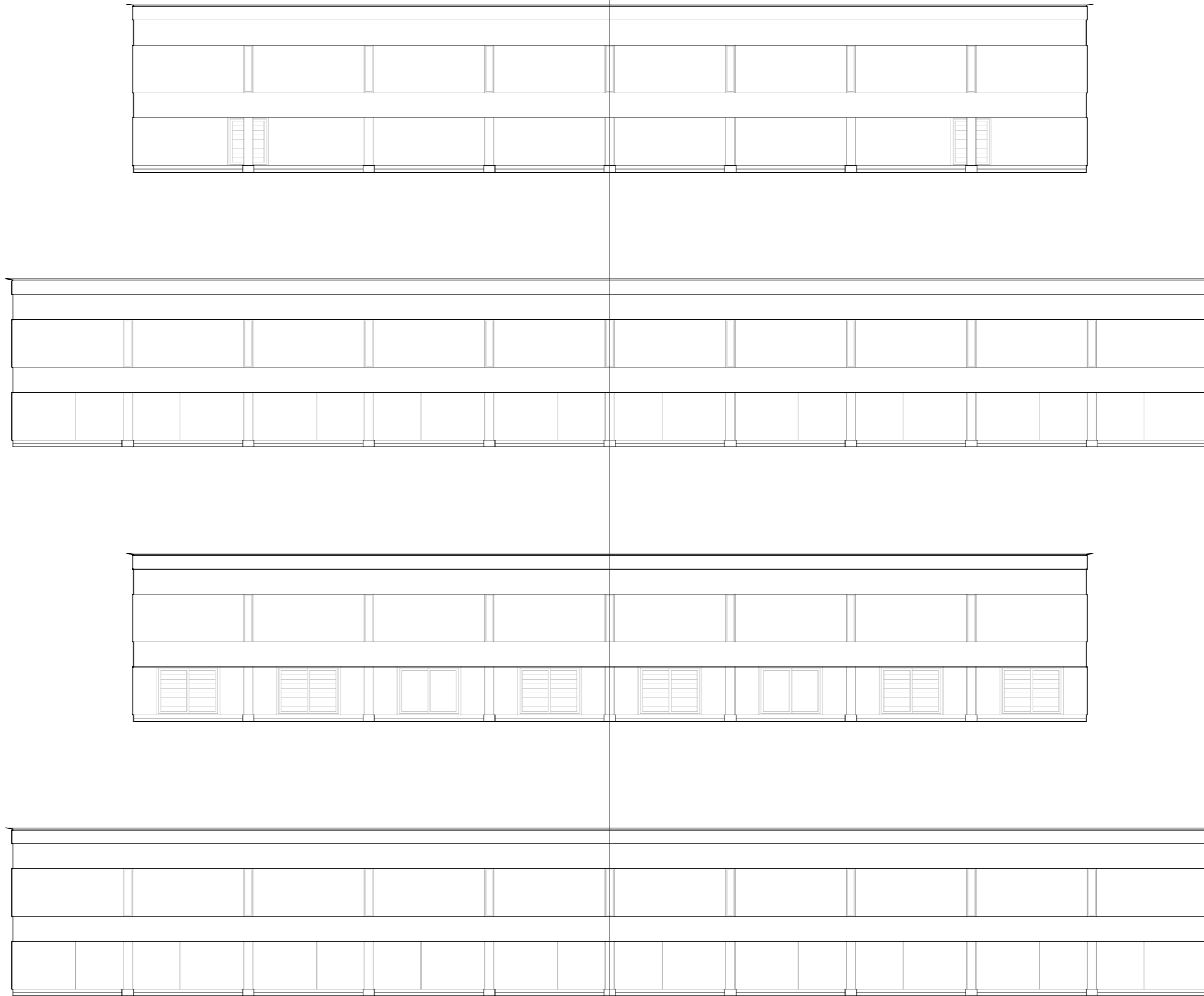
Section towards east, 1:200

16. Elevation

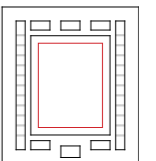


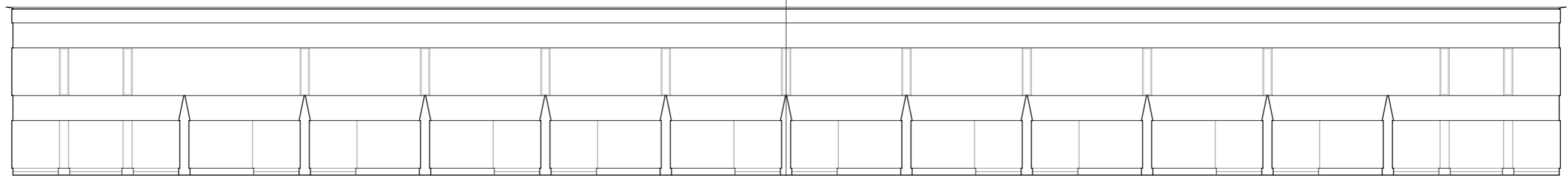
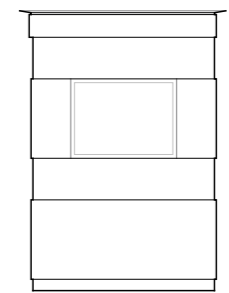
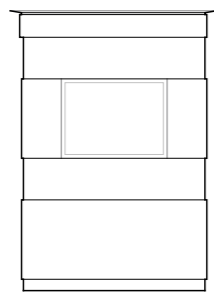
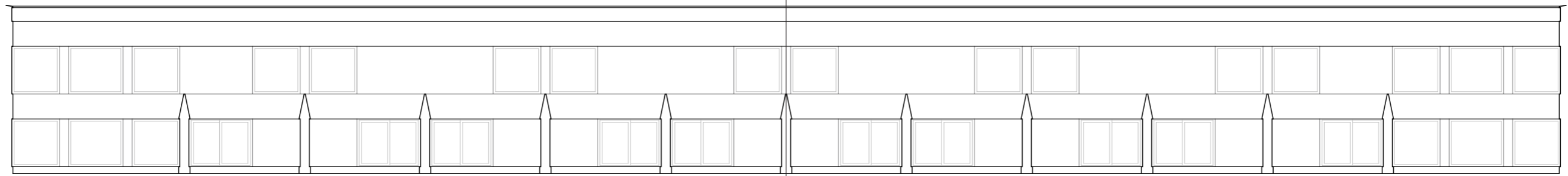
Northern and southern outer elevation, 1:200



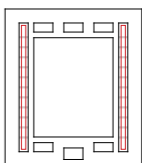


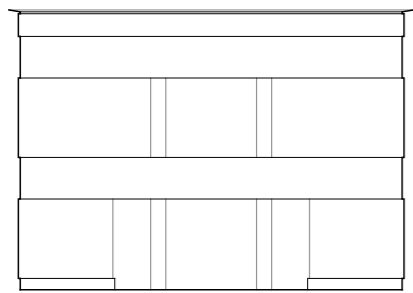
Northern, eastern, southern and western elevation of the central courtyard, 1:200



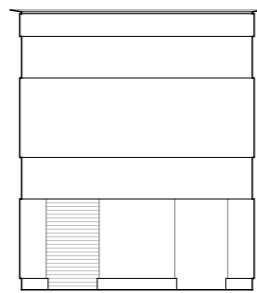


Northern, eastern, southern and western elevation of the cell courtyards, 1:200

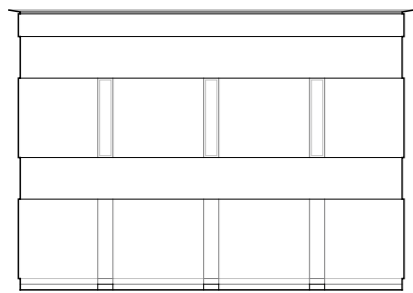
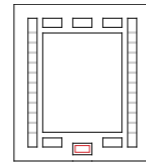




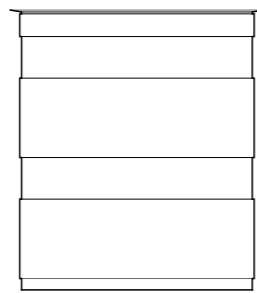
Northern



Eastern



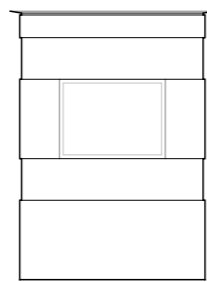
Southern



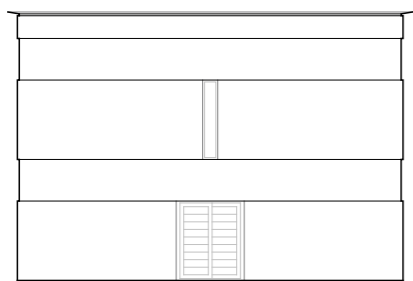
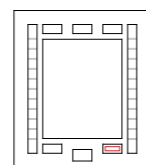
Western



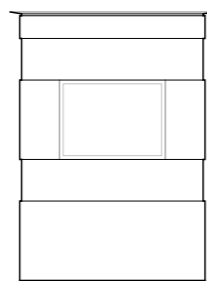
Northern



Eastern

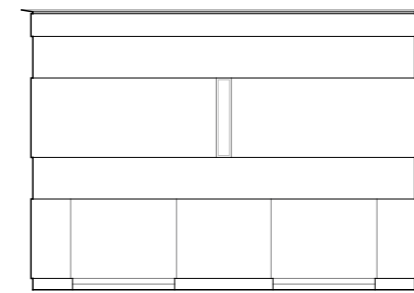
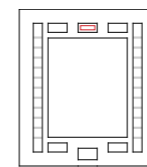


Southern

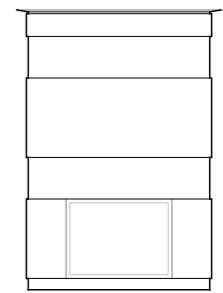


Western

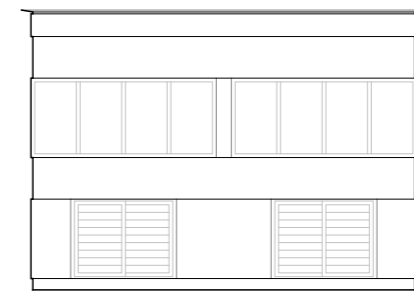
Elevations of entrance courtyard and visitor courtyard, 1:200



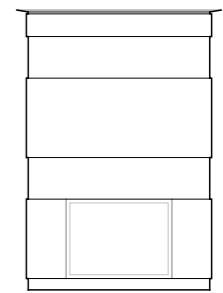
Northern



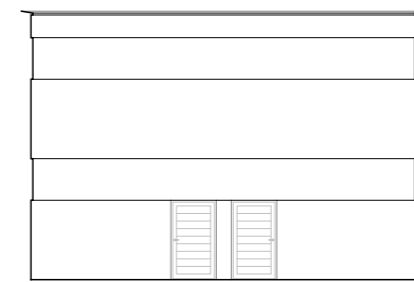
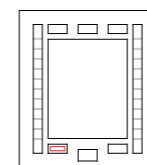
Eastern



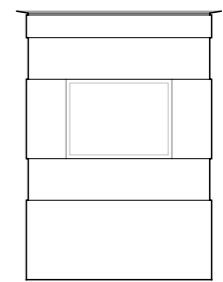
Southern



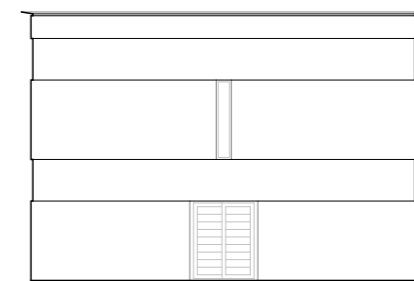
Western



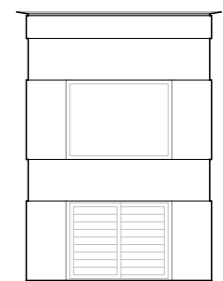
Northern



Eastern



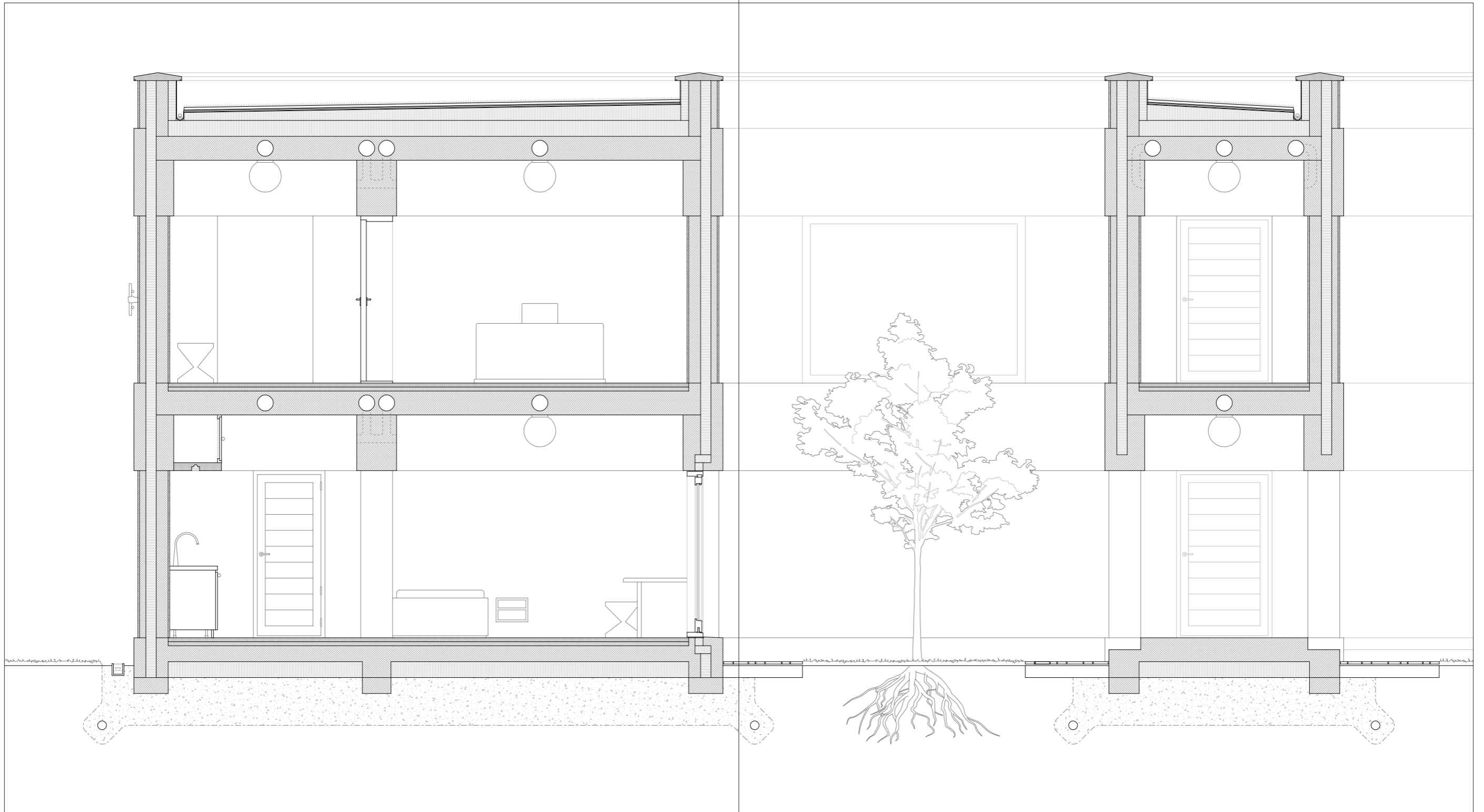
Southern



Western

Elevations of brewery courtyard and storage courtyard, 1:200

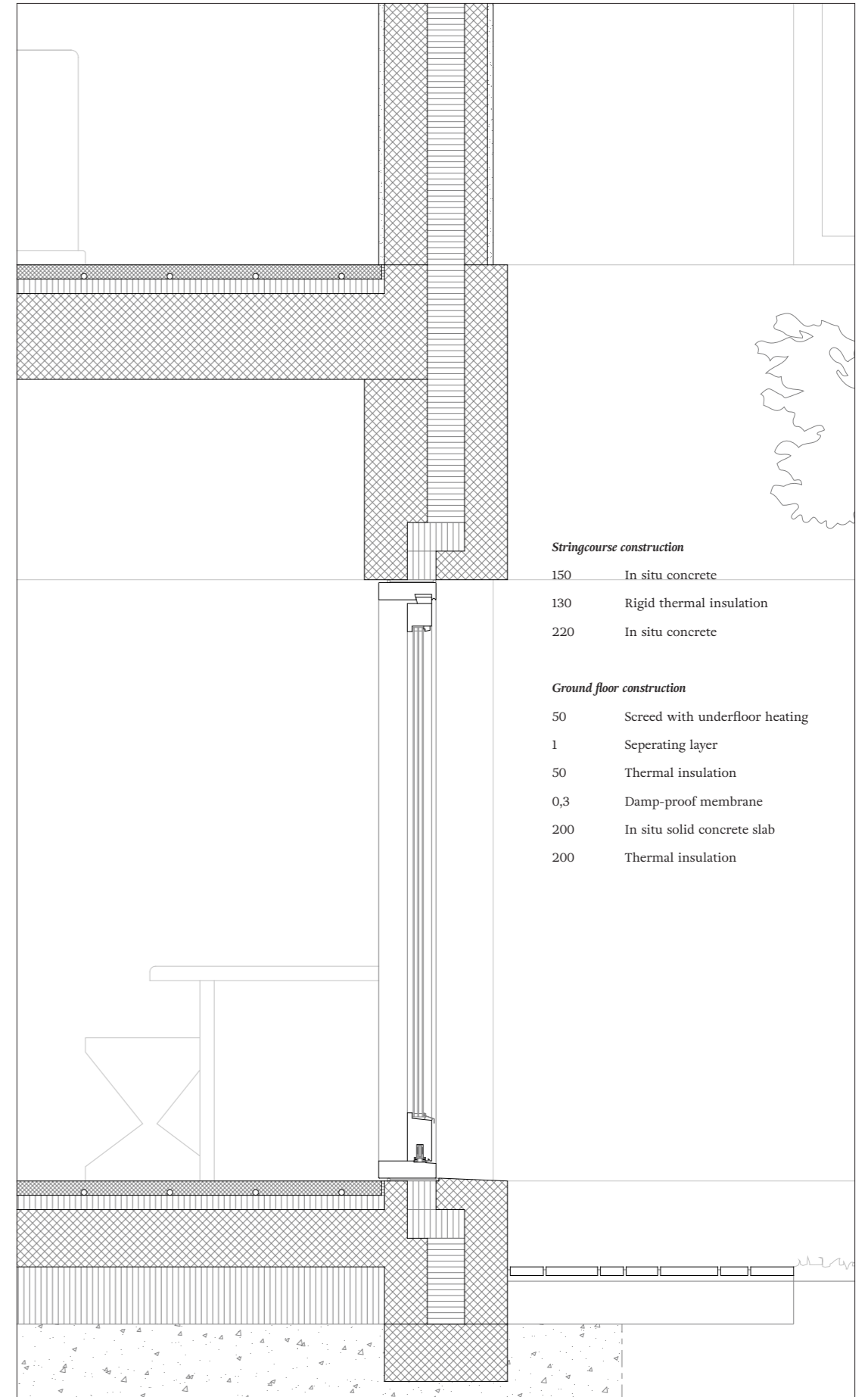
17. Detail



Detailed section, 1:50

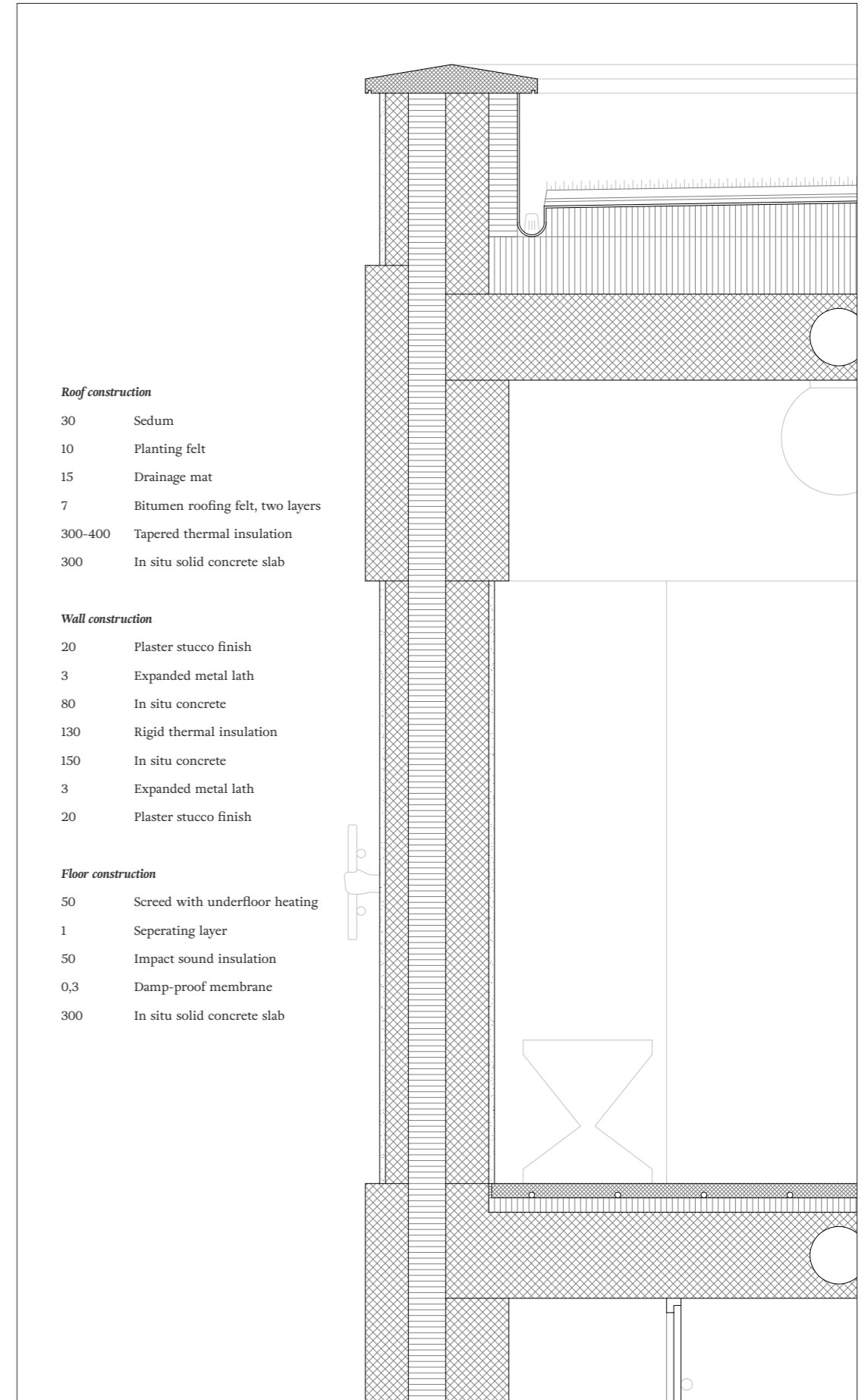


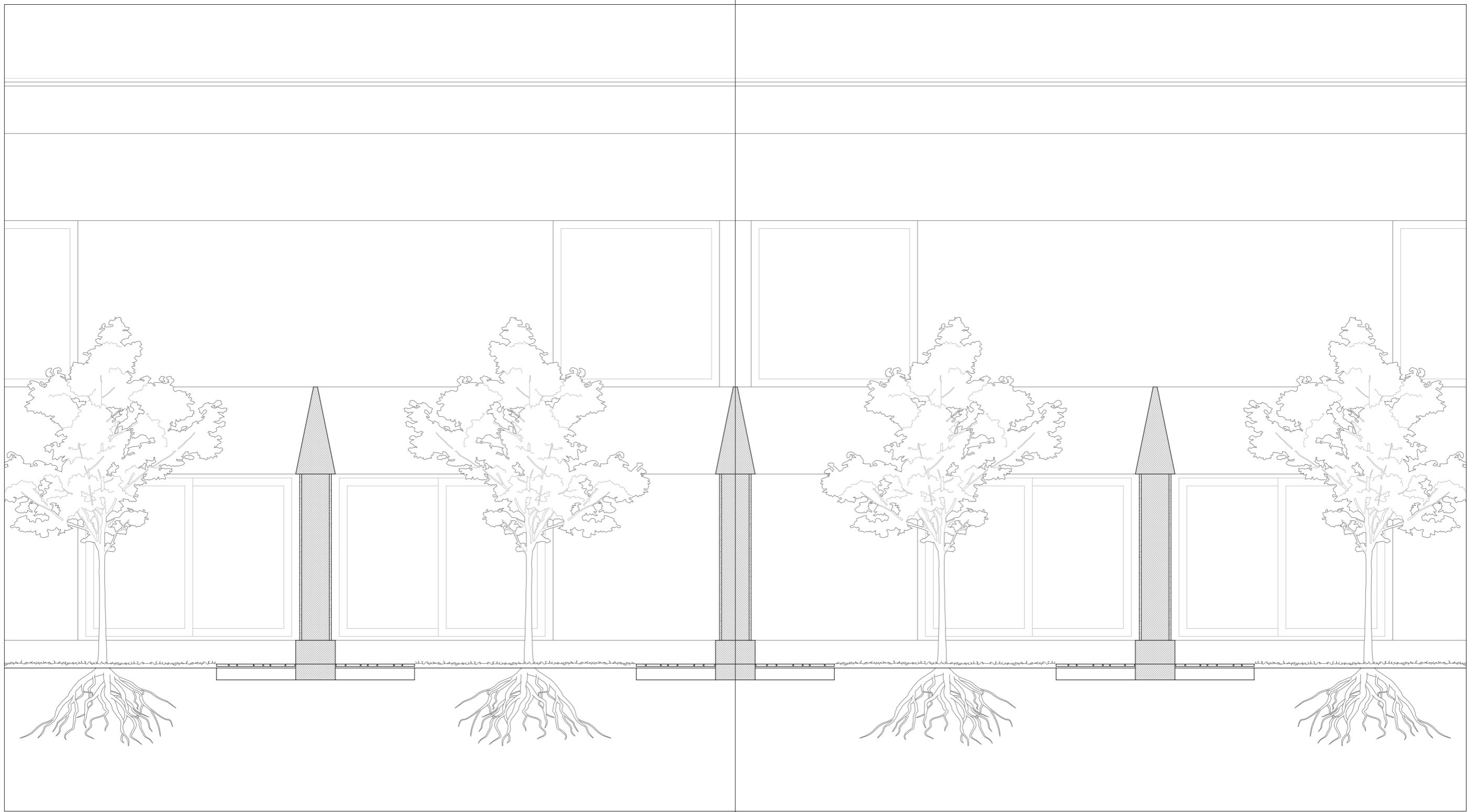
Detailed elevation and section, 1:20





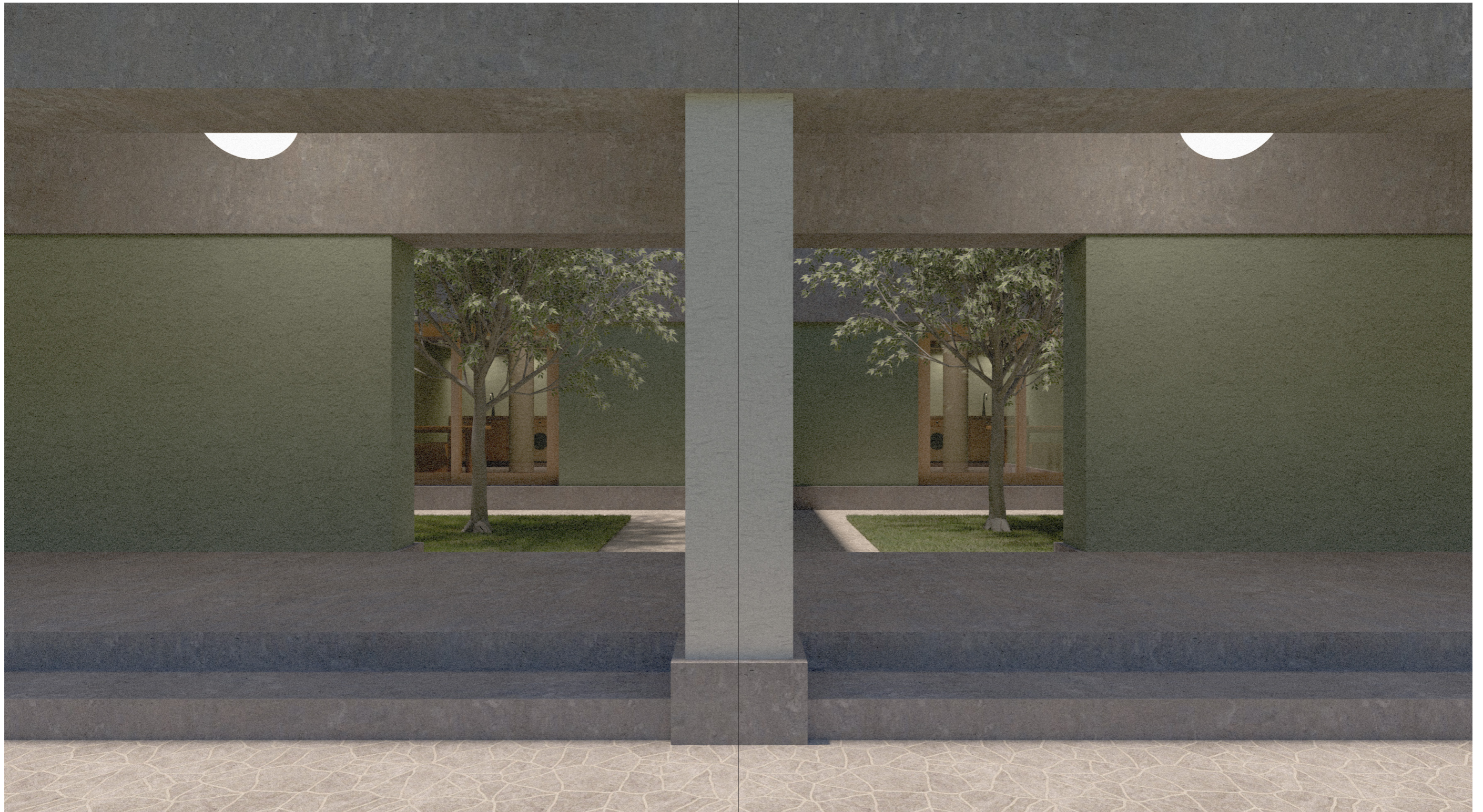
Detailed elevation and section, 1:20





Detailed section, 1:50

18. Perspective



The arcade along the cells



Cell



Brewery



Changing room



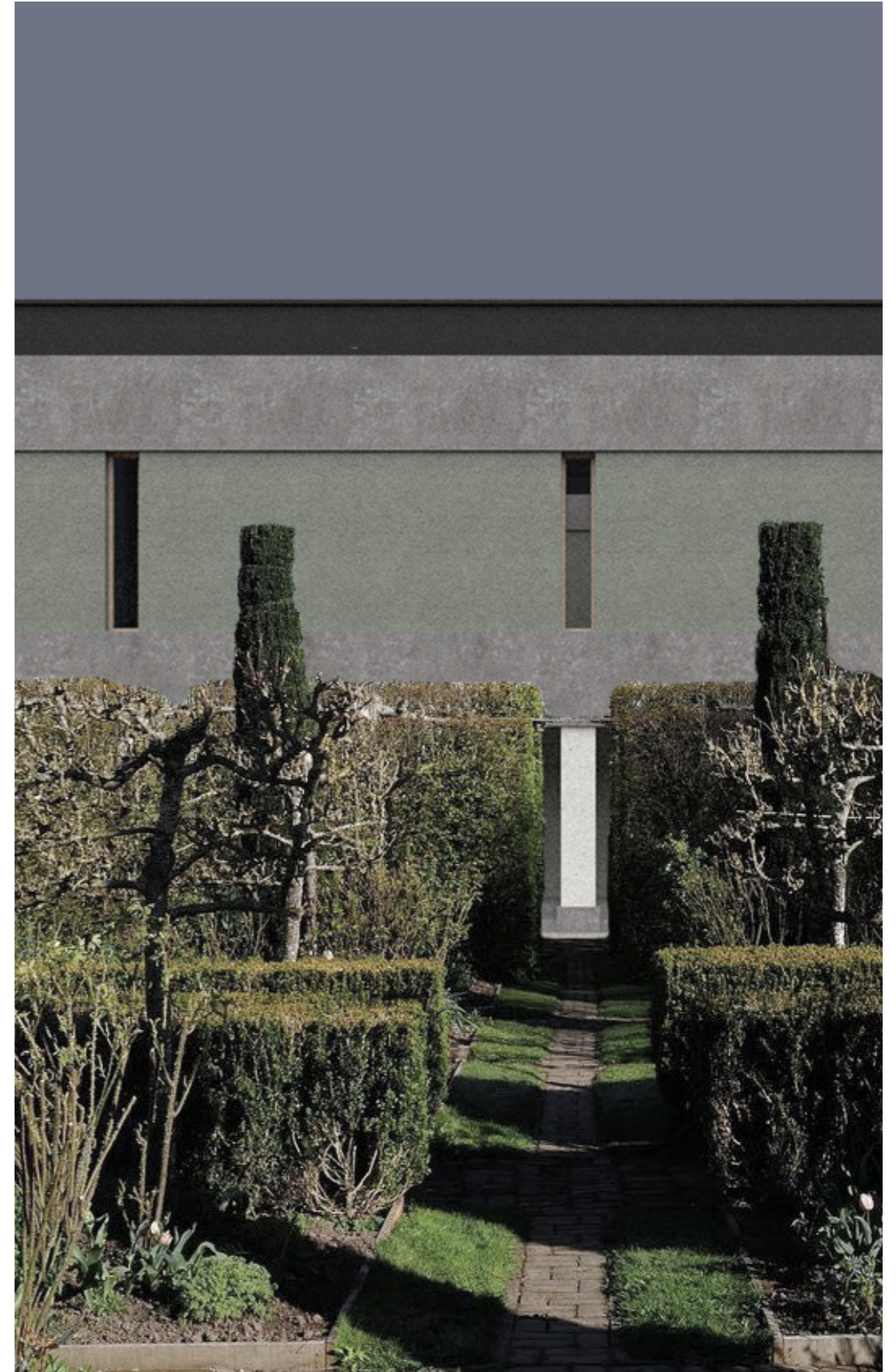
The arcade by the entrance courtyard



Security entrance and reception



Tree avenue facing the prison entrance



The garden within the prison

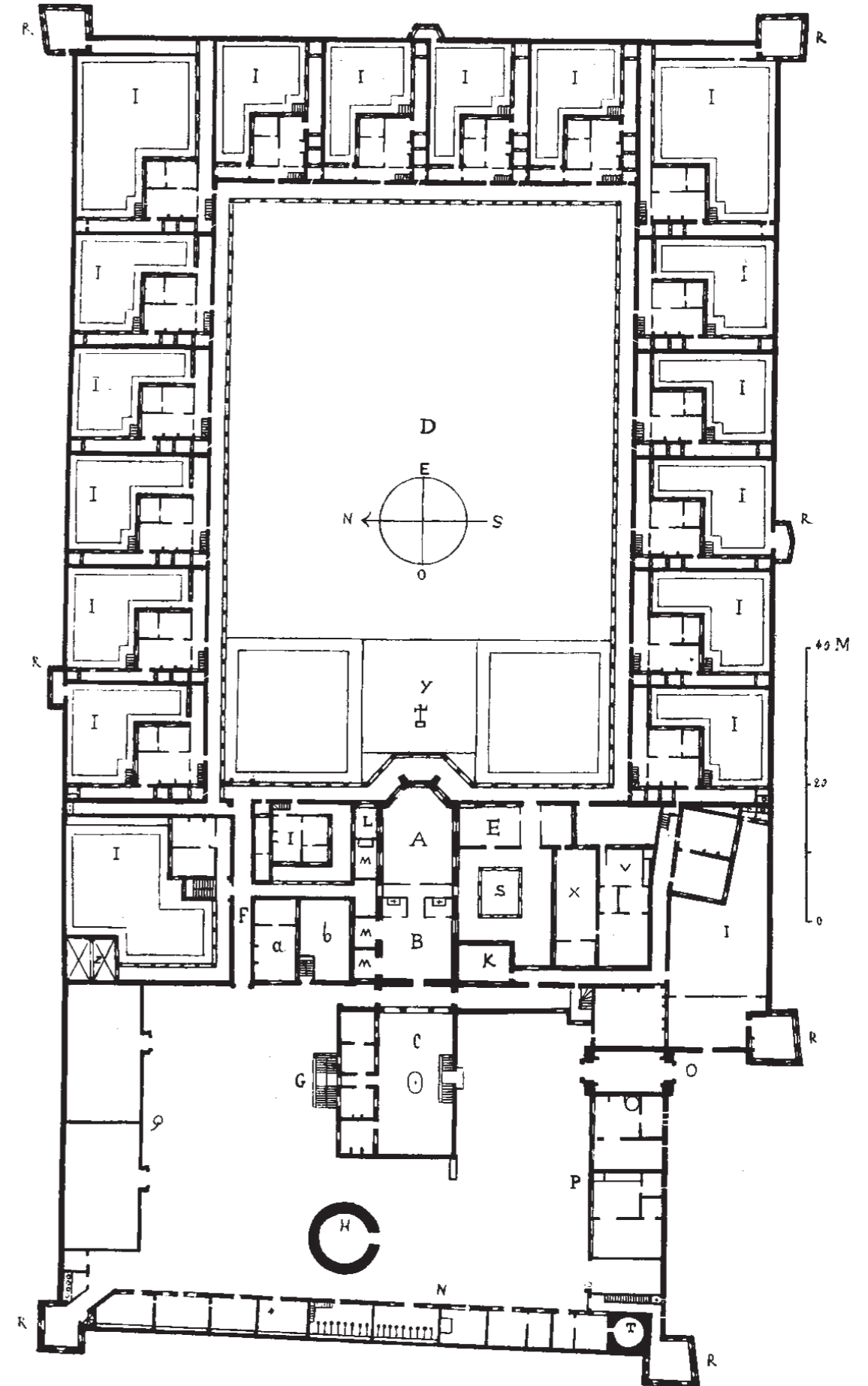
19. Conclusion

A cell and the cell, so different in their stark breed of space. One is empowered by human systems, the other so godly speaks its sober meaning; continence towards the life we are having, the life we had. Here one comes acutely aware of one's presence; here we are alone and the loneliness which posses the room. Yet how can such loneliness be in place in a room so fastened, rested in this world. A place of desolation shielded from the world by a firm gate between these realms of place and space. Through rituals the void foretells a place of this nature. The sole window and the lone door. The egress into the cell and out of its essence, rests within the deadbolt of these hatches. Withdrawn and open or inserted and locked; one limits the world; the room limits the world.

Those who dwell in the cell, offenders and anchorites, both carries their cross of their living; those who has retired from the world. Yet so differently others judge those two who both dwell in the fortresses which walls and unyielding gate builds a firmament between a world and the world. In a sense, these two forms of typology evidently perform two ways of dwelling. One may be witnessed as a nun, monk, criminal, or offender through how they dwell in their uniform. Walls, tunics, gates, hoods, cells, veils, cloisters, monasteries and prisons; all are they uniformed into one ritual of being. Still, those rituals who acts as a form of dwelling are sensitive in how one chooses to interpret those. The cell may become your home as well as your cage, conceiving different moods of the place. Sometimes may one genius of a place reside in the individual who dwell in space. Corners turn to nooks, yards into gardens, and cages into homes.

What then if the building of a prison rises as a monastery, as in reforming itself into a different breed of not penal but remedial space. A spirit that speaks of contemplation, tranquility and soberness; may it possibly then better vessel the ambition of a Swedish prison. One may have once gone and looked for God in such buildings, yet one may now seek their own spirit in them.

*Next page:
Fig. 9. A typical
plan of a Carthu-
sian monastery,
drawn by Eugène
Viollet-le-Duc.*



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