

Graduation Thesis

A PROJECT FOR A SECONDARY SCHOOL IN AMSTERDAM NORTH

studio: Back to School

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Content

A PROJECT FOR A SECONDARY SCHOOL IN AMSTERDAM NORTH

1. theoretical premise

- *school as “singular place”*
- *school as institution*
- *school as interior world*
- *boundaries*

2. research and design strategy

3. promenade

4. materialization

5. conclusions

Theoretical Premise

A SECONDARY SCHOOL IN AMSTERDAM NORTH

“As time becomes more flexible, places become more singular”.

(Castells M., in *The Rise of the Network Society*, 1996).



Theoretical Premise

SCHOOL AS A “SINGULAR PLACE”

“..Schools.. still exist and will exist.. as time becomes more flexible, places become more singular, as people circulate among them in an increasingly mobile pattern”.

(Castells, M. in *The Rise of the Network Society*, 1996).

It is a persistent social institution, which functions as an urban landmark.

The school is a REFERENCE IN THE CITY.

*Schools are particular types of institution, which “take the form of an apparatus closed upon itself, with its specific loci, its own regulations, its hierarchical structures that are carefully defined and a relative autonomy in its functioning..”
The school is a “highly organized microcosm”.*

(Foucault M. in *Subject and Power*, 1984).

It provides children with a first experience of society.

The school is constituted by the events that take place within it.

The school is an INTERIOR WORLD.

Theoretical Premise

SCHOOL AS AN INTERIOR WORLD

School's activities and spaces can be divided into two domains: the *formal* and the *informal*.

Formal purpose:

The transmission of knowledge, from teacher to students and from student to student.

The CLASSROOM is that 'container' in which the inter-human knowledge exchange happens.

Informal purpose:

The experiment of socialization and cohabitation among peers.

The CIRCULATION SPACES are crucial for this 'non-monitored' interaction.



Theoretical Premise

BOUNDARIES

The challenge is to design a school that keeps students within it.

ADVANTAGE: solution of the safety issues (defence, control, monitoring).

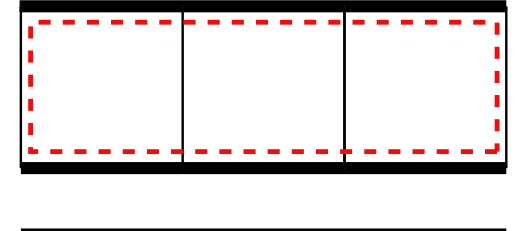
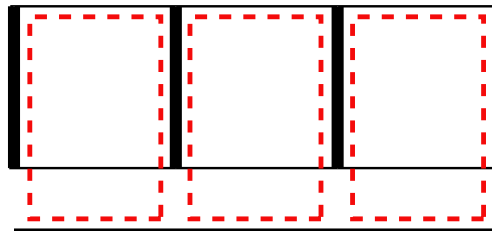
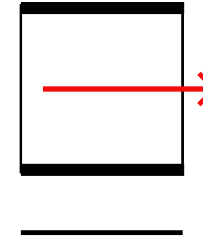
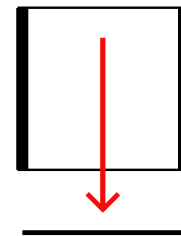
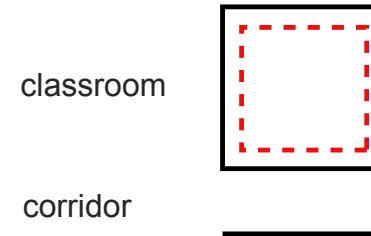
RISK: sense of oppression causing the failure of identification of the students with the building.

PROBLEMS: different logistic and infrastructural arrangements required by the different departments of the school.

Problematic integration among students, coming from different social, ethnical and age groups expressed also through violent episodes.

The focus of the design is on the boundaries between formal and informal spaces. Being permanent or flexible, they give the possibility of expanding the classroom in different ways.

In this way different classroom's typologies emerge.



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- *boundaries*

2. research and design strategy

- *program*
- *site, Amsterdam North, the IJ Plein*
- *site strategy*
- *distribution strategy*
- *architectural concept*
- *structural concept*

3. promenade

4. materialization

5. conclusions

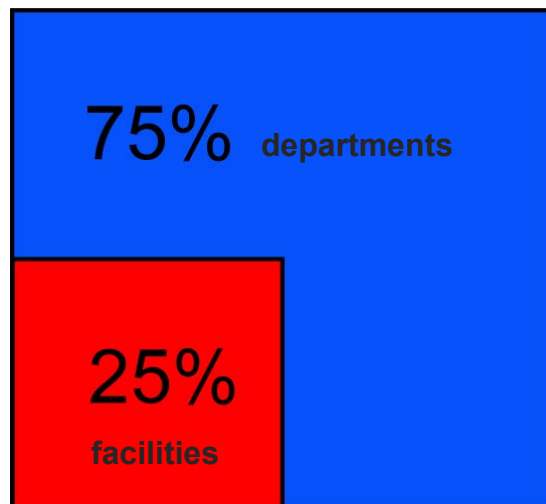
PROGRAM

The program consists of 8 departments and 4 groups of common facilities.

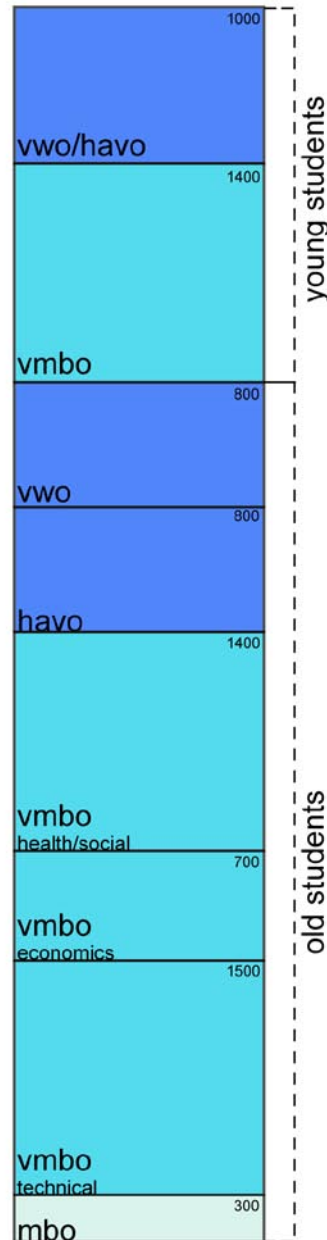
The departments are:

vwo/havo and *vmbo* for young students;
vwo, *havo*, *vmbo* (health/social, economics and technical) and *mbo* for old students.

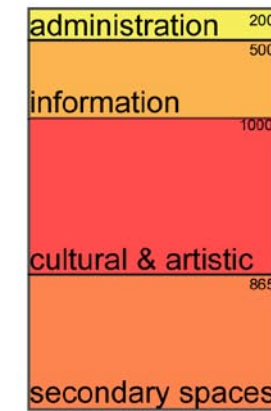
Total gross surface: 15000 m².



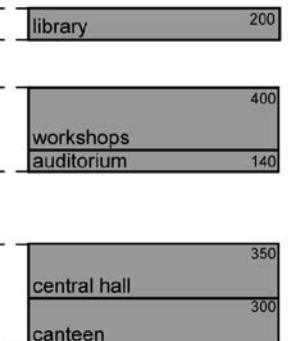
DEPARTMENTS



FACILITIES

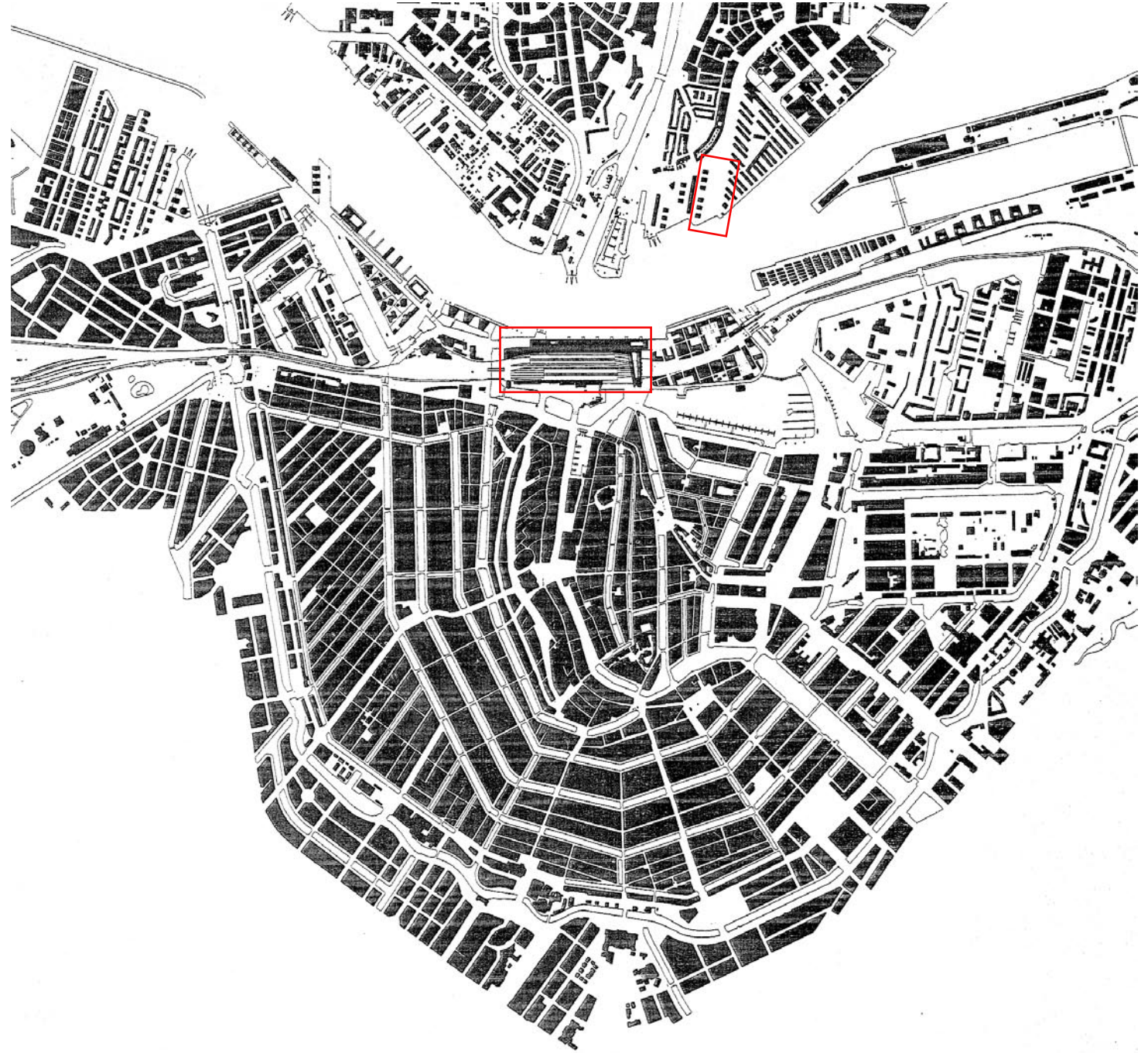


MAIN PLACES



CONTEXT

Amsterdam North and Amsterdam Centre represent two different urban conditions (in terms of time-space and relative socio-cultural composition) facing each other on the IJ river.



view of Amsterdam Central



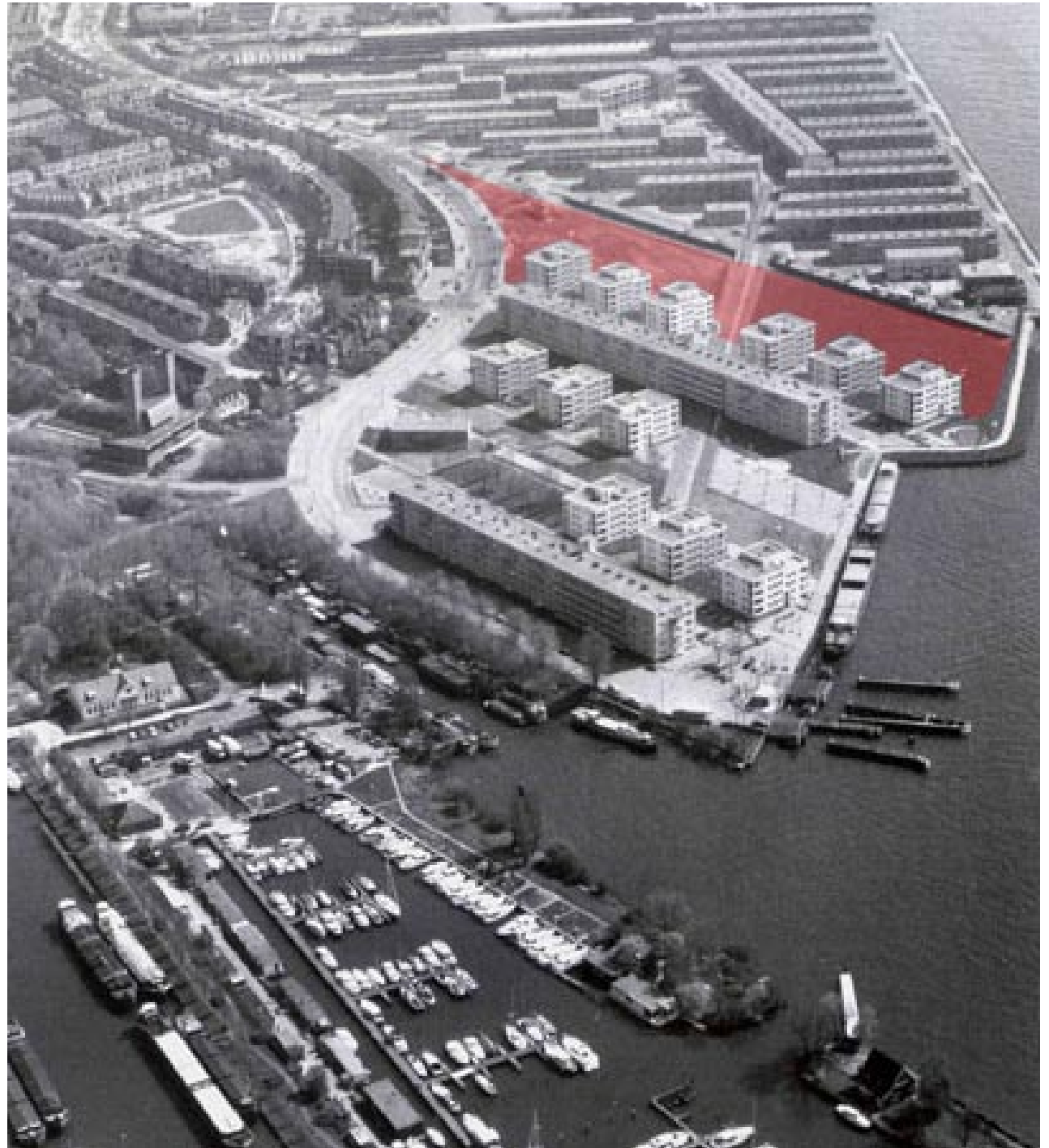
view of Amsterdam North



SITE

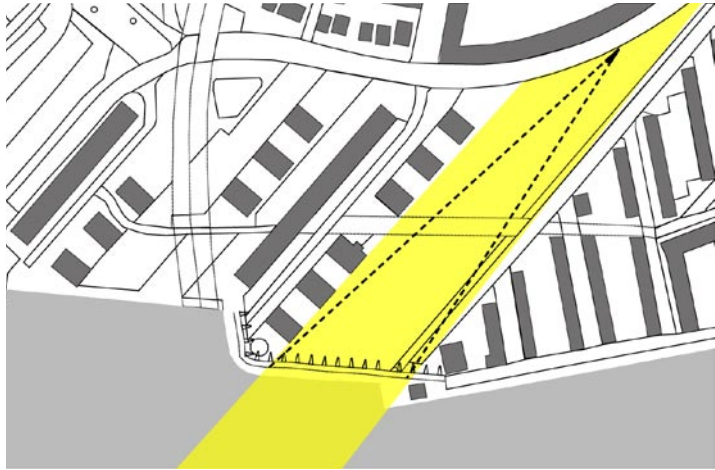
The IJ Plein, on the northern bank of the IJ river, was designed as a “green square” in the urban plan by OMA (1986).

It represents a distinctive sign of Amsterdam North.

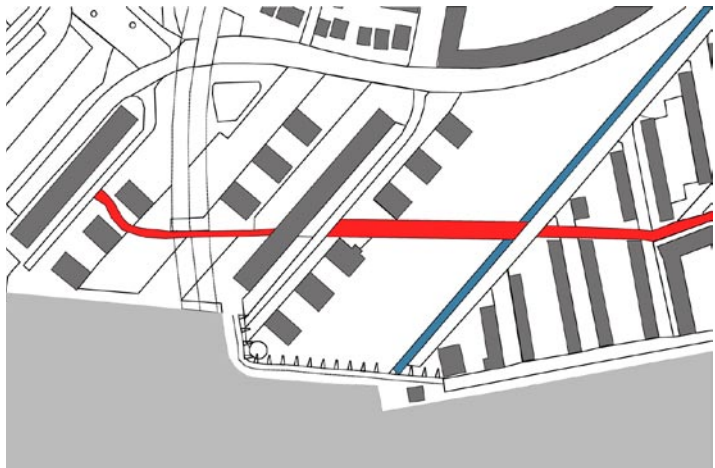


SITE ELEMENTS

view



bike path and canal



Research and Design Strategy

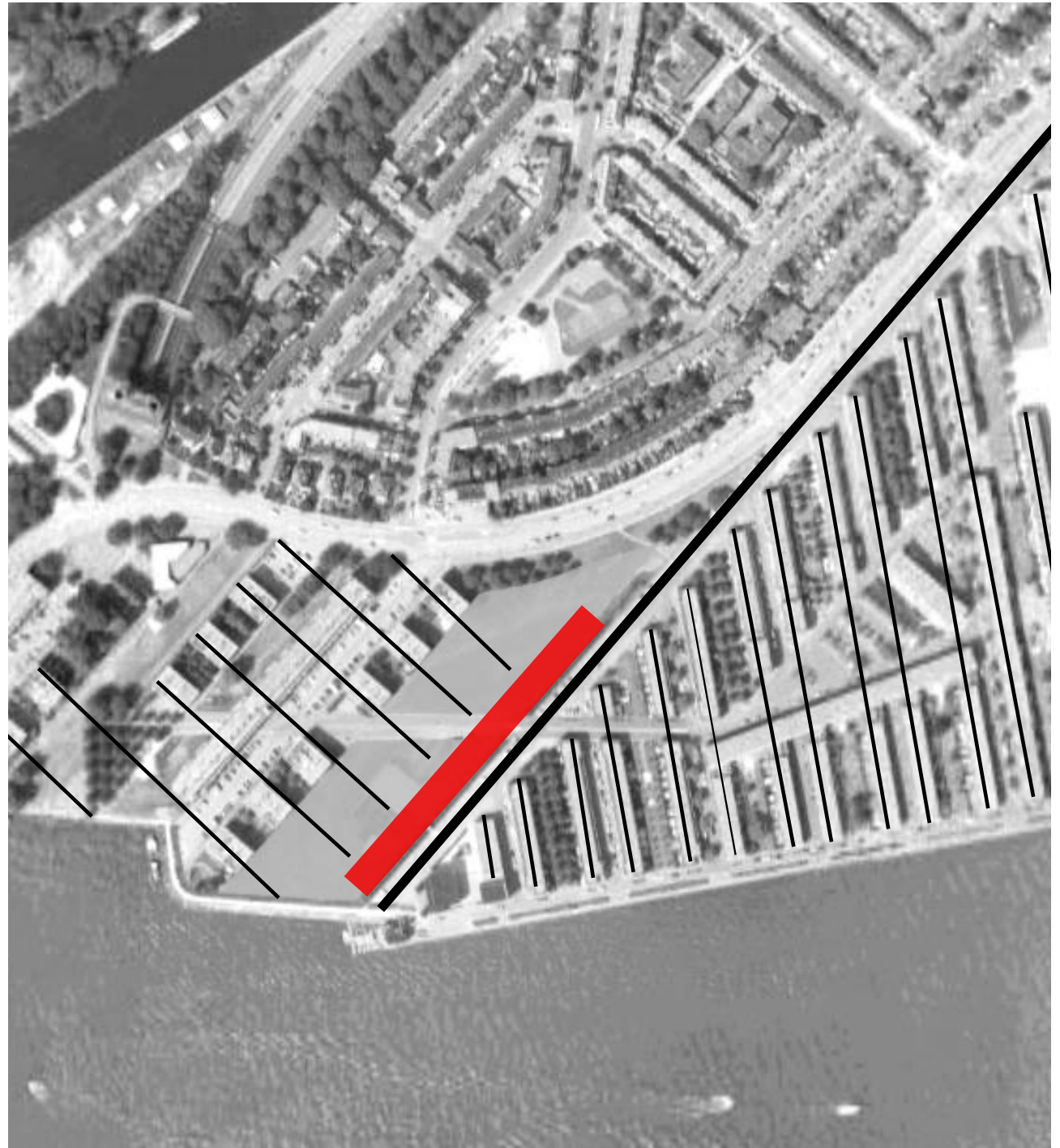
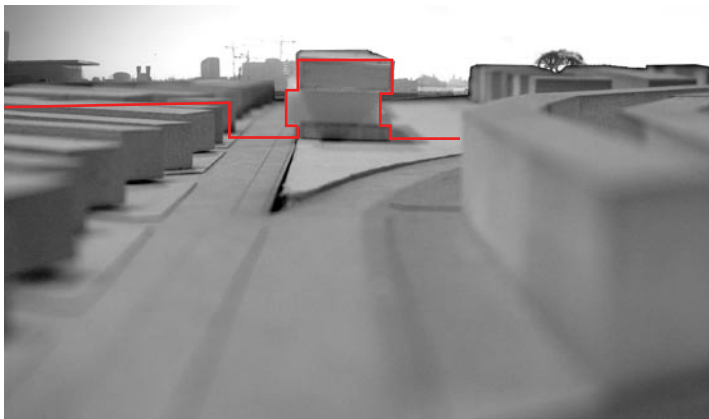
SITE STRATEGY

To strengthen the axis of the road of OMA's plan.

Minimizing the width of the building.

Tuning the height on the scale of the surrounding buildings.

Stacking the program.



DISTRIBUTION IN SECTION

1. No *divison* into departments but rather into *classroom's typology*:

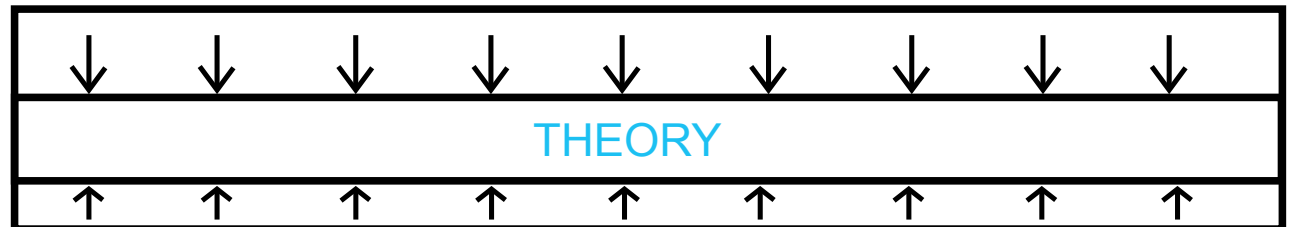
TECHNICAL

THEORETICAL

HEAVY TECHNICAL

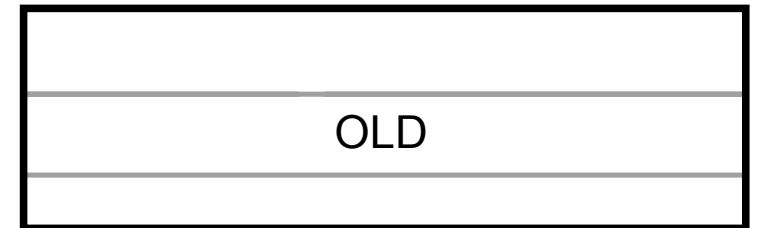
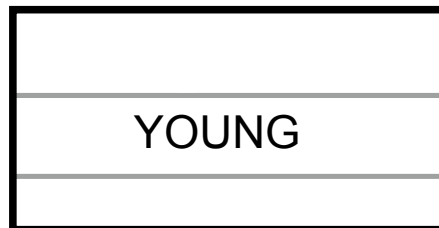


Theory is the common ground of every department.

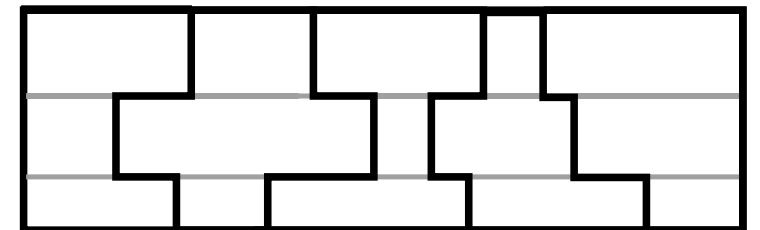
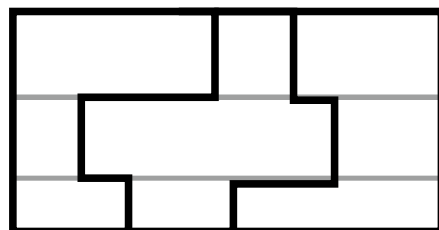


2. *Division among*

YOUNG STUDENTS and OLD STUDENTS



Flexibility in the composition of the departments according to quantities over time is allowed.



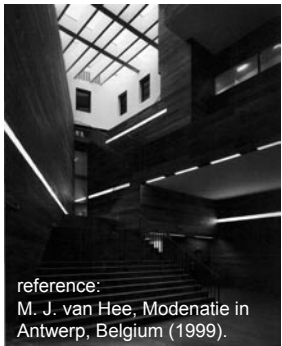
Research and Design Strategy

ARCHITECTURAL CONCEPT

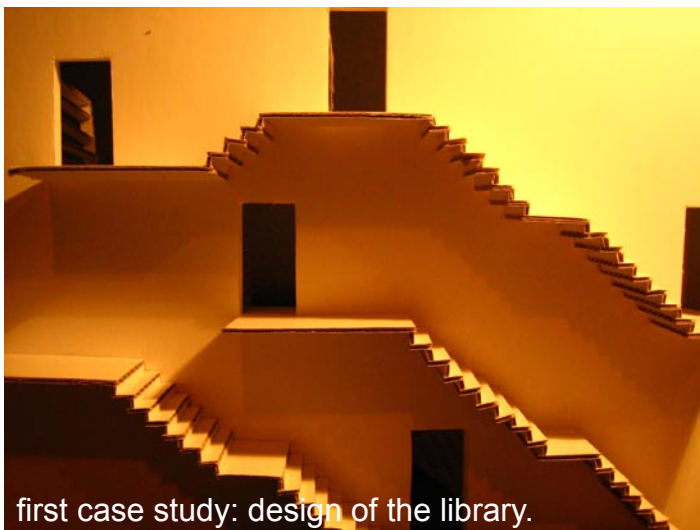
1 path = 1 school.

The path is the *constant* element that crosses different layered landscapes.

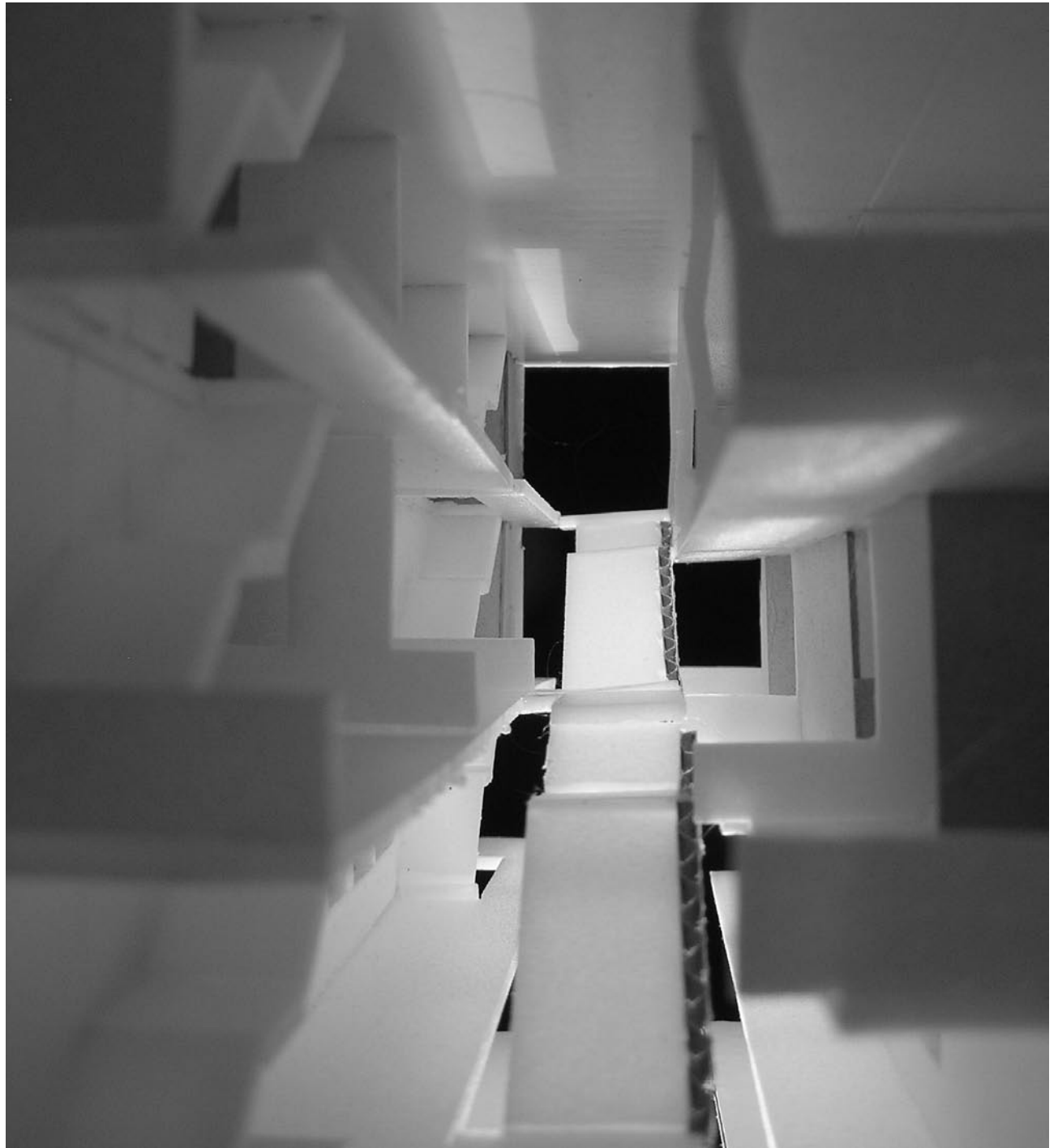
The path is the central means for orientation. It furthers the sense of belonging to the school.



reference:
M. J. van Hee, Modenatie in
Antwerp, Belgium (1999).



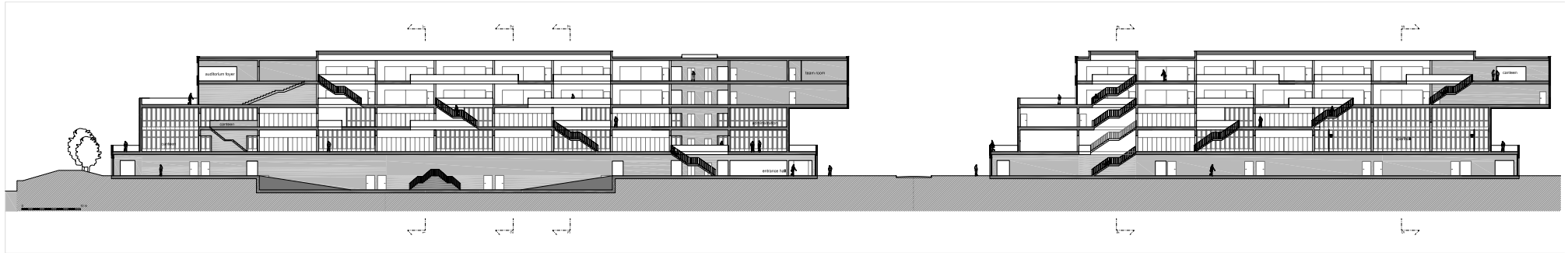
first case study: design of the library.



Research and Design Strategy

LONGITUDINAL SECTION

1 path = 1 school



Research and Design Strategy
DISTRIBUTION IN PLAN

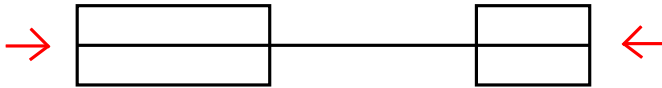
8 departments



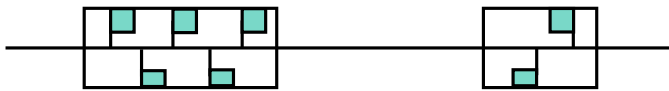
old/young students



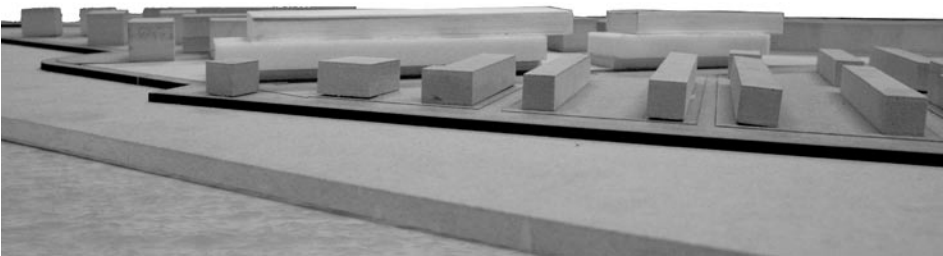
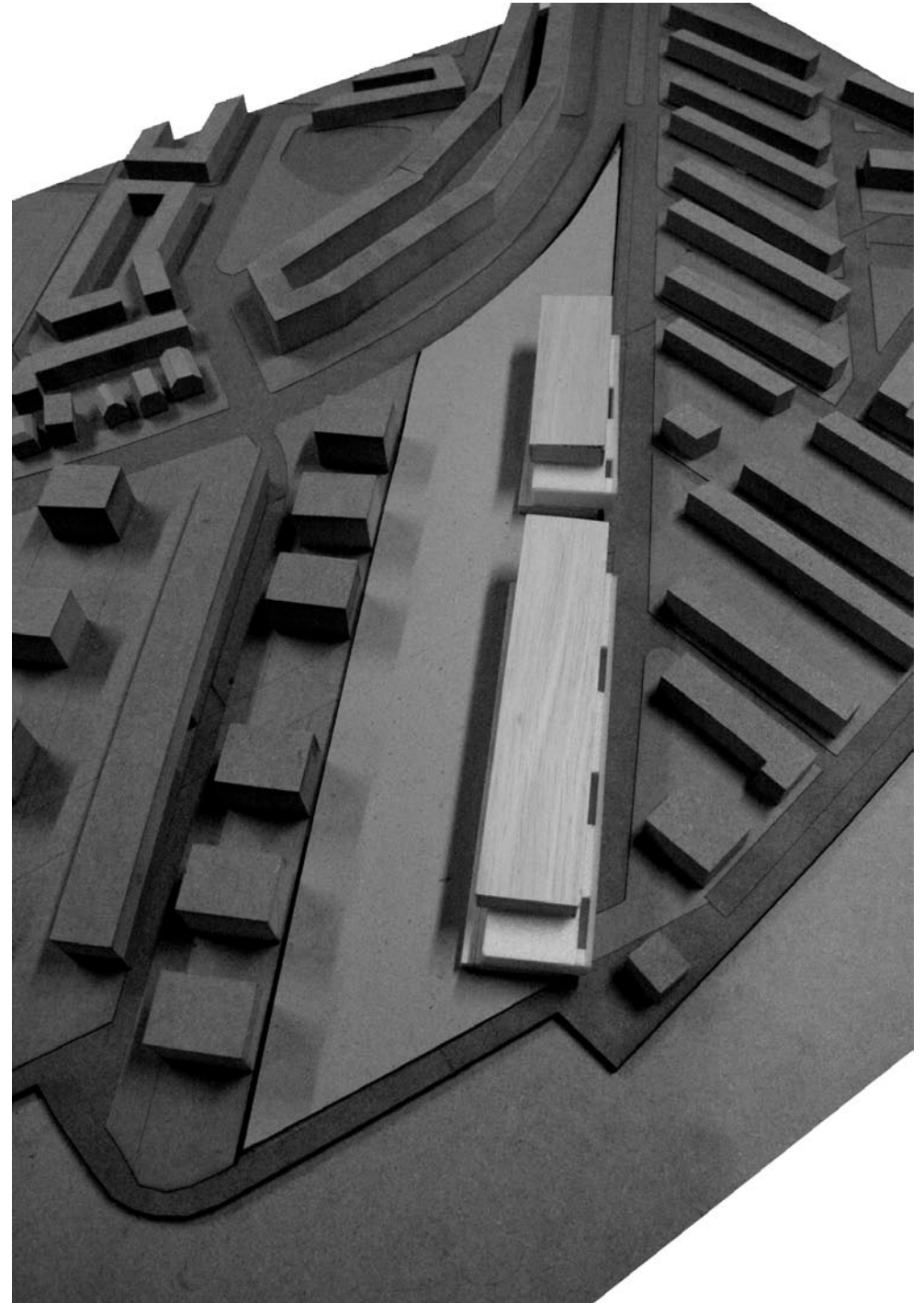
1 path



informal public spaces



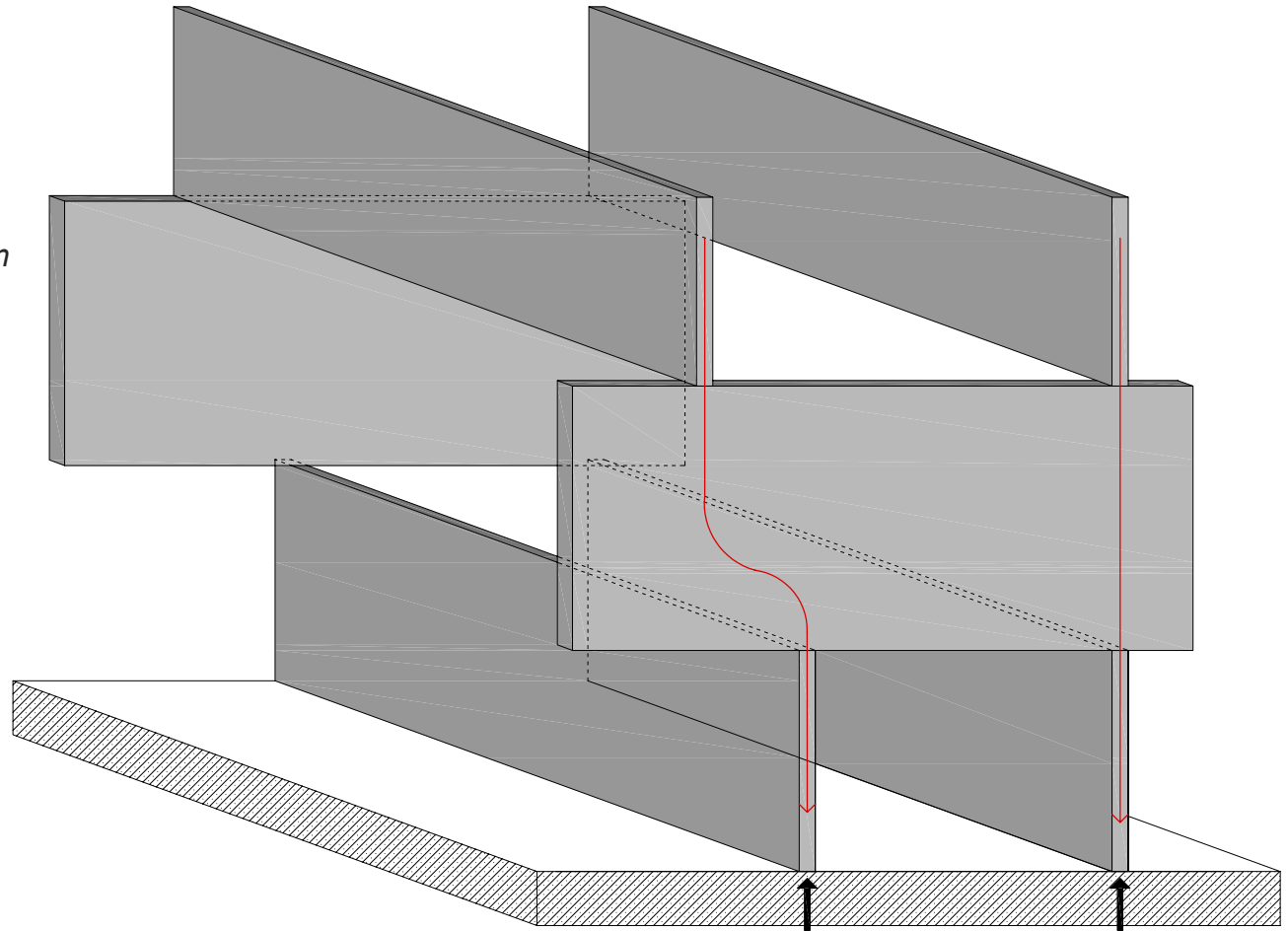
common facilities



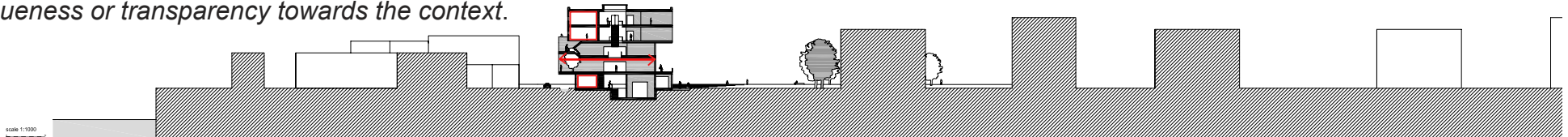
STRUCTURAL CONCEPT

The structure is made of *concrete walls*, which turn of 90 degrees at different floors.

This system allows a *non rigid separation between departments*, providing different directions along which classrooms can be extended, i.e. including or excluding the circulation space.



The structure enhances the creation of zones of *opaqueness or transparency towards the context*.



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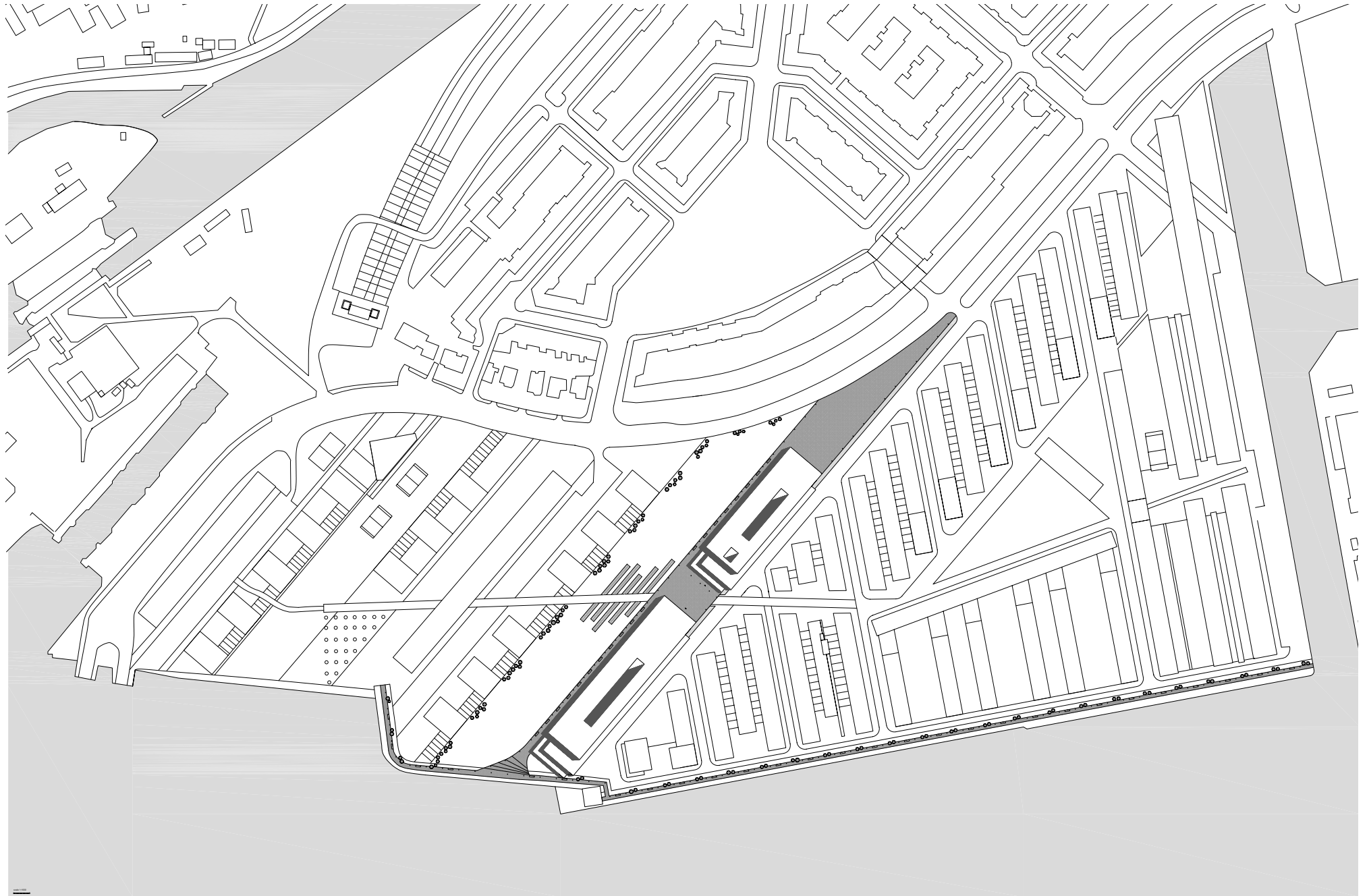
3. promenade

- *urban plan*
- *floorplans and sections, different spatial relations between classroom and inner public space*
- *from morning until evening*

4. materialization

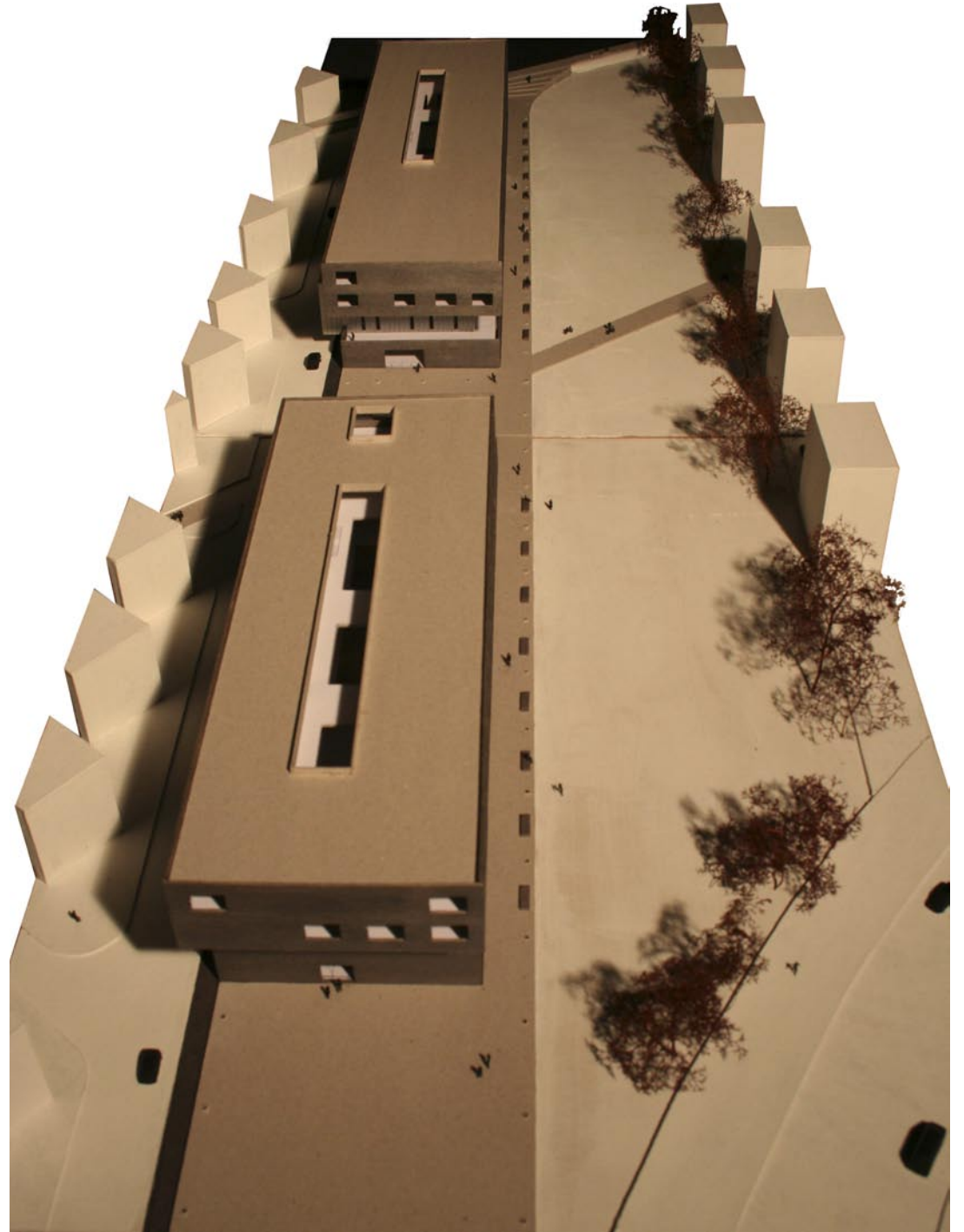
5. conclusions

Promenade
SITE PLAN



Promenade

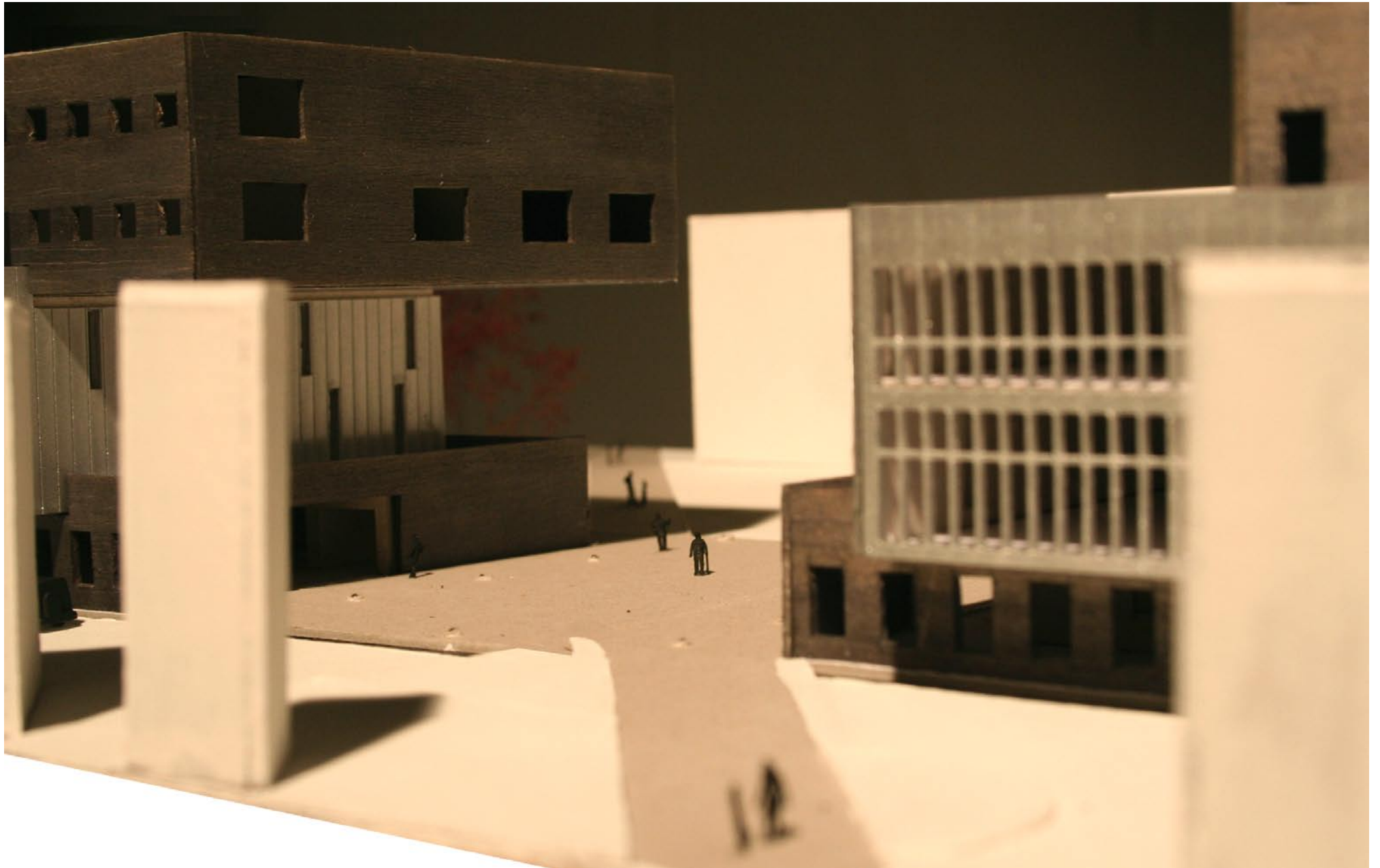
THE SCHOOL IN THE SITE



Promenade

THE SCHOOL SQUARE

Morning.



Promenade
ENTRANCE

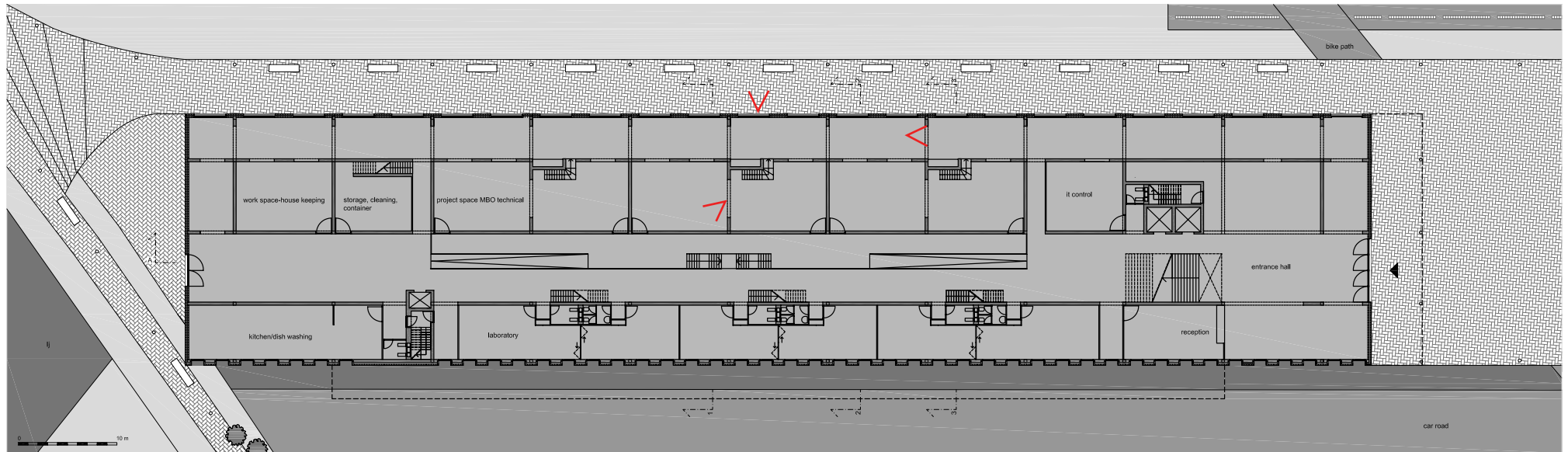
Morning.



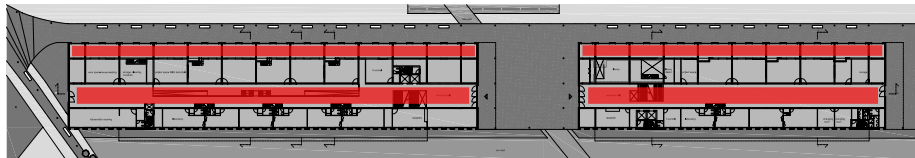
Promenade
GROUND FLOOR

Entrance.

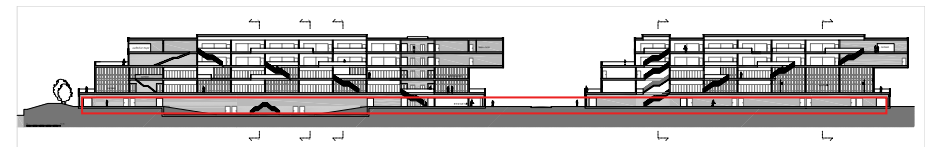
Inside porch.
MBO workshops.



groundfloor plan

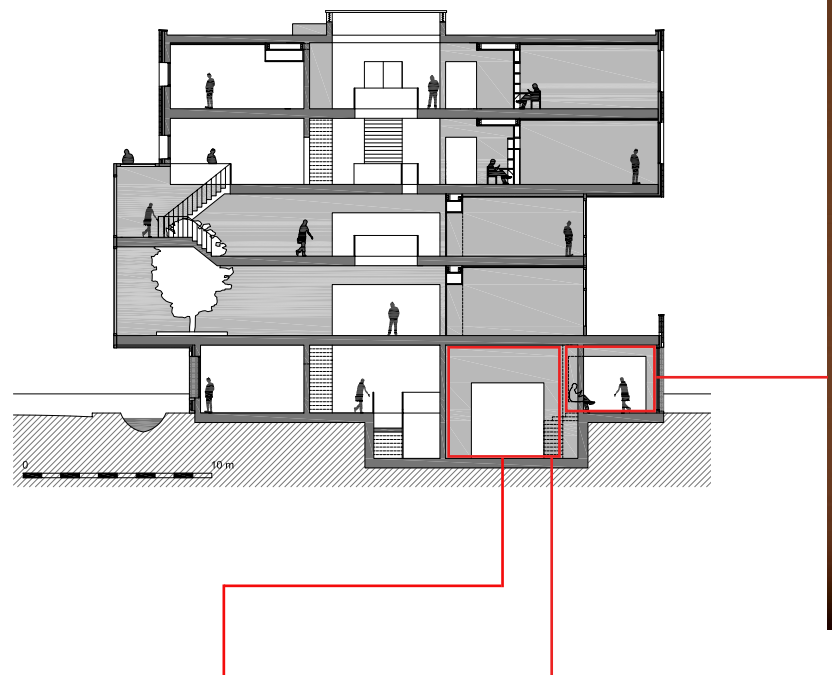


longitudinal section



Promenade
GROUND FLOOR

Views.
Cross section 1-1'.



inside portico

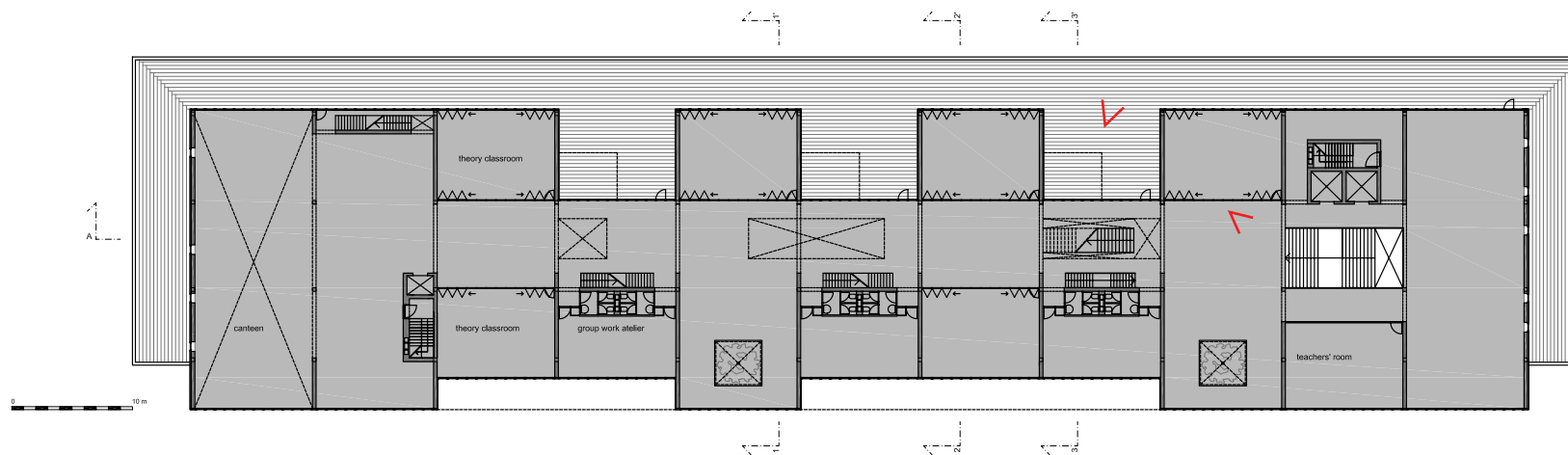


mbo technical workshop

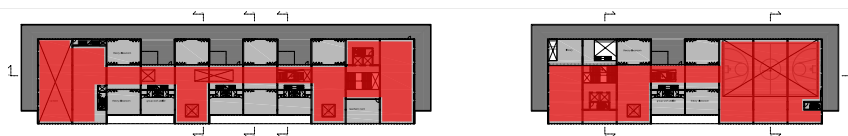
Promenade
FIRST FLOOR

Public space towards the outside.

Open air promenade.
Theory classrooms.



first floor plan

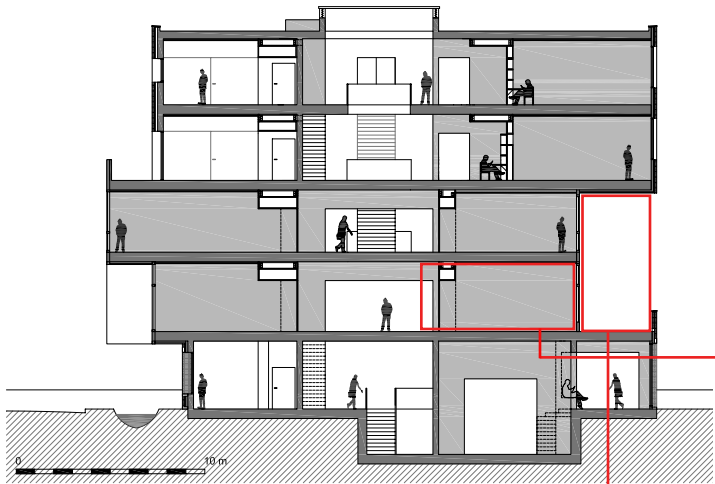


longitudinal section



Promenade
FIRST FLOOR

Views.
Cross section 2-2'.



theory classroom



open air path

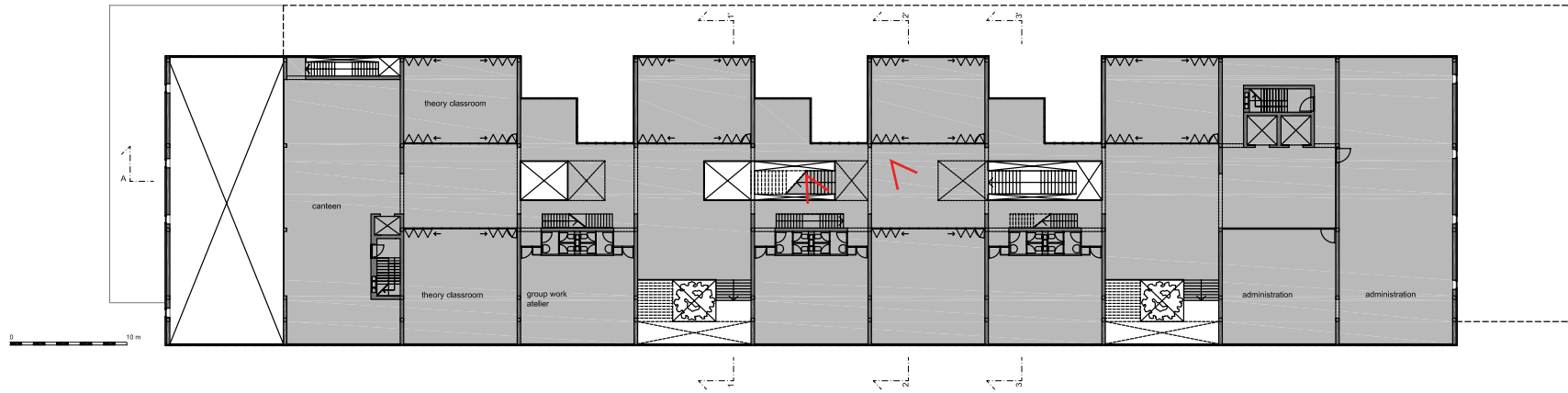
Promenade

SECOND FLOOR

Public space is totally interior.

Hanging box.

Theory classrooms.



second floor plan

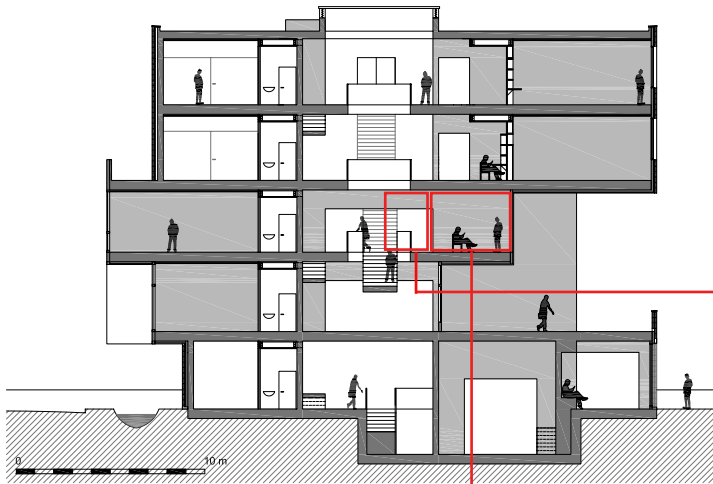


longitudinal section



Promenade
SECOND FLOOR

Views.
Cross section 3-3'.



theory classroom and public space



"hanging box"

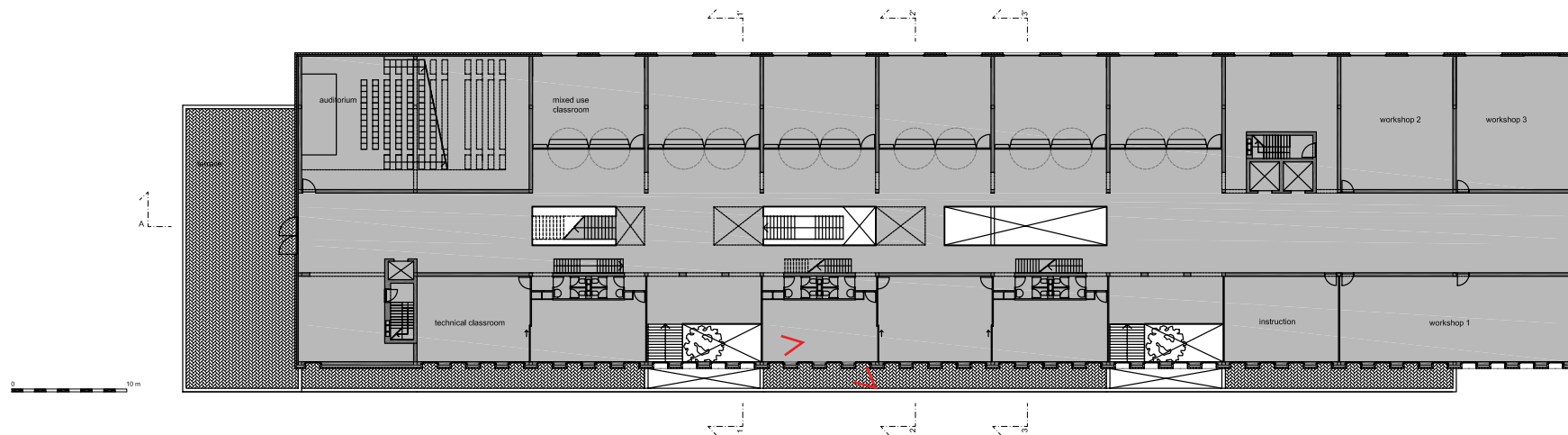
Promenade

THIRD FLOOR

Public space becomes introverted.

Balconies and terrace.

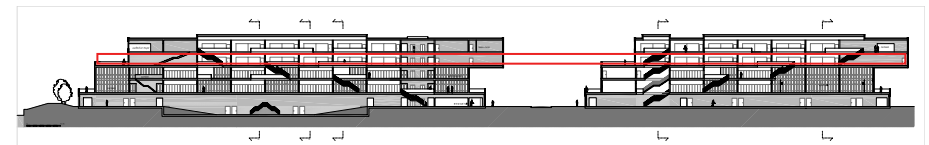
Technical and mixed-use classrooms.



third floor plan



longitudinal section

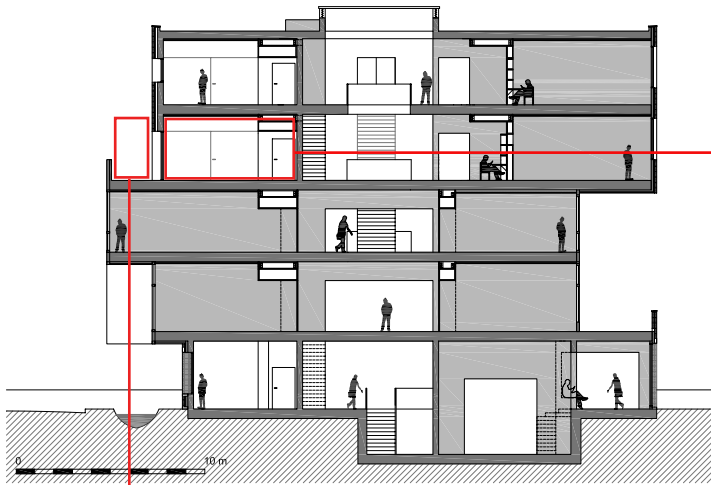


Promenade

THIRD FLOOR

Views.

Cross section 2-2'.



technical classroom



balconies

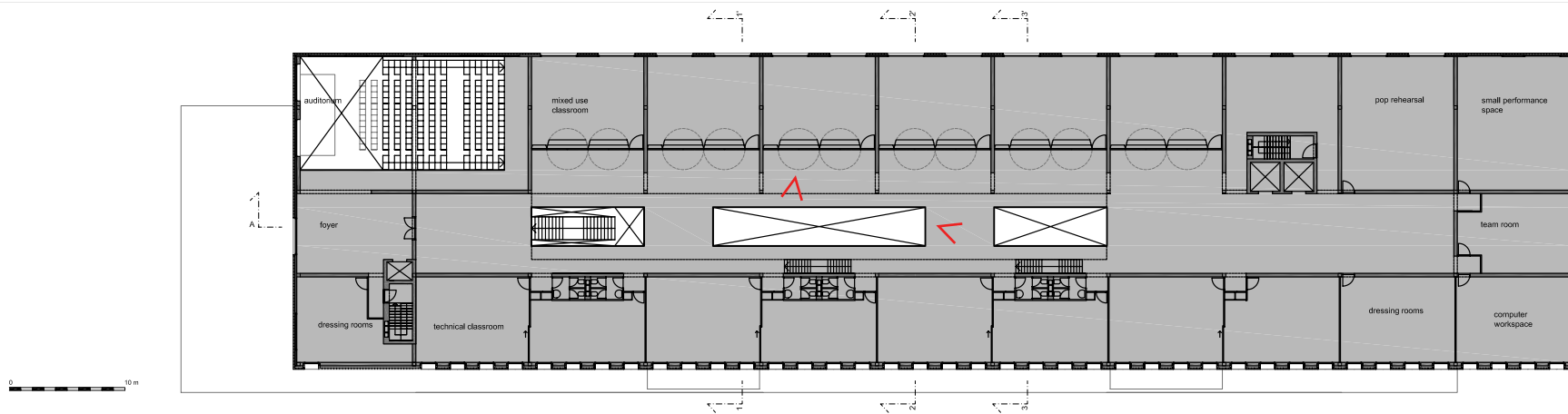
Promenade

FOURTH FLOOR

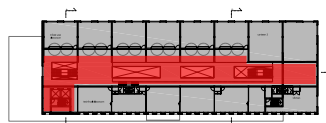
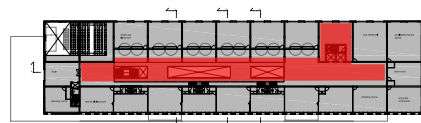
Public space becomes linear.

Light from above.

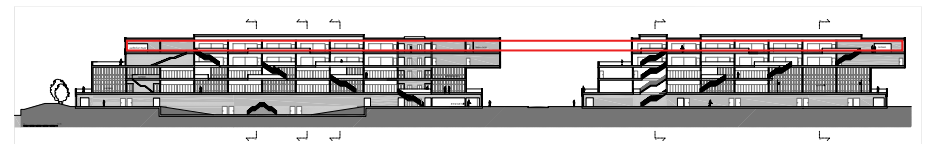
Technical and mixed use classrooms.



fourth floor plan

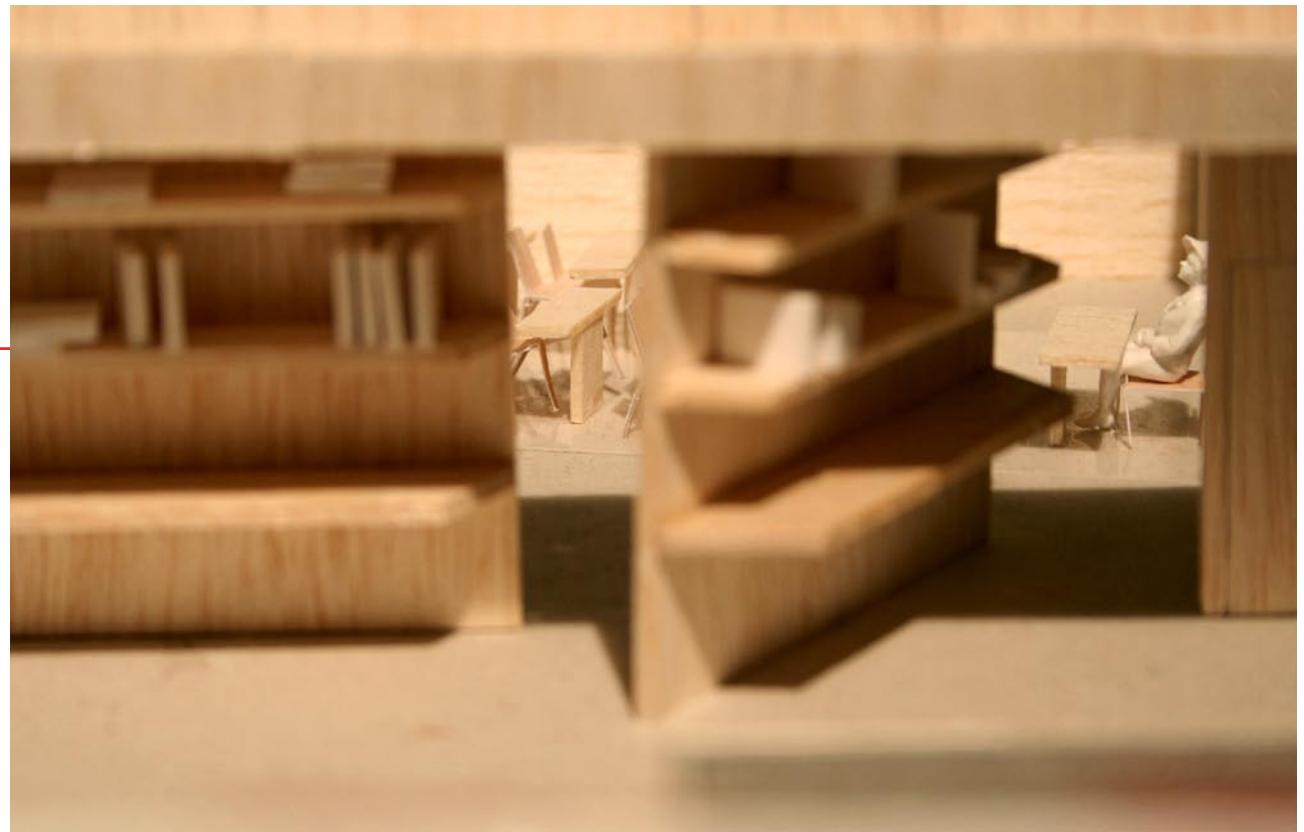
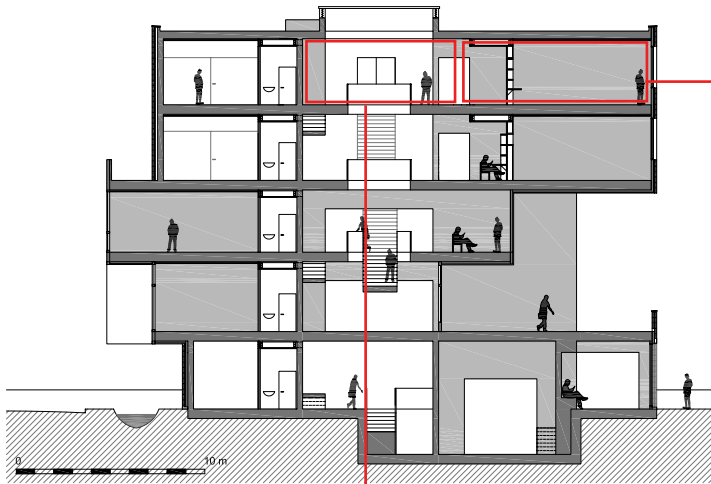


longitudinal section

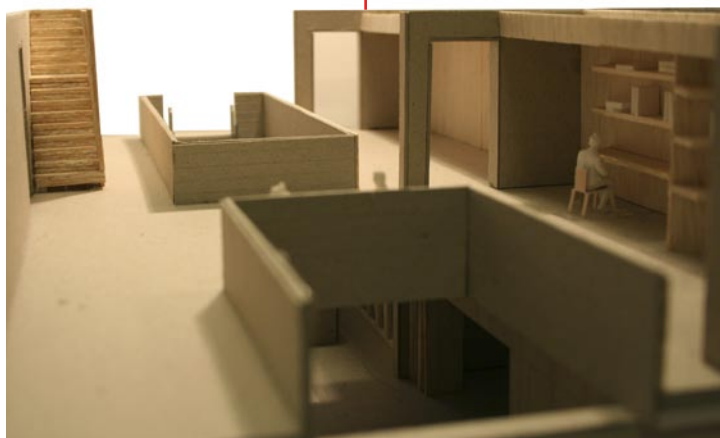


Promenade
FOURTH FLOOR

Views.
Cross section 3-3'.



mixed-use classroom

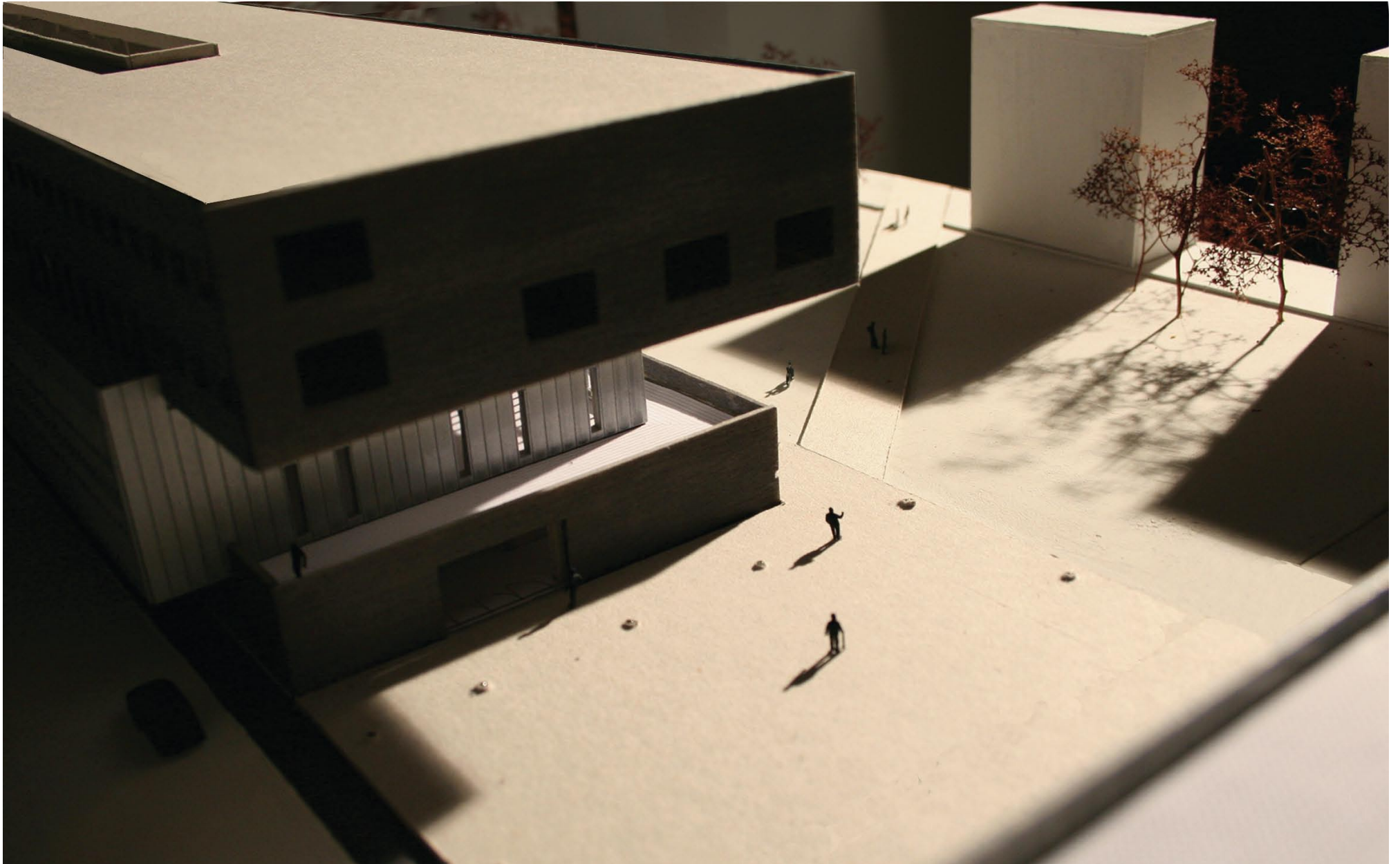


mixed-use classroom and public space

Promenade

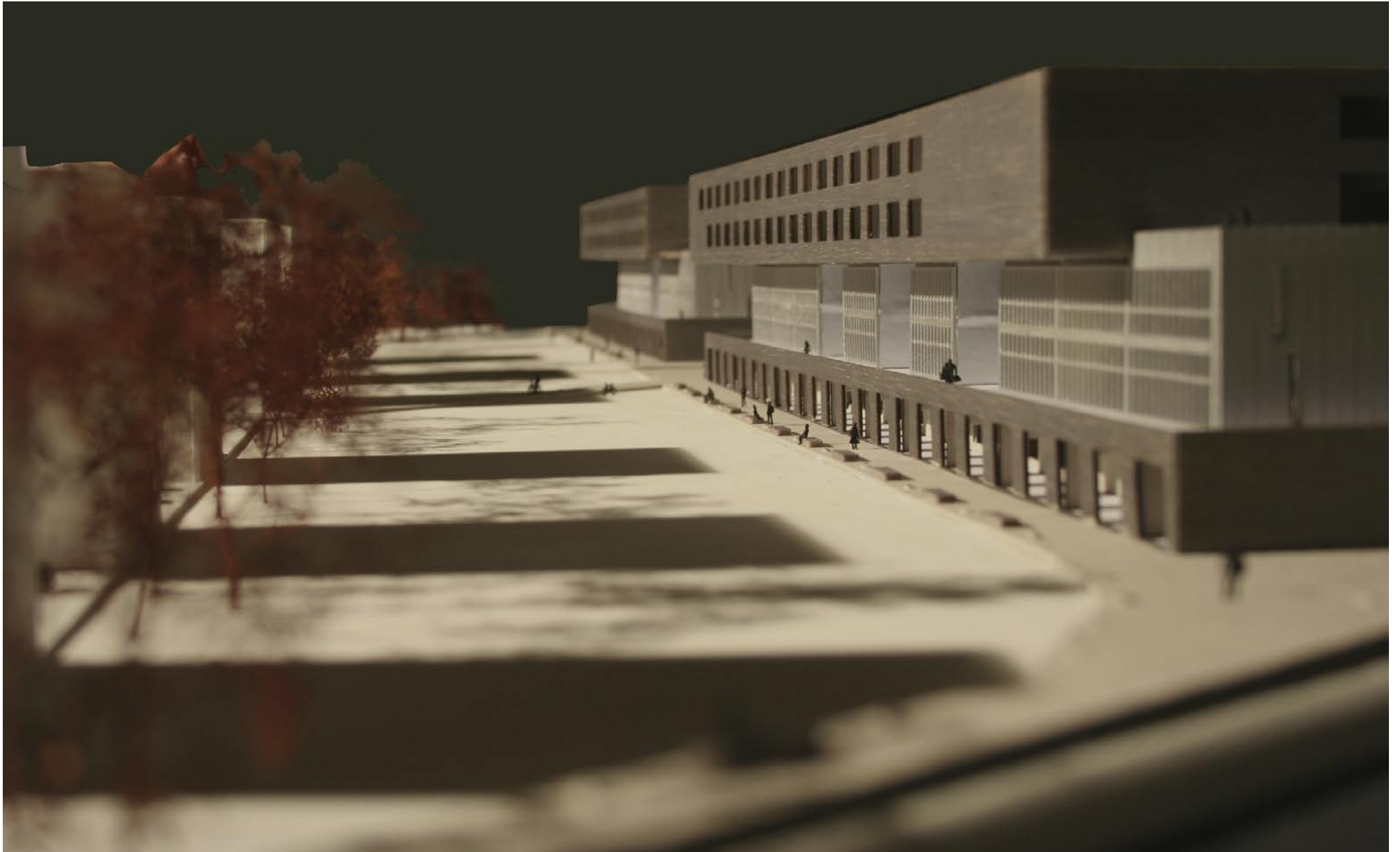
EXIT

Evening.



Promenade
IJ PLEIN

Evening.



Promenade

THE SCHOOL SQUARE

Night.



Promenade
IJ PLEIN

Night.



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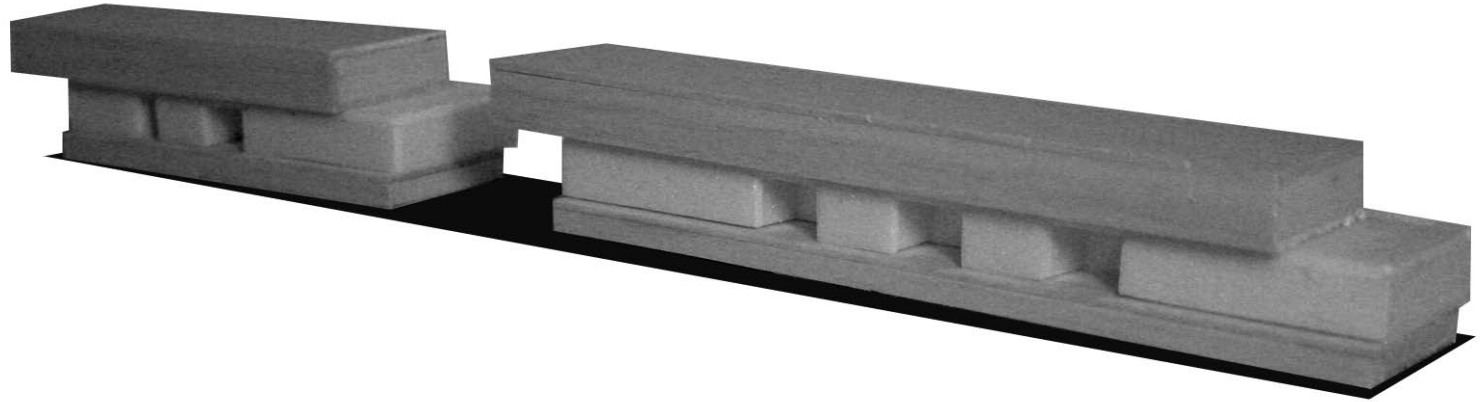
4. materialization

- ***concept, structure and mass***
- ***experiments***
- ***inside and outside***
- ***façades***
- ***systems integration and detailing***

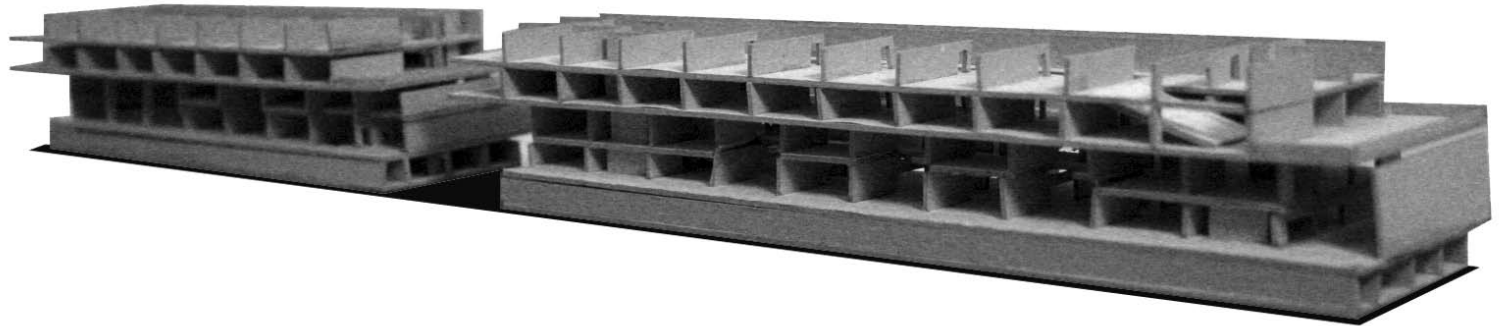
5. conclusions

Materialization
MODELS

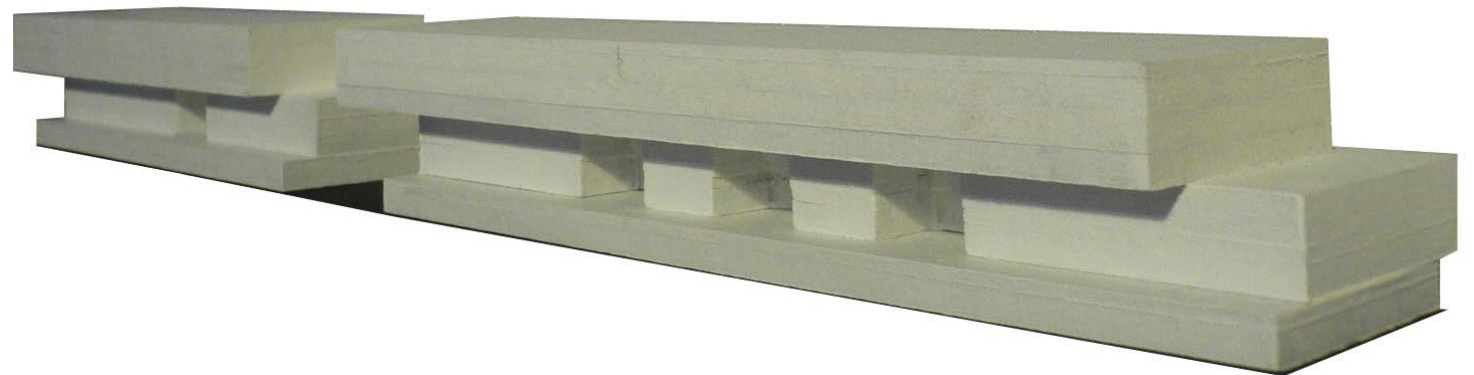
concept model



structural model



mass model



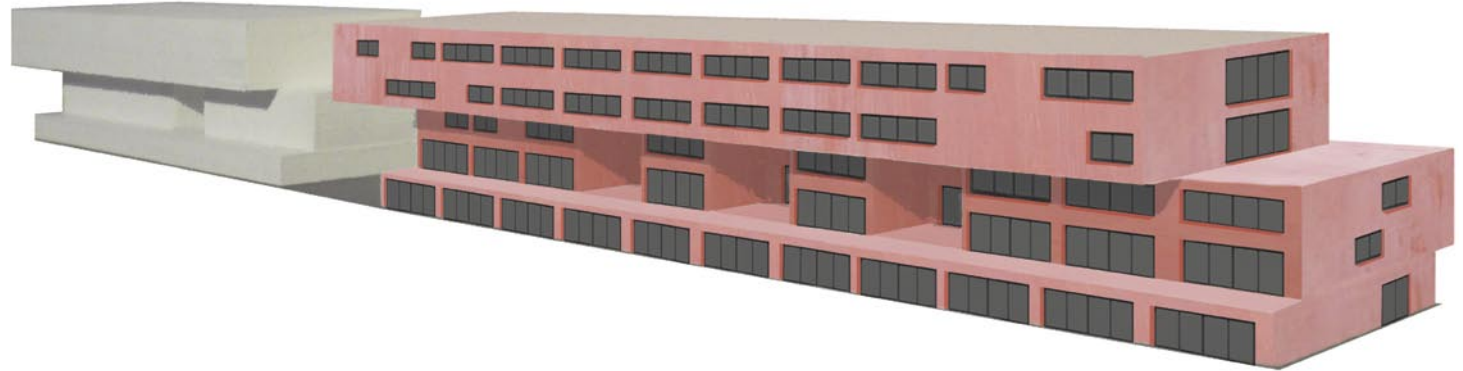
Materialization

FACADE EXPERIMENTS

homogeneous



reference:
Gigon and Guyer, housing in
Broelberg, Switzerland (2002).



strongly distinct parts



reference:
Gigon and Guyer, maintance workshop
in Davos, Switzerland(1999).



highlighted surfaces
with colours

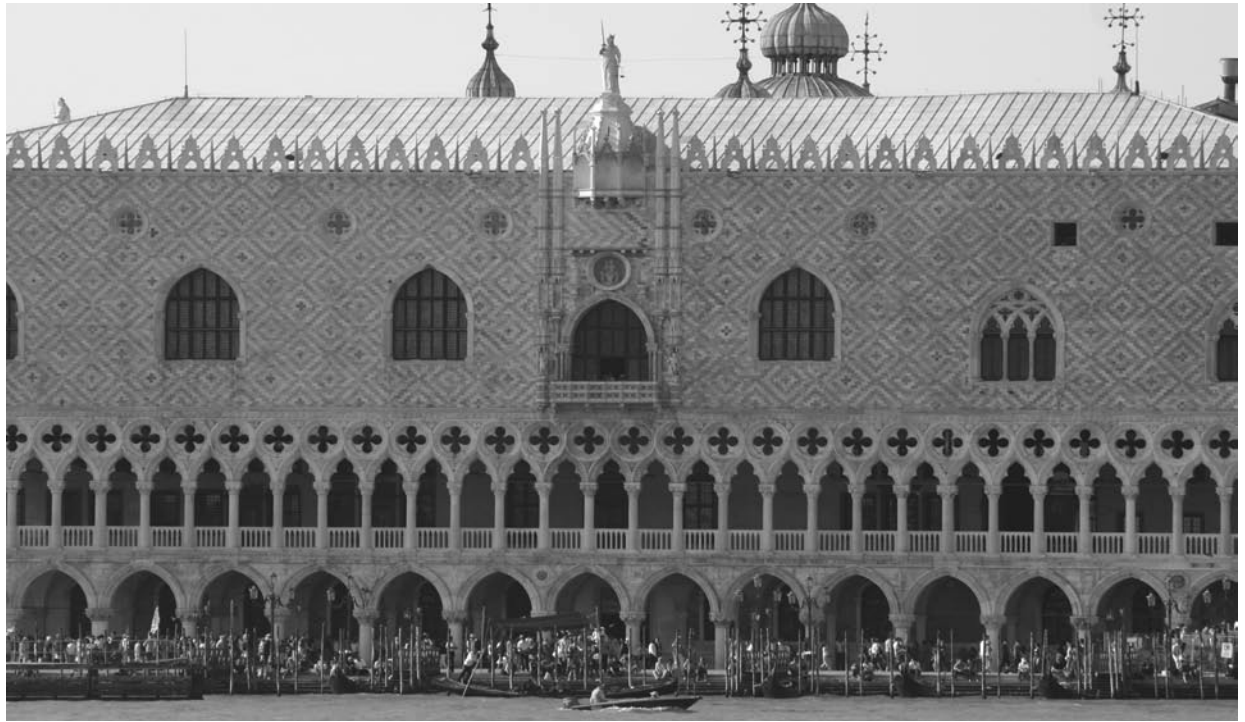
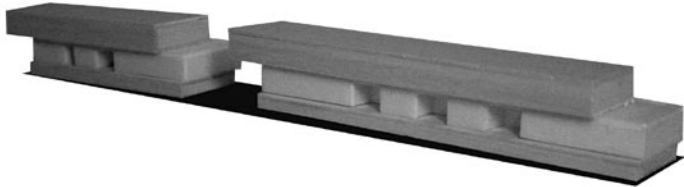


reference:
Gigon and Guyer, maintance
two houses in Zurich, Switzerland (1998).



Materialization
STRATEGY
INSIDE AND OUTSIDE

Outside:
the division of the *program* in three parts prevails.



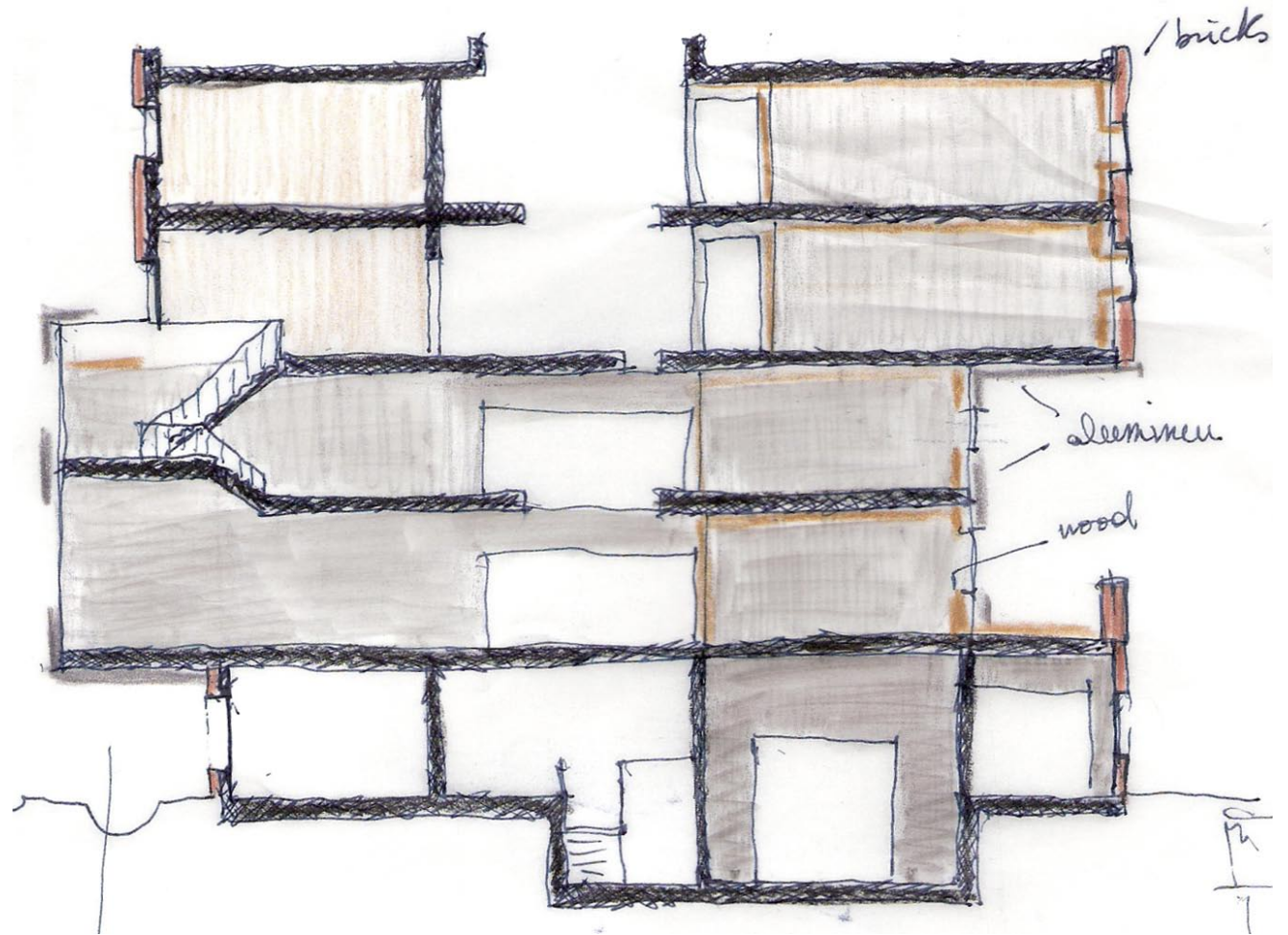
Inside:
the logic of the *structure* prevails.



Materialization
INSIDE AND OUTSIDE

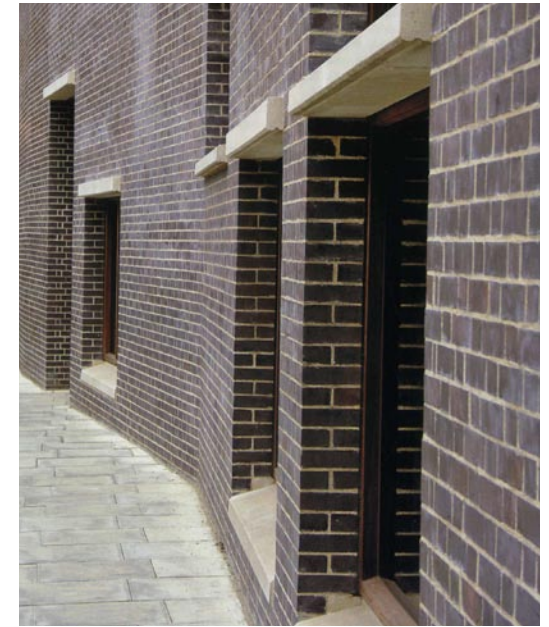


reference:
C. Hendrich, A. Bauhofer,
institute building in Freiburg,
Germany (2005).



Materialization
FAÇADES

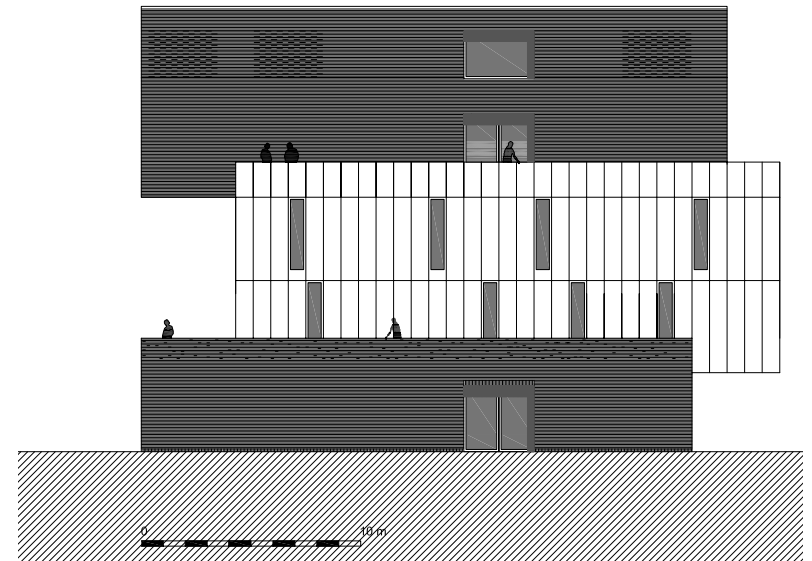
Bricks.



Materialization

SOUTH FAÇADE

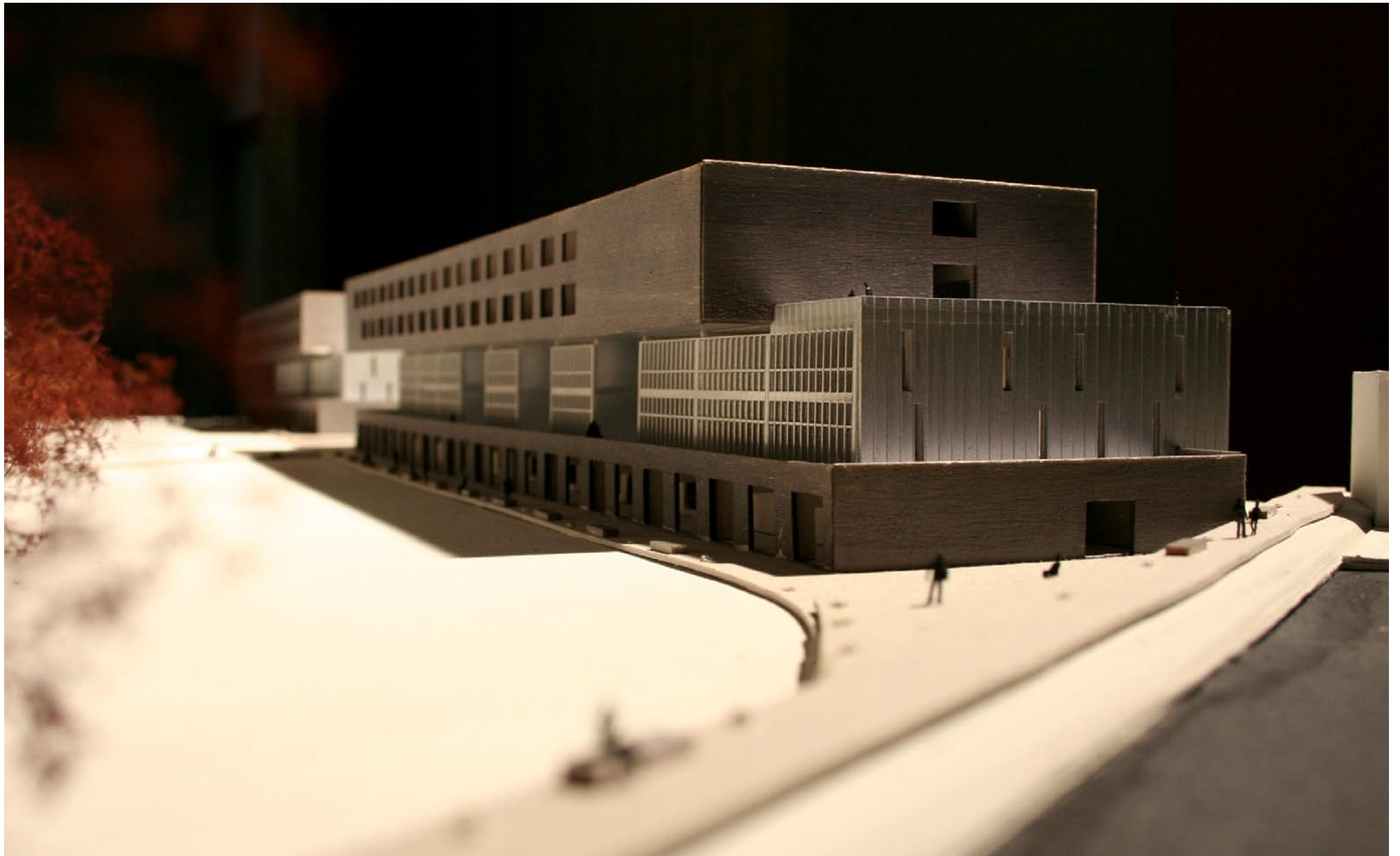
Facing the Ij.
Service entrance.



Materialization

SOUTH FAÇADE

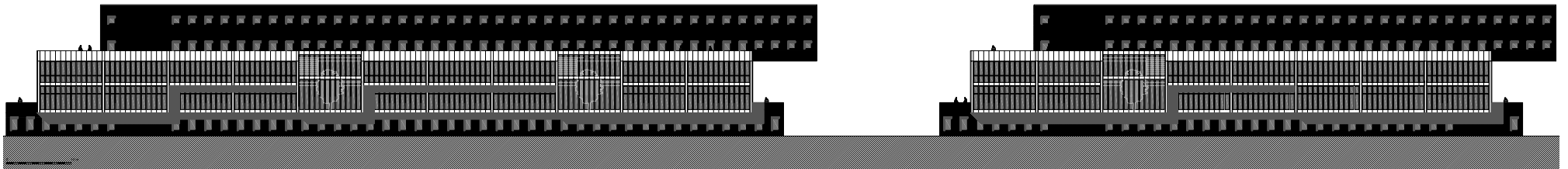
Approaching the school from the dyke.



Materialization

EAST FAÇADE

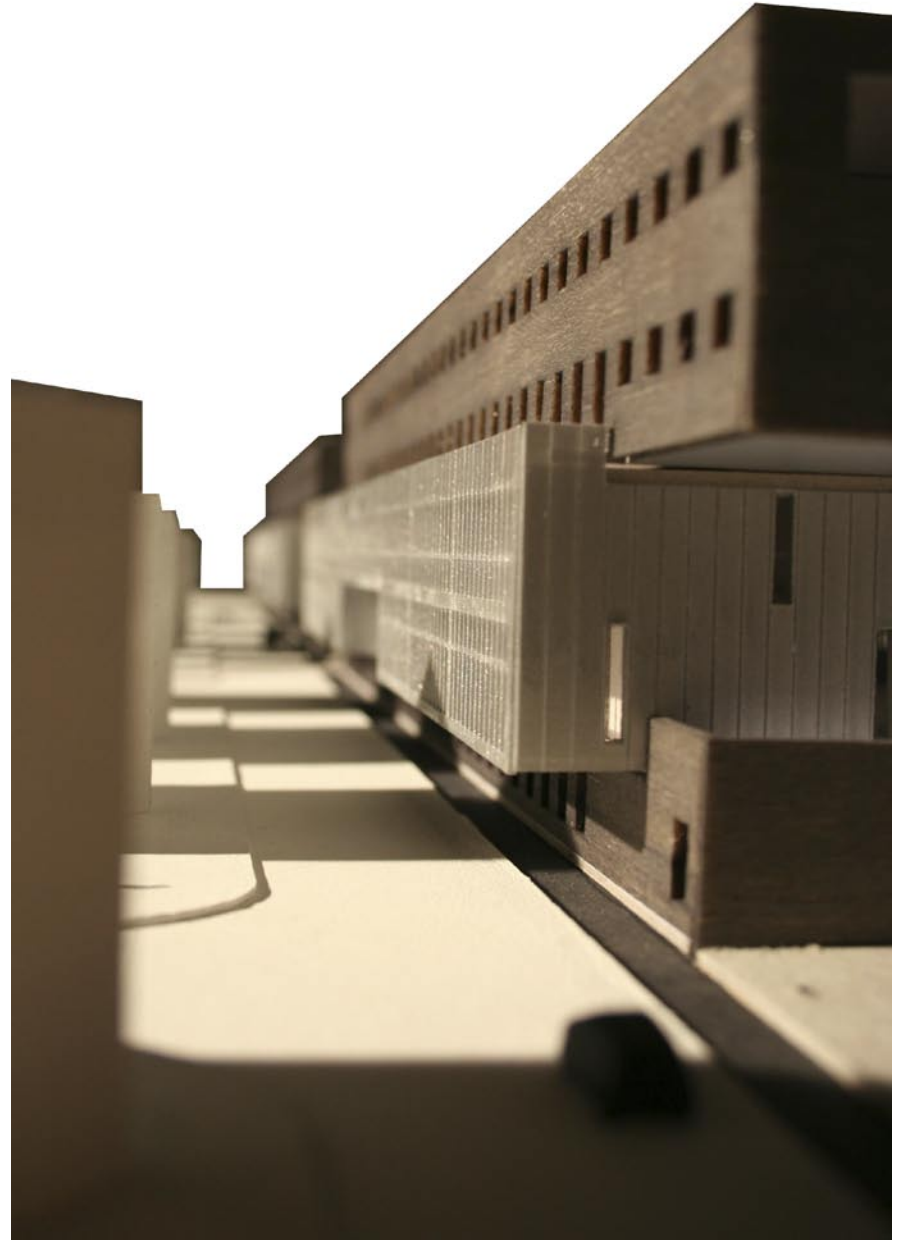
Street and canal.



Materialization

EAST FAÇADE

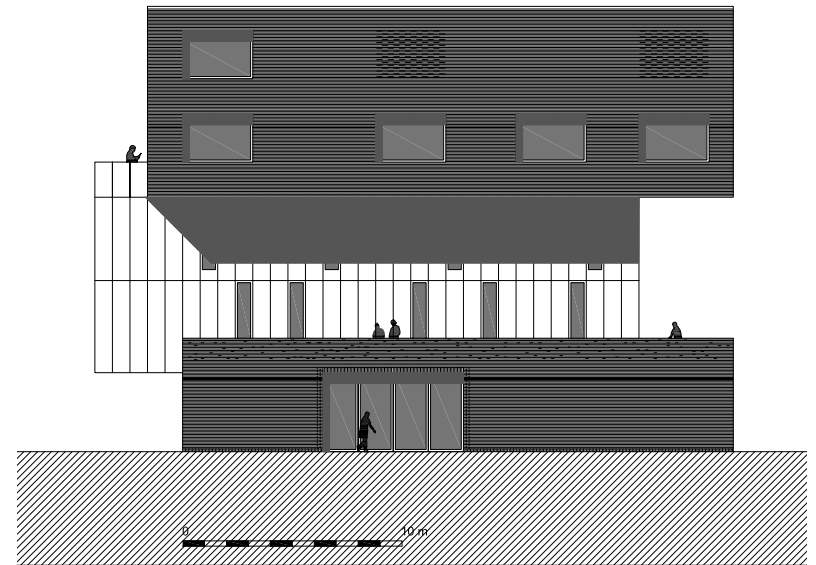
View from the south. View from the north.



Materialization

NORTH FAÇADE

Main entrance.



Materialization

NORTH FAÇADE

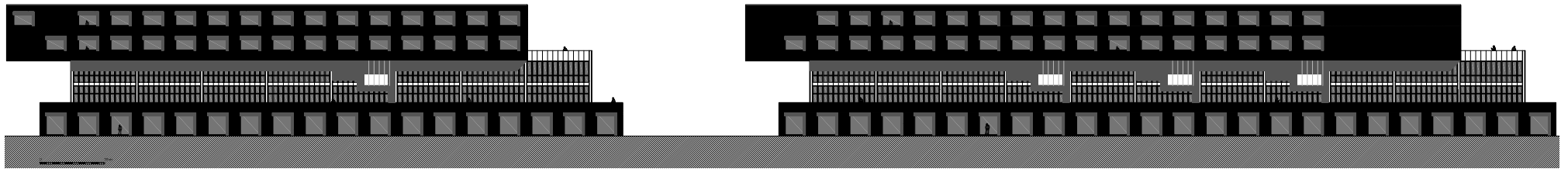
Main entrance on the school square.



Materialization

WEST FAÇADE

Openness towards the Ij Plein.



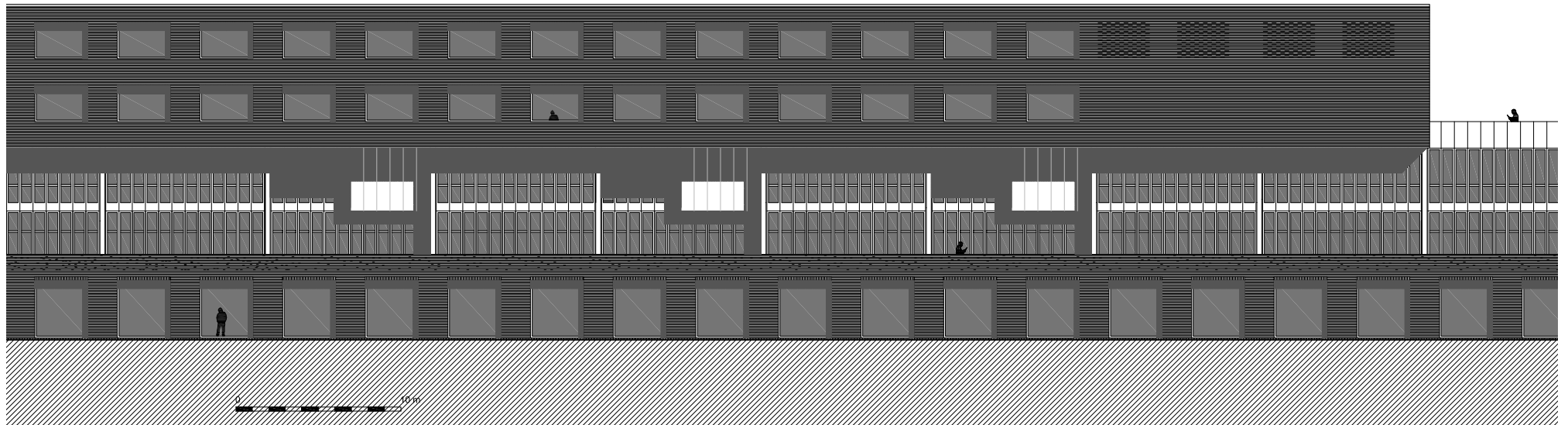
Materialization
WEST FAÇADE

View from south-west.



Materialization
WEST FAÇADE

Fragment.



Materialization

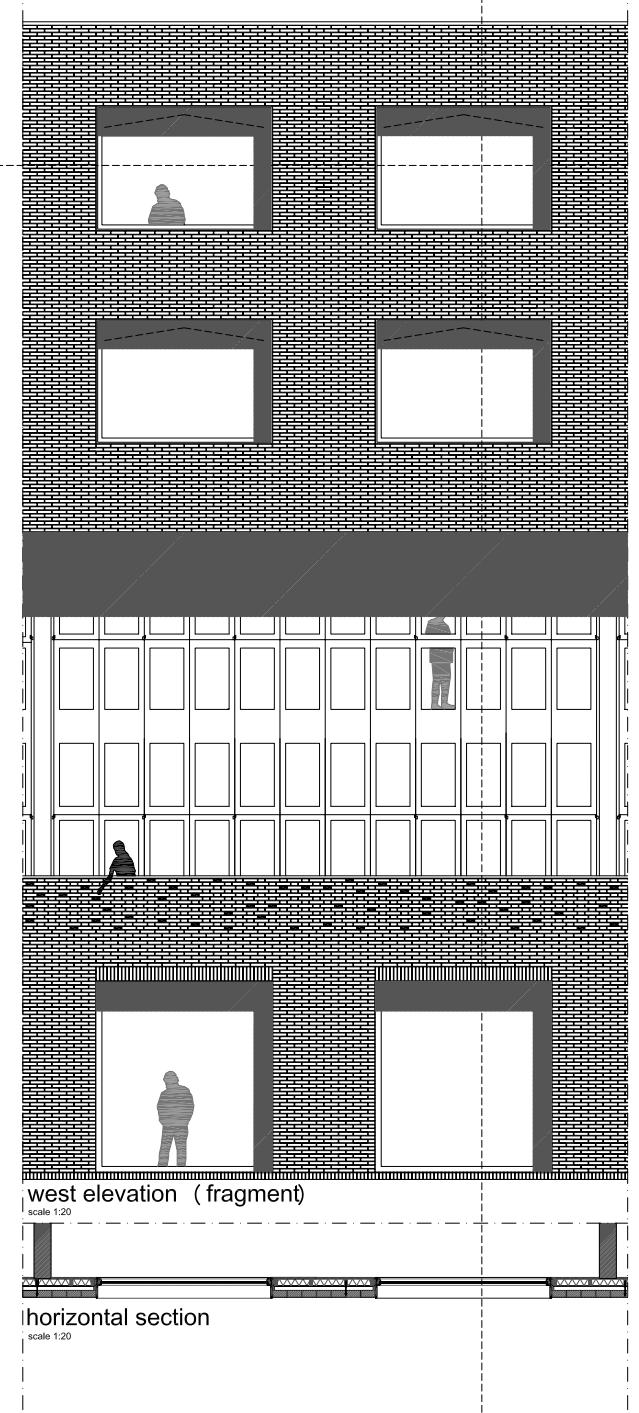
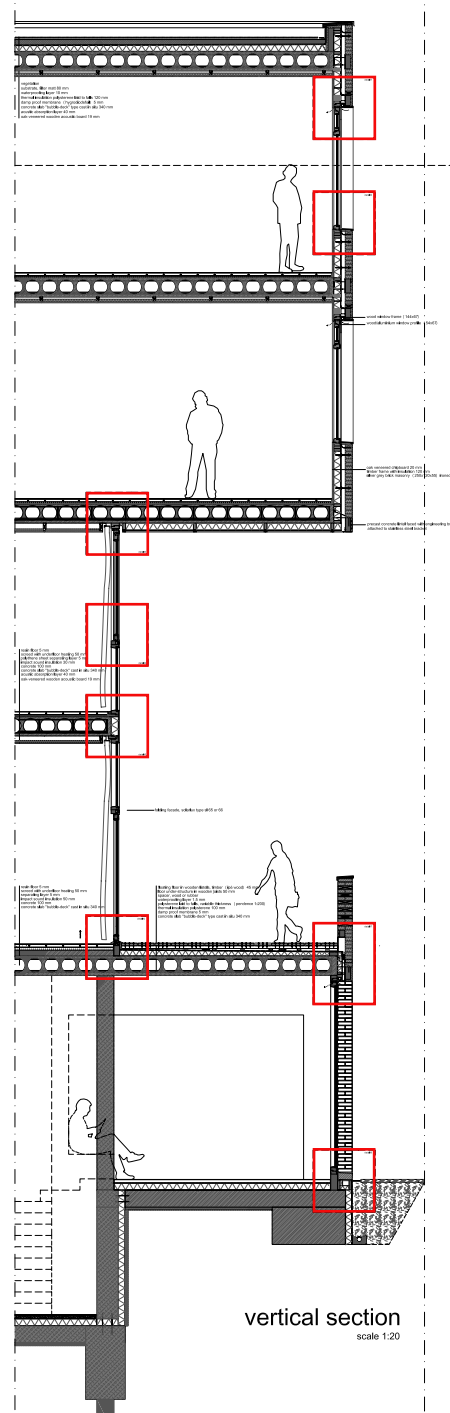
WEST FAÇADE

View from the west.

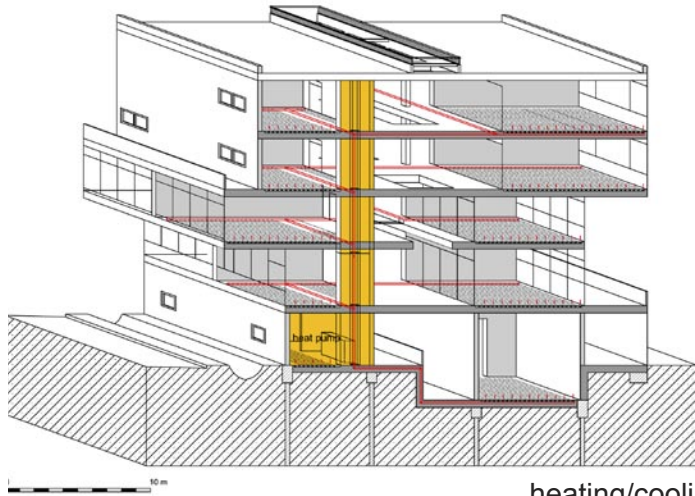


Materialization
WEST FAÇADE

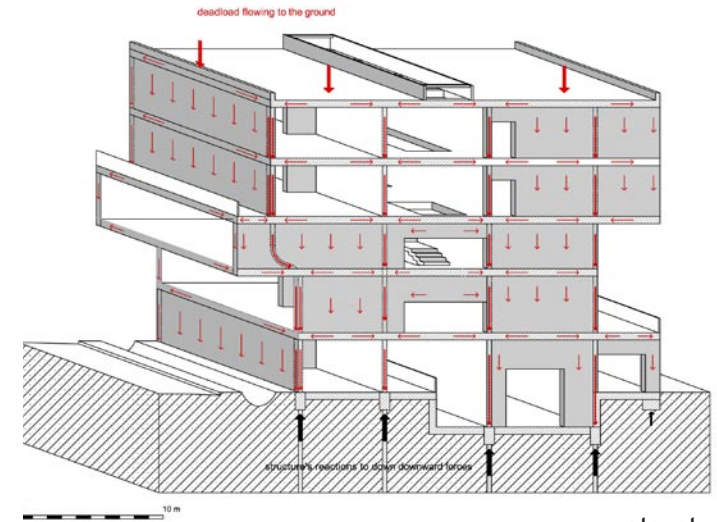
Detailing.



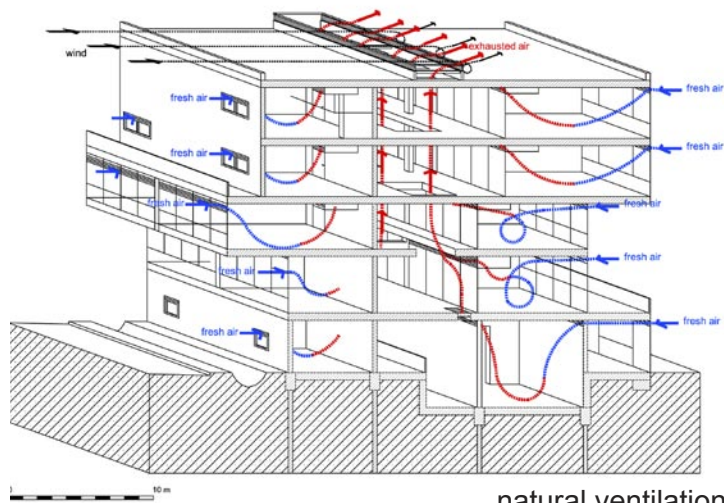
Materialization SYSTEMS INTEGRATION



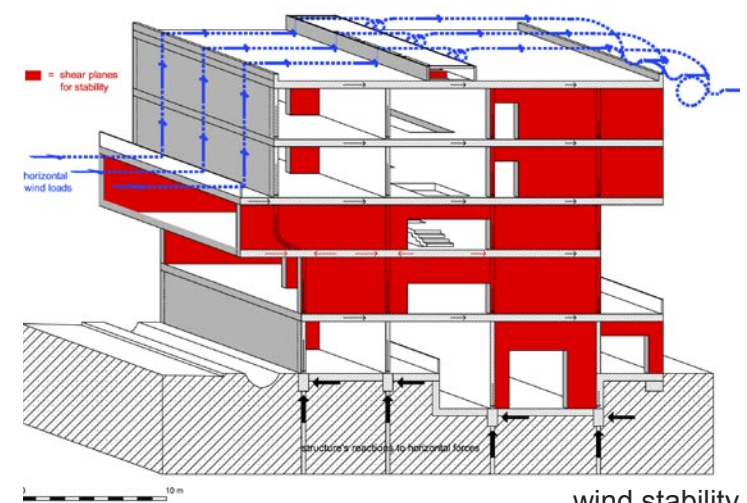
heating/cooling



structure



natural ventilation



wind stability

Materialization

BASEMENT OPENING

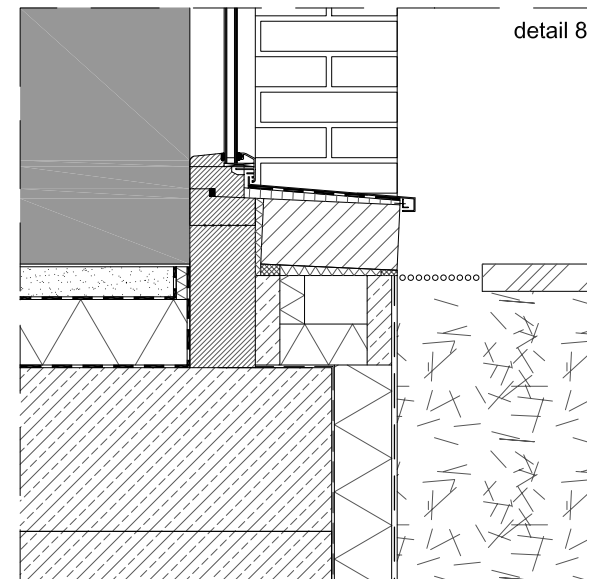
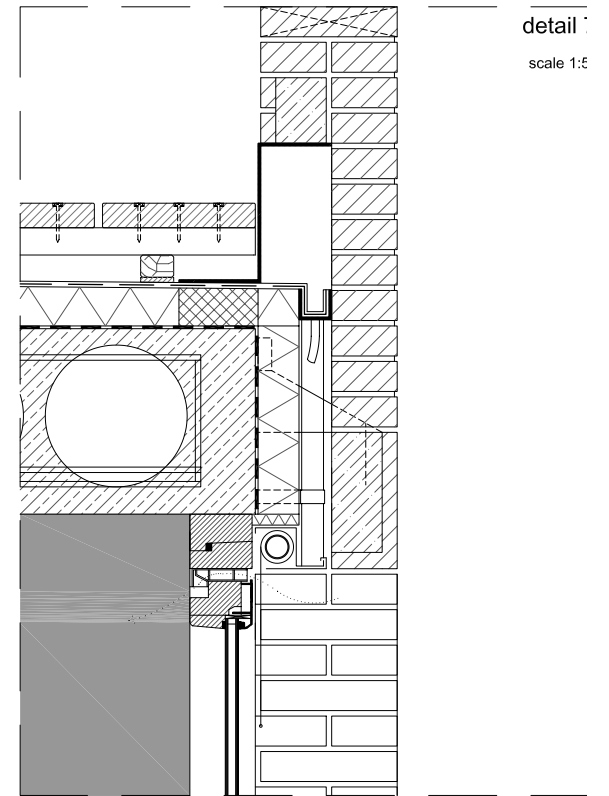
Heavy technical classrooms.

Massive masonry.

The basement is rooted in the ground.



reference:
L. I. Kahn, Philips Exeter Library, New Hampshire (1972).



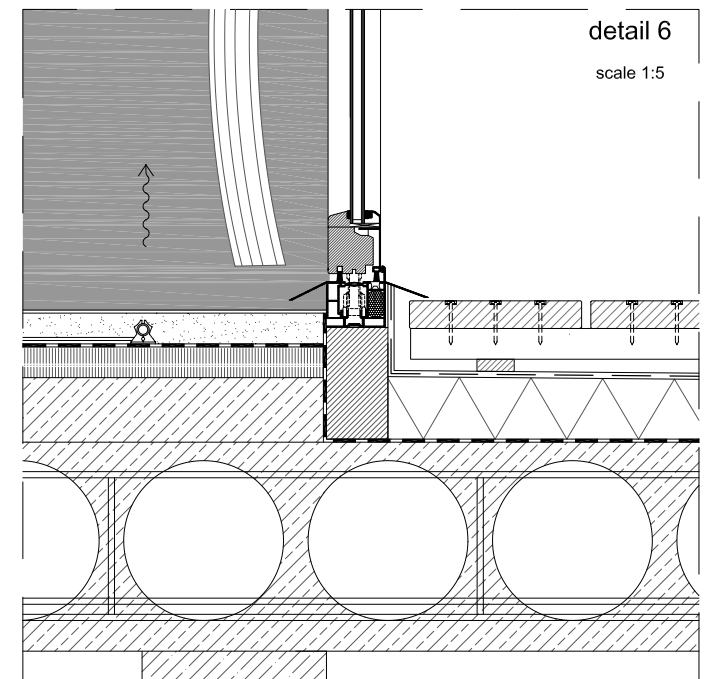
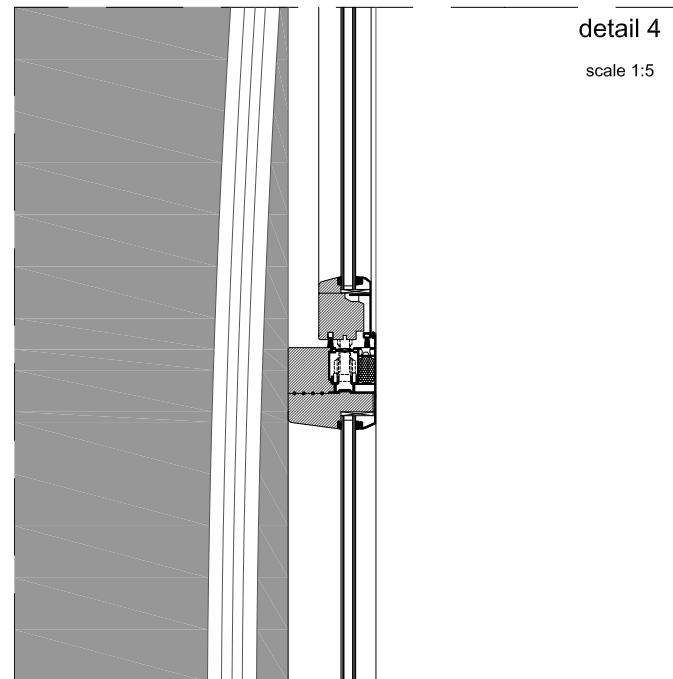
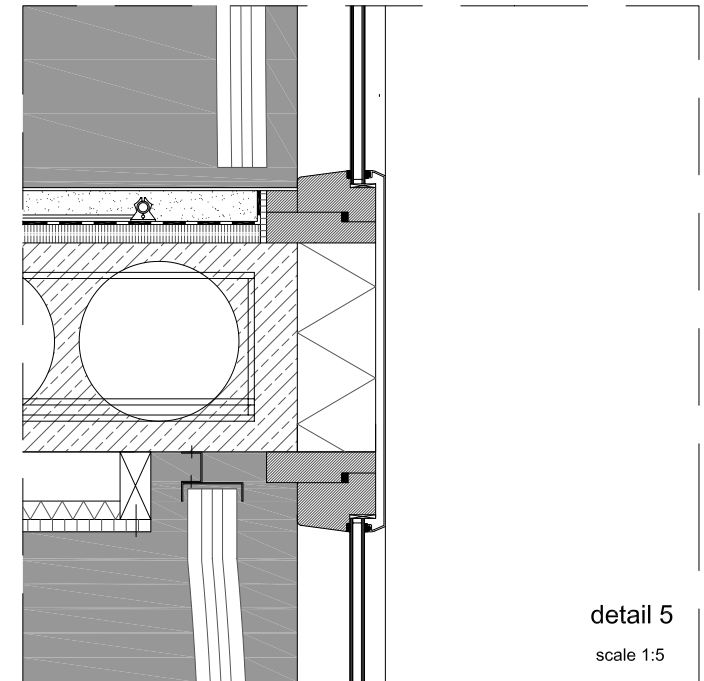
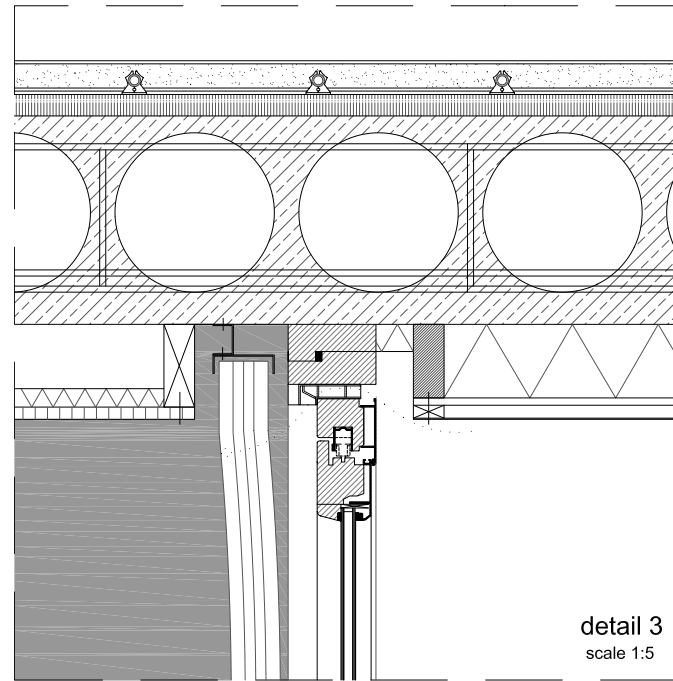
Materialization

THEORY PART OPENING

Theory classrooms.

Aluminium foldable fenestration that constitutes a flexible boundary.

Openness and transparency towards the outside.



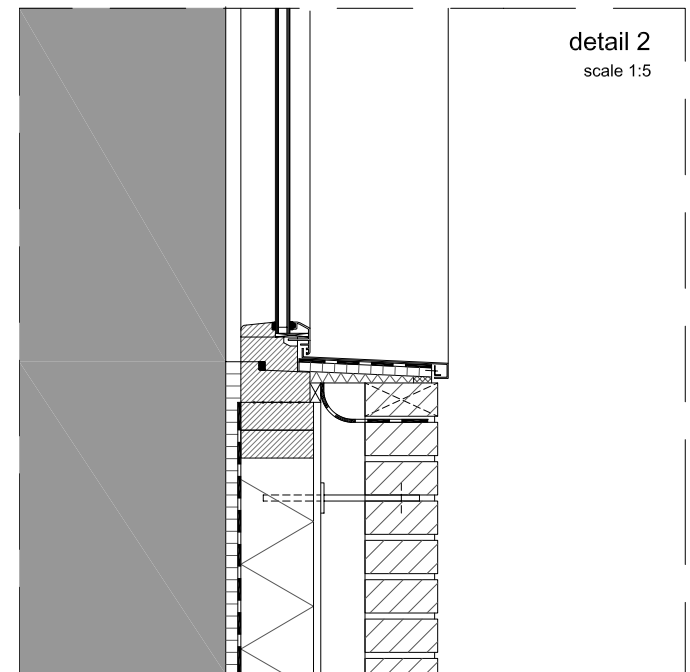
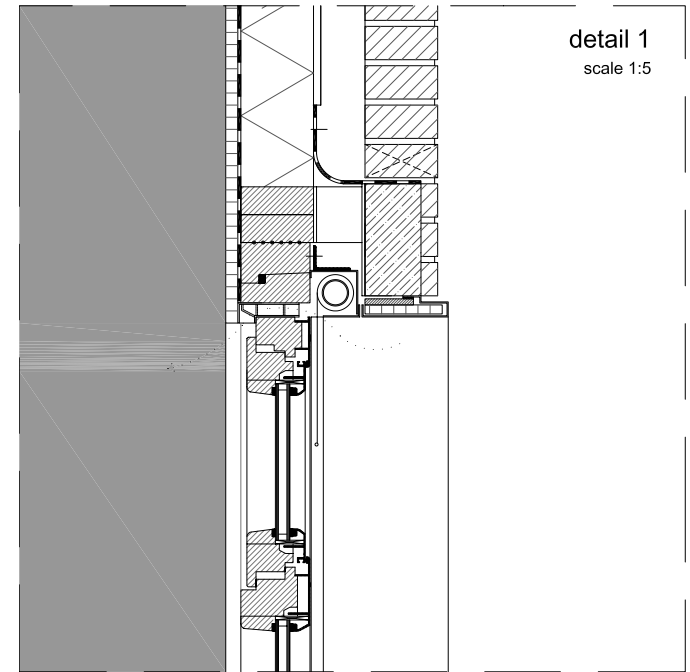
Materialization

TECHNICAL PART OPENING

Mixed-use classrooms.

The masonry is evidently non-load bearing: big openings and aluminium framing.

This masonry is more abstract than the basement one.



Materialization

INNER MATERIALS AND BOUNDARIES

Technical part.
Third and fourth floor.

Structure and furniture-like elements are legible by the use of *concrete and wood*.

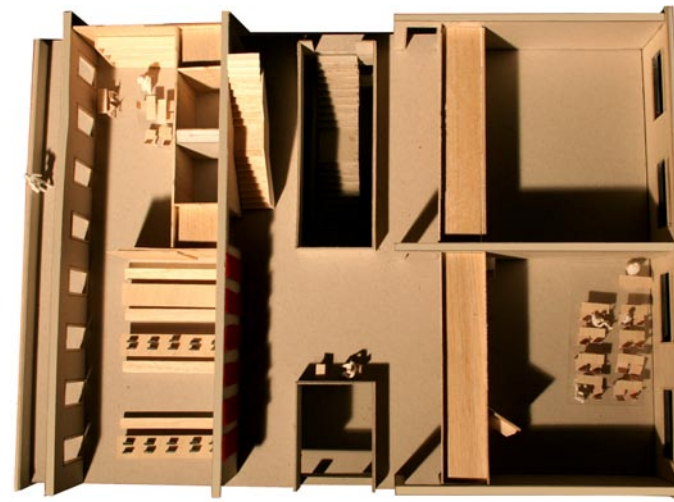
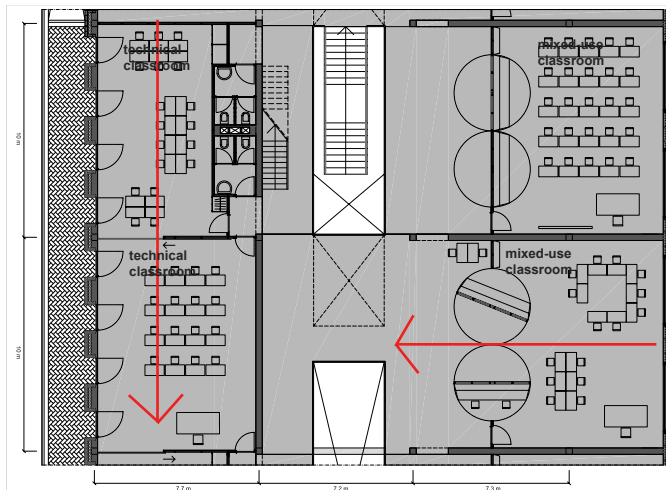
Filt panels are adopted to improve the acoustic of the public spaces.

Technical classroom: extendible via sliding walls. It remains separated from the public space.

Mixed-use classroom: openable via pivoting walls towards the circulation space.



plan of a fragment of the third floor (1:50).



Materialization

INSIDE MATERIALS AND BOUNDARIES

Theory part.

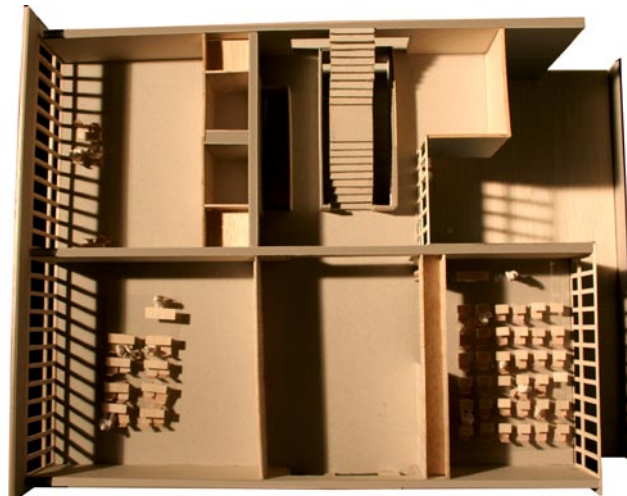
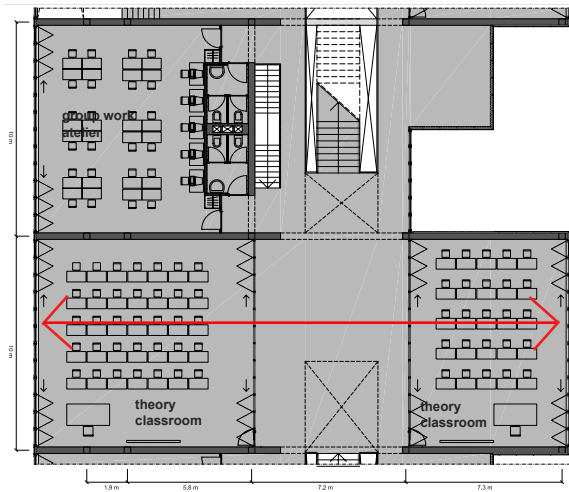
First and second floor.

Structure and furniture-like elements are legible by the use of concrete and wood.

Theory classroom: expandable via folding screens across the public space. It can be stretched along the full width of the floor.



plan of a fragment of the second floor (1:50).



Materialization

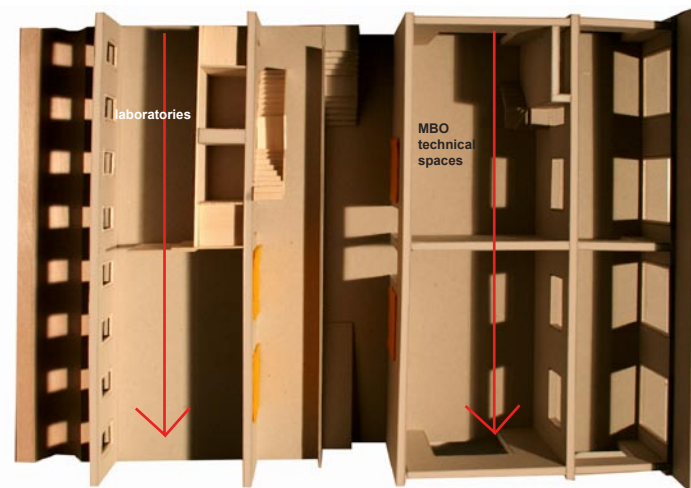
INSIDE MATERIALS AND BOUNDARIES

Heavy technical part.
Ground floor.

Structure and furniture-like elements are legible by the use of *concrete and wood*.

Filt panels are adopted to improve the acoustic of the public spaces.

Mbo Technical spaces: enclosed by two structural walls, can be extended along the length of the building.



Content

A PROJECT FOR A SECONDARY SCHOOL IN AMSTERDAM NORTH

1. theoretical premise

- *school as "singular place"*
- *school as institution*
- *school as interior world*
- *boundaries*

2. research and design strategy

- *program*
- *site, Amsterdam North, the IJ Plein*
- *site strategy*
- *distribution strategy*
- *architectural concept*
- *structural concept*

3. promenade

- *urban plan*
- *floorplans and sections, different spatial relation between classroom and public space*
- *from morning until evening*

4. materialization

- *concept, structure and mass*
- *experiments*
- *inside and outside*
- *façades*
- *systems integration and detailing*

5. conclusions

Conclusions

INSTITUTION AND MICROCOSMOS

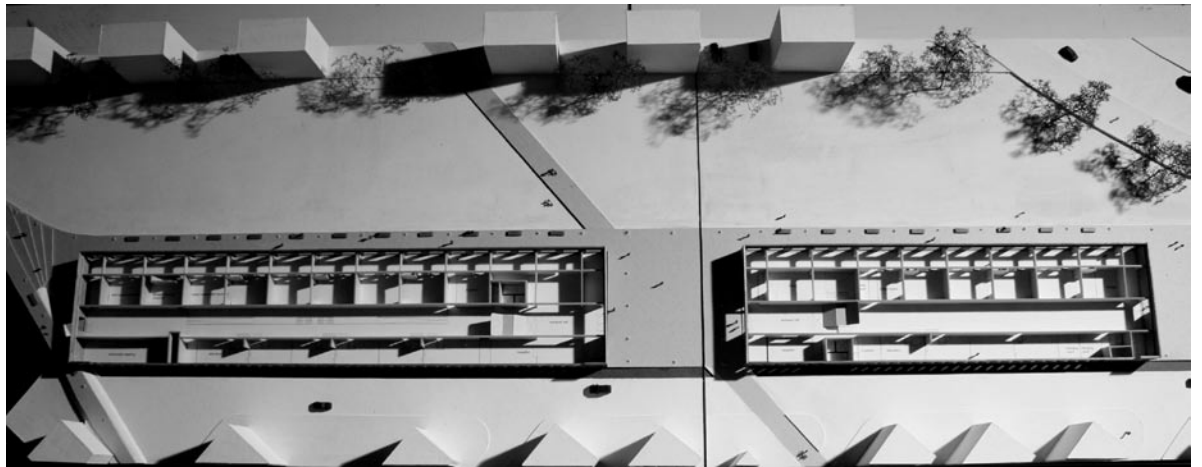
Two tasks.



Conclusions

LANDSCAPES

Three layers.



Conclusions

COMMON PATH

One identity.

