

A M E D I C A L C O O P E R A T I V E

Located in the vicinity of
Bourg-la-Reine, Seine, France

This is submitted in partial fulfillment
of the requirements for
the degree of Master of Architecture
at the Massachusetts Institute of Technology

June 30, 1961

Submitted by

Roger George Katan
Architect diplome par le gouvernement francais

Accepted by

Professor Lawrence B. Anderson
Dean of the Department of Architecture

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ABSTRACT

Submitted to the Department of Architecture
in partial fulfillment of the requirements for
the degree of Master of Architecture

June 30, 1961

A Medical Cooperative

by Roger George Katan

AN ATTEMPT at creating an architectural environment
which will overcome:

- . the divorce between professional and domestic
spheres of activity;
- . the isolation of the specialist;
- . the wasteful meaninglessness of the typical sub-
urban architecture.

TO THIS END, A medical cooperative with clinic for a
group of doctors, general practitioners and special-
lists, and with apartments for themselves and their
families is designed for a site near Bourg-la-Reine,
France, 6 miles outside Paris and adjacent to a
large housing development.

Cambridge, Massachusetts

June 30, 1961

Professor Pietro Belluschi
Dean, School of Architecture and Planning
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

Dear Dean Belluschi:

I hereby submit this thesis, entitled, "A Medical Cooperative," for the vicinity of Bourg-la-Reine, France, in partial fulfillment of the requirements for the degree of Master in Architecture.

Very truly yours,

Roger George Katan

Dedicated to Maura

I wish to express my gratitude to the following people and institutions whose interest, encouragement, generosity and assistance have made this years study in America culminating in the presentation of this thesis possible:

Mr. Ernst Grunsfeld

Association Atlantique

Massachusetts Institute of Technology

Freedom exists only in a world where what is possible is defined at the same time as what is not possible. . . .

. . . the artist's task will not only be to create a world, or to exalt beauty for its own sake, but also to define an attitude.

Camus, The Rebel

DEFINITION OF ATTITUDE

THE OBJECT of this project is first and foremost to create an architectural environment in which would take place both professional and domestic activity. There can no longer be question, to-day, of the store or office up front with the home in the back. Instead, the mutually exclusive areas of activity which make up our cities and suburbs symbolize three-dimensionally the fragmented nature of our existence. The well-ensconced medical specialist, for instance, lives in one of the more grass-plotted of these areas, as do some of his patients, an hour away from his quiet city office, which is in turn twenty minutes from the frantic city center and another forty-five from the outskirts hospital to which he's attached. Fellow specialists he sees at the annual convention and an occasional lunch; other specialists he's lost from view. His daily routine is a network of transportation problems and hurried telephone messages with brief interludes of human or professional contact. Instead of a life of activity oriented around and gaining dignity from his trade "in the office up front," his is a schizoid existence. Once out of the office, his importance is in the weight of his wallet and the pres-

tige impersonally metted out to those of his following. At home, what had once been the criterion for his community standing has been forgotten for his skill in tennis or the way he can hold his Scotch. His purpose in working is, obviously, to support these latter activities.

It is, in part, the fracturing of the professions into a myriad of specialities which has both divorced the specialist from the main body of learning on which his studies are founded and, more important, led to the vast dissimilarity between the principles underlying the decisions at home from those of professional life. It is because the medical cooperative would seem an evolutionary form of organization permitting the reintegration of the specialized doctor into the activity of general medicine that it has been chosen as a subject for study. No longer an isolating force, the speciality would then become an agent of unity. And this would be accomplished without reducing the individual doctor to a small cog in a huge machine as in a city hospital. In the medical cooperative, he can create and maintain a personal rapport with his patients, giving them the intimate attention no institution can provide, with a care an independent practitioner would be incapable of. His general knowledge is constantly reinforced by con-

tact with the other specialists, and he can assure his patient of comprehensive treatment on the premises. Both his time and the patients is saved, the quality of the treatment improved.

Further, the cost of installation having become so great, in France as elsewhere, group installation has become economically the only solution possible for some. Better and more extensive equipment becomes possible once its price is shared by several practitioners; a greater return is obtained through more frequent use. Administrative costs are reduced, emergency, recovery, isolation and waiting rooms being shared as are the services of the lab and X-ray technicians, secretaries, and receptionist. For the young, and often indebted, graduate doctor, an ideal situation is provided where his energy and training will be immediately used, and rewarded, rather than wasted during a year or two while building up a clientele.

One last advantage is had in France: an "assistante sociale" on the premises--a presence warranted only where an extensive turnover--thus eliminating a step in health insurance paperwork and answering immediately the questions of doctor and patient.

In much the same way, a cooperative effort among prospective homeowners can bring about a satisfactory

compromise between individual needs and society's pressures, an elusive goal by other means. The pinched home on a token grass patch bordered by transplanted pansies--that pathetic last stand for self-sufficiency that's no more than a mocking parody, a delimited repetition of its neighbors cut from them by a gaseous barrier of traffic--can be avoided. How much preferable group action to guarantee a stable setting for individual invention to the expensive illusion of independence which only produces a fundamental uniformity: The grass patches wedded into a park, the traffic abolished to an outer perimeter, the cramped houses combined into one building well positioned within the site. More efficient and economic handling of many domestic details can be had, too, household chores being cut by use of communal washers and dryers, cooperative nursery, joint shopping and children-ferrying. Hopefully, this reliance would be sought after not to bind inextricably each individual to the group but to allow him greater freedom for independent ventures.

The the doctor, the cooperative residence can be particularly advantageous. Economically, the cooperative apartment represents a definite saving over a private house, and the young French doctor on setting up practise must buy not only his office and clientele but also his

home. Through this plan, his total cost of installation can be reduced two to three times, while providing a residence of an elegance and comfort commensurate with his position. There's the further practicality from the professional point of view: the dreaded night calls can be handled in shifts among the general practitioners; late hour emergency cases find the doctor with the necessary equipment on hand.

The medical cooperative and residential cooperative would seem, then, forms of social and professional organization most effective in the goal of providing that environment most beneficial to the inhabitant. That the fullest advantage be received, they should be within close proximity of one another. Within the limitations of the site given (see map of site), it was felt desirable to combine the two functions within a single construction. Two separate buildings, with all this demands in additional grounds, parking and garage space, play area and gardens, would necessarily be a cramped and wasteful solution, hardly permitting full exploitation of the advantages of the terrain. Only if built together could both residences and offices share equally the view provided by the plots southward slope towards the adjacent commons.

Yet combining them does not in any sense mean equating them. Though of approximately equal importance, they are of a different nature. Both equality and differ-

ence must be expressed in the architecture. One is the definite point of focus for the whole: the clinic. It must have the aspect of stability and cohesiveness sufficient to give the same unity visually to the whole that it provides functionally. Further this must be made most evident on the facade facing the public and containing the entrance for patients as for them it is the group's function that gives the building its significance. Yet this statement of unity must always be light and welcoming, relating itself to the passer-by by small though secondary elements and never overwhelming him by its pompousness. The residential expression, on the other hand, must remain the background before which the professional activity, given relief and significance by it, takes place. Twice as large, it encompasses yet remains dominated by the central mass of the clinic.

The southern facade, hidden from public view, opening onto gardens and play areas, necessarily possesses a very different quality. In the place of a unity of group purpose, there is a break down of elements into a more intimate individual scale. The clinic wall area becomes a play of solid rough concrete with glass-walled hollows, the solid protecting the examination rooms, the glass opening up the doctor's reception-office to the garden view. The residential wall area is, on the

other hand, a play of uniquely glass walls with massive wide terraces; the apartments opening up without reserve to the view. Office and residence have the same importance on this facade, reflecting their fundamental equality in the minds of the inhabitants.

An architectural environment has been created, then, for both professional and domestic activity. The purpose of the project has been realized without demanding sacrifices of comfort or practicality in any sphere of activity. Rather the framework for a harmonious and creative lives would seem to have been created that avoids many contemporary abuses. The architecture has tried to further these aims through the plastic expression of the most basic assumptions.

CHOICE OF SITE : Of primary importance that the project be located in new and young community. A medical cooperative an idea little known and therefore by nature suspect. Only 3% of doctors now so organized. Situation next to extensive housing project for 15-17,000 persons, mostly young families, considered ideal. Proximity to Paris (vaste majority of occupants daily commuters) assures necessary sophistication of clientele.

LOCATION IN RELATION TO PARIS (see map following) The site is approximately 17 miles from Paris, 30 minutes by car on the newly completed autoroute (indicated in yellow), and 20 minutes by train on the express line of Sceaux (indicated in violet). It is located between two suburban towns, Bourg-la-Reine and Fresnes, both with very settled populations. Hospitals are marked by red crosses including one at Fresnes of 100 beds and a very important one for the region at Choisy-le-Roi.

LOCATION IN RELATION TO NEIGHBORHOOD (see map following) The site is bordered on one side by the Avenue de la Liberte, which leads with one turn-off to the autoroute and railroad, and on the others by a prospective road leading to the housing development, by the housing unit itself (indicated in light green), and by a planted Commons (dark green). The site is oriented towards the south, with a stiff slope of 15' towards the Commons, permitting recession of floors to provide large terrace spaces.



SPACE REQUIREMENTS

RESIDENTIAL

Family apartment (of which six are on garden level,
eight on street level)

entrance	50	sq ft
library	150	
bedroom & bath	200	
living room	400	
kitchen	150	
bathroom	65	
family room	200	
two bedrooms	360	
	1575	sq ft
terrace	360	

Bachelor suite (of which two on street level)

living room, bedroom & bath	800	sq ft
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Efficiency flat (of which one on street level,
three on upper garden level)

room & bath	400	sq ft
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CLINIC

General reception & administration

entrance lobby	780	sq ft
public hall	620	
lavatories	125	
receptionist desk	137	
three secretaries (1 bookkeeper, 2 general)	157	
archives	63	
social worker's office	81	

Circulation

doctor's corridor	109	sq ft
main staircase to apartments & lobby	800	
second staircase to apartments	200	
small staircase to garage	75	



AVENUE DE LA LIBERTÉ

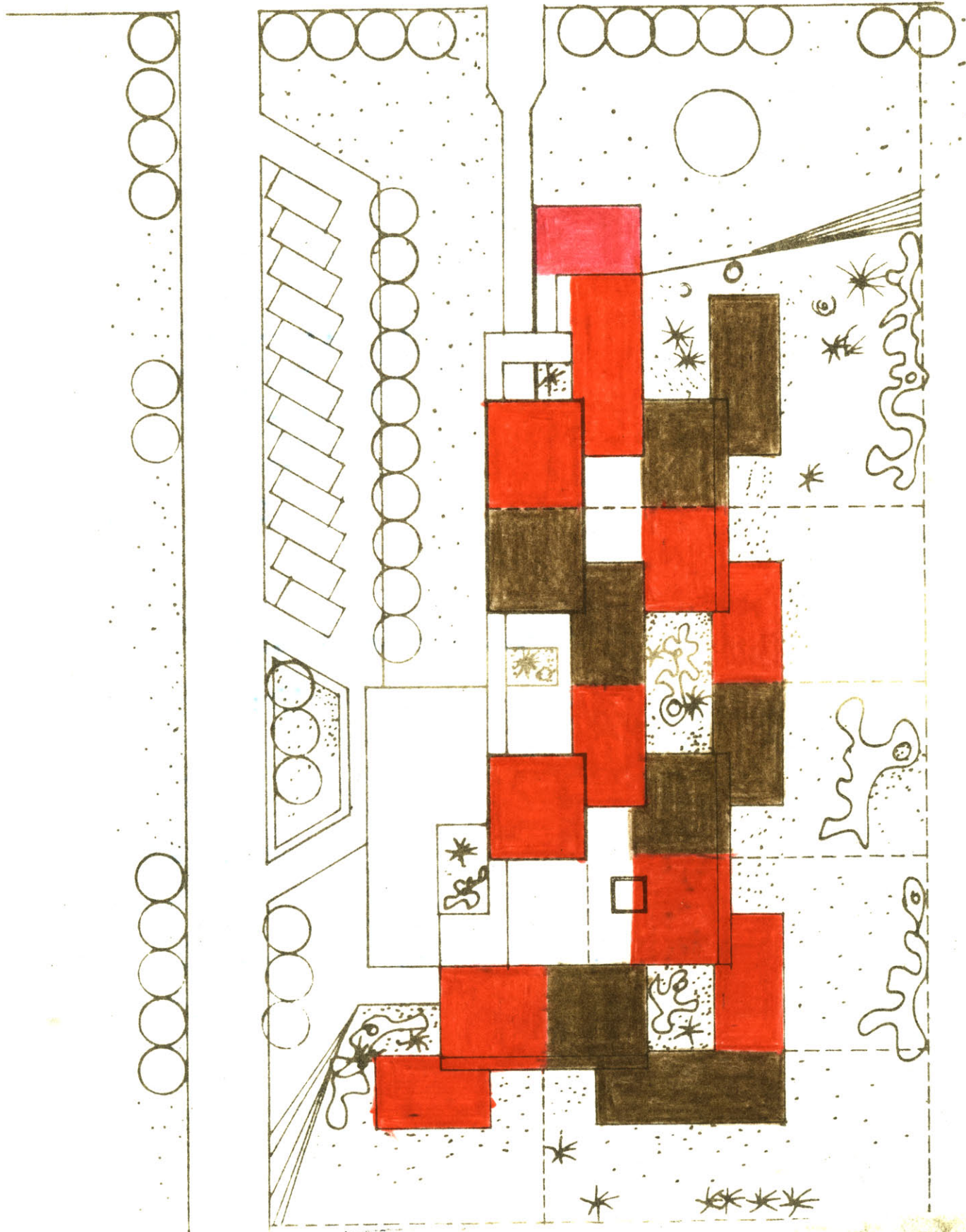
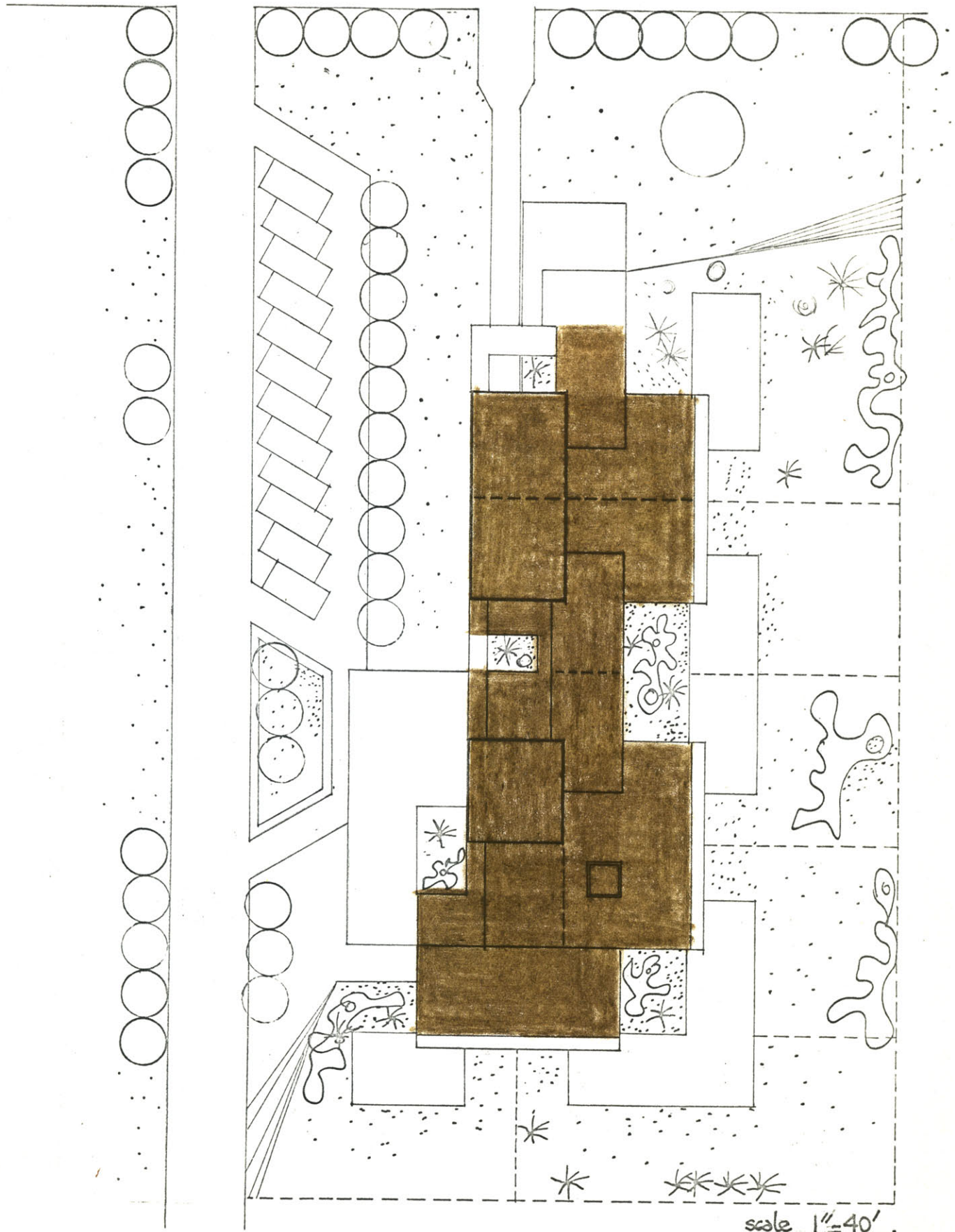


DIAGRAM SHOWING ARRANGEMENT OF LIVING UNITS

<u>Pharmacist</u>		
reception	292	sq ft
office	100	
service & storage	300	
<u>General practitioners, complex 1 (two doctors)</u>		
waiting room, private patients	225	sq ft
doctor's offices, 2-150 sq ft ea.	300	
consultation rooms, 2-200 sq ft ea.	400	
dressing rooms and WC	120	
secretary	120	
<u>General practitioners, complex 2 (two doctors)</u>		
waiting room, social security	160	
doctors' offices, 2-150 sq ft ea.	300	
consultation rooms, 2-200 sq ft ea.	400	
dressing rooms and WC	400	
common consultation	90	
two secretaries	224	
<u>Dermatologist</u>		
waiting room	90	
secretary	50	
office	150	
consultation	150	
services	45	
ultraviolet treatment room & dressing room	60	
<u>Ear-nose-throat</u>		
waiting room	90	
secretary	50	
office	135	
consultation	100	
services	62	
<u>Obstetrician</u>		
waiting room	105	
secretary	90	
office	180	
consultation	135	
services (small lab, dressing room, & WC)	125	
<u>Pediatrician</u>		
waiting room	112	
office	157	
consultation	112	
services & secretary	160	
four playrooms	70	



AVENUE DE LA LIBERTÉ



scale 1/4"=40'

DIAGRAM SHOWING CLINIC AREA

<u>Dentists (two)</u>		
waiting room	75	sq ft
office & consultation	150	
Lab, services & secretary	210	

<u>Radiology</u>		
waiting room	80	sq ft
secretary & archives	122	
office	84	
services	90	
radiology room	202	
dark room	90	

<u>Test lab</u>		
waiting room	40	sq ft
services & secretary	175	
test room	120	
emergency room	125	
lab & sterilization room	110	

<u>Recovery rooms</u>		
recovery room for general practitioners	90	sq ft
service	30	
recovery room for specialists	105	
service	30	

<u>Doctors' meeting room</u>	325	sq ft
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<u>Superintendent (kitchen, bath, living room, bed room, reception desk)</u>	560	sq ft
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BASEMENT

<u>Storage</u>		
large rooms (of which six)	200	sq ft
small rooms (of which three)	150	

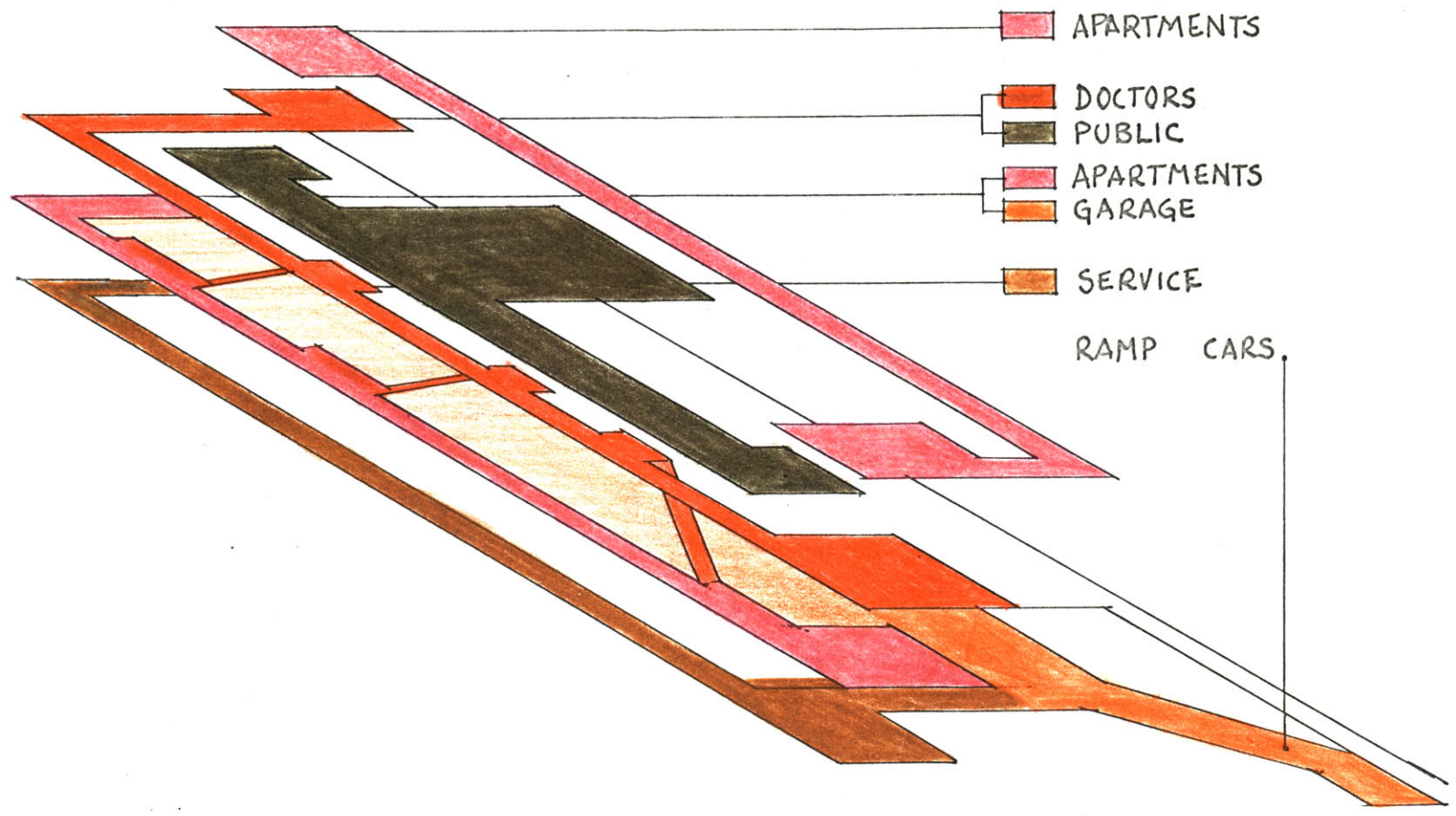
<u>Laundry</u>	300	
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<u>Mechanical hall (oil supply, incinerator, transformer, boilers, work bench & shower)</u>	2600	sq ft
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PARKING

basement level, 18 cars	5400	sq ft
street level, 12 cars	3600	

TOTAL AREA OF SITE	96,000	sq ft
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CIRCULATION DIAGRAM

CONSTRUCTION

CHOICE OF MODULAR : Necessary to find one module suited to the three functions--residence, clinic, and garage.

- in apartments , essentially two activities
 - reception area (day)
 - sleeping area (night)
- in clinic, essentially two activities
 - reception area--open, gracious
 - work area--closed, efficient

for reception areas, an interval of 15' found
for sleeping-work areas, an interval of 10'
in garage, one parking space-2x5'

Hence module base of 5' found suitable to all three functions.

FRAME : in reinforced concrete

columns	cast in place
longitudinal girders	cast in place
transversal beams	precast
slab	cast in place

TERRACE : necessary to lower level of terrace with respect to interior slab to take in consideration the difference in thickness between the interior floor covering and the insulation, slope, waterproofing and protection needed on the terraces.

BALCONIES : cast in place in dimensions respecting modular.

WALLS :

- exterior : cast in place with interior insulation
- interior : soundproof walls

FLOOR COVERING :

clinic :
 labs, working spaces : ceramic tiles
 offices : felt and rug
 reception and halls : rubber tiles
residence : mosaic wood flooring

CEILING

clinic : hanging ceiling of acoustic tiles
 hiding mechanical shafts and piping
 including light fixtures
 permitting varied ceiling heights
residence : plaster under concrete slab

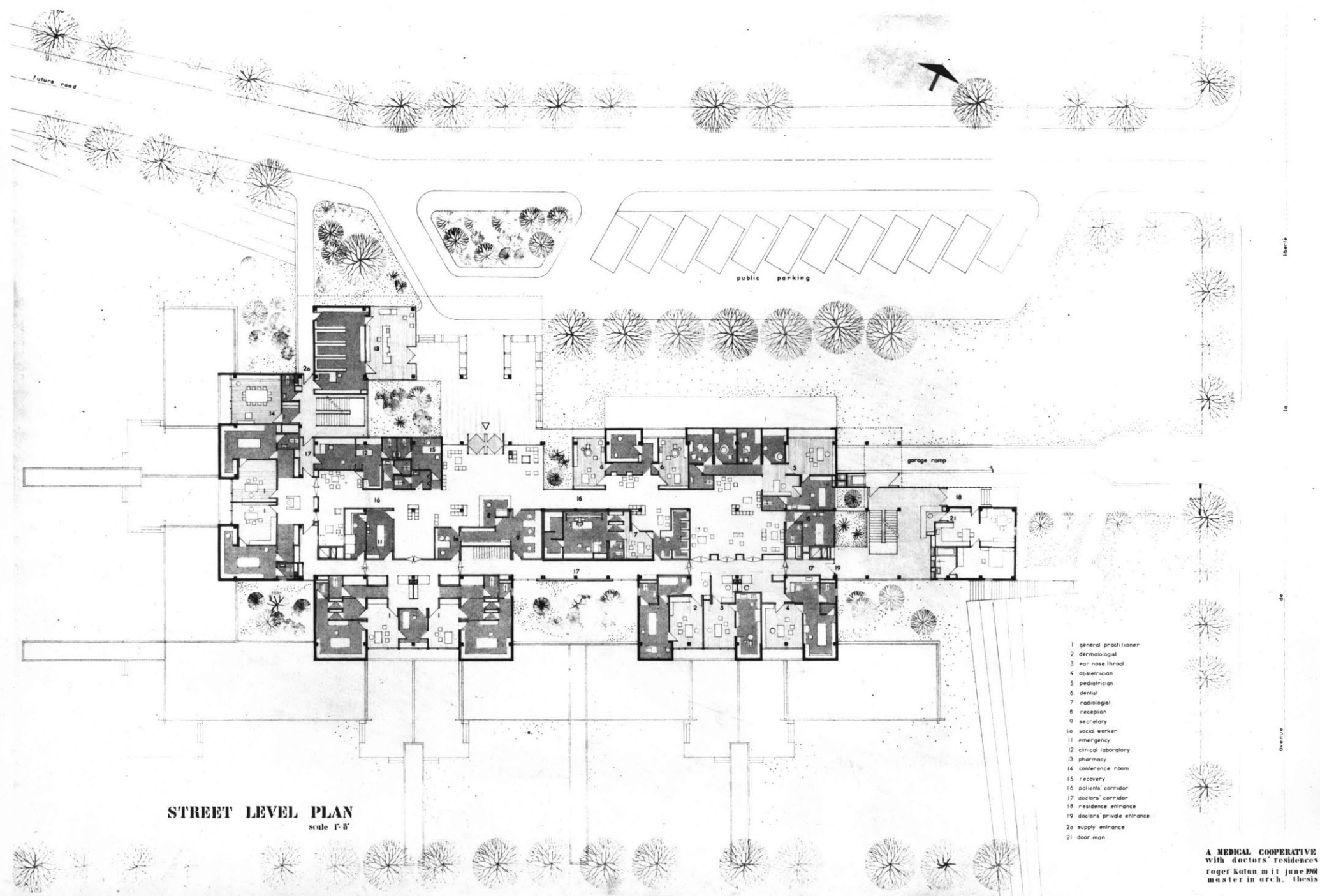
HEATING-VENTILATION : hot air system with filters,
 humidifier, fan and coil; steam used in coil will
 be provided by two boilers in sub-basement; oil
 burners and oil supply.

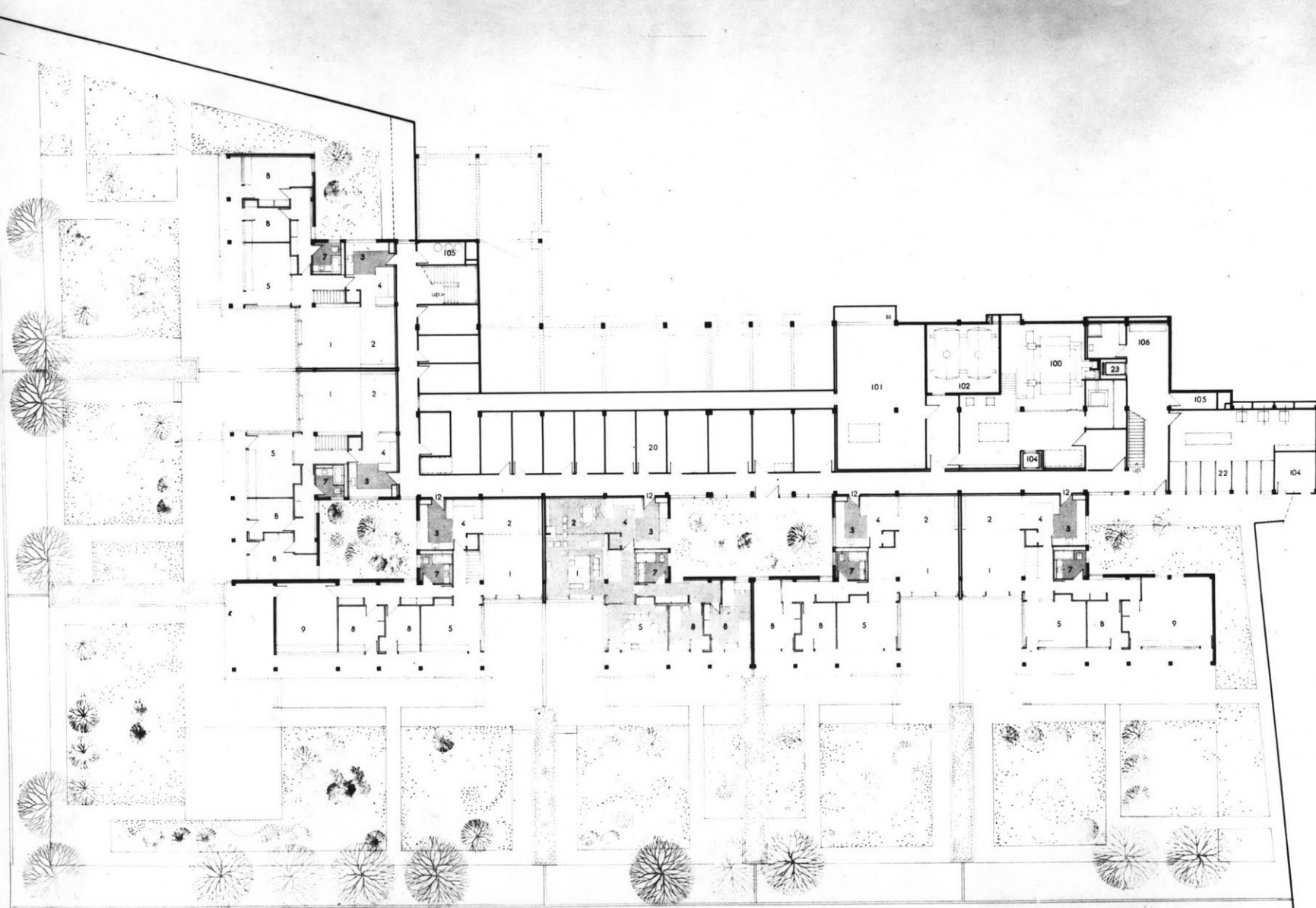
SOIL : Housing development and project located in
 drowned river valley (river, Bievre, now channeled
 into sublevel drainage, See map of site) composed
 of sedimentary alluvial soil and sand.

STREET LEVEL PLAN
scale 1" = 8'

- 1 general practitioner
- 2 dermatologist
- 3 ear nose throat
- 4 obstetrician
- 5 pediatrician
- 6 dentist
- 7 radiologist
- 8 reception
- 9 secretary
- 10 social worker
- 11 emergency
- 12 clinical laboratory
- 13 pharmacy
- 14 conference room
- 15 recovery
- 16 patients' corridor
- 17 doctors' corridor
- 18 residence entrance
- 19 doctors' private entrance
- 20 supply entrance
- 21 door man

**A MEDICAL COOPERATIVE
with doctors' residences**
roger katan mit june 1961
master in arch. thesis





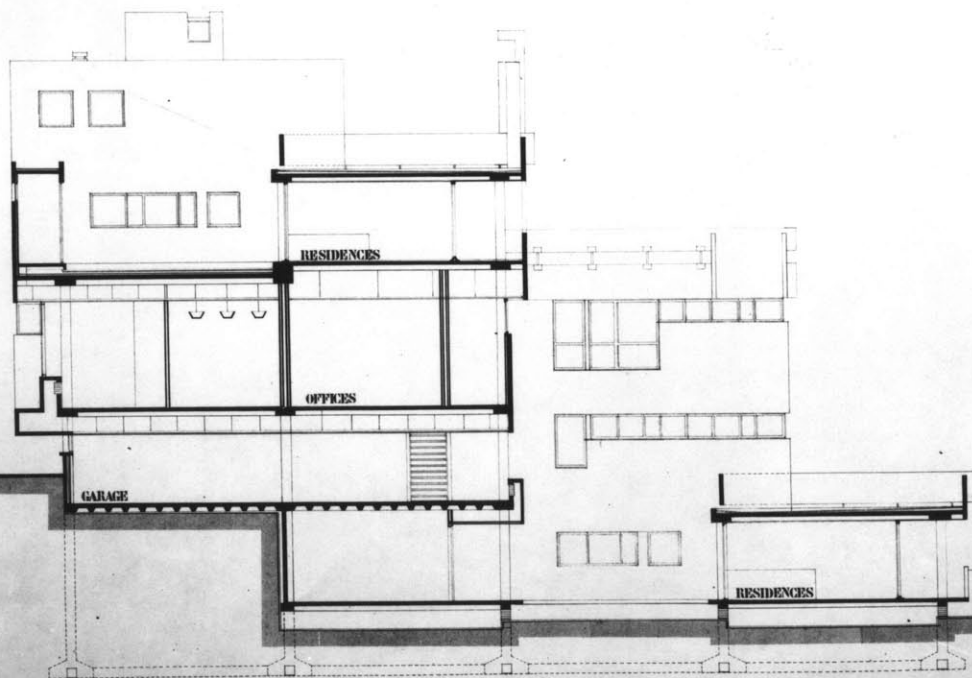
- RESIDENCE**
- 1 LIVING ROOM
- 2 DINING
- 3 KITCHEN
- 4 PANTRY
- 5 STUDY
- 6 MASTER BEDROOM
- 7 BATH
- 8 CHILDREN'S BEDROOM
- 9 GAME ROOM
- 10 LIBRARY - GUEST ROOM
- 11 MAIN ENTRANCE
- 12 SERVICE ENTRANCE

- COMMUNITY FACILITIES**
- 20 STORAGE
- 21 GARAGE
- 22 LAUNDRY
- 23 ELEVATOR

- MAINTENANCE AND SERVICE**
- 100 BOILER
- 101 MECHANICAL
- 102 OIL SUPPLY
- 103 INCINERATOR
- 104 FREIGHT ELEVATOR
- 105 GARBAGE
- 106 JANITOR
- 107 SERVANTS' B.ROOM

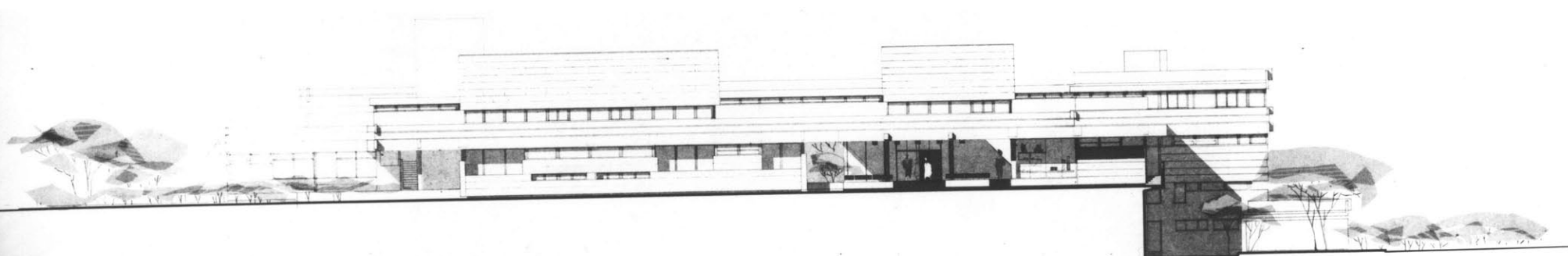
GARDEN LEVEL PLAN

scale : 1" = 8'



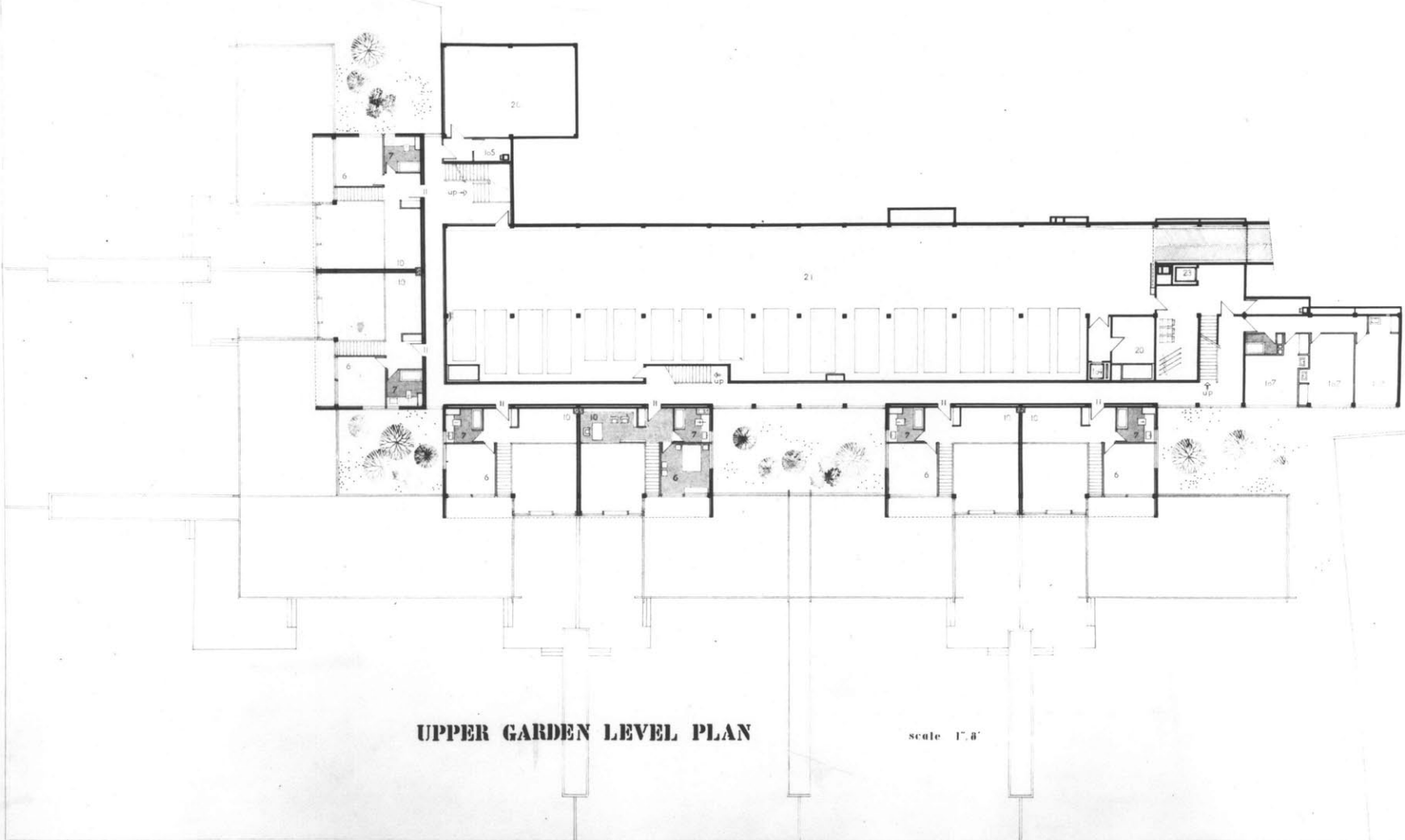
SECTION A.B
scale 1/4"

A MEDICAL COOPERATIVE
with doctors' residences
roger katan m.it. june 1944
master in arch. thesis



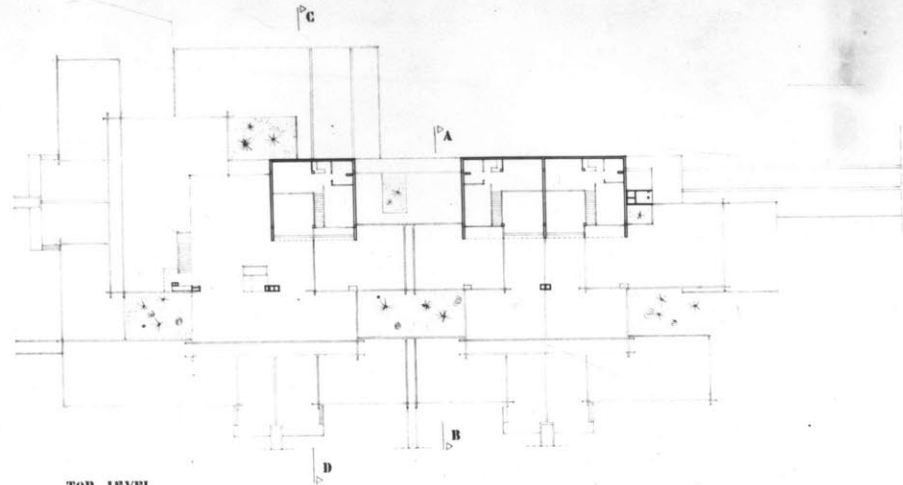
NORTH ELEVATION

**A MEDICAL COOPERATIVE
with doctors' residences
roger katan m.i.t. june 1961
master in arch. thesis**

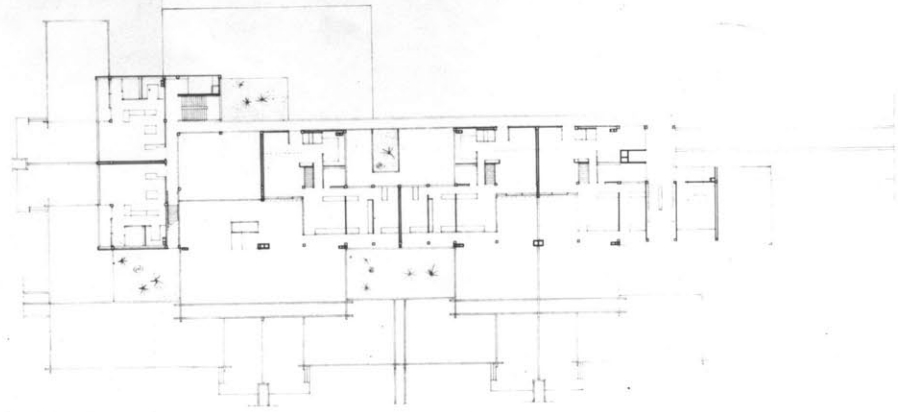


UPPER GARDEN LEVEL PLAN

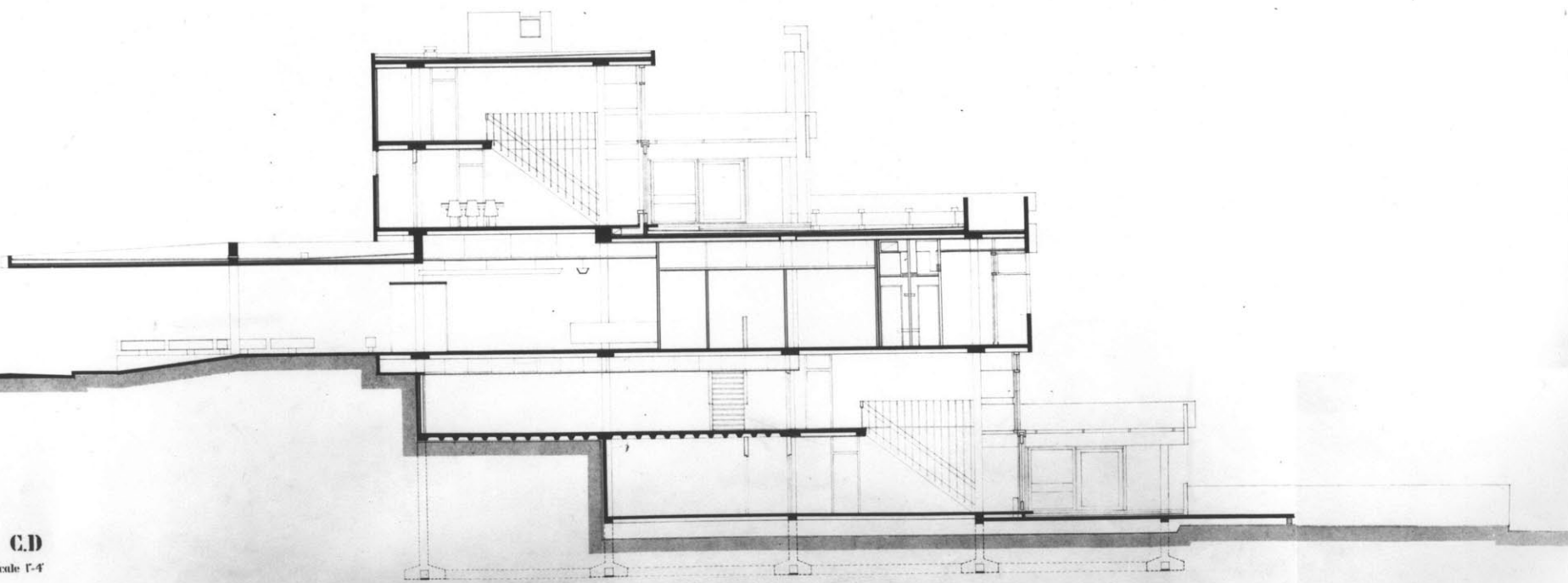
scale 1/8"



TOP LEVEL

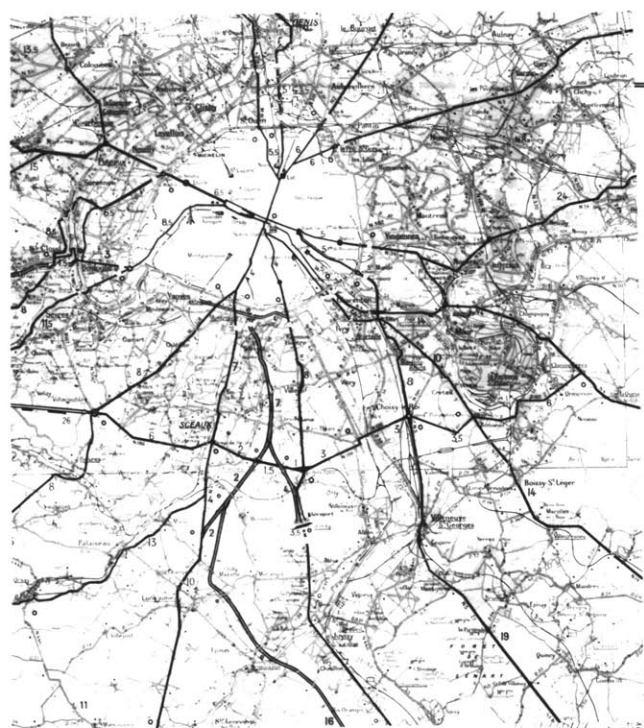


UPPER STREET LEVEL
scale 1/16'



SECTION C.D
scale 1/4'

A MEDICAL COOPERATIVE
with doctors' residences
roger kutan m.it. june 1961
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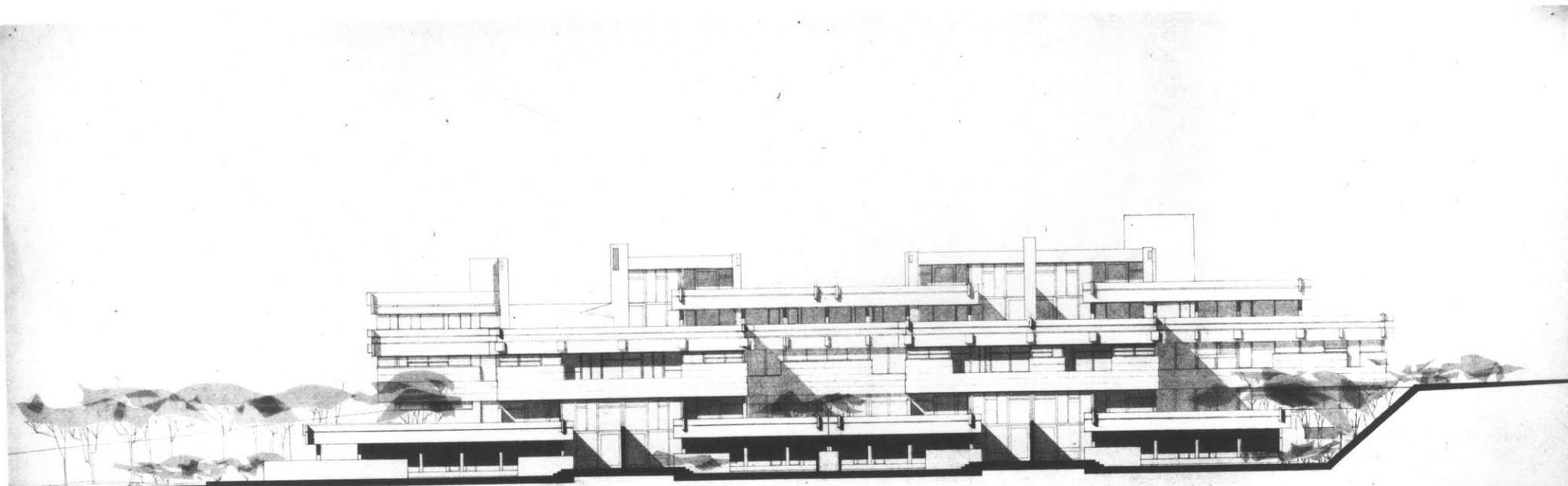
- LEGEND**
- SITE
 - COMMON HOUSING
 - HOUSING
 - CANAL
 - - - NEW ROAD

A MEDICAL COOPERATIVE

Plan Topographique Régulier
 Dressé à l'échelle de 1:50,000 par M. CHAVOUTIER à Paris, le 10 Mars 1947.
 Révisé à l'échelle de 1:25,000 par M. DANQUÉL.

Echelle du 1/2000^e

Tableau d'Assemblage 1



SOUTH ELEVATION
scale 1/8"

A MEDICAL COOPERATIVE
with doctors' residences
roger katan m.i.t. june 1961
master in architecture thesis

