Garden of Learning Lanterns

a primary education facilities from, by, and for the neigborhood

by Mario Lingga Wisnugraha

Wanted : a new type of school

The role of a school within modern society has fundamentally changed from a formative institution into a service agency such as public library, town hall, and museum. It educates not only the children attending the school but also the neighborhood.

The graduation project explores a new typology of primary school with emphasis on active, open, garden-based pedagogical approach. The project is located in Oude Westen, a neighborhood in the city center of Rotterdam.

Towards Rotterdam: a healthy city

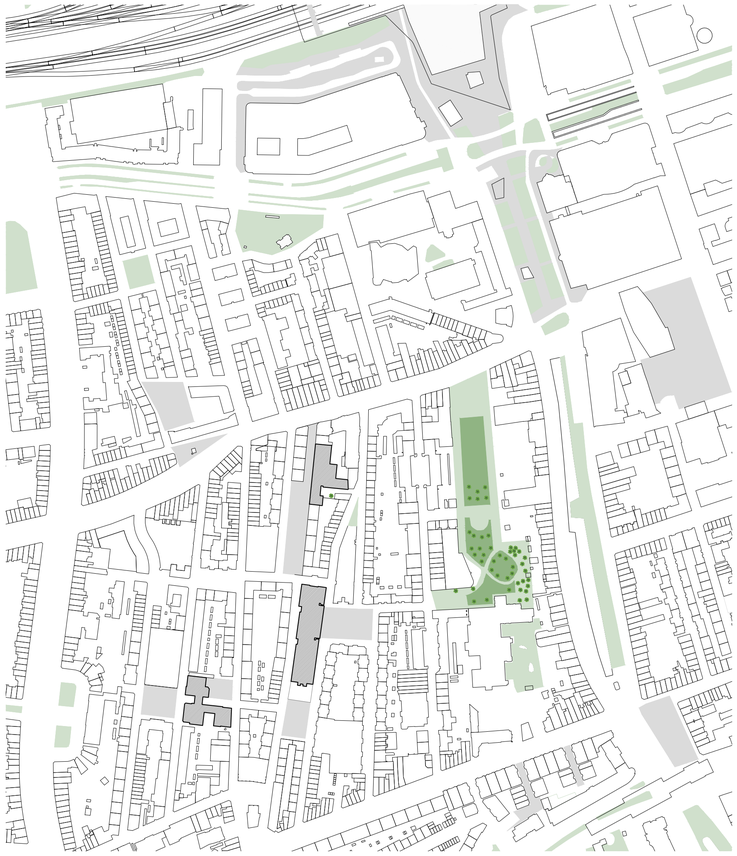
The municipality of Rotterdam has ambition to reach a healthy city by 2020. A healthy diet is high on the list of priorities and the municipality is supporting initiatives to ensure that healthy food is available for resident of Rotterdam.

Oude Westen is a neighborhood in the city center of Rotterdam in which is lacking meaningful green spaces. However there are some playgrounds and squares which can be transformed into productive gardens where the children can learn from and the neighborhood can involve and get the benefit from it as well.

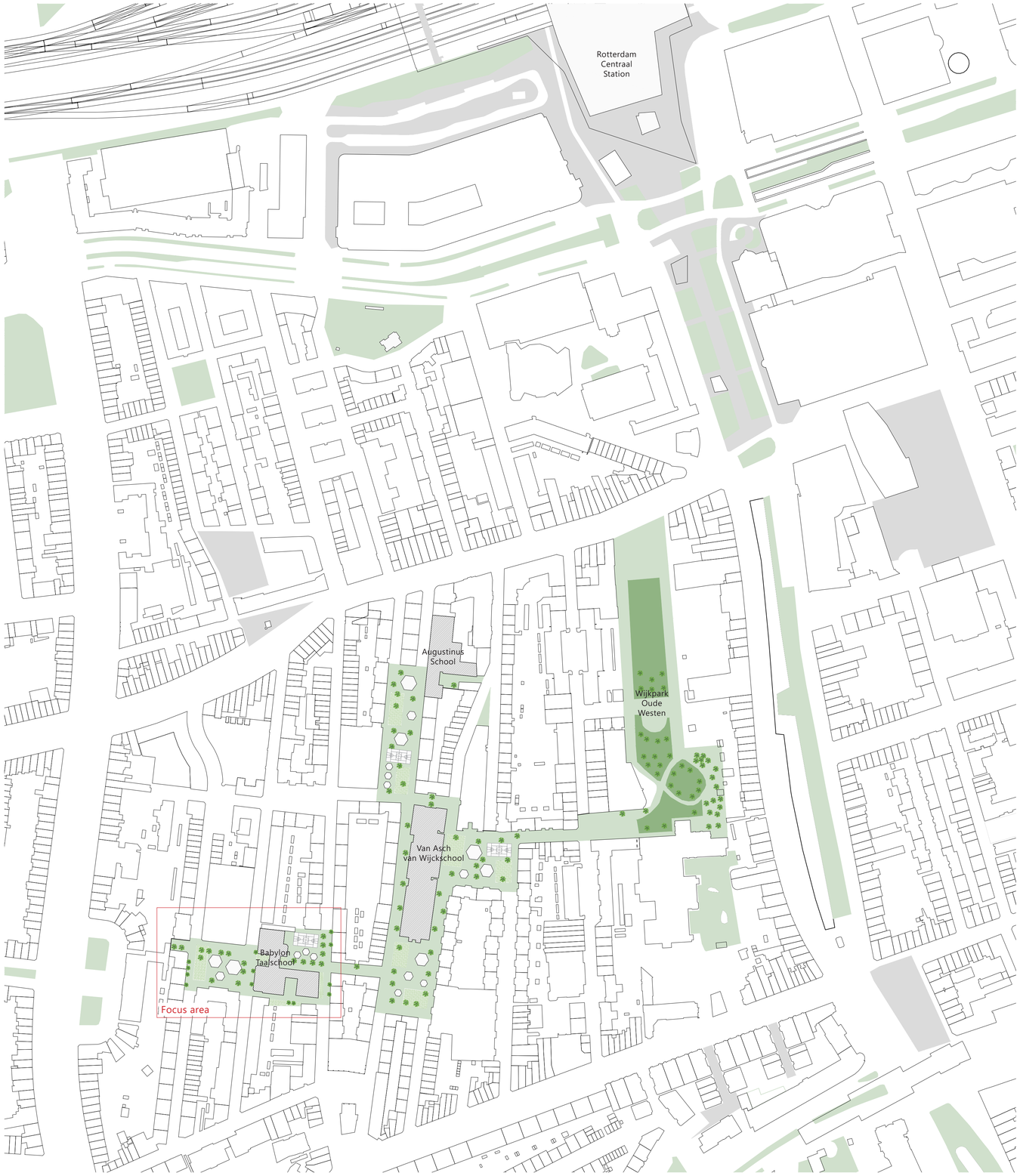
Green belt of Oude Westen

There are three different primary schools in Oude Westen that are close to each other. Beside of that, there is a neighborhood square adjacent to every primary school. Currently, the livability of the squares is quite low. It needs activity generator to make the square alive. If it used as satellite to the school as outdoor-green learning spaces, the square can be re-activated and the school can be more open to public. Furthermore it can create a green belt with the existing Oude Westen park as the only green space in the neighborhood.

This project will elaborate the architectural design principle in Babylon Taalschool in which it can be replicated in the other two primary school. the existing primary school is transformed into a garden for everyone with urban farming utilized as the binding agent. The school is not only a learning playground for the children, but also a social and cultural center for the neighborhood.



Oude Westen current situation
scale 1 : 500



Oude Westen new situation
scale 1 : 500

Urban garden in the block

The transformation approach in this project was taken by taking into consideration the history of the school. Originally the building not only contains the school, but also community function for the neighborhood. After renovation in 1991, the school function was extended. It is now occupies the whole floor of the ground floor. Thus the layout of the building and one side of the façade were changed.

The new transformation has the similar idea with the original design of the building; to combine the school with community function. However, the original design tends to separate these two different functions while the new ambition is to connect these two.

To create a space for everyone, the layout is designed to be more open, more visibility from outside to inside and the other way around, and connection space in the middle with emphasize to outdoor spaces. Thus, there are four main intervention in the floor plan; 1 – to keep the west and east façade as it is, with façade restoration in the east side; 2- to demolish interior walls and changed the window façade in north and south side; 3- to demolish the floor and roof construction in the middle of the building to make a connecting courtyard.

As the result, the building is separated into three different blocks which are connected with outdoor spaces in between. The three blocks has different function, the school block (primary school function); the sharing block (library and multi-purpose classes); and the hobby block (gym and green house).

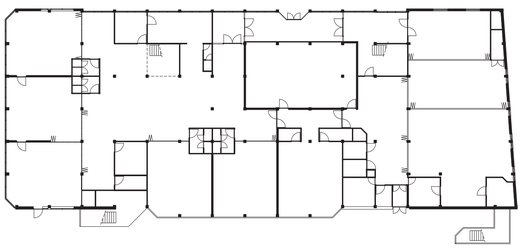
Beside of that, to replace the demolished classrooms, intervention is also taken place in the adjacent square (Adrianaplein). Four different learning pavilions are deployed to promote active, outdoor based pedagogical approach. In combination with that, gardening patches also spread around the area, as a tool to open the school and invite the neighborhood to be part of it. In the end, the neighborhood blocks are transformed to have a hidden courtyard inside.

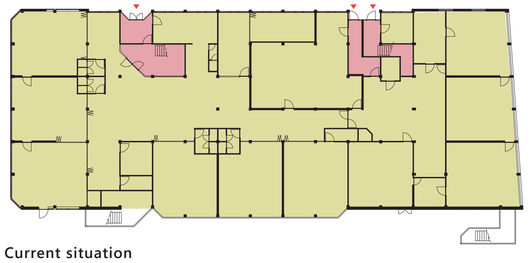
The school from Adrianaplein

East facade

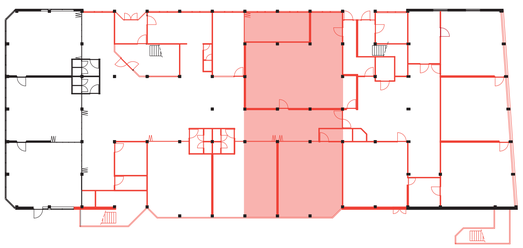
north facade

Original design

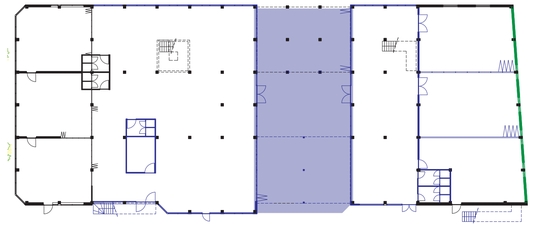




Current situation



New intervention



school function

community function

entry

connecting outdoor space

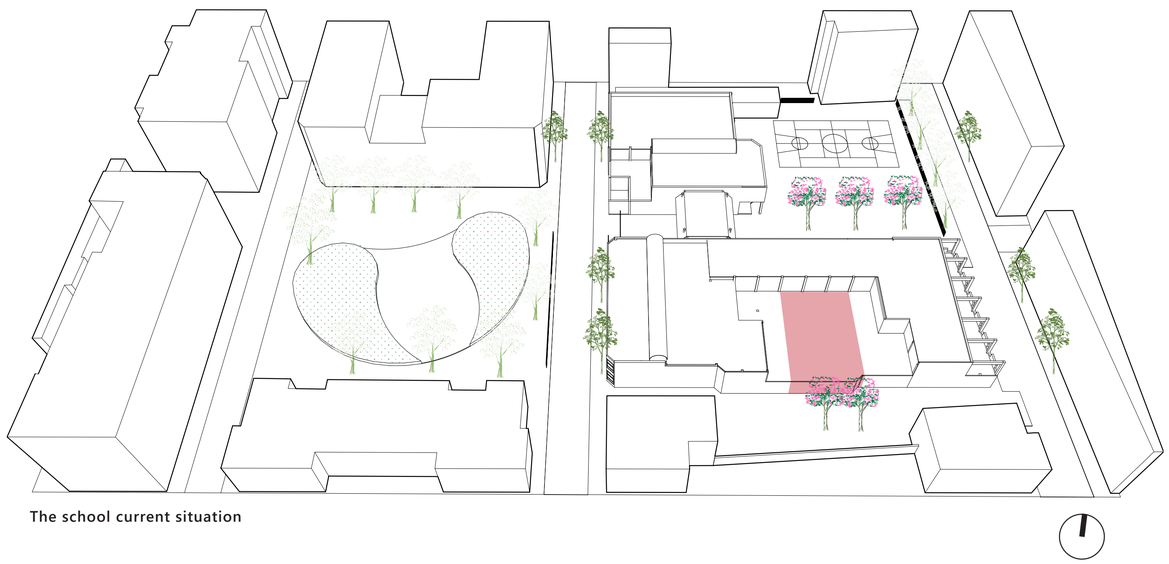
wall/opening demolition

floor/roof demolition

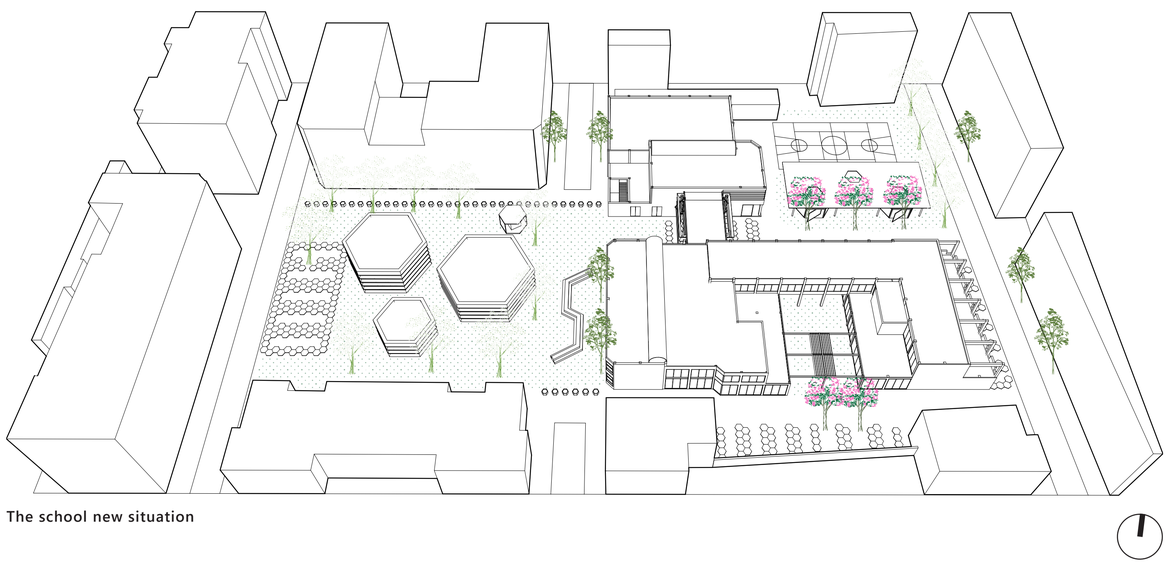
new wall/opening

new floor

facade restoration

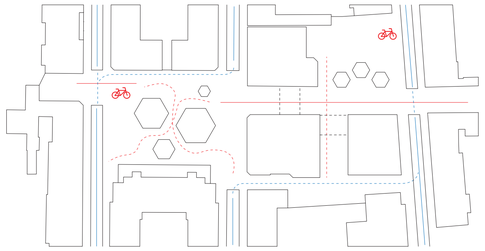


The school current situation



The school new situation

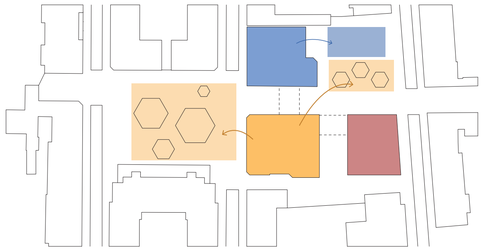
circulation



car

bike & pedestrian

building programs

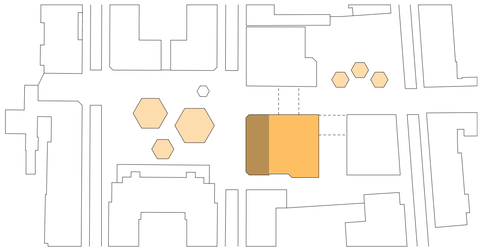


school block

hobby block

sharing block

classrooms

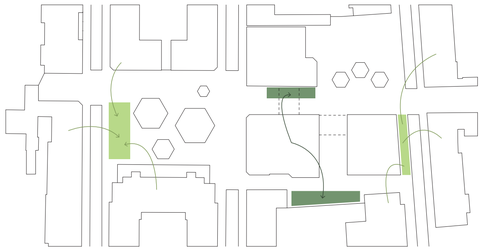


traditional classrooms

open classrooms (inside)

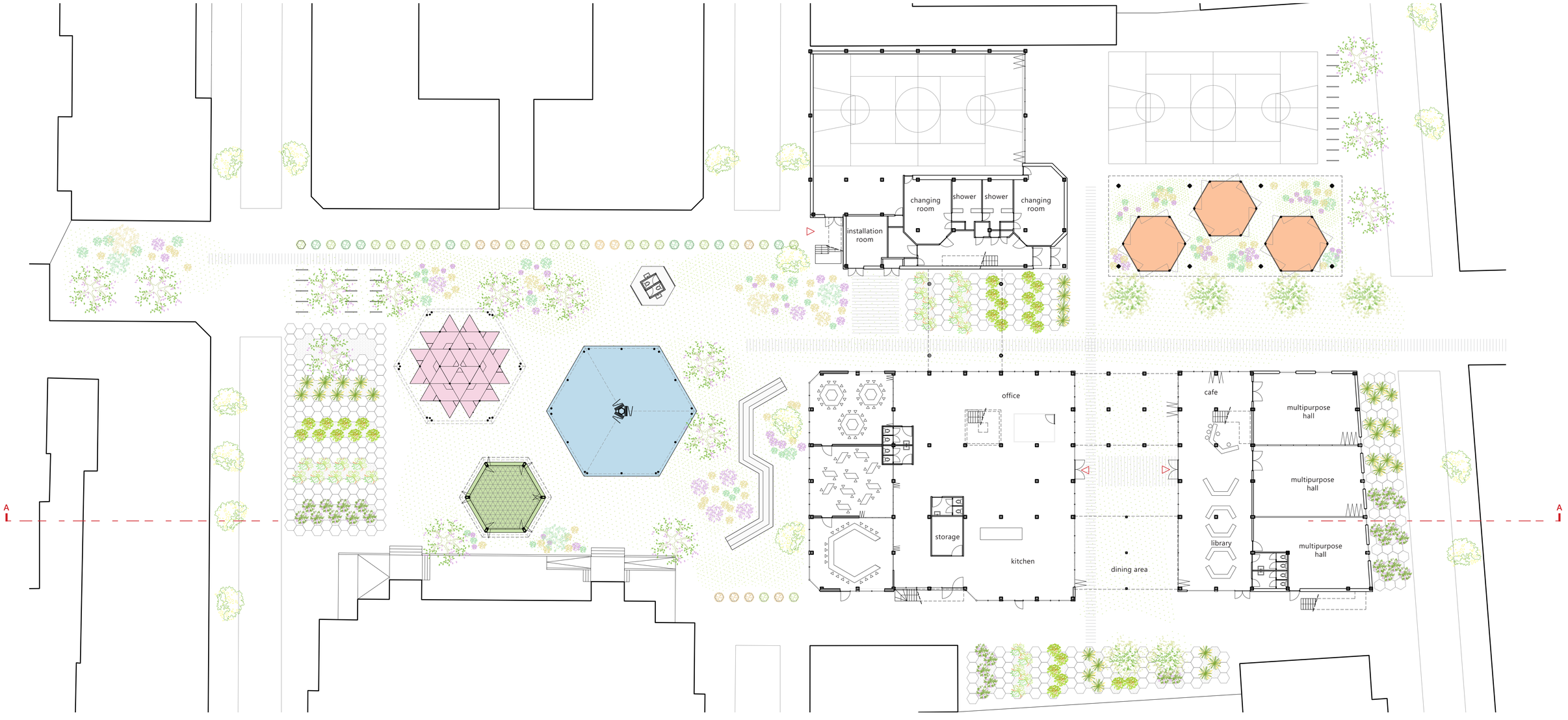
outdoor classrooms

vegetable garden



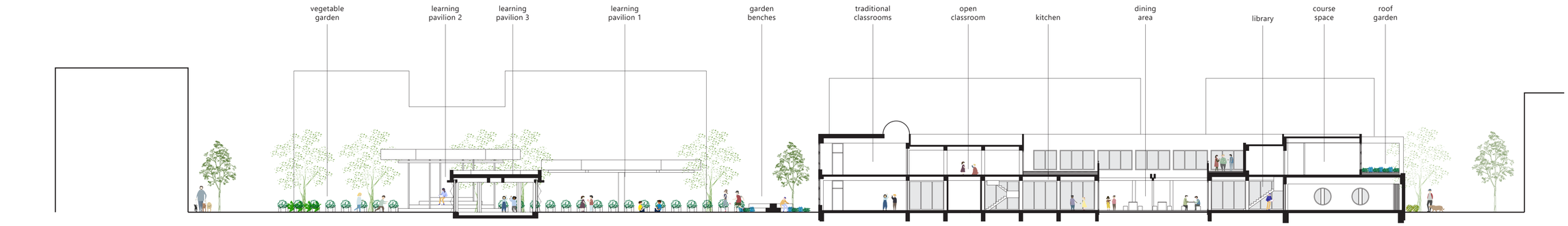
school (for students)

neigborhood

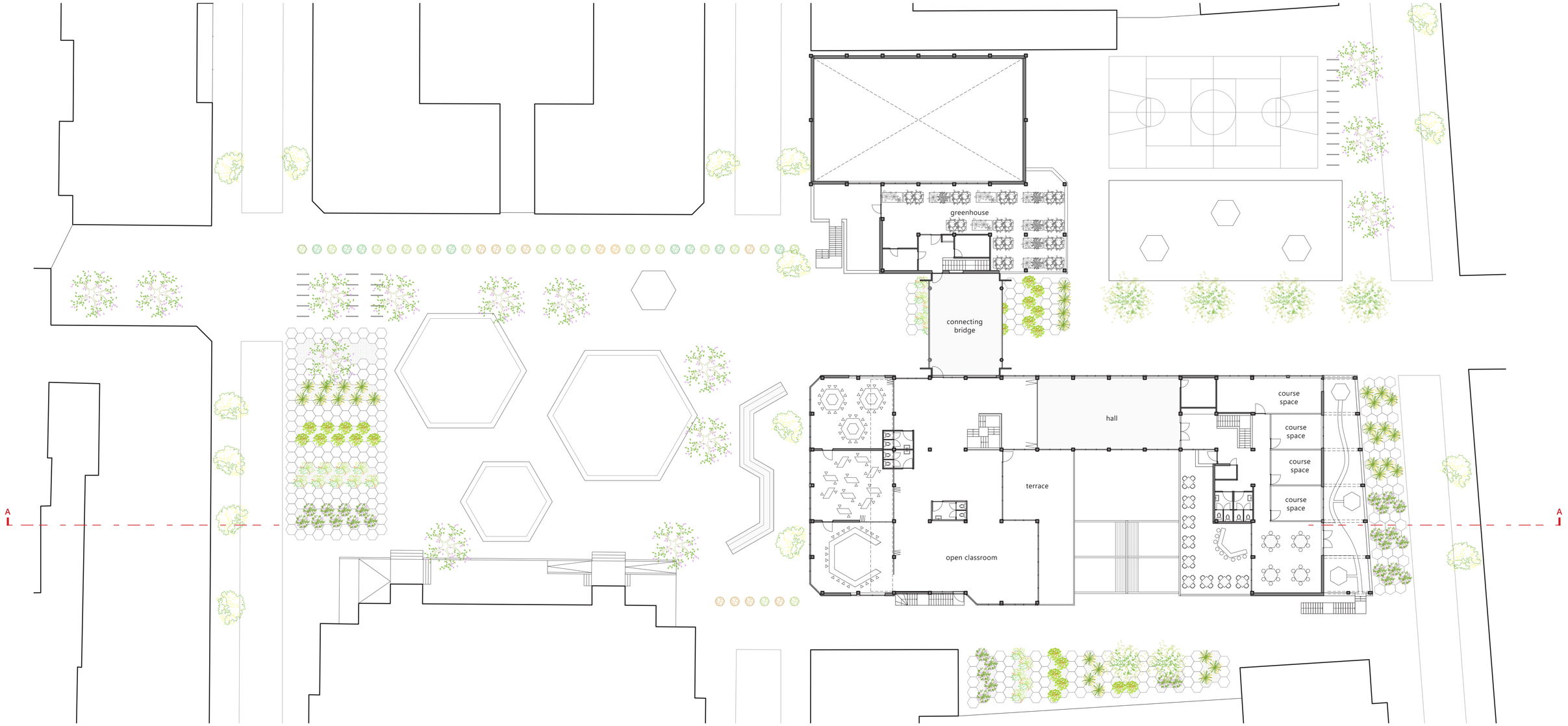


Ground floor plan

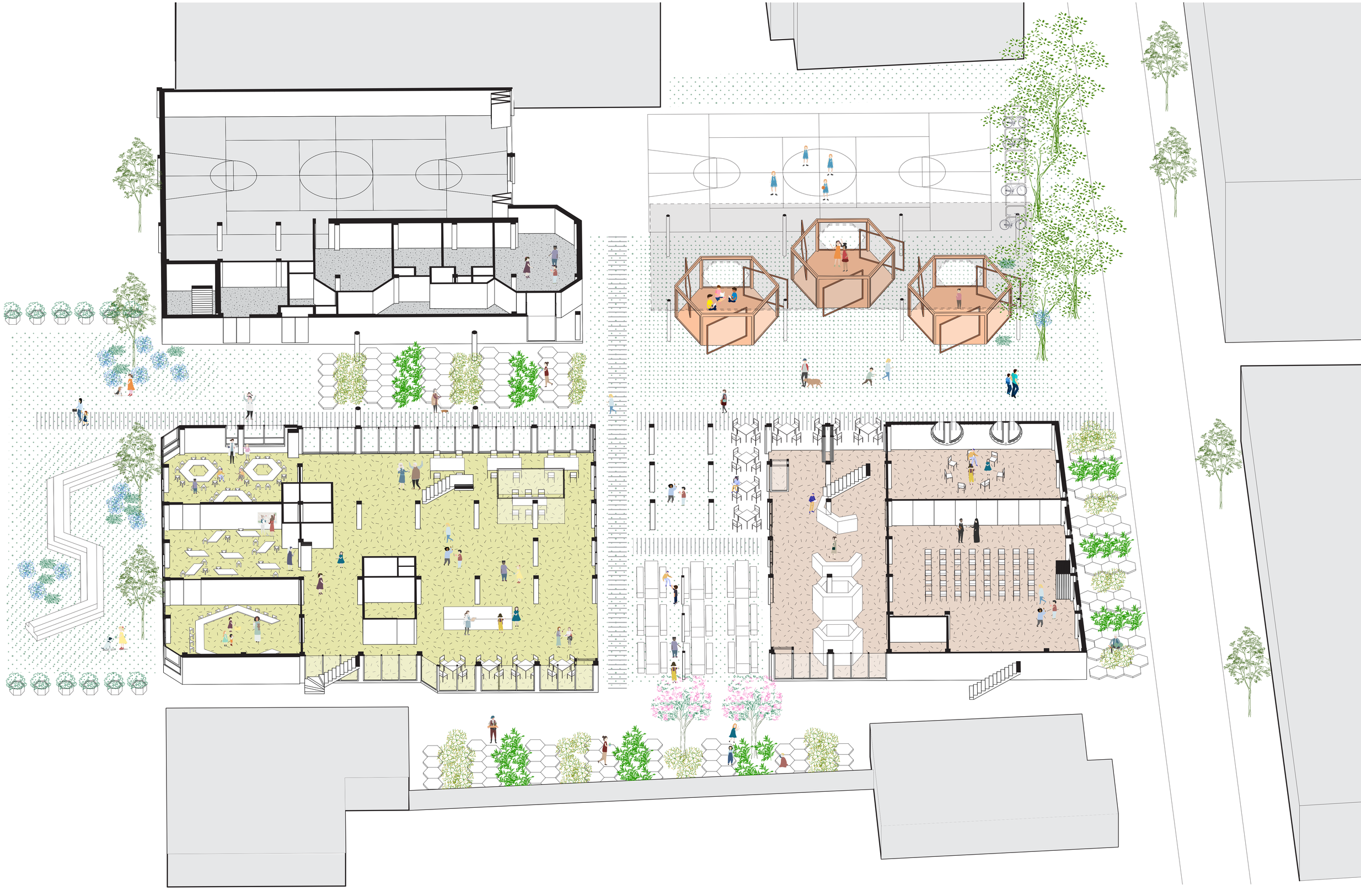
scale 1 : 200

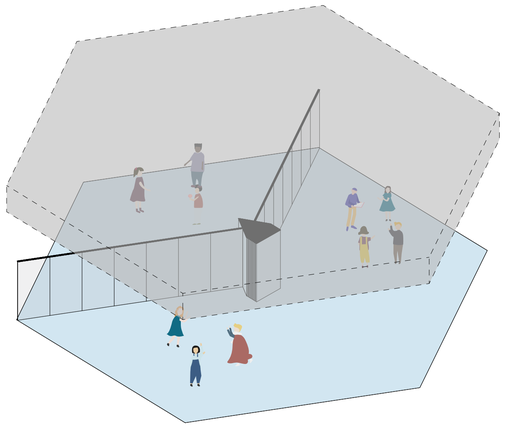


Long section
scale 1 : 200



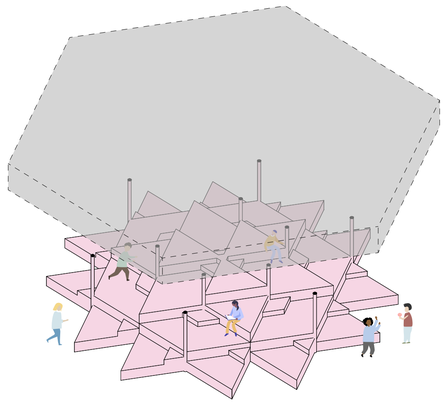
First floor plan
scale 1 : 200





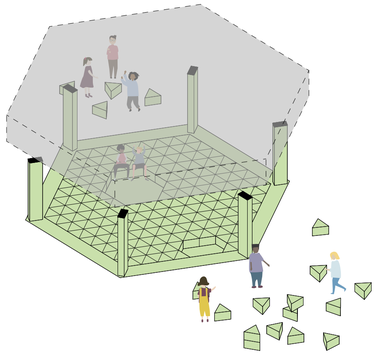
Learning pavilion 1

This is a giant mushroom! It is a flexible space to learn. It has flexible panel which can divide the space into three spaces. If you are the teacher and need to give lecture, place yourself in the outside boundary, so the student can enjoy the view of the garden.



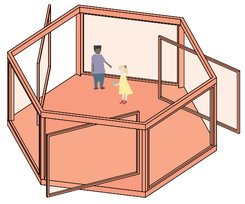
Learning pavilion 2

Watch your step! This space has various stacked triangular platforms. Reach the highest platform to see the view from the top. If you are afraid of height just relax and sit in the lower platform. Each platform can fit for 2-3 children to occupy.



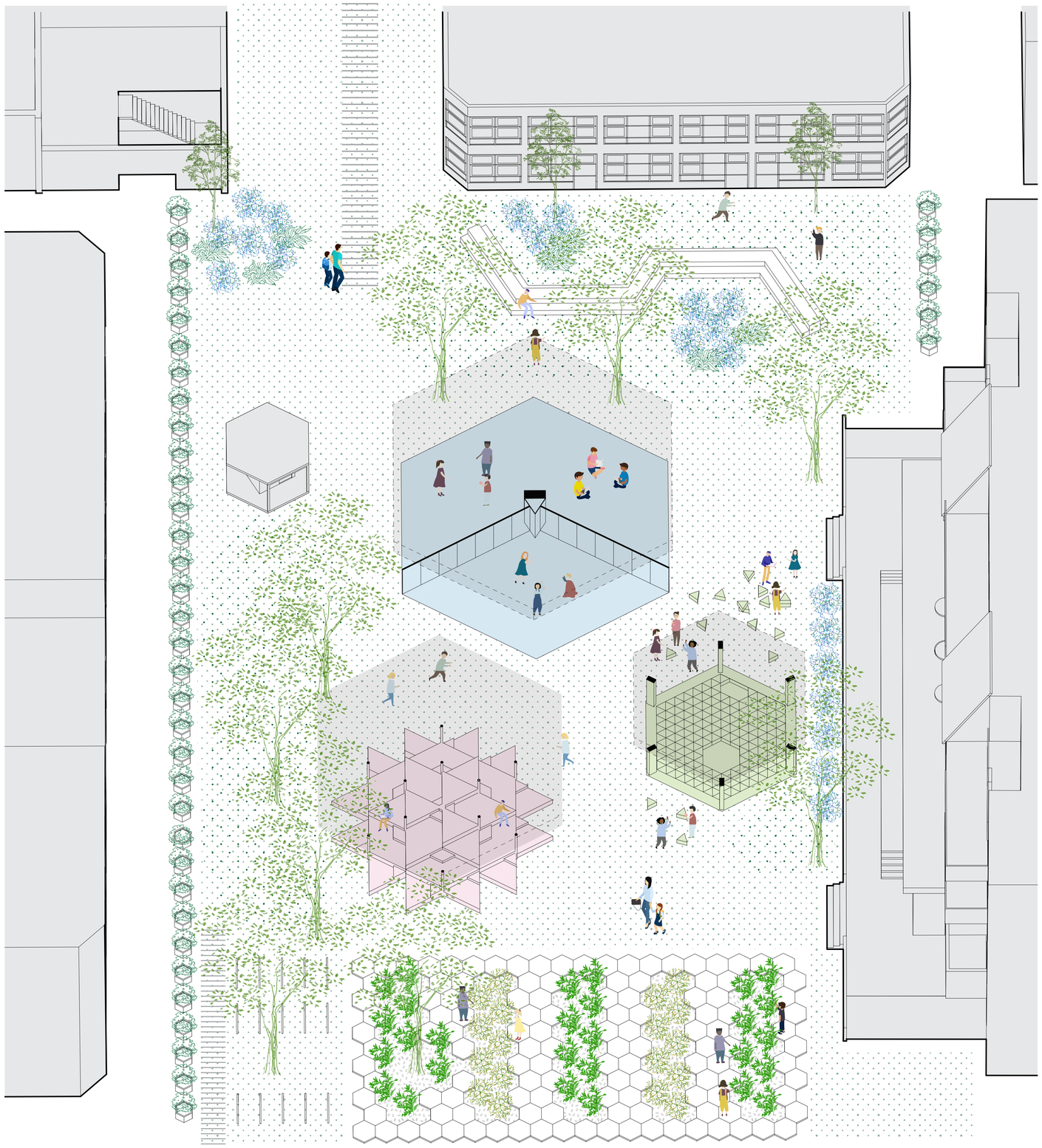
Learning pavilion 3

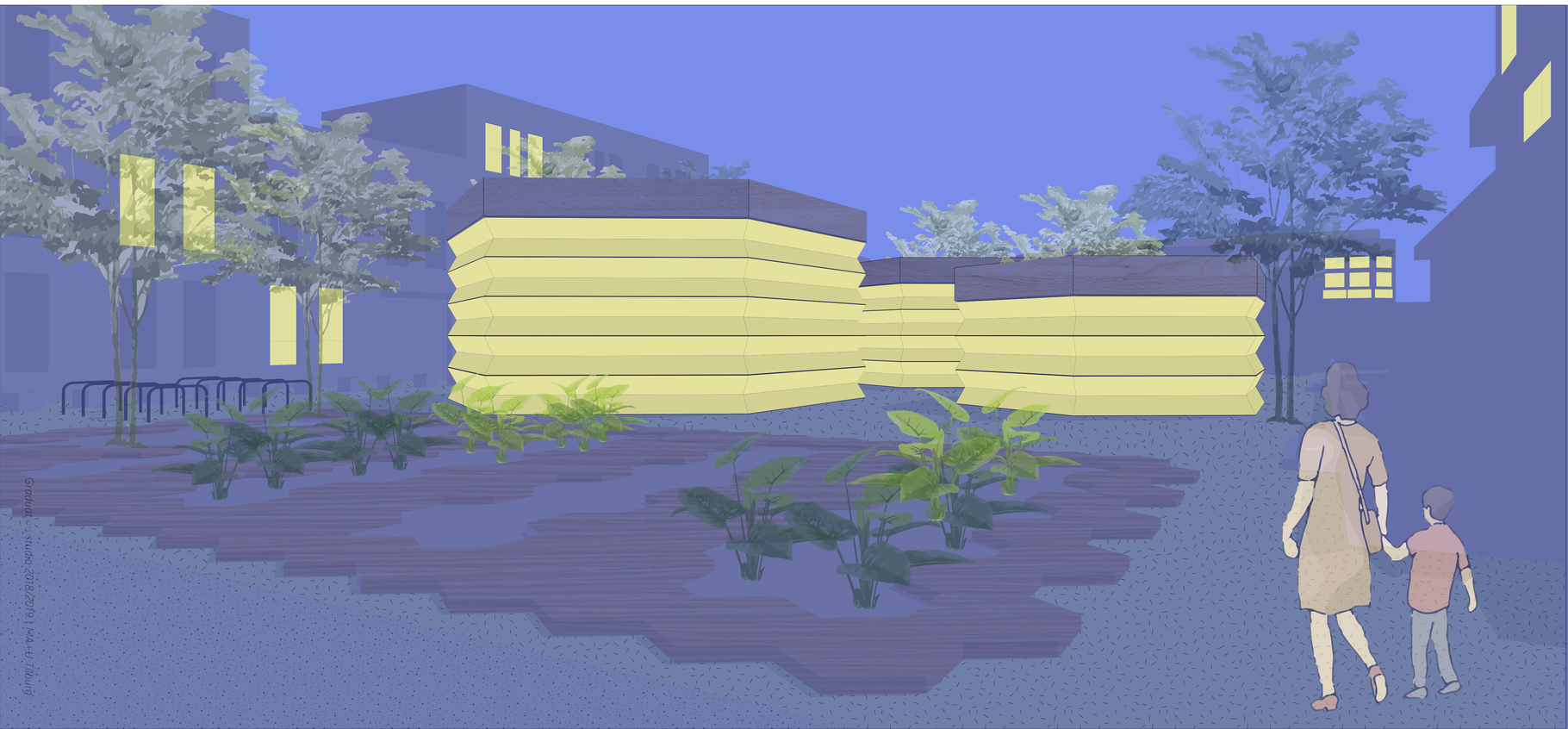
Take your block and build something! This space has a lot of triangular blocks. You can one outside and use it as a chair. You can take several of them to make a desk. But don't take the blocks home; you need to put it back after you are done.



Learning pavilion 4

If you are looking for quite space to escape, this is a space for you. You can concentrate better here, while still enjoying the garden and what is happening outside. The pivot façade can also be used as a divider. So two children, one pavilion, not interrupting each other.

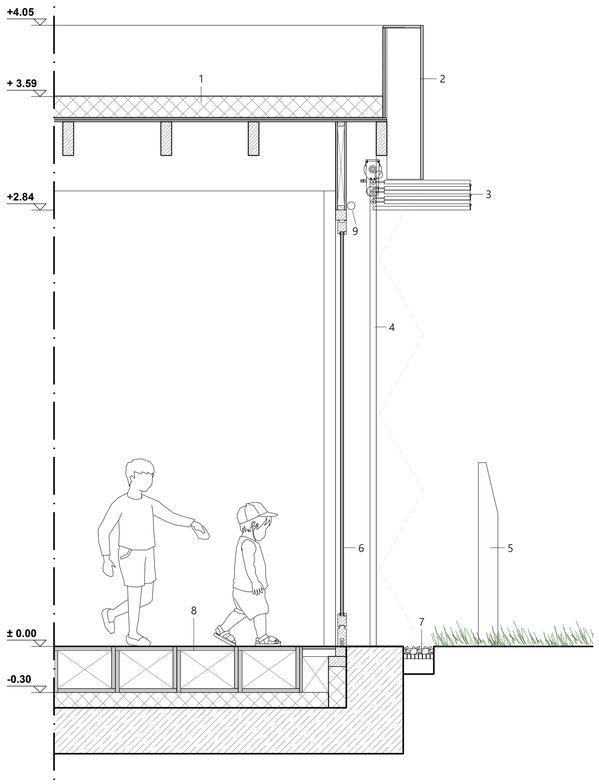




The lantern façade

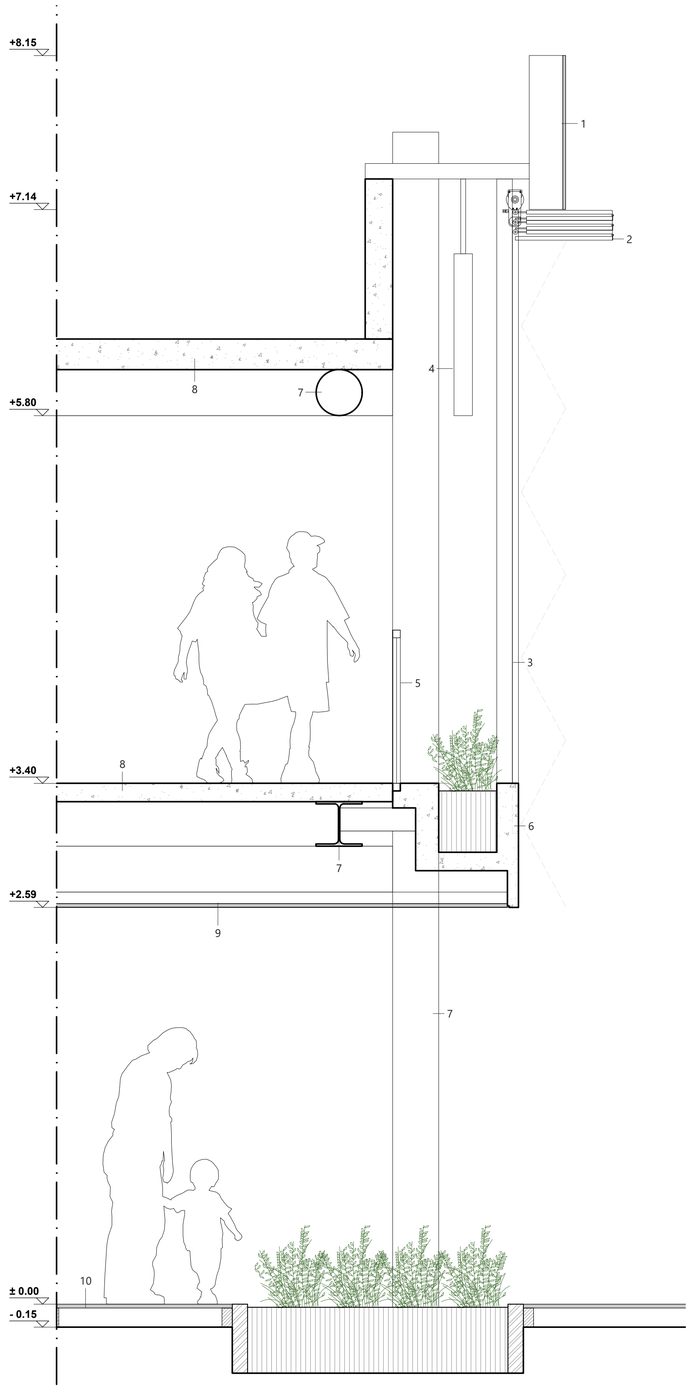
Inspired by the Chinese lantern various types of learning pavilions are wrapped with translucent lantern-like façade which will emitting light from inside. At night the pavilions will create a similar appearance as lanterns in a garden.

The façade are also applied on the first floor of the existing building (in the north façade) and on the connecting bridge, to give a similar appearance when people are approaching from the east side to the garden (Adrianaplein).



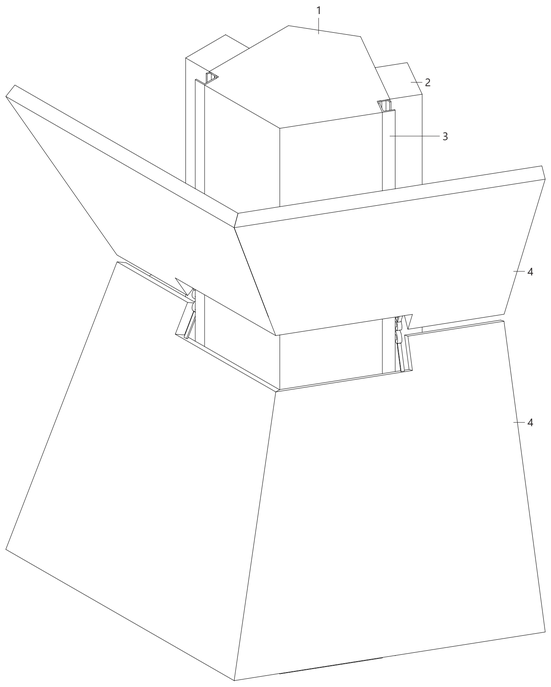
fragment learning pavilion 3
scale 1 : 20

1 - wooden roof construction
2 - wooden board facade; with timber frame construction
3 - translucent polycarbonate panel
4 - vertical rail
5 - vertical folding operating pole
6 - harmonica facade; wooden frame
7 - drainage grate; gravel on top
8 - wooden blocks; concrete floor construction
9 - LED lamp



fragment connection bridge
scale 1 : 20

1 - wooden board facade; with timber frame construction
2 - translucent polycarbonate panel
3 - vertical railing; attached to steel tube
4 - hanging signage
5 - glass balustrade
6 - concrete planters; attached to existing structure
7 - existing steel structure
8 - exisitng concrete floor/roof
9 - wooden board ceiling



detail corner of lantern facade
scale 1 : 10

1 - laminated timber column
2 - wooden frame for harmonica facade
3 - vertical railing
4 - translucent polycarbonate panel