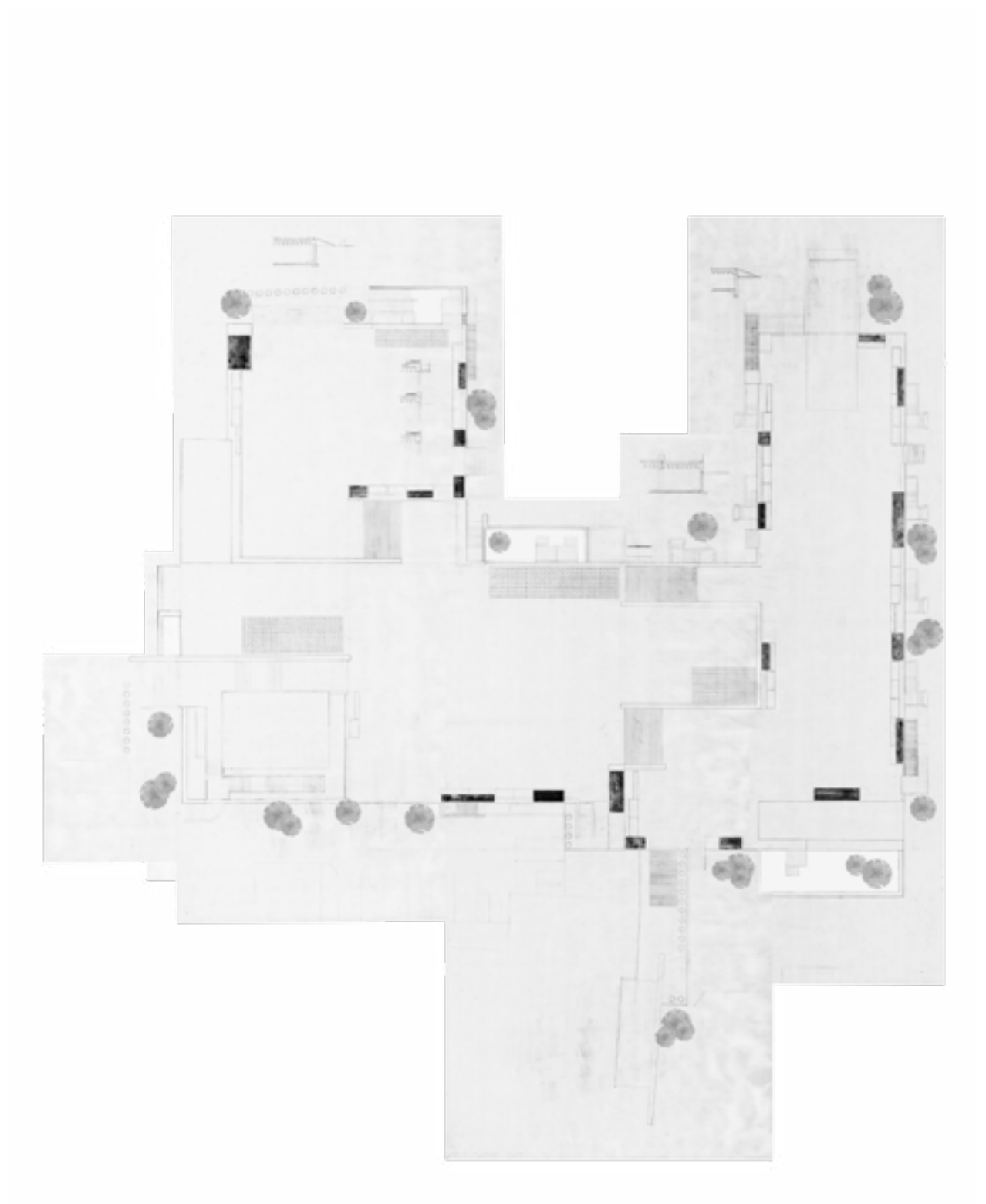


SPACE, PLACE AND ARCHITECTURE

A Citizen Plaza in Blacksburg



Bingfei Guo

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A Citizen Plaza in Blacksburg

Bingfei Guo

Thesis Submitted to the faculty of Virginia Polytechnic Institute and State University in Partial fulfillment of the requirements for the degree of

MASTER OF ARCHITECTURE

In
Architecture

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Albright, Kathryn C

Galloway, William U

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Abstract

This thesis is a study of architectural language for a place through the design and development of a citizen parking and plaza project. The site is located in the downtown Blacksburg area and not far from the Virginia Tech main campus. By utilizing the idea of a lifted groundmass, the project creates a new place both for the town and the university. The space underneath the mass is a parking garage embedded in the ground, while the top surface of the mass is designed to be a hard pavement citizen plaza.

This thesis aims to create more than just a space alone, but a memorable place that people will use and care about for years. The design of the groundmass addresses the issues of its boundary, materials, structure and other issues in an architectural language.

A C K N O W L E D G M E N T S



I dedicate this thesis to my parents, Qinggang Guo and Shengfen Zhou who have supported and encouraged me with all their love.

I would like to thank the Virginia Polytechnic Institute & state University, the school of Architecture and Design, my committee professor Hans Christian Rott, Professor Kathryn C. Albright and professor William Galloway.

It's my honor to have all of you in my journey.

All photos by author.

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A small town

Blacksburg, established in 1798, is located in the New River Valley, southwest of the state of Virginia. Originally, it was a home of the Indian tribes called Monacan and Moneton before Europeans claimed the ownership in 1671.

On October 1, 1872, the Virginia Agricultural and Mechanical College was established, and today it has become known as Virginia Polytechnic Institute and State University, usually called Virginia Tech. Nowadays, the campus became the center of Blacksburg, and you can see Hokies (the mascot of the University) all around the town.

Blacksburg is a quiet place to live in. With a population of 42,620 at the 2010 census, the town is mainly made up of the University students and faculty and other supporting services for it. Blacksburg is known as a great place to raise kids.

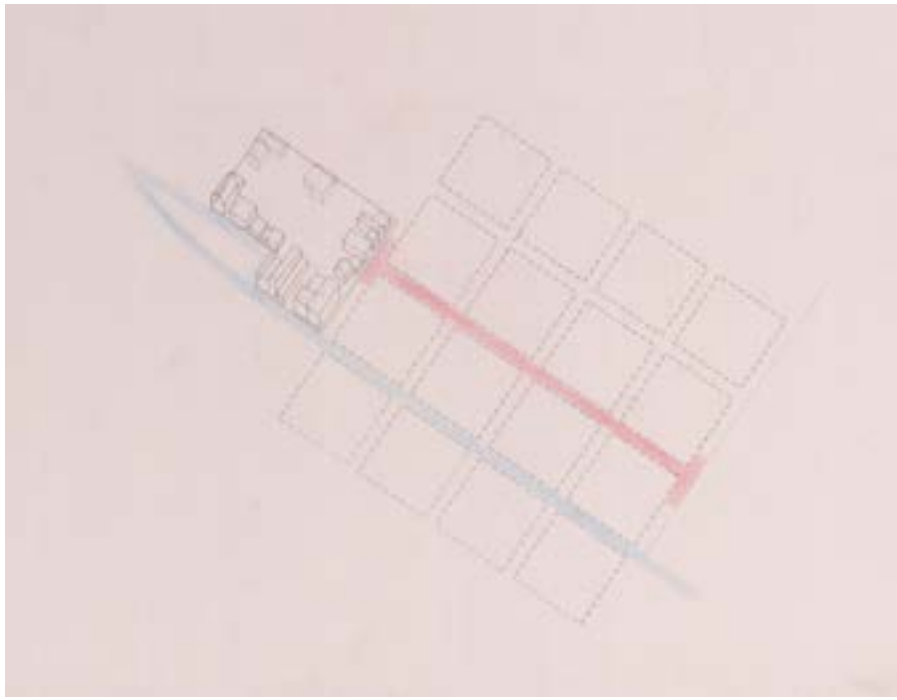
Thanks to the continual efforts and careful thoughts of the town community, Blacksburg keeps to be a walking friendly town carefully organized along the main street. It is a small town that you can see a simply life around the street corner.



Model of Site



Photos of N. Main Street



Relationship of the site and the 16 square

Memorable Place

The site is located in the downtown area, along the main street and not far from the Virginia Tech campus.

In the old days, the original Virginia Tech campus gate was to the west side of the site, and to the southeast, was the original 16 square area of the town. Nowadays the original town hall, the Church and many other old buildings are still standing there. The downtown area is to the south of the site. The clubs along the main-street are always crowded during weekend and game day.

The site itself is a parking lot owned by several different owners around it. There are restaurants, a bank, the old town hall and two private houses in the block.

It is a place important for both the local and campus life.



1922

Old photos of Main Street.
From: Dunay, Donna. Town Architecture: Blacksburg : Understanding a Virginia Town. [Blacksburg, Va.]: Town of Blacksburg, the College of Architecture and Urban Studies, and the Extension Division, Virginia Polytechnic Institute and State University, 1986. Print.



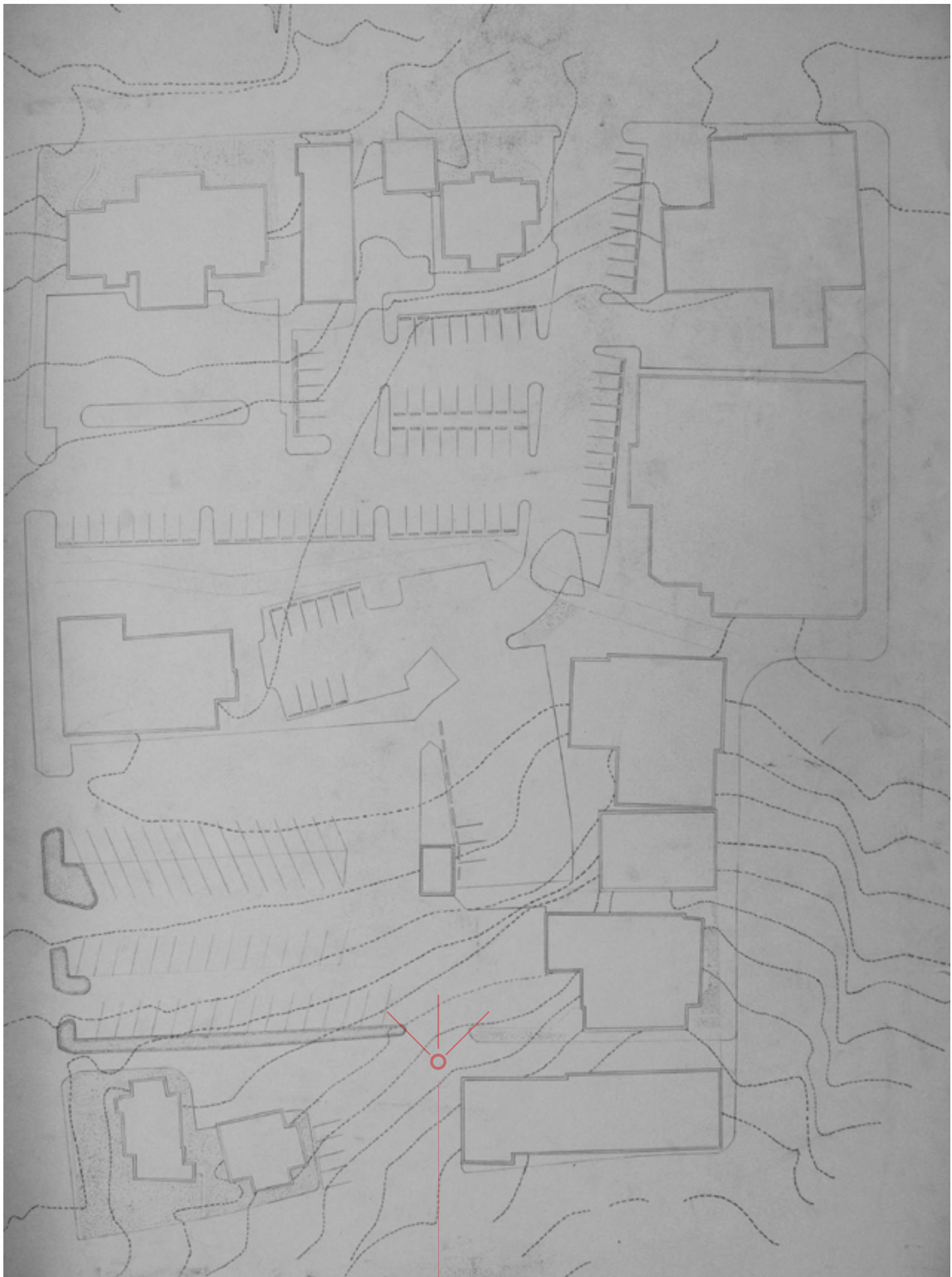
1928



1934



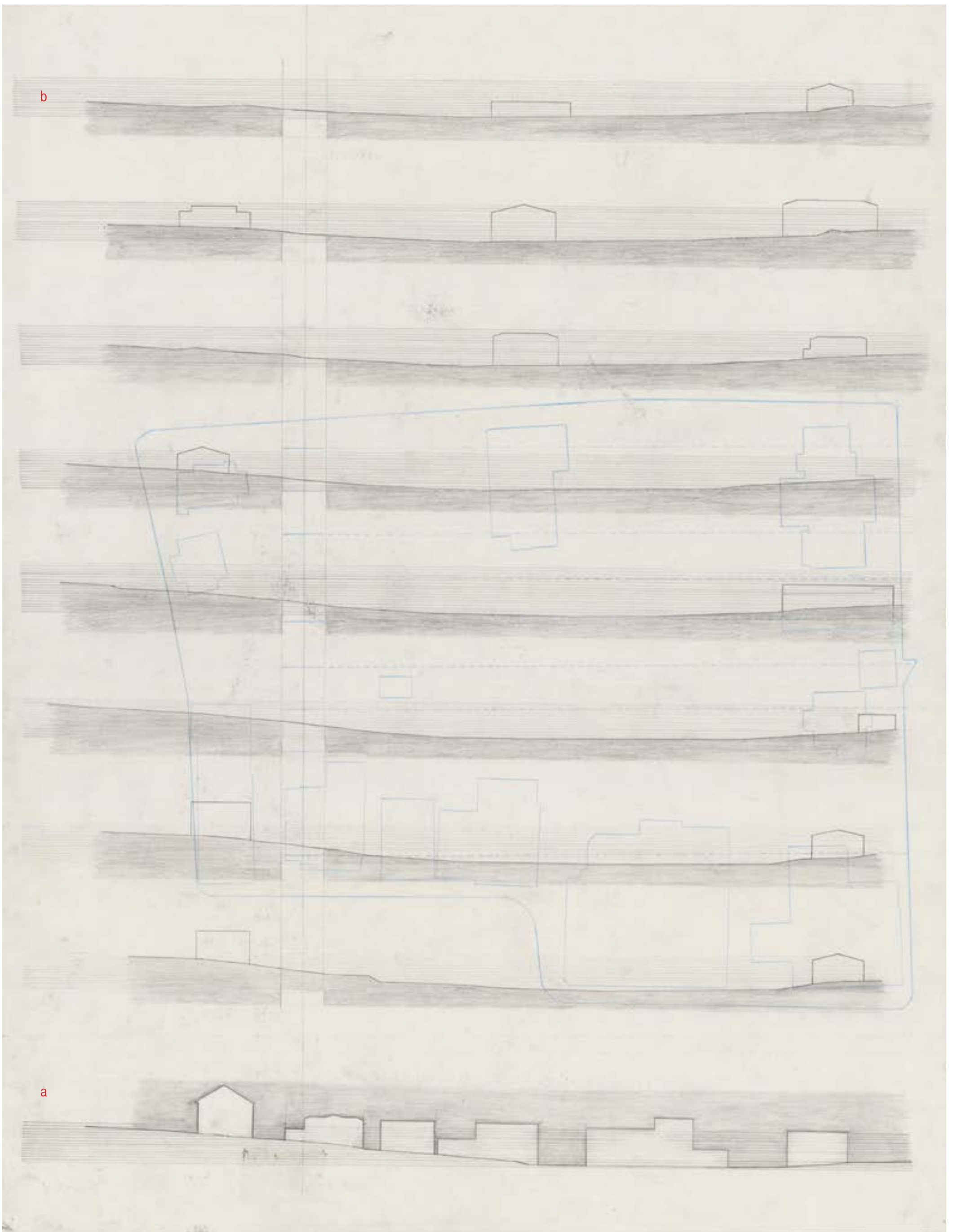
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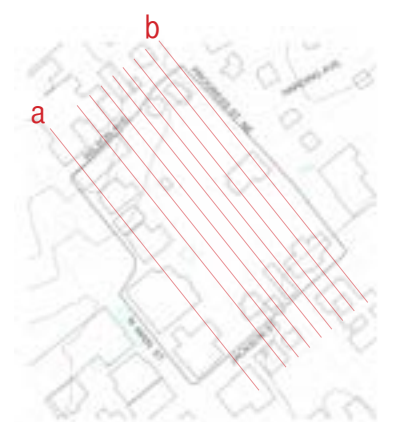
Measurement of the Site

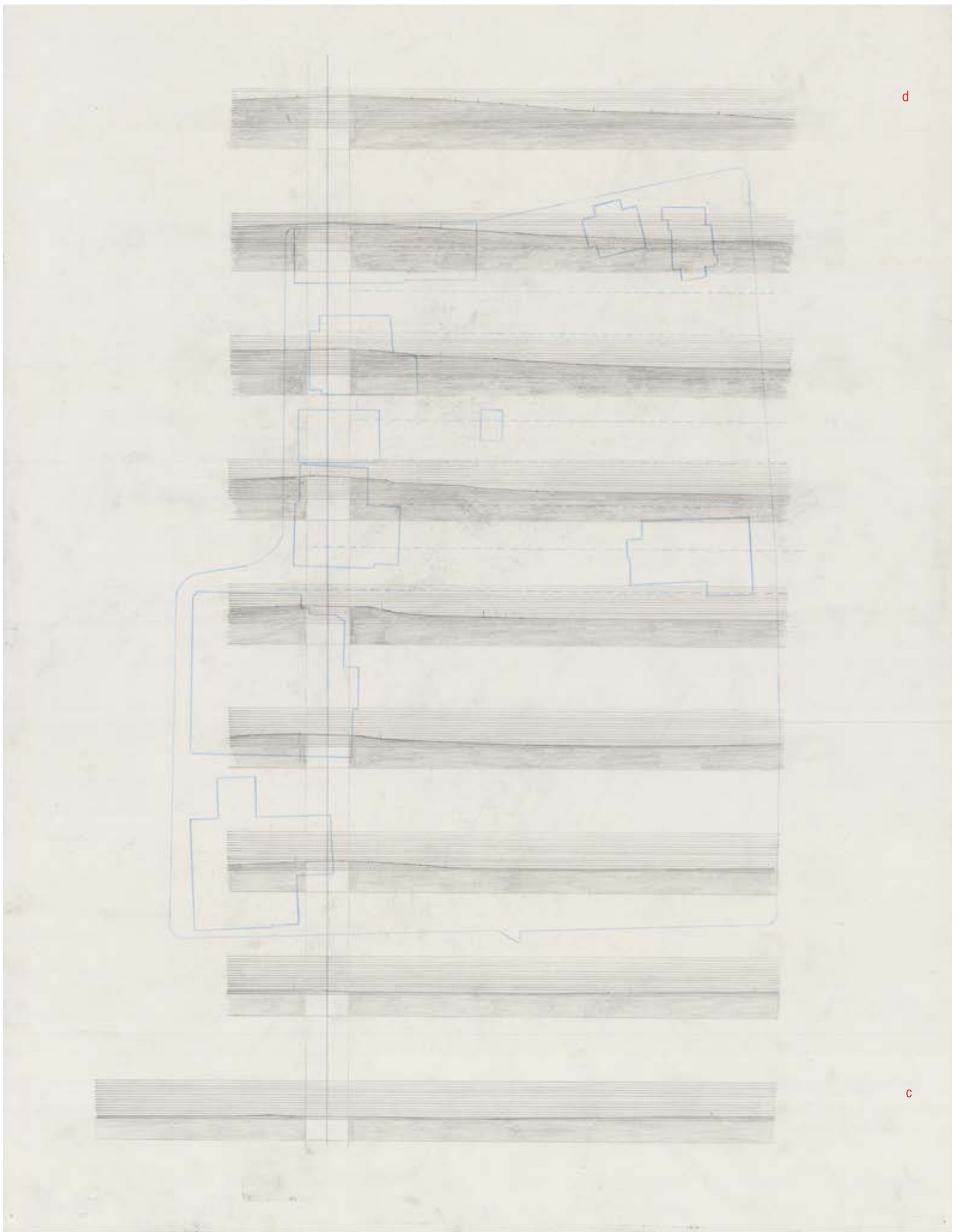


Photos from the top of the slope

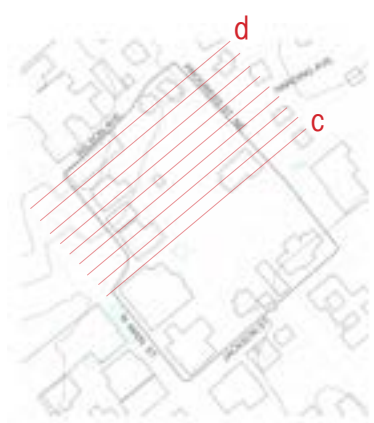


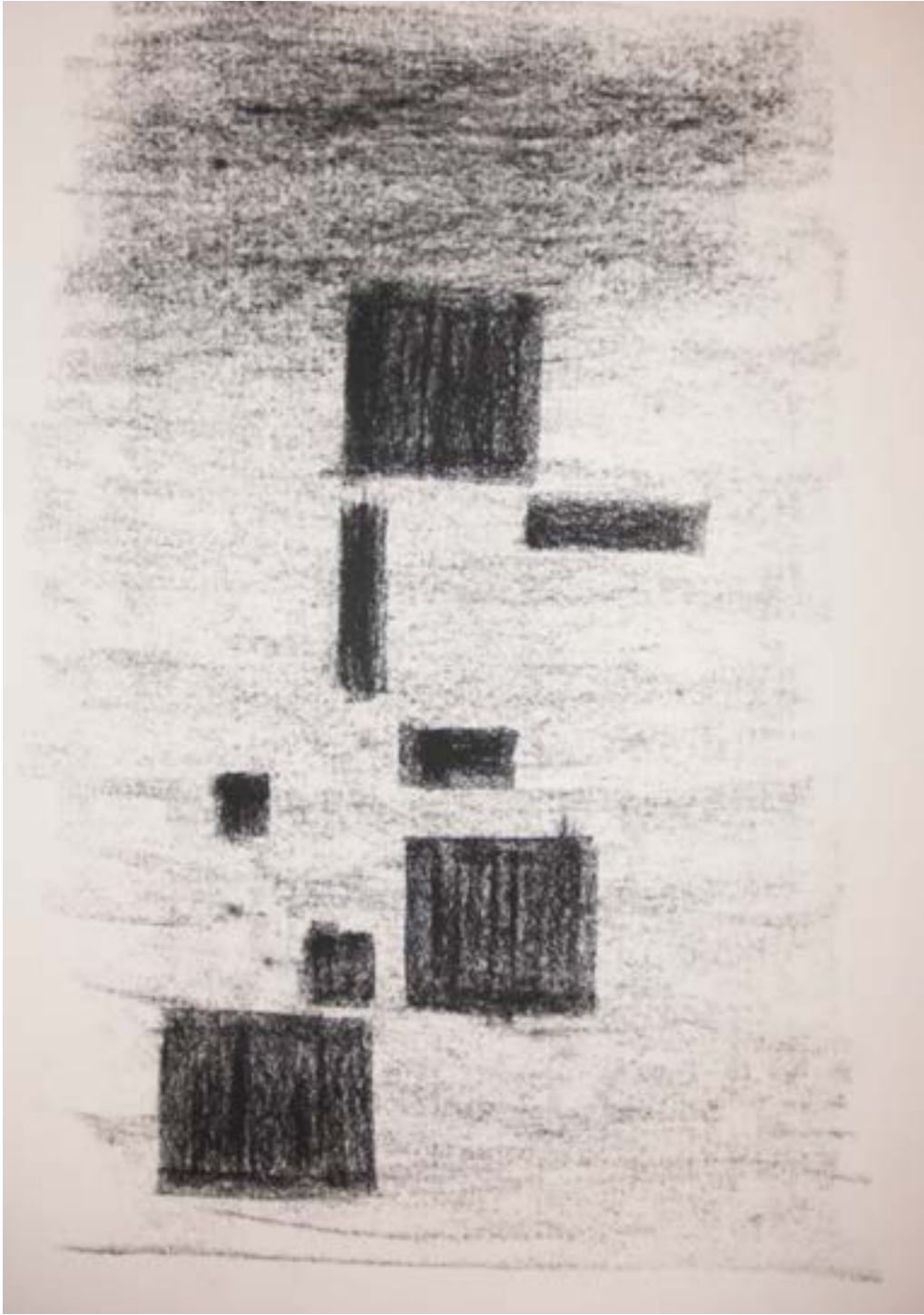
Sections of the Site-I





Sections of the Site-II





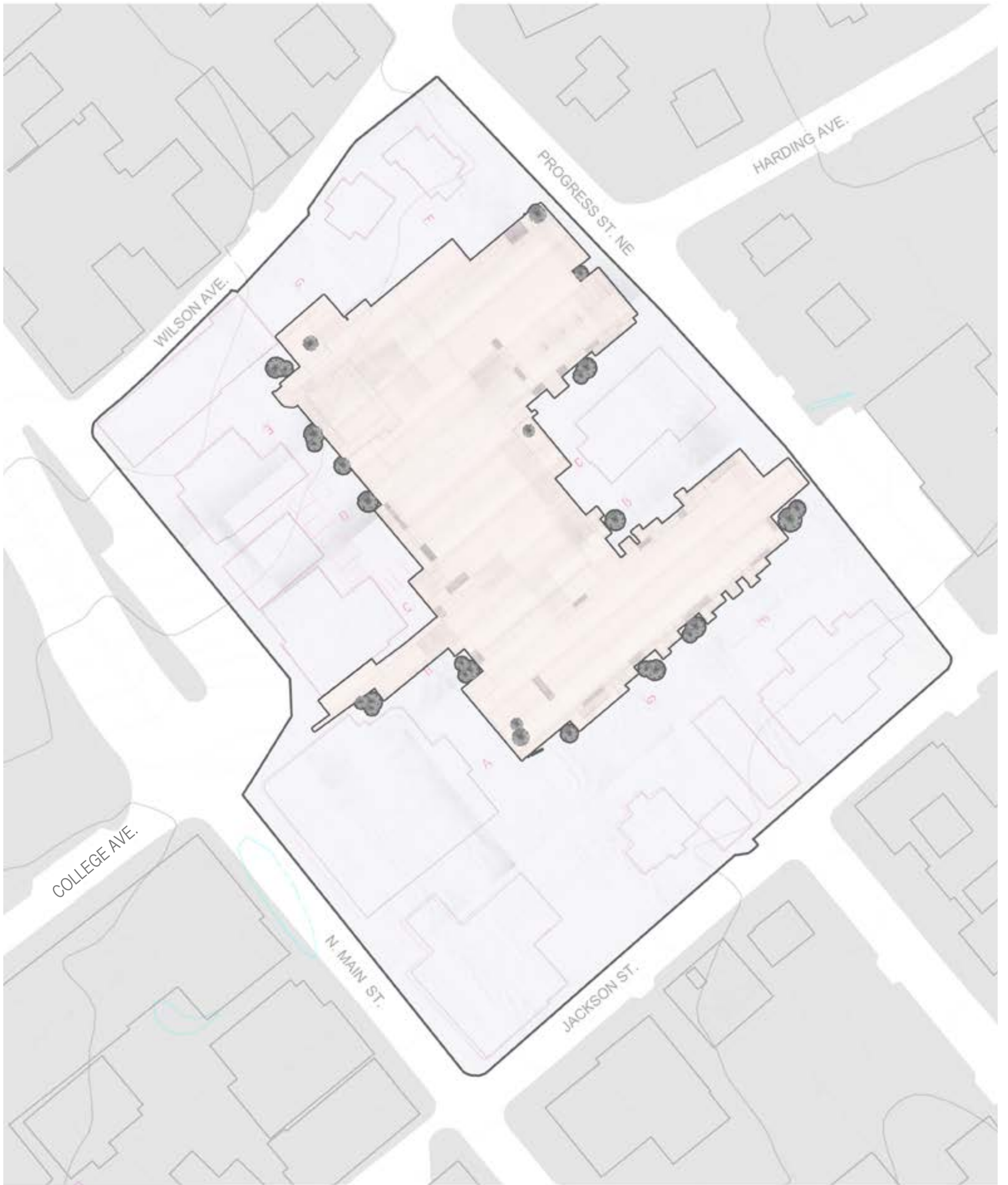
Study of the space rhythm



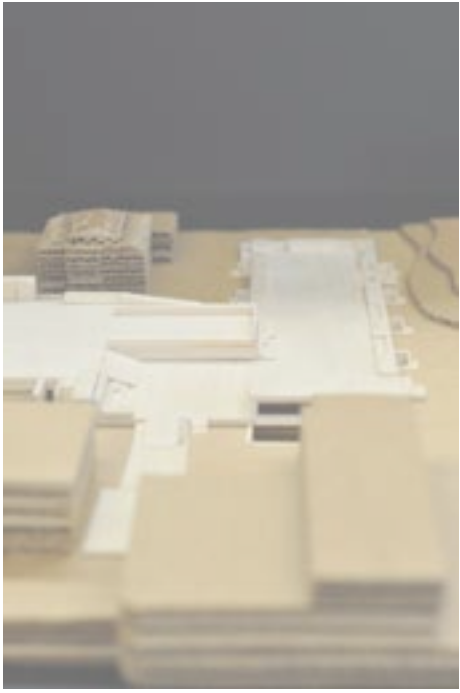
Ground Overhead

With the N. Main street passing by and the VT campus to the west, most of the pedestrians and vehicles will come from the west side of the site. The main entrance for the pedestrian sits right against College Ave., as a response and extension to the walking street. It will also lead pedestrians from the main street sidewalk to enter in the plaza. Vehicles are designed to enter the parking garage from the eastern side of the site. There are two entrances to the underground level at the Progress Street.

With a slope running downward to the east with a twenty-foot height difference, the west side of the site is a natural view spot. Overlooking from the top of the slope, the original 16 square area will be revealed in front of you.



Surroundings of the Site

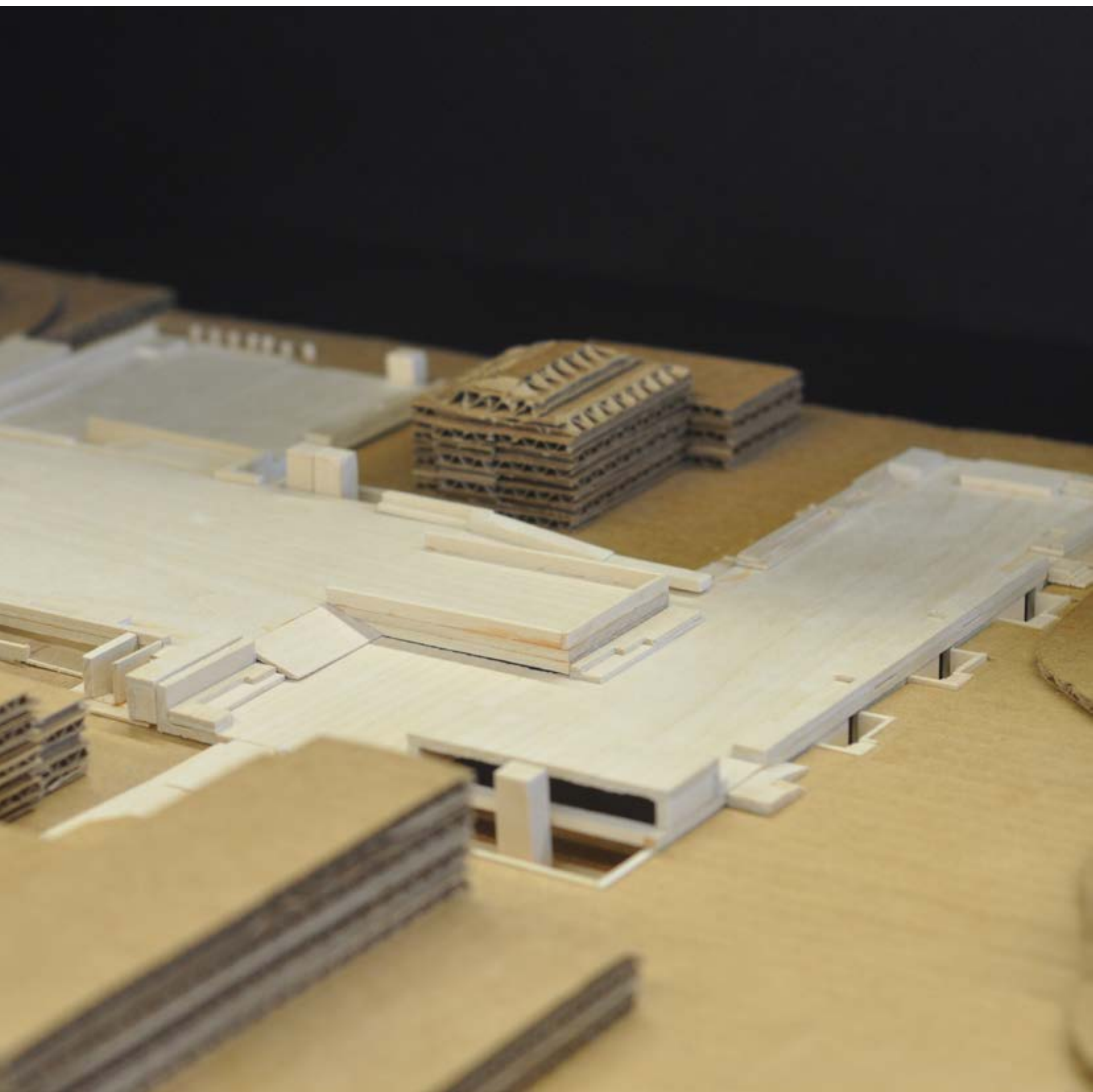


My thesis is a reconstruction of the Greeks/ Our Daily Bread parking lot. The main concept is a lifted ground-mass. The lifting creates a parking space underneath it and a citizen plaza for the community. A two-foot height difference divides the plaza into three small connected parts.

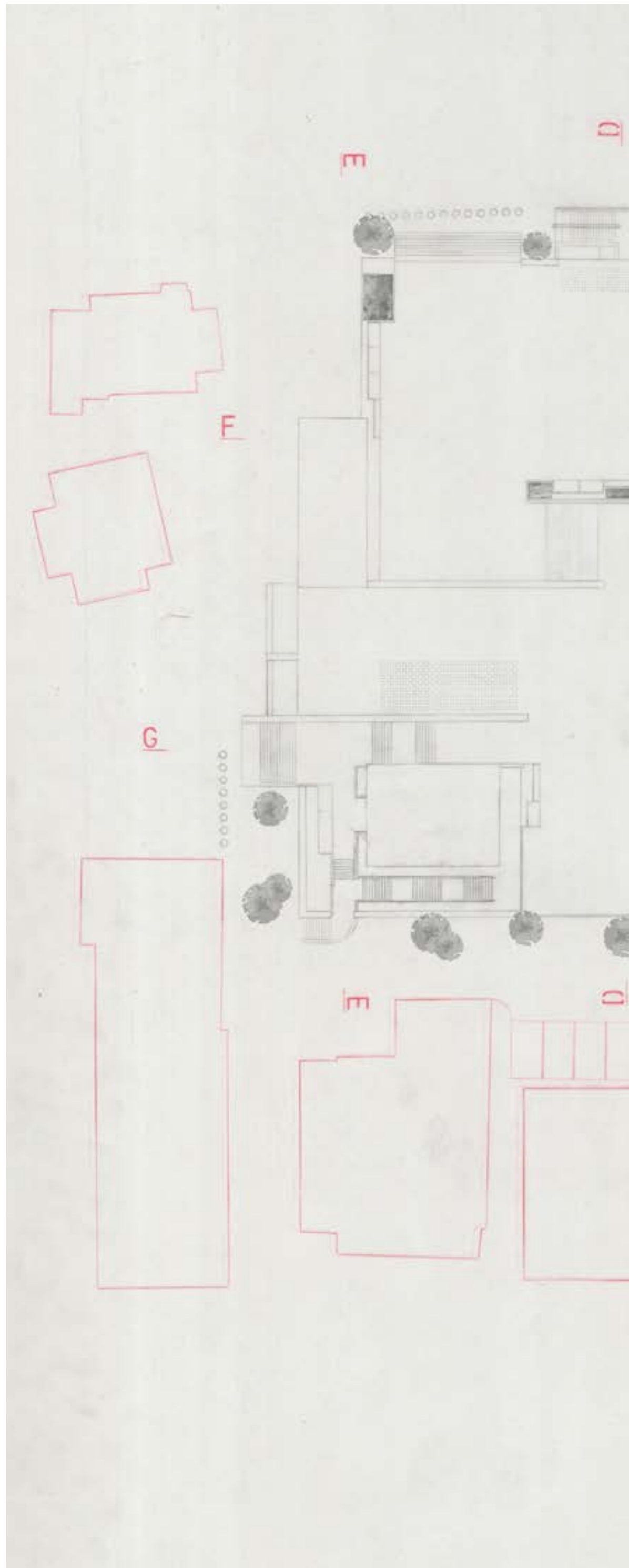
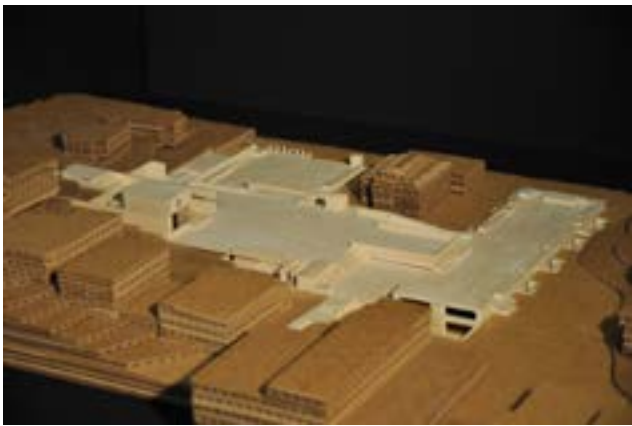
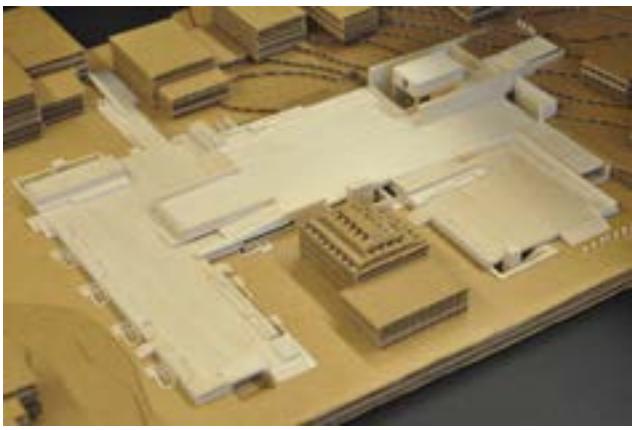


Photos of the Model





Photos of the Model

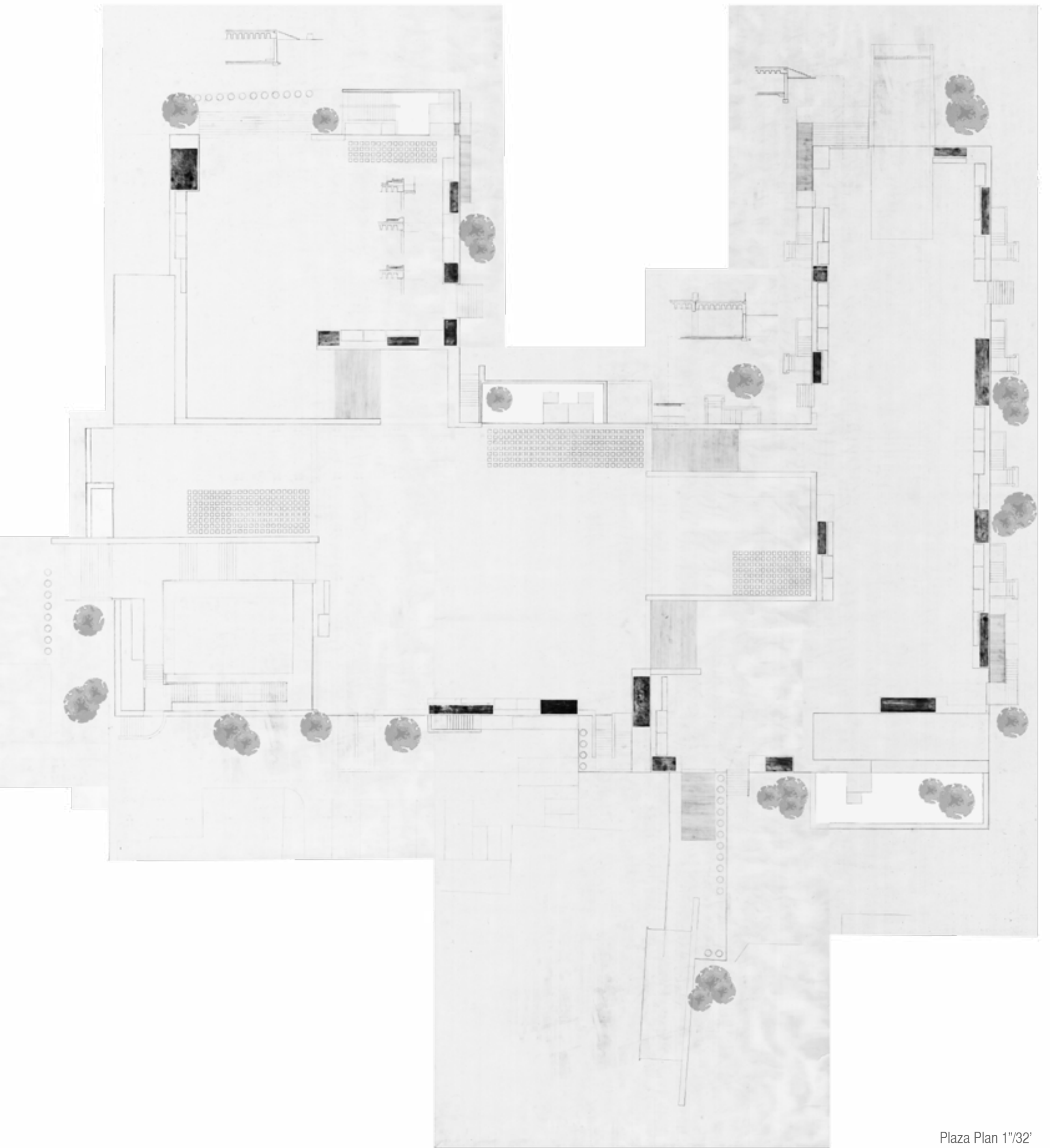




Plaza Plan

There are three parts of the plaza. The higher part connects the top of the slope, and there is a small box for sight-viewing. Two lower parts spread to the south and east from the top of the slope. There is a two-foot height difference between the higher and lower parts. While the lower parts are open to passing by, the higher part is designed to be a place for the community events. Several slopes connect the three parts together as a whole plaza.

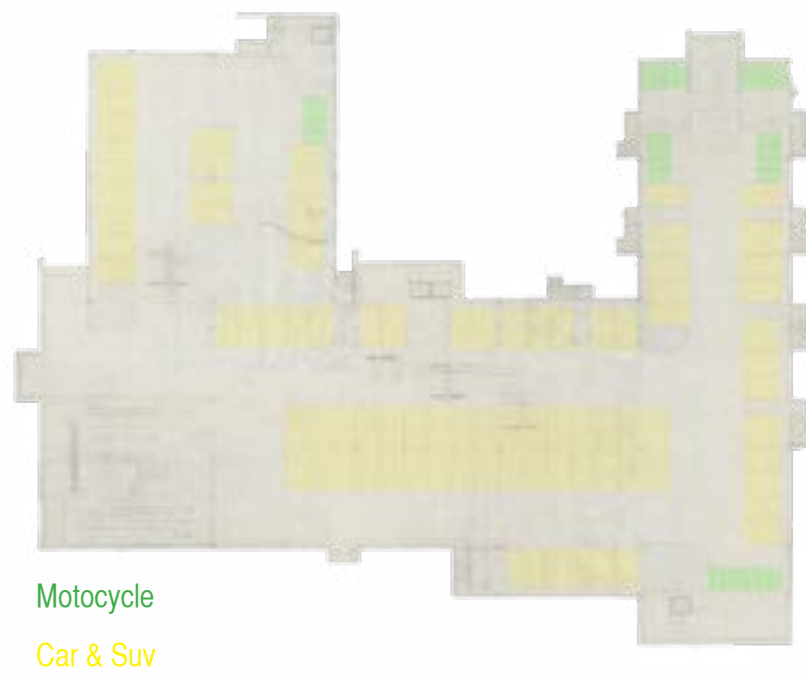


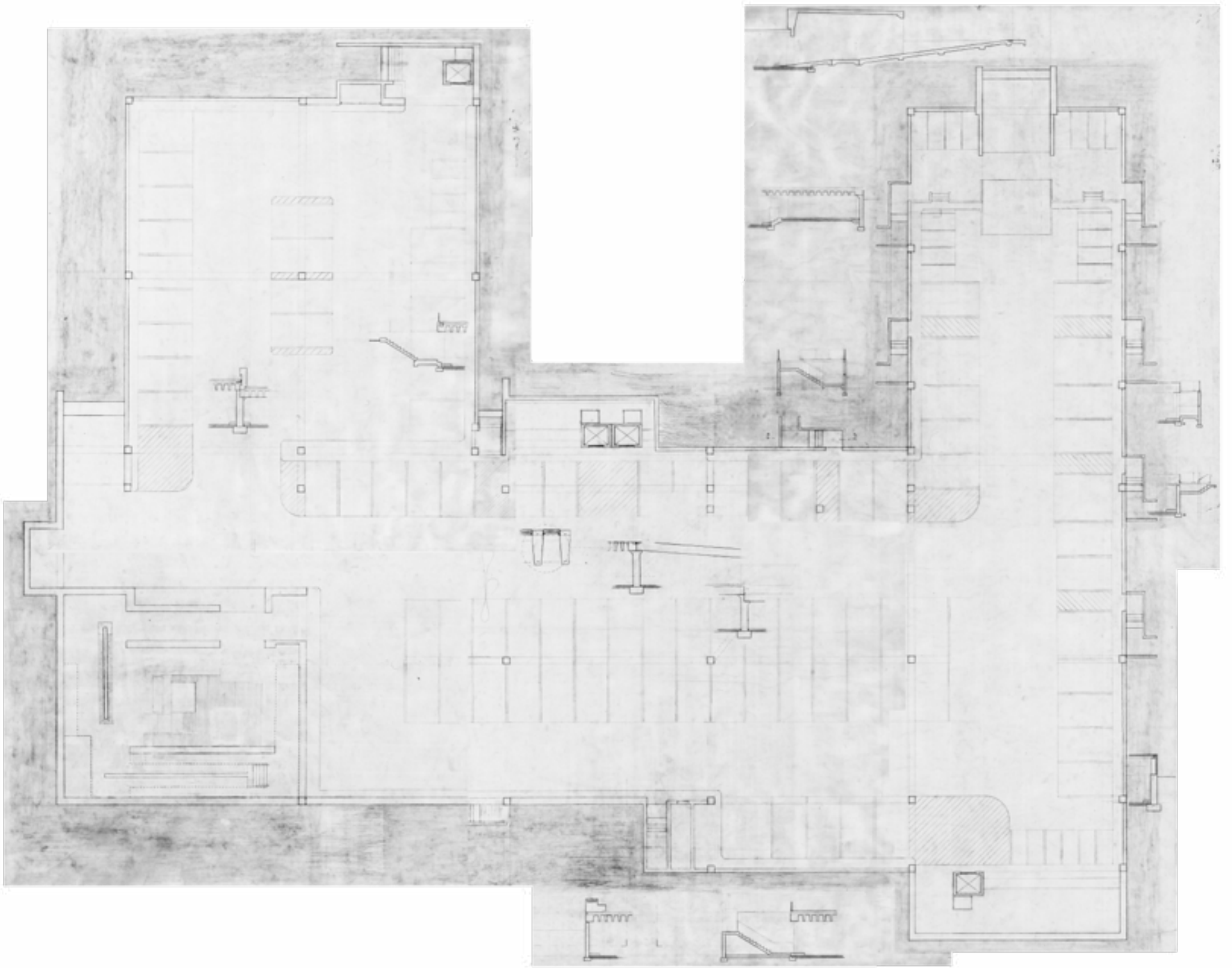


Plaza Plan 1"/32'

Garage Plan

The parking garage provides parking for motorcycles and vehicles. As a space underneath the groundmass, there is light poured into this space. While the groundmass is supported by columns, there is a two inch wide gap between the groundmass and the top of the wall. Meanwhile, the stairs and small gardens become light wells for the underground space.

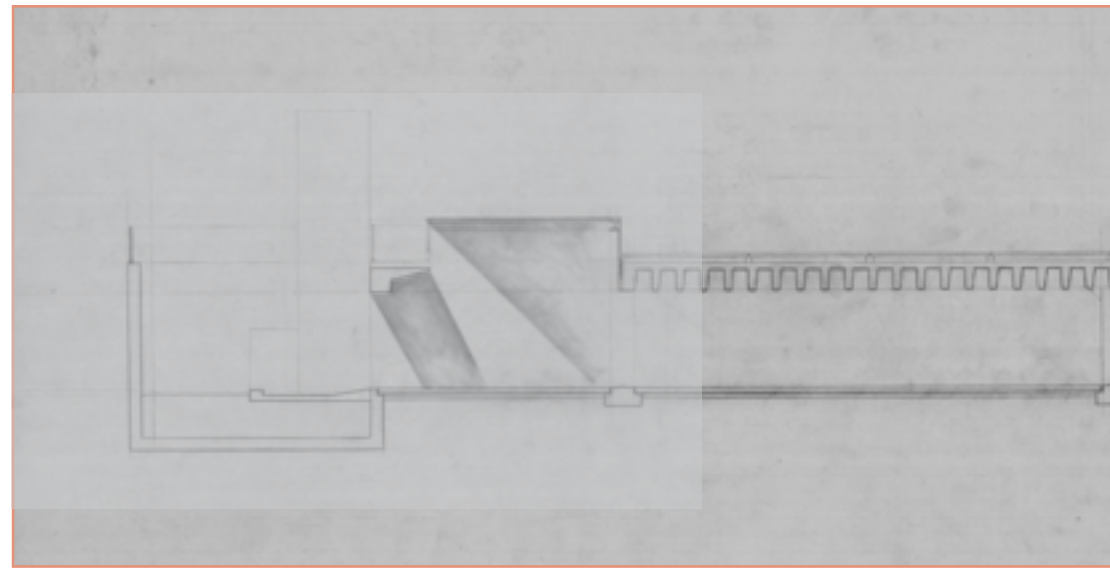




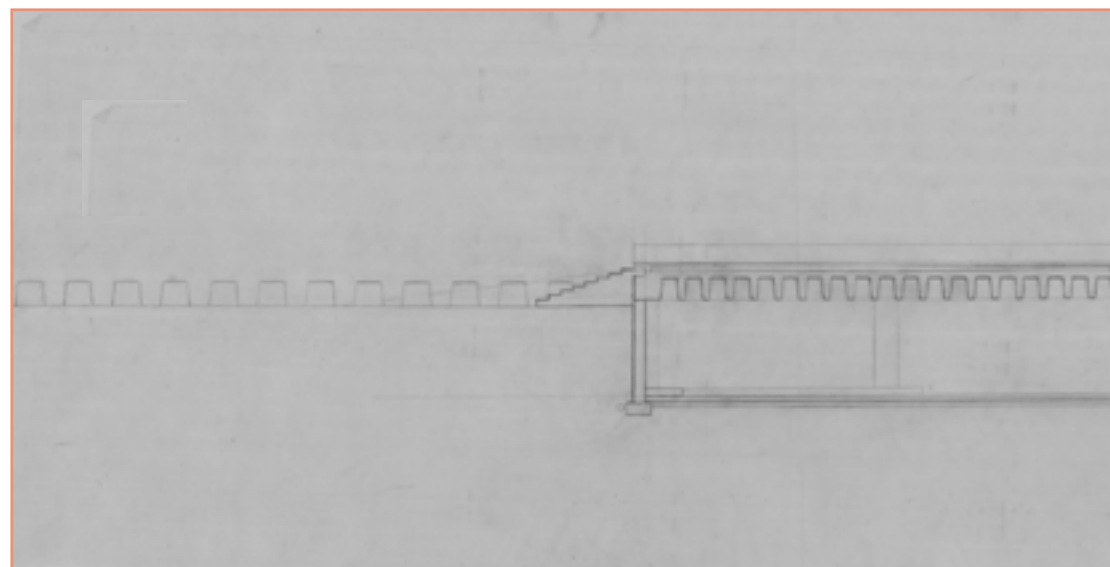
Garage Plan 1"=32'

The structure of the groundmass is a group of concrete waffle slabs. Waffle slab combines the structure and material together and shows a purified looking so that it can be recognized as a whole piece.

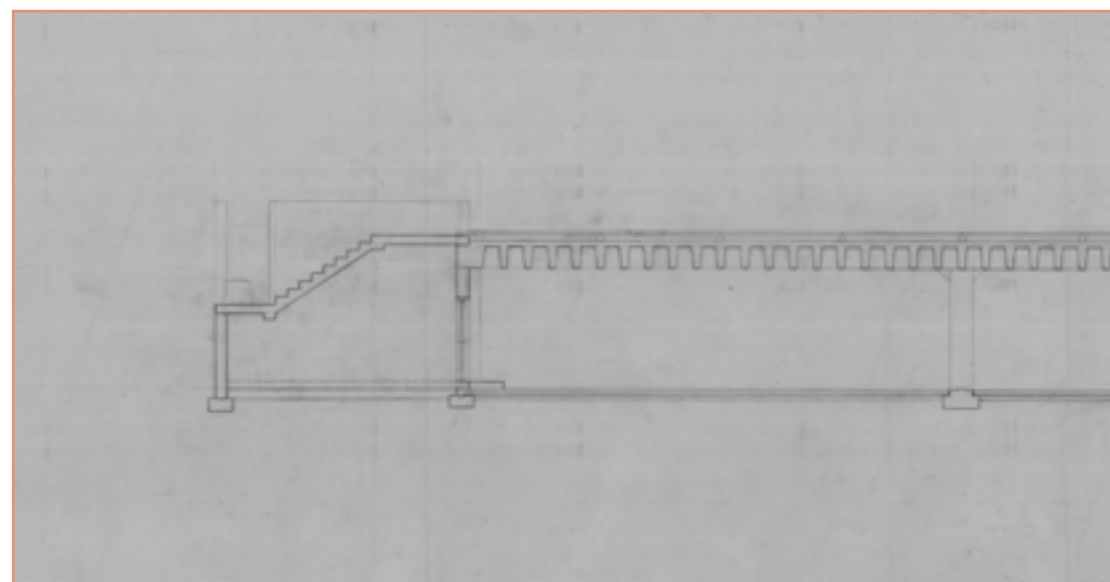
Supported by columns, the groundmass is lifted two inch above the top of the walls. This action leads the light into the garage from the gap and makes the boundary of the groundmass recognized. The light wells and stairs on the edge also create different light conditions for the parking garage.



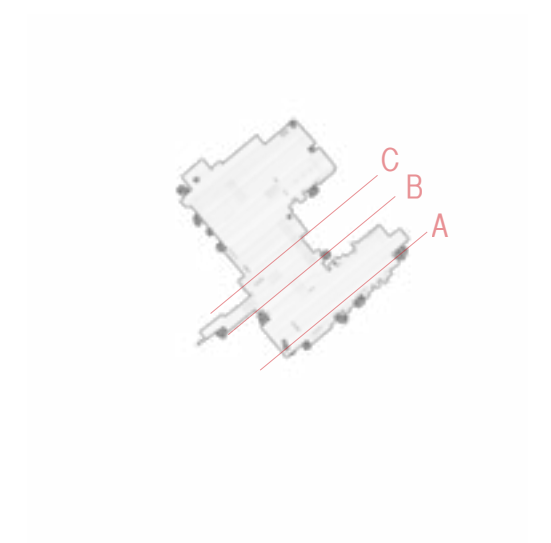
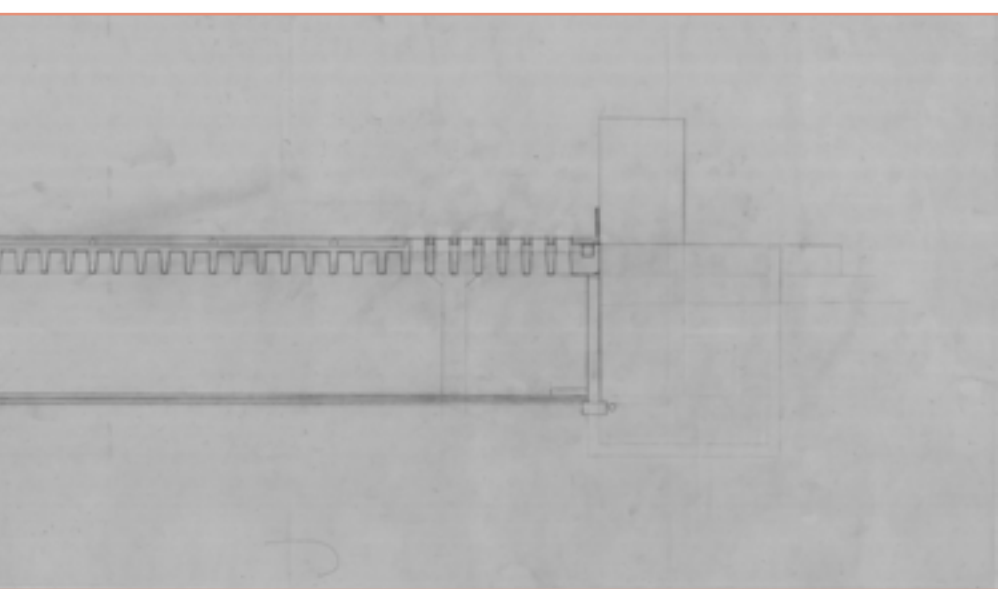
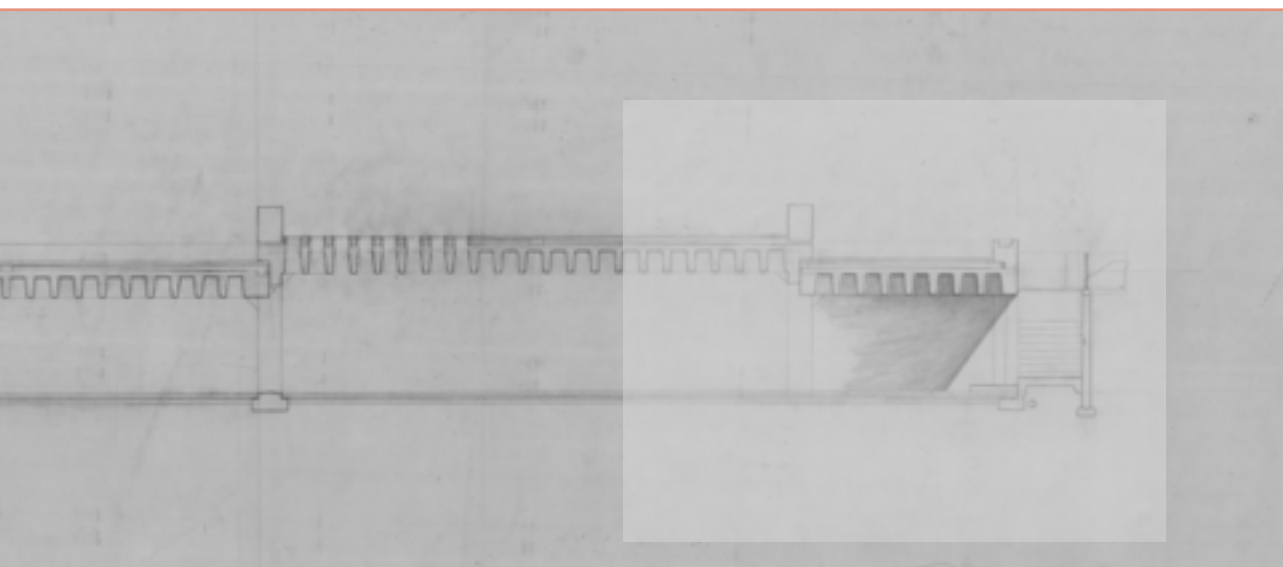
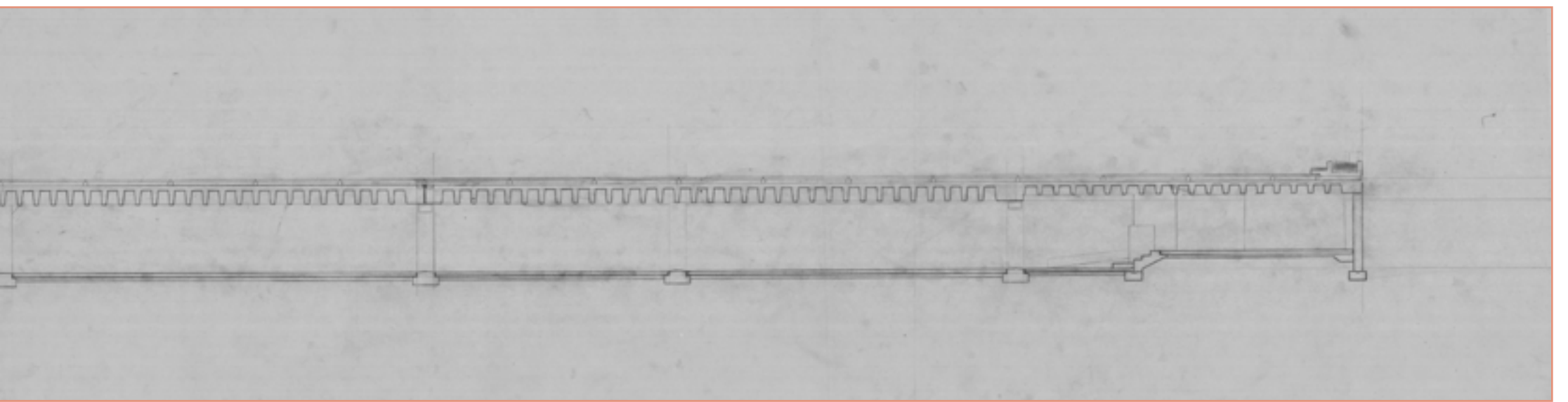
Section-A

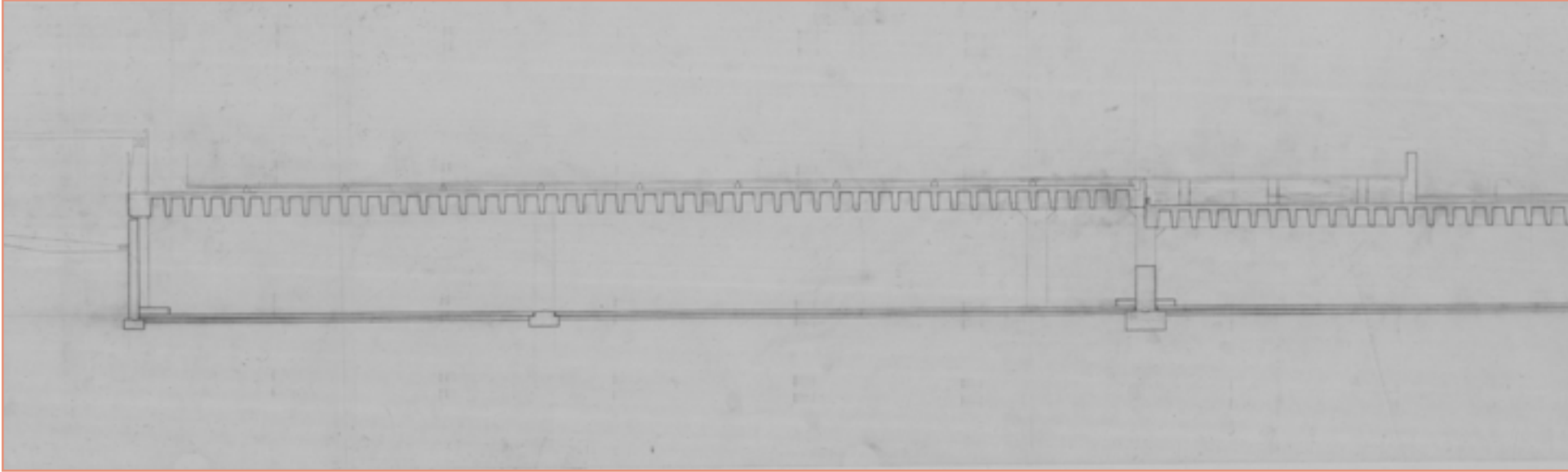


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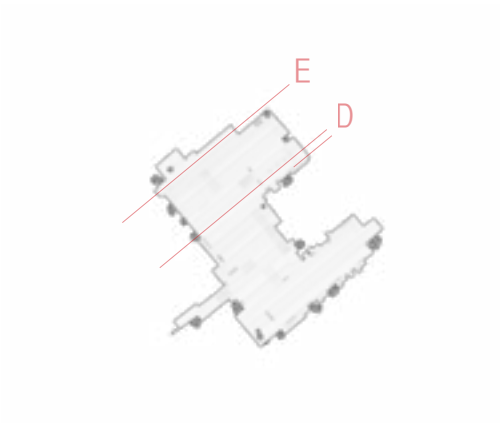


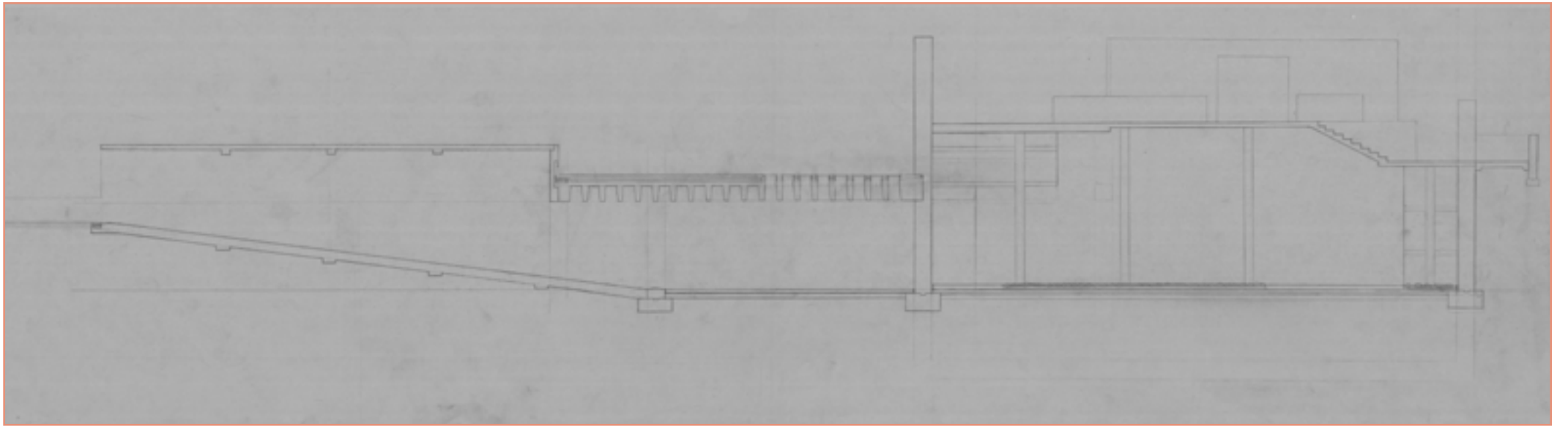
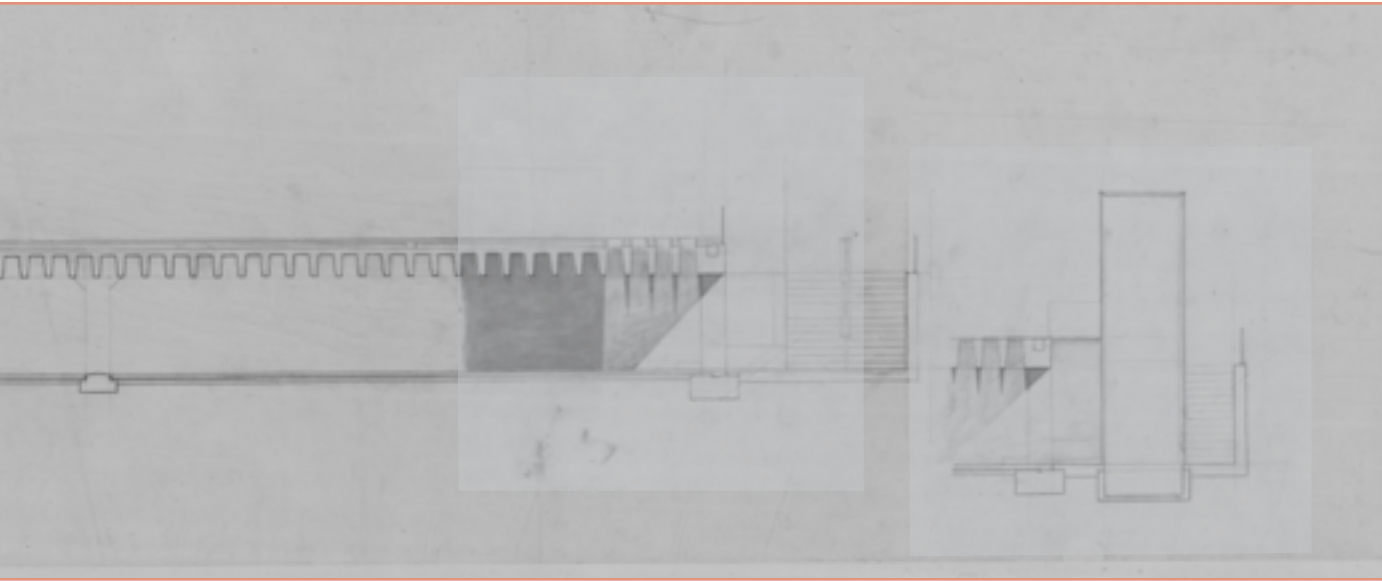
Section-C



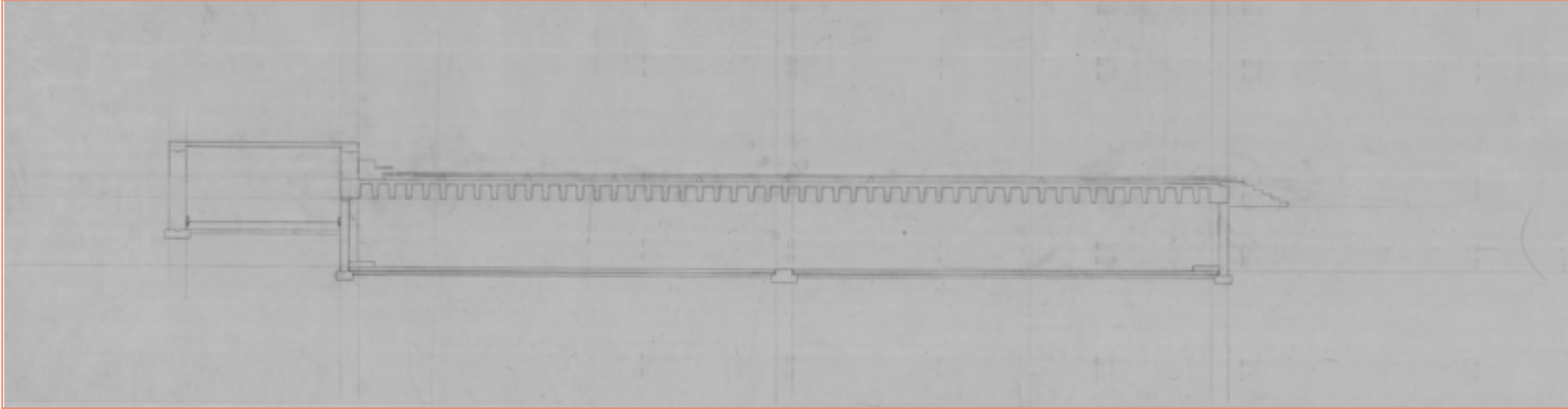


Section-D

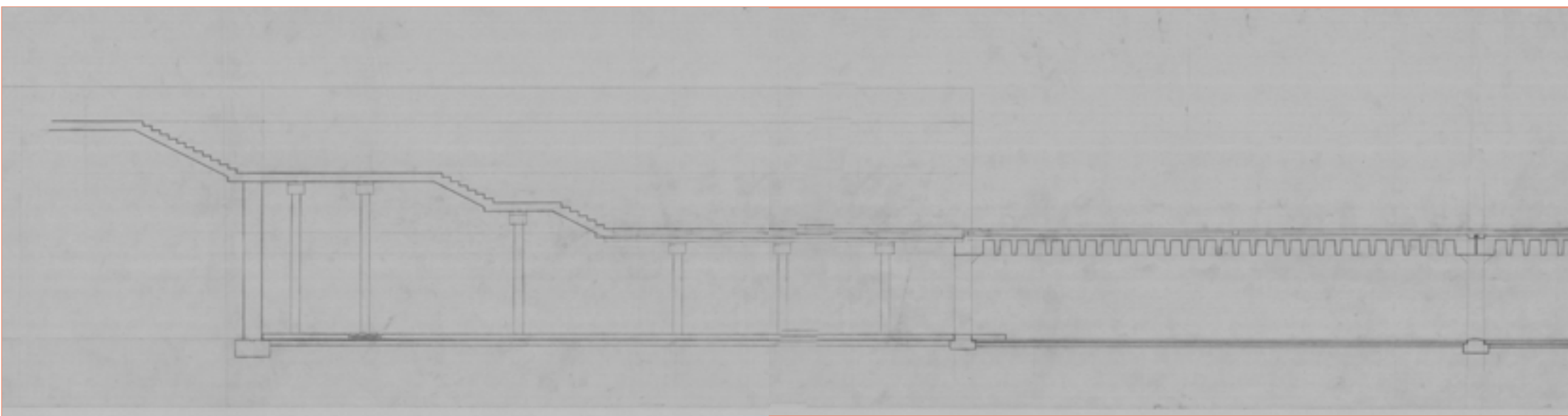
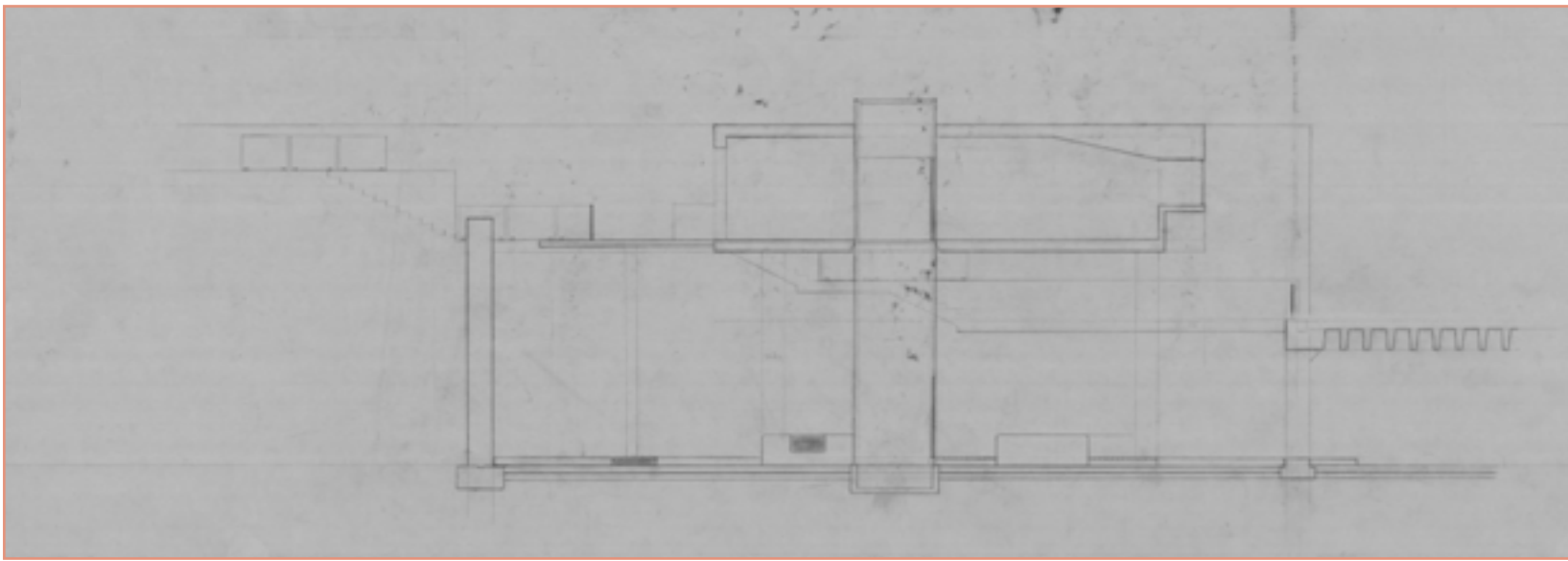




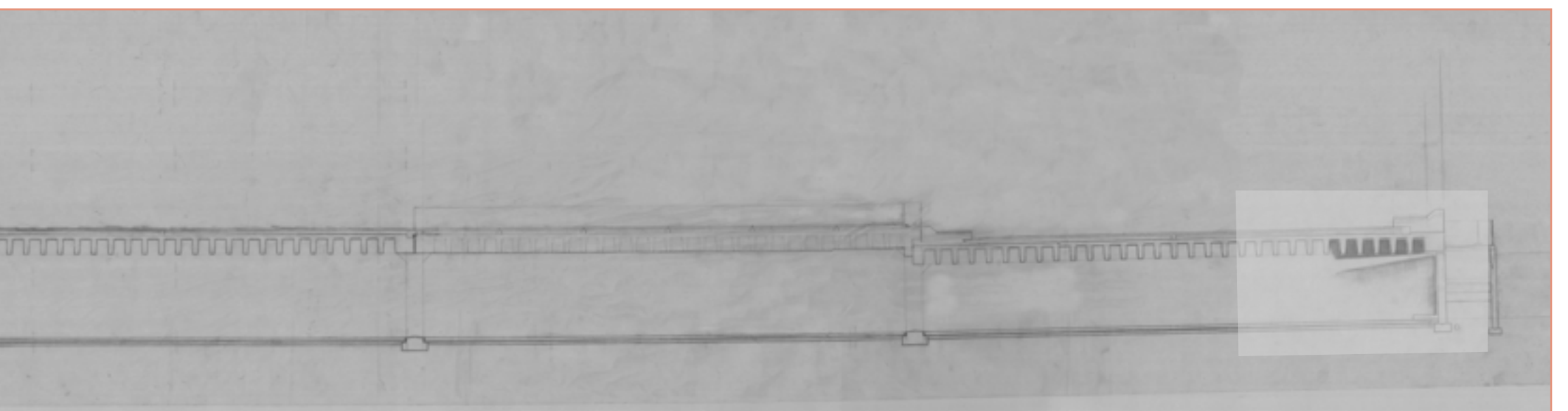
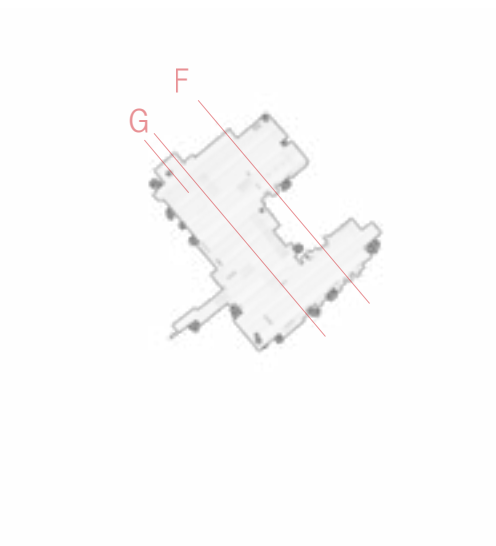
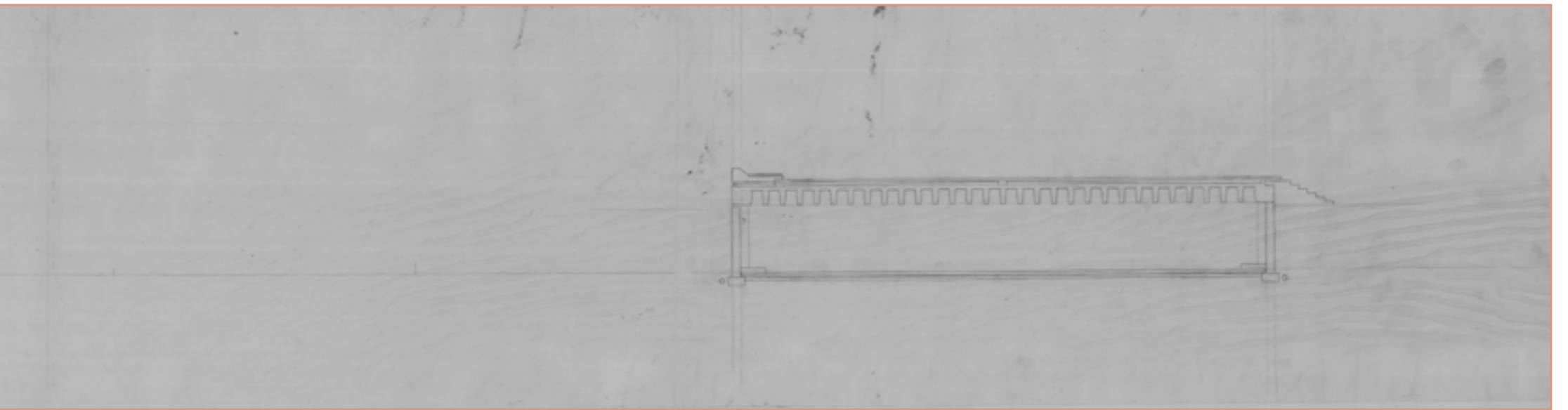
Section-E

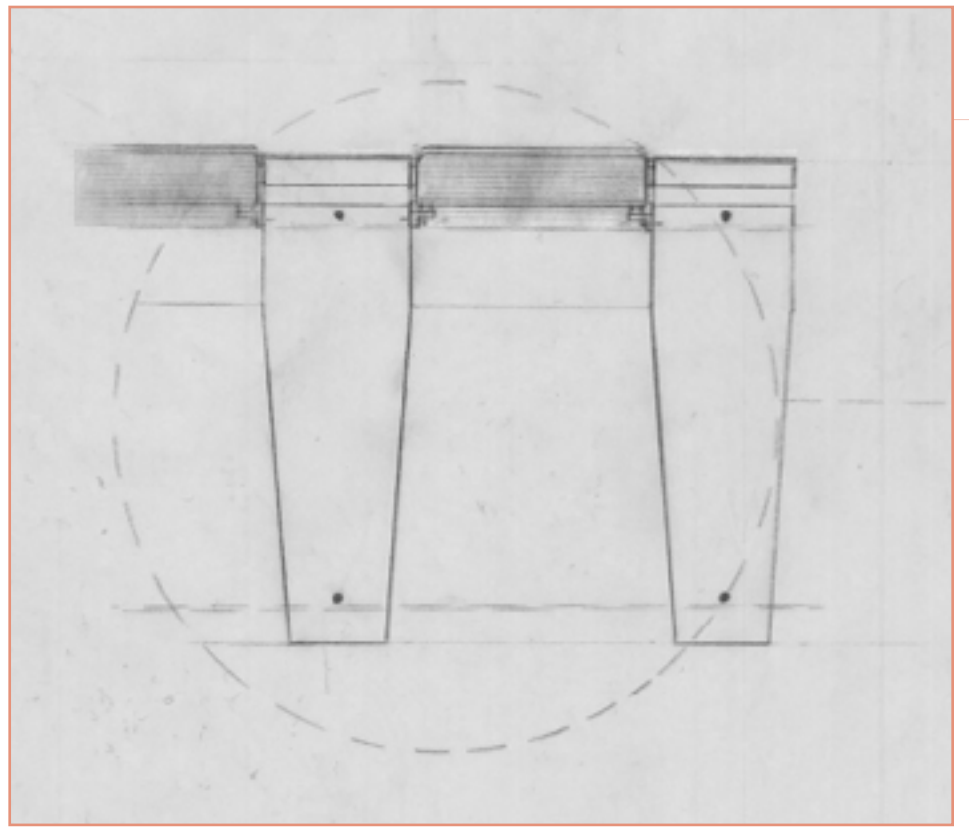


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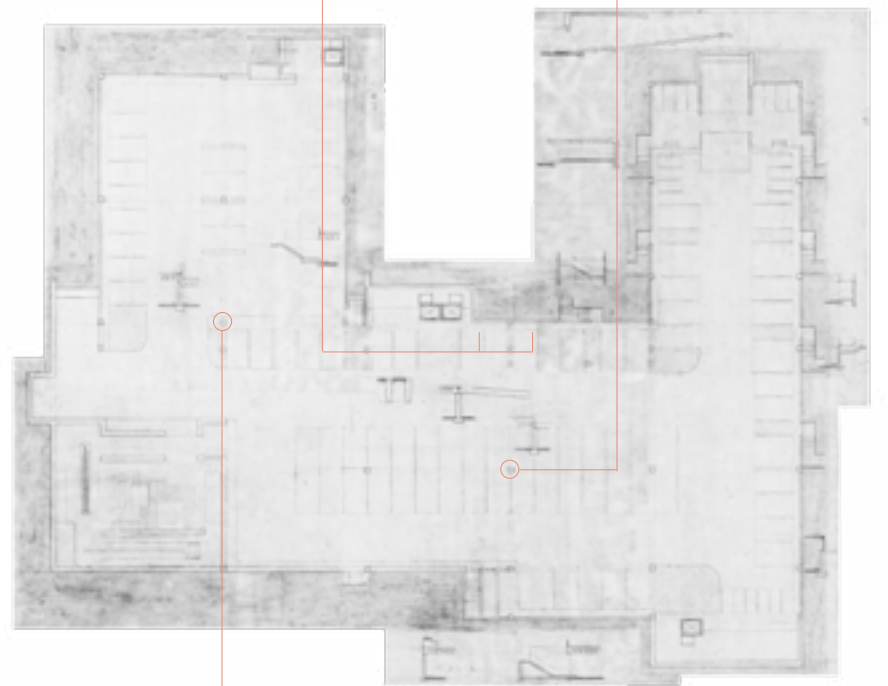


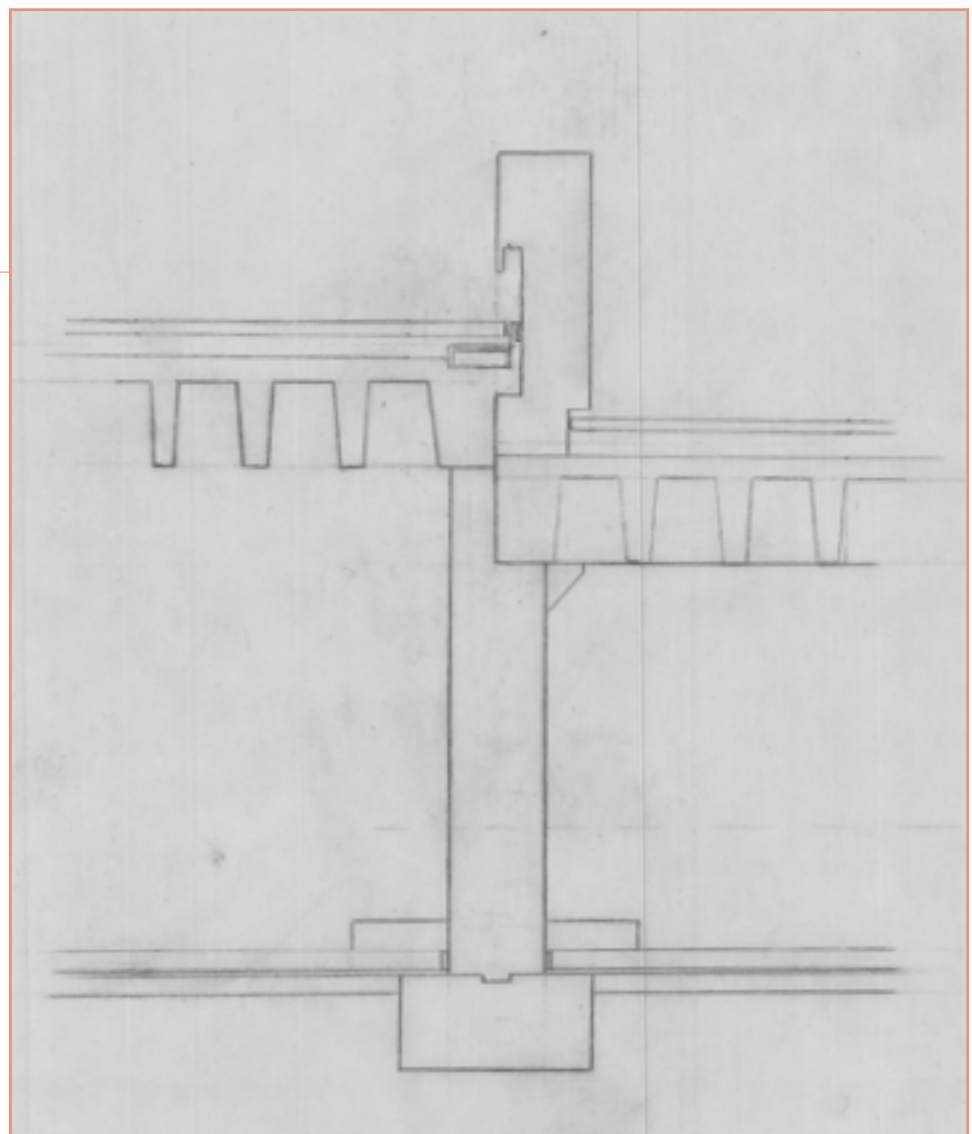
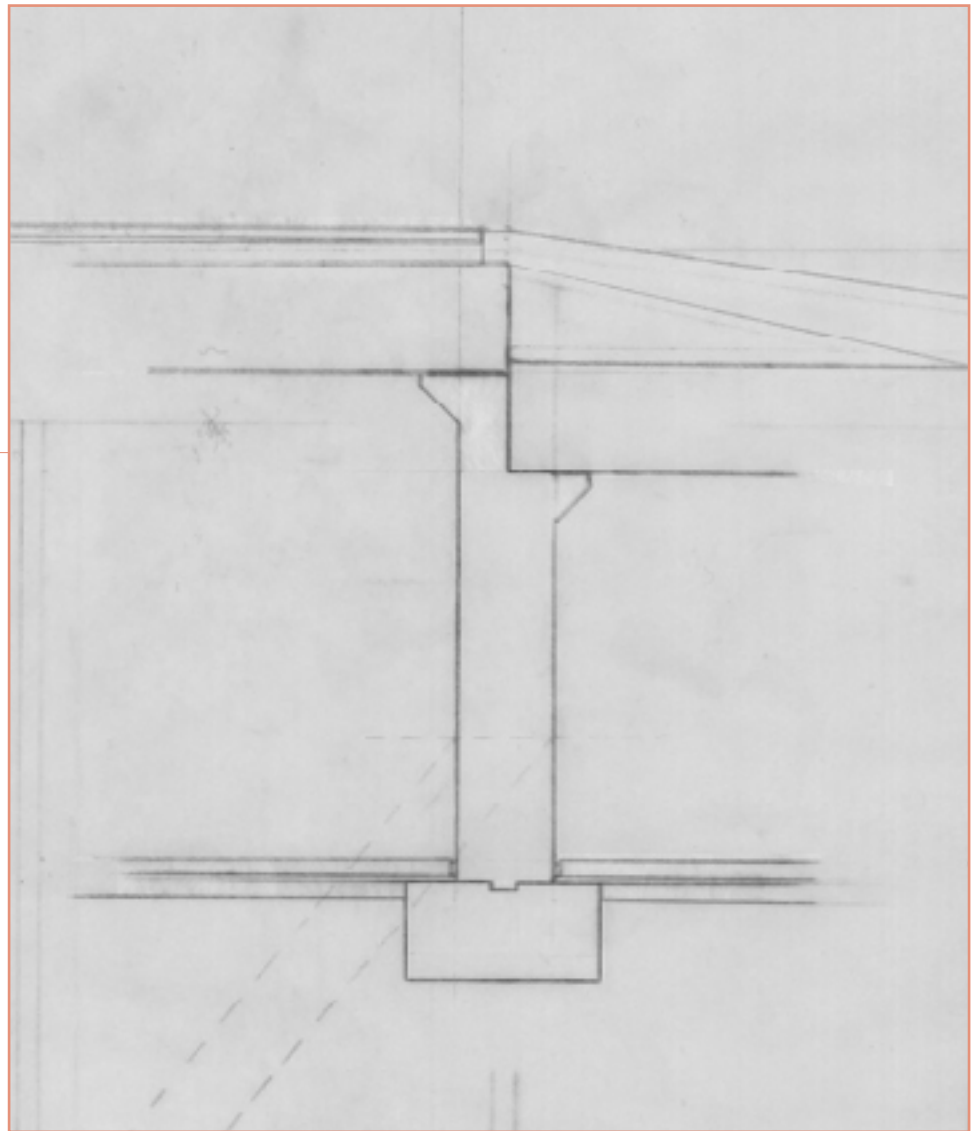
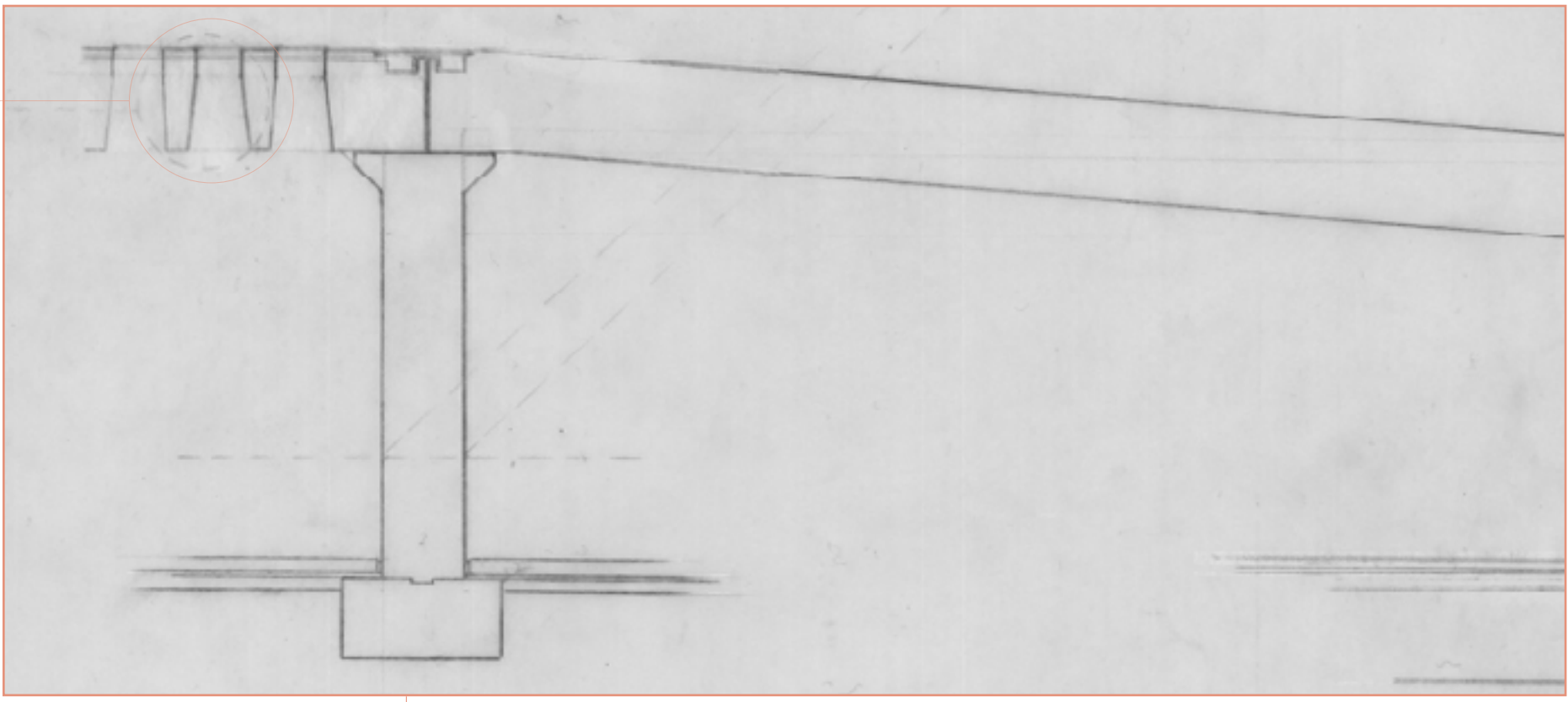
Section-G

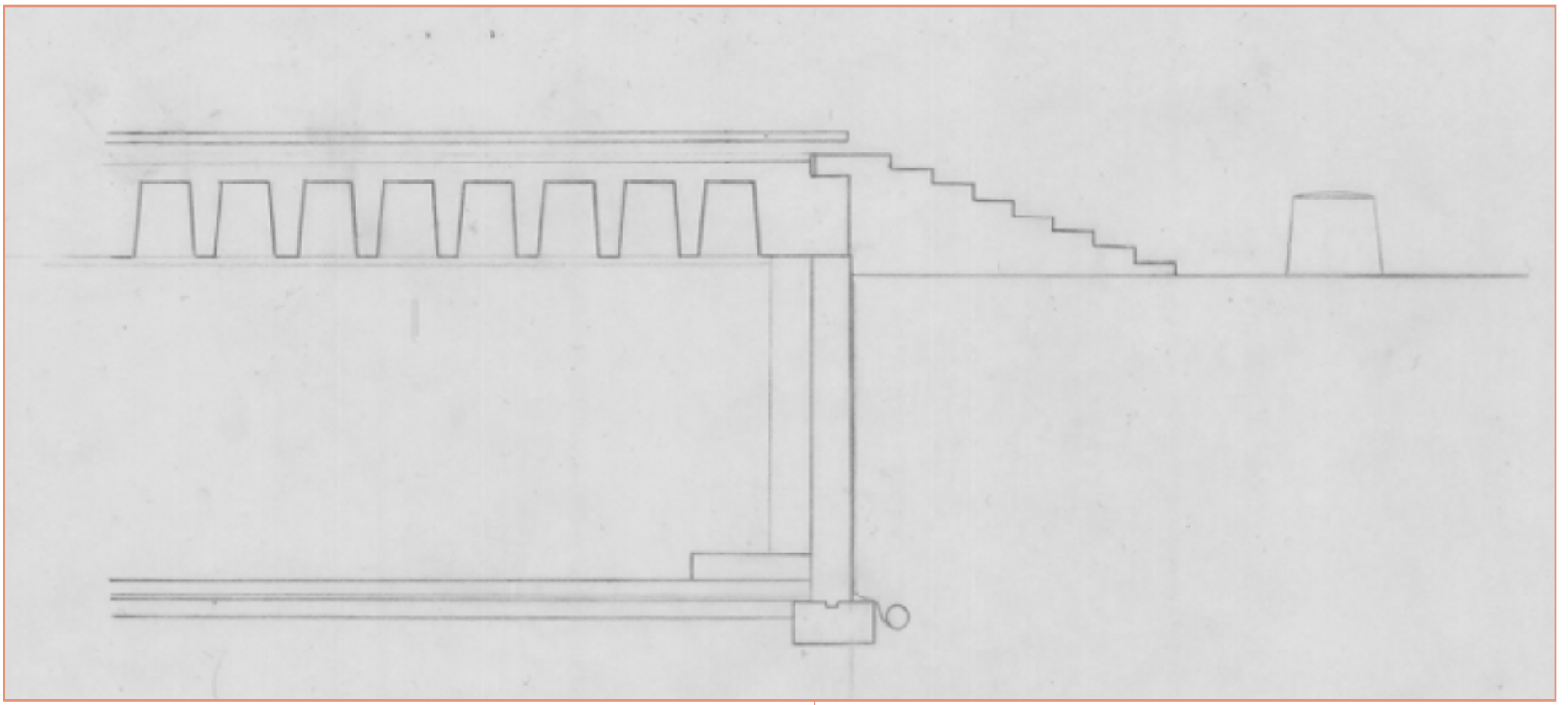




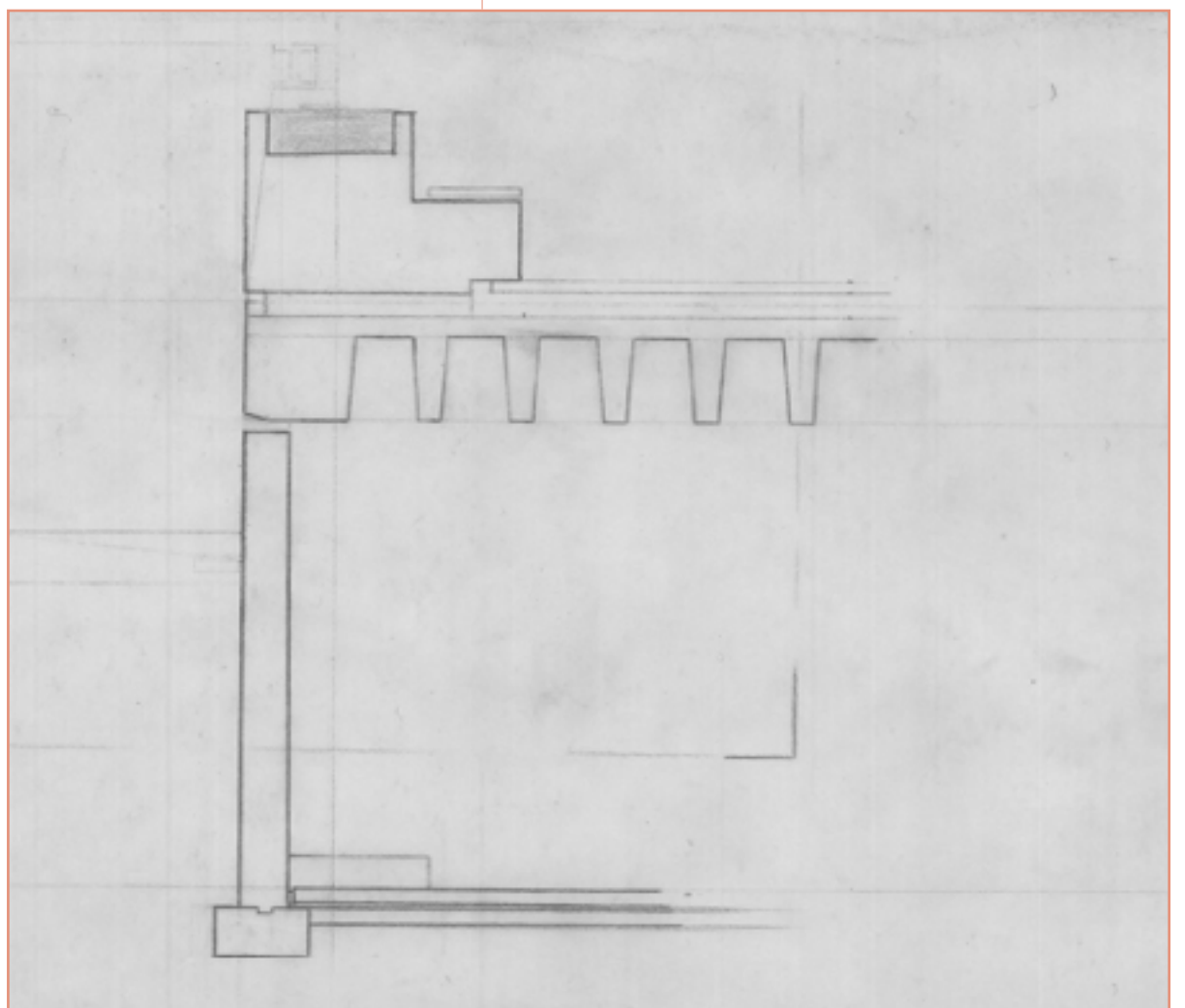
Part of the concrete waffle slabs are casted into light holes. The light holes are covered by safety glass. This will lead the pedestrians to find the stairs and elevators.

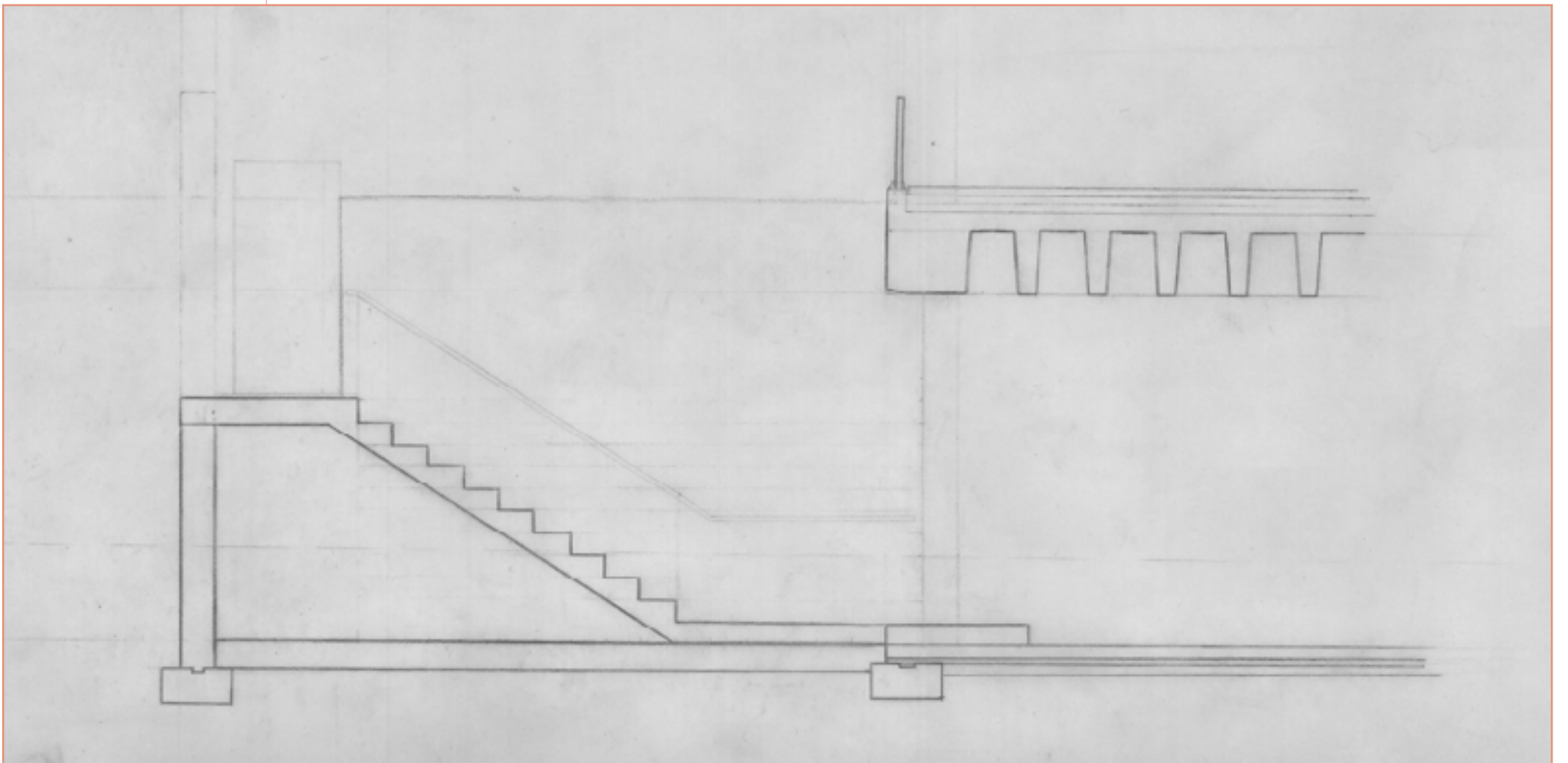
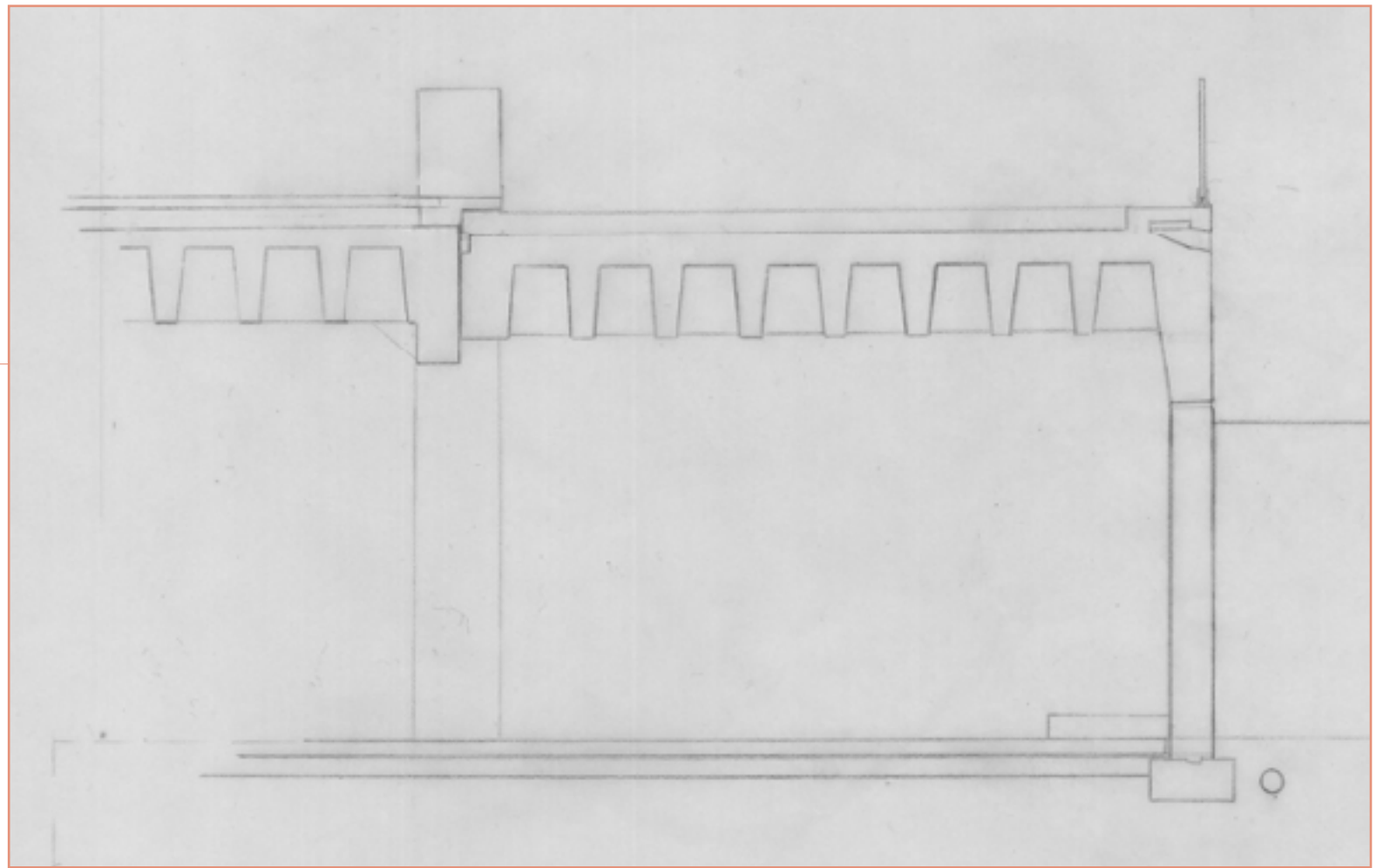
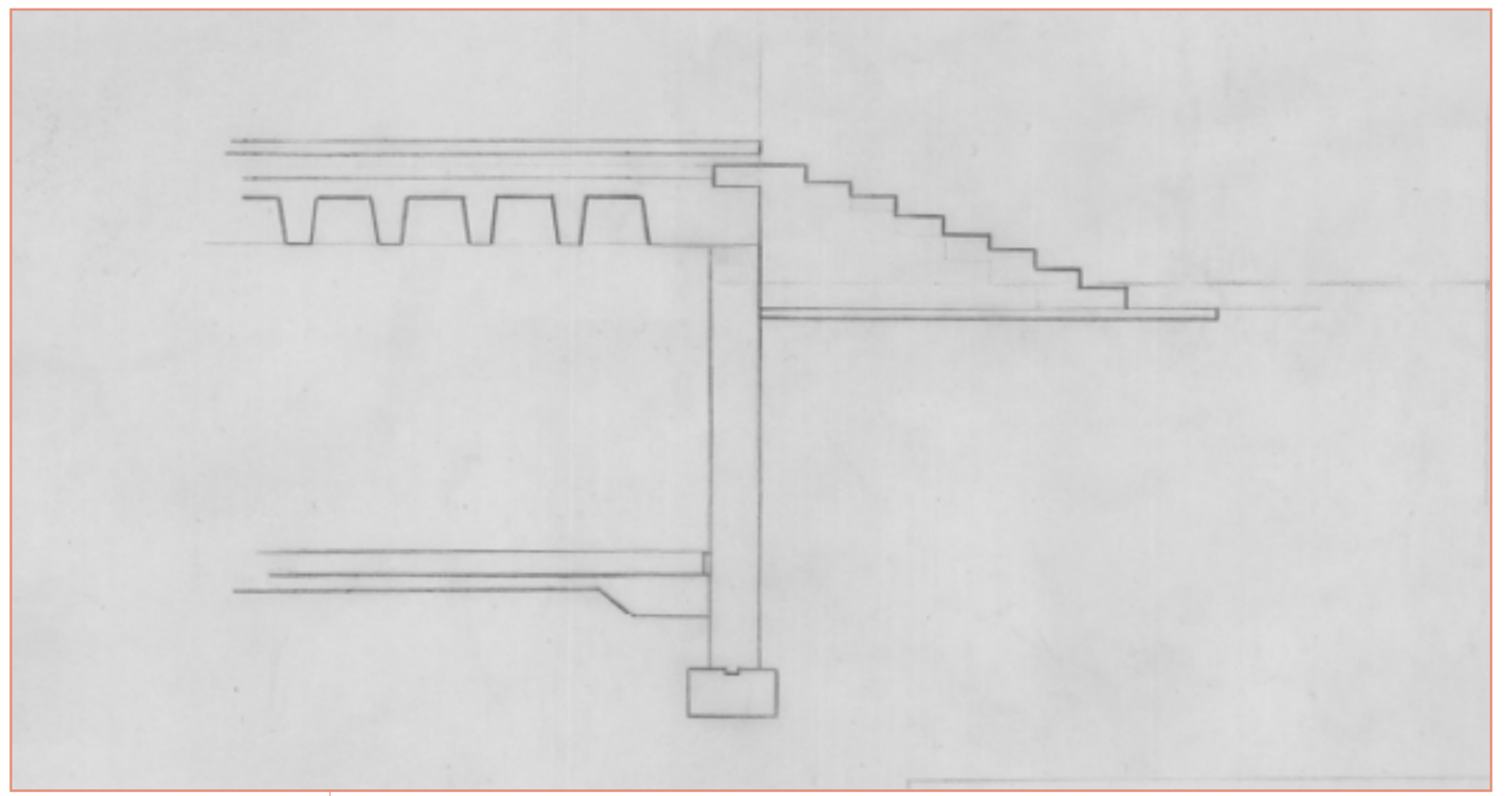


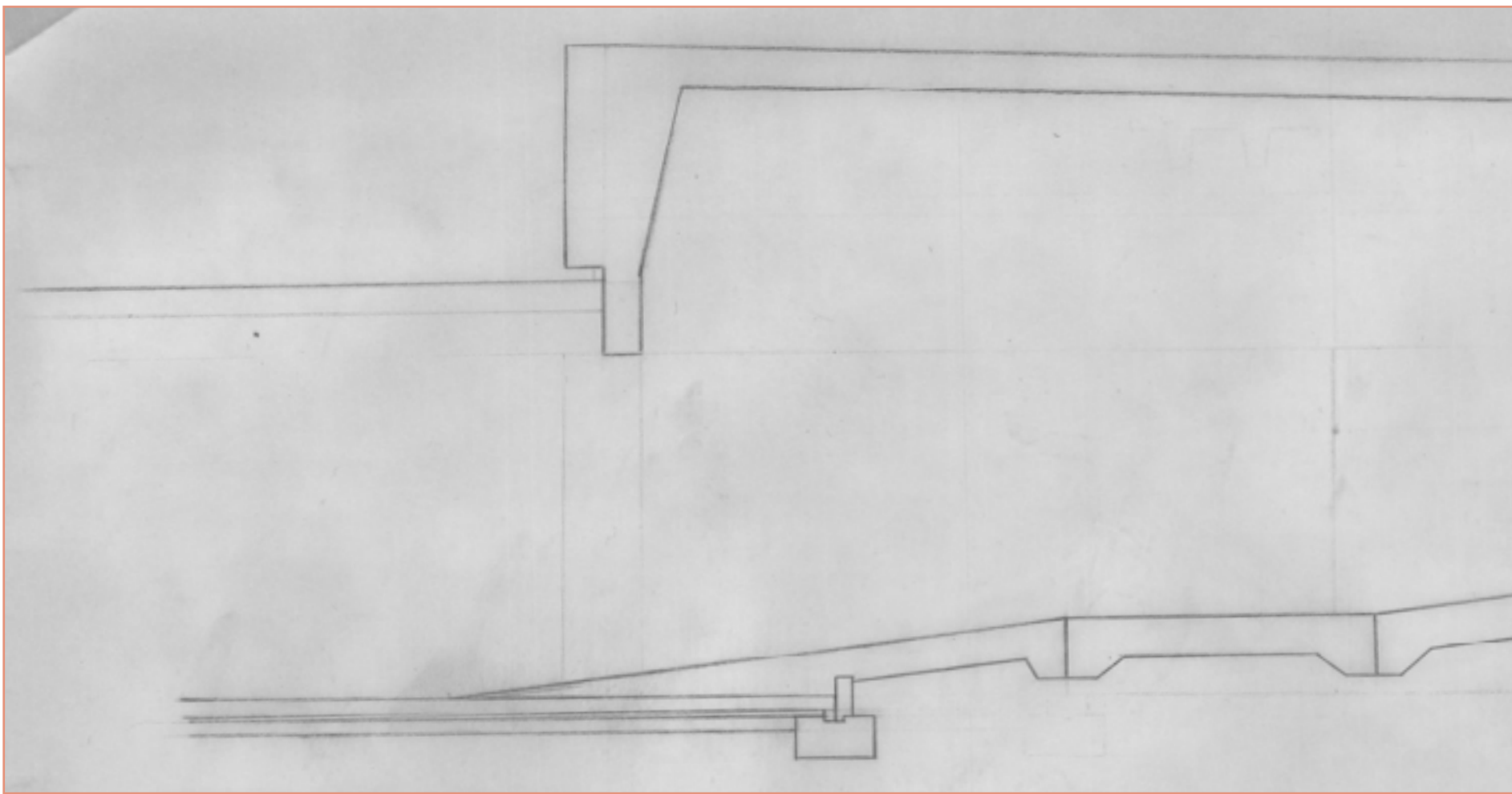


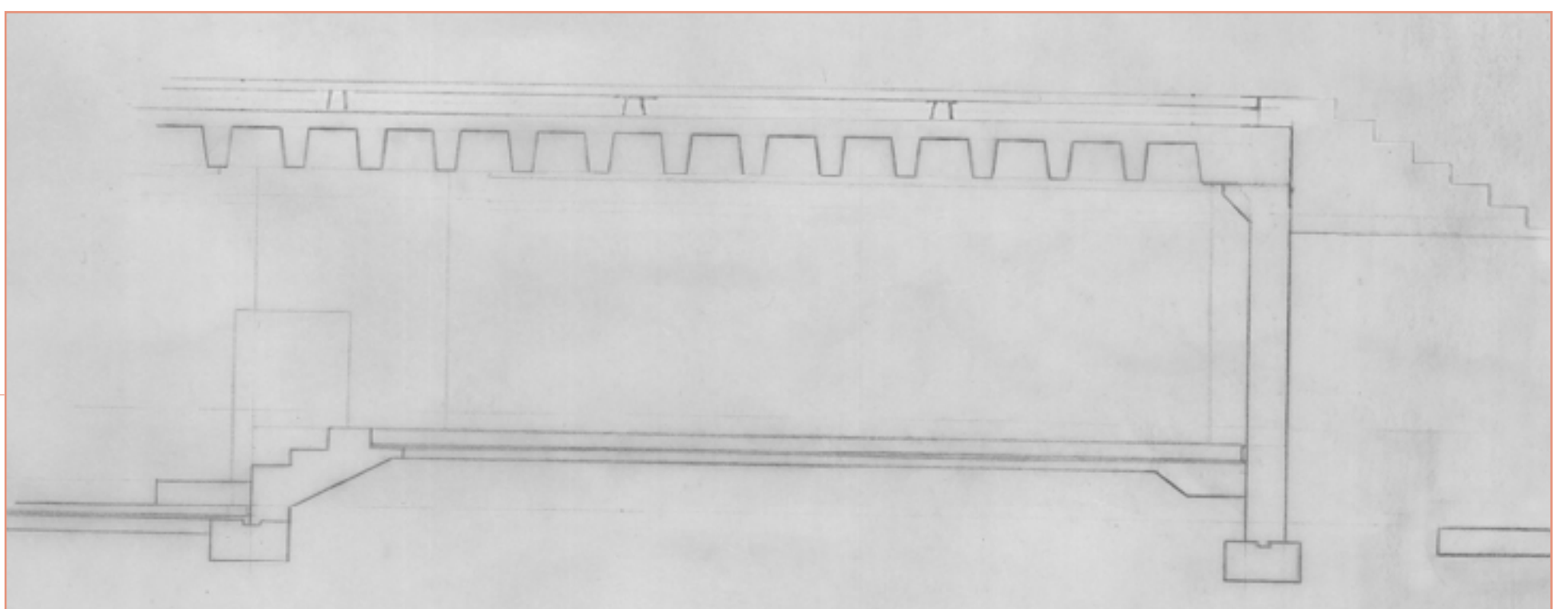
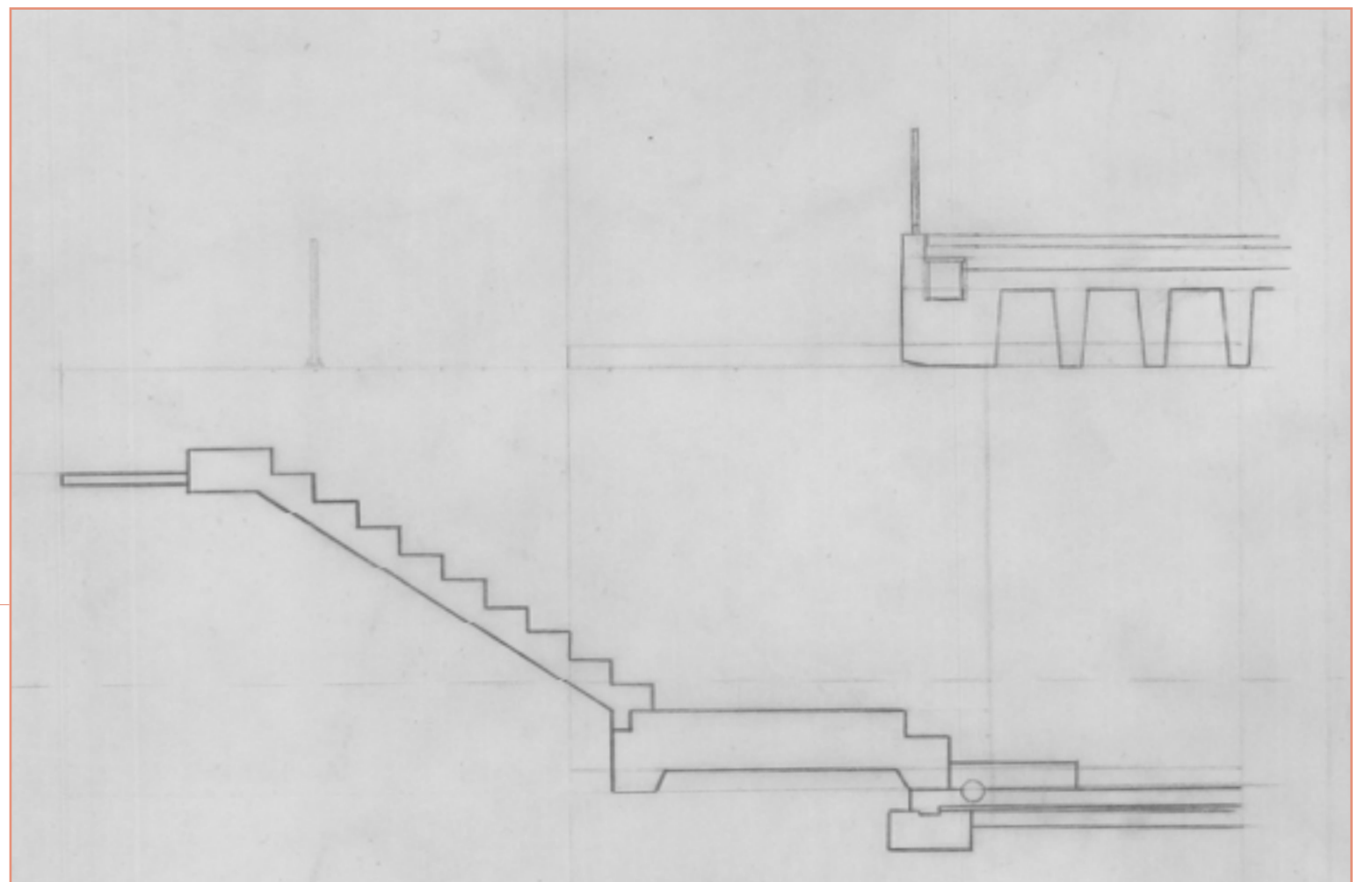
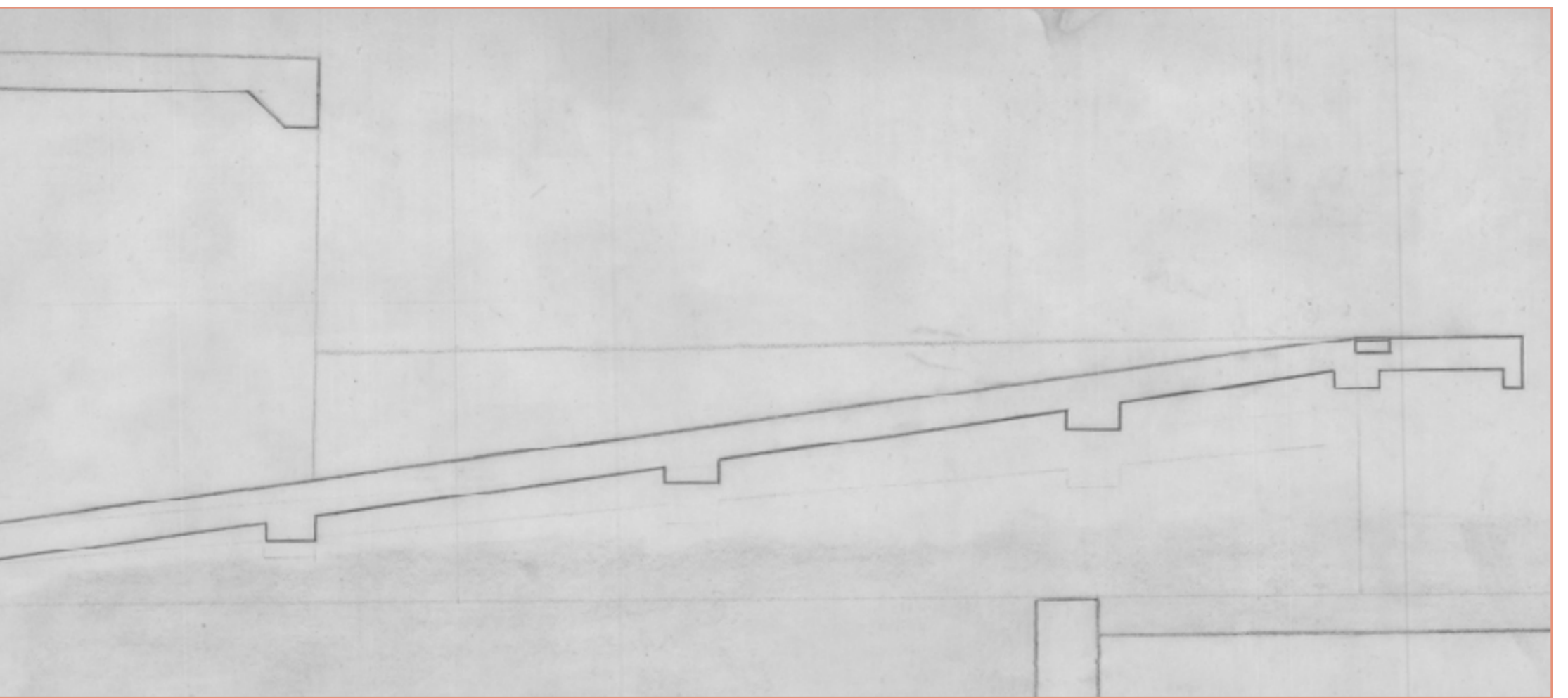


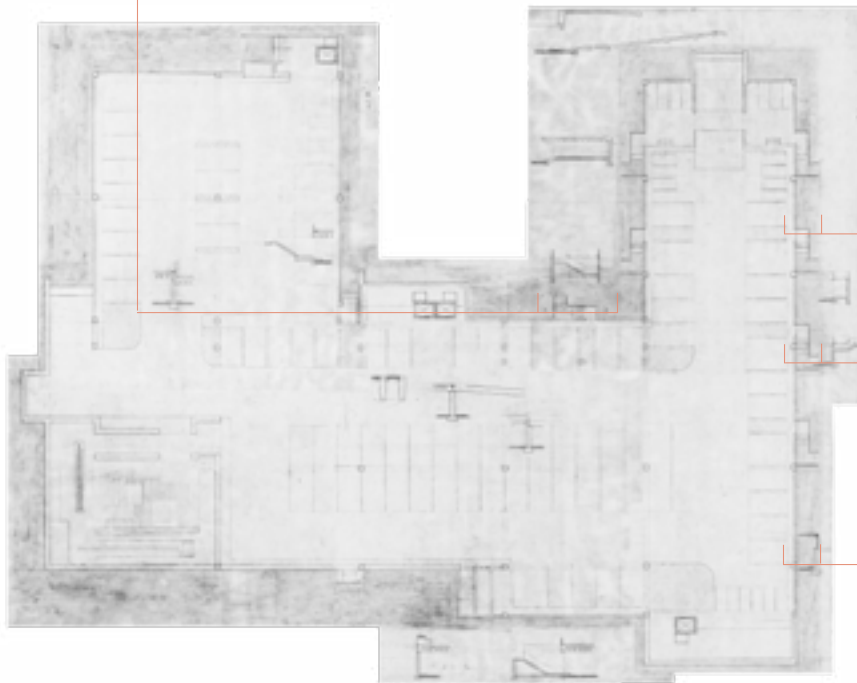
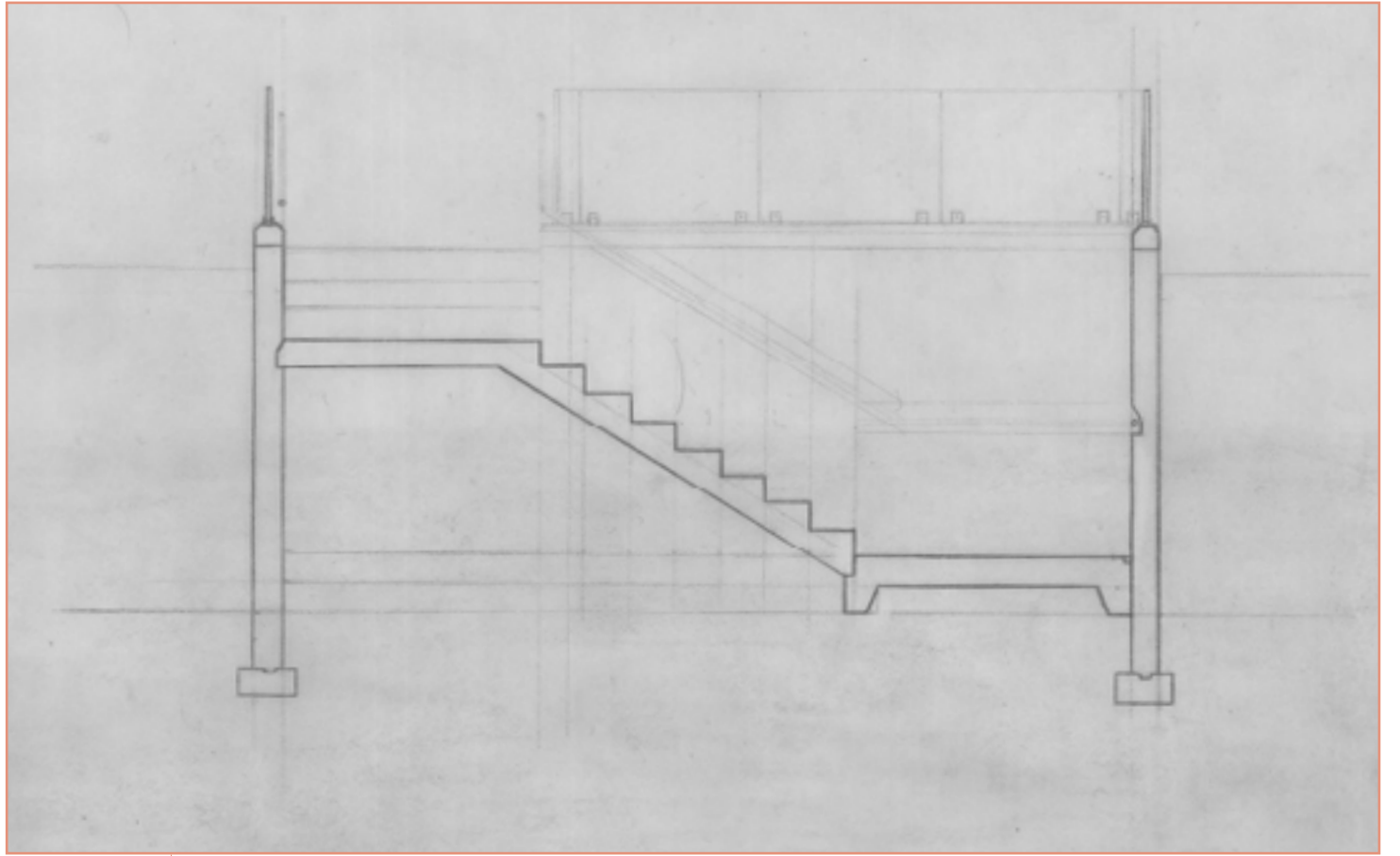
The lower parts of the plaza are 4'-6" higher than the ground, while the higher part is 6'-6" higher than the ground. To access to the plaza easily, several stairs and ramps are placed around it.



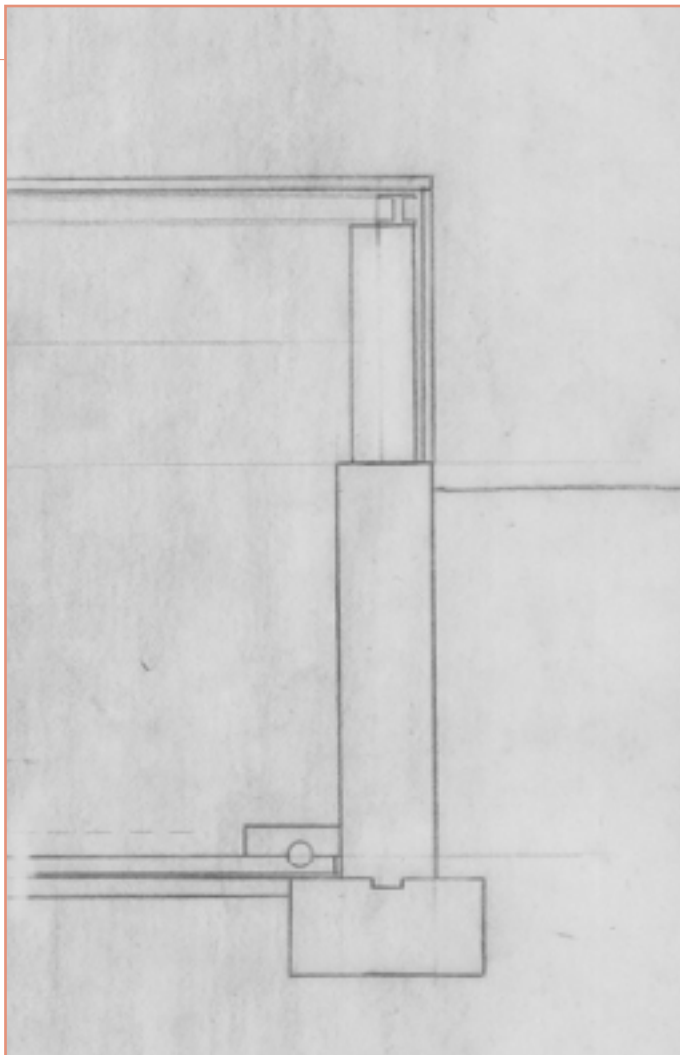
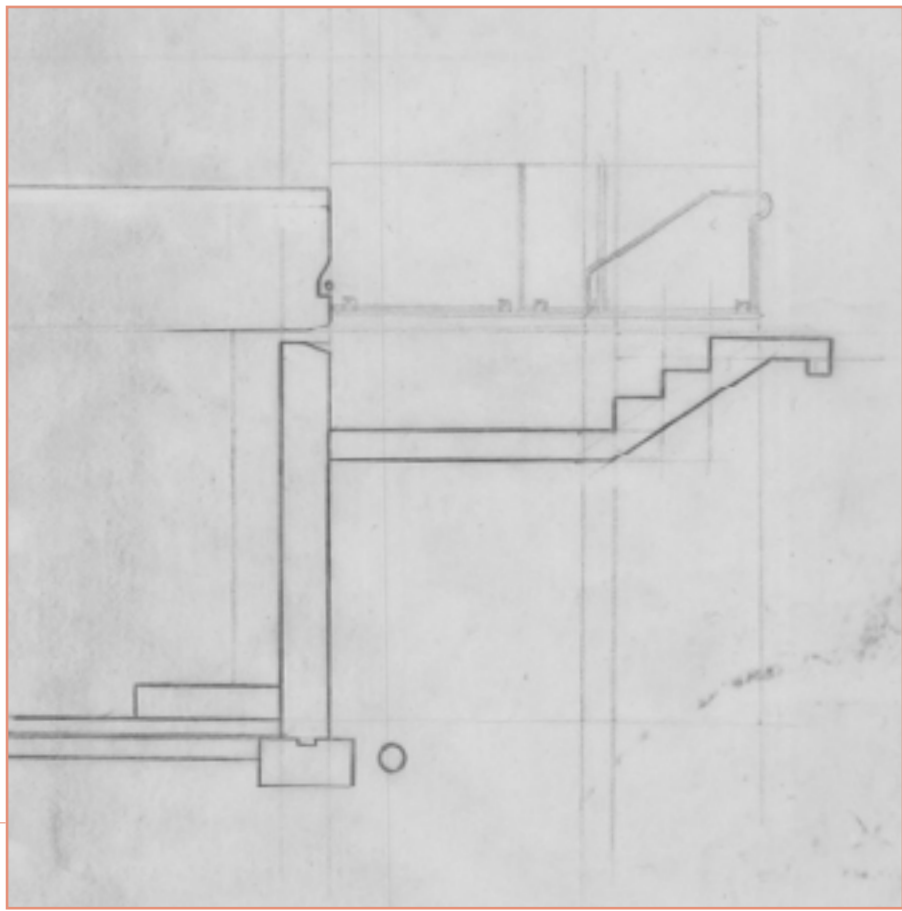
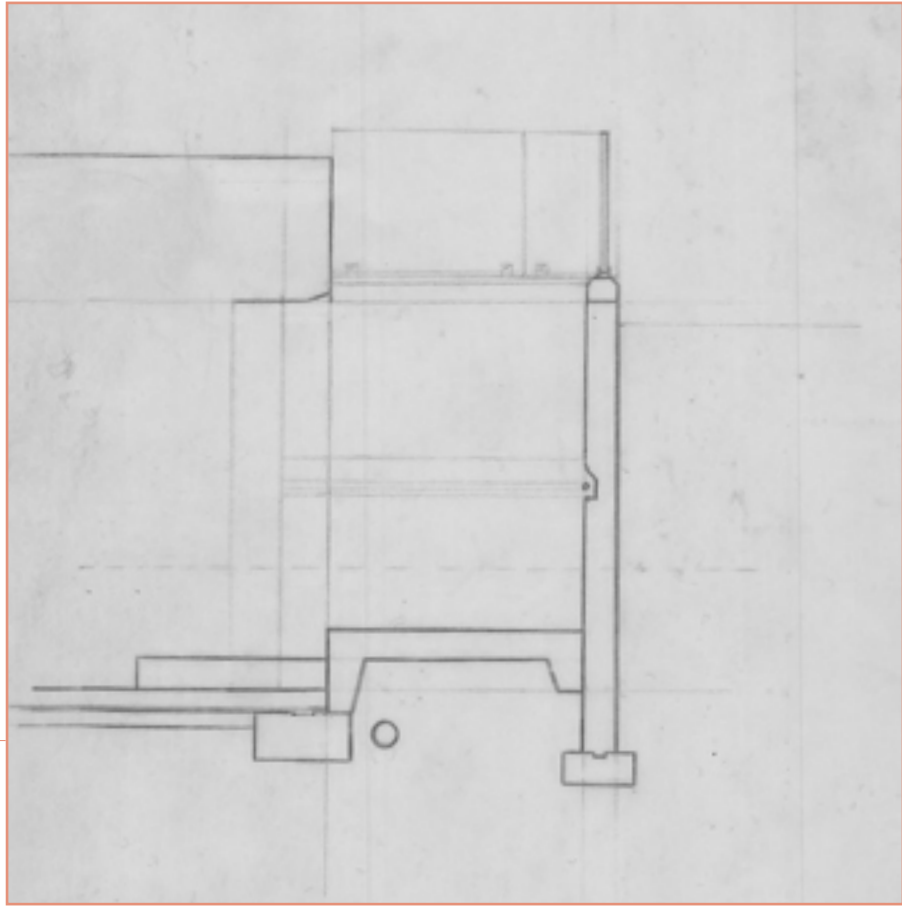


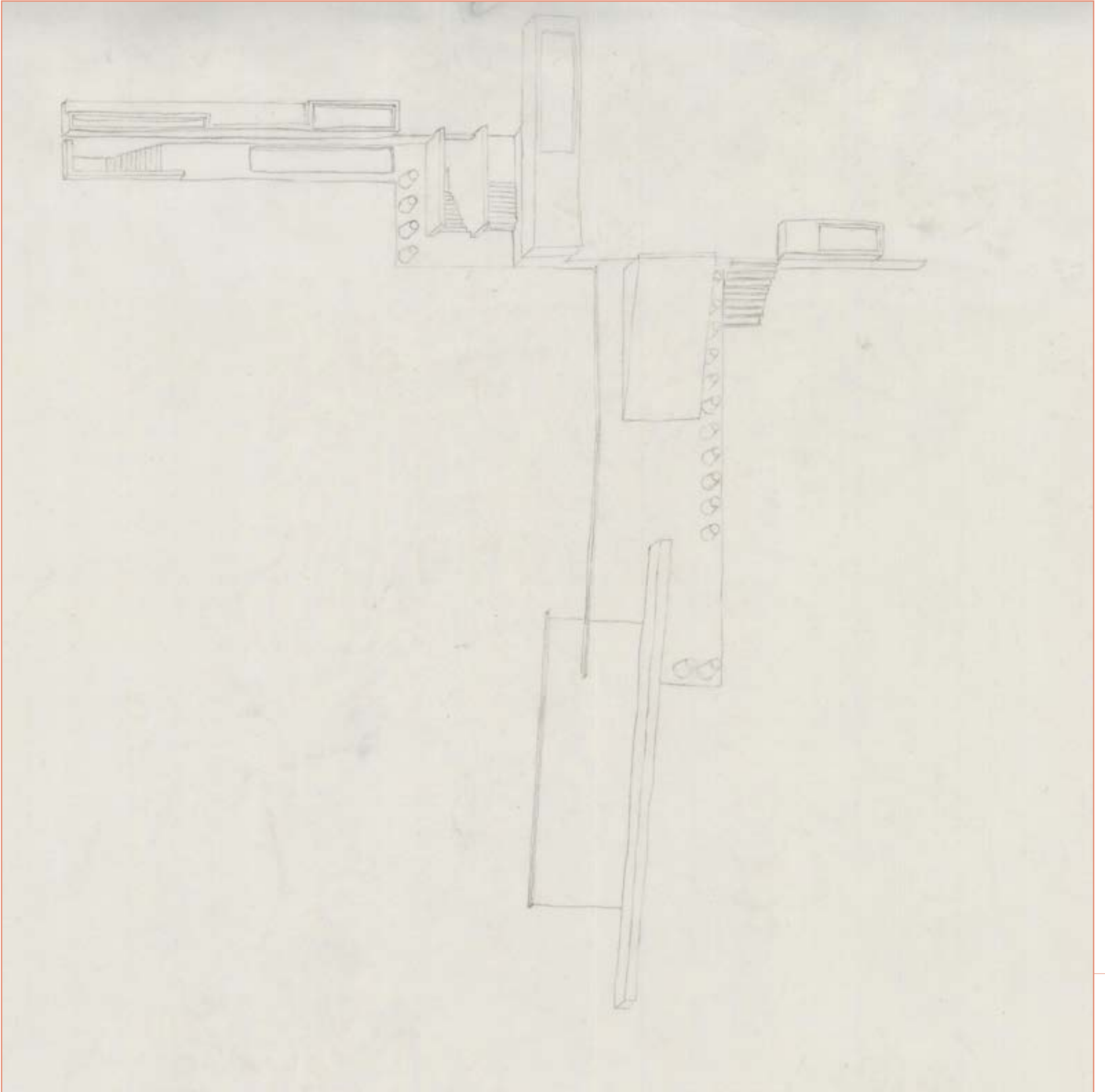




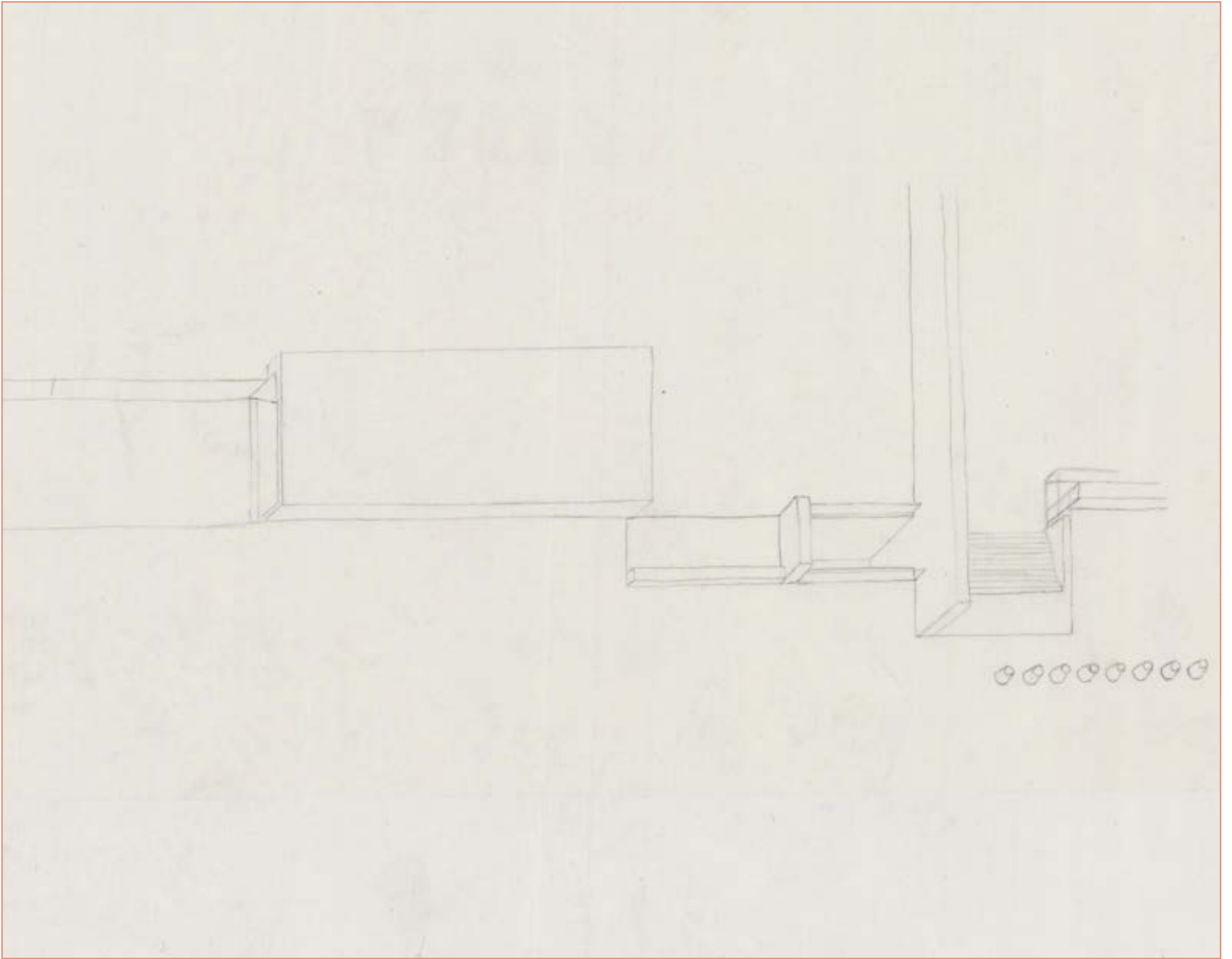


The stairs are site-cast concrete structures, with glass guard rails and wooden handrails.





Sketch of the South Entrance



Sketch of the West Entrance



Firstly, the pedestrians from the main entrance will be led to the site by a low stone sitting edge, then the view of the plaza and a row of concrete cylinders will lead them to walk on the two paved walking surfaces. In the end of the walking surface, a slop will lead them to the lower part of the plaza.

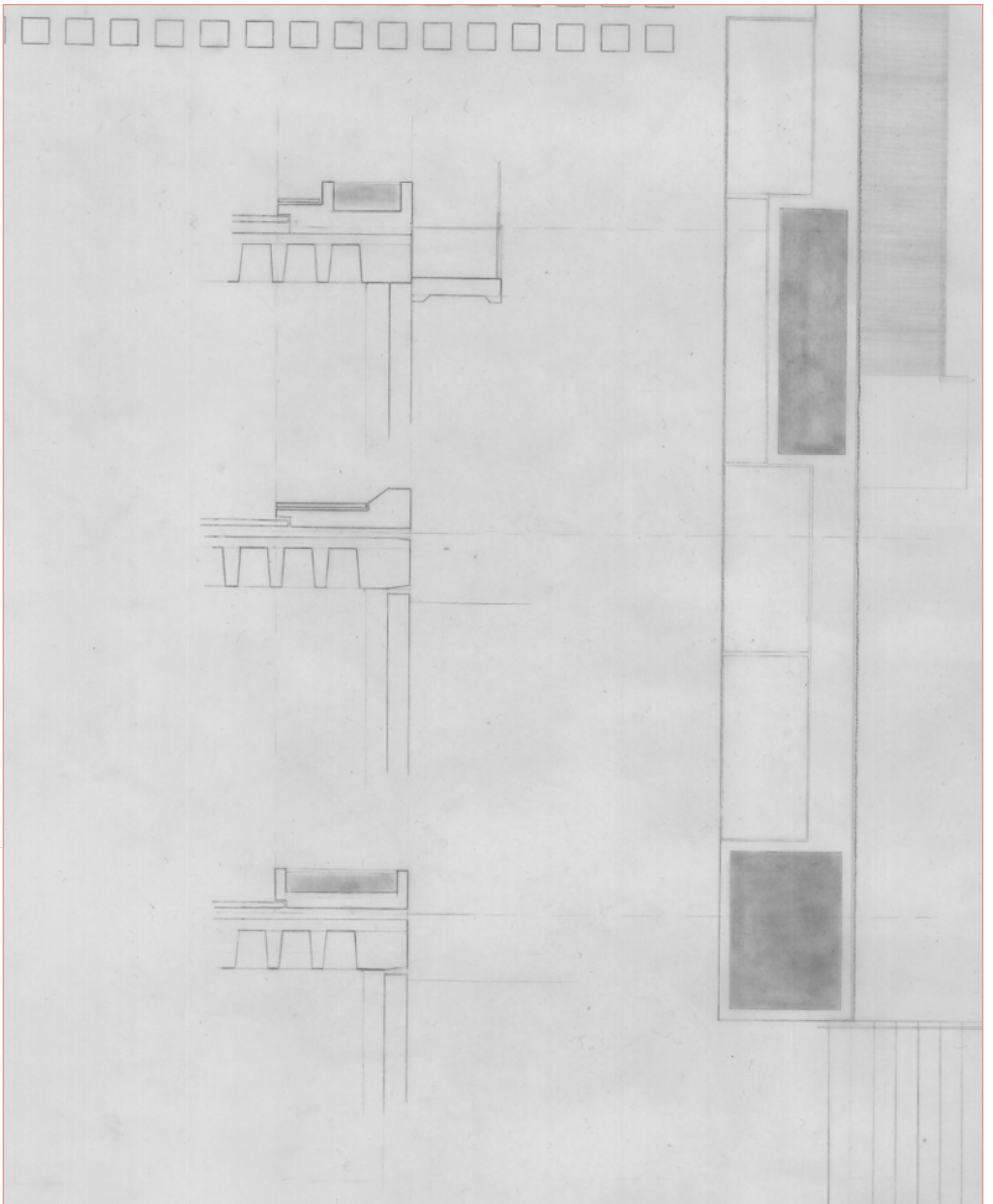
On the northwest side of the site, there is a small entrance to another lower part of the plaza besides the main entrance to the higher part from the top of the slop. A concrete wall leads the pedestrians from the north to make a left turn and then they will find themselves in the plaza.

Bench on the Edge

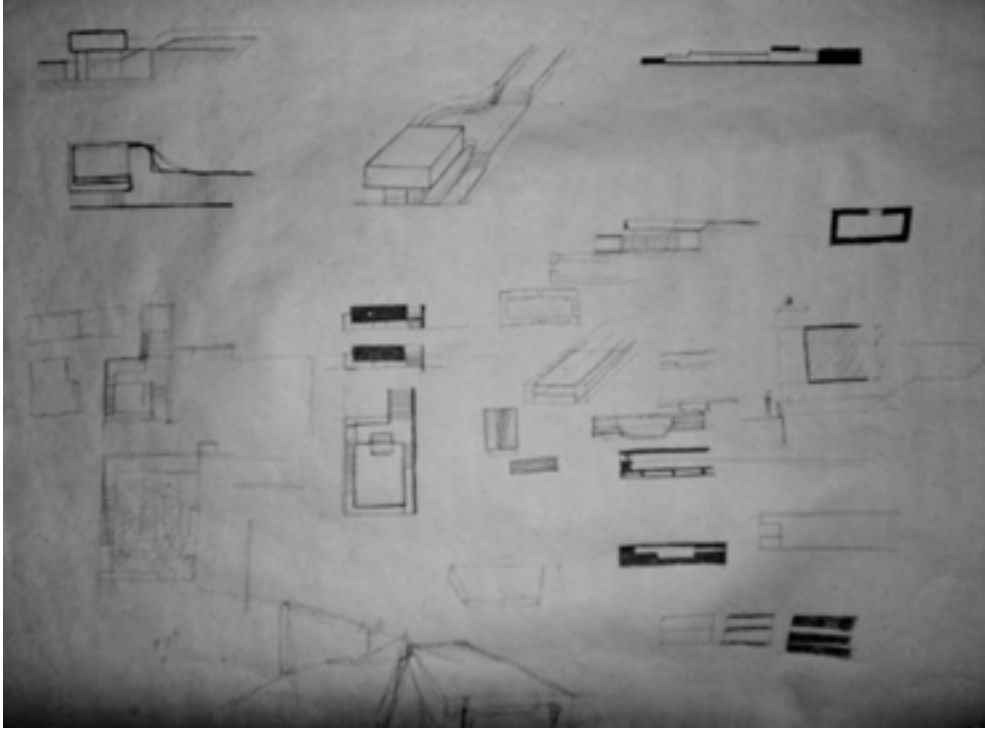
The sitting edge forms the boundary of the plaza. Boundary is how you can recognize an item. The sitting edge is how you can recognize the plaza. You will see people sitting there, drinking coffee and chatting with each other on a nice day. You will see water drained from the plaza running into small waterfalls at the edge on a raining day. There are staircases for people coming from the underground parking garage. There are staircases for people walking down the plaza.

There are several light-wells at the edge. There are different activities along the edge.





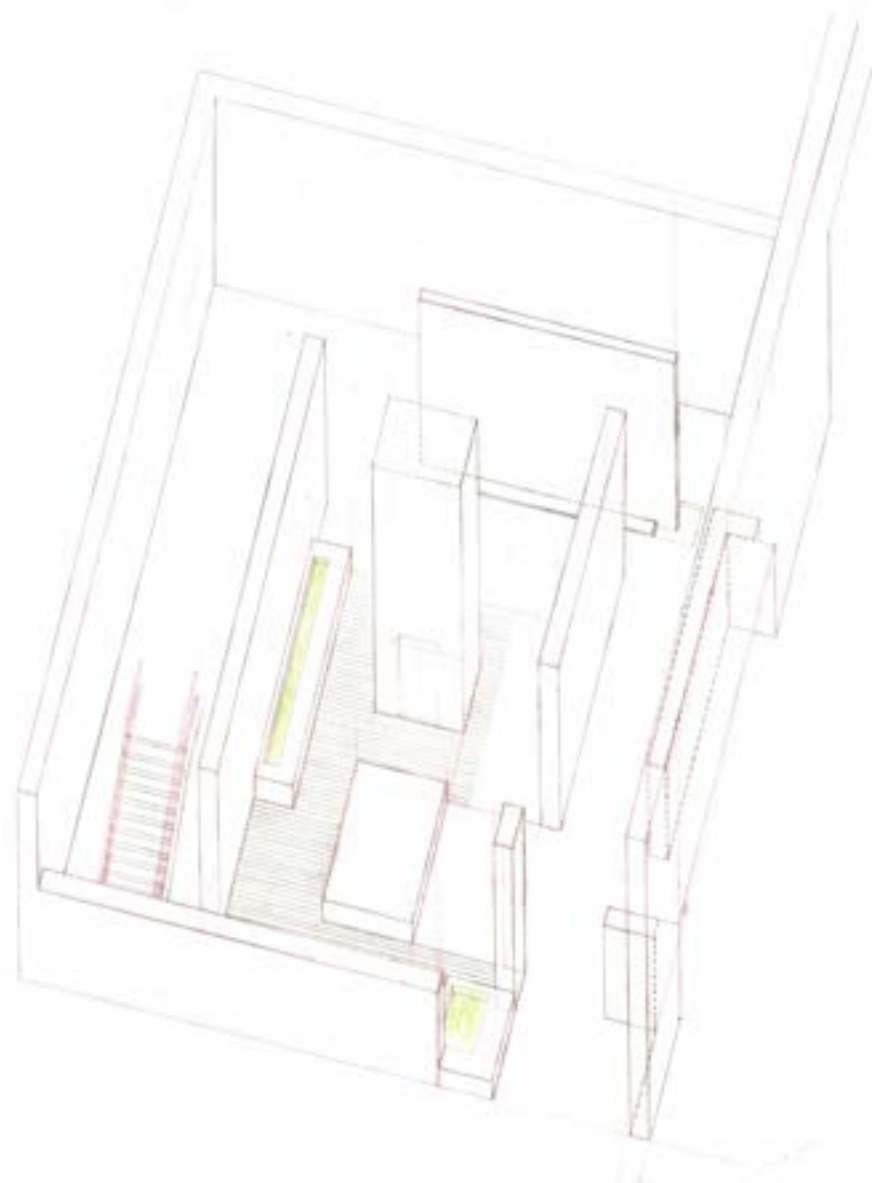
Drawing of the Sitting Edge 1" / 4'



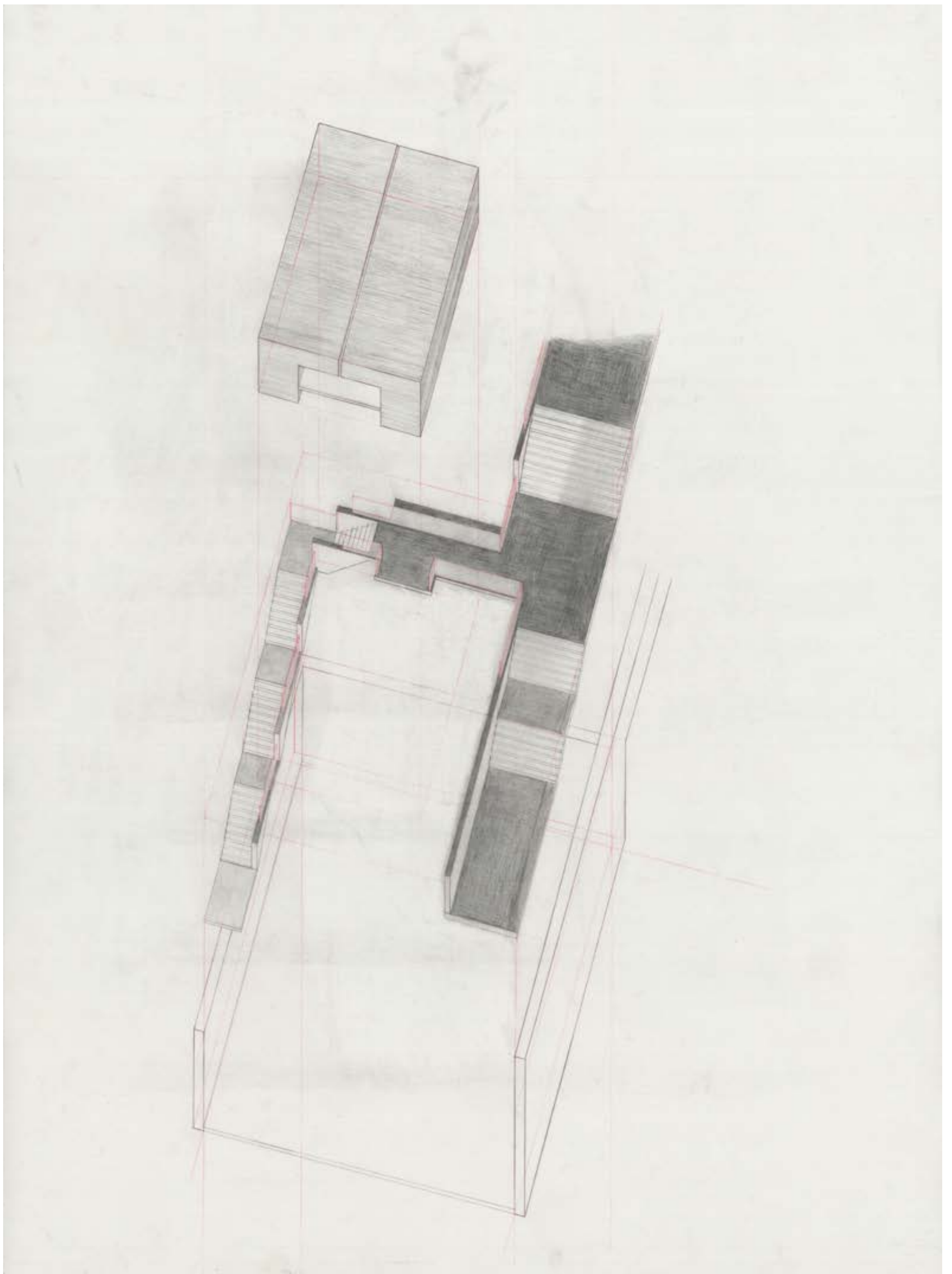
Sketch of the Sight-view Box

Extension from the slope

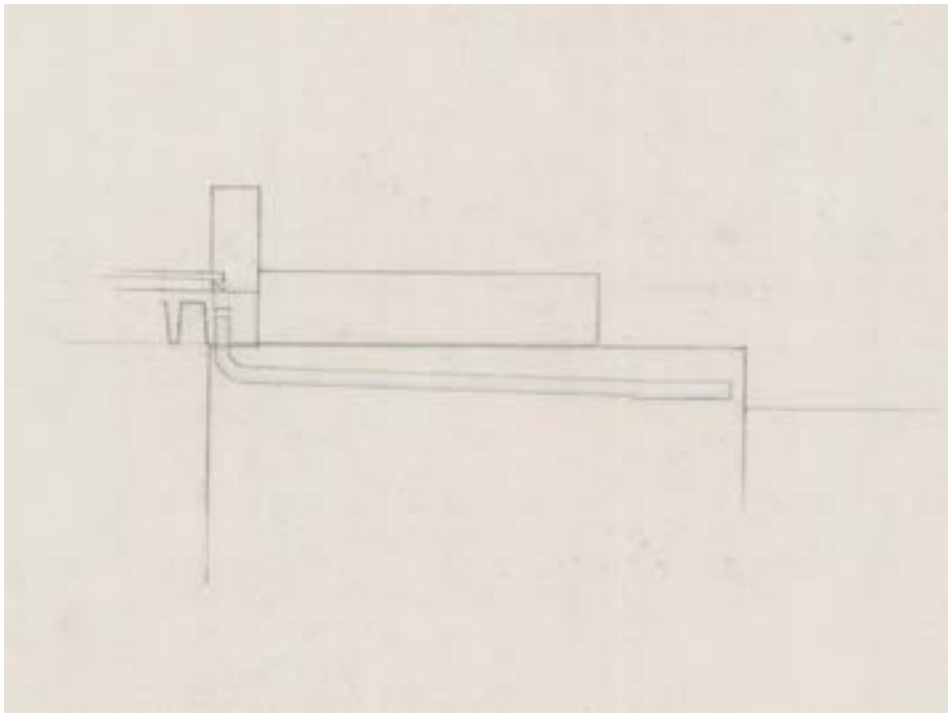
The sight-view box is designed as an horizontal extension of the top of the slop. It is a dark box with a window facing the original 16 square area of the town. A set of stairs connects the box with the plaza, the parking garage and the top of the slope.



Perspective of the Garden



Drawing of the Sight-view Box 1"/8'



Detailed Section of the Drainage System

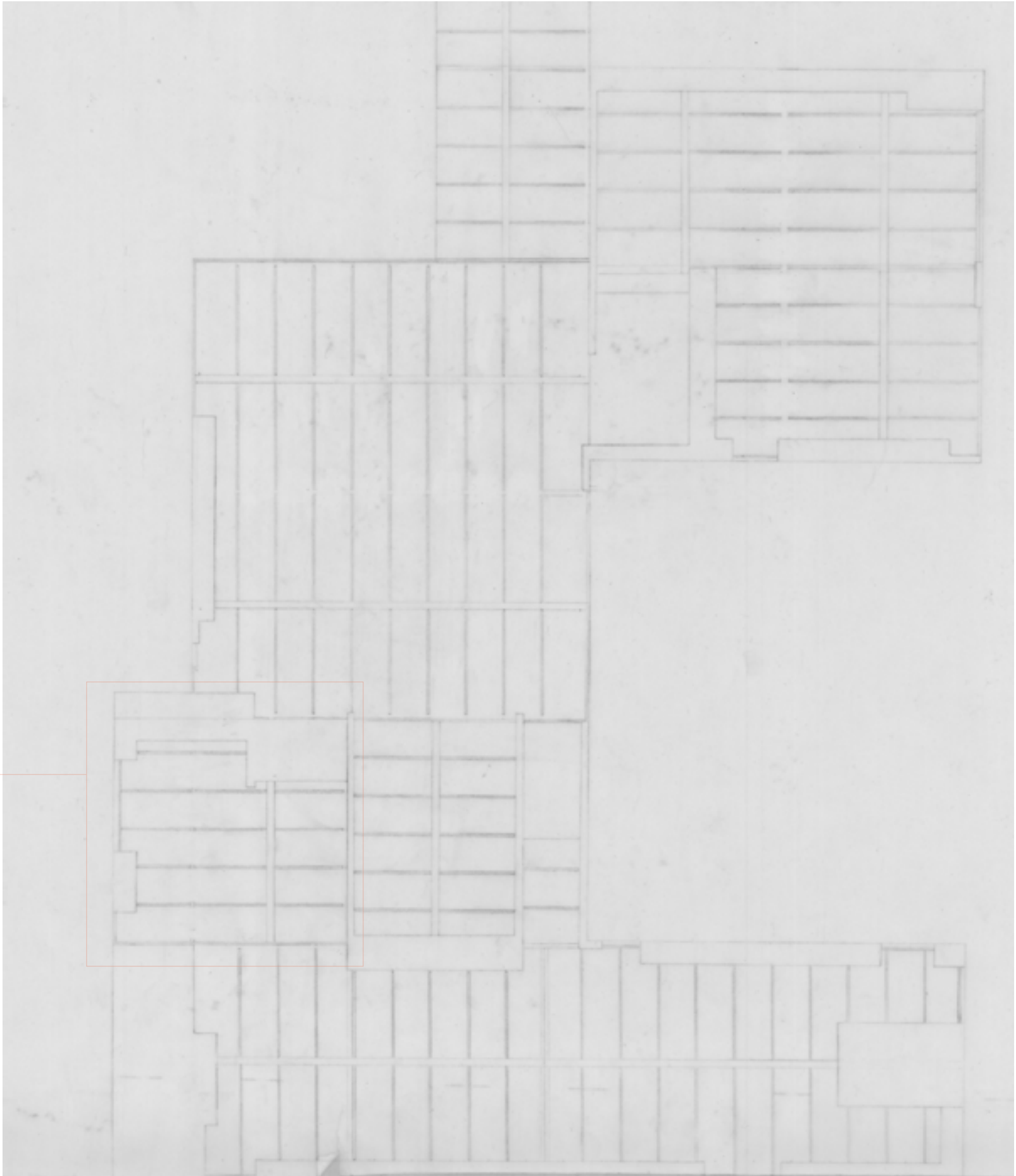
Flowing in the Mass

Water is a natural pedestrian of the site. Located in the path of the flood of Blacksburg, the site is not only important for the people, it is also important for water. The dual surface structure of the ground mass creates a path for the water in the mass. Water runs out of the plaza at the edge and forms small waterfalls, which changes it into a water plaza on a rainy day.

The slabs are divided into small parts by the ribs, which also support the concrete panels as the plaza surface. Water will run through the marble panels and flow out of the groundmass



Structure of the Dual Surface System 1"/32'



Rib Plan 1"/32'



Sketch of the project



Photo from the crossing of Main Street and Alumni Avenue

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