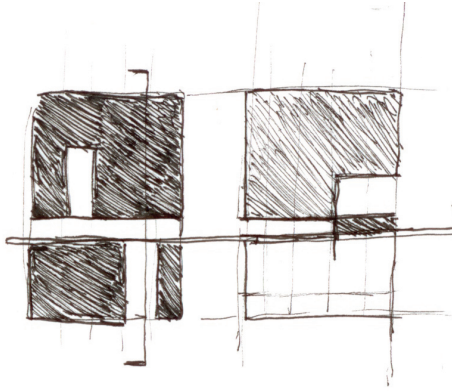
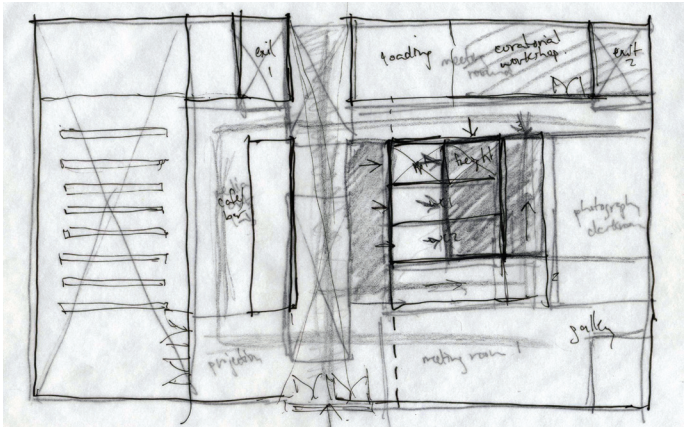
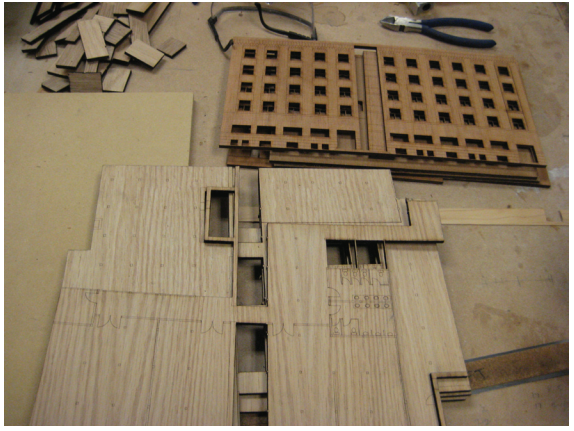
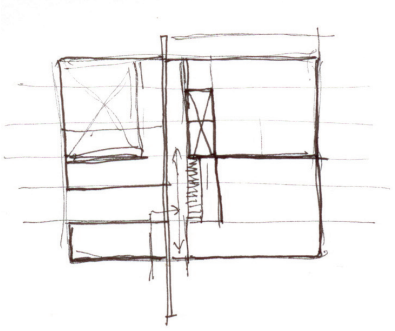
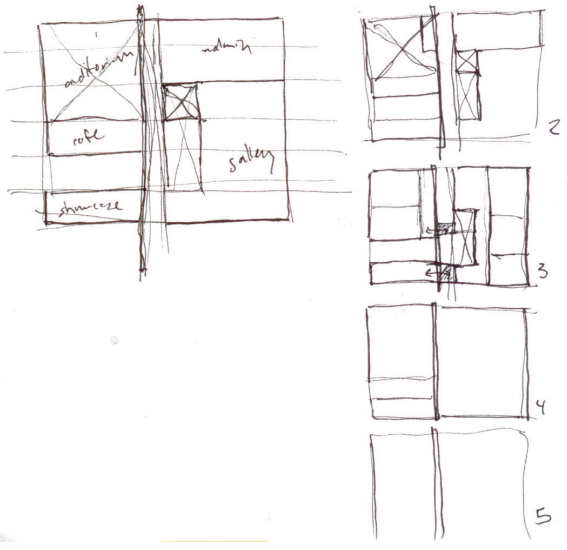






part four_intervention




auditorium
admin
cafe
gallery
showcase
2
3
4
5

building code analysis

As the site is an existing building it has certain structural and physical properties that pre-exist the National Building Code of Canada (NBC). For reference and interest, I have used the 1995 NBC to examing the building code issues that arise in this renovation.

Occupancy Classification: A2, assembly

3.2.2 Building Size + Construction Relative to Occupancy

3.2.2.3
Steel members of stairways and on the top floor of the building (including the roof garden) do not require fire protection.

Steel members (such as those in the auditorium) would have to be fire rated if they are to be exposed.

3.2.2.13
The portion of roof that supports an occupancy (roof garden) must have the same fire rating as the floors (1 hour).

3.2.2.24
The required floor assembly rating of 1 hour means that I would have to negotiate an alternate solution in order to maintain exposed heavy timber. Experts say this is not unusual and retaining a Building Code Consultant to help me put together a proposed solution.

3.4.2 Number + Location of Exits from Floor Areas

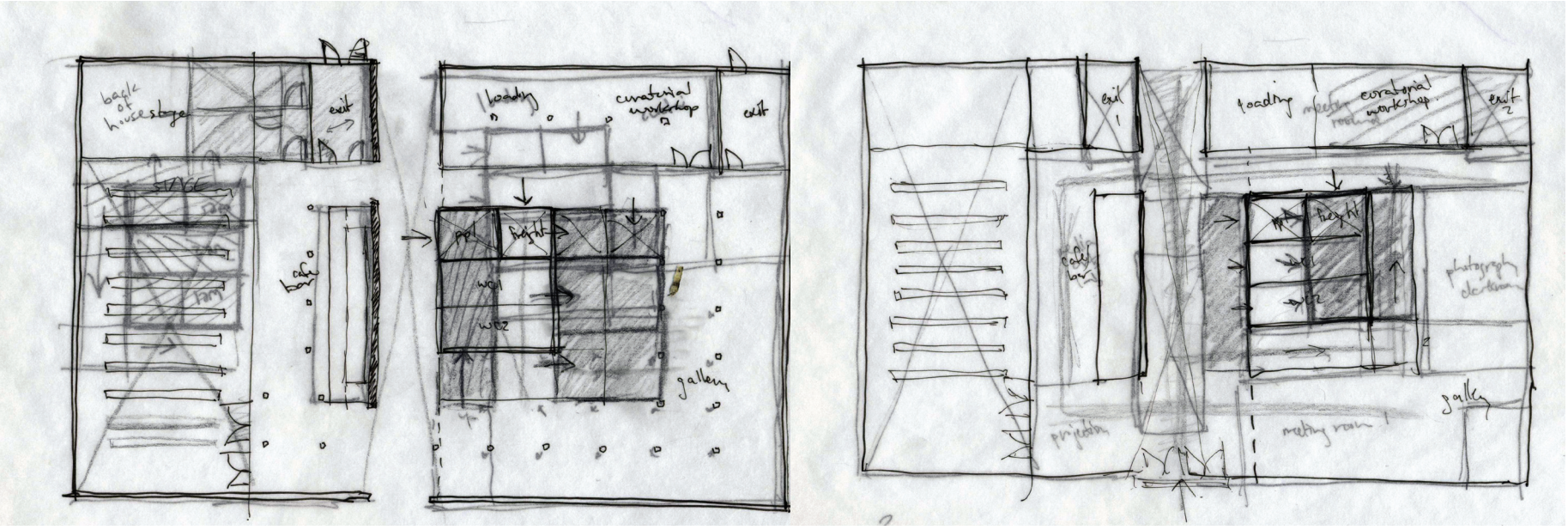
3.4.2.1
Every floor shall be served by at least 2 exits. I have exceeded this requirement as each above-grade floor is served by 3 fire separated exits. The basement is served by only 2 exits.

3.4.2.3
The least distance between 2 required exits from a floor area shall be one half of the maximum diagonal dimension of the floor area, but need not be more than 9m for a floor area having a public corridor, or one half of the maximum diagonal dimension of the floor area, but not less than 9m for all other floor areas.

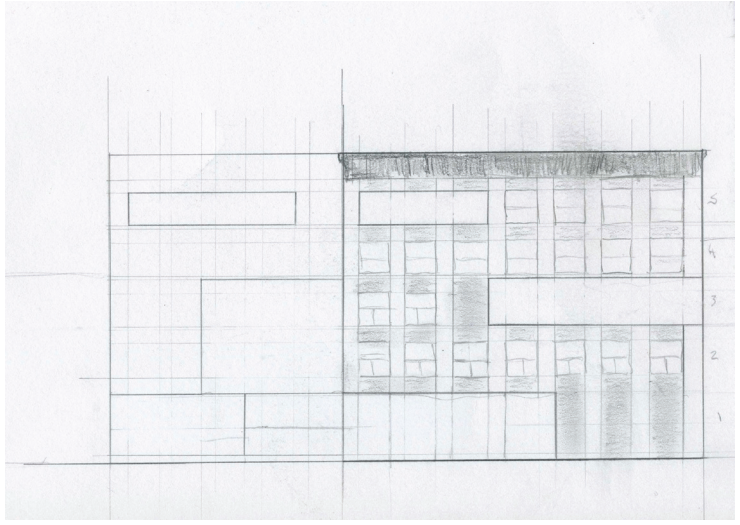
Both of these requirements are met in this design.

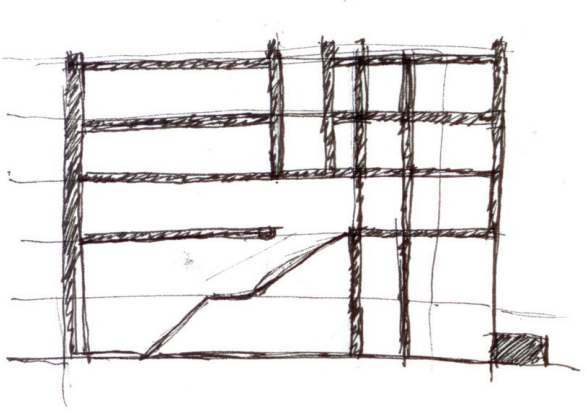
3.8.1 Barrier-Free Design

As per section 3.8.1 of the NBC, the renovation to this existing building was designed with a wheelchair ramp along the south facade for barrier-free entrance/exit.

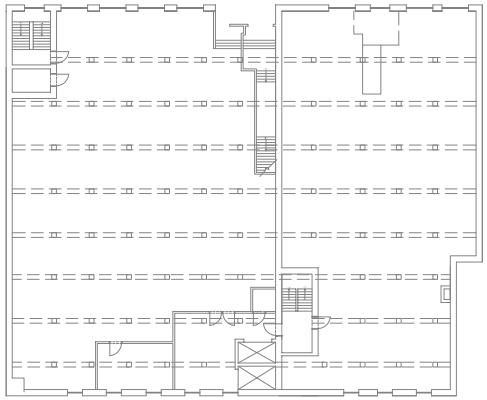


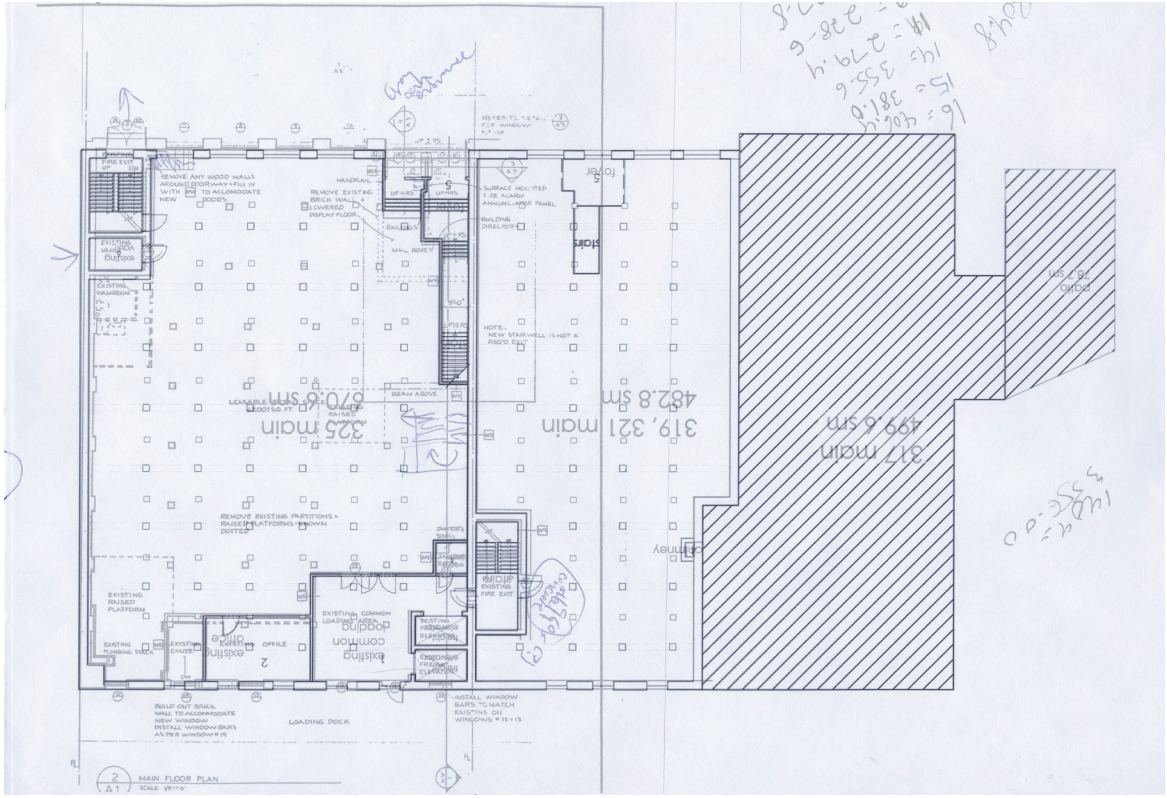
process sketches



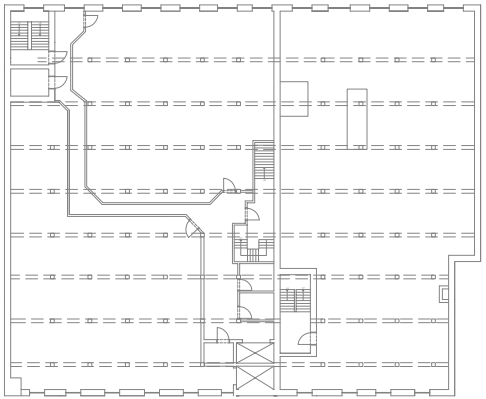


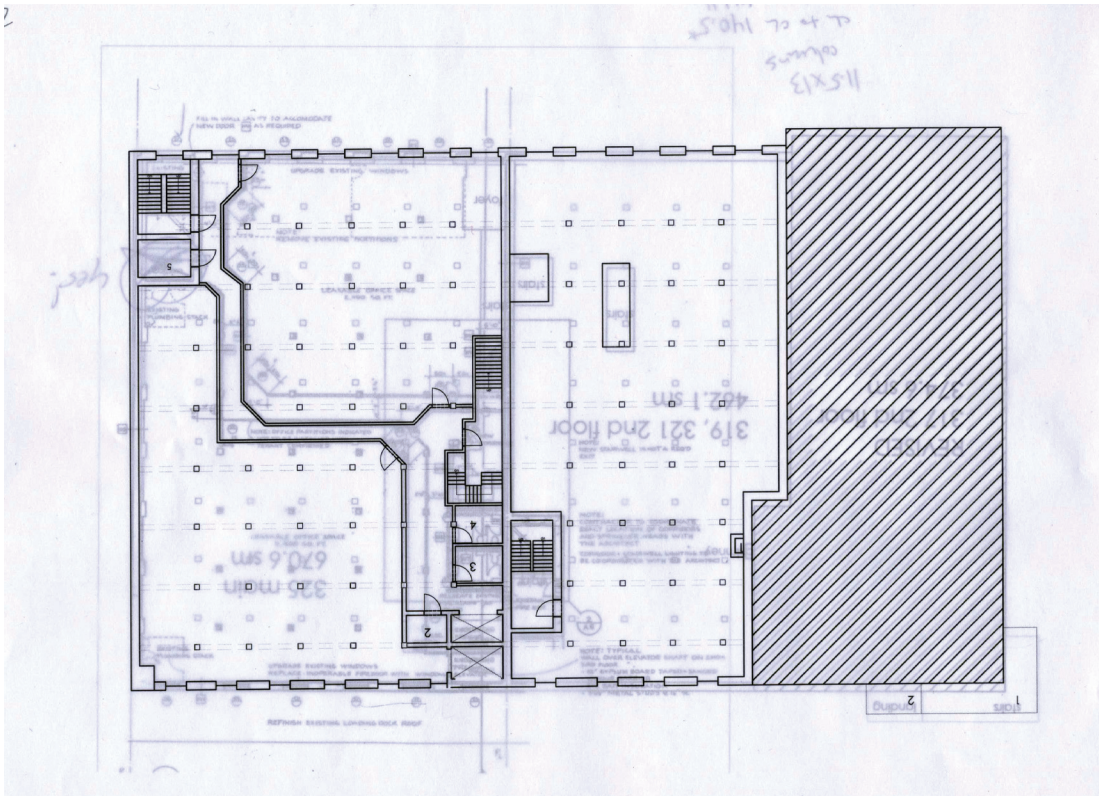
process sketches



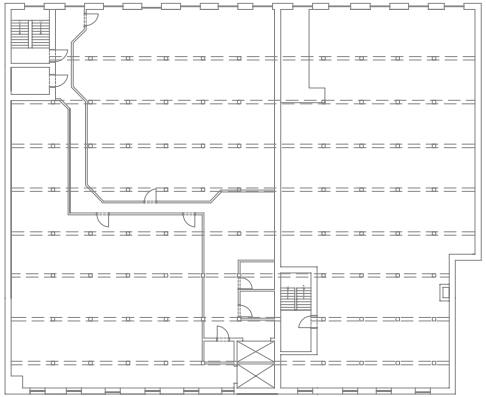


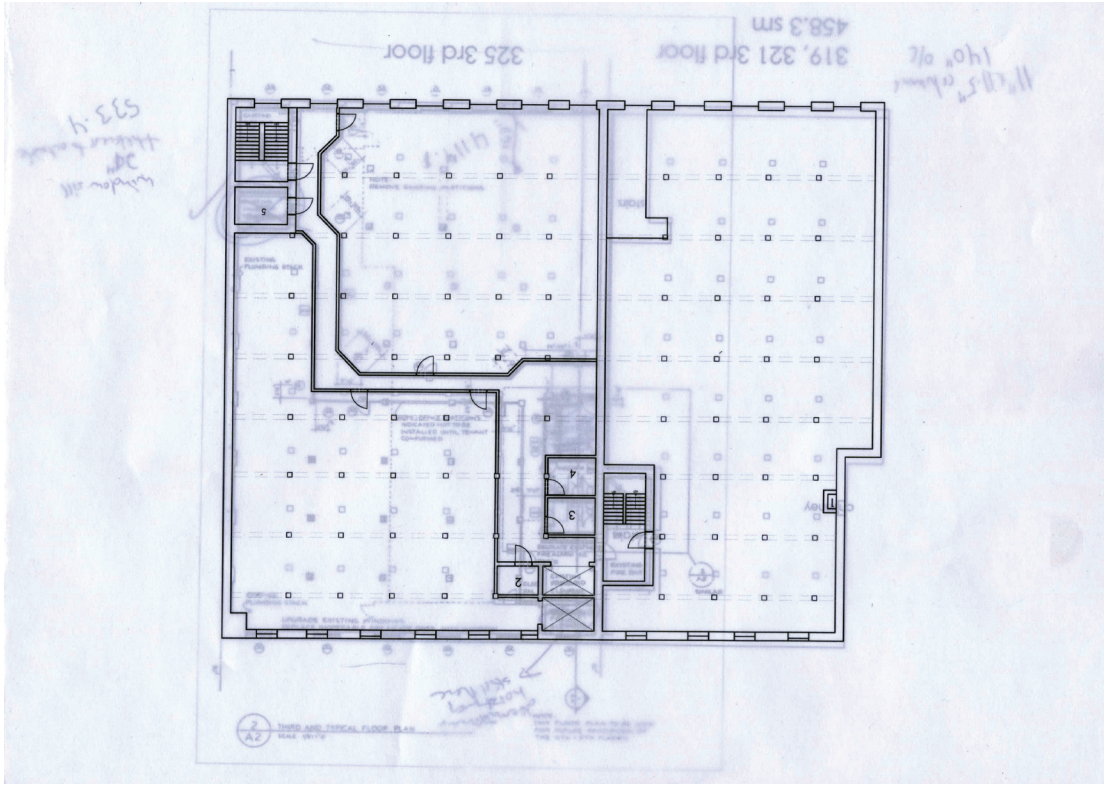
reconstructed as-builts of the site_main floor



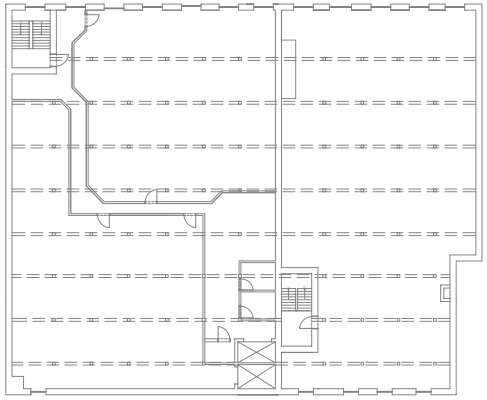


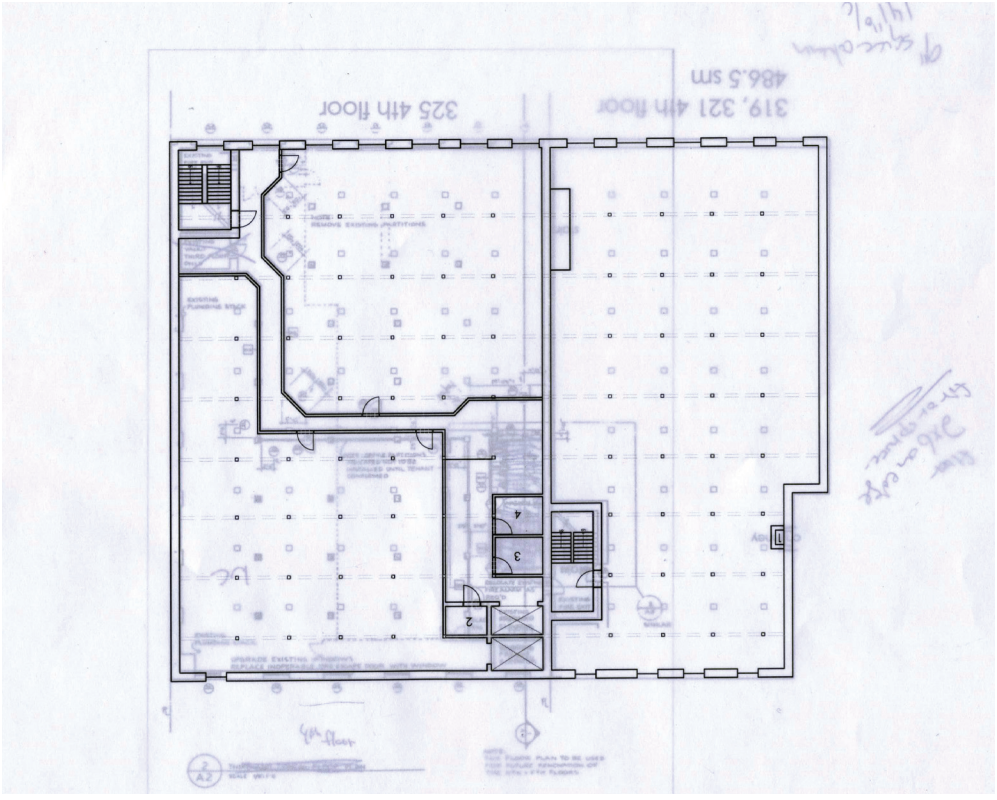
reconstructed as-builts of the site_second floor



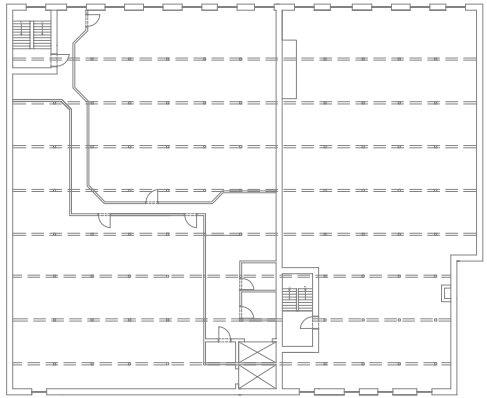


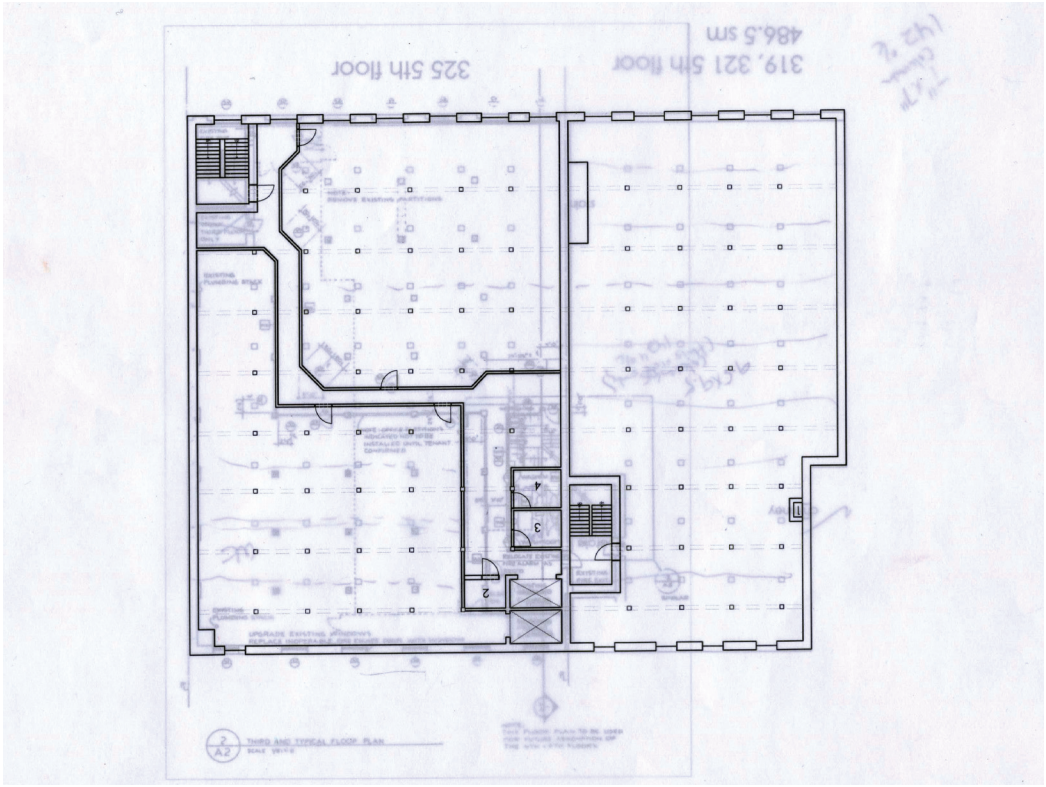
reconstructed as-builts of the site_third floor



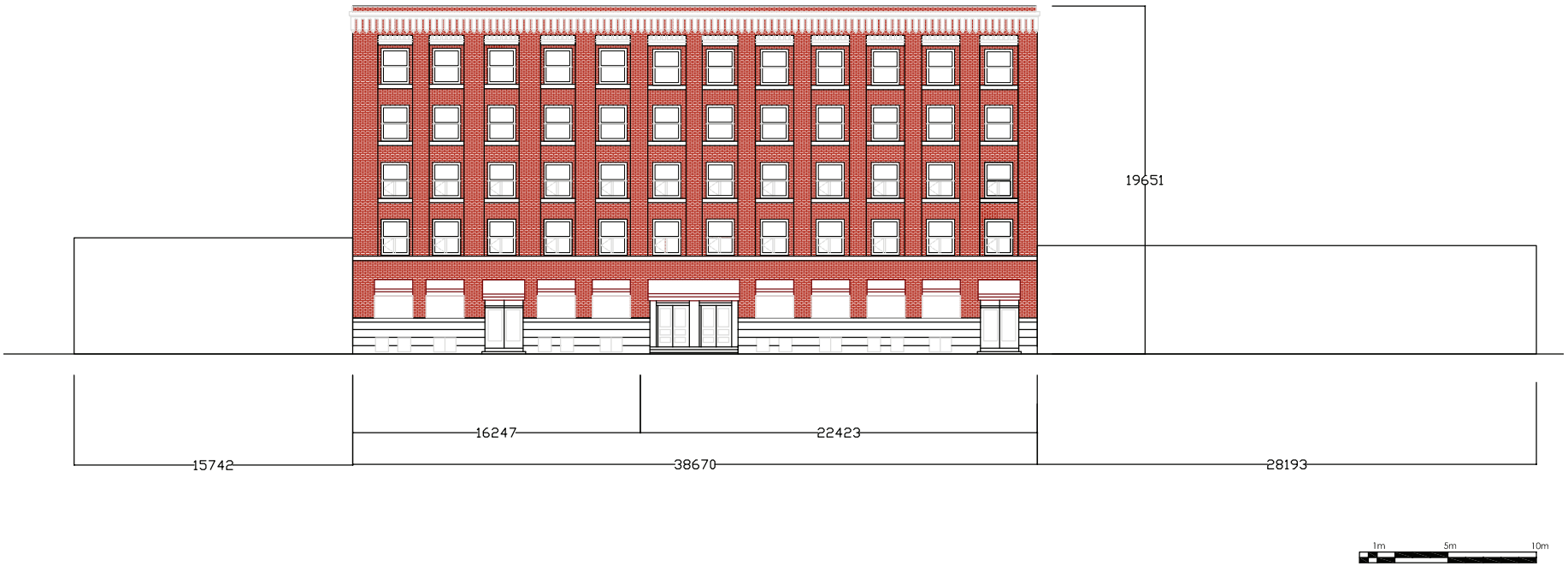


reconstructed as-builts of the site_fourth floor



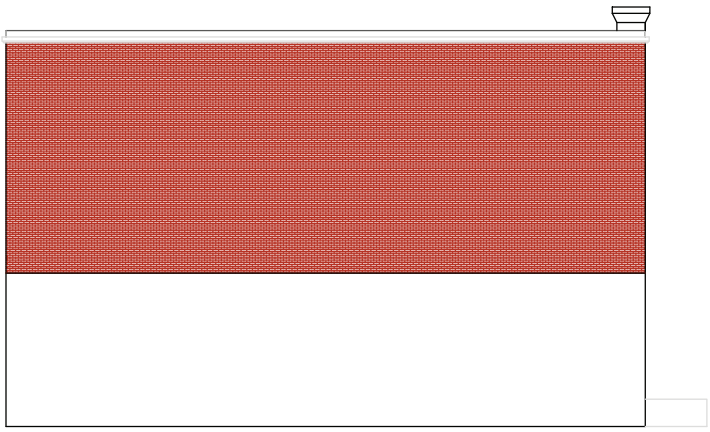


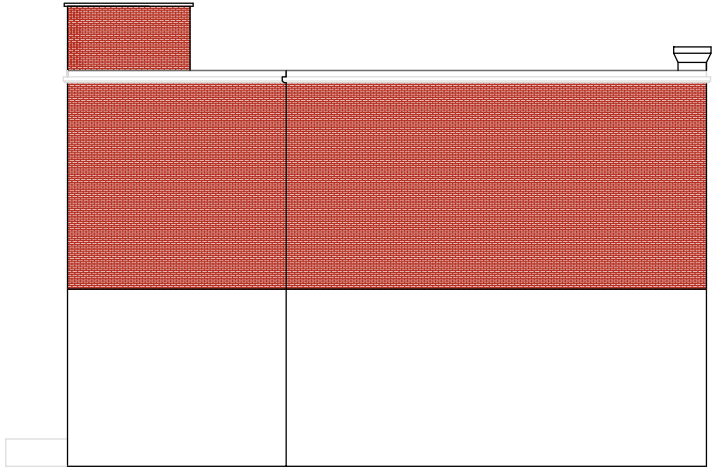
reconstructed as-builts of the site_fifth floor



existing north elevation

existing south elevation

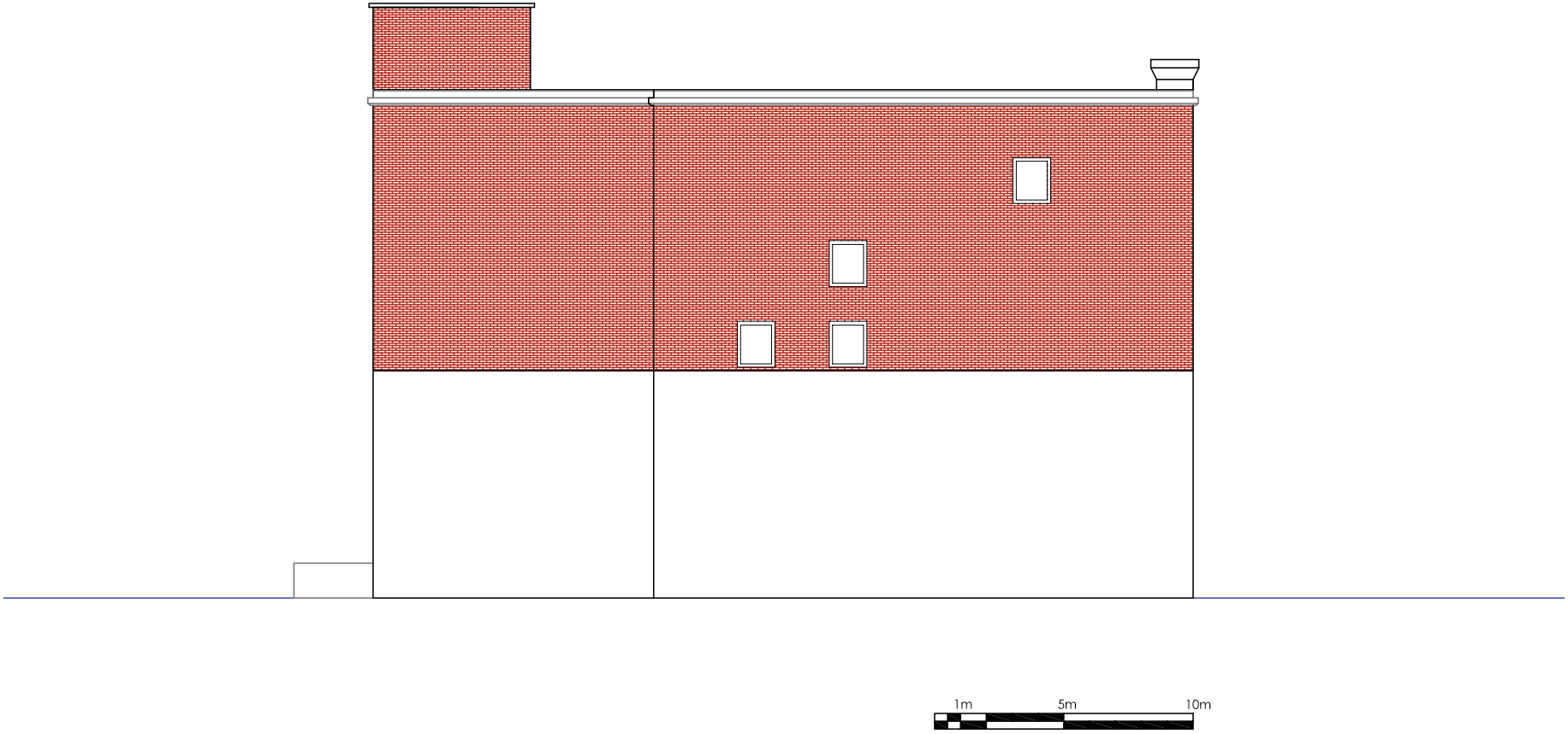




existing west + east elevations

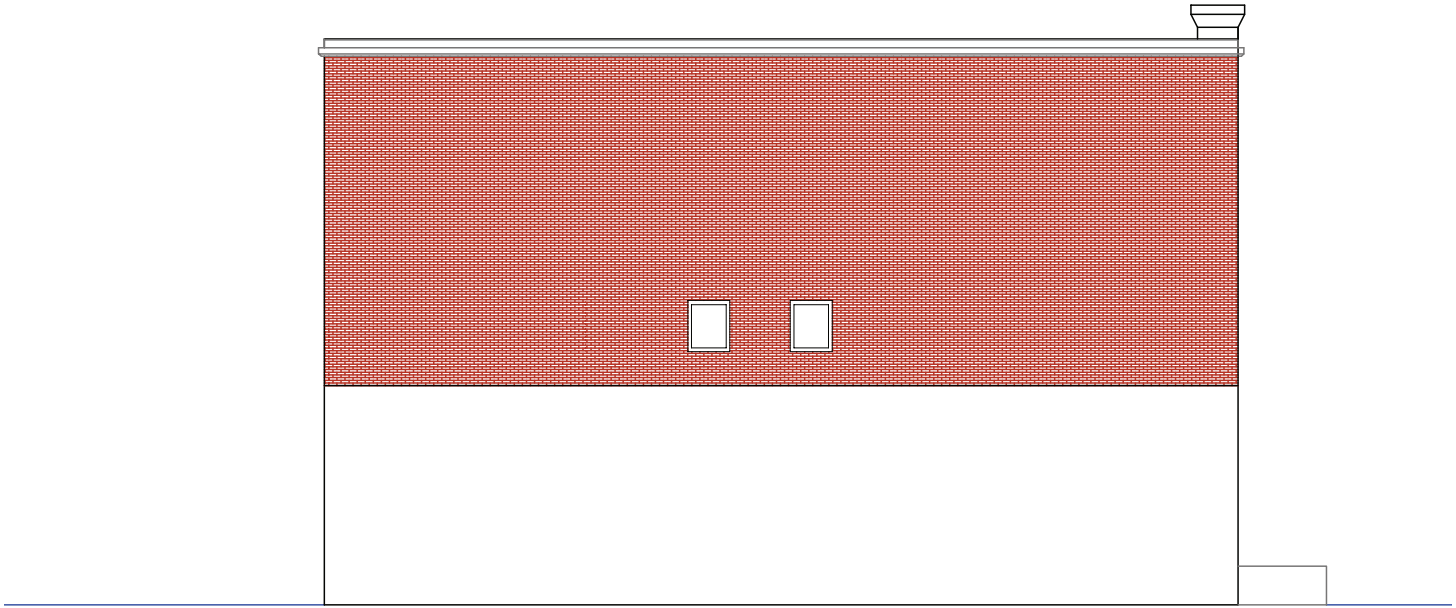
1m 5m 10m

north elevation

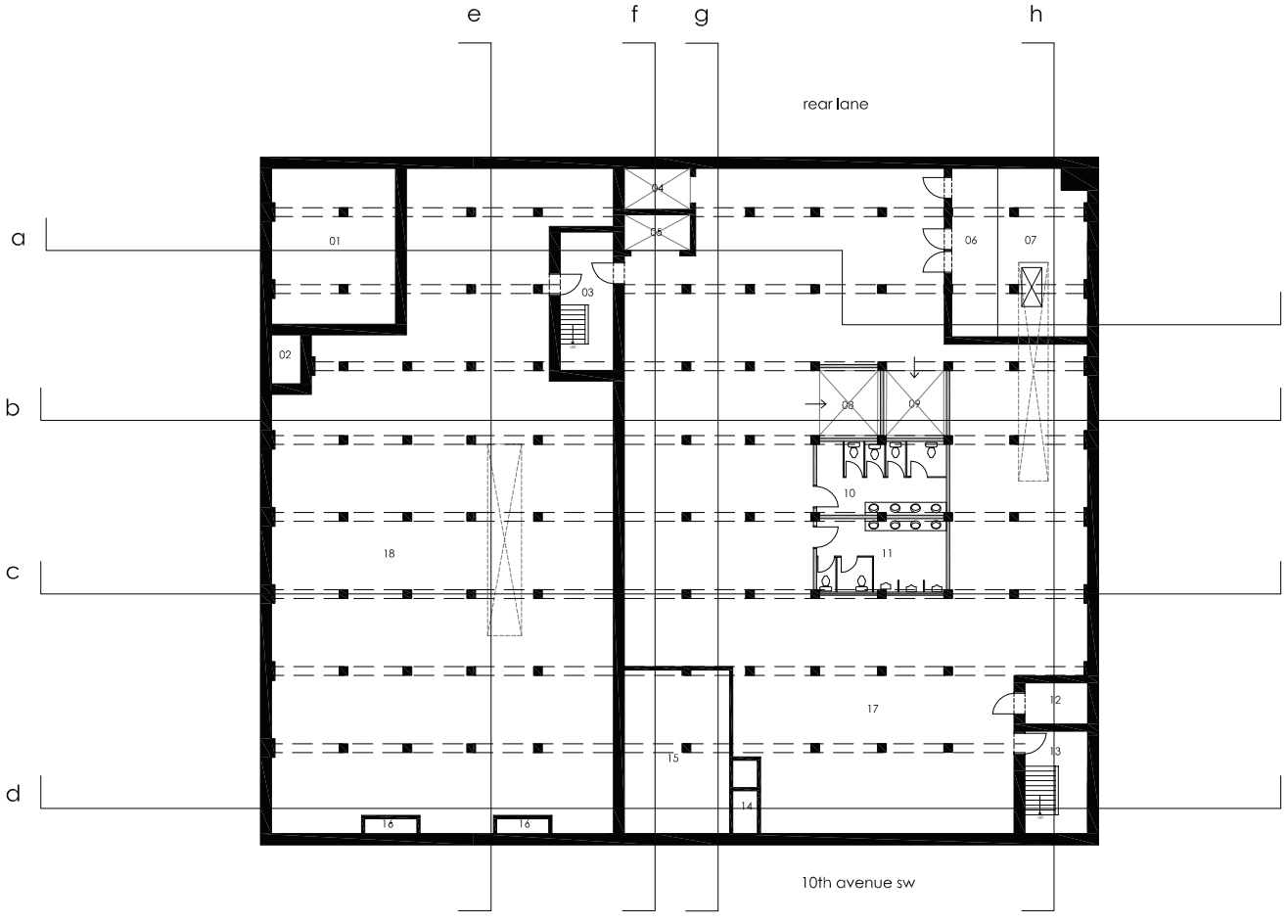


east elevation

south elevation



west elevation

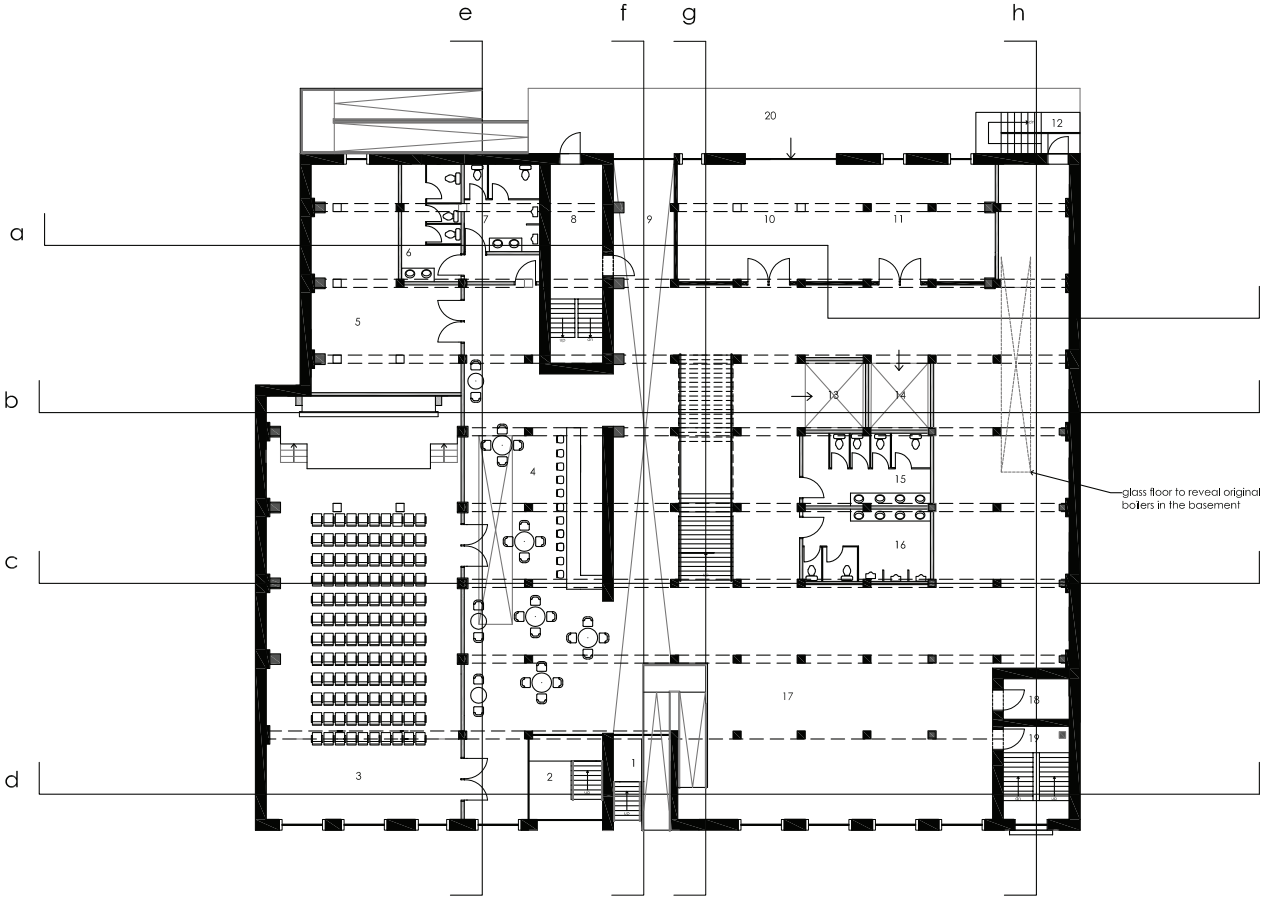


01 boiler room east (existing)
02 chimney
03 exit stair (existing)
04 freight elevator 1 (existing)
05 freight elevator 2 (existing)
06 electrical room (existing)
07 boiler room west (existing)
08 public elevator
09 freight elevator
10 women's washroom
11 men's washroom
12 vault (existing)
13 exit stair (existing)
14 meter room (existing)
15 mechanical room (existing)
16 ducts
17 general storage (existing)
18 general storage (existing)

existing
new construction
new steel structure
removed columns (see building details)

basement

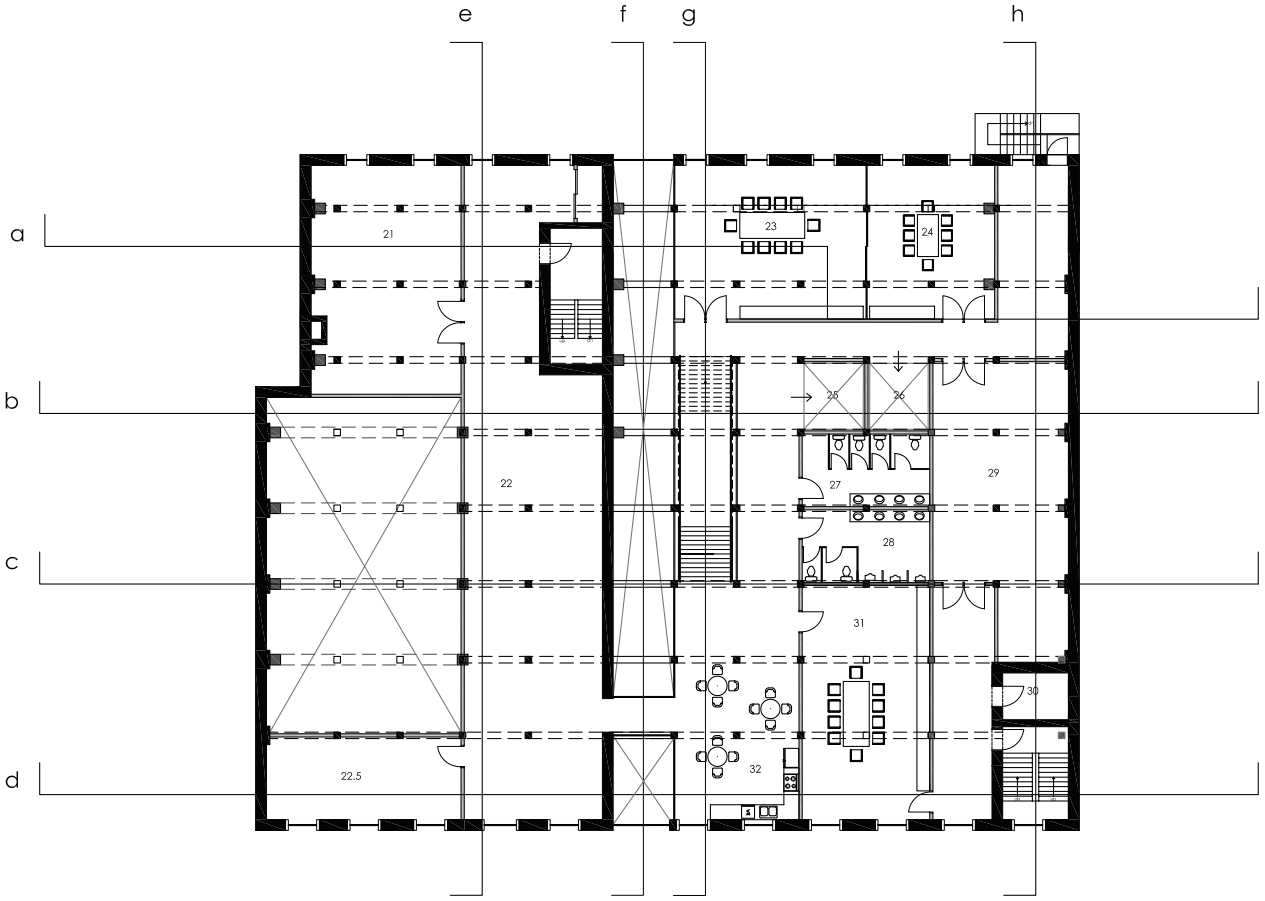
1m 5m 10m



1 entry
2 second entry
3 auditorium
4 cafe/bar
5 kitchen
6 women's washrooms
7 men's washrooms
8 exit stair (existing)
9 atrium
10 loading
11 curatorial workshop
12 exit stair (new)
13 public elevator
14 service elevator
15 women's washroom
16 men's washroom
17 gallery
18 vault (existing)
19 exit stair (existing)
20 loading dock (existing)

main floor

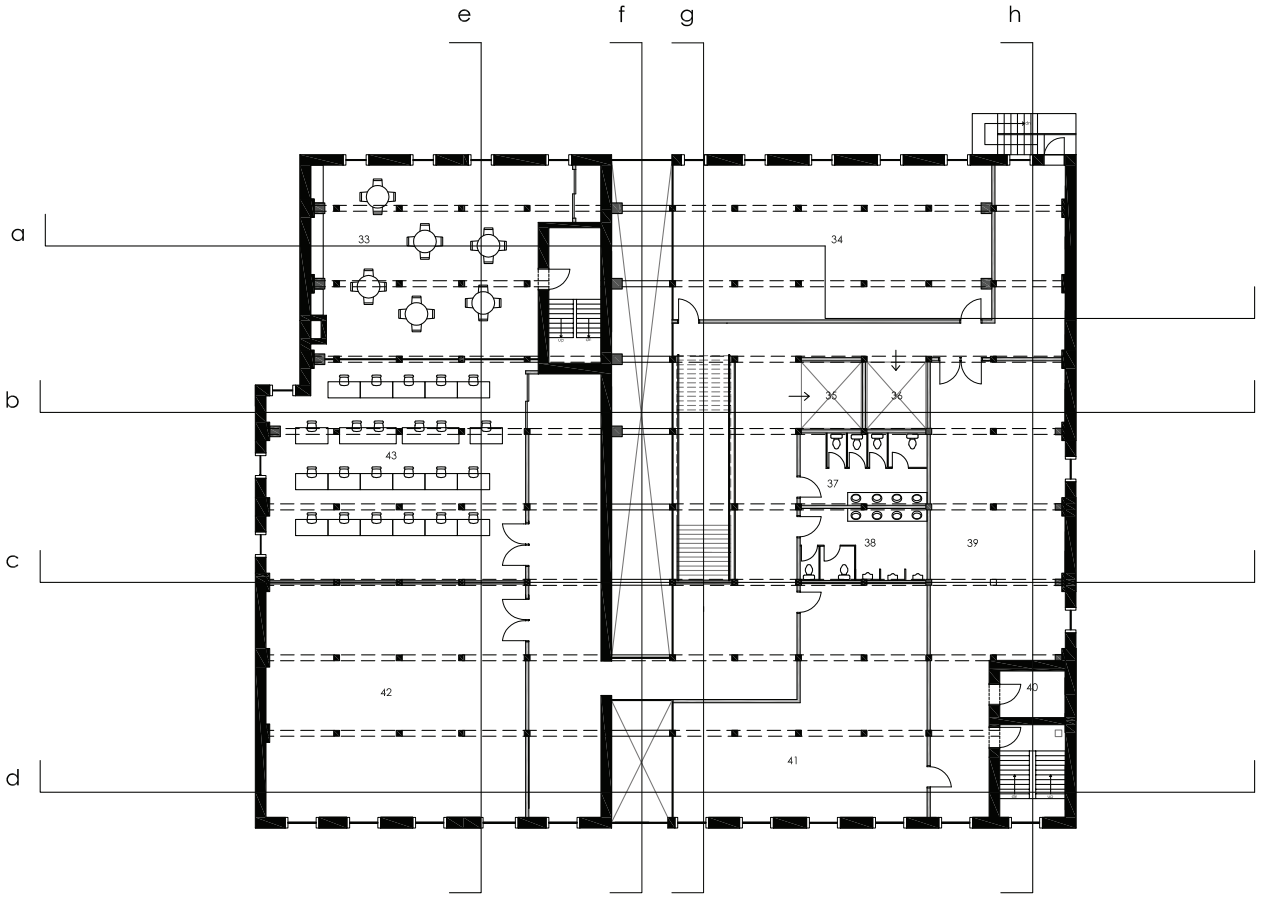
1m 5m 10m



21 technical/server room
22 media arts lab
22.5 projection room
23 meeting room
24 meeting room
25 public elevator
26 service elevator
27 women's washroom
28 men's washroom
29 photography darkroom
30 vault (existing)
31 meeting room
32 public kitchen

1m 5m 10m

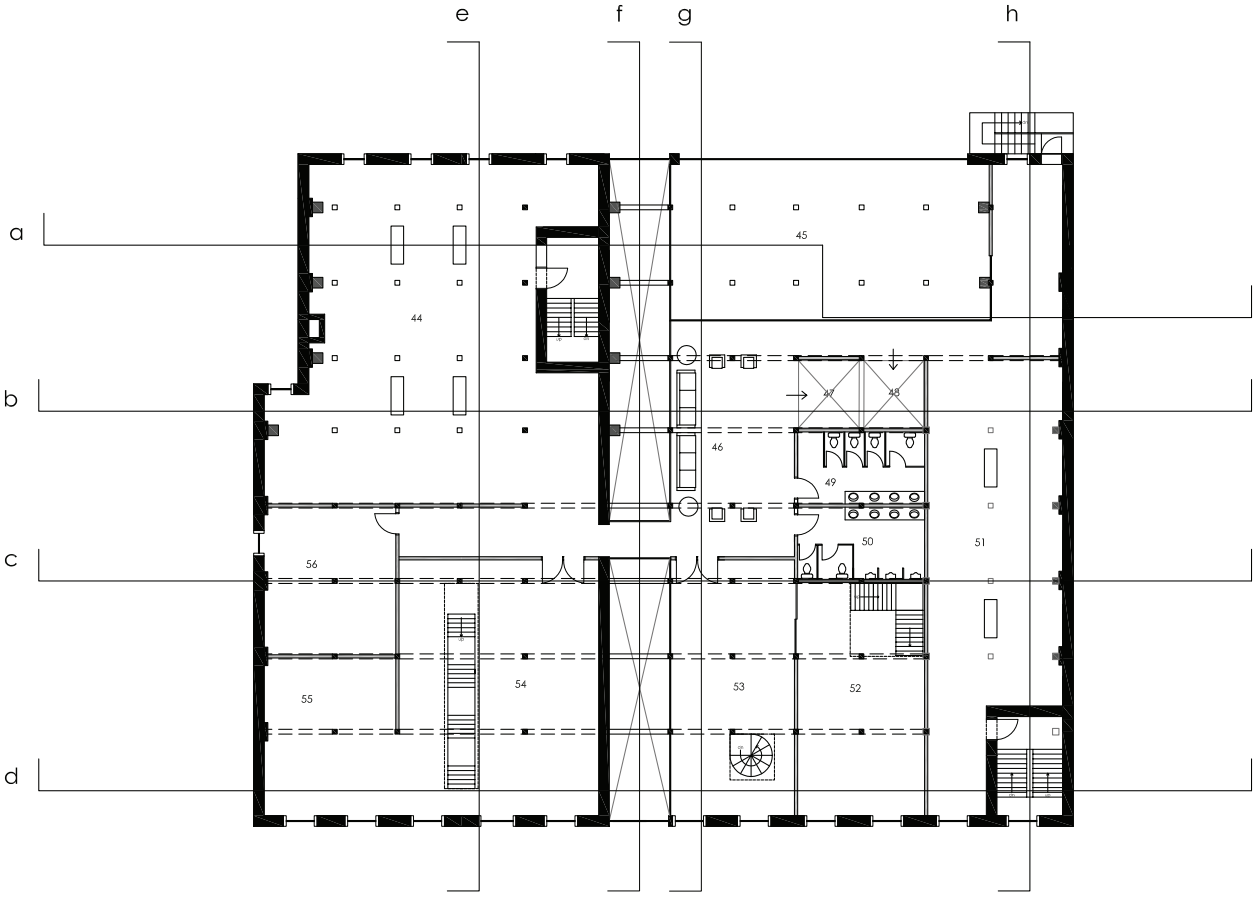
second floor



33 classroom
34 administration
35 public elevator
36 service elevator
37 women's washroom
38 men's washroom
39 wood + metalworking shop
40 vault (existing)
41 administration
42 ceramics studio
43 classroom

1m 5m 10m

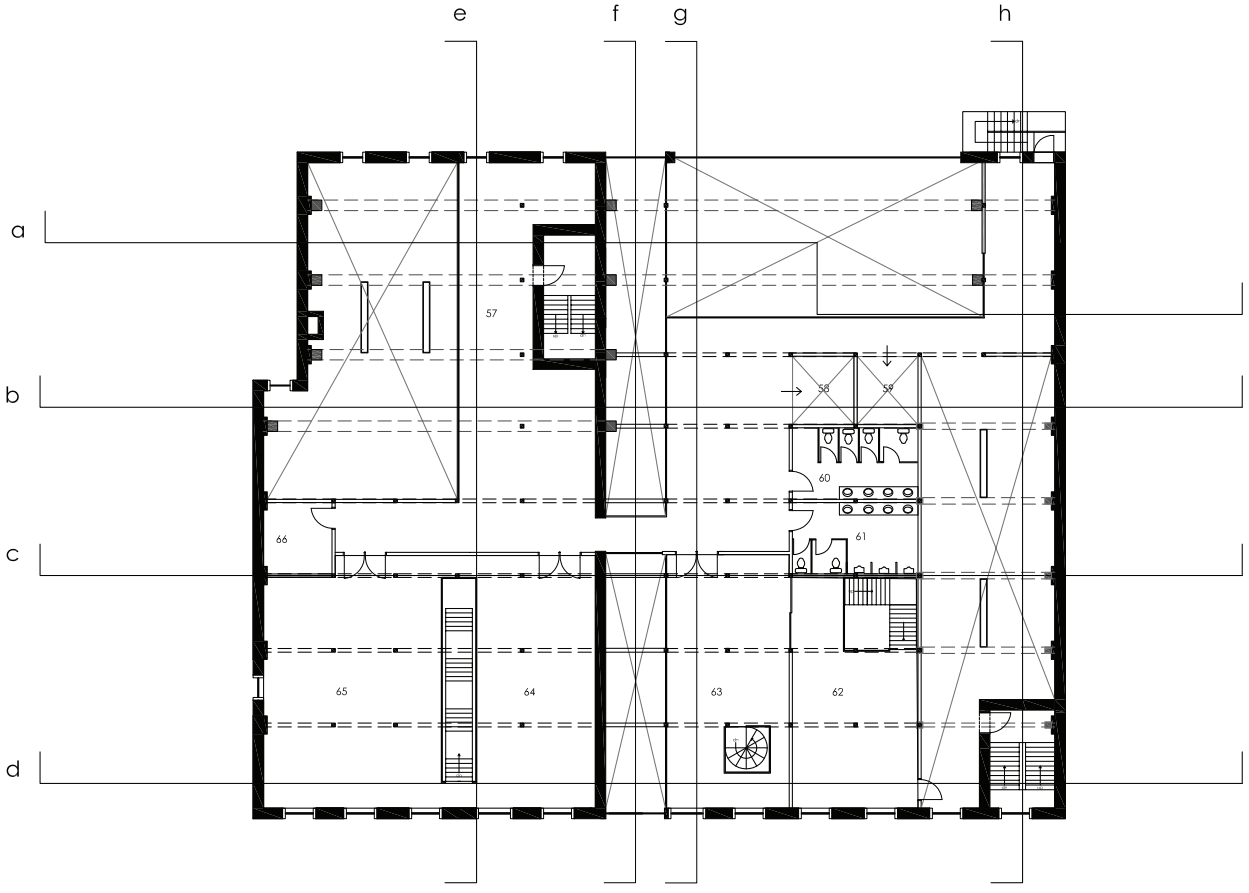
third floor



44 gallery
45 roof garden
46 public sitting area
47 public elevator
48 freight elevator
49 women's washroom
50 men's washroom
51 gallery
52 studio
53 studio
54 studio
55 studio
56 studio

1m 5m 10m

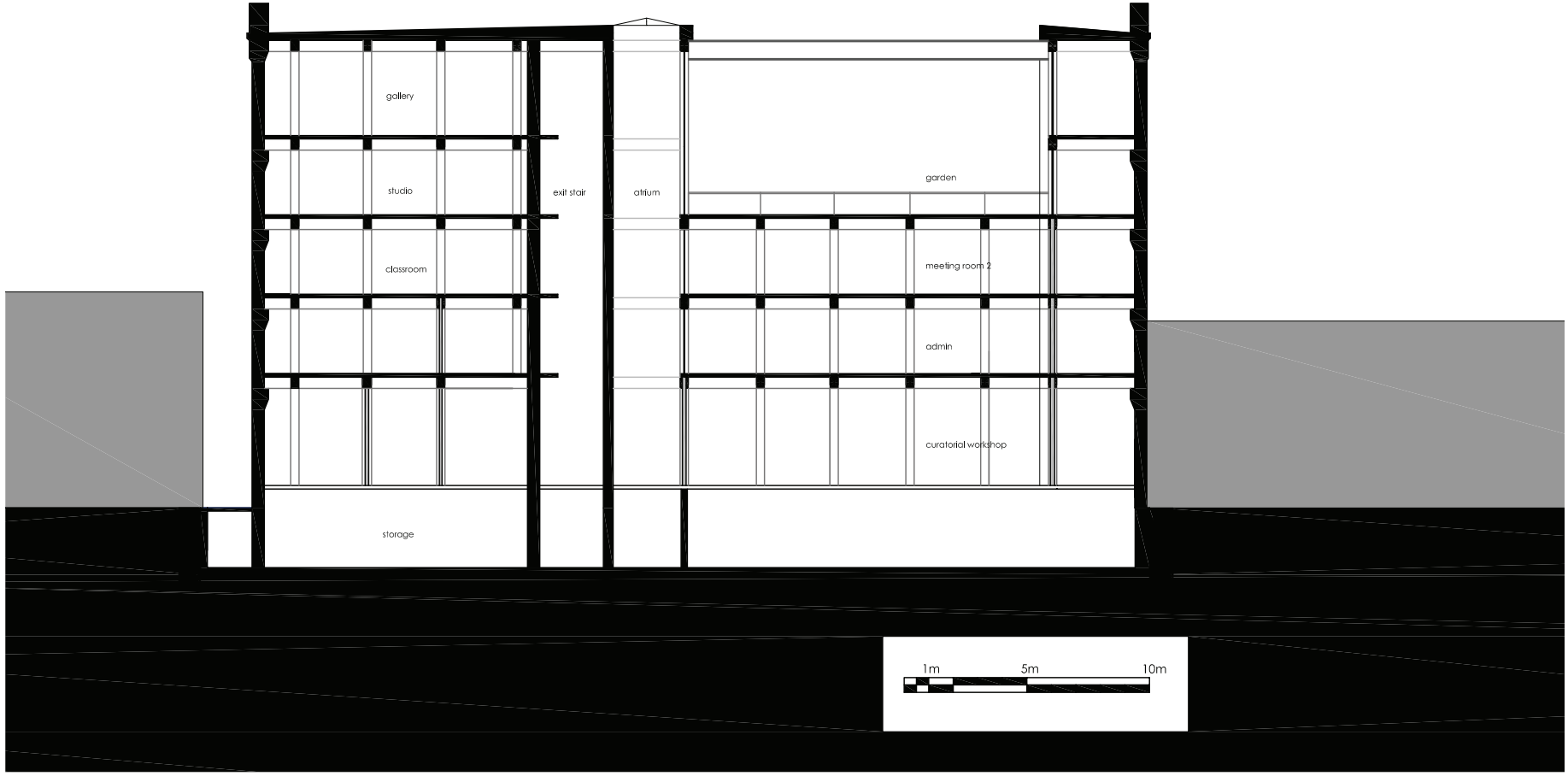
fourth floor



57 gallery mezzanine
58 public elevator
59 freight elevator
60 women's washroom
61 men's washroom
62 studio
63 studio
64 studio
65 studio
66 janitor

1m 5m 10m

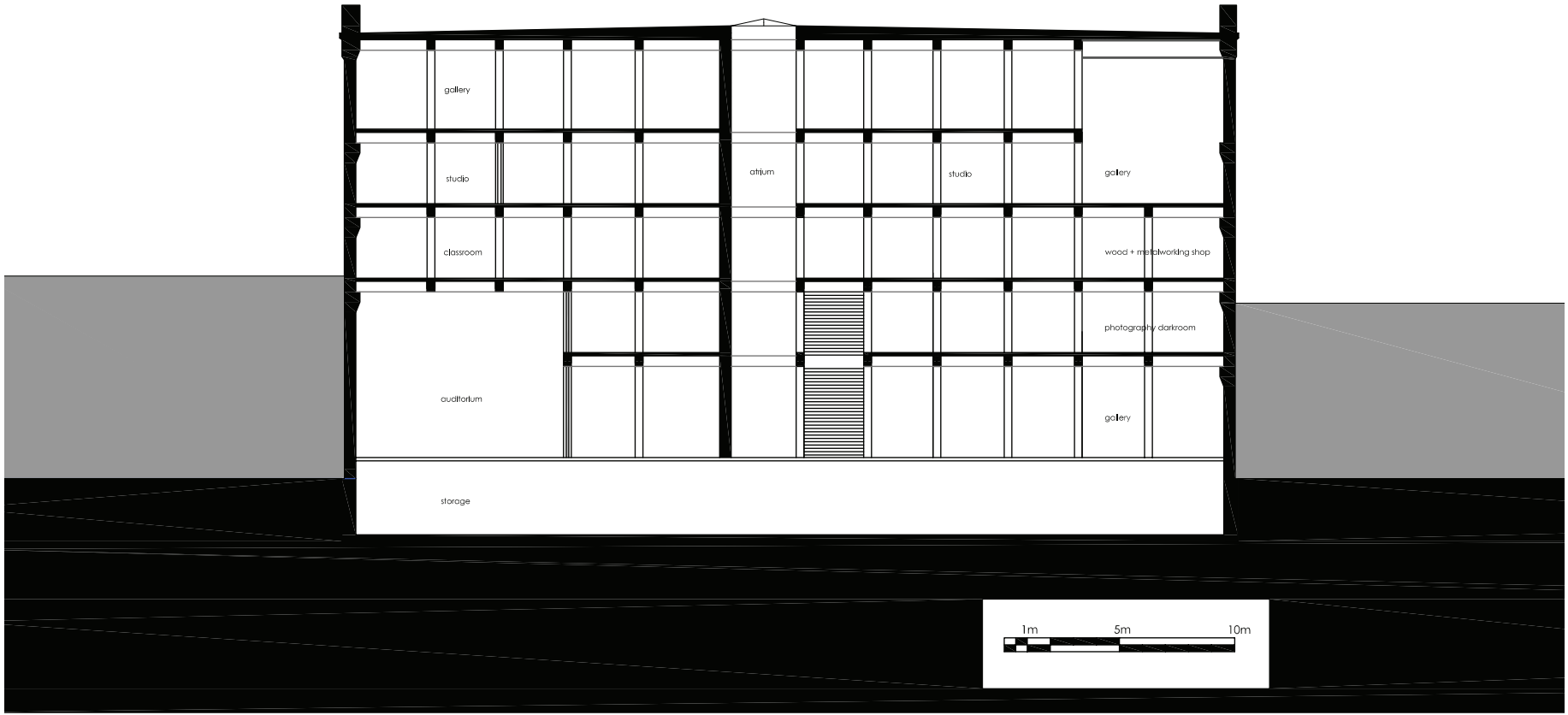
fifth floor


gallery
studio
classroom
storage
exit stair
atrium
garden
meeting room 2
admin
curatorial workshop
1m
5m
10m

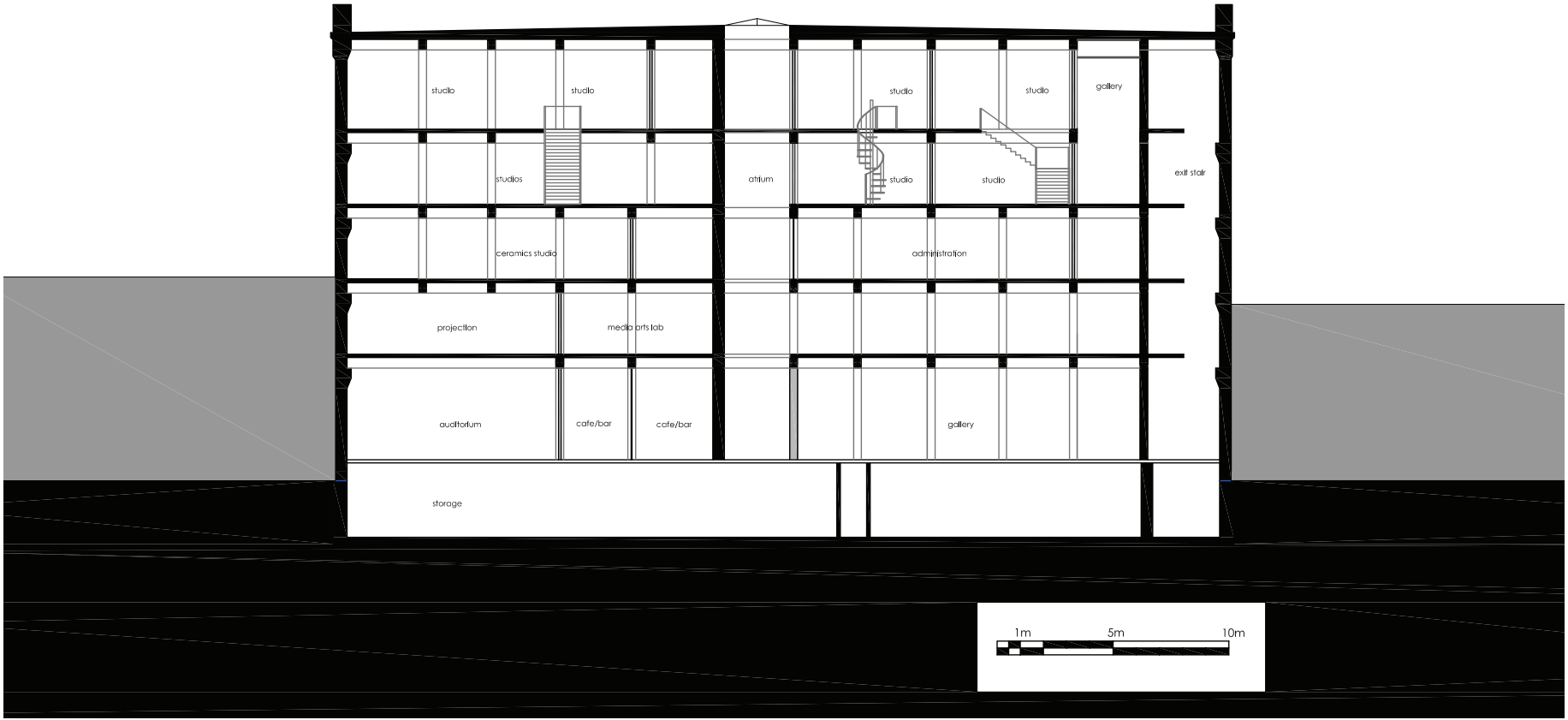
section a


studio
studio
classroom
auditorium
storage
atrium
elevator 1
elevator 2
gallery
wood + metalworking shop
photography darkroom
gallery
1m
5m
10m

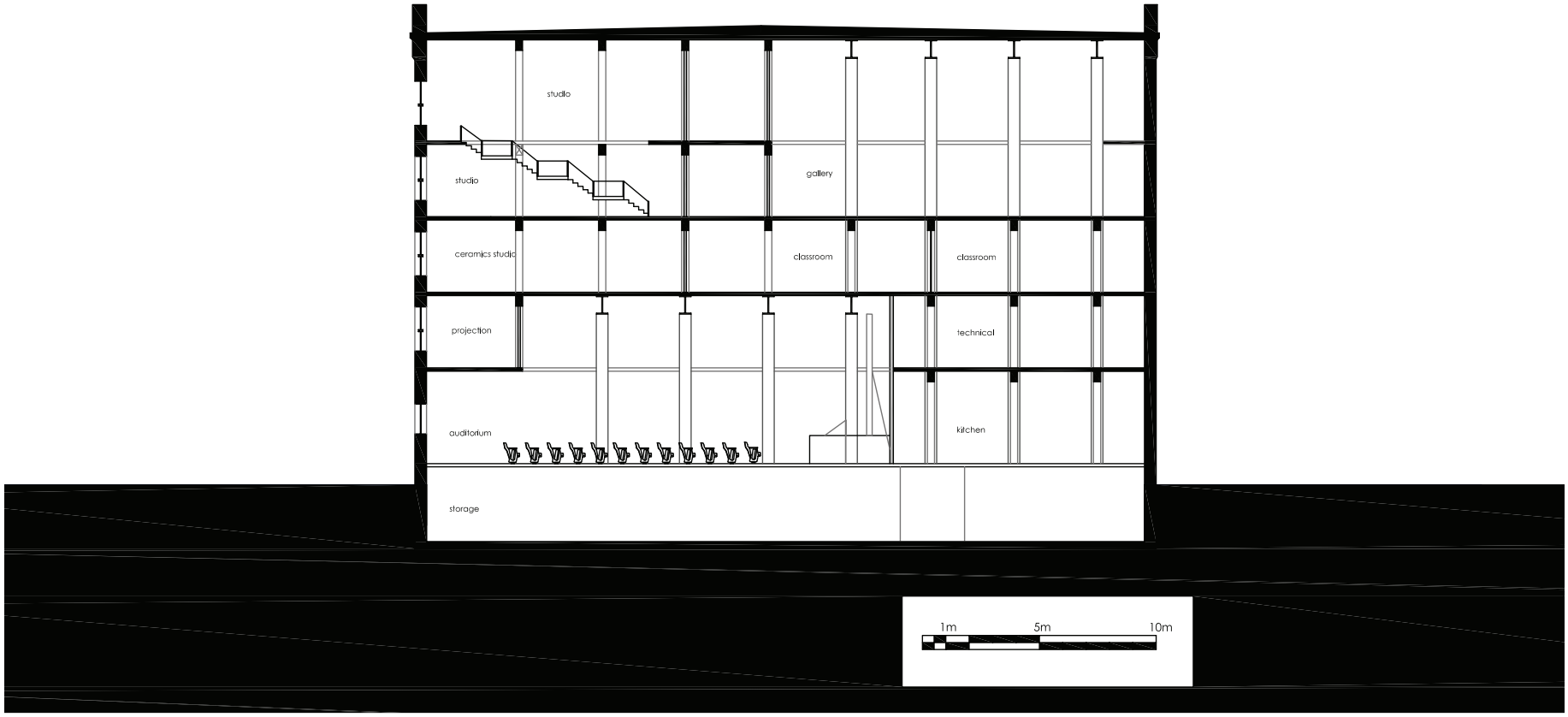
section b


gallery
studio
classroom
auditorium
storage
atrium
studio
gallery
wood + metalworking shop
photography darkroom
gallery
1m
5m
10m

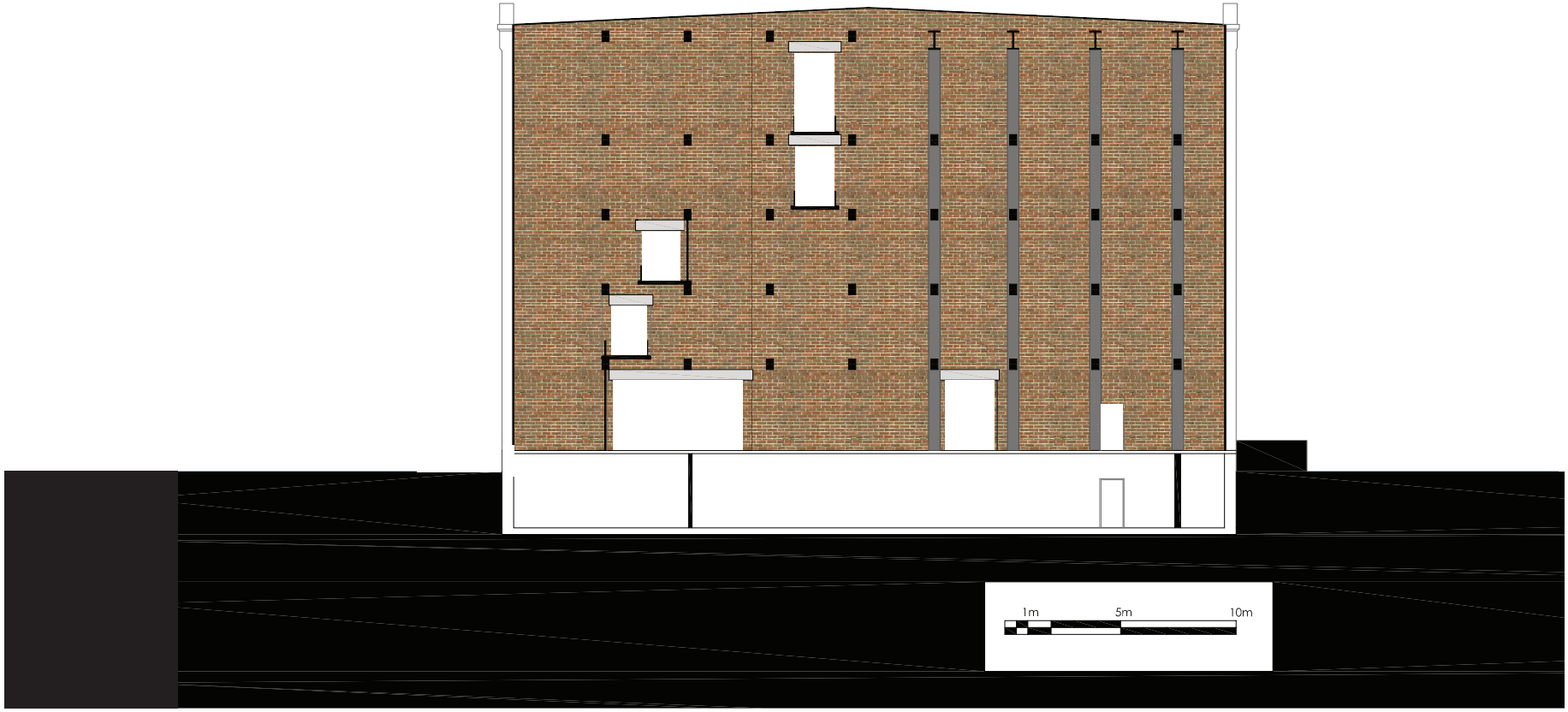
section c


studio
studio
studio
studio
gallery
studios
atrium
studio
studio
exit stair
ceramics studio
administration
projection
media arts lab
auditorium
cafe/bar
cafe/bar
gallery
storage
1m
5m
10m

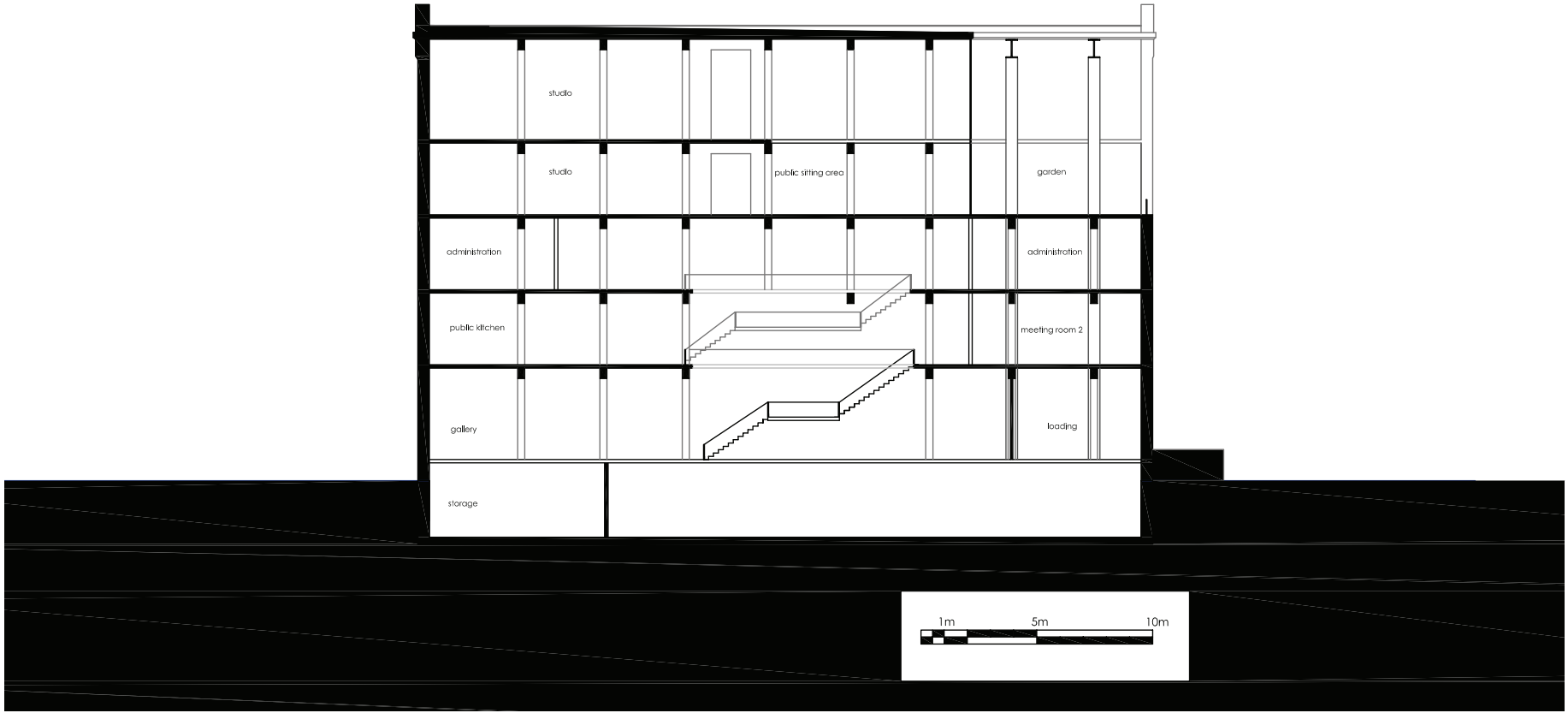
section d


studio
studio
gallery
ceramics studio
classroom
classroom
projection
technical
auditorium
kitchen
storage
1m
5m
10m

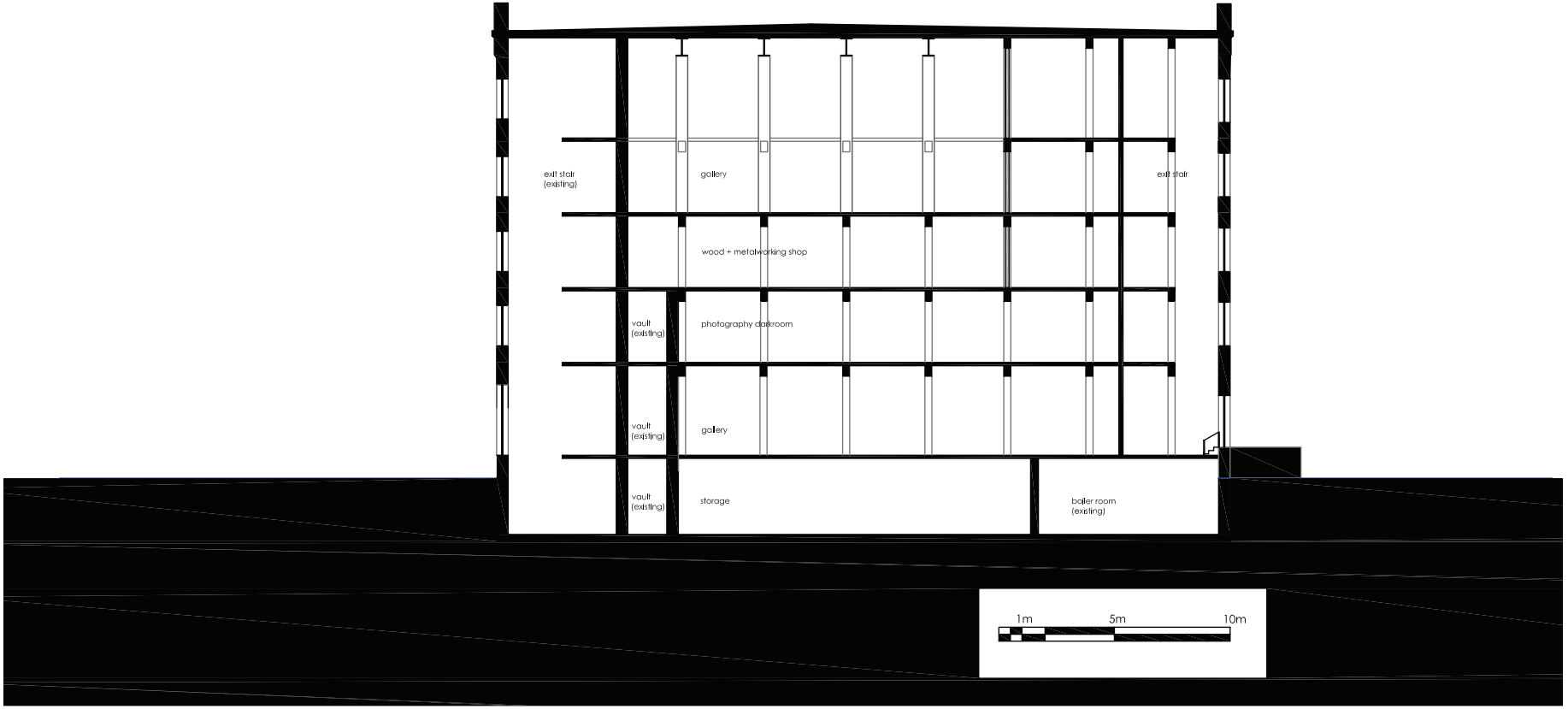
section e



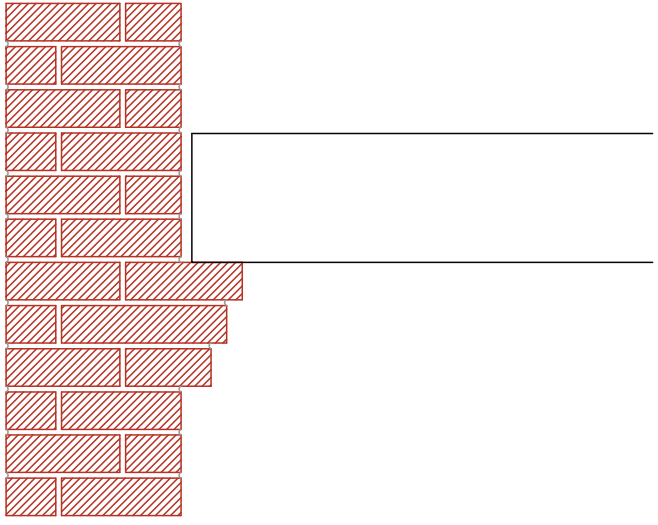
section f


studio
studio
public sitting area
garden
administration
administration
public kitchen
meeting room 2
gallery
loading
storage
1m
5m
10m

section g

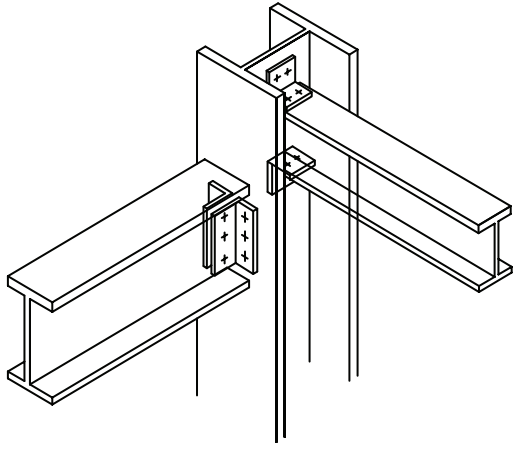

exit stair
(existing)
gallery
exit stair
wood + metalworking shop
vault
(existing)
photography darkroom
vault
(existing)
gallery
vault
(existing)
storage
boiler room
(existing)
1m
5m
10m

section h



corbels were used in solid masonry construction when walls were a minimum of 12" (305mm) thick

all of the existing exterior walls in this building have corbels to take the load of the heavy timber beams down through to the foundation

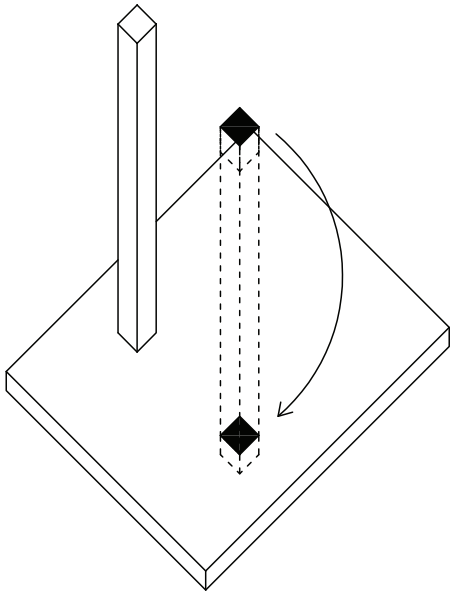


connection plates such as those shown here are used to join the existing heavy timber beams to the existing heavy timber columns. my intention is for this detail to remain the same

the rigid connections for the new structural steel can be built in the same manner

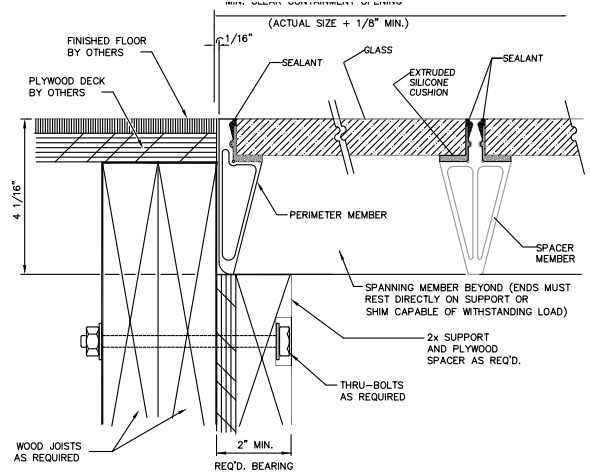
where existing timber beams meet steel columns special connection plates that deal with shear forces would be required

construction details - not to scale



where existing heavy timber columns are cut and removed the old column material (douglas fir) is to be re-used to fill the floor in its original location

where all existing partition walls are to be removed, the floor and adjacent walls are to remain (un-repaired) as 'memory traces'

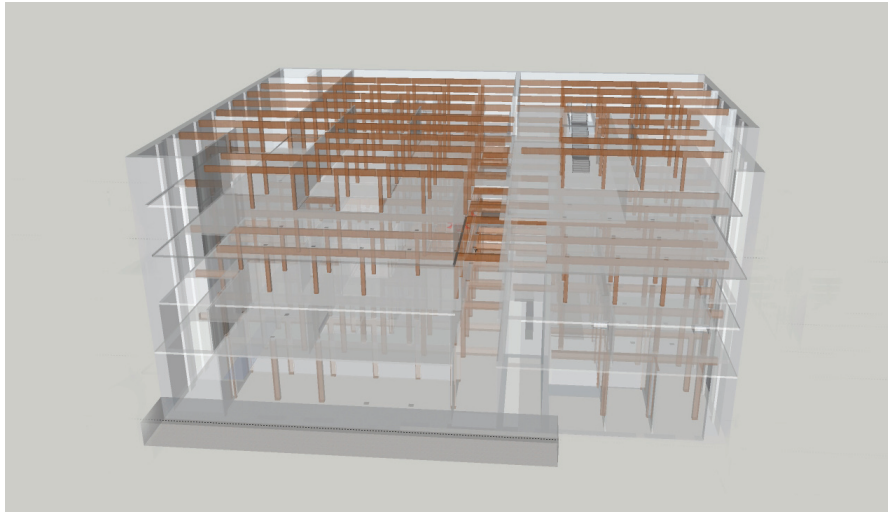


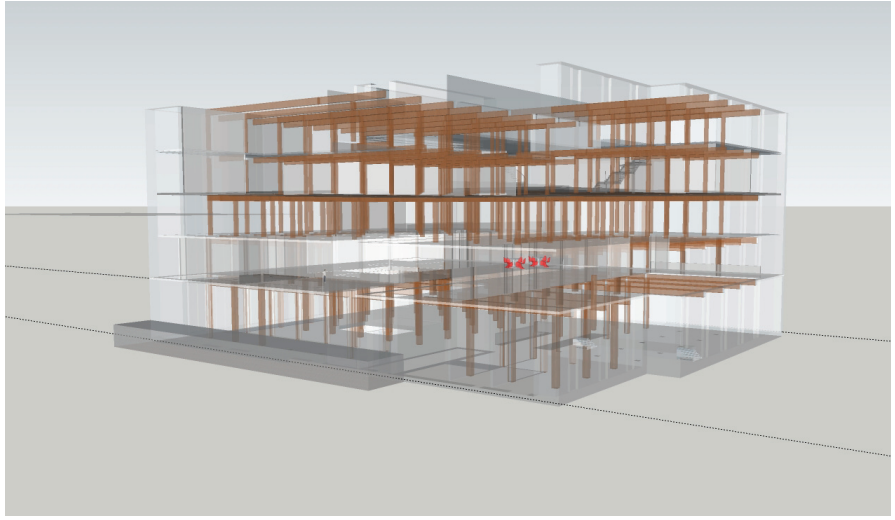
FLOOR SECTION VIEW: GF-4
TYPICAL INTERIOR COMMERCIAL INSTALLATION

THIS FLOOR IS INTENDED FOR BOTH THE TOP AND BOTTOM SURFACES TO BE EXPOSED TO AN INTERIOR, CLIMATE CONTROLLED ENVIRONMENT.

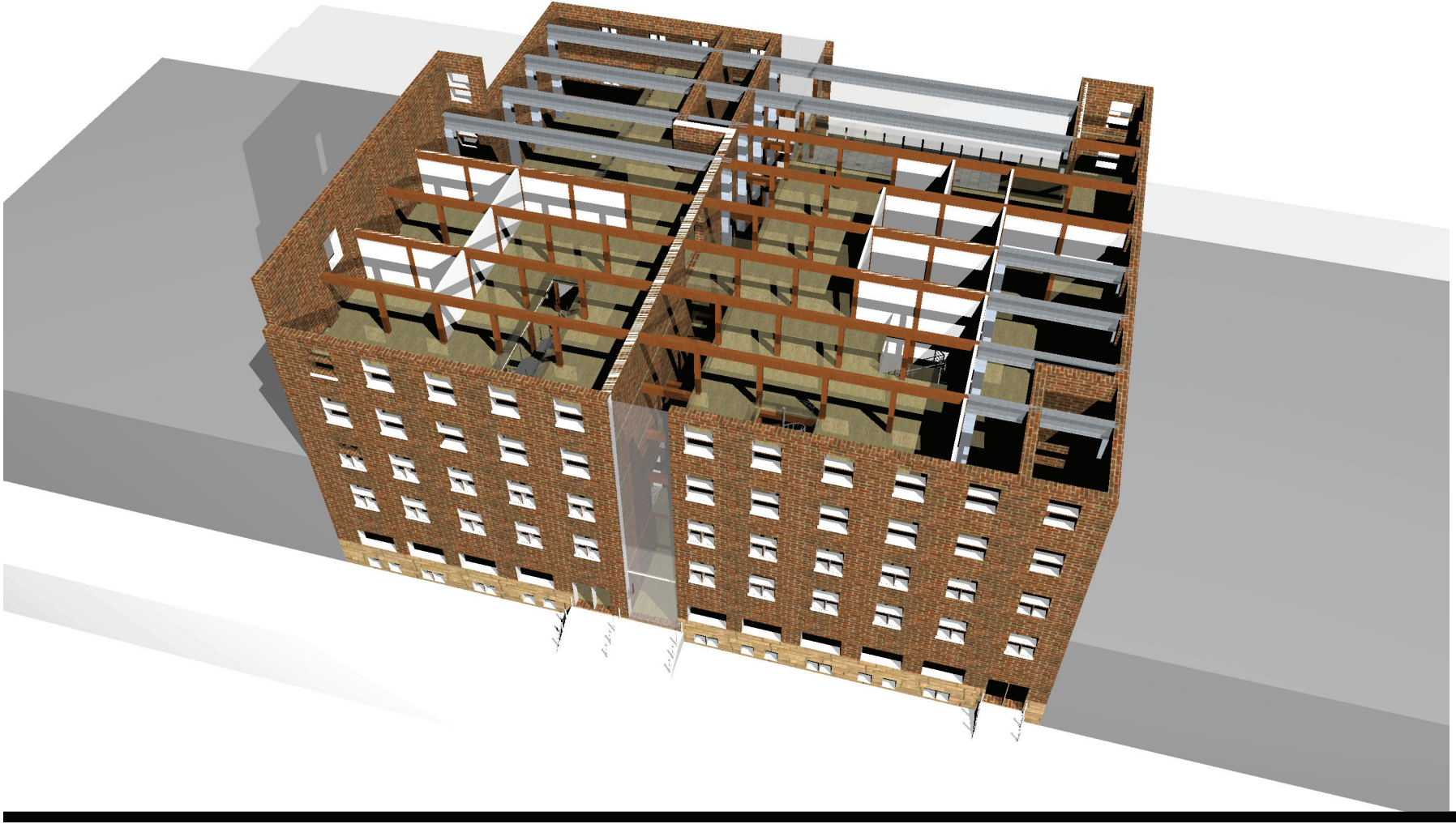
this floor section by IBP glass floor systems shows the typical construction for a structural glass floor (in a wood-framed building)

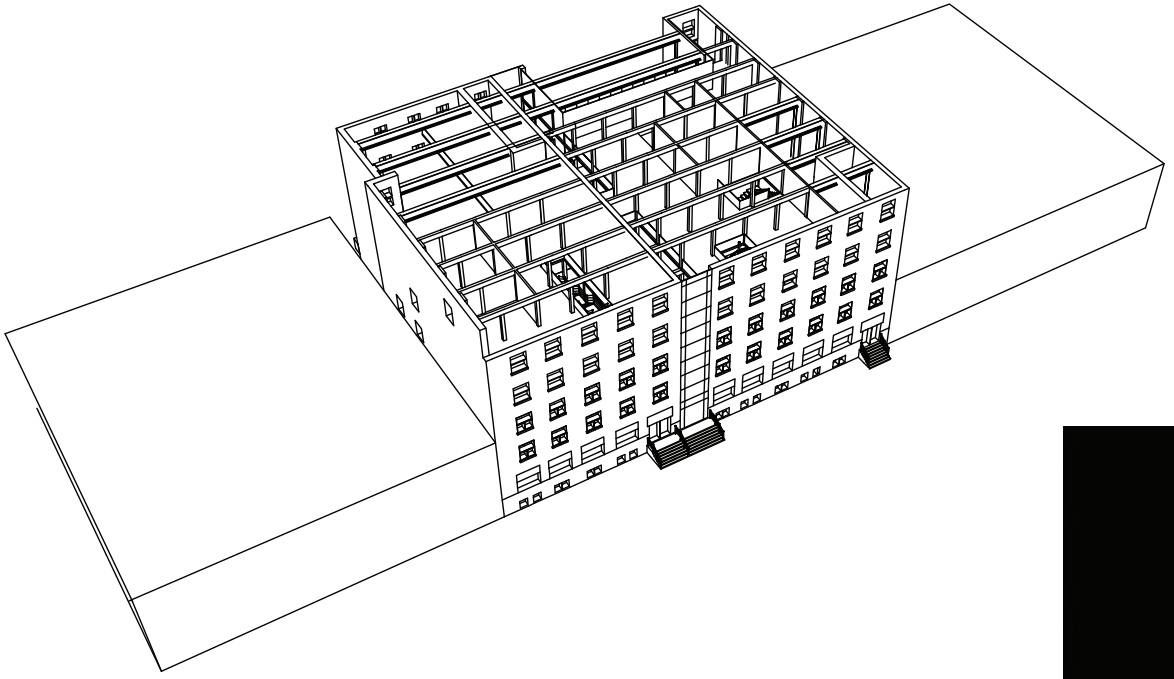
construction details - not to scale

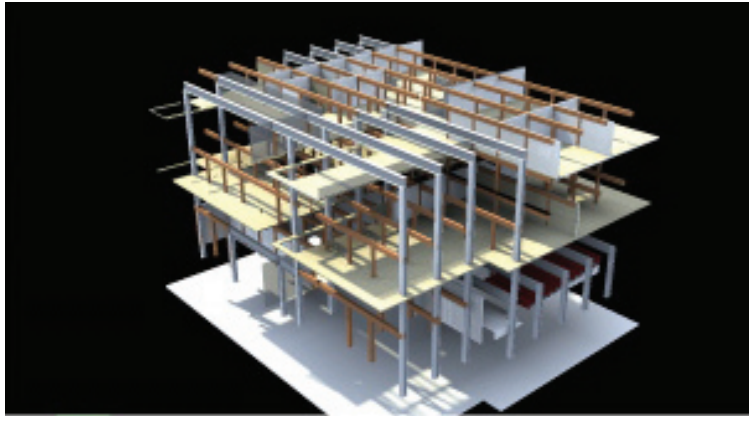




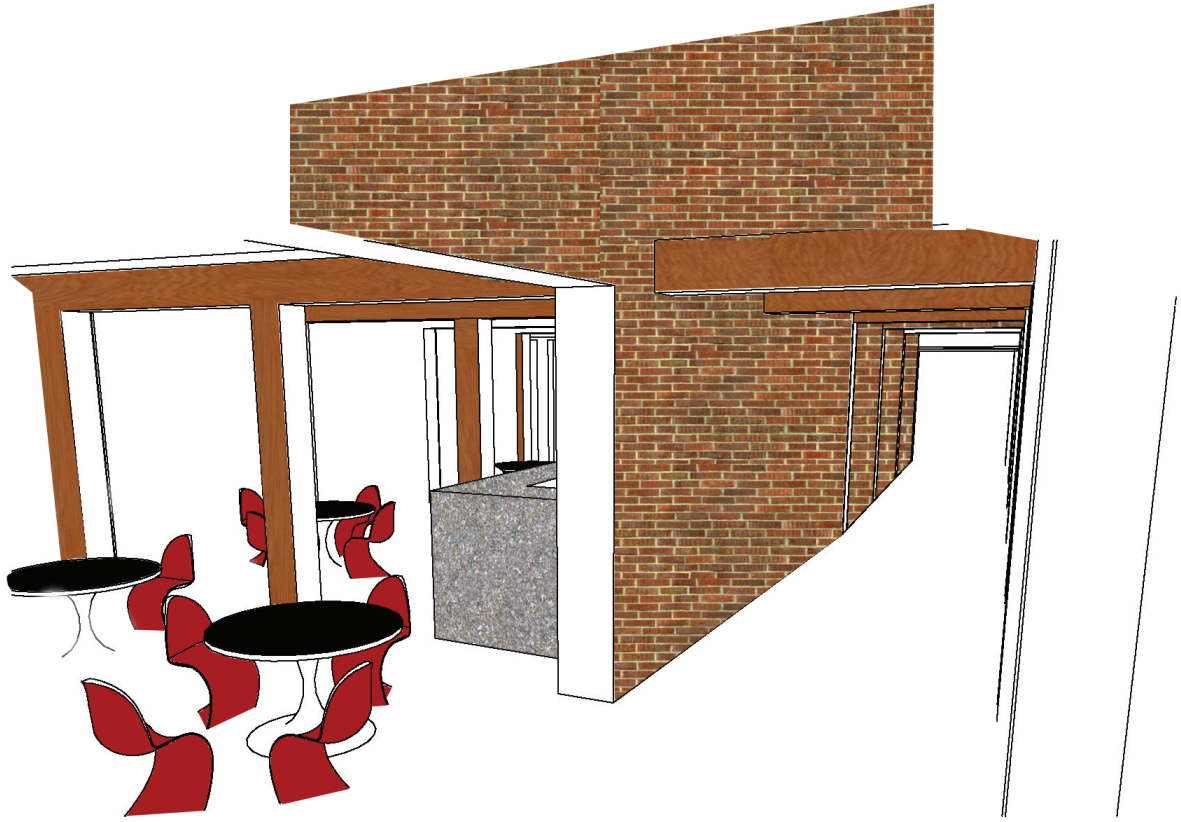
transparent views of structure



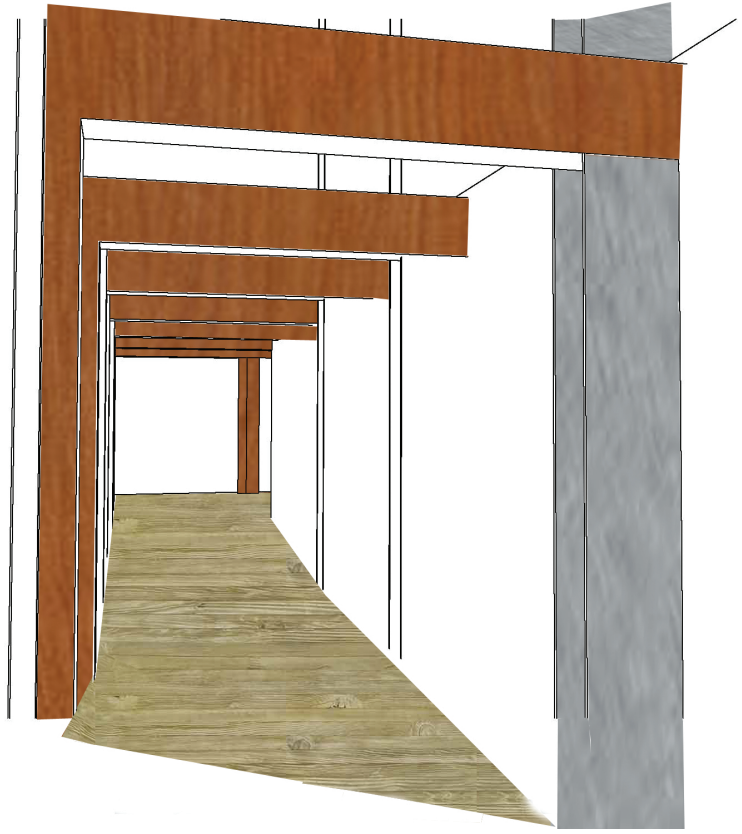


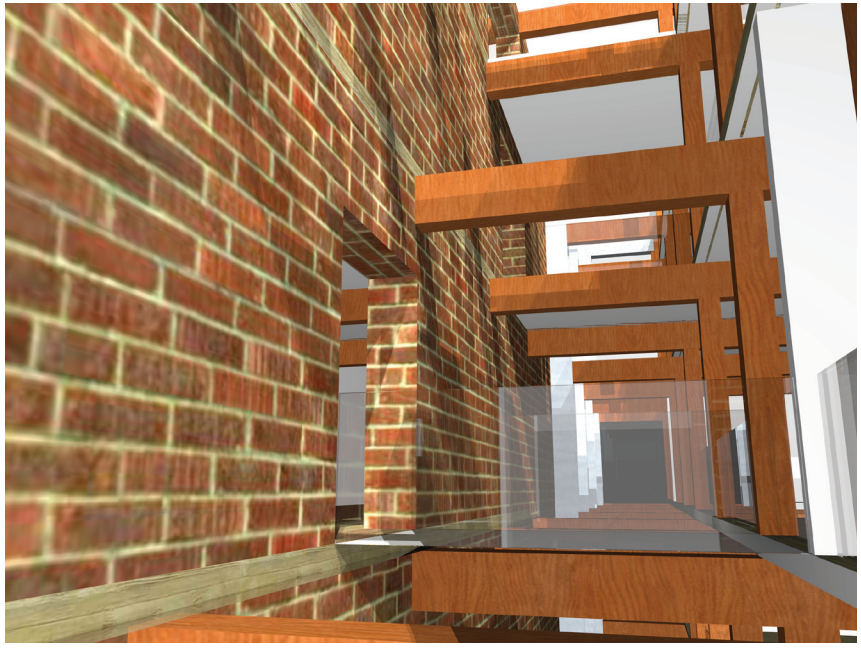


overview of structure

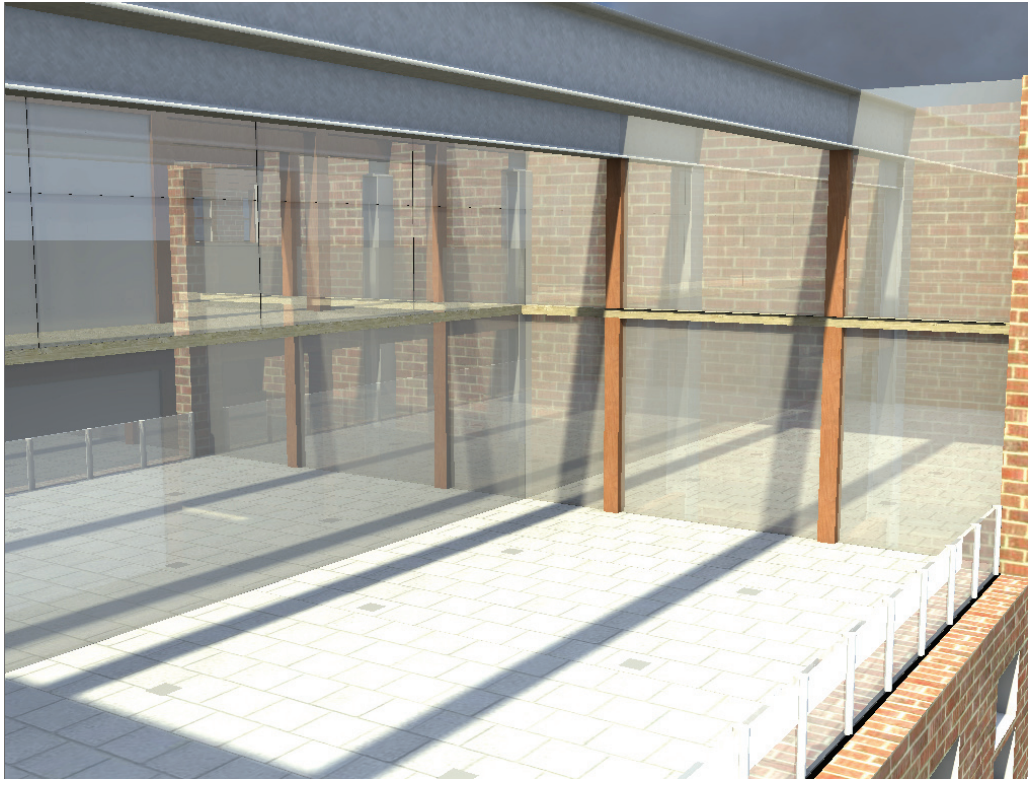


cafe/bar



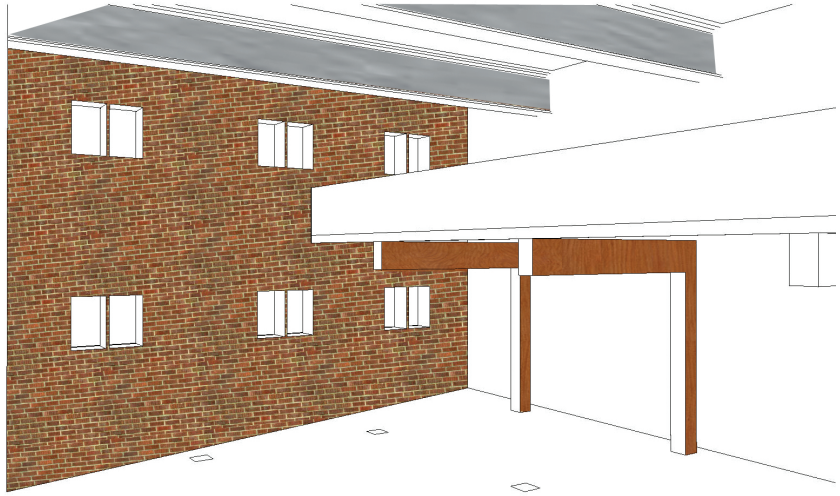


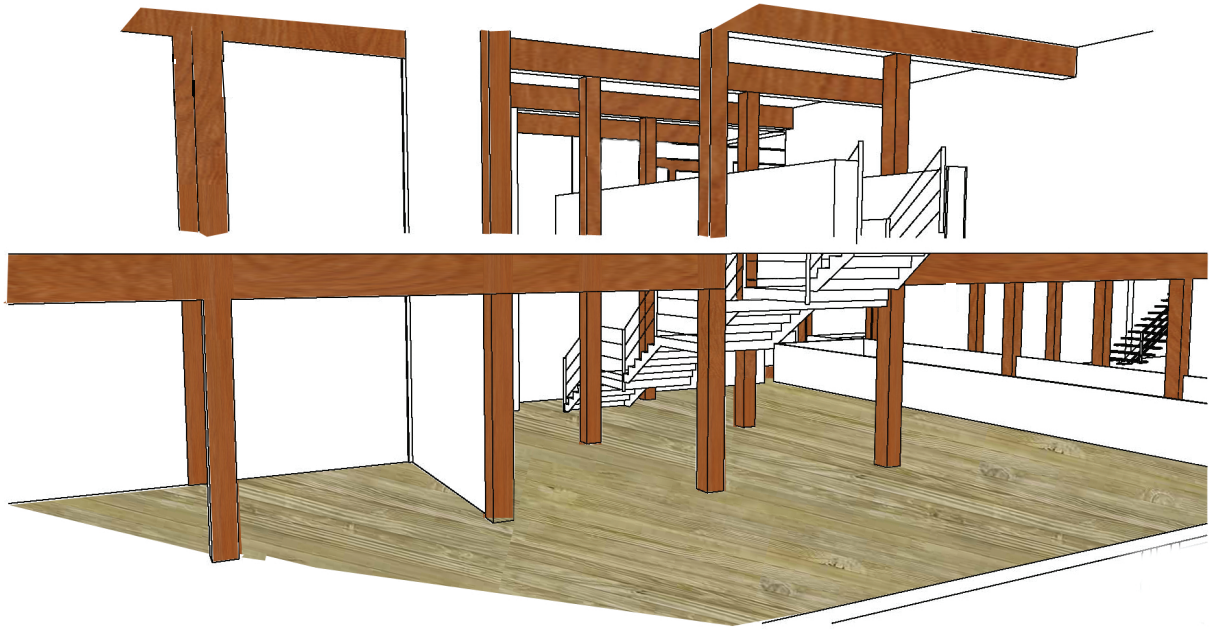
atrium



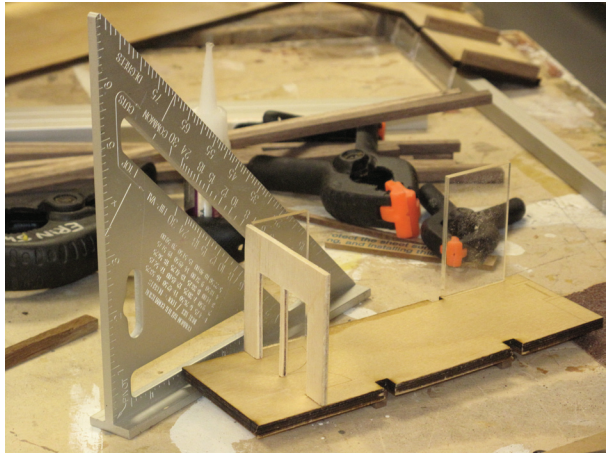
roof garden

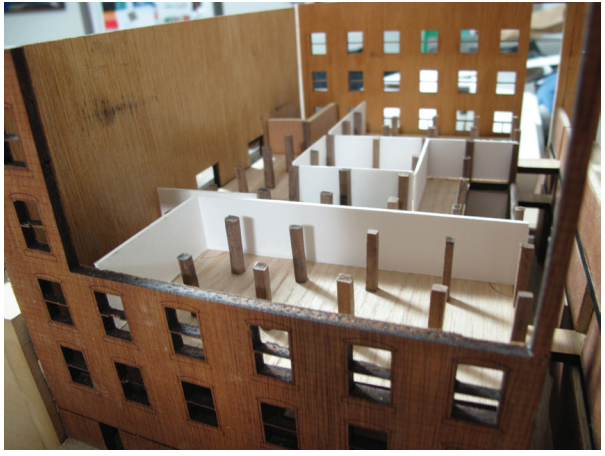
gallery- fifth floor

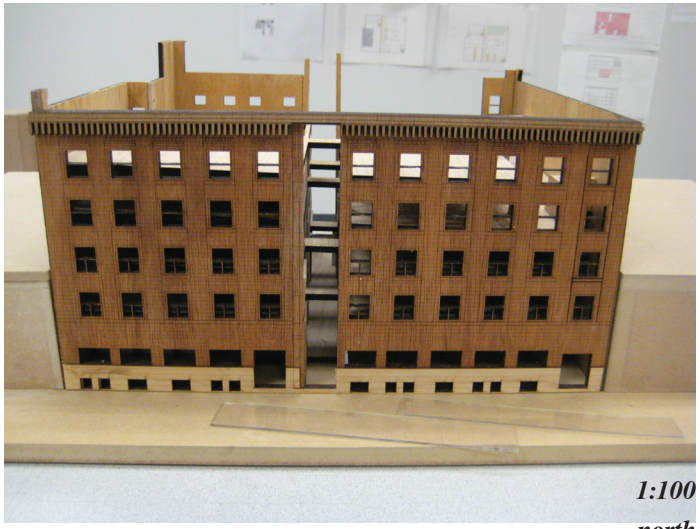




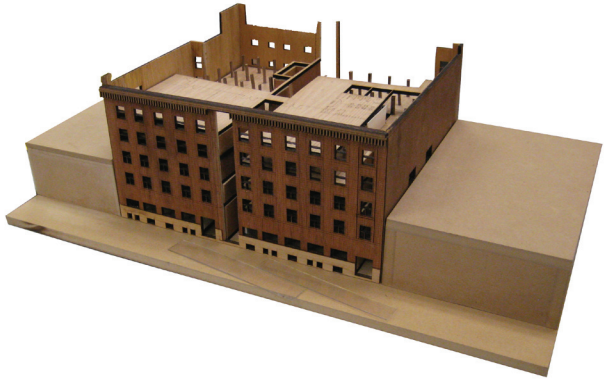
artist studio - fourth and fifth floor



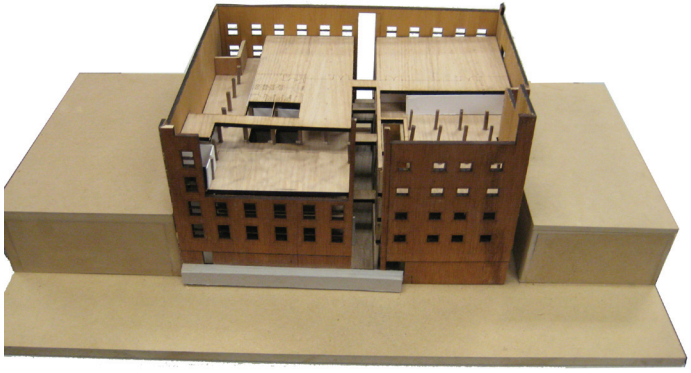




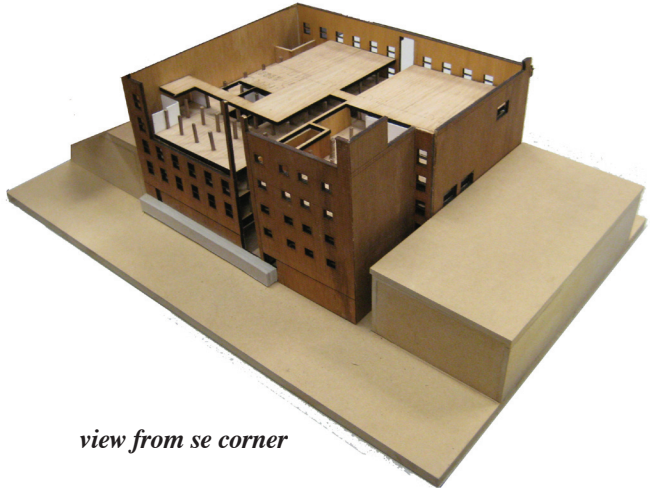
1:100 working model
north facade



view from nw corner



south facade



view from se corner

1:50
sectional model of atrium