RESEARCH REPORT

External Research Program



House Design Guide for Low-Income Singles





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HOUSE DESIGN GUIDE

FOR LOW-INCOME SINGLES

By Pierre Teasdale, Architect Faculty of Architecture, University of Montreal

December, 1993

CMHC Project Officer: Tom Kerwin

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SUMMARY

This study was conducted to collect detailed observations on units intended for low-income singles and to present a coherent, thoughtful approach to this issue. The study should prove useful to architects and housing promoters involved with this client group in both a new construction and a renovation context; it should also prove useful in assessing, and eventually improving, by-laws and government assistance programs pertaining to single resident occupancy hotels (SRO's).

This design guide is part of a long tradition of studies undertaken to assess the needs of various groups and is the end result of bibliographical research spanning over sixty volumes; the guide is also based on twenty-five case studies conducted in five cities and in four Canadian provinces, and on numerous interviews with municipal authorities, architects, managers and residents involved with, working or living in, this type of housing.

No attempt is made, in this study, to simplify the subject matter; on the contrary, the issue is broached in all its complexity: a very hetrogeneous client mix and a range of residential solutions which are offered going from ""rooming house"" units to bachelor units. The thought process generated by these observations is predicated on the needs of people living in one-room units. In this one room and in the community spaces, the author weighs both individual and collective needs and considers the dimensions and configuration of the spaces, the interrelation of the rooms and the atmosphere created by the units, the sanitary facilities, security, community space, storage space, etc.

It is imperative that any efforts invested in improving this type of unit reflect the necessity of enhancing the security and quality of the latter while ensuring, however, that these units remain affordable for the target client group. Indeed, "rooming house"s are one of the rare types of housing which low-income singles can afford. The housing market differentiates between ""rooming house"" units and bachelor units which are also intended for singles but command higher rents. Thus, any improvement in ""rooming house"" unit quality will have to be designed to minimize the impact on the rents charged.

This guide will contribute to producing new ideas to assist in designing residential space to meet particular needs and we hope that the design principles contained therein will find their way into new construction and renovation projects intended for low-income singles.

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DEFINITIONS

Airborne Noise:

The airborne noises occur and are transmitted in the air. These represent all the noises emitted by the voice, television, hifi units, etc.

Impact Noise:

Impact noises are produced by vibrations in a structure or equipment resulting from the application of force, which, more often than not, is abrupt. Examples of these are the sounds of feet walking, slamming doors or vibrations.

Kitchenette:

A small kitchen in which kitchen appliances are standard.

Compact Kitchen:

A counter which can vary between 750 mm to 1500 mm in which are integrated a sink, the kitchen components and the refrigerator.

Entrance Way:

Zone through which one enters the house. This zone includes the opening in the wall which may be closed in by a door as well as its interior (vestibule and entrance way) and exterior (porch) extensions.

Sink:

Table top in which a basin with drain is inserted where dishes are washed in the kitchen. Sinks are differenciated from "wash basins" with comparable shapes in that they are used for personal washing purposes in the bathroom.

Entrance Hall:

Transition area between the vestibule and other spaces in the house.

Unit:

That part of the house or the building where one lives. Included thus in this definition is any area used for housing even if the latter does not contain, for example, a bathroom or kitchen.

Wash Basin:

See sink.

Rooming House Unit:

Typical unit in "rooming house"s (see definition below).

Bachelor Unit:

Unit intended for a person living alone and containing a space for preparing meals, for eating meals, as well as a living area and a sleeping area and a complete bathroom equipped with a bathtub and a shower.

Shared Unit:

Unit designed for several people and containing a space intended for preparing meals, for eating meals and for relaxing; one or more bathrooms and toilets as well as one bedroom per resident. The shared unit, to some extent, is a type of apartment which establishes a buffer zone between the entrance to the house and the individual's bedroom.

House:

Establishment containing a certain number of units intended for low-income singles. Are thus included in this definition establishments made up of bachelors, shared units and even "rooming house"s.

Rooming House:

A type of house in which the personal unit is limited to the bedroom and in which the spaces intended for the preparation of meals as well as the bathrooms and toilets are usually shared. In "rooming house"s, contrary to houses made up of shared units, there is no intermediate boundary between the entrance to the house and the individual's bedroom.

Basic Furniture1:

Single bed, bedside table, single dresser, table and one or two ordinary chairs.

Porch:

Transition space between the vestibule and the sidewalk. The porch is a floor which is extended beyond the exterior walls of the house. It may or may not be covered.

Complete Bathroom:

Sanitary space including a wash-basin, toilet, bathtub or shower as well as the accessories.

Vestibule:

Small entrance hall contained between the interior and the exterior equipped with two doors. One of these doors opens onto the inside (entrance hall) whereas the other opens onto the outside (porch). The vestibule is used to minimize the effects of outdoor temperature when opening or closing the doors.

This involves the basic furniture which we have found in most houses which we have visited and not furniture which we recommend; in Chapter 3, Section 3, we list the essential pieces of furniture which, in our opinion, should be provided in all units.

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¹ Tables 10 to 19 are to be found in the Appendices.

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PREAMBLE

Rooming houses represent the type of housing which is most inexpensive and the type of tenure which is most accessible for low-income singles. In spite of a high demand, over the past eight years, this type of unit has been disappearing at a very fast rate. Other factors, in particular the deinstitutionalization policy, have contributed to increasing the demand for rooms. Given this situation, governments across the country invested much effort in this field:

- . municipal grant programs to convert buildings into "rooming house"s;
- . municipal programs providing grants to renovate "rooming house"s;
- transfer of lots or buildings to non-profit organizations to be used as resources for the homeless, at a nominal price;
- . modification in zoning bylaws to facilitate the setting up of "rooming house"s in certain residential sectors.

In spite of these efforts to increase the resources available, the budgets allocated to the architectural aspect for projects executed under current programs are often insufficient to allow an in-depth analysis of new housing forms and an evaluation of their respective advantages and disadvantages.

Consequently, the tendency is to reproduce models of existing resources for low-income singles, which are quite limited. In essence, this involves single room occupancy hotels, single-family or plex units converted into "rooming house"s, group houses or transition houses or units which are transformed into supervised apartments. Generally, a distinction is made between three types of resources: emergency shelter, half-way homes and permanent housing. Only the latter type is covered in this study.

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Aumont, Daniel, student, School of Architecture, University of Montréal

Apollon, Maguy, student, School of Architecture, University of Montréal

Baker, Susan, Architect with Baker McGervatart Architecture and Planning,

Vancouver

Berbery, Maya, Service de l'habitation et du développement urbain - SHDU, City of Montréal

Black and Moffat, Architects, formerly Walter R. Moffat, Architect, Toronto Bleau, Cécile, owner of "rooming house"s, Montréal

Bleau, Huguette, owner of "rooming house"s, Montréal

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Chan, Shirley Y., Manager, Non-Market Housing Division, Housing and Properties Department, City of Vancouver

Chigot, Claude, General Secretary - Europil, Paris

Côté, Donald, owner of "rooming house"s, Montréal

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Davidson, Jill, Housing and Properties Department, City of Vancouver Demontiquy, Roland, community worker, Options Bytown, Ottawa

Duval, Elain, Housing and Properties Department, City of Vancouver

Edelson, Nathan, Downtown South Planner, City of Vancouver Planning Department

England, Wolf, Manager, New Continental Residence, City of Vancouver Epp, Gayle, Private Architect, Boston

Flanders, John, Professor, School of Architecture, Carleton Univ., Ottawa
Forrest, Judy, Mgr., Social Hsg. Policy & Prog. Branch, City of Ottawa
Foster, Judith, Property Administrator, Supportive Housing Coalition, Toronto
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Giguère, Marijo, Study, School of Architecture, University of Montréal
Golba, Henri, Architect, Service de l'habitation et du développement urban SHDU, City of Montréal

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Greaves, Elizabeth, Community Worker, Homes First Society, Toronto Green, Jim, Director, Downtown Eastside Residents' Assoc. (DERA), Vancouver Hall, Robin, Architect with Davidson Yuen Simpson Architects, Vancouver Harel, André, Development Officer, Service de l'habitation et du développement urbain, City of Montréal

Harvey, Ann, The Edmonton Inner City Housing Socity

Hay, Monica, Downtown Eastside Resident's Association (DERA), Vancouver Holmen, Linden, Director, Research & Tech. Support, Alberta Municipal Affairs James, Sandy, City of Vancouver Planning Department

Jessups, John, Housing and Properties Department, City of Vancouver Johnston, John, Director of the Federation of Non-Profit Housing Organizations of Montréal Incorporated

Kassum, Navroz, Architect, Toronto

King, Edward K., Estimator/Scheduler, Facilities Development Division,
Housing and Properties Department, City of Vancouver

Lanctôt, Robert, Maintenance Worker, Maison Alexandre-de-Sève, Montréal Lombardi, Jean, Director, Maison St-Dominique, Montréal

Lowhian, Bob, resident, Street City, Toronto

Marier, Claude, Architect, Montréal

MacFarland, Lindsay, Division of Urban Affairs, OECD, Paris
McAfee, Ann, Assistant Director, City of Vancouver Planning Department

McKeown, Tom, Coordinator - Community Health Program, Montréal Centretown CLSC (Community Health Clinic)

Morisset, Pierre, Professor, School of Architecture, University of Montréal Nickels, Jill Ross, Downtown Eastside Residents' Association (DERA),
Vancouver

Oakley, Brian, Architect with Barry Johns Architects Ltd., Edmonton Owen, Tanya, Director, Options Bytown, Ottawa

Plante, Magali, Consultant, Service de l'habitation et du développement
urbain - SHDU, City of Montréal

Poulin, Jean-Luc, Professor, School of Architecture, University of Montréal Pretty, Louis, Professor, School of Architecture, University of Montréal Sears, Henry, Architect, Toronto

Singleton, Margaret, Senior Program Officer, Social Housing Policy and Programs Branch, City of Ottawa

Six, Bruno, Groupe logement pour tous (Housing For All), Paris Smith, Sheila, Director, Operation Friendship, Edmonton Taylor, Larrie, Architect, Edmonton

Tremblay, Jacques, Community Worker, Homes First Society, Toronto
Trempe, Richard, student, School of Architecture, University of Montréal
Verde, Branca, Community Planning Division, City of Vancouver
Vinet, Jacques, owner of "rooming house"s, Montréal

Wai, Joe, Architect, Vancouver

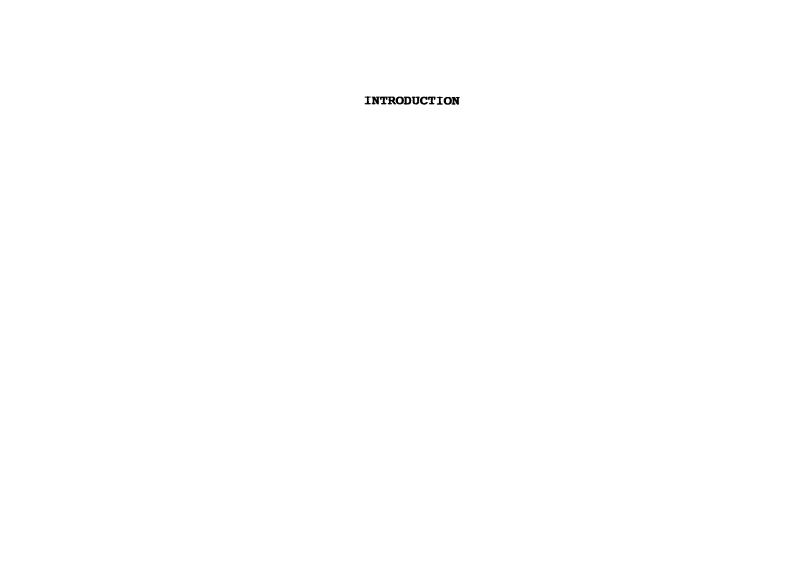
Webber, Don, Vice-President, VLC Properties Ltd., Vancouver

Yamashita, Bob, Manager, Community Housing Initiatives, City of Toronto

Yuen, Ronald, Architect with Davidson Yuen Simpson Architects, Vancouver.

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Pierre Teasdale, August 1993



1. OBJECTIVES OF THE GUIDE

This design guide was prepared to inform architects, owners and managers of "rooming house"s and officials invested with regulatory powers so that units for low-income singles be better adapted to the needs of the residents.

This design guide was also prepared to assist future residents of these units, possibly with the collaboration of community workers, to identify their needs themselves (Illustration 1).

2. METHODOLOGY

The guide was prepared subsequent to a review of existing literature, to many discussions with groups and individuals who have been involved in the creation of new resources or in the renovation of existing resources, to a detailed visit made to twenty-five houses and subsequent finally to the preparation of model plans.

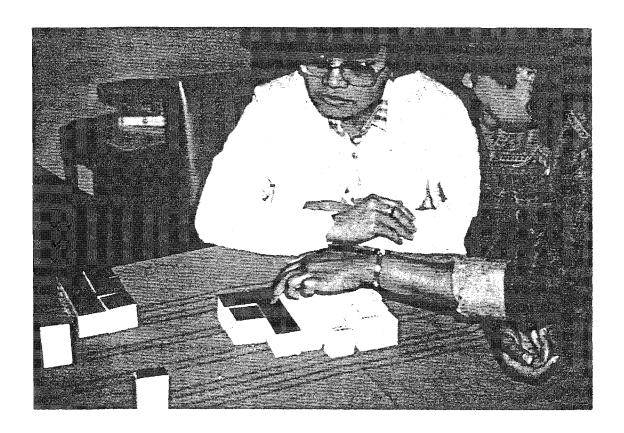
2.1 Review of Existing Literature

Our review concentrated on studies conducted in Canada, but also took into account the conclusions of other studies conducted in the United States and in Europe. An inventory of over sixty different publications was produced and indexed according to the following design variables:

- . rooms or unit spaces;
- . habits and behaviors;
- . needs and aspirations;
- . inherent problems involved in the personalization¹, management and maintenance of the spaces.

[&]quot;Personalization" in this text means much more than putting up one's family picture on the wall. It includes making full use of the space, decorating it, feeling at home in it, etc.

Illustration 1: Photo taken of one of the consulting sessions organized with the residents which were held by the Operation Friendship Architect Firm in Edmonton, prior to designing the building (Photo: Barry Johns Architect Ltd.)



During our surveys, we were able to observe that a certain number of houses had been successfully designed jointly with the residents; these include, among others, the Street City and 90 Shuter Street houses in Toronto, as well as this house in Edmonton.

2.2 Group Discussions

The guide is also based on five discussions which we had with the following groups who have had experience in providing these types of resources:

- . one group made up of officials from the "Service de l'habitation et du développement urbain" SHDU, City of Montréal;
- . a group of architects in private practice in Montréal;
- a group of building managers working with non-profit organizations in Montréal;
- . a group of private "rooming house" owners in Montréal.
- . a group of officials from the City of Vancouver Planning Department

2.3 Individual Interviews

We also interviewed, on an individual basis, representatives from the following agencies:

- . Boston's Public Facilities Department;
- . the City of Ottawa Housing and Property Department;
- . the City of Toronto Planning Board;
- . Downtown Eastside Residents' Association of Vancouver
- . Edmonton Inner City Housing Socity;
- . le Groupe logement pour tous de Paris (The Housing For Everyone Group -Paris);
- . the Homes First Society of Toronto;
- . Edmonton's Operation Friendship;

as well as some thirty people whose names appear in the Acknowledgements Section.

2.4 Visits to Houses

Lastly, the guide is based on detailed visits which we made to twenty-five houses. During these visits, we interviewed those responsible in each house while visiting the premises. During the interviews, the staffs, and sometimes the residents, were questioned to identify sources of problems and to find out why certain architectural elements were particularly appreciated. Lastly, photos were taken and the typical floor plan for each of the houses was sketched.

2.5 Model Plans

2.5.1 Units

Model units plans were developed (Appendix 2) to determine the minimal dimensions which the unit was to have.

2.5.2 Kitchens

Model kitchen plans were developed (Appendix 3) to illustrate various alternatives for the layout of the kitchen in the unit.

2.5.3 Storage Space

Model storage space plans were developed (Appendix 4) to illustrate various alternatives for storage space in the unit.

3. MAIN CHARACTERISTICS OF THE HOUSES VISITED

The choice of the houses visited was determined mainly by the following parameters:

- . type of tenure (private/public/non-profit);
- type of construction (new/renovated/recycled)²;
- . type of units (room, bachelor, units with 1 bedroom and more, shared unit);
- . size of the house;
- . contents of the unit;
- . size of the unit.

Our aim was to seek out the largest diversity possible in relation to these parameters. On the whole, twenty-five houses were visited, nine of which were in Montréal, four in Toronto, two in Ottawa, four in Edmonton and six in Vancouver. These houses are shown in the photos in illustrations 2 to 26; lastly, you will find in Appendix 1, the typical floor plan for each of these houses, together with comments to supplement those appearing with the photographs.

3.1 Type of Tenure and Type of Construction

Table 1 which appears after illustrations 2 to 26 classifies the houses which we visited according to type of tenure and type of construction.

3.1.1 Type of Tenure:

20 various houses managed by non-profit organizations (NPO);

- 4 private "rooming house"s.
- 1 low rental facility.

¹ This choice was guided mainly by the agents responsible for social housing in the cities which we visited.

The adjective "recycled" means that the original function of the building has been changed.

Two of the twenty-five houses visited were intended for a specific client group, i.e., 58 Lewis Street in Toronto was intended for people with psychiatric problems and the Veterans' Memorial Manor of Vancouver which was intended mainly for veterans.

Two of the four private "rooming house"s had been recently renovated, i.e., the one at 2060 Clark Street and at 5201 2nd Avenue whereas the two others were to be renovated shortly, i.e., the one at 2539 Lafontaine and at 7120 Iberville.

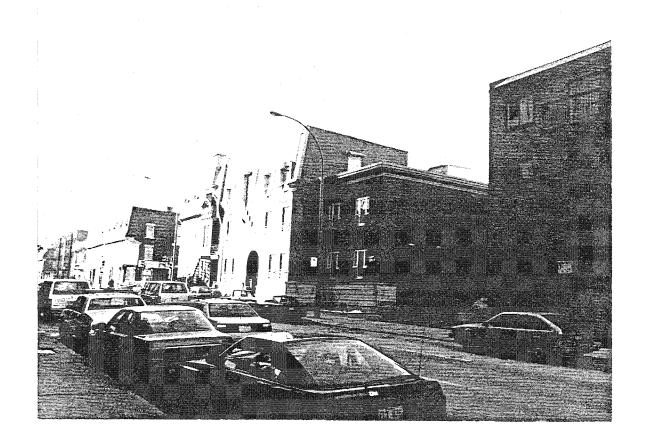
3.1.2 Type of Construction:

- 14 new buildings;
 - 7 recycled buildings; 1
 - 3 renovated buildings;
 - 1 combination of a new and recycled building.

Among the eight recycled buildings, five initially contained units for family households, two were warehouses (Street City and Four Sisters) whereas one intially contained a City Hall which was subsequently converted into an office building (Tellier Towers).

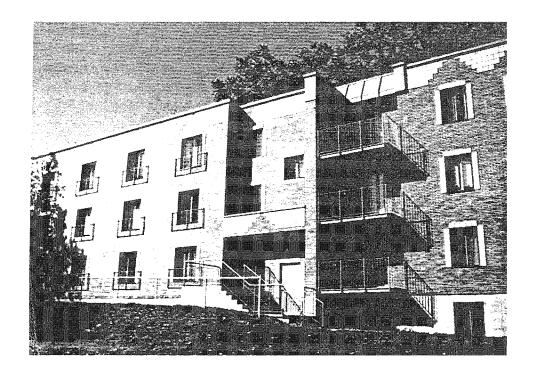
The adjective "recycled" means the initial function of the building has been changed.

Illustration 2. Photograph of the Alexandre-de-Sève House located at 1579 Maisonneuve Boulevard East, Montréal. Architect: Réal Paul.



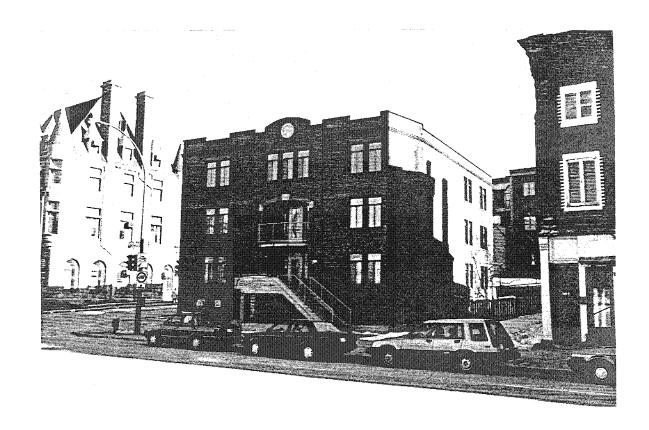
This city core house is the result of the incorporation in one building of a new construction and a recycled apartment building. A very attractive inner court has been set up in the center of the property. Number of residents: 40.

Illustration 3. Photograph of the Logan House located at 1580 Papineau Street, Montréal. Architect: Dupuis, Dubuc and Associates.



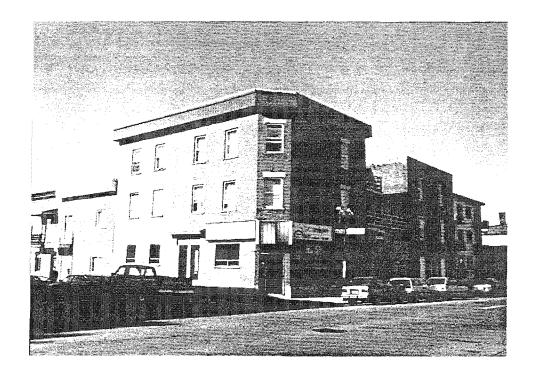
This is a new building which houses both low-rent units for families (right part of the building on the photo), and units intended for low-income singles (left part of the property on the photo). Number of units for singles: 26.

Illustration 4. Photograph of the Chambrenfleur House located at 480 St-Antoine Street East, Montréal. Architect: Atelier Habitation Montréal.



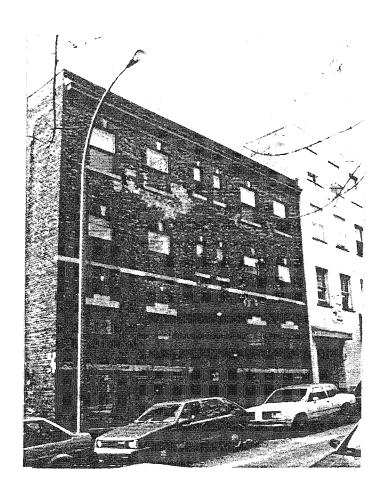
This is a new building located on the south-west corner of St-Antoine and Berri Streets. This site allows for good stimulating unobstructed views from a large number of units. Number of residents: 26.

Illustration 5. Photograph of the house located at 2539 Lafontaine Street, Montréal. Interior renovation by Jean-Pierre Lacoste and Associates, Inc.



This building is the result of the conversion of two triplexes into a private "rooming house". In spite of its deteriorated and neglected condition during our visit, this house, which is soon to be renovated, kept a residential and private charm which the first three houses which we have just illustrated did not have. A fact to be noted: the landlord's business office is on the ground floor of the building which, according to him, greatly facilitates the management of the house. Number of residents: 11.

Illustration 6. Photograph of the house located at 2060 Clark Street, Montréal. Interior renovation by J.L. Legal.



This recently renovated house has always been a "rooming house". Its very great depth, narrow facade and its position between two common walls mean that most of the units in this house have boring views and receive little light. Number of residents: 30.

Illustration 7. Photo of the Chambredor House located at 416 René-Lévesque Boulevard East, Montréal. Architect: Roux and Morin.



This recently renovated house, as was the case with the preceding one, has always been a "rooming house". Its very great depth, its narrow facade and its position between a narrow street and a common wall mean that, as was the case in the preceding house, many units have very boring views and do not receive much light. Number of residents: 58.

Illustration 8. Photograph of the St-Dominique House located at 20 Guilbault East, Montréal. Architects: Douglas James Alford, Groupe CDH.



This property is a former school which was recycled to provide units for low-income singles as well as condominiums. Access to the condominium section is along St-Dominique Street and access to the units for low-income singles is along Guilbault Street. The section for singles is made up mainly of shared units and also contains a few bachelor units. The shape of these units leaves to be desired given the constraints imposed by the recycling of the property. Number of residents: 26.

Illustration 9. Photograph of the house located at 7120 Iberville Street, Montréal. Interior renovation par URBEC Inc.



This is a small two-storey property which previously had five units, two of which were in the basement, two on the upper floor and one on the ground floor. This property was recycled as a private "rooming house". Number of residents: 20.

Illustration 10. Photograph of the house located at 5201 2nd Avenue, Montréal. Architect unknown.



This is another two-storey property which previously contained three units, one in the basement, one on the ground floor and one on the upper floor.

This property was recycled as a "rooming house". Number of residents: 12.

Illustration 11. Photograph of the house located at 506 Bronson Street, Ottawa. Architect unknown.



This property is new and was sectioned to three sub-groups in order to reduce the scale of the house and to allow it to blend in better with the other buildings in the neighborhood. The choice of the architectural language reflects the architect's intention to give this house a residential character. Number of residents: 55.

Illustration 12. Photograph of the Options Bytown House located at 380 Cumberland, Ottawa. Architects: Griffiths, Rankin and Cook.



This property is new and contains both permanent housing (Options Bytown) as well as temporary housing (Salvation Army). Located on the corner of Cumberland and George, in the heart of Ottawa, this property is in a particularly good location considering the quality of the views provided from the units as well as the light provided to a very large number of the units. Number of residents: 60 (Options Bytown) and 38 (Salvation Army).

Illustration 13. Photograph of the house located at 90 Shuter Street, Toronto. Architects: Tsow-Pollard Partnership.



This is an eleven-storey building including the ground floor. At street level there is a common room as well as the administrative premises. On each of the other levels two shared units are found. Number of residents: 77.

Illustration 14. Photograph of the house located at 490 Huron Street,
Toronto. Architect: Navroz Kassum.



This is a former middle class house with three storeys including the ground floor. This residence was recycled as a "rooming house". Number of residents: 10.

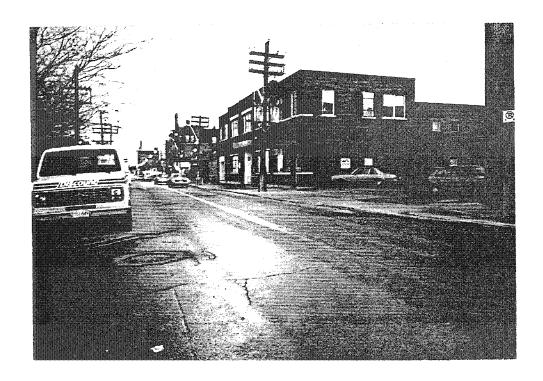
Illustration 15. Photograph of the house located at 58 Lewis Street, Toronto. Architect: Paul Reuber.



This is a new construction which was inserted on a residential street between two narrow lateral passageways. The architect showed great respect for the architectural language of the street and was able to take maximum advantage of natural lighting by orienting half the units towards the street, and the other half towards the back yard. Number of residents: 15.

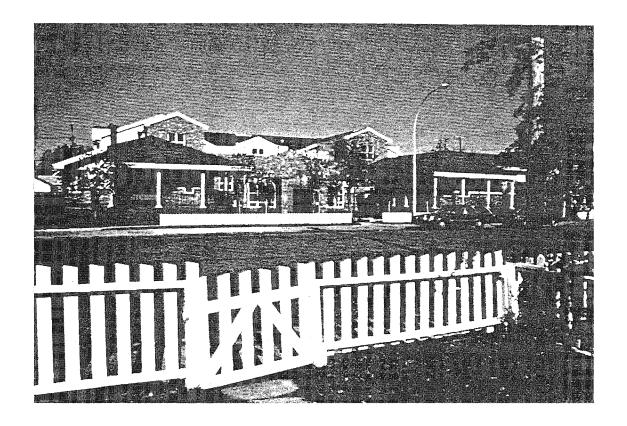
Subject to the authorization to use this photo from Art James (The Canadian Architect/April 1990).

Illustration 16. Photograph of the Street City house located at 393 Front Street East, Toronto. Architects: Black and Moffat, formerly Walter R. Moffat, Architect.



Street City is undoubtedly the house concept for low-income singles which is the most innovative that we have seen. Six small two-storey maisonnettes each containing 12 bedrooms, 1 kitchen and a common sanitary space, were set up in a building which was used previously as a warehouse for maintenance of Canada Post vehicles. Natural lighting is abundant and is provided by lateral windows as well as a sky light which extends practically along the whole length of the building. One interesting thing to note: the residents participated in the construction of the maisonnettes. Number of residents: 72.

Illustration 17. Photo of the Operation Friendship House located at 9526-106th Avenue, Edmonton. Architect and photo: Barry Johns Architect Ltd.



The building contains six shared units, one day centre, offices for house management staff as well as administration offices for the non-profit Operation Friendship Agency which is responsible for this project. Each of the units has four bedrooms, one common kitchen, one complete bathroom as well as one bathroom with a toilet and wash basin. Between each pair of units, on the corners of the building, there is a space which can be used as a lounge where residents can play cards or watch television, for example. Number of residents: 40

Illustration 18. Photograph of the Hutton Place House located at $9520-110^{\text{th}}$ Avenue, Edmonton.

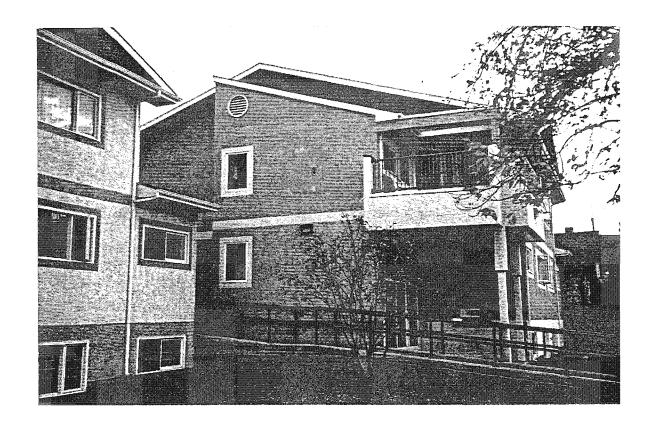
Architect: Larrie Taylor, Architect Ltd.



This is a relatively standard construction with a corridor in the centre and units on each side. The building contains twenty units, two of which have two bedrooms intended for people in wheelchairs, and eighteen bachelor apartments. At the ground floor level, there is an office, a laundry room, a community lounge, a storage space as well as four bachelor apartments and two one-bedroom units; on the second floor there are nine bachelor apartments and on the third floor there are five other bachelor apartments. Number of residents: 20.

Illustration 19. Photograph of the Project 3 House located at 9528 and 9532 107^{th} Avenue, Edmonton.

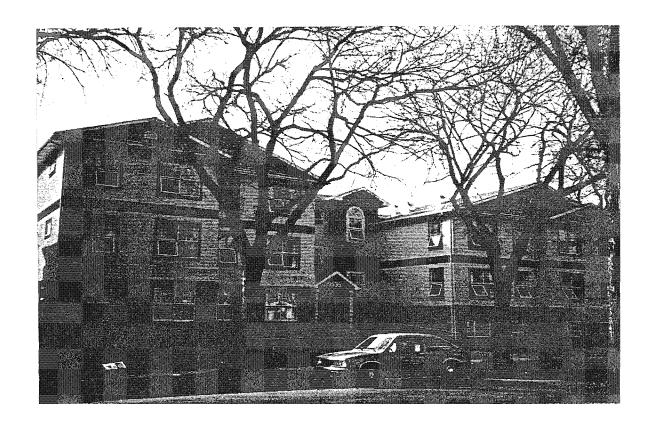
Architect: Larrie Taylor, Architect Ltd.



The property in fact is made up of two contiguous three-storey houses each containing thirteen units: six ""rooming house"" units, each with a kitchen and a bathroom equipped with a toilet and a wash basin; three bachelor units and four one-bedroom units. Number of residents: 26.

Illustration 20. Photograph of the Project 4 House located at 9535-108th Avenue, Edmonton.

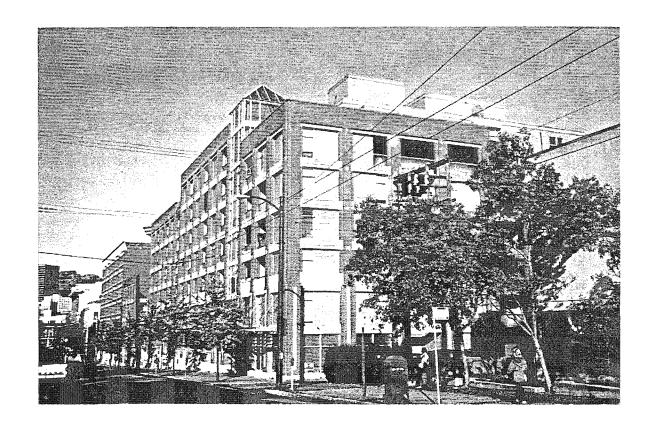
Architect: Larrie Taylor Architect Ltd.



This is a three-storey building and is made up exclusively of one-bedroom units. There are twenty-four in all, eight of which are in a half-basement, eight on the ground floor and eight on the upper floor. In addition to the units, there is a common lounge on the ground floor and, on the upper floor, there is a laundry room opening onto a roof terrace. Number of residents: 24

Illustration 21. Photograph of the Four Sisters House located at 151 Powell Street, Vancouver.

Architects: Davidson/Yuen Partners



The Four Sisters Cooperative was inaugurated in the Spring of 1987 on the site of the former Fleck Brothers Warehouse at the intersection of Alexander and Columbia Streets. The project is made up of three buildings grouped around an interior court yard. One of the buildings is the former Fleck Warehouse which has five floors and which was recycled. The other two buildings are new, one with three and the other with seven floors. In the middle of the project, there is a playground for children which is protected from the street as well as from traffic in the alleyway by a screen. Number of residents: 300

Illustration 22. Photograph of the Tellier Towers House located at 16 East Hastings, Vancouver.

Architects: Davidson/Yuen Partners



This building is located in one of the toughest sectors in the Downtown Eastside and contains 90 units, including 63 bachelor units and 27 one-bedroom units. On the ground floor, there is the meeting hall, offices as well as a common room where various activities are organized for the whole group; this room is adjacent to a laundry room, a common kitchen as well as a group meeting space and a lounge. On the ground floor, near the entrance way, there is also a small library opening onto a small lounge in the entrance way with a direct view on the street. Number of residents: 96

Illustration 23. Photograph of the Pendera House located at 133 Pender Street, Vancouver.

Architects: Davidson/Yuen Partners



This building contains 114 one-bedroom units. Access to the ground floor is through a small covered exterior yard which is separated from the sidewalk by a safety screen. The janitor's office, as well as a small library, look out over this yard. On the ground floor there are nine units, an activity hall, a common kitchen, a bathroom and a laundry room. At the back of the building, there is a vast interior yard measuring approximately 50' x 150'. On the top floor there is a community lounge as well as an immense roof terrace measuring approximately 20' x 150'. Number of residents: 114

Illustration 24. Photograph of the Portland Hotel House located at 412 Carall, Vancouver.

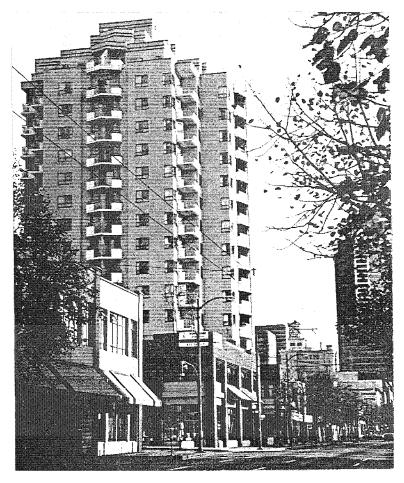
Architects (interior renovation): Graeme Briston



This building contains seventy "rooming house" accommodations. The toilets and the kitchens are shared by all. Most of the building's ground floor is taken up by a "pub" which is administered by the owners of the building. The rest of the ground floor is occupied by a community activity hall and a reception counter. The rooms are found on the second, third, fourth and fifth floors. Number of residents: 70

Illustration 25. Photograph of the New Continental House located at 1067 Seymour, Vancouver.

Architect: Joe Wai



This is a fifteen-storey highrise, the first two levels of which are reserved for commercial spaces. On the third storey there are community services which extend to include two roof terraces. On the upper floors, i.e., from the fourth to the fifteenth floor, there are 110 units, including 55 bachelor units and 55 one-bedroom units. On the top floor, there is another lounge which opens onto a roof terrace. Number of residents: 110

Illustration 26. Photograph of the Veterans' Memorial Manor House located at 310 Alexander Street, Vancouver.

Architect: Joe Wai



This is an infill building which blends in well with the district's industrial fabric. It contains 134 units with variable dimensions and these units are grouped together so as to make it possible for the residents, as they gain more independence, to evolve vertically from "rooming house" accommodations to bachelor units. Number of residents: 131

Table 1. Classification of houses visited according to type of tenure and type of construction (this table is continued on the next page).

l von a byladab	Type	of Tenure		Type of	Construction	1
Houses Which Were Visited	Private	Low-Rental Public Hsg.			Renovated	Recycled
1. Alexandre-de Sève, Montréal			0	0	1	
2. Logan, Montréal	 	 	o o	0	<u> </u> 	
3. Chambrenfleur, Montréal			o o	0		
4. 2539 Lafontaine, Montréal	0 		 		 	
5. 2060 Clark, Montréal	o 				o 	
6. Chambredor, Montréal			o o		o 	
7. St-Dominique, Montréal	1		0			0
8. 7120 Iberville, Montréal	0		 			o
9. 5201 2nd Avenue, Montréal	o 					o
10. 506 Bronson, Ottawa			0	o 		
11. Options Bytown, Ottawa			0	o o		
12. 90 Shuter Street, Toronto			0	 0 		1
13. 490 Huron Street, Toronto			0	 		0
14. 58 Lewis Street, Toronto			0	o o		
15. Street City, Toronto			0			0

		Туре	of Tenure		Type o	ion	
 	Houses Which Were Visited	Private	Public Hsg	NPO	New	 Renovated	Recycled
16 	Operation Friendship Edmonton			0	o		
 17 	Hutton Place Edmonton			0	0		
18 18	Project 3 Edmonton			0	0	<u> </u>	
19 	Project 4 Edmonton			0	0		
20	Four Sister Vancouver			0	0		0
21	Tellier Tower Vancouver			o 			0
22	Pendera Vancouver			o	o		
23	Portland Hotel Vancouver			 o 		0	
24	New Continental Vancouver		o 	 	 o 	 	
25	Veterans Memorial Manor Vancouver		 	o 	o 		

3.2 Type of unit and house size

Table 2 classifies the houses which we visited according to type of unit and number of residents. By examining this table you can observe that we visited four types of units:

- ""rooming house"" units with certain common facilities (twelve houses contained this type of unit);
- 2. complete bachelor units; (eleven houses contained this type of unit);
- 3. complete one-bedroom units (this type of unit is found in seven houses);
- 4. shared units (five houses fall into this category)

As for the number of residents in the houses which we have visited, as you can observe below, this varied widely:

Number of Residents	Number of Houses
10 and less	1
11 to 20	5
21 to 30	6
31 to 40	2
41 to 50	0
51 to 60	3
61 to 70	1
71 to 80	2
81 to 90	0
91 to 100	1
101 to 200	3
201 to 300	1
TOTAL	25

See definitions at the front of the Guide.

Table 2. Classification of houses visited according to type of unit and number of residents.

Houses Which Were Visited	Rooming House Units ¹	Bachelor Units	1-Bedroom Unit	Shared Units	Number of Residents
1. Alexandre-de-Sève, Montréal	0	0			40
2. Logan, Montréal	0				26
3. Chambrenfleur, Montréal		0			26
4. 2539 Lafontaine, Montréal	0				11
5. 2060 Clark, Montréal	0				30
6. Chambredor, Montréal	0				58
7. St-Dominique, Montréal		0		0	26
8. 7120 Iberville, Montréal	0				20
9. 5201 2nd Avenue, Montréal	0				12
10. 506 Bronson, Ottawa	0				55
11. Options Bytown, Ottawa		0		0	60
12. 90 Shuter Street, Toronto				0	77
13. 490 Huron Street, Toronto	o				10
14. 58 Lewis Street, Toronto		o			15

Houses Which Were Visited	Rooming House Units ¹	Bachelor Units	1-Bedroom Unit		Number of Residents
15. Street City, Toronto				0	72
16. Operation Friendship, Edmonton				0	40
17. Hutton Place, Edmonton		0	0		20
18. Project 3, Edmonton	0	0	o		26
19. Project 4, Edmonton			o		24
20. Four Sisters, Vancouver		o	o		300
21. Tellier Tower, Vancouver		0	o		96
22. Pendera, Vancouver			0		114
23. Portland Hotel, Vancouver	0				70
24. New Continental, Vancouver		o	o		110
25. Veterans' Memorial Manor, Vancouver	o	0			131

within this category various types of rooms are found; the contents of each of these types of rooms are described in Table 3.

See definitions in first section.

There are also two-bedroom and three-bedroom units in this house.

3.3 Contents and Size of Units

Table 3 classifies the houses which we visited according to the contents of the various types of units which were presented in Table 2. Table 3 also contains information on the area of the units. We would like to point out, however, concerning these areas, that in certain houses, especially in houses 4, 5, 6 and 8, considerable variations existed in the dimensions of the units. For this reason, we have indicated on the table, the area of the smallest units (S), those of the largest units (L) as well as the medium area of all the units (M) in each house.

On examining Table 3, we observed that there were four types of "rooming house" units and four types of shared units. The "rooming house" units were divided into the following groups based on their contents:

- . basic furniture1, a sink and refrigerator (1 case);
- . basic furniture, a sink, a refrigerator and a hot plate (1 case);
- . basic furniture, a kitchenette or a compact kitchen (6 cases);
- . basic furniture, a compact kitchen, a shower and a toilet (2 cases);
- . basic furniture, a compact kitchen, a wash basin and a toilet (2 cases).

The shared units were broken down according to the contents of the personal space that each of the residents had; i.e., the residents' bedrooms, the contents of which varied as follows:

- . the bedroom only contained the basic furniture (2 cases);
- . the bedroom only contained the basic furniture and a wash basin (1 case);

N.B.: See definitions at the front of the Guide.

Table 3. Classification of houses visited according to contents and area in square meters of the units. The contents specified in the case of "rooming house" units and shared apartments are those intended for individual residents rather than for the group.

			Roomin	ng House Un	iits				Shared Units1			
Houses Which Were Visited	Furn. Sink Refrig.	Furn. Sink Refrig. Hot Plate	Furn. Kitchen- ette or Comp. Kitchen	Comp. Kitch. Shower	Furn. Comp. Kitch. WashBas Bathr.	BEAL CO HR		Furni- ture	Furni- ture Sink	Furni- ture Refrig.	Furni- ture Sink Bath Toilet	
1. Alexan de-Sèv Montré	re,			S: 10.1 L: 10.6 M: 10.3	S: 13.1 L: 16.8 M: 15.4		S: 22.1 L: 31.7 M: 27.3					
2. Logan, Montré					S: 21.6 L: 22.6 M: 22.1							
3. Chambr fleur, Montré	,						S: 24.6 L: 33.6 M: 27.9					
4. 2539 Lafont Montré	-	S: 9.0 L: 14.7 M: 12.4										
5. 2060 (Montré				S: 11.2 L: 16.0 M: 12.7								
6. Chambi Montré				S: 11.4 L: 21.9 M: 14.0								
7. St-Dom nique, Montré	,						S: 27.7 L: 29.2 M: 28.8			S: 10.9 L: 12.7 M: 11.9		
8. 7120 Ibervi Montre				S: 10.8 L: 17.6 M: 13.4								
9. 5201 2 Avenue Montre	e,		S: 9.7 L: 17.3 M: 14.3									
10. 506 Bi				S: 15.0 L: 17.6 M: 16.3		1		-				
11. Option Bytown Ottaw	n,						S: 23.7 L: 25.6 M: 24.6		S: 12.5 L: 16.4 M: 14.4			
12. 90 Sh Stree Toron	t,			-					S: 19.9 L: 26.2 M: 23.0			S: NA L: NA M: 32.3
13. 490 H	t,			S: 21.6 L: 33.0 M: 25.8								
14. 58 Le Stree Toron	t,						S: NA L: NA M: 33.0					

			Roomin	ng House Un	its				Shared Units ¹			
Houses Which Were Visited		Furn. Sink Refrig.	Furn. Sink . Refrig. Hot Plate	nk Kitchen- Erig. ette or t Comp.	Comp. C	WashBas	BEAL COHR	A L C O		Furni- ture Sink	Furni- ture Refrig.	Furni- ture Sink Bath Toilet
15.	Street City Toronto										S: 12.6 L: 13.0 M: 12.8	
16.	Operation Friendship, Edmonton											
17.	Hutton Place, Edmonton											
18.	Project 3, Edmonton											
19.	Project 4, Edmonton											
20.	Four Sisters Edmonton											
21.	Tellier Tower, Vancouver											
22.	Pendera, Vancouver											
23.	Portland Hotel, Vancouver	S: L: M:										
24.	New Continental, Vancouver											
25.	Veterans' Memorial Manor, Vancouver											

¹ This area includes the storage space, the bathroom (depending on the particular case) as well as the area taken up by the partitions in the walls containing the unit.

² See definition in first section.

³ N.B.: These units contain a compact kitchen in addition to a bathroom with wash basin and toilet; thus they are very close to being bachelor units.

- the bedroom only contained the basic furniture and a refrigerator
 (2 cases);
- . the bedroom only contained the basic furniture and one complete bathroom (1 case).

4. MAIN CHARACTERISTICS OF PEOPLE LIVING IN HOUSES FOR LOW-INCOME SINGLES

From our reading and visits as well as the exchanges we have had with the various people working with low-income singles, we were convinced that it was important not to provide stereotype descriptions of the people living in private "rooming house"s and in the houses managed by non-profit organizations. We must above all get rid of the image we have of the typical client in these establishments as being a person living alone, without any family, with very little education and transporting his belongings in a sack over his shoulder or in a garbage bag. In fact, among those we met during our visits, there were people from a very wide range of social backgrounds and with quite varied skills. We are not dealing here solely with singles completely detached from society. A certain number among them in fact had families or children from whom they said they were only temporarily separated. Certainly, low-income singles do have a certain number of common characteristics but the one characterizing them the most is diversity. Low-income singles thus do not form one homogeneous group but are rather made up of sub-groups, each with its own characteristics, needs and preferences.

4.1 Sub-Groups

The main categories of low-income singles according to the Study Group on People in Boarding Houses and Tenants in Furnished Rooms (1986) are the following (this classification was not made according to size):

- . young workers who have just arrived from another city and who are looking for employment;
- people coming out of psychiatric hospitals on medication or who are receiving other treatments designed to assist them to live a normal life once again or to cope with their mental illness;
- . post-secondary and university students who are no longer living at home;
- . newly arrived immigrants and refugees;
- . pregnant young girls who have left their families or who have been "evicted" from the latter;
- . unemployed men and women who are living alone;
- . people recently out of prison or detention homes;
- elderly retired people without sufficient income or who have particular needs;
- people suffering from drug or alcohol addiction who cannot have stable lives and jobs;
- . people not earning any more than the minimum salary or who are receiving social welfare benefits and who are living in the metropolitan areas where the cost of living is high.

4.2 Age

As concerns the age of the roomers, the data collected in Montréal by Plante (1989) seems to accurately reflect what is happening across the country and show that the people between 30 and 59 years of age are overrepresented in the houses: the proportion of people in this age group varies between 60 and 100% depending on the source. Thus, the number of people between 18 and 30 years of age, according to Plante, is relatively low.

4.3 Sex

Still according to Plante (1989), the people in the houses are mostly men and this is true even in the houses which are open to women. The proportion of masculine roomers varies between 60 and 100% depending on the house. The average is approximately 70% men on the whole. This undoubtedly can be explained by the fact that the "rooming house" is a housing formula which has traditionally catered to men. Moreover, a few agencies have developed mechanisms to increase the number of women by establishing men/women quotas. Thus, priority will be given to applications coming from women where these quotas are not attained and where units are available.

4.4 Income

The residents in the houses we visited had, it goes without saying, very small incomes. Most of them depended on social assistance. N.B.: A certain number of non-profit "rooming house"s which we visited did not recruit their roomers exclusively among the most unstable and marginal itinerants in the population. The lack of human resources necessary to support and to supervise certain types of roomers explains the selection process which a certain number of these agencies had to adopt (Beaudoin, 1989).

4.5 Behavior and Habits

The data which we are reporting here were not collected scientifically.

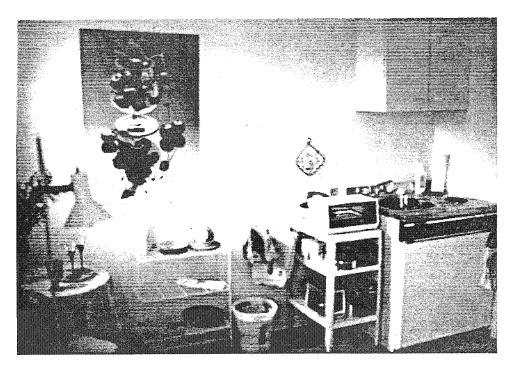
These are comments which were made by groups and individuals managing public and private "rooming house"s with which we have had exchanges. These comments are thus presented with all due reservations:

- roomers wake up at different times and sleep at different hours;
- . a certain number among them go out frequently, others spend much time at home;
- a certain number among them have many personal possessions and are looking for permanent housing, others arrive with sacks over their shoulders and disappear forty-eight hours later;
- a certain number among them keep their room in order, others (usually alcoholics and drug addicts), live in constant disorder (illustration 27);
- . a good number of roomers spend much of their time listening to the radio and watching T.V.;
- . a certain number eat at home, others eat, for the most part, in nearby soup kitchens;
- . a certain number among them do not eat more than one meal a day or eat suitably during the first two or three weeks following their social welfare cheque, and then fast for the last two weeks of the month;
- . a certain number among them smoke;
- . a certain number among them drink (illustration 28);
- a certain number are sociable, others (generally those on drugs) are anti-social;
- roomers often need the landlord's assistance or assistance from a community for such things as writing letters;
- . approximately one quarter of the roomers in certain regions have bicycles.

This observation is particularly pertinent given that in a number of the houses that we visited, a high proportion of the residents had bicycles but no provision had been made for storage space.

Illustration 27. Photos of two typical bedrooms.

"...a certain number among them have a great many personal belongings and are looking for permanent housing, others arrive with sacks over their shoulders and disappear forty-eight hours later; a certain number keep their room in order, others live in constant disorder..."



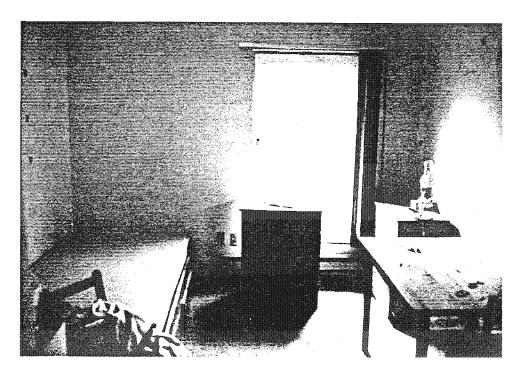
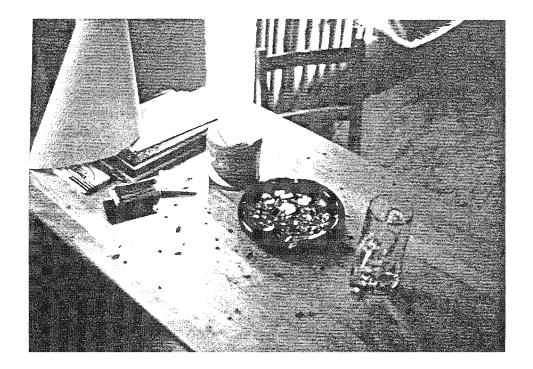


Illustration 28. Photo of a roomer's table.



"...a certain number of them smoke and drink..."

4.6 Problems associated with the client group as seen by the landlords and the managers of the houses

The problems which the landlords and house managers most often experience according to Boudreault (1984) and the Housing Module (1989) are the following:

- . difficulty to maintain and to keep clean the common spaces and the private spaces;
- negligence of certain residents who will boil water for example and forget to turn off the range;
- breaking furniture and equipment;
- . vandalism in the building;
- . high turnover rate;
- . psychological and mental problems;
- . problems associated with the consumption of drugs and alcohol.

4.7 Problems associated with housing as seen by low-income singles

The Work Group on People in Boarding Houses and Tenants in Furnished Rooms (1986) very succinctly summarized the main problems experienced by low-income singles as pertains to housing. The observations of this group were made in Ontario but they correspond to what we have been able to observe and what has been reported to us from the Montréal region:

- . limited choice of units;
- . acceptance of a very small unit since nothing else was available;
- presence of major obstacles preventing one from improving his/her housing condition;
- . absence of effective legal protection against eviction without prior notice, rent increases and the property seizures.

4.8 Client Group Aspirations

Generally, the aspirations of roomers, as pertains to housing, are not very much different from that of other groups within society (Toronto Housing Subcommittee, 1984). In fact, most of the residents, according to the results of the above-mentioned study, value privacy, independence, peace and quiet and are looking for a clean unit in a well managed house located in a safe district. Most also dream of a complete units, i.e., a housing unit containing a kitchen equipped with a four-element range and a oven, a real refrigerator as well as a complete bathroom. All would like to have washers and dryers in their houses as well as good soundproofing.

5. STRUCTURE OF THE DESIGN GUIDE

The guide is made up of three chapters. The first chapter deals with considerations concerning the whole house, the second with the community spaces which are found in most of the houses, whereas the third deals with the unit, the part of the house which is exclusive to each resident.

The chapters are structured based on spatial and architectural categories.

These categories are the major considerations which should be taken into account by those working to create new houses or to renovate existing houses.

Particular effort was invested in the preparation of the guide in order to reconcile three major observations, namely: 1) that the documentation clearly establishes, as we have just described, that low-income single people are not all the same and consequently have different needs; 2) that is not necessarily desirable, for the preceding reasons, nor is it possible for economic reasons, to always provide what we consider as a minimum acceptable

unit and lastly, that there exist, despite the differences, certain needs and problems which are shared by most of the residents.

To take into consideration the fact that low-income singles have different and even contradictory needs and the fact that is not always desirable or possible to provide the same type of unit, the guide contains evaluations² of variations as concerns the contents, the configuration and the dimensions of the unit. The results of the these evaluations are reported in tables and plans which list and illustrate the advantages and disadvantages of the various, and sometimes contradictory, solutions.

As for the needs and problems which are shared by the residents, these are reported in each of the sections of the chapters as observations and recommendations. The observations represent our interpretation of the needs or the problems whereas the recommendations describe the conditions to respect to meet the needs or to circumvent the problems. Sometimes design suggestions are added to illustrate possible solutions. A certain number of sections do not contain recommendations; only observations taken from our documents, interviews or visits. This is due to the fact that, in certain cases, the observations both identify the problems and provide solutions.

It would have been interest to verify whether these needs varied significantly from one region to another in the country but this was not one of our objectives. Moreover, the houses which we visited are not necessarily representative of all low-income singles housing accommodations in the country. Since this is basically an exploratory study, we opted for diversity (case studies) rather than insisting on the representative aspect (comparative study).

These evaluations should, we hope, assist designers, stakeholders and officials responsible for developing these houses to make more judicious choices.

We hope that this design guide will make it possible:

- . for designers to be in a better position to translate the requirements for singles into appropriate construction concepts;
- . for singles to be better informed when it comes time to make decisions concerning the type of housing which best suits their needs;
- . for officials responsible for housing by-laws to update the latter and to exercise better qualitative control over projects which they are called upon to approve.

This guide was prepared on the assumption that the residents in these units are able-bodied people participating in activities which would appeal to average Canadians. For the needs of any particular groups (elderly or disabled), unit designers should consult specific information sources.

CHAPTER 1 CONSIDERATIONS RELATED TO THE HOUSE

1. GEOGRAPHIC LOCATION OF THE HOUSE

Low-income singles, like anyone else, want to live in a district with which they are familiar, to be close to their friends as well as to the social and other types of services which they need (Hopkins, 1983). They also prefer to live in residential districts near commercial sectors where prices are reasonable and where small stores are to be found (grocery stores, convenience stores, restaurants, new or second hand clothing stores, laundromats, etc.), recreational areas and a park (Illustration 29). Proximity to urban transit is also very important.

When searching for a location to build a house, the preferences of the residents should be taken into consideration. According to Hopkins (1983), this should be in a residential district which is familiar to the residents and which allows for easy access to stores, urban transit and social services. Since society has a negative image of low-income singles, the district must be chosen very carefully. Building such a house will require very good communication with the community in order to counter any reactions based on social prejudice. For this reason, time must be taken to sensitize the people in the district. It would also be appropriate to locate the houses where comparable groups are found or in districts with co-operative or non-profit housing where the residents will probably be more comprehensive.

The conditions necessary for the social rehabilitation of certain residents must also be taken into account when looking for a site to establish a house. In many houses, for example, community workers attempt, using all kinds of means, to induce the residents to participate in the life of the district and to use the district's resources. Thus, residents will be encouraged to look for the resources they need outside the house as opposed to within the house. Accessibility to social services (soup kitchens, day centres, self-help counters, etc.) and health services is thus essential if we want the residents to seek out the resources which will make it possible for them to upgrade their skills or to solve their health problems in their

Illustration 29: Small park at the intersection of East Hastings and West Hastings Streets in Vancouver.



This small park, as well as the small businesses around it, are perfect for the Downtown Eastside community of the City of Vancouver which contains a large proportion of low-income singles.

immediate environment. Moreover, a study was conducted of the whole of "rooming house" issue in Montréal (Goulet, 1988) which indicates that roomers naturally choose their place of residence based on their needs.

Thus, according to this study, in the districts the farthest away from downtown Montréal, such as Hochelaga and Préfontaine, where a good number of "rooming house"s are found, the clientele would appear to be more stable because it is less dependent on the city core services from which it is separated.

Other researchers (McGregor and Serge, 1983) claim that the differences between roomers is determined by the site of the houses in which they live. Thus roomers in the peripheral districts apparently are younger, mobile workers who do not remain in "rooming house"s for a long time. The residents in the city core, however, are apparently older and a higher proportion of them are on social welfare. It is apparently in this sector and with this group of people where the housing problems are more acute. These people are undoubtedly among the poorest in the city. For this reason, it is important, as we get closer to the city core, to choose sites which are far from "night-life" business establishments since the latter are places where the residents in the "rooming house"s can rapidly squander their social welfare cheques.

2. SIZE OF THE HOUSE

Given that the houses that we visited varied greatly in size, we studied the literature and asked the people whom we interviewed for their opinion as to the ideal size for "rooming house"s.

The following excerpts from the reference documents and interviews indicate that the points of view are far from unanimous and that the ideal size for a "rooming house", depending on the person who is being asked the question, may vary from 200 to 5 people. The following excerpts start with those in support of the large "rooming house"s and then go on to smaller ones.

2.1 For houses containing 50 to 200 people:

"The ideal capacity for a block is between 80 and 200 people. This is big enough to support the basic services of a supervisor or caretaker, as well as essential services such as a laundry, lounge and possibly a convenience store. This size is considered reasonable in that it is not likely to be seen as unfriendly or institutional."

(Department of the Environment, 1974)

"In Sweden 100 residents are considered to be the ideal number for a building. This size is deemed necessary to allow for economical construction; it is also considered that, in buildings up to this size, social contact among all the residents remains possible."

(Tameanko, 1976)

"In Toronto, their is a good mixture of small "rooming house"s containing 10 to 12 people (illustration 14) as well as large scale houses, i.e., those containing 50 to 100 people (illustration 13)."

(Jacques Tremblay, community worker, Toronto)

"It is not easy to create an atmosphere which is not institutional in a building containing 60 people. The main reason why we are forced to accept this figure is that sixty people are necessary to justify 24-hour per day supervision by community workers."

(Margaret Singleton, Senior Program Officer, City of Ottawa Housing Policy and Programs Branch)

2.2 For houses containing 25 to 30 people

"A 30-room house is ideal for management purposes. If there are less rooms, it is too expensive to manage."

(Huguette and Cécile Bleau, owners of private "rooming house"s, Montréal)

"The ideal size for a "rooming house" should be between 25 to 30 people for the same reasons that the ideal size of a school class is also 25 to 30 people."

(Jean Lombardi, Director, Maison St-Dominique, Montréal)

"It is difficult to create a family atmosphere in a "rooming house" which is as large as Chambredor (58 people). The ideal figure, in my opinion, would be 25 people. More than this, interactions become more difficult."

(John Johnston, Director, Federation of Non-Profit Organizations of Montréal Inc.)

"A "rooming house" with 38 residents is too big to maintain with only two people, the ideal number would be in the range of 25 people."

(Robert Lanctôt, maintenance worker, Maison Alexandre-de-Sève)

2.3 For houses containing 10 to 20 people

"Rooming houses for 12 to 20 people are easier to rent than the larger houses. When the number is higher, there is a lot of activity and tenants get fed up with this."

(Donald Côté, Owner of "rooming house"s)

"For me, 10 to 15 rooms is ideal."
(Jacques Vinet, Owner of "rooming house"s)

"Managing twenty-five buildings means twenty-five entrance ways to shovel out in the winter time. Thus, according to me, there is a problem as far as maintenance is concerned if the number of people per building is too low. On the other hand, the higher the number of people in the same building, the more problems there are. Once the number of people occupying the same building exceeds 30, cliques are formed and this can become unhealthy. In addition, when the number of roomers in the same building is small, if the building only contains 9 roomers, for example, selecting these roomers becomes more critical since these 9 people must get along. One thing that is sure is that when a house is occupied by 4 or 5 people, the choice of residents is very difficult. It becomes easier when the number goes up to 9, 10 or 12 people."

(Renée Gauthier, Director, Chambrelle)

(Robinson et al., 1984)

2.4 For houses containing 4 to 10 people

"For the "rooming house"s to blend in with the neighborhood, they should be comparable to adjacent housing in terms of size. And to encourage appropriate activity within the house, no more than 6 residents per house unit is desirable. If, however, the designer has to cope with a group of 12 to 16 residents, it is always possible to minimize the "institutional" character of the building required by dividing the interior space of the house into sub-units of 3 to 4 people."

"4-5 persons form a social unit which makes it possible to solve day-to-day household problems in a funcional manner; with 9 people it is impossible to provide the same degree of privacy; within a group containing up to 100 persons, the residents know each other and it is possible to maintain a community spirit."

(Etherington, Alan and Associates, 1987)

2.5 Conclusions

The small bit of information which we were able to obtain in this matter does not allow us to discuss in any systematic way the advantages and disadvantages which could be associated with various sizes of "rooming house"s.

On the other hand, it is interesting to note that, in the Montréal region, the owners and the managers of "rooming house"s as well as the community workers with whom we met were generally all of the opinion that the ideal size of a house should correspond to approximately twenty people.

In this respect, Montréal clearly distinguishes itself from Toronto and Vancouver where the parties involved reported to us that there was clearly a place in these cities for both small and large "rooming house"s.

The main arguments which we heard from the people with whom we met in the Montréal region in favor of houses containing approximately twenty people dealt with:

- . minimal conditions to ensure good dynamic supervision;
- . the desire to promote self-help among the tenants;
- . the need to make the construction, management and maintenance of the building profitable;
- . the concern to integrate the roomers in the neighborhood;
- . to save on construction costs.

3. LOCATION AND SHAPE OF THE LOT

Housing intended for low-income singles differs mainly from other types of housing in that it is usually made up of only one room and that access to the exterior from this room is usually limited to one or two windows. The location of this window in relation to the street and to neighboring buildings thus has a determinant influence on the viability of the unit. Indeed, the location of the window will determine the quality of the views offered and of the natural lighting as well as the privacy and tranquility of the occupants.

3.1 Need for a pleasant view and light

Since the residents usually only have one room and one window, it is essential that the view from this window be pleasant and stimulating and that this window let in abundant light.

For the view to be stimulating, it is necessary, first of all to find a lot which will allow for the greatest possible number of units with a view on the street and to avoid lots surrounded by visual barriers.

For the view to be pleasant, attempts will be made to find lots where there is vegetation and where the surrounding buildings are enjoyable to look at.

In general, this means corner lots which make it possible to orient the largest number of units possible toward the street (illustration 30). Lots located in the center of blocks must be wider than deep to obtain comparable advantages. Lots which are deep and narrow are not nearly as good from this point of view and usually produce several units along side yards where there is hardly any activity and where there is nothing interesting to look at.

3.2 Need for privacy

Certain occupants complained of the fact that the windows in their units were located directly across from the units in the building opposite theirs. This situation usually occurs when a unit looks over a back yard or an inner court. In one of the houses which we visited (illustration 31) certain units faced each other around an inner court but were only separated by 3.5 meters. This distance appeared to us as being too close and produced a closed-in feeling.

Windows in units facing each other should not be directly across from each other. In addition, we believe that more in-depth research should be conducted as to the off-setting of facades before being able to make valuable recommendations. It would, however, seem to us that a distance of 3.5 meters is clearly insufficient.

Illustration 30: Siting plan for Maison Chambrenfleur, Montréal. Scale 1:1000.

Usually, corner lots make it possible to orient the greatest number of units towards the street.

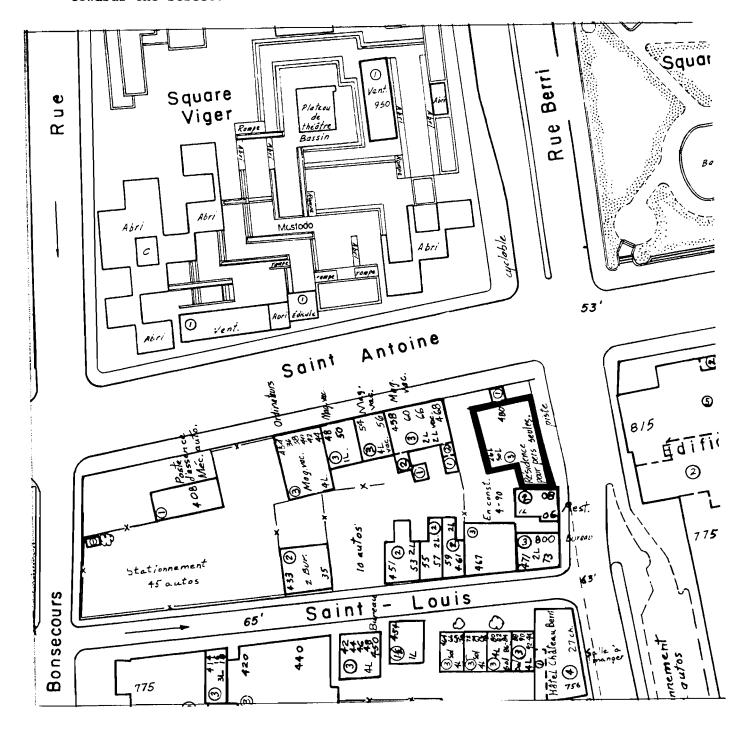
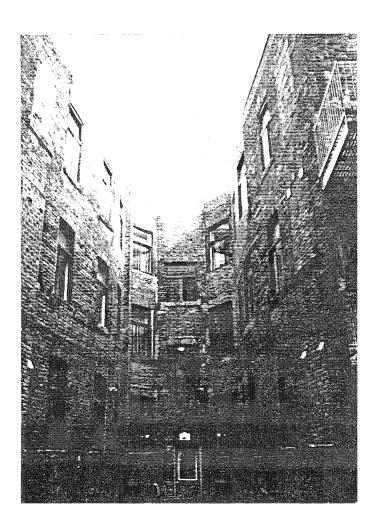


Illustration 31. View on the inner court of the house located at 2060 Clark Street, Montréal.



In this house there are only 3.5 meters separating a certain number of units facing each other. This distance is too small and produces a closed-in feeling.

3.3 Need for tranquility

Certain residents have shown a preference for units around interior courts. This preference was voiced at the Alexandre-de-Sève "rooming house" which is located on Boulevard Maisonneuve across from a multi-storey office building. We believe that this preference is based in part on the fact that Maisonneuve Boulevard is very noisy, traffic congested and polluted and, in addition, on the fact that the office building facing the "rooming house" is visually unattractive and shades the "rooming house" from the sun.

It would thus be advantageous, in hostile environments, to search out a lot which would allow for an inner court around which it is possible to group a large number of units (illustration 32).

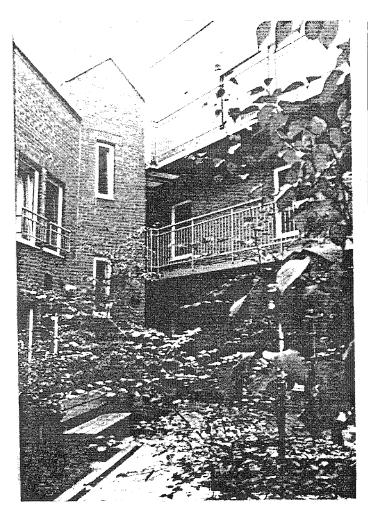
3.4 Need for Stimulation

When they are in less hostile environments, moreover, a number of singles prefer units which open onto the street rather than opening onto quiet interior courtyards since they feel the need to be stimulated by the activity on the street (Illustration 33).

4. LAYOUT AND CONTENTS OF THE HOUSE

The physical layout of "rooming house"s for low-income singles, must meet needs which are not that different from those which people in any financial category might have. Among these needs, those which were most evident to us are privacy, the need to identify with one's unit and independence. In addition, we have learned that the importance of these needs may vary based on the degree of independence of the clients involved.

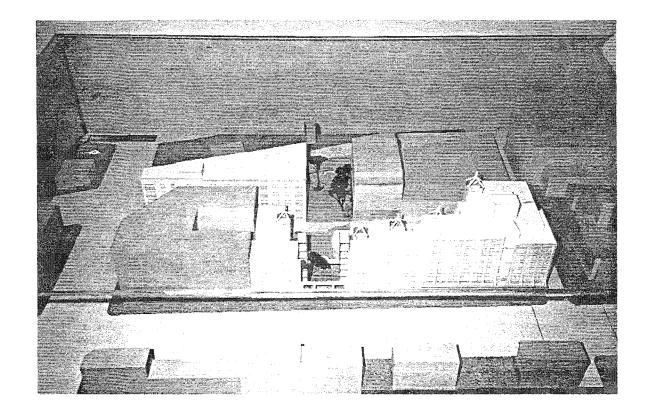
Illustration 32. Inner court at the Maison Alexandre-de-Sève, Montréal (photo to the left) and typical backyard in the district (photo to the right).





The typical backyard in the district is reinterpreted and contributes to creating an oasis of calm in a very noisy district of the city.

Illustration 33: Photograph of the Four Sisters House Model, Vancouver



In this integrated project, made up of three buildings containing both housing for families with children as well as housing for singles, the units designed for family use have been grouped around the interior courtyard for security reasons and those for singles provide a view on the street for animation reasons.

We were also able to observe that the houses that we visited could be differentiated by the manner in which the units were grouped together as well as by the relationship between the facilities contained in the unit and the shared equipment.

4.1 Grouping of units

This involves the way in which the units are laid out in the houses. Our study made it possible to identify four types of houses under this parameter:

- "rooming house"s where the rooms were laid out in unlimited numbers along corridors with common kitchen and/or sanitary spaces (example: establishment no. 6 in Appendix 1);
- 2. "rooming house"s with the rooms being grouped in the sub-units of three to six by block or floor (example: establishment no. 4 in Appendix 1) around common kitchen and/or sanitary spaces;
- 3. houses made up of shared units laid out along internal streets (example: establishment no. 15 in Appendix 1), corridors (example: establishment no. 11 in Appendix 7) or landings (example: establishment no. 12 in Appendix 1);
- 4. houses made up of bachelor or one-bedroom units laid out along corridors (example: establishment no. 3 in Appendix 1).

Each of these houses, as can be observed in the following paragraphs, met, to various extents, the needs which we will discuss below.

4.1.1 Need for privacy and to identity with one's unit

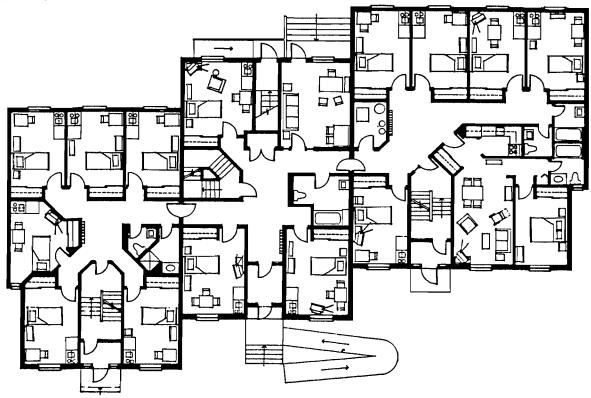
Low-income singles want private units. This elementary need for privacy, in our opinion, is impossible to meet where these people must share the kitchen and especially the bathroom, with an undetermined number of other people. Where "rooming house" units are grouped in clusters or by storey, it is difficult to accommodate the need for privacy, but it becomes easier, on a scale of three to six units, to personalize units and to create an atmosphere which will help to make the residents feel at home. Clusters of rooms do, in fact, produce an effect which is less institutional than that produced by the rooms laid out on both sides of the corridors (illustrations 34 and 35).

4.1.2 Need for independence

As for the need for independence, we thought that it could not be met elsewhere than in houses made up of bachelor units. On the other hand, we learned that in the low-income singles group there were individuals who were not completely independent and for whom bachelor units were not necessarily the best solution. It was in fact reported to us that certain tenants were so disorganized (illustration 36) that they could not manage bachelor units with a bathroom and kitchenette on their own. For these people, shared units may prove to be an interesting solution because of the presence of co-tenants with whom, if they get along well¹, they may socialize. And, according to Jean Lombardi (Maison St-Dominique), the fact of learning how to socialize and to share certain things is gratifying, makes the people more responsible and contributes to developing in them greater independence.

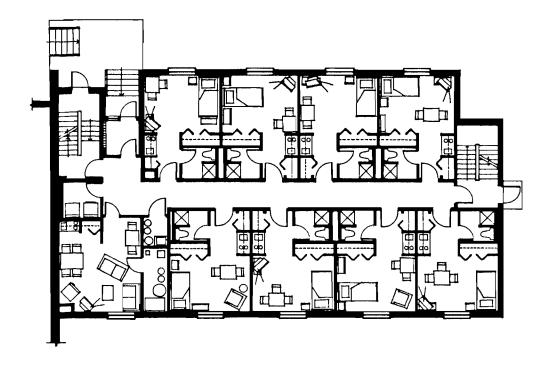
It is never easy to choose people who will live together in a friendly manner; however, once the choice is made, it may be difficult to change things, even if there is friction. Co-habitation presupposes compatibility and affinities between co-tenants which becomes all the more difficult to realize once the number of co-tenants increases.

Illustration 34. Ground floor plan of the house located at 506 Bronson, Ottawa. Scale 1:200.



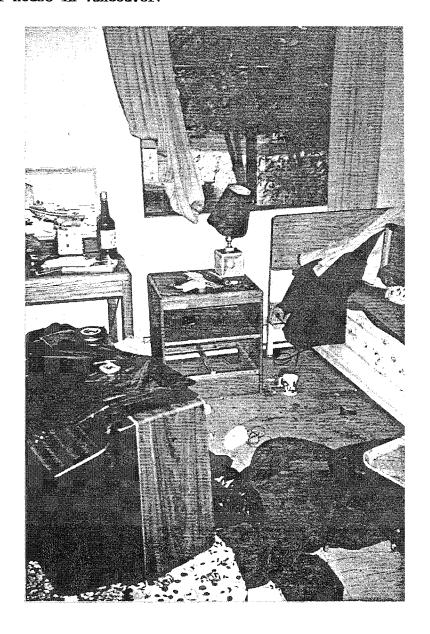
Where ""rooming house"" units are grouped in clusters, it becomes easier to personalize the unit and to create an atmosphere which makes the tenants feel more at home. In fact, clusters of rooms create a more residential impression than rooms spread out on each side of long corridors.

Illustration 35. Ground floor plan of the Maison Logan, Montréal. Scale 1:200.



Where ""rooming house"" units are laid out along long corridors, the atmosphere is less private and more institutional.

Illustration 36: Photograph taken in one of the units in the Veterans' Memorial Manor House in Vancouver.



Certain tenants are so disorganized that they are just not able to look after a bachelor apartment with one toilet and a small kitchen all by themselves.

It is also important to point out that we have met independent people who preferred shared units because they appreciated the company which this form of housing provided to them.

4.2 Relation between the facilities contained in the unit and the shared facilities

Our study made it possible for us to identify thirteen different formulae as pertains to the relation between personal and community facilities. Table 4, which stretches out over several pages, compares the different formulae, beginning with that which provides residents with the greatest degree of independence and ending with that which provides the least.

It can be observed, on reading this table, as it was possible to observe in the preceding section dealing with the grouping of units, that most of the formulae have their advantages and disadvantages, that the need for space may vary not only based on a degree of independence but also based on sex and that, all things considered, there is no ideal model or unit formula for everyone. Consequently, it appears important to us to be able to find a variety of housing choices within the same city.

N.B.: These formulae are not all represented in the 25 houses which we visited and this is due to the fact that certain formulae were identified during the documentary research rather than during the actual case studies.

Table 4. Personal facilities versus shared facilities. Comparison of the various formulae used to distribute furniture, sanitary fixtures and facilities used preparing meals.

FORMULA A

Contents of the Unit

Shared Facilities

Basic Furniture Compact Kitchen

Complete Bathroom

None

This formula is that providing the greatest amount of independence to the resident. All the facilities present in a conventional unit are present. The only activities which must take place out of the unit are social activities involving more than three people. Based on the literature which we have read and on the comments of those we have interviewed, most people are looking for this type of unit (see residences no. 1, 3, 7, 11, 14, 17, 20, 21, 24 and 25 in Appendix 1).

FORMULA B

Contents of the Unit

Shared Facilities

Basic Furniture
Refrigerator
Complete Bathroom

Community kitchen without refrigerator

This formula features private sanitary fixtures and provides a community kitchen outside of the unit. The in-unit refrigerator eliminates concerns about theft of food by co-tenants and makes it possible for the occupant to have a few light meals without having to leave the unit. It is interesting to note that a study conducted in Toronto (City of Toronto Housing Subcommittee, 1984) showed that women were more likely to accept to share kitchen facilities than sanitary fixtures. Thus women preferred formula B to formula I.

FORMULA C

Contents of the Unit

Shared Facilities

Basic Furniture
Complete Bathroom

Complete community kitchen

This formula did not make it possible for the residents to prepare meals inside their units. On the other hand, they do have access to a complete personal bathroom. This model corresponds more or less to a hotel room. The degree of independence of the residents is thus substantially reduced and quarrels are frequent, in the community kitchens, between residents of different cultures.

FORMULA D

Contents of the Unit

Shared Facilities

Basic Furniture
Room Containing:

toilet

- wash basin

Complete community kitchen
Room containing a bathtub
Room containing a shower

This formula offers still less independence to the residents than the preceding one. The fact of taking the bathtub and the shower out of the individual unit breaks up the personal hygiene function. This model corresponds to what one would find in hospitals and, in our opinion, would only be acceptable for a very short length of time. Sharing a bathtub with strangers presupposes a willingness to compromise which is well above average. In these situations, the shower is more often used than the bathtub probably because there is less body intimacy involved. However, we should point out that the bathtub is indispensable, in certain cases, for therapeutic reasons.

FORMULA E

Contents of the Unit

Shared Facilities

Basic Furniture

Room containing a bathtub

Compact Kitchen

Room Containing:

- toilet
- shower

Following formula A, formula E is the second most popular. The only shared facility is the bathtub which most of the residents can do without since each of the latter has a shower in his/her unit. The main concession is that of having to use the kitchen sink for those personal hygiene activities which normally occur around the wash basin in the bathroom. Compatibility of personal hygiene, maintenance and meal preparation activities is evidently not ideal. In addition, the logic for the shower being located inside the unit is incontestable although the type of bathroom which it produces is different from any known residential model (see residences no. 1 and 2 in Appendix 1).

FORMULA F

Contents of the Unit

Shared Facilities

Basic Furniture

Room containing a bathtub

Compact Kitchen

Room containing a shower

Room Containing:

- toilet
- wash basin

In this formula, the shower once again becomes a shared facility and the wash basin goes in the unit. The degree of independence is greater than formula D since meals can be prepared within the unit. But as pertains to personal hygiene activities and personal care, the remarks made concerning formula D apply here (see residences number 18 and 25 in Appendix 1).

FORMULA G

Contents of the Unit

Shared Facilities

Basic Furniture

Room containing a bathtub Room containing a shower

Compact Kitchen Room Containing Toilet

This formula is equivalent to the preceding less the wash basin. As in formula E, the kitchen sink must be used for personal hygiene activities.

FORMULA H

Contents of the Unit

Shared Facilities

Basic Furniture Refrigerator

Community kitchen without

refrigerator

Room Containing:

Room containing a bathtub

- toilet

Room containing a shower

- wash basin

The life style offered by this formula is very similar to that offered by formula B. This formula produces an ambiguous life style since only one portion of the activities related to the preparation of meals and to personal hygiene occurs in the unit.

FORMULA	Ι
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Contents of the Unit	Shared Facilities	
Basic Furniture	Room containing toilet and	
Compact Kitchen	wash basin	
	Room containing a bathtub	
	Room containing a shower	

This model is unequivocal. Meals are eaten inside the unit whereas the personal hygiene activities occur outside the unit. It is also interesting to notice that, according to the results of the study mentioned previously (City of Toronto Housing Subcommittee, 1984), men apparently find it easier to accept to share sanitary facilities than kitchen facilities. Thus men would prefer formula I to formula B (see residences no. 5,6,8,9,10 and 13 in Appendix 1).

RM		

Contents of the Unit	Shared Facilities
Basic Furniture	Community kitchen without
Refrigerator	refrigerator
Wash basin	Room containing a toilet and
	wash basin
	Room containing a bathtub
	Room containing a shower

The last four formulae are closer to traditional "rooming house"s or student boarding houses considering the large number of facilities which are shared. The refrigerator and wash basin contained in the unit makes it possible nevertheless for the residents to prepare light meals without having to leave their units. The wash basin also makes it possible to execute certain activities related to personal appearance and hygiene (see residences nos. 4 and 23 in Appendix 1).

FORMULA K

Contents of the Unit	Shared Facilities
Basic Furniture	Complete community kitchen
Refrigerator	Room containing a toilet and
	wash basin
	Room containing a bathtub

Room containing a shower

This formula is equivalent to the preceding except for absence of the wash
basin in the unit. This of course accentuates the sharing of community

basin in the unit. This of course accentuates the sharing of community facilities (see residences no. 15 and 16 in Appendix 1).

FORMULA L

Basic Furniture	Complete community kitchen	
Wash basin	Room containing a toilet and	
	wash basin	
	Room containing a bathtub	
	Room containing a shower	

In this case the wash basin replaces the refrigerator in the unit. Without verifying it, we believe that most residents would prefer the wash basin to the refrigerator if they had a choice (see residence no 7 in Appendix 1).

FORMULA M

Contents of the Unit	Shared Facilities
Basic Furniture	Complete community kitchen
	Room containing a toilet and
	wash basin
	Room containing a bathtub
	Room containing a shower

According to this formula, everything is shared accept the basic furniture (see residences no. 11 and 12 in Appendix 1).

5. ARCHITECTURAL VOCABULARY OF THE HOUSE

The residents need to feel that they are living in a normal environment, or at least in an environment which is as close as possible to the environment in which most people live. The exterior and interior architectural vocabulary of the houses should thus project a residential rather than an institutional image. The main exterior and interior elements which contribute to creating a residential image are the following:

5.1 Exterior characteristics

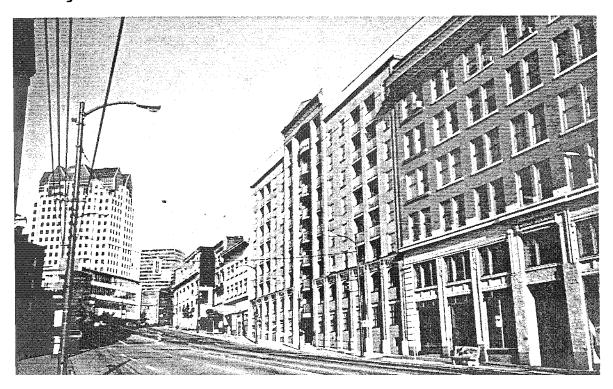
- 1. The property is in a residential district;
- 2. The size of the building is similar to that of neighboring buildings (illustrations 37 and 38);
- 3. The building is comparable to neighboring buildings as pertains to:
 - . the setbacks;
 - . the distance separating it from the back of the lot;
 - . the distance separating it from the neighboring properties.
- 4. The building is similar to the neighboring buildings in the following respects:
 - . height;
 - . window modulation and proportions;
 - . location and style of access;
 - . horizontal and vertical rhythms;
 - . materials and colors;
 - . elements contributing to order;
 - . elements contributing to complexity;
 - . elements contributing to diversity.

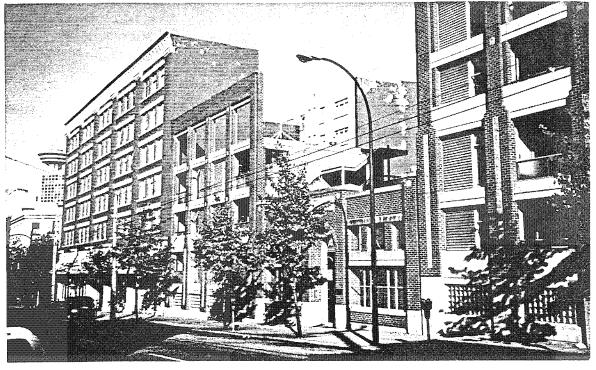
Illustration 37. Photograph of the Operation Friendship House, Edmonton. (Photo: Barry Johns Architect Ltd.)



This new building is similar in size to the neighboring buildings.

Illustration 38: Photographs of the Pendera and the Four Sisters Houses, Vancouver. Although on a much larger scale than the preceding building, these two houses also blend in well with the size of the neighbouring buildings.





- . elements contributing to diversity;
- . size of the building in relation to the lot;
- . design of cornices;
- . articulation of the roof;
- . characteristics of the decorative elements.
- 5. The overall impression is that of a juxtaposition of several houses.

This approach is based on the concept of urban integration and attempts to avoid interventions of an ad-hoc or "sore-thumb" nature which do not blend in well with the architectural style of the existing buildings in the neighborhood and which contribute to the demantling of the city.

It goes without saying that this integration will be facilitated if the size of the new building is comparable to that of the neighboring buildings. It often happens, however, that the dimensions the buildings intended for low-income singles are larger than those of the surrounding housing. It is thus possible to reduce the scale of the building by sectioning it, or even by designing it as if it were a group of houses (illustration 39).

Illustration 39: Photograph of the Operation Friendship House, Edmonton. (Photograph: Barry Johns Architect Ltd.)



It is possible to reduce the scale of the building by sectioning it, or even by designing it as if it were a group of houses.

5.2 Interior characteristics

- 1. The units are grouped together in small numbers and form clusters;
- 2. The number of units per floor is limited (5 to 8);
- 3. There are no long corridors;
- 4. The corridors are not rectilinear;
- 5. The width of the corridors varies and little alcoves are interspersed along the corridors through which one has access to the units;
- 6. The corridors and the stairways have windows;
- 7. A certain number of stairways are open;
- 8. The materials used in the traffic areas are warm and inviting and the design details have a residential as opposed to an institutional character (illustrations 40 and 41);
- 9. The units are separated from the community living area by a buffer zone so that the residents can feel at home.

Illustration 40: Photograph of the Operation Friendship House, Edmonton. Inside the cafeteria, the presence of a fireplace and an embossed metal ceiling contribute to giving this house a residential character.

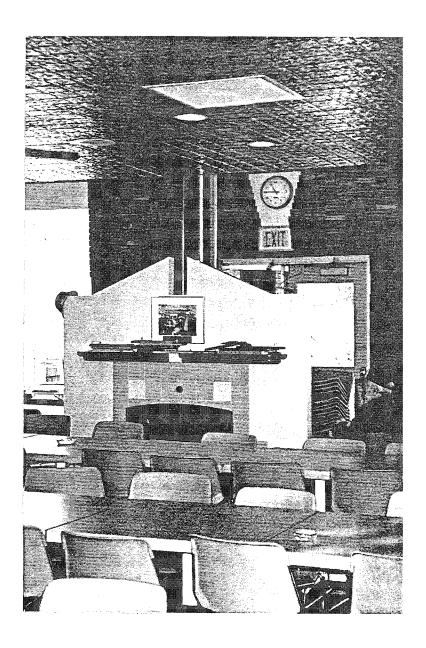
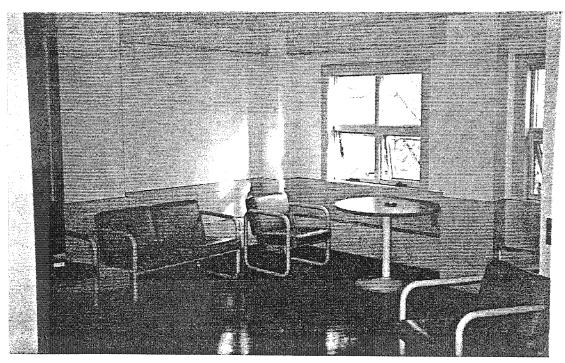


Illustration 41: Photograph of the Operation Friendship House in Edmonton. Inside this house, the materials used are inviting and the design details have a residential character: wood finish on the walls, window panes in the windows and sliding doors.





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CHAPTER 2 CONSIDERATIONS CONCERNING COMMUNITY SPACES

1. ENTRANCE WAY TO THE HOUSE

It would be appropriate to read the definitions which we provide for entrance way, vestibule, entrance hall and porch, at the front of the Guide before reading this section.

1.1 Functions of the entrance way

The main activities which occur usually on the porch, in the vestibule and the entrance hallway are (illustration 42):

- . the arrival and the departure of the residents;
- . greeting of clients;
- . greeting visitors;
- . picking up the mail;
- . waiting;
- . lounging about;
- . chatting.

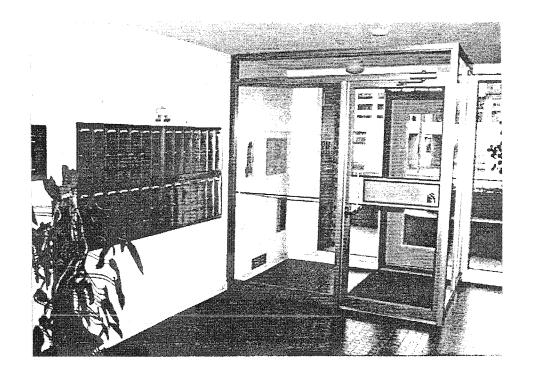
1.2 Furniture and accessories

For the above-mentioned activities which usually occur at the entrance way, the occupants must have some pieces of furniture and accessories:

1.2.1 Door bell and intercom system

After entering the vestibule through the exterior door which should not be locked, the visitors should find a wall panel with a list of the names of the residents as well as the apartment numbers. For each unit, there should be a door bell and an intercom system making it possible for the visitor to let the resident know that he/she is there and for the resident to reply. The interior door of the vestibule should be locked but it should not be possible to unlock the door from the units in order to avoid intrusion by undesirable people in the building without the residents' knowledge.

Illustration 42. Entrance way to the Chambrenfleur House, Montréal.



This photograph clearly shows the spaces and the accessories necessary to facilitate the activities which occur at the entrance way: porch, vestibule including the intercom system and the entrance hallway with the letter boxes. Inside the entrance hallway and on the porch there are benches (not visible in the photograph) where the residents can sit down while waiting to go out or just to lounge about. One reservation: large glass surfaces in the entrance way project a cold image.

1.2.2 Letter boxes

Inside the vestibule or entrance hallway, each of the residents should have a locked letter box. Individual letter boxes contribute to reinforcing the resident's identity. Unfortunately, these letter boxes were absent in the private "rooming house"s which we visited since they were not allowed according to Canada Post regulations. We should mention lastly that these letter boxes, where they are permitted, should be set up so that the residents can have access to without disrupting the traffic in the vestibule or entrance hallway.

1.2.3 Benches

There should be an area inside the hallway, as well as on the porch, where the residents can sit down while they are waiting to leave or simply to lounge about or talk.

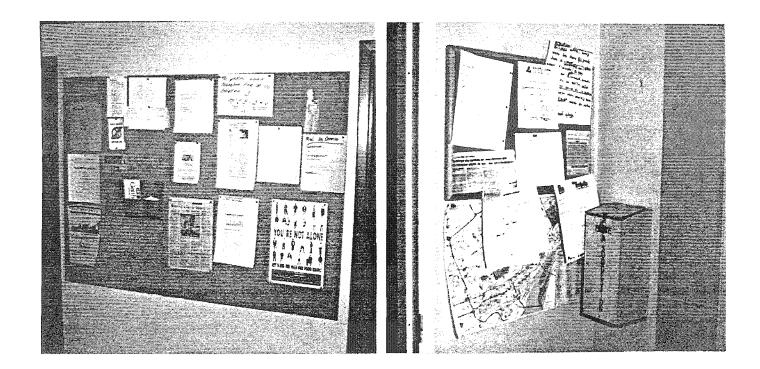
1.2.4 Notice board

The presence of a notice board (illustration 43) in the entrance hallway is important to allow the managers of the houses to inform the residents about everything that is happening in the building and the community. The notice board also makes it possible for the residents themselves to leave messages.

1.2.5 Suggestion box

The suggestion box (illustration 43) makes it possible for the managers to better identify the residents' needs and to provide the latter with the possibility of being able to voice their complaints anonymously.

Illustration 43. Photographs showing two typical notice boards as well as a suggestion box.



The presence of a notice board is important to allow the managers of the buildings to inform the residents of what is happening in the building and in the community; the suggestion box makes it possible for the managers to better identify the residents' needs and provide the latter with the possibility of voicing their complaints anonymously.

1.2.6 Public telephone

The entrance way is a good location for the public telephone (illustration 44) which is appreciated by many residents who do not have the means to pay for the service themselves. Unfortunately, it is difficult to obtain this service in small "rooming house"s due to the low number of calls.

1.3 Dimensions of the entrance way

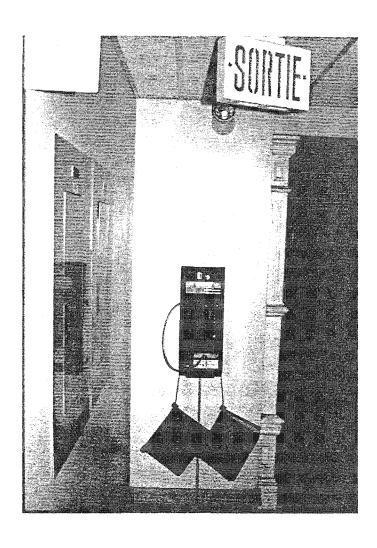
The size of the entrance way should be proportional to that of the house (illustration 30) and allow access to the building, space for arrivals and departures, for passers-by and for moving large pieces of furniture (beds, sofas, etc.). In all cases, generous clearances should be allowed to make it possible for seniors, for the users of wheel chairs and for disabled people to move around. The clearances in the vestibules should be at least 1550 mm whereas the area of the vestibule should vary based on the size of the house. In this regard, for the vestibule, we recommend an area from 2.25 m² to 7.25 m² for houses containing 12 to 60 people.

1.4 Configuration of the entrance way

The entrance way should be designed to satisfy the requirements dictated by:

- . climate;
- . security;
- . privacy and tranquillity;
- . greeting visitors and community life in general.

Illustration 44. The entrance way is a good location for the public telephone.



1.4.1 Climate

The exterior areas immediately adjacent to the exterior door should be designed to protect the entrance way against inclement weather (illustration 45). Protection can be provided by making provision for a canopy above the porch or by having the door recessed in the wall. If the protected area is sufficiently large, it will provide a protected space for visitors to wait at the door or for residents to set their parcels down to open the door.

Lastly, the floor in the vestibule should be resistant to water, snow and to de-icing salt, it should be durable and should be easy to clean.

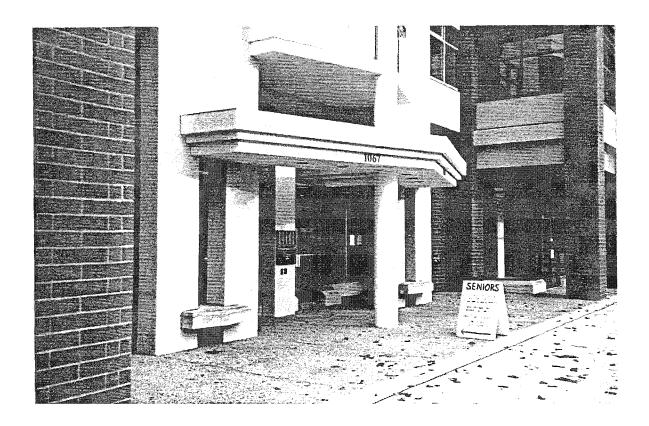
1.4.2 Security

The layout and design of the entrance way should make it possible for the residents or the janitor, if there is one, to be able to see the visitors before opening the door (illustration 46). The following installations make it possible for the occupants to better visualize visitors:

- . glazed vestibule;
- . view of vestibule from the guard's office or from the janitor's unit;
- . interior and exterior lighting;
- . orientation of the porch, vestibule and entrance way towards the street.

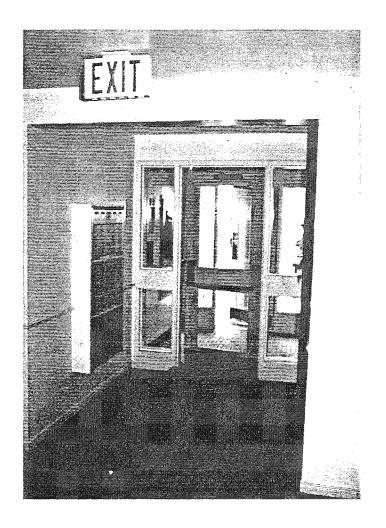
Given these provisions to ensure security, particular effort must be invested so that the entrance way to the house does not take on an institutional character.

Illustration 45. Photograph of the entrance way to the New Continental House in Vancouver.



The exterior spaces immediately adjacent to the exterior door on this house were designed to protect the entrance way from inclement weather and benches have been provided for to make waiting easier.

Illustration 46. Photograph of the entrance way of the house located at 506 Bronson Street, Ottawa.



The layout and the design of the entrance way makes it possible for the residents to see the visitors before they open the door. Another feature to be noted: the quality of the lighting, the use of wood, the use of color and of a carpet together mean that the entrance way is much more "cozier" than that in illustration 42.

1.4.3 Privacy and tranquillity

The area adjacent to the entrance way on the inside of the building must be designed so that the residents who live close to the entrance way are not inconvenienced by noise or by the prying eyes of people walking by. Thus the elevator shaft or the stairwell should be placed near the entrance way so that the residents are not forced to pass by several units in order to get to their own units. Provision should also be made for certain community spaces around the entrance way to form a buffer zone between the public areas and the units.

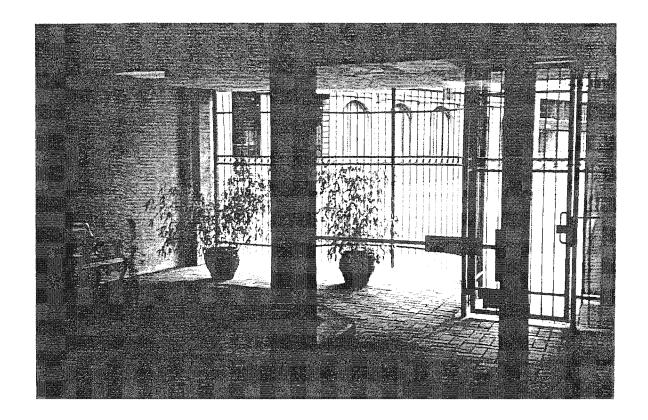
1.4.4 Greeting visitors and community life

The entrance way should be welcoming and inviting since this is the area which forms, in the residents' minds, the first impression of the whole residence; it is thus important that this image be very positive. The entrance way should thus be inviting and welcoming since a large number of residents spend time there meeting other people and some, just to have something to do. In order to create the desired atmosphere, we recommend that provision be made for large private spaces, for the use of warm textured materials and for soft lighting and a little vegetation (illustration 47).

1.5 Positioning of the entrance way

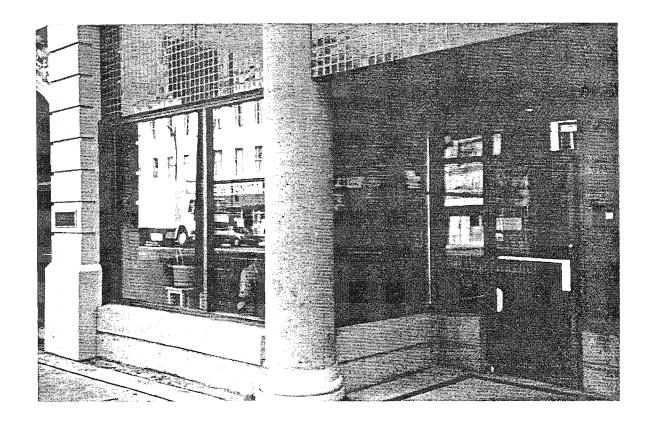
The positioning of the entrance way must meet the requirements for community life and privacy. A certain number of residents will tend to come down to the entrance way to talk or just to have somewhere to go. A few residents, on the other hand, explained to us that they were inconvenienced by people who always congregated around the entrance way because this prevented them from having access to, or leaving their unit in privacy (illustration 48).

Illustration 47: Photograph of the entrance way to the Pendera House in Vancouver.



In regions in the country where the climate is more clement, less need for weatherproofing does remove the need for "sturdy" components but security still remains important. In this case, security is provided by an elegant grille.

Illustration 48: Photograph of the Tellier Tower House in Vancouver.



In this house, the problem caused by people who were always congregating around the entrance way was solved by setting up, near the entrance way, a small library where the residents could spend their idle time while not missing any of the activity on the sidewalk (picture window), and all this without impeding access to the building.

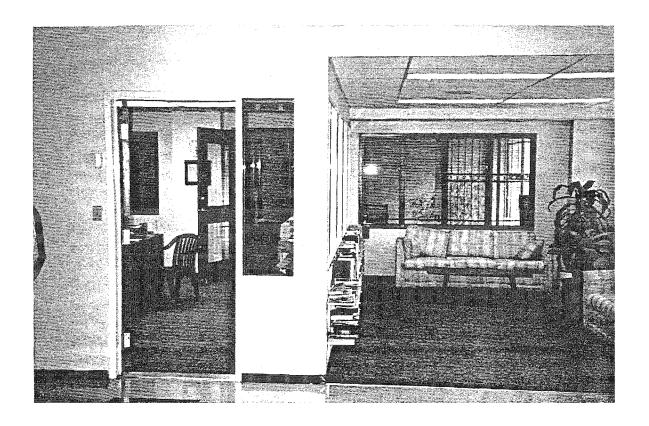
In order to ensure tranquillity for the units throughout the building and to provide a little life at the entrance way, it would seem desirable to us to make provision for community spaces (living room, kitchen, laundry room, janitor's office, etc.) near the entrance way. Thus these community spaces could be used as buffer zones between the entrance way and the units and ensure a progressive transition from the public to the private areas.

On the other hand, means will have to be taken to minimize the inconvenience which could be created by the proximity of the community spaces to the entrance way. Thus it would appear important to us to design the entrance way so that it does not open directly onto a living area and so as not to give the impression that the janitor is constantly monitoring the comings and goings of the residents. For example, links could be created between the entrance way and the community spaces by leaving enough opening so that the residents, going in and out, can realize that an activity is taking place without feeling obliged to participate therein or to stop and say hello to their neighbours (illustration 49).

2. REQUIREMENTS WHICH TRAFFIC SPACES SHOULD COMPLY WITH

We asked those people whom we met during our visits what, according to them, were the requirements which the traffic spaces should comply with as well as the architectural characteristics which the spaces should have. In the following paragraphs, the reader will notice that these requirements are multiple but that the architectural characteristics which would contribute to meeting these requirements coincide.

Illustration 49: Photograph of the entrance area to the Pendera House in Vancouver.



In this photo, taken of the vestibule and of the janitor's office from the community lounge, it can be observed that the architects have provided for sufficient space to allow the residents, either leaving or entering the building, to feel that an activity can be going on there without them feeling obliged to participate therein or to stop to say hello to their neighbours. In addition, the location of the janitor's office can give the impression that there is constant surveillance being exercised over the residents' comings and goings.

2.1 To be pleasant and stimulating

Low-income singles, as is the case with all other people in society, need to have access to their unit through spaces which are pleasant and stimulating. The means which are proposed in the following recommendations should contribute to making the passage from the sidewalk to the unit seem as short and as pleasant (illustration 50) as possible.

Recommendations

- The distance to be covered between sidewalk and the unit should be as short as possible.
- 2. The corridors should be articulated rather than rectilinear.
- The width and height of the corridors should vary as well as the intensity of the lighting.
- 4. The horizontal and vertical spaces designed for traffic should be generous and windows should be provided for lighting.
- 5. The entrance ways to the units should be individualized or at least allow for a certain degree of personalization by the residents.
- 6. Corridors with the units on one side facing a blind wall on the other side should be avoided.
- 7. As for the entrance way, textured warm materials should be used rather than hard, smooth materials (N.B.: this recommendation is made with reservations considering problems associated with maintenance which are described in section 2.7 below).
- 8. In regions of the country where the climatic conditions are clement the use of exterior corridors should be considered (illustration 51).

Illustration 50. Typically monotonous corridors in four of the houses visited. From left to right and from top to bottom: Chambredor, Chambrenfleur, Logan and 2060 Clark Street, Montréal.

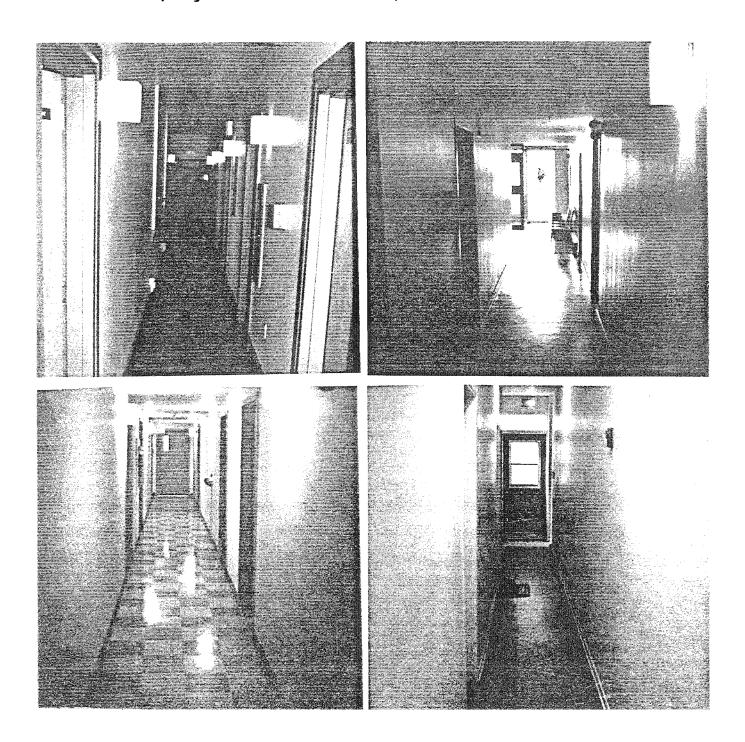
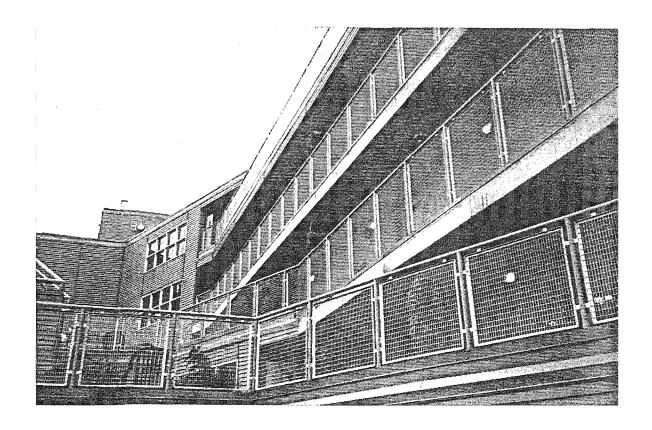


Illustration 51: Photograph of the exterior corridors in the Four Sisters House in Vancouver.



In this house, both interior and exterior corridors are found. This diversity of means of access contributes, moreover, to making the corridors pleasant and stimulating.

We often observed that former single family houses converted into "rooming house"s are successes as pertains to the quality of the ambiance in the units since they had several of the characteristics which we have just listed (illustration 52).

It also seems important to us to point out that these characteristics correspond to those which we described in the preceding chapter (section 5) as being essential to the creation of "normal" environments.

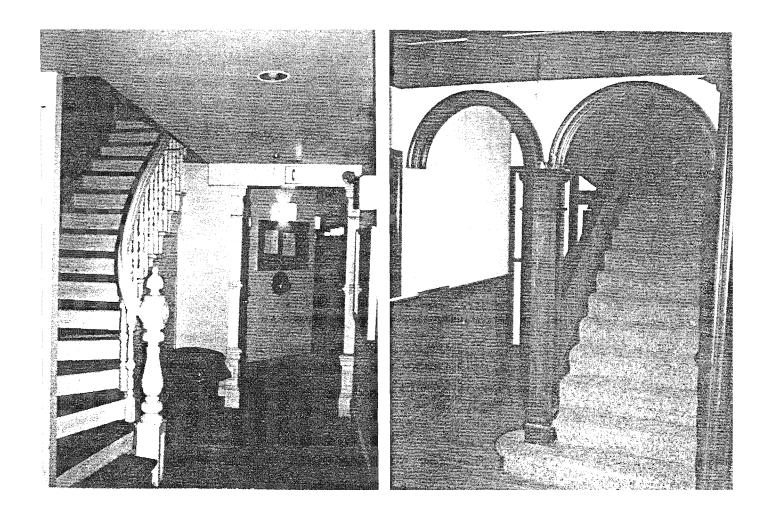
2.2 Facilitate movement

We have observed in the houses which we visited, particularly those where the bathrooms were shared, that there was much traffic in the corridors. The extent of the traffic also depends on the fact that within many "rooming house"s the residents visit back and forth.

Recommendations

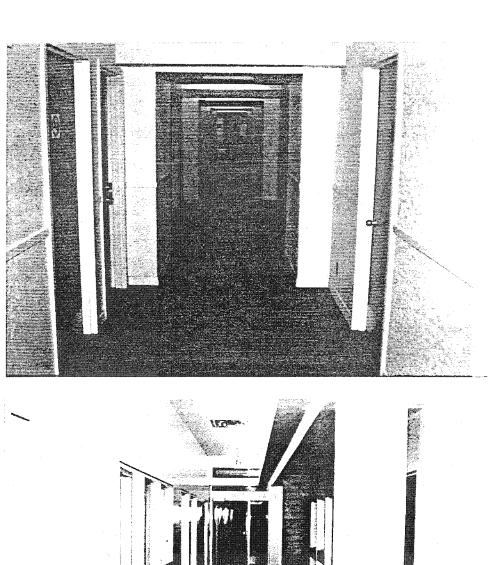
- 1. The corridors should be as wide as possible (illustration 53). The ideal ratio between the width and the length of the corridor should be 1:5 and should never be less than 1:10.
- An attempt should be made to minimize total area of the house reserved for traffic.

Illustration 52. Traffic spaces: Maison Chambredor, Montréal (left) and the house located at 140 Spadina in Toronto (right).



This house was not part of the 25 residences of which we conducted a detailed assessment.

Illustration 53. Photos of corridors on the ground floor of a typical floor in the Options Bytown House, Ottawa: the corridors should be as wide as possible.



2.3 Facilitate spatial orientation

The residents and visitors have to be able to easily get their bearings inside the house for practical and security reasons.

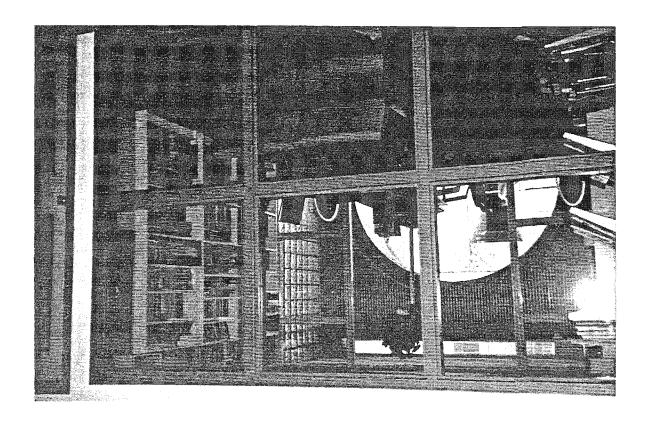
Recommendations

- 1. The traffic space plan should be simple and easy to memorize.
- 2. Ideally this plan should be a logical extension of the urban plan.
- 3. Windows or recesses (with and without windows) (illustration 54) should be located in strategic areas along the corridors (near stairways, elevator shaft, or intersections) to make it possible for the residents to know were they are in relation to the exterior environment.
- 4. Attempts should also be made to promote the personalization, by the residents, of the exterior space immediately adjacent to the entrance to their units thus creating various reference points along the corridors (illustration 55).

2.4 Allow residents to enter and leave their units in total privacy

We have already mentioned that there was much activity in the corridors. This observation raises questions of acoustic and visual privacy. On several occasions, in fact, residents mentioned to us they were bothered by the sound made by people walking, as well as doors which were slammed; others mentioned that they were bothered in their units by the prying eyes of neighbors.

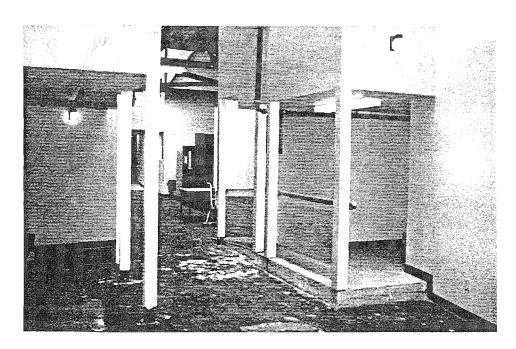
Illustration 54: Photograph of a common space located along one of the internal corridors in the Four Seasons House in Vancouver.

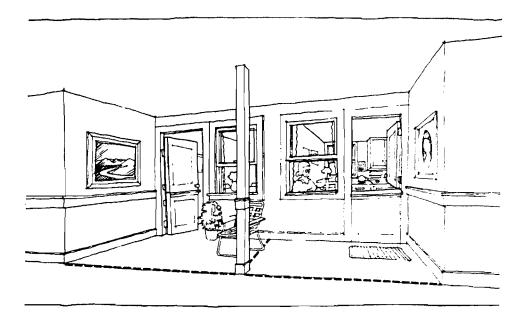


This common space converted into a library makes it possible for the residents to keep tabs on what is happening outside since it is visually accessible from the corridor.

Illustration 55. Photo of access to unit in City Street House (Toronto) and a sketch by Zeisel¹ (1981).

Having a porch at the entrance way to a unit promotes personalization as well as spatial orientation.





¹ Subject to authorization to use this sketch.

Recommendations

- The noise produced by doors should be reduced substantially by installing resilient materials on the door frames.
- 2. The noise produced by walking should be alleviated through the creation of floating slabs or through the use of resilient flooring.
- 3. The degree of privacy as pertains to access to units should be increased by not positioning the entrance ways to units directly opposite one another and by recessing the entrance ways to the units in relation to the corridor.

2.5 Ability to evacuate the house in complete security considering risks of fire

We already mentioned that a portion of the client group in the houses intended for low-income singles was negligent. This has the effect of increasing the risk of fire. The need to be able to evacuate houses in total security is thus particularly critical in these buildings.

Recommendation

To the construction bylaws describing minimal requirements as pertains to the number, layout, length and width of the means of egress, should be added the recommendations which we formulated above concerning spatial orientation.

2.6 Ability to evacuate or to enter the house in complete security considering risks of aggression

Considering the characteristics of the people living in, and often around, the houses intended for low-income people (see Article 4 in the Introduction), it would be advisable to provide for certain preventive measures as pertains to the design of the traffic spaces to alleviate risks

of aggression. In fact, it is possible, from an architectural point of view, to give these spaces certain characteristics which are disincentives as far as crime is concerned. A certain number of these characteristics which have been described in detail by Newman (1972) are found in a certain number of houses which we have visited (illustration 56).

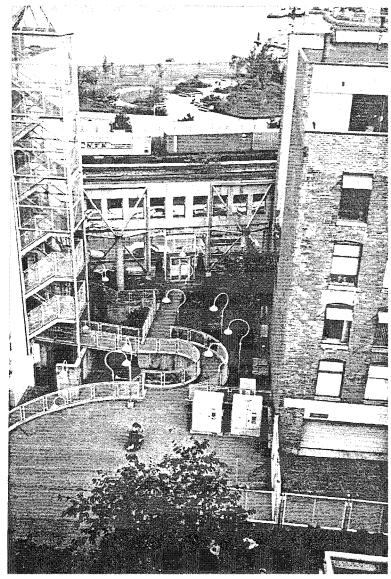
2.7 Promote social life

The fact of moving from one location to another can represent a social activity when one is walking in the street. While walking, we say hello to friends and acquaintances, we talk with these people, or we join up as part of a group. If the physical layout is well designed, the same thing can occur in a house. The corridors become village streets and the intersections of the corridors become street corners. Many old "rooming house"s are successful in this respect since they have the characteristics which we recommend below.

Recommendations

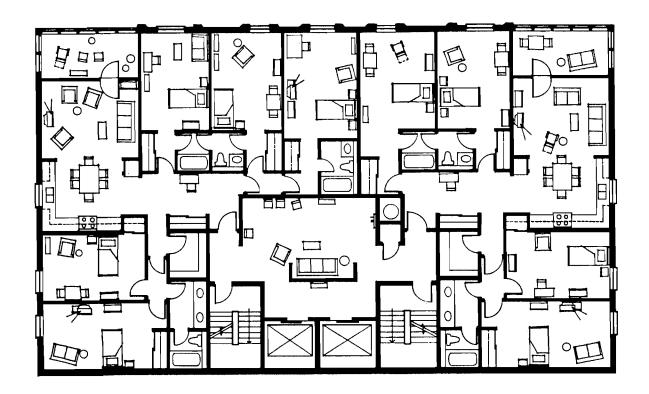
- 1. The landings, the corridors and stairs are vast.
- Ample clearances provided in front of elevator shafts and at intersections (illustration 57).
- 3. Windows and sometimes alcoves/recesses are found along the corridors which is an invitation to stop and rest (illustration 58). These alcoves are placed at strategic areas, however, so that the sound of conversation does not bother people who are in their units.

Illustration 56: Photographs of the Four Sisters House in Vancouver.



In this house, the stairwells as well as the railing around the roof terraces are transparent in design to facilitate minimal supervision and to discourage crime.

Illustration 57. Plan of the house located at 90 Shuter Street, Toronto.



Provision was made in front of the elevator shaft for a recess and a small lounge was set up there to promote social life. However, this space is rarely used and this is probably due to the fact that it does not have any windows.

Illustration 58: Photograph of a corridor in the Four Sisters House in Vancouver.



In this house, there are windows and occasionally small sitting areas along the corridors which encourage people to stop and rest a while. One thing to be pointed out, however: the conversations of the people in the small sitting rooms could possibly bother residents living in adjacent units.

2.8 Easily maintained

The question of maintenance is not simple to solve since it leads us, first of all, to consider solutions which seem to go against some recommendations which have already been formulated. The desire to create a pleasant and stimulating atmosphere (section 2.1) as well as being able to have access to or, to leave one's unit without making any noise (section 2.4), for example, led us to propose textured and resilient floor covering such as carpets. On the other hand, the fact that a certain portion of the client group has a reputation of being tough and negligent as far as the building is concerned leads us to suggest the adoption of hard and smooth floor finishes. How can we reconcile these contradictory imperatives?

We got the answer to this question from managers of "rooming house"s where carpets were used in Ottawa, in Toronto and in Vancouver. These people were of the opinion that the use of carpets, in addition to making the corridors cozier, and less institutional, is very advantageous from an acoustic point of view (illustration 59). Moreover, they warned us that the choice of carpet was contingent on negotiations between the tenants and the managers. In addition, they reported to us that the residents had to accept and to comply with stricter behavior rules to make the use of this type of flooring possible without maintenance becoming altogether too much. A certain number of these rules, for example, ruled out having pets.

Illustration 59. Photographs of traffic spaces: 506 Bronson, Ottawa (left) and Pender House in Vancouver (right).



Carpets, in addition to making the traffic zones cozier, are quite advantageous from an acoustic point of view.

Thus this experience demonstrates that carpets could be used insofar as the client group is made aware of its responsibility vis-à-vis maintenance. This is certainly not feasible in all cases. Thus in such circumstances, a smooth floor finish could be made more stimulating with the use of motifs (illustration 60).

We attempted to obtain comparative information as pertains to the purchase and maintenance costs of various flooring materials but without any success. This question could be the subject of a special research project.

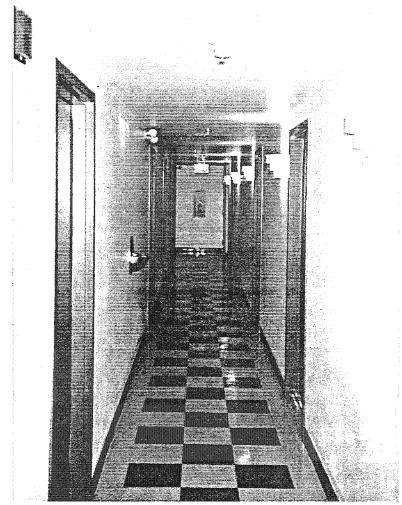
Lastly it appears important to us to report two remarks that were made by a certain number of intervening parties concerning the maintenance of traffic spaces; the first dealt with the importance of using washable high quality paint, and the second with the necessity of having, on each floor of the house, a closet for maintenance material containing water taps and a basin.

3. COMMUNITY LIVING AREA

We did not find community living areas in all the houses designed for low-income singles. In the private "rooming house" which we visited, for example, there was no community living area whereas they were often found in non-profit "rooming house"s.

The points of view of the managers of "rooming house"s and of community workers concerning the importance of living areas vary. In "rooming house"s with animation programs, community living areas were considered as essential tools, whereas in other houses, they were considered as a luxury. Lastly,

Illustration 60: Photograph of a corridor in a house built recently by La FOHM, Montréal.



Where the type of client is very tough and where a smooth floor finish is imperative, choosing flooring with motifs will contribute to relaxing the atmosphere.

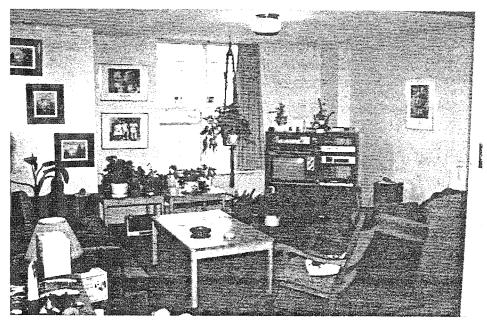
there were houses with opinions between these two extremes, i.e., houses where the role of a living area was not denied but where the residents were encouraged to take responsibility for their own social life and to get out as much as possible. Such was the case, for example, in the Bytown House in Ottawa where the television in the community living area was put away during the mornings and afternoons so as not to encourage the residents to hang around this room during the daytime.

It was also reported to us that living areas were used irregularly. This phenomenon is sometimes attributable to architectural reasons, to lack of animation, to variations in the clientele and sometimes to the number of people sharing the space (illustration 61).

There are also residents who tell us that they would like to see the space allotted for community living areas used instead to increase their own individual spaces; lastly there are managers who seemed rather lukewarm concerning these spaces since according to them, this involves too many management problems.

Illustration 61. The Options Bytown House, Ottawa: living area for a unit shared by two people and the living area in a unit shared by four people.

As illustrated in these photographs, personalization is more common in units shared by two people (upper photo) than in those shared by more people (bottom photograph).





3.1 Functions of community living areas

The activities that can occur in the community living areas are varied. We have been able to observe the following activities:

- . conversations;
- . hanging around;
- . relaxing;
- . listening to music;
- watching TV;
- . reading;
- enjoying a pastime;
- . playing the piano;
- exercising;
- . playing cards;
- playing checkers;
- . playing pool;
- . attending a lecture by a guest speaker;
- . participating in a meeting of the Board of Directors;
- . participating in a assembly of the residents;
- . participating in a party or in a community meal.

Among these activities, you can notice that a certain number involve one person alone, whereas others are for small groups and some involve all the residents.

There are also some activities which occur in private and which must be well contained whereas others are very public and can be organized in very open areas.

The diversity of the residents, of their needs and of the activities which they participate in creates requirements which vary from one house to another.

Lastly, since many of these activities occur at the same time, and a certain number of them are incompatible, the spaces designed to accommodate them must be differentiated in order to avoid conflict.

3.2 Furniture and facilities in the community living area

For the above-mentioned activities, which may take place in the community living area, the residents must have the essential furniture.

For passive activities such as listening to music, watching TV or simply relaxing, furniture is needed (arm chairs, sofas and coffee tables) to lean on, to fall on and to put one's feet on.

Activities in small groups, such as playing cards or checkers, require bridge tables and stacking chairs.

The tables and chairs designed for small group activities may also be used for activities involving larger groups such as community meals, lectures and assemblies of residents (illustration 62).

The use of a living area for community meals will facilitated by the presence of a kitchenette.

Illustration 62. Community living area, Maison Chambrenfleur, Montréal.



The tables and chairs designed for small group activities may also be used for activities involving larger groups such as meetings of the Board of Directors.

3.3 Number and dimensions of the living areas

It is not our role to dictate the number of community living areas for houses; this, according to us, should depend on the nature of the client group and should be established, if possible, jointly with the latter. The relative size of the community living areas should also depend on the nature of the units in the house. In all cases, however, we believe that it is advisable to provide for at least one small community living area for the following reasons:

- 1. Where there is no community living area, it is quite likely that certain residents will get together in their rooms and make noise (i.e., an animated conversation between three people in a room is considered as noise whereas the same conversation in a community living area is acceptable).
- Low-income singles need to be able to find, in their living zones, neutral areas outside their unit where they can socialize when they feel alone or bored.

Beyond these minimum requirements, "rooming house"s with the same number of residents but different clienteles will have just as different needs. Considering these differences, it is thus not desirable to establish rigid spatial standards for community living areas: the recommendations which follow are thus provided to you for your information for houses with approximately 25 residents.

3.3.1 Number of rooms

Where most of the activities which we have listed above must take place inside the house, we suggest that provision be made for two distinct living areas but which can be combined.

One of these rooms could be reserved for passive, calm and individual activities requiring greater privacy, whereas the other could be reserved for noisier game activities involving small groups of residents (illustration 63). Lastly, these two rooms, once combined, could provide enough space for events involving all the residents.

3.3.2 Dimensions of the rooms

Passive activities, such as watching TV, do not require much clearance around the furniture whereas less passive activities require more. In any case, we are of the opinion that the dimensions of community living area should never exceed 30 m² in order to preserve the residential character of these spaces. The precise dimensions should be calculated based on the activities which are to be accommodated.

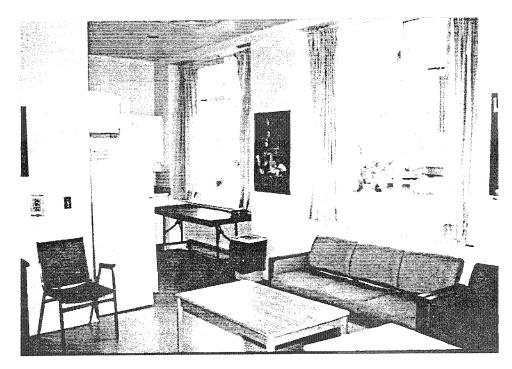
3.4 Configuration of community living areas

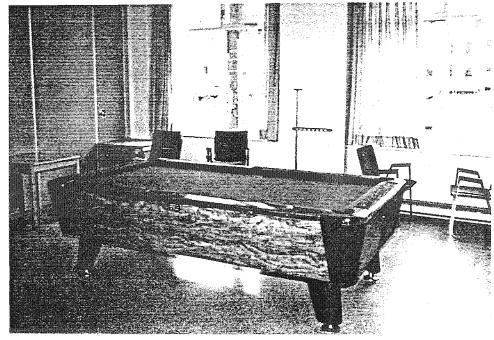
The living areas must be designed so as to satisfy the requirements dictated by:

- . atmosphere;
- . flexibility and adaptability;
- . natural lighting and exterior view.

Illustration 63. Community living areas, Options Bytown House, Ottawa.

These two rooms are located one right next to the other and may be separated or combined: one (uppper photo) is reserved for passive, calm and individual activities whereas the other (lower photo) is reserved for noisier game activities.





3.4.1 Atmosphere

The expression "living area" conjures up various images. In certain houses, these are small intimate premises (illustration 64), whereas in others these are large institutional premises (illustration 65). Based on our observations, small well soundproofed intimate rooms are most conducive to creating the residential atmosphere which is desired in these houses. It is for this reason, moreover, that we suggested, in the preceding section, that the area of these rooms never exceed 30 m². It is also important to provide these living areas with shapes which will make it possible to organize the furniture to encourage social contact. In this respect, the layout of the chairs and arm chairs is a very important element.

Placed in rows, seats do not promote spontaneous interaction between residents. Arranging chairs in small groups, however, according to Osmond (1976), provokes informal contacts. It is thus important that the size of the living areas promote this particular way of arranging furniture.

If the living areas are to be used for several purposes at the same time, it should be possible, using furniture and screens, to clearly separate the spaces reserved for each function.

Lastly, given that people coming and going can hinder conversations, and bother people watching television or engaged in other activities which may occur in the living areas, the living areas' exit and entry points must be located such that people are not forced to walk across these areas.

Illustration 64. Small intimate community living area: house located at 58 Lewis Street, Toronto.

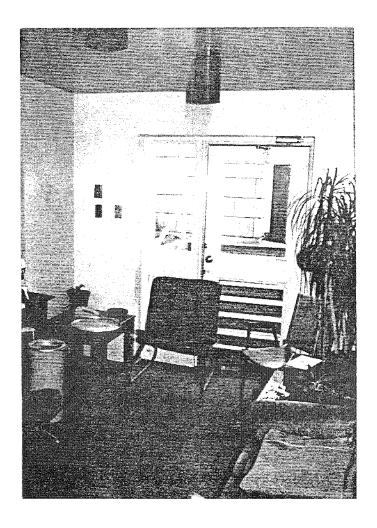


Illustration 65. Large public community living area: New Continental House, Vancouver.



3.4.2 Flexibility and adaptability

Flexibility and adaptability are important characteristics for the layout of community living areas considering that the spaces must be used for many activities and that the clientele's needs may vary over the years.

Unfortunately however, the layout of these living areas is often difficult to modify. For example, the location of a television set may be limited to only one corner and the location of a large piece of furniture to only one wall.

Community living areas should thus allow the furniture to be laid out in several different ways. One day the residents may want to watch television, for example, or another day they may wish to play cards or have a meal together. These requirements are particularly critical in a house where there is only one living area.

3.4.3 Natural lighting and view outside

Not only is it nice that living areas have large windows with pleasant views, it is essential. We have, for example, visited large community living areas with good proportions which they were rarely used because they were located in the basement and consequently they were poorly lighted.

The window sills on low windows may limit the layout of the furniture; on the other hand, at least a few windows should be sufficiently low to make it possible for the people to see outside from a seated position.

3.5 Location of the living areas

In the preceding section, we described the main architectural characteristics which community living areas should have to be cozy, livable and inviting. We would like to point out that the success or the failure of these spaces also depends on their relation with the traffic network as well as with the other spaces which are part of the house (illustrations 66 and 67).

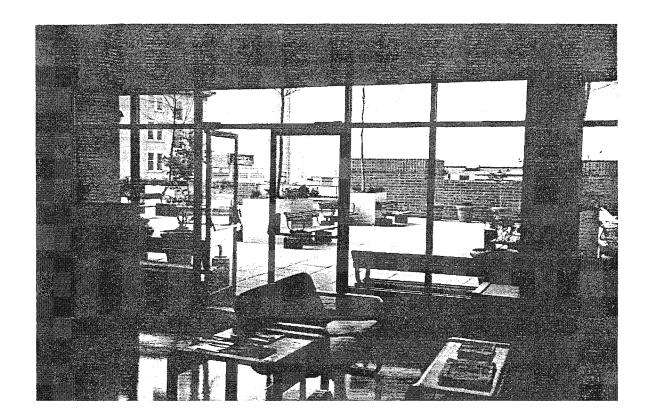
We are emphasizing this aspect because it was reported to us that certain people had to make psychological and sometimes even physical efforts to socialize. These people dream up reasons to move around since they do not like to admit the fact that they feel alone, that they are bored or need company. These residents should not have to dream up reasons to show up in the living area. On the other hand, it also has to be taken into account that other residents do not feel the need to socialize. The latter should not feel embarrassed by the fact that they do not often show up in the living area.

For these reasons, we thought that the degree of opening between the living areas and the spaces intended for traffic should be closely controlled and that the living areas should be designed in conjunction with natural meeting places.

Recommendations:

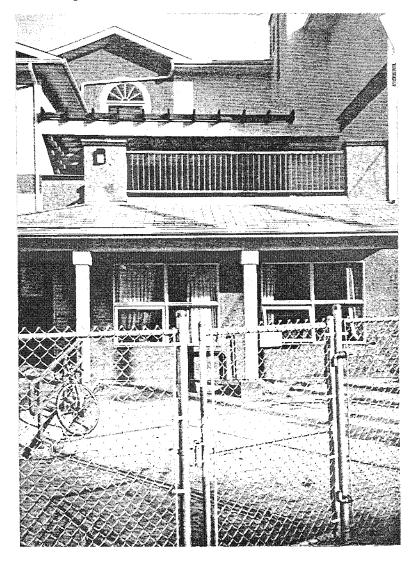
- Group the living areas and locate them in central, accessible visible places.
- 2. Locate these spaces in locations where most of the residents go each day so that these residents may realize what is happening without having to make a special trip.

Illustration 66. New Continental House, Vancouver: view of roof terrace from the community living area.



The success of the community living area depends to a great extent on its close interrelation with the roof terrace. The converse is equally true.

Illustration 67. Project 4 House in Edmonton.



In the case of this house, it is probable that the community amenity space would have been used more if it had been adjacent to, rather than superimposed over, the community living area space.

- 3. Control the degree of opening around these spaces so that the residents who are just passing by can verify what is going on without feeling obliged to participate.
- 4. Locate these living areas near spaces and facilities which attract the residents, namely:
 - . the entrance way (including the mail boxes, notice board and public telephone);
 - . the animator and/or janitor's office;
 - . exterior living area (lawn, yard, terrace or community balcony);
 - . laundry room;
 - . any other community space.
- 5. Lastly, it would be a good idea to locate a washroom near to the community living area.

4. EXTERIOR COMMUNITY AMENITY SPACE

Exterior community amenity spaces were not found in all the houses we visited. On the other hand, where this space existed, there were many variations as to shape, size and location. Table 5 shows the diversity of the exterior community amenity spaces contained in the houses which we visited.

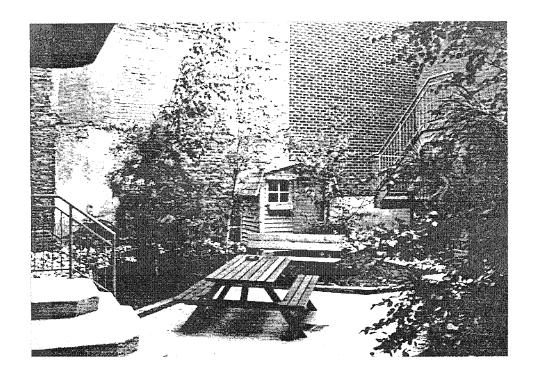
In the houses where there were animation programs such as in the Alexandre-de-Sève House, the community workers told us that the spaces were essential tools for animation (illustration 68).

Table 5. Types of exterior community amenity space on the properties which we visited.

Houses		Type of space
1.	Alexandre-de-Sève, Montréal	Inner court and small community balcony
2.	Logan, Montréal	Front yard difficult to personalize
3.	Chambrenfleur, Montréal	Back yard and small community balcony
4.	2639 Lafontaine, Montréal	Very small community balcony
5.	2060 Clark, Montréal	Back yard for lighting purposes only
6.	Chambredor, Montréal	Back yard and small community balcony
7.	St-Dominique, Montréal	No exterior amenity space
8.	7120 Iberville, Montréal	Very small back yard
9.	5201 2nd Avenue, Montréal	Very small back yard
10.	506 Bronson, Ottawa	Very good sized back yard
11.	Options Bytown, Ottawa	Small back yard and large terrace roof
12.	90 Shuter Street, Toronto	Large terrace roof
13.	490 Huron Street, Toronto	Small back yard
14.	58 Lewis Street, Toronto	Good back yard
15.	Street City, Toronto	No exterior amenity space

Houses	Type of space
16. Operation Friendship, Edmonton	Open interior court leading to the sidewalk has good potential and this potential has been tapped into
17. Hutton Place, Edmonton	Front yard does not have much potential (grass) and backyard is more private
18. Project 3, Edmonton	Front yard does not have much potential (grass) and community balconies are more private
19. Project 4, Edmonton	Back yard
20. Four Sisters, Vancouver	Very diversified roof terraces, balconies and interior court
21. Tellier Tower, Vancouver	No exterior amenity space
22. Pendera, Vancouver	Backyard and large roof terrace
23. Portland Hotel, Vancouver	No exterior amenity space
24. New Continental, Vancouver	Vast roof terrace
25. Veterans Memorial Manor, Vancouver	Diversified roof terraces and interior court containing much vegetation

Illustration 68. Alexandre-de-Sève House, Montréal: inner court.



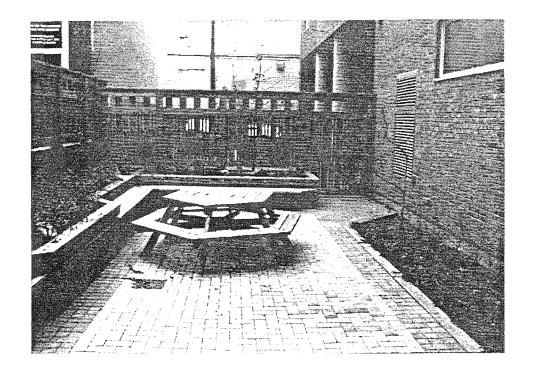
In this house, the community workers told us that this space was essential for animation purposes.

On the other hand, in other houses where there was no animation program, in Options Bytown for example, it was reported to us that these spaces were often under-used (illustration 69). The absence of animation, however, should not be considered as the only reason for underusing certain of these spaces. In fact, there is probably a direct correlation the degree of use of these spaces and their location within the house.

In any case, we are of the opinion that the presence of at least one amenity space in the form of a yard, balcony (illustration 70) or roof terrace is essential in these houses.

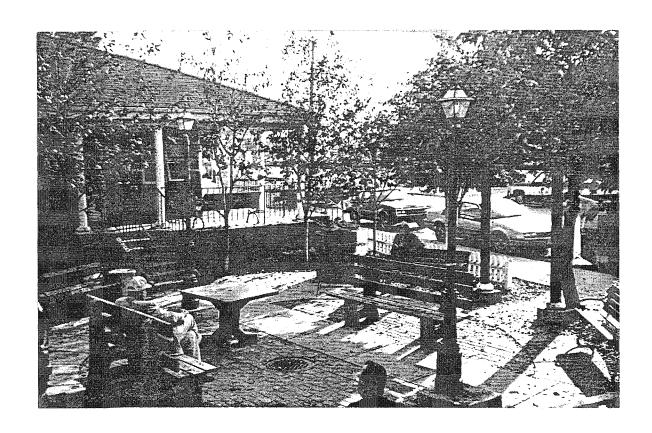
A number of the residents in these houses are, in fact, unemployed and without any family. This considerably limits their possibilities for a social life. Low-income singles thus depend to a great extent on their immediate circle for their social life and to develop friendships.

Illustration 69. Options Bytown House, Ottawa: Interior court.



The person responsible for this house told us that this yard was under-used because there was no animation program and because the residents preferred to spend their time in the area separating the sidewalk and the entrance way at the front of the building. According to this person, the potential attraction for this amenity area was thus ignored since it could not be seen from the inside of the building. Were not these reactions predictable considering the fact that for this client group, the street and sidewalk are much more in line with their natural tastes than an interior courtyard completely isolated at the back of the building?

Illustration 70. Operation Friendship House, Edmonton: Interior court.



The court in this house is very popular and this was probably due to the fact that on one side, it was completely open to the sidewalk.

Certain people told us that the need to set up exterior amenity spaces is all the more important in that it is not possible, for financial reasons, to provide individual balconies in these houses. Others, on the other hand, wonder whether everyone in certain cities such as Montréal shouldn't have his/her own balcony since the balcony has become a way of life and a tradition in Montréal. We were not able to study this question in depth. We do believe, however, that there is very little relation between the needs to be met by exterior individual amenity spaces and by exterior community amenity spaces.

4.1 Functions of the space

It is never easy to anticipate, in designing a "rooming house", what the most popular exterior activities will be. Consequently, one should try to take into account the activities possible for all types of users. In this respect, the following list, albeit not complete, should facilitate the task of city planners as pertains to the designing of exterior community amenity spaces. The main activities which we were able to observe in these spaces were:

- . conversation;
- . lounging;
- . relaxing;
- . observing activities in the air or on the street;
- . enjoying the sunshine or the outside air;
- walking;
- . participating in games (horse shoes, for example);
- . working in the flower beds;
- drying clothes;

- . participating in a community meal or in festivities;
- . cooking food on the barbecue;
- . eating.

As in the case of the community living areas, one notices a certain number of activities involve only one person (illustration 71), others involve small groups and others may involve all of the residents.

4.2 Furniture and facilities

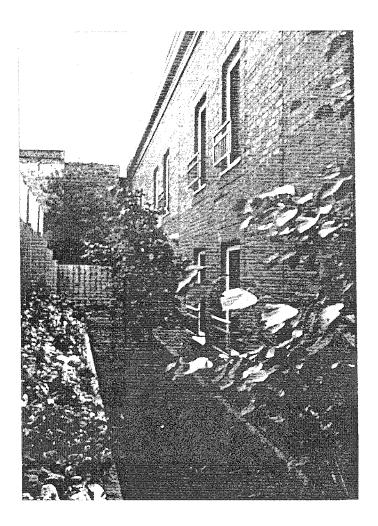
To be able to participate in their usual activities in the exterior community amenity spaces, the residents need a minimum amount of furniture and facilities. Here is a list of the latter:

- . benches;
- . lawn gliders (illustration 72);
- . chairs;
- . picnic tables;
- . separate shed or lean-to at the back of the house to store recreational equipment as well as the equipment for gardening and snow removal;
- . clotheslines.

4.3 Number and dimensions

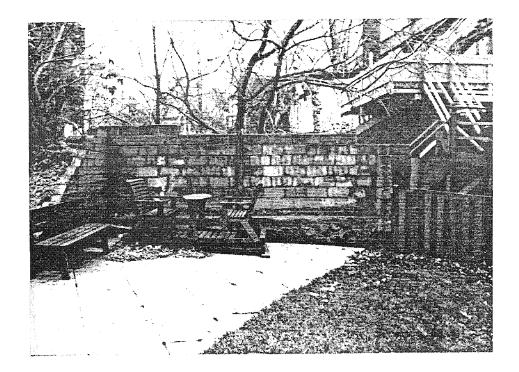
We already affirmed at the beginning of this section that all the houses for low-income singles should contain at least one exterior community amenity space. We are unable, however, based on the documentation available and based on the experience we have acquired over twenty-five visits, to

Illustration 71. "Green belt" behind the Alexandre-de-Sève House, Montréal.



This "green belt" is long and narrow but it is highly appreciated by sun lovers.

Illustration 72. Lawn gliders, Chambrenfleur House, Montréal.



These gliders are very popular areas in warm summer evenings.

formulate precise recommendations as pertains to the number and type of exterior amenity spaces which "rooming house"s for low-income singles should contain. In our opinion, this should depend on:

- . the location of the house in the city;
- . the size of the house;
- . the shape of the house;
- . the characteristics and preferences of the occupants.

Neither can we, for the same reasons, prescribe with certitude the ideal area to be allocated for these spaces. In the Housing Low Income Single People (City of Toronto Planning Board Staff, 1975) publication, we noted that an area of one square meter per unit was recommended. This ratio seems clearly insufficient to us if we are to consider the remarks made by the managers of three comparable houses in the Montréal city core concerning the dimensions of the yards of their houses. According to these people (see table 6), it would seem that an acceptable ratio would be closer to 5m² to 10 m² per person. This question was not broached as part of this study, however.

Table 6. Comparison of the exterior community amenity space per resident ratio as well as the degree of satisfaction reported by the managers of three Montréal city core houses.

House	Ratio	Degree of satisfaction
Chambredor	2 m²/pers.	Space clearly insufficient
Alexandre-de-Sève	5 m²/pers.	Space satisfactory but it would be more comfortable if it were larger.
Chambrenfleur	10 m²/pers.	Space satisfactory for the time being but will be less so in the future following an extension to the house which will not only encroach on the exterior amenity space but will also increase the population of the house.

4.4 Configuration of the space

Given that each of the activities which occur in the exterior community amenity spaces has its own requirements, and also given that these spaces may take on different forms (i.e., inner court, back yard, community balcony, terrace roof, etc.), it is not possible, as part of this guide, to define the architectural characteristics which each of these various types of spaces should have. We shall thus limit our intervention to listing the main questions which must be asked:

- . Designed for what type of clientele?
- . Is this space for group or individual activities?
- . What is the size of the group?
- . What is the appropriate space?
- . To what extent must the space be closed off and set apart from the other activities?
- . Are these relaxation activities which do not need much room or recreational activities needing a lot of room?
- . What degree of security and maintenance will be required?
- . What special facilities will be needed?
- . Where would the most appropriate area be for the yard, balcony or terrace (this question will be broached in detail in the following section)?
- . When is the space open or when does one have access to the space?

The following key elements should be closely monitored as pertains to the spatial organization: (N.B.: some of these elements only apply to yards and roof terraces):

. Entrance(s): where one has access to the space

- . Pathway(s): the path(s) which one takes while walking around the yard or the terrace and in crossing the yard or terrace
- . Activity zones: areas where certain activities occur
- . Peripheral zones: the areas contiguous to the sides of the house (yard) and the parapet (balcony and terrace).

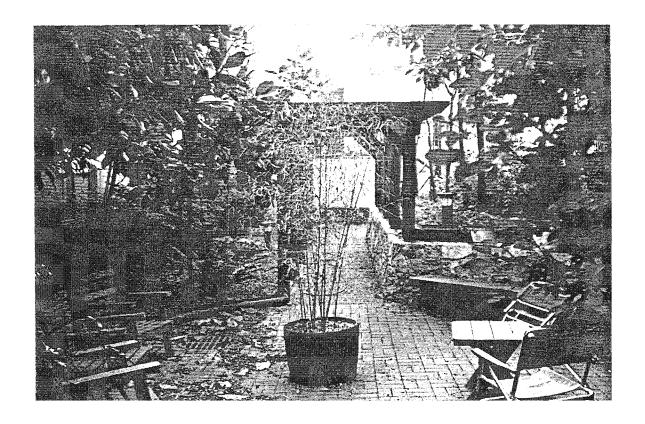
These elements may require the use of one or more means to circumscribe the space, to differentiate between the sub-spaces and to establish a buffer zone between the space and the units. This depends on the users' needs and the activities in which they are participating. These means (illustrations 73 and 74) are the following:

- parapets, walls, screens and plants which divide space and circumscribe the sub-spaces;
- . floor or ground covering;
- canopies, trellises and gazebos;
- . furniture;
- . lighting;
- special equipment needed for certain games, for security, for maintenance of vegetation and snow removal.

In all cases, however, provision should be made for a pleasant sitting area. Exterior community amenity spaces are frequently used, in fact, by residents who simply wish to sit outside. Provision of seating space in sufficient quantities, will promote the development of this activity. This seating space should, moreover, have the following characteristics:

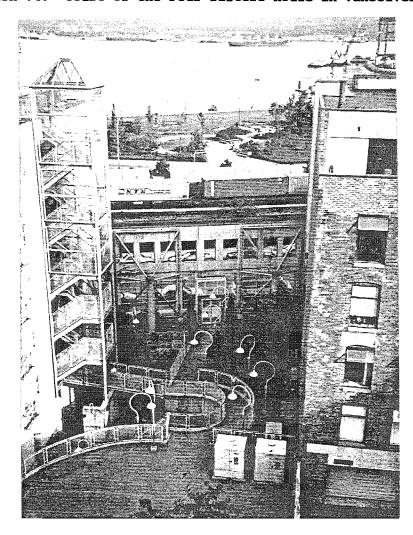
- . allow for a pleasant view;
- . be protected from the wind;

Illustration 73. Court in the Veterans' Memorial Manor House in Vancouver.



To develop this space, the architect used all the means at his disposal to create a very pleasant environment (parapets, walls, screens, plants, a wide variety of soil covering, trellises and gazebos, lighting, etc.)

Illustration 74. Court of the Four Sisters House in Vancouver.



Within this immense courtyard, the architect was successful, using various means (screens, various levels, vegetation, lighting elements, etc.), in creating various zones, a certain number of which are intended for relaxation whereas others are intended for activities requiring a great deal of space. One interesting fact to be noted, to create the space, he was even successful, after much haggling, in using part of the alleyway.

- . offer the possibility of having much sunshine or much shade;
- . make it possible for the user to remain alone or to meet other people.

4.5 Location of the space

The success or failure of the exterior community amenity spaces depends on factors comparable to those which influence the performance of the community living areas. These factors are:

- . physical accessibility to the amenity space;
- . visual accessibility to the amenity space;
- . the relation between the amenity space and the units;
- . the relation between the amenity space and the environment;
- . the view from the amenity space.

4.5.1 Physical accessibility to the amenity area

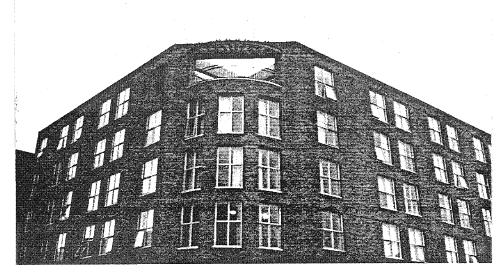
We reported in the section dealing with the location of community living areas that certain people had to make physical and psychological efforts to leave their unit and socialize. For these people, it may be just as, if not more, difficult to get to the exterior community amenity space.

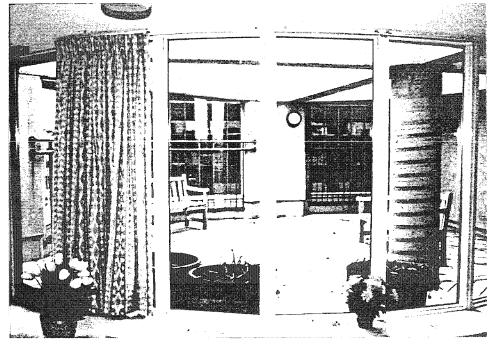
Access to the amenity area may also pose a problem for certain residents in the "rooming house" when they have to go through a long corridor serving the units to get there (illustration 75).

Architectural barriers which could prevent certain people from getting to the exterior community amenity area should be eliminated. These spaces should

Illustration 75. Options Bytown House, Ottawa: view of the roof terrace from the street and from an adjacent community living area.

Unfortunately, this roof terrace and this community living area are used only by the support staff since the residents on the fifth floor do not want the residents from the other floors invading their territory.





also be set up as close as possible to the entrance way or to the main horizontal and vertical traffic areas.

The exterior community amenity spaces would be better used if they were located right next to the interior community spaces as well as to services which are very popular among the residents. A contiguous laundry room, for example, would make it possible for people to sit down in the amenity space and to take advantage of it while their laundry is being washed. If amenity spaces are set up in isolation from other community equipment, they are not fully used.

4.5.2 Visual accessibility to the amenity area

The fact of not being able to see the amenity area usual causes one or more problems as follows:

- . The residents may decide to boycott the area or it may be only half-used
- . Problems concerning security may occur which may exist long before they are detected
- . The potential of the amenity area may never be appreciated if it cannot be seen (illustration 69).

Thus one should be able to see the amenity area from a few of the following locations: neighboring units, the janitor or the animator's office, a community living area, the entrance way or from a major traffic area. It is easier to see an interior court than a roof terrace. On the other hand, roof terraces are a good solution where the cost of the land is very high as is the case in downtown Vancouver (illustration 76).

4.5.3 Relation between the amenity area and the units

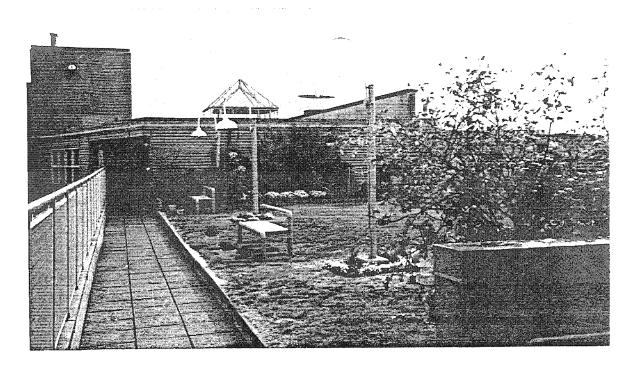
The two problems inherent in the relation between the exterior community amenity area and the units which are most often observed are: noise and the prying eyes of users of the amenity area which bother the people that live in the units contiguous to the amenity area (illustration 77).

The use of greenery, and the location of the amenity area as far away from the living units as possible, may partially resolve the problem caused by noise and curious looks; use might also be made of parapets, walls and screens. We believe, however, that the use of strictly architectural means will never suffice to resolve these problems. Exterior amenity areas will require the adoption of much more detailed rules than those governing interior amenity areas.

4.5.4 Relation between the amenity area and the environment

Given that we are attempting to create a normal residential milieu, housing units which are as similar as possible to those where most people live, it is essential that the location of the exterior amenity areas be similar to the location of the amenity areas around the neighboring buildings. If, for example, the "rooming house" is on a street where the most of the houses have balconies overlooking the street, it would be desirable that at least one portion of the exterior community amenity area be also oriented towards the street (illustration 78). If, on the contrary, the "rooming house" is in an environment where the trend is to create the exterior amenity spaces at the

Illustration 76. Four Sisters House (upper photograph) and Veterans' Memorial Manor (lower photograph), Vancouver. Creating exterior amenity spaces on the roof in cities where the cost of land is very high, as is the case in downtown Vancouver, is very logical.



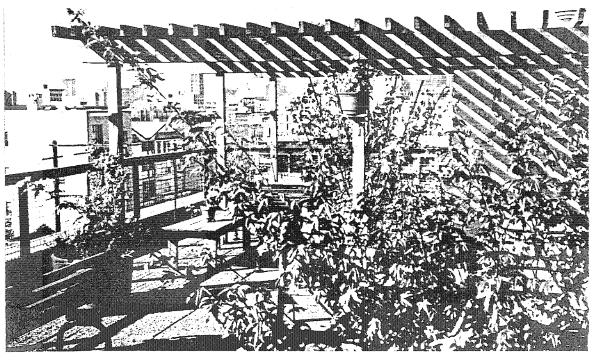


Illustration 77. Ground floor plan of the Alexandre-de-Sève House, Montréal. The noise created by people in the interior courtyard, as well as their curious glances, is sometimes a nuisance for people who are living in the units contiguous to this yard.

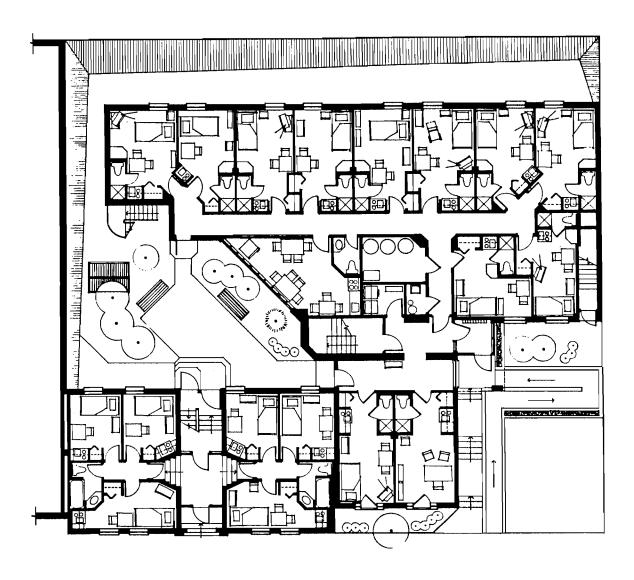
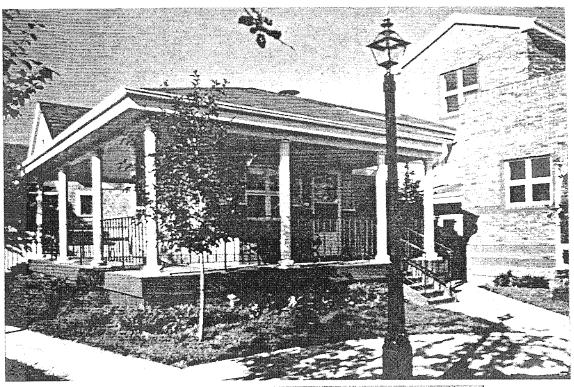


Illustration 78. Small community balcony at the Operation Friendship House, Edmonton. This balcony is oriented towards the street to respect the style of the neighboring buildings (lower photo). (Photos: Barry Johns Architect Ltd.)





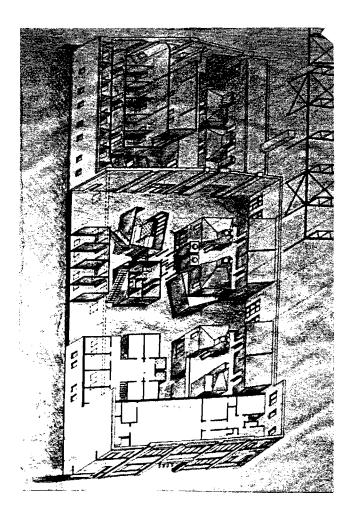
back of the houses, it would then be appropriate to set up a back yard. The principle to be respected here consists in taking measures so that the clientele in low-income singles houses do not perceive themselves as being different from the other people living on the same street or in the same district.

In this respect, it was reported to us that the residents of the Options Bytown House in Ottawa had boycotted the back yard of the house and opted instead for a widening of the sidewalk contiguous to the entrance way to the house. According to a community worker, the street and the sidewalk represent territories with which the clientele in this downtown Ottawa "rooming house" has more affinity than the back yard:

"These people are used to living in the street and clearly prefer to spend their leisure time on the sidewalk rather than in groups in a small back yard."

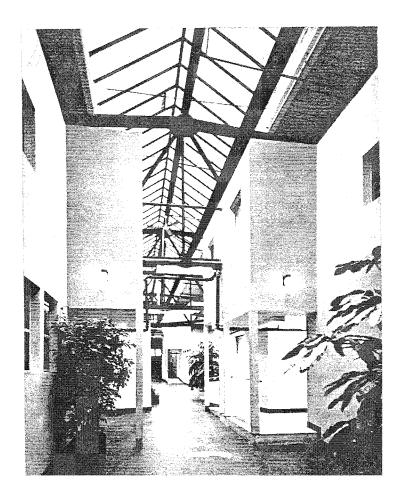
Black and Moffat, the architects of the Street City House in Toronto, showed that they were very sensitive to the needs of the homeless to feel at home in "rooming house"s designed for them. In a vast warehouse, which was previously used to maintain Canada Post vehicles, they designed a project which conjures up the idea of an urban block (illustration 79). This block is made up of separate dwellings, small squares, a major artery and secondary streets. In this warehouse, they have managed to rebuild the type of amenity space to which this client group is accustomed. The flooring is in concrete and contributes in particular to giving the impression that the street (illustration 80) extends into the project.

Illustration 79. Street City House, Toronto: axonometric drawing.



In a vast warehouse, which was used previously for maintenance on Canada Post vehicles, Black and Moffat designed a project which conjures up the idea of a urban neighborhood block.

Illustration 80. Main Street in Street City House, Toronto (Photograph: Ian Smith-Rubenzahl).



The flooring is in concrete and contributes, among other things, to creating the impression that the street extends into the project.

These observations suggest that when the time comes to decide what location is best to set up exterior community amenity spaces, it is not sufficient to merely copy what has been done in the neighboring buildings. It is essential, in fact, to clearly understand how to make the people for whom the spaces are intended feel at home, to identify with their "rooming house".

4.5.5 View from the amenity area

For obvious reasons, it is essential to locate the exterior community amenity spaces in areas where there are good, interesting and stimulating views. This applies particularly for balconies and terrace roofs.

5. COMMUNITY KITCHENS

In chapter 1 (section 4) we described the advantages and disadvantages of shared kitchens. In addition, we insisted in this chapter on the fact that, considering the residents' needs for privacy and independence, they should not have to share the space where they prepare their meals and where they eat. On the other hand, we mentioned that these spaces had to be shared in certain cases, for economic reasons. Where this is the case, everything must be done to provide these spaces with the coziest and least institutional character possible. Do not forget that, for many families, the kitchen is the heart of the house and that it is often both a social as well as a work area. We feel that it is thus desirable to design community kitchens accordingly. For this reason, these spaces need more than counter space and appliances; a table and chairs are also required. A window is also important.

Community kitchens are found in houses with shared units and in "rooming house"s. In most of these houses however, we have observed that these spaces were considered as kitchens in family dwellings. The main difference observed, among these kitchens, was based on the fact that certain kitchens contained a refrigerator and others did not. Where there was no refrigerator in the kitchen, there was one in the rooms or units. This formula is often adopted to avoid quarrels among tenants who are afraid of theft. Another difference observed among the kitchens visited, was based on the fact that the kitchens in "rooming house"s were generally more impersonal than the kitchens in shared units.

5.1 Functions of the kitchens

The activities which usually occur in the kitchens are the following:

- . preparation of food;
- . cooking;
- . serving meals;
- . storing food;
- . storing pots and pans, dishes and utensils;
- . cleaning up after the meals;
- . meals1;
- . social activities.

N.B.: in a certain number of the houses that we visited, there was no space to eat in the kitchen and meals were eaten in the rooms.

5.2 Minimum number of appliances, minimum counter length and minimum storage volume

To do routine work in the kitchen, the residents need a minimum number of appliances and sufficient counter space. The number of these appliances and the counter and storage space are difficult to determine since they depend on the degree to which the food, dishes, pots and pans and utensils are shared; this also depends on the residents' habits: whether they prepare their meals together or separately, whether they prepare their meals at the same time or at very different hours (illustration 81).

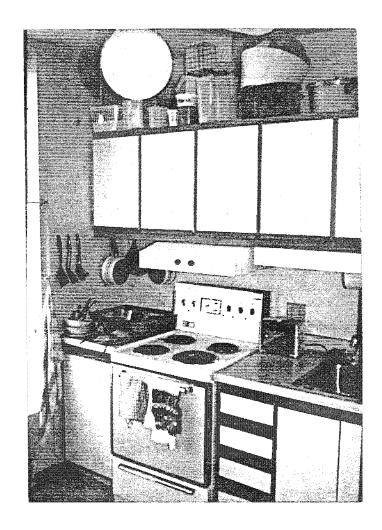
5.2.1 The meals are prepared at different hours and are eaten separately

In a certain number of these houses, it is rare that the residents prepare their food at the same time. In these cases it suffices to provide the means for preparing and cooking food for one part of the group but the quantity of storage space required for the food, pots and pans and utensils may be much greater than in a family unit containing a comparable number of residents.

5.2.2 Meals are prepared and eaten together

In other houses, generally in houses with shared units, the resources are pooled. In a certain number of these units for example, one person is named responsible for purchasing the food, another for preparing the meals, whereas others are responsible for maintenance. In these cases the number of kitchen appliances, the counter and storage space required are comparable to that for a family unit considering, of course, the number of occupants.

Illustration 81. St-Dominique House, Montréal: kitchen in a unit shared by six people.



Minimal appliances, minimal counter length and insufficiency of storage space force residents to prepare their food at different hours and to eat separately.

5.2.3 The food is prepared separately and eaten together

In other houses, certain residents prepare their food at the same time and prepare different meals. In these cases, the number of kitchen appliances, the counter and storage space required as well as the configuration of the space must be different than in family units.

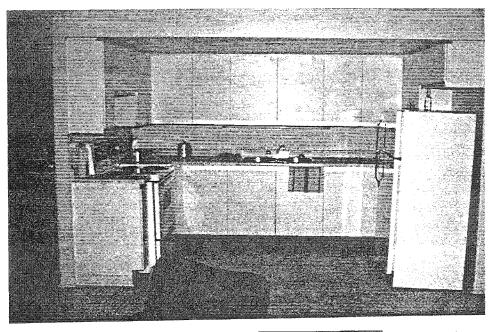
In these cases, we are of the opinion that whereas a "family" kitchen can accommodate four people, in a kitchen shared by 5 to 10 people, the kitchen appliances and the work space should be doubled.

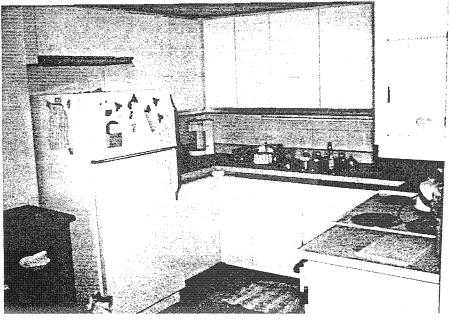
5.2.4 General remarks on storage

In cases where it is foreseeable that the residents will prepare their meals at different hours or separately, the kitchens should be set up so that each resident has his/her own counter space with his/her own kitchen cabinet space immediately above. The counter and cabinet space required will depend on what is pooled and on the storage space contained in each unit. It should be possible to lock these storage areas since fear of theft (illustration 82) was reported to us as being one of the major sources of conflict in the kitchens. It is for this reason, moreover, that, in a certain number of houses which we visited, each unit had a refrigerator even if there was a common kitchen.

Illustration 82. Options Bytown House, Ottawa: kitchen shared by four people and kitchen shared by two people.

The first of these two kitchens (upper photo) is almost never used by the co-tenants who do not trust each other and live in fear of theft. In the unit shared by two people, on the other hand (lower photo), this problem does not exist; moreover, one can see in the second photograph, a few signs that this kitchen has been personalized by the residents.





5.3 Clearances

The clearances recommended in front and around counters and kitchen appliances are no different in the community kitchens than those recommended for family unit kitchens. The configuration of these kitchens, however, may vary in certain cases (see section 5.5).

5.4 Dimensions of the kitchen

Number of People

Community kitchens, as is the case for family kitchens, should have dimensions which are proportional to the number of users but these dimensions should never be so large that the kitchen loses its residential character nor so large that one person in the kitchen would feel out of place. For these reasons, we believe that a community kitchen should ideally serve four or five people but never move than eight.

Based on the advice and recommendations contained in the "Internal Spaces of the Dwelling/Advisory Document (Teasdale, 1985)", we believe that the dimensions of these kitchens including the space containing the table and the chairs (eating area) could vary as follows depending on occupancy:

Area Suggested for the Kitchen

Sharing the Kitchen	and for the Eating Area
3 to 4	16.5 m²
5 to 6	19.0 m ²
7 to 8	21.5 m ²

5.5 Configuration of the kitchen

The layout of community kitchens in houses containing units for low-income singles should be governed by the rules which apply to family kitchens (i.e., sequencing of activities, work triangle, security, etc.). Beyond these rules, community kitchens should meet the following specific requirements:

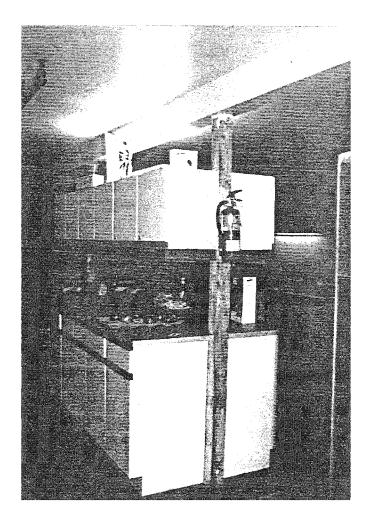
- This space should be set up so that a few people can move back and forth between the kitchen and the table without bumping into each other.
- 2. The electric range should never be put in a corner so that residents preparing different foods can do so at the same time. From this point of view, moreover, it would be preferable to consider a kitchen island (illustration 83) since it is only possible to work on one side of counters installed along walls.
- 3. The space should contain a table with dimensions corresponding to the number of occupants sharing it. The presence of a table, in addition to providing a place to eat, also provides certain residents with an excuse to sit down and socialize (illustration 84).

5.6 Location of the kitchen

The location of the kitchen should be determined, above all, in line with the following requirements:

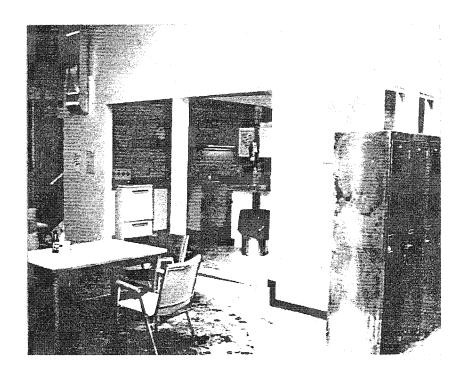
1. Privacy: the occupants usually prefer not to be visible in the kitchen directly from main entrance way (in the case of shared units) or from the corridors (in the case of "rooming house"s). Thus the kitchen should be hidden from these areas.

Illustration 83. Street City House, Toronto: photograph of the community kitchen.



Setting up a kitchen island makes it possible for many residents to work in the kitchen at the same time. Moreover, locks on each cabinet door eliminate the fear of theft.

Illustration 84. Street City House, Toronto: photograph of the community kitchen as well as the eating area.



The presence of a table, in addition to providing a place to eat, also provides certain residents with an excuse to sit down and socialize.

- 2. Efficiency: the kitchen must open directly onto the eating area since there is always frequent movement between the kitchen and the table.
- 3. Natural lighting and view on the outside: the occupants do not like kitchens without windows; where the kitchen and eating area are combined, the latter space should have priority in this respect given the likelihood that the residents spend more time around the table than in the kitchen; monitoring the daily activities in the neighborhood can be particularly beneficial for singles who are bored and who spend most of their time inside.
- 4. Relation with exterior spaces: as far as possible, provide for access to the kitchen from the adjacent exterior space to facilitate serving meals outside.

6. COMMUNITY SANITARY SPACE

As was the case for community kitchens, we must insist on the fact that to respect criteria of privacy and independence, as well as hygiene, the residents should not have to share sanitary spaces. But once again, we have to admit that, for economic reasons, this formula is still being used. When this is the case, the principles listed in the following paragraphs should contribute to eliminating certain defects in this formula.

6.1 Function of the space

The functions occurring in the community sanitary spaces vary from one house to other and depend on which fixtures are contained in the units. In certain houses, there are only a few fixtures which are shared. In this section, we

assume that the community sanitary spaces were designed for the following functions:

- . personal hygiene;
- . elimination;
- . personal care.

Moreover, we assume that aesthetic care, such as shaving, putting on makeup and combing/brushing one's hair, occurs in the units since these activities may take a long time. For this reason, we are of the opinion that all the units should have at least a wash basin or a sink as well as a mirror.

6.2 Sanitary fixtures

To execute their usual activities in the community sanitary spaces, the residents need a minimum number of fixtures. In these community sanitary spaces should be found wash basins, showers, bathtubs, toilets, mirrors, vertical grab bars in the bathtubs, toilet paper holders, towel holders and hooks for clothes. In sanitary spaces with stalls (see section 6.3.2 below) the room containing the shower or the bathtub should also contain a bench inside which the maintenance materials should be stored.

6.3 Number and dimensions of the spaces

The question of the number and dimensions of the sanitary spaces cannot be broached without describing the main types of sanitary spaces which we have identified.

6.3.1 Complete sanitary space

This includes a bathroom containing a bathtub, wash basin, toilet and mirror. This type corresponds to residential bathrooms and should not be shared by more than two residents, given that only one person can use it at a time. In this type of sanitary space, the shower and the bathtub can be combined and the recommended area is approximately 4.0 m^2 .

6.3.2 Sanitary spaces with stalls

These are formed by various rooms each of which include only one or two fixtures For example: room containing a bathtub, room containing a shower, room containing a toilet and a wash basin.

This type of sanitary space seems to be more adequate to us when more than two people have to share a sanitary fixture since this make the use more flexible and decreases waiting time. We recommend that there be a room with a bathtub or² a shower as well as a room containing a toilet and a wash basin for every 4 to 5 residents. The approximate areas recommended for these rooms are the following:

¹ The suggested dimensions are minimal. As far as possible, attempts should be made to provide these spaces with larger dimensions to make them accessible for disabled people, to reduce the risk of injuries subsequent to falls and, lastly, to facilitate maintenance.

² In all the houses, however, we should be able to find both showers and bathtubs since there is no clear preference between the two and since

- 1. Room containing a bathtub and a bench: 3.0 m².
- 2. Room containing a shower and a bench: 2.0 m².
- 3. Room containing a toilet and a wash basin: 2.0 m².

6.3.3 Common sanitary spaces

These are formed by one or more spaces subdivided into various zones with each containing a certain number of fixtures, for example: one zone with several showers, another with several toilets and a long counter with several wash basins. This model corresponds to the sanitary spaces which are found in certain student residences, in public swimming pools and in sports centers. Certainly, beyond the socializing effect of washing together as a group, it can be claimed that common sanitary spaces are less expensive to build and to maintain, but that is a point which can be questioned. For these reasons we cannot recommend this type of sanitary space; moreover, we visited only one house with this model, i.e., City Street House in Toronto which is, it should be pointed out, a temporary construction.

certain people must take baths for therapeutic reasons. In most cases however, there should be more showers than bathtubs since showers are more popular and are easier to maintain as people spend less time in showers and because they take up less space. It has also been reported that those taking baths tend to let the bathtubs overflow. Lastly, it is preferable not to include the wash basin in these rooms so as not to prolong the time spent in the rooms.

6.4 Configuration of the spaces

The layout of the common sanitary spaces in houses for low-income singles must, above all, be governed by the following considerations:

- . privacy;
- . healthiness;
- . security in relation to accidents.

6.4.1 Privacy

All types of common sanitary space produce a loss of privacy due to the fact that the residents must leave their units to go to the toilet for personal care and hygiene, etc. In the case of sanitary spaces with stalls, the problem of privacy can be accentuated by the fact that in order to go from one stage of the procedure to another, the residents must go from one room to another. In order to avoid the impression of promiscuity and to allow the residents (especially those of the opposite sex) to feel comfortable, the passageway from one room to the other should be relatively open.

6.4.2 Healthiness

Higher risk clients (alcoholics, drug addicts, ex-psychiatric patients, etc.) in low-income singles housing require higher performance sanitary spaces as pertains to maintenance than those found in family dwellings. For example, the qualities which a bathroom to be used by aggressive intoxicated men must have are not at all the same as those required in bathrooms in a college dormitory frequented by young well-behaved gentlemen. The danger of damage is much higher; consequently, it should be much easier to maintain the space (illustration 85). The following characteristics will contribute to facilitate maintenance:

- 1. Use of ceramic tile on all the walls and floors.
- 2. Toilets attached to the walls making it easier to clean the floor.
- 3. Taps allowing for the use of a hose.
- 4. Floor drains allowing for thorough cleaning with water.
- 5. Minimal dimensions of the rooms as suggested in building codes should be exceeded to facilitate accessibility.

Let us point out lastly, that well maintained spacious sanitary spaces will have a therapeutic effect on the residents. An image reflected in a large clean well-lighted mirror should produce a more motivating self image than one reflected by a small, dirty and cracked one.

6.4.3 Security

The dangers of accidents (falls, loss of consciousness, etc.) by the clients (alcoholics, drug addicts, ex-psychiatric patients, etc.) once again are very high and provision for rooms with dimensions larger than those we have suggested (section 6.3) would contribute to reducing these dangers. Also, in chapter 3 (section 11.4) you will find a series of recommendations designed to improve accident prevention in sanitary spaces.

6.5 Location of the spaces

The main concerns in locating sanitary spaces should be accessibility, privacy and economy.

Illustration 85. Sanitary space with stalls containing a wash basin and a toilet.



The clientele in low-income singles houses require more higher performing sanitary spaces as pertains to maintenance than those in family dwellings. The use of ceramic tile on all the floors and walls as well as a floor drain, making it possible to thoroughly wash down this space, is recommended.

6.5.1 Accessibility

Common sanitary spaces should be located near, and at the "hub" of the units which they serve. Proximity is particularly important when residents have to get up at night.

6.5.2 Privacy

It is imperative to consider the need for visual and acoustic privacy when building community sanitary spaces. As pertains to visual privacy, the inside of these spaces should not be visible from the corridors; neither should one have to go through community spaces such as the living area to go from one's unit to the sanitary spaces. As pertains to acoustic privacy, it would be desirable to locate the sanitary spaces a certain distance from the units through the use of "neutral noise" areas such as storage spaces or other quiet premises.

The following continuum represents various levels of privacy starting with the most private and going to the least private:

- 1. Sanitary space in a shared unit.
- Sanitary space shared by two contiguous units, each with direct access to the space.
- 3. Sanitary space clearly attached to a limited number of units which are grouped together along a corridor or a floor.
- 4. Sanitary space not attached to any particular group of units and located along a corridor.

Designers should consult specific information sources published by CMCH as pertains to acoustic privacy. It goes without saying that formula 1 is preferable to formula 2, that the latter is preferable to formula 3 and so on and so forth.

7. LAUNDRY ROOM

7.1 Functions of the room

The activities occurring in the laundry room are the following:

- . sorting of clothes;
- . washing of clothes;
- . drying;
- . folding;
- social activities;
- . waiting.

7.2 Appliances and accessories

To execute the work involved in washing their clothes, the residents need a minimum number of fixtures and accessories. The latter are listed in the following paragraphs with minimum horizontal dimensions:

7.2.1 Number of fixtures and accessories

To determine this number we used the average in recommendations from four different sources; according to this average, it would be desirable to provide one automatic washer and dryer for every 25 residents. It was not possible for us, however in this study, to establish with the same degree of accuracy the number of accessories.

7.2.2 Dimensions of fixtures and accessories

. automatic washer: 800 x 800 mm
. automatic dryer: 800 x 800 mm
. double laundry tub: 1200 x 600 mm
. counter or sorting table: 1000 x 600 mm
. chairs¹: 450 x 450 mm
. extra table: 450 x 650 mm

7.3 Clearances

A clearance of 1000 mm will have to be provided for in front of these fixtures and accessories so that laundry work can be done efficiently and comfortably.

7.4 Dimensions of the room

A well designed laundry room should be sufficiently large to accommodate the fixtures and the accessories which we have just listed. The dimensions of this room should vary, however, depending on the size of the houses and on the distribution (concentrated or fragmented) of the fixtures and accessories in each house.

¹ Chairs may prove unnecessary where the laundry room adjoins a community space (i.e., a kitchen or a living area) containing chairs or arm chairs.

7.5 Configuration

- . material atmosphere;
- . efficiency;
- . natural ventilation.

7.5.1 Material atmosphere

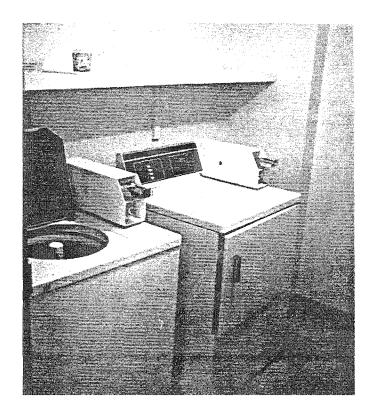
Washing one's clothes can be perceived as a lowly chore or as a way to relax; everything depends on the material atmosphere of the laundry room (illustration 86). Thus we were able to observe that laundry rooms which were treated as being strictly utilitarian spaces were often boycotted by the residents whereas those which were treated as living spaces often became a popular meeting places. The following elements should contribute to shortening the waiting time, promoting social contacts as well as creating a warm and stimulating atmosphere:

- . view on the outside;
- . chairs or arm chairs;
- . extra table and magazines.

7.5.2 Efficiency

The efficiency of a laundry room is closely associated with the distance between the work centers. Washing one's clothes is simplified if the tasks are executed as follows: sorting, washing, drying and folding.

Illustration 86. Typical laundry room.



To do one's washing may be perceived as a lowly chore or as a way to relax; everything depends on the material atmosphere provided by the laundry room itself.

7.5.3 Ventilation

The dryers must be connected up to an exhaust vent on the outside, to prevent the accumulation of lint and humidity in the house. The layout of the laundry room preferably makes it possible to install a dryer next to the exterior wall.

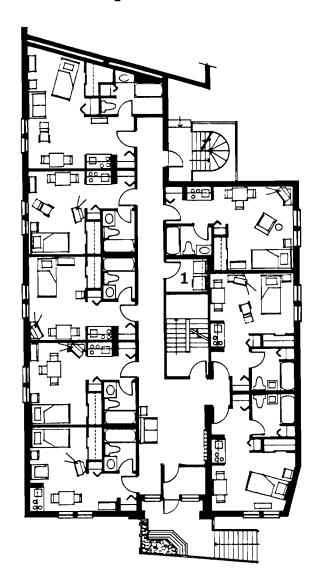
7.6 Location of the room

The location of the room, more than any other characteristic, will make the difference between a "boycotted" laundry room and a popular one. It was reported to us, for example, in certain houses where the laundry room was in the basement, that the residents preferred to go outside to use commercial laundries, to do their washing. It is thus imperative to locate these laundry rooms near community living spaces or units, so that the residents can relax in these spaces or return to their units without any concerns, while waiting for their washing or drying cycle to end (illustrations 87 and 88). In spite of the fact that we want the laundry room to be near the residents' activities, it would be necessary to take measures so that the view on their living areas is blocked out, considering that washing one's cloths is a domestic activity. Lastly, for evident acoustic reasons, putting a laundry room right next to a unit should be avoided.

8. SUPPORT STAFF SPACE

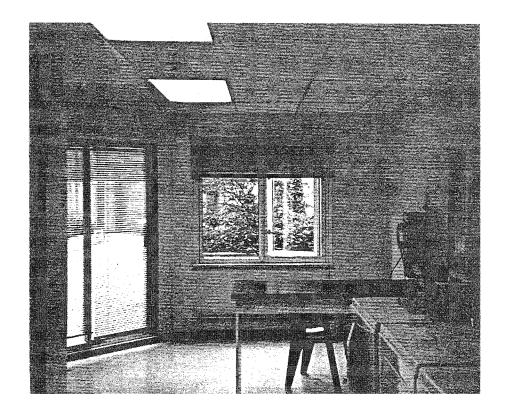
In a number of houses which we visited, there were support staffs. The staff was either permanent or temporary. Our experience showed that the support staff working in the houses had to act in varied capacities: as parents, friends, managers, animators, advisors and janitors. In the smaller houses, these roles are sometimes assumed by one or two people whereas, as in the larger houses, they are assumed by teams of community workers and specialists.

Illustration 87. Ground floor plan of the Chambrenfleur House, Montréal.



In this house, the laundry room (1) is located in the ground floor "hub" position, which makes it possible for the residents to return to their units without any concerns while waiting for their cycles to finish.

Illustration 88. Laundry room, Pendera House, Vancouver.



In this house, the laundry room is designed in direct conjunction with the exterior community amenity space which makes it possible for the residents to relax in this space while their clothes are being washed.

8.1 Functions of the space

The activities occurring in these spaces, reserved for the support staff, are varied considering the diversity of the roles which must be assumed. Those which occur most often are:

- . meeting with residents;
- . meeting with potential clients;
- . individual office work;
- . surveillance of entrance way;
- small group meetings;
- . meals;
- . snacks;
- . rest;
- . social activity;
- . use of toilets.

8.2 Furniture and facilities

The quantity of the furniture and facilities required varies depending on the house size and the type of management.

8.3 Number and dimensions of spaces

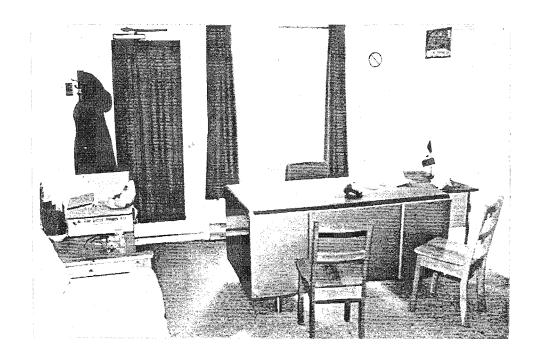
In certain houses, all the activities which we have listed occur in a 10 to 12 square meter room. In other houses, the space reserved for support staff is split up and may occupy 70 or 80 square meters. In most of the houses, however, the tendency is to underestimate the quantity of space required for the support staff. Thus, in almost all the houses visited, the space initially planned for the support staff was insufficient.

For this reason, we observed on many occasions that a unit or a space intended for a community activity had to be used as an office, a meeting room or a rest room (illustration 89).

8.4 Configuration of spaces

The layout of the support staff spaces should, first and foremost, be dictated by the desire to project an image which is as residential and as "open" as possible. In other words: the least bureaucratic, paternalistic and institutional as possible. To attain this objective, these spaces should be organized so that they do not assume an overly dominant role in the house. They should also be similar to the spaces where people live, i.e., they should be more like rooms in a house than premises in a office building.

Illustration 89. Manager's office in the house located at 506 Bronson Street, Ottawa.



This office had to be set up in a space which had initially been intended as a community living area.

8.5 Location of the spaces

The presence of a staff person in a space located near the entrance way is important in order to give the residents the impression that someone is available to assist them and that someone is there to ensure the security of the house. It would be desirable, from this particular space, that the staff person have a view on the outside in order to control the people entering as well as a view on the entrance hall and the corridors to ensure surveillance of the premises. This presence should be discreet, however, so that the residents feel that they are in security but do not feel watched. The other spaces intended for support staff will also be located so as not to assume a dominating role; they may be found at various locations.

9. STORAGE AND UTILITY SPACE

The next chapter will deal with storage space which one should usually find in most units (for storing clothes, food, dishes, etc.). This section focuses on storage space not necessarily as closely associated with the unit and on utility spaces which are necessary for the maintenance of the house. These spaces include, among other things:

- . individual storage space outside the units;
- temporary storage of articles belonging to residents who leave their units in a hurry;
- . storage of bicycles;
- . storage area for daily maintenance material, with water taps;
- . storage of seasonal maintenance material and exterior articles;
- . workshop for repairing and storing materials;
- . storage of house furniture;
- . clothes storage space made available to the residents.

9.1 Individual storage outside unit

Many low-income singles, as is the case for a large number of people in all parts of society, have various objects which they do not use often but which they want to keep. Among these objects, a certain number have a sentimental value whereas others are articles which are used occasionally or seasonally such as luggage or winter clothes. In the absence of individual storage space outside the unit, these belongings end up strewn everywhere in the unit, take up a lot of space and produce a closed-in feeling. In houses where the units do not contain space to store these articles, community spaces containing individual lockers could be provided so that these objects can be stored.

We make this suggestion with reservations, however, considering that a certain number of objections have been raised to this idea.

The following remarks made by house managers would seem to justify these objections:

"...certain tenants collect things which are fit for the garbage..."

"...some people collect only rubbish..."

"...many have a compulsive need to collect things just to feel more secure..."

"...the accumulation of these objects means that we have to call in the exterminators regularly for public health reasons..."

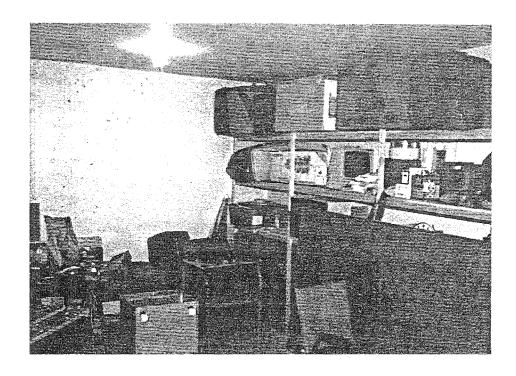
"...the worst is that they often leave the house without taking these things along and, where these articles are worth anything at all, we must keep them or go to court to obtain permission to get rid of them..."

The solution to this problem is not simple and will require more in depth research. In the meantime, it would seem desirable to study each case on its merits. Thus, it may well be preferable in certain houses to store these objects in the individual units whereas, in others, these objects could be stored outside the unit and, lastly, in other houses this type of storage may be completely absent.

9.2 Temporary storage of articles belonging to residents who leave their units suddenly

It is very common in houses for low-income singles for certain residents to have to leave their units suddenly for extended periods. For example, some residents are hospitalized and others are incarcerated. Certain residents, on the other hand, just take off and abandon all their personal effects; and other residents die. Considering these situations, in each house, there should be a temporary storage space which would make it possible to empty these units in order to make them accessible to other people in need (illustration 90).

Illustration 90. Temporary storage of articles belonging to residents leaving their units suddenly.



9.3 Storage space for bicycles

In a certain number of houses which we visited, a high proportion (25% to 33%) of residents had bicycles. In the absence of storage space for these bicycles, the latter are often strewn about everywhere in the houses (in corridors, on stair landings, in units, etc.). This lack of storage may be the source of accidents, particularly in case of fire. Thus, it would be necessary to provide, in all the houses, a special storage space for bicycles and this space should be easily accessible from the outside (illustrations 91 and 92).

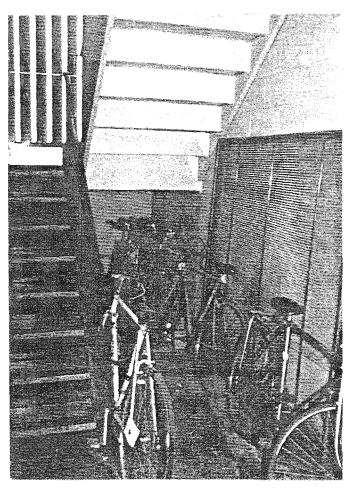
9.4 Storage space for daily maintenance material, with water taps

The houses should all have spaces reserved for daily maintenance material such as brooms, vacuum cleaners, floor polishers, pails and mops. These spaces should contain a tub with water taps (illustration 93). They should also have racks to store maintenance products. The ideal location for these storage spaces is usually in a central area near a corridor and preferably on each floor in larger houses.

9.5 Storage for seasonal maintenance materials and exterior articles

All the houses should have a space reserved for storing seasonal maintenance objects such as lawn mowers, garden tools and shovels as well as a storage space for exterior articles which must be stored during a certain period of the year, such as lawn chairs, tables and barbecues. As far as possible, this space should have direct access to the outside (illustration 94).

Illustration 91. In most houses which we visited, no provision had been made to store bicycles.



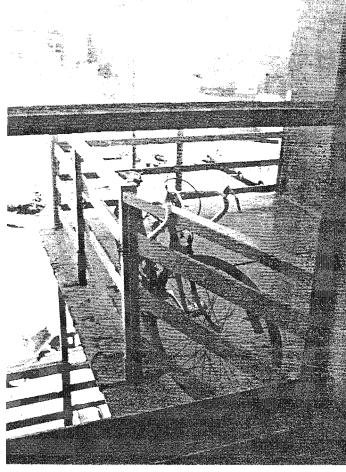


Illustration 92. In the house located at 506 Bronson Street, Ottawa, provision was made exclusively for an area to store bicycles as well as an exterior and interior ramp allowing access to it.



Illustration 93. All the houses should have spaces reserved for daily maintenance materials and contain a tub.

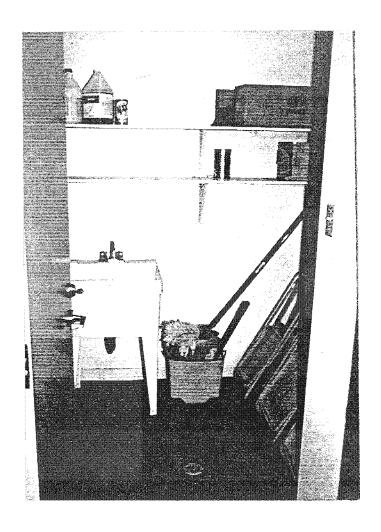
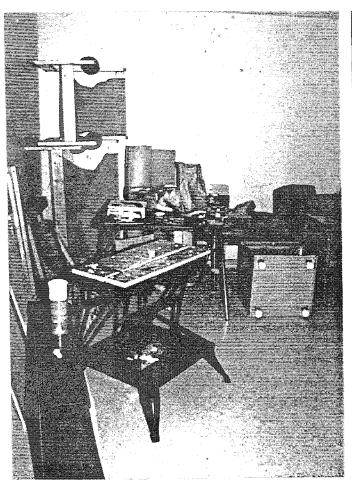


Illustration 94. All houses should have a space reserved for storing seasonal maintenance objects as well as a utility space for building maintenance.





In most of the houses we visited, these spaces, as you can observe in the photographs, were not part of the original house plans but had been improvised.

9.6 Repair workshop and material storage

The houses should contain a utility space reserved for building maintenance (illustration 94). Where possible this space should have direct access to the outside to facilitate the delivery of supplies. Lastly, this space should contain a work bench, an area to store materials, products and tools as well as an open work area.

9.7 Storage of house furniture

The turnover rate is relatively high in houses for low-income singles; people are moving in and out every day. Certain residents, when they move in, have practically nothing whereas others have few pieces of furniture; some, on the other hand, when they leave, leave certain pieces of furniture behind. All this means that certain residents need furniture whereas others could do without the furniture which the house is willing to provide them with. It would thus be desirable to have, in each house, a area to store excess or abandoned pieces of furniture where the tenants in the greatest need could find what they are lacking (illustration 95).

9.8 Clothes Store

For reasons similar to those raised under the preceding point, i.e., certain residents, when they move in, have a bare minimum of clothes and, in certain houses, there are areas where clothes which have been collected in the community are kept to be sold for a nominal sum to the most needy tenants (illustration 96).

Illustration 95. In certain houses, there is a storage area where surplus or abandoned furniture is kept and which is reserved for the needlest tenants.

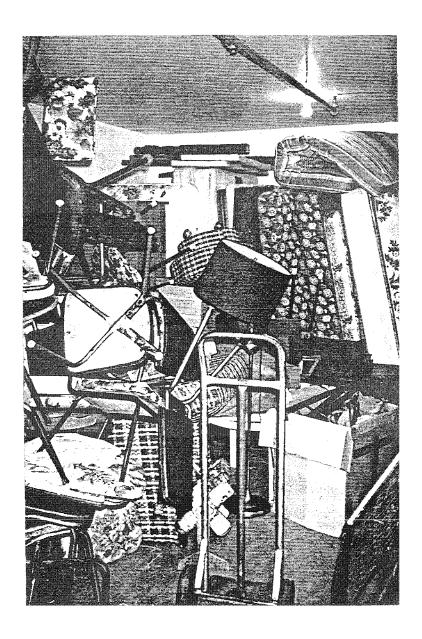


Illustration 96: In certain houses, there is a "store" where clothes which are collected in the community are kept to be sold to the most needy tenants.



10. PARKING

10.1 Real clientele need

With the characteristics of the residents in homes for low-income singles being as we have described them, it goes without saying that the need for parking space for the current group is practically nil. This was shown in two studies carried out in Toronto, one by City of Toronto Housing Subcommittee (1984) which revealed that 5% of tenants had automobiles and one by Peat Marwick and Partners in Tameanko (1976) which revealed that 18% of the tenants had automobiles. We were not able to obtain equally well documented figures on automobiles in this regard in the other cities which we visited but a few stakeholders in various regions with whom we discussed this question, estimate at approximately 2% the proportion of tenants who have their own automobiles.

10.2 Contextual requirements

It will not be possible, however, to establish the parking requirements without taking into consideration the district in which the house is found, the nature of the construction (new or renovated building) as well as the target client group.

10.2.1 District

In districts in the periphery around the city core, since the density is not as high, it could be argued that it is easier to park on the street and that, consequently, the requirements for parking could be less restrictive. On the other hand, the argument could also be made that in these districts, the value of the lots is lower, that the client group must move about in the city more, that the urban transit system is less developed and, consequently, the requirements for parking should be more restrictive.

In the city core, with the density being higher, the case could be made for stricter requirements since there is increasingly less space to park. On the other hand, the high cost of the lots and the presence of an efficient urban transit system could lessen the need for parking.

10.2.2 Nature of the construction

As pertains to the nature of the construction, it seem to us that, in all cases, parking requirements could be less strict for recycled buildings than for new buildings. We have come to this opinion considering the technical problems and the relatively exaggerated costs which the inclusion of parking spaces in these buildings, not originally designed for this function, would represent. From all other points of view, however, these buildings would make excellent houses for low-income singles.

10.2.3 Target client group

The quantity of parking space required for a house will also depend on the nature of the target client group. Thus, it is highly probable that the parking needs for a client group made up mainly of mobile people, who can still work, will be higher than those for more elderly people, often having to cope with sicknesses and who are totally dependent on welfare.

10.3 Long-term considerations

In all cases, one should not forget that, even if current conditions do not require a parking area, considering that the useful life of a building is much longer than that of its residents, it may well be that, on the long term, parking spaces will be required.

In order to take this possibility into account, one solution would be to make provision, in the plans, for the possibility of a parking area later on.

Others would opt for the inclusion of parking spaces immediately but for a lower number than would normally be required by cities for residential buildings. We have not been able to sufficiently study this question to formulate recommendations. Here, however, for reference purposes, are certain proposals which were made in this respect in three studies which we consulted:

- . 1 parking space: 6 units (City of Toronto, 1979);
- . 1 parking space: 6 units (Peat Marwick and Partners in Tameanko, 1976);
- . 1 parking space: 6 units (City of Toronto Planning Board Staff, 1975).

10.4 Access for emergency vehicles and staff parking

In all cases, provision should be made for access for emergency vehicles such as ambulances and fire trucks. As far as possible, provision should also be made for parking spaces for the support staff.

CHAPTER 3 CONSIDERATIONS CONCERNING THE UNIT

1. TYPES OF UNITS

In the introduction section, we identified the main types of units which we visited, namely:

- bachelor units;
- . shared units;
- . ""rooming house"" type units.

In chapter 1, we observed and compared the possible variations of the units according to the way they were grouped and according to the nature of the sanitary facilities and meal preparing facilities which were contained in the unit.

In Appendix 2, we also developed 24 model plans with variable dimensions to determine the minimal size of unit based on its contents.

Our observations, as well as the analysis which we conducted of the model plans, allowed us to conclude that those units without a minimum level of furniture, sanitary facilities and meal preparation facilities were compromise solutions since they forced the residents to go outside their unit for most of the activities which most people wish to be able to perform inside the unit. Of course, certain people choose to share certain facilities because they prefer company. We also explained that, for a few people, who are less independent, the fact of sharing a kitchen could prove to be therapeutic. In general, we are of the opinion that units containing only a kitchen and a bathroom do not respect elementary rules of privacy, identity, independence and socialibility which should apply to all people, regardless of their financial situation.

In the following sections, we shall deal in detail with activities which could be accommodated as well as with the furniture, facilities and spaces required by these activities.

2. FUNCTIONS OF THE UNIT

The main activities which should be accommodated in the unit are the following:

- . movement about in the unit;
- . resting;
- entertaining oneself;
- . odd jobs;
- . watching television;
- . telephoning;
- . preparing meals;
- . cleaning up and putting the food away after the meals;
- . undressing/dressing;
- . sleeping;
- . storing one's clothes;
- . washing;
- . elimination;
- . personal care;
- . decorating the unit;
- ironing one's clothes;
- . maintaining one's unit;
- . having a friend, child, parent over for a few hours or days.

3. FURNITURE

The surveys which we conducted across the country made it possible for us to realize that, unfortunately, there were not very many innovative examples of furniture design. We were actually astonished by this observation since we are convinced that for any reduced dimension space to function properly, (think of conditions inside a boat, for example), this is highly contingent on the way the furniture is designed.

In addition, the documentary research which we carried out did not prove to be particularly enlightening as pertains to the furniture aspect. Only one chapter in the New Households New Housing book, The Design of a Single Room with Furniture for a Residential Hotel, written by Michael Mostoller (1991) proved to be pertinent.

In this book, Mostoller relates how he was able to identify, down through the history of furniture, elements of furniture originally intended for various functions and which he used to design furniture for low-income singles. The fact is that among the models which he found particularly interesting, there were various types of chairs (capitain chairs, Shaker style chairs); various models of tables (tavern tables with drawers, tables with folding leaves); old wardrobes with doors and drawers; trunks in various shapes; etc. What seemed to catch his attention most, however, and was his greatest source of inspiration, was the principle of the cyma adopted in the Shaker style houses which makes it possible to hang up on walls various objects, especially small cabinets, as well as light wood chairs, when they are not being used. This system helps to create an impression of order and space since it clears the floor surface of a certain number of objects.

On the basis of these principles and these images, Mostoller developed a room prototype and invented various elements of furniture which can be seen in illustrations 97 and 98.

As for our surveys, what we have been able to conclude therefrom is, first of all, that all units should contain the following pieces of furniture which we consider essential:

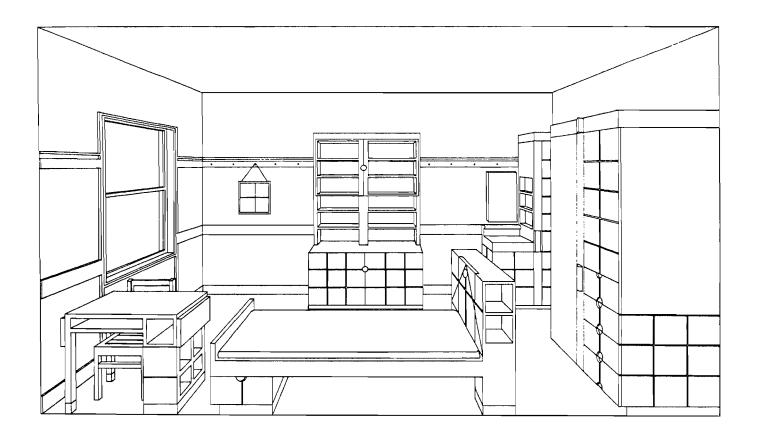
	single bed (1)	1000	x	2100	mm					
•	bedside table (1)	450	x	500	mm					
•	single dresser (1)	450	x	900	mm					
	table (1)	700	x	800	mm					
	chairs (3)	450	x	450	mm					
•	rocking chair (1)	500	x	1000	mm					
•	television (1)	500	x	800	mm					
•	double chesterfield bed (1) 900	x	1800	mm	(see	section	9.2	in	this
						rega	ard).			

Moreover, we consider particularly important:

- . that the pieces of furniture be on the same scale as the unit (illustration 99);
- . that the furniture help to optimize the quantity of storage space (illustration 100);
- that the television be taken into consideration when the unit is designed (illustration 101);
- . to provide each unit with the potential of having a chesterfield bed (illustration 102).

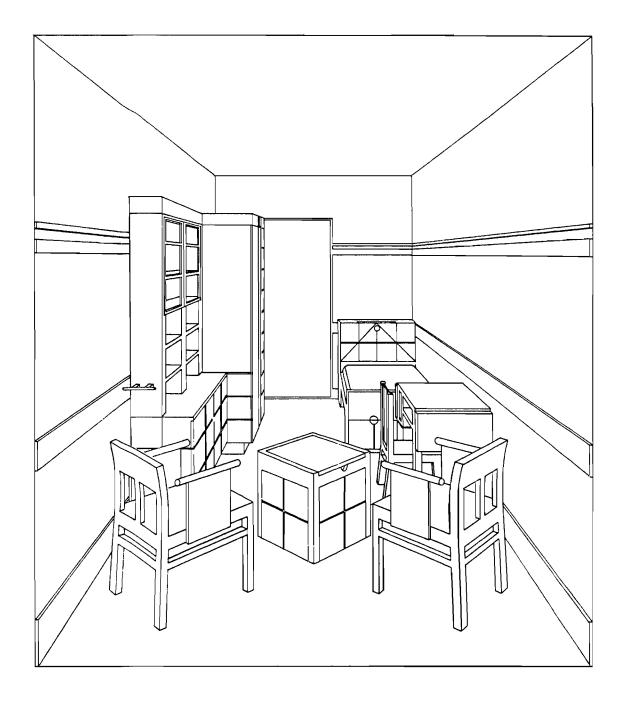
It would also be desirable in the unit to have additional square meters set aside for certain residents to keep pieces of furniture to which they are very attached or to make it possible for others to acquire additional pieces once their situation begins to improve (illustrations 99 to 102).

Illustration 97. Longitudinal view of the room prototype as well as the furniture developed by Michael Mostoller. To be noted: the cyma, inspired by the Shaker architecture, on which various objects can be hung.



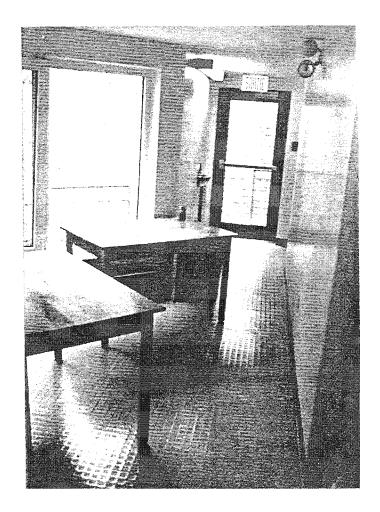
Subject to authorization to use these sketches from Michael Mostoller and/or Van Nostrand Reinhold (to be verified).

Illustration 98. Cross section of the room prototype as well as the furniture developed by Michael Mostoller.



Subject to authorization to use these sketches from Michael Mostoller and/or Van Nostrand Reinhold (to be verified).

Illustration 99. Each of the pieces of the furniture must be on the same scale as the unit.



This photograph shows tables which were intended for the units and had to be relegated to the corridor because they were too big (Alexandre-de-Sève House, Montréal).

Illustration 100. Good choice of furniture can assist in optimizing the quantity of storage space available.

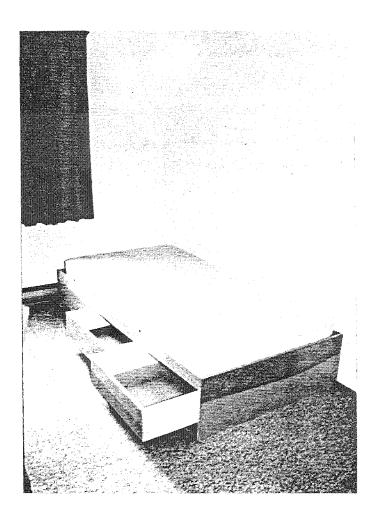
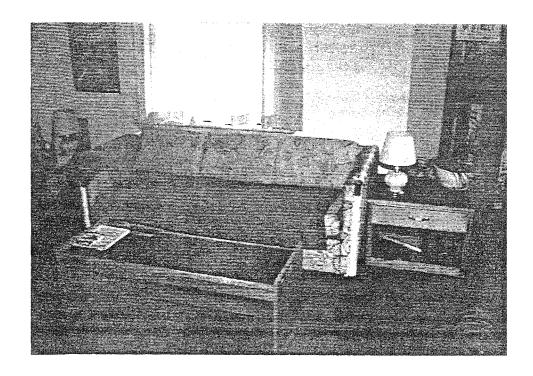


Illustration 101. All too often, no provision at all is made for the television when the unit is designed; and this is true in spite of the fact that televisions are present in practically all the units and are just as important as the windows.



Illustration 102. Not all residents need a chesterfield bed but we believe it is absolutely essential to provide each unit with the possibility of having one, considering the changing needs of the clientele.



4. KITCHEN FACILITIES

Earlier on we listed the activities (Chapter 2, Section 5.1) which should occur in the kitchen. To go about these activities, the residents need a minimum number of household appliances, sufficient counter and storage space.

It would have been interesting, to determine the desirable size of these facilities, to conduct a detailed study on the living habits of the residents in the kitchen and to note what they had stored in their cupboards.

Since we were not able to conduct such a study, the recommendations presented in the following paragraphs were formulated intuitively and should only be considered as hypotheses.

It should be pointed out, however, that our intuition was based on observations, conversations and on the "Internal Spaces of the Dwelling/Advisory Document (Teasdale, 1985)", on hypotheses that we developed concerning that which should be stored in the kitchen (Table 16, Appendix 3) as well as the design of two kitchen plans which we developed (illustrations 178 and 179, Appendix 3). We shall indicate, moreover, for each of the following recommendations, the rationale on which it is based.

4.1 Optimal solution

The kitchen should accommodate the kitchen appliances, counter space and storage space indicated in illustration 178 in Appendix 3. In this solution the kitchen appliances are separate elements but these appliances, as well as the counter space and the storage space have been grouped together to form a 2700 mm x 600 mm work center, including 1.3 m³ of storage space.

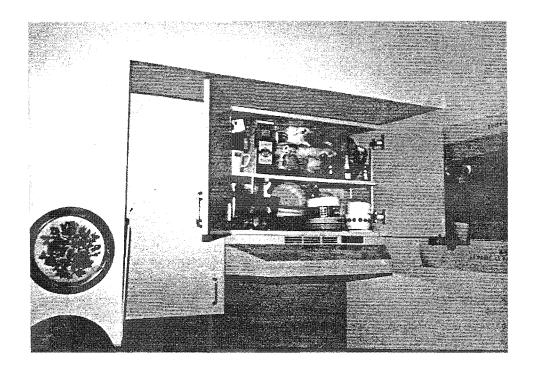
The solution is based on the hypothesis that the preparation of food is less elaborate in a bachelor apartment designed for one person than in a bachelor apartment designed for two people.

For this reason, the length of the work surface prescribed in the "Internal Spaces of the Dwelling/Advisory Document is reduced by 30%.

4.2 Minimal solution

The kitchen should accommodate the kitchen appliances, the counter space and the storage space indicated in illustration 179 in Appendix 3. In this solution, the kitchen appliances are integrated in one block (compact kitchen), the cooking elements are side-by-side and the refrigerator is under the counter. The kitchen appliances, the auxiliary counter and the storage space form a 1800 mm x 600 mm work center, including 0.8 m³ of storage space (illustration 103). This solution provides a work surface comparable to the preceding one but is based on the hypothesis that the quantity of space required to store food is less in a bachelor unit designed for one person than in a bachelor unit designed for two. For this reason, the storage volume, including the refrigerator, prescribed in the "Internal Spaces of the Dwelling/Advisory Document" is reduced by 40%.

Illustration 103. The storage space in this kitchen is only 0.3 m³; the photograph, moreover, makes it possible to observe just how insufficient this is (Chambredor House, Montréal).



4.3 Warning

Compact kitchens were found in a number of the houses which we visited and we received many negative comments concerning the latter (illustration 104). Here is a list of the main comments formulated:

- . frequent breakdowns;
- . exorbitant repair costs;
- necessity of hiring a carpenter and a plumber to move the unit to disinfect it, since the unit is not movable;
- . food in the freezing section thaws out when the cooking elements are operating or when there is warm water in the sinks;
- the compressor operates almost continuously in the summer producing much heat;
- . the heat produced frequently activates the heat detectors; consequently the latter are often removed by the residents;
- . the freezer does not defrost automatically and this leads to damage since many residents are not aware of the manual procedure recommended for defrosting.

Thus is would be desirable, in cases where we have to opt for the minimal solution, to explore the possibility of using only standard appliances (illustration 105). For example, it is possible, using a standard electric range, 600 mm wide and a refrigerator which can be inserted under the counter, to form a 2100 \times 600 mm work center with a work surface comparable to the preceding solutions and a storage space of 1.16 m³.

Illustration 104. We heard many negative comments about these "compact kitchens".

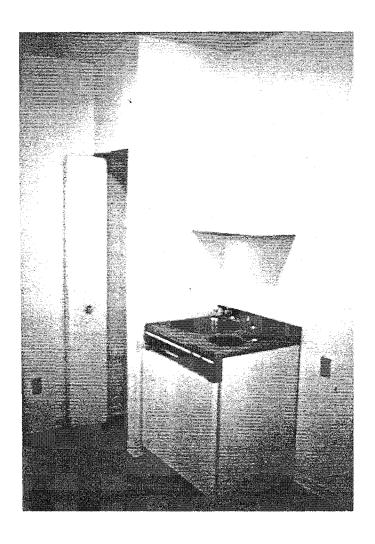
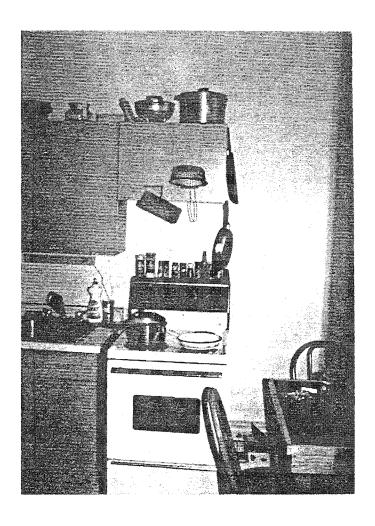


Illustration 105. It is possible, using standard appliances, to form a compact work center.



5. SANITARY FIXTURES

For their usual activities in the bathroom, the occupants need a minimum quantity of fixtures. For a complete bathroom this generally means a wash basin, a bathtub equipped with a shower as well as a toilet. These fixtures can be contained in a area of approximately $4.0~\text{m}^2$.

During the visits which we conducted, we were able to observe that by eliminating the wash basin, the area of the bathroom could be reduced in half, i.e., $2.0\ m^2$. In a context where the economic constraints are extreme, we find that this solution may be acceptable.

We do not find this solution desirable, however, given that it means that many activities which should usually occur in the bathroom occur in the kitchen (for example, washing, shaving, putting on make-up, brushing one's teeth, etc.). Our comments are based once again on the idea of creating normal environments, and the fact of having to shave or to brush one's teeth in the kitchen does not contribute to creating the impression that one is in a residential environment.

Each bathroom must also have storage space for small articles such as medication, dental care articles, shaving equipment, deodorants, cosmetics, brushes, combs, creams, soaps, toilet paper, facial tissue, cleaning supplies and products.

To contain these objects, the minimal storage volume (approximately 0.170 m³) necessary in the bathroom may be provided through to the use of a mural medicine cabinet/vanity under the sink. Where there is no wash basin in the bathroom, these objects have to be stored away in kitchen cupboards, in the general storage area or in a dresser.

6. STORAGE SPACE

In a reduced dimension space, the least disorder can give the impression of confusion or congestion. It is thus easy to understand the importance of storage space in units designed for low-income singles.

It would have been interesting, once again, to establish the quantity of general storage area necessary based on an inventory of the residents' possessions. Since this was not possible, once again we had to proceed intuitively using observations, conversations, documents, hypotheses based on the articles which have to be stored (Table 17, 18 and 19, Appendix 4) as well as on model storage closet plans which we developed (illustrations 180, 181 and 182, Appendix 4).

6.1 Articles which must be stored

6.1.1 Exterior clothes

The units must have storage space for hats, gloves, coats, boots and umbrellas.

6.1.2 Other clothes, bedding and bathroom linens

The units must also have storage space for other clothes and space for bedding (bed covers, blankets, pillow cases, etc.) and for the bathroom linen (face cloths, bath towels, bathroom carpets, etc.).

6.1.3 Maintenance material

Units must also have storage space for maintenance materials such as brooms, dust pans, pails and ironing boards. There should also be shelves for tools and maintenance products (hammer, screw drivers, light bulbs, electric iron, etc.).

6.1.4 Miscellaneous objects

Lastly, the units much have storage space for products and articles used occasionally as well as those with sentimental value. In certain houses, this storage space is located in a common room outside the unit. In other houses, the spaces are absent to discourage the residents from hoarding articles for hygienic reasons. In the following recommendations, there is only a minimum volume of space allowed for this function and we have taken for granted that these objects could be stored in a common area outside the unit.

To determine the volume of storage, we developed three hypotheses. These then led to model plans which correspond to three solutions, one for temporary lodging and the other two for permanent lodging. In each of these solutions, we have assumed that all the general storage space was concentrated in one closet. It could, however, be broken down into several closets.

6.2 Solution for temporary housing¹

This solution is the result of the hypothesis (Appendix 4, Table 17) according to which 1.59 m³ of space is required for storage. It is illustrated by the model plan with an area of 0.78 m² (Appendix 4, Illustration 180). The quantity of space offered here corresponds to 50% of that required in the "Internal Spaces of the Dwelling" design guide (Teasdale, 1985) for a bachelor unit designed for one or two people. According to our experience, this quantity of storage space would only be appropriate for mobile clients living in temporary units.

6.3 Minimal solution for permanent housing

This solution is based on the hypothesis (Appendix 4, Table 18) establishing 2.05 m³ as the quantity of space required for storage. It is illustrated by the model plan with an area of 0.96 m² (Appendix 4, Illustration 181). The quantity of storage offered here represents 70% of that required in the above-mentioned design guide for a bachelor unit designed for one or two people. According to our experience, this quantity of storage should be sufficient for residents with relatively small quantities of clothes and miscellaneous articles.

6.4 Optimal solution for permanent housing

This solution is based on the hypothesis (Appendix 4, Table 19) which establishes at 2.91 m³ the quantity of space required for storage. It is illustrated by the model plan with an area of 3.46 m² (Appendix 4, Illustration 182). The quantity of storage offered here corresponds to that required in the above-mentioned design guide for a bachelor unit designed for one or two people. This quantity of storage should be appropriate for people who, over the years, accumulate more belongings than the preceding group, and who, from time to time, want to invite relatives, children or friends to spend a few days with them.

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¹ See Preamble, page xvi

6.5 Access to storage

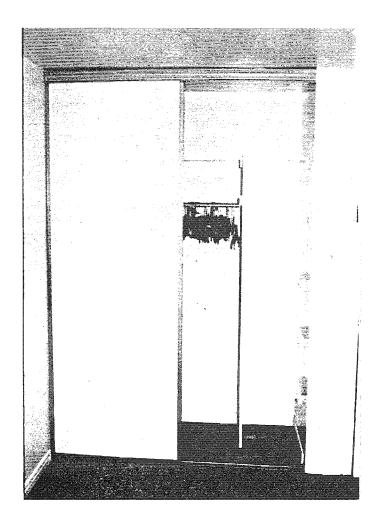
Full height sliding doors ensure maximal accessibility to the storage space and do not take up as much room as spaces with swinging doors (illustration 106). As for folding doors, they have a reputation of being fragile.

7. CLEARANCES

Clearances are necessary in front, and sometimes all around, the pieces of furniture which we listed above (Section 3), so that normal activities can be conducted efficiently and comfortably. In addition, provision has to be made for clearance at the entrance way to allow for easy access, for departures and arrivals, and for handling large pieces of furniture.

The desired clearances have been grouped by zones and their horizontal dimensions are listed below.

Illustration 106. Full height sliding doors provide maximum accessibility to storage spaces and take up less room than swinging doors.



7.1 Entrance way

Area required to take off coats:	1500 mm X 1500 mm
Clearance for moving furniture:	900 mm
Clearance for hanging up coats in a closet:	550 mm

7.2 Eating area

Clearance in front of kitchen counter:	1200 mm			
Clearance between table and wall where there are				
chairs and a low traffic zone:	850 mm			
Clearance between table and wall where there are				
chairs in a high traffic zone:	1100 mm			

7.3 Rest area

Area required for	dressing:	1200	mm	X	1200	mm
Clearance between	bed and dresser:	1000	mm			
Clearance between	bed and bedside table where there					
are chairs in a	low traffic zone:	750	mm			
Clearance between	bed and closet:	750	mm			
Clearance between	bed and wall:	700	mm			
Space necessary to make the bed from the foot of						
the bed placed a	against a wall:	500	mm			

7.4 Living area

Clearance in front of an arm chair:

Clearance between an arm chair and a coffee table:

Clearance between the back of a chesterfield bed and a wall

in a high traffic area:

850 mm

600 mm

7.5 Bathroom

Access area to the bathtub:

Clearance on each side of wash basin:

Clearance in front of wash basin:

Clearance in front of shower:

Clearance on both sides of toilet:

Clearance in front of toilet:

8. DIMENSIONS OF THE UNIT

In the preceding sections, we defined the measurable, quantitative characteristics which the unit should have. In the following section (Configuration of the unit) we shall define the qualitative characteristics which the unit should have. To a certain extent these various characteristics represent performance criteria based on which the minimal dimensions of the unit can be established and the quality can be evaluated.

In Appendix 2 (illustrations 154 to 177) you will find two series of unit plans which we have developed to determine the minimal dimensions which the units should have to contain:

- . various combinations of furniture (Appendix 2, Table 10);
- . various types of sanitary fixtures (Appendix 2, Table 11);
- . various facilities necessary to prepare meals (Appendix 2, Table 12);
- . various types of storage space (Appendix 2, Table 13).

In addition, these two series of plans respect the rules which we defined in the preceding section for clearance. The first of these series is made up of 12 square plans, whereas the second is made up of 12 rectangular plans. This was done in order to compare the relative efficiency of the square plan in relation to the rectangular plan (Appendix 2, Table 15).

The dimensions of the plans vary from 10.0 m^2 to 35.5 m^2 . This variation corresponds to that which we observed in "rooming house" accommodations and bachelor apartments in most of the houses which we visited. The contents of the plans also vary from one plan to another (Appendix 2, Table 14) and the increase in area in most cases is in increments of 1.5 m^2 (Appendix 2, Table 15).

When these plans are compared (Appendix 2, Illustrations 154 to 177 and Table 15) it is observed that an area of approximately 24 m² to 25 m² is required to meet the minimum quantitative requirements which we had established. In addition, it has to be pointed out that the plans with sizes exceeding 25 m² do not meet all the qualitative requirements which we also established. We want to insist on this aspect to draw attention to the fact that the 25 m² size does not represent an ideal standard which is to be attained but rather a minimal threshold, a benchmark on which to base our dimensions.

The relevancy of this benchmark was confirmed to us in exchanges with managers and residents in houses with unit dimensions close to this figure (Table 7). The relevancy of this benchmark was also corroborated by a review of publications which we conducted (Table 8). Lastly, illustrations 107 to 111 provide five examples of unit plans from abroad where the sizes are also approximately 25.0 m².

Warning

We were careful to use the term "benchmark" rather than the term "standard" since physical normalization implies human normalization, i.e., the notion that each low-income single person is the same. The fact is that we cannot remind you too often that the characteristic which is most common among low-income singles is their diversity. Consequently, it would be desirable, in the same "rooming house", in the same district or even in the same city, to have units of minimal size as well as larger units. Certain young and mobile residents without many belongings, look on this type of unit as temporary housing, and will be fully satisfied with a 25.0 m2 unit. On the other hand, certain more elderly residents, more stable in nature and wanting to grow roots, may feel closed-in in a unit of this size. The same may be true for people attached to their house and to their district who want to have intimate relations with others, or people wanting to get closer to their family or their children once again. These people should have the possibility of inviting a partner, relative or child to spend the night without feeling embarrassed or really cramped for space. These people should certainly not feel immediately obliged to move as soon as they enter a new cycle in their lives.

It is understood, of course, that this liberal-minded approach is not necessarily easy to manage in that some people could try to take advantage of it and this could lead to conflict among the residents. For this reason, there are strict rules in a number of houses which prohibits residents from inviting quests to stay overnight.

Table 7. Houses containing units, the size of which seemed satisfactory according to the managers and a few residents.

House	Type of Unit	Average Size
Alexandre-de-Sève	Bachelor	27.3 m²
Logan	Bedroom with compact kitchen, shower and toilet	22.1 m²
Chambrenfleur	Bachelor 	27.9 m ²
St-Dominique	Bachelor	28.8 m²
Options Bytown	Bachelor	24.6 m²
Tellier Tower	Bachelor	29.4 m ²
Veterans' Memorial Manor	Bachelor	24.6 m²

Table 8. Suggested sizes for bachelor units for low-income singles in the literature which we have studied.

Suggested Size	Type of Data and Context	Bibliographical References
32.5	Guidelines, HFLIS ¹ , England (for middle age stable people)	Department of the Environment, 1974
29.7	Guidelines, HFLIS, England	Morris, Sir Parker, 1974
25.0	Guideline, HFLIS, England (for young mobile people)	Department of the Environment, 1974
24.0	Committee's recommendation,	Homeless Committee,
23.2	Standard for American prisons	Illinois University,
23.2	Recommendation of the Committee, Toronto	City of Toronto Housing Subcommittee, 1984
22.3	Research and simulation by a group of students at the School of Architecture at the University of Montréal	Bélanger et al., 1984

¹ HFLIS: Housing for low-income singles.

Illustration 107. Plan for a typical YMCA unit located in Coventry, England (26.4 m²). Reference: Tameanko (1976). Scale 1/4": 1'-0".

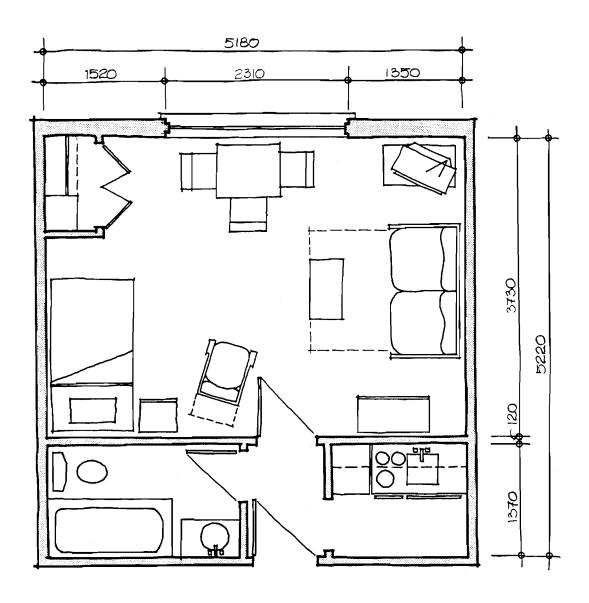


Illustration 108. Plan of a typical YMCA unit located in Birmingham, England (24.9 m²). Reference: Tameanko (1976). Scale 1/4": 1'-0".

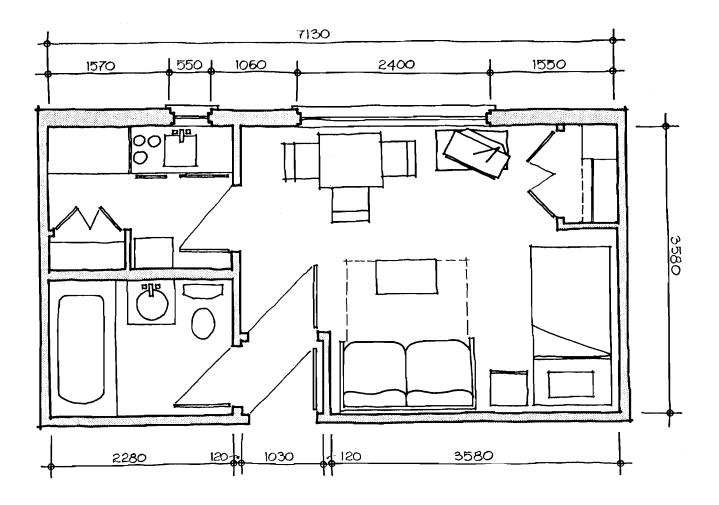


Illustration 109. Plan of a typical unit in a residential project designed by Scandia Vakis Engineering and located in Sodertalje, Sweden (22.3 m^2). Reference: Tameanko (1976). Scale 1/4": 1'-0".

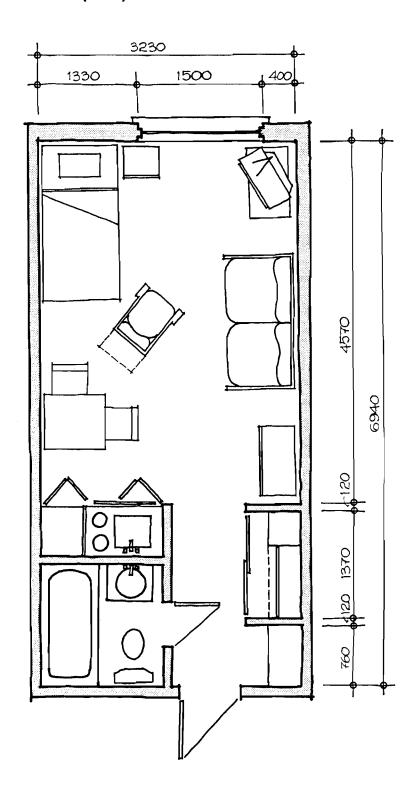


Illustration 110. Plan of a typical unit in a residential project located in Hasselby, Sweden (24.7 m^2). Reference: Tameanko (1976). Scale 1/4": 1'-0".

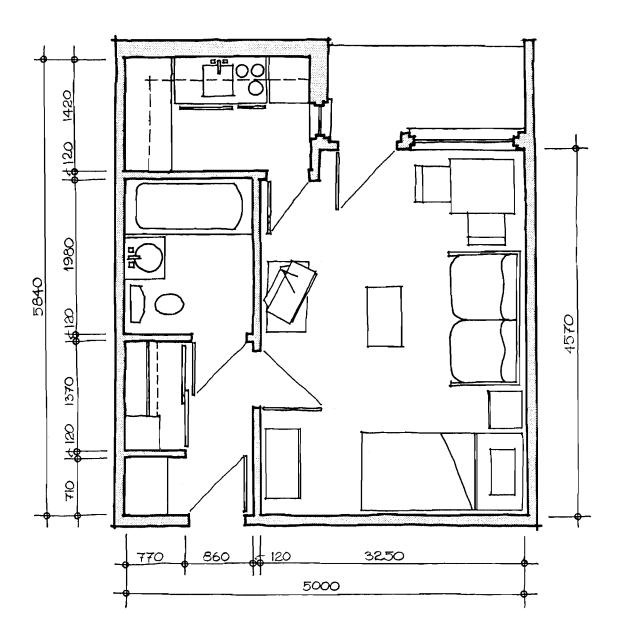
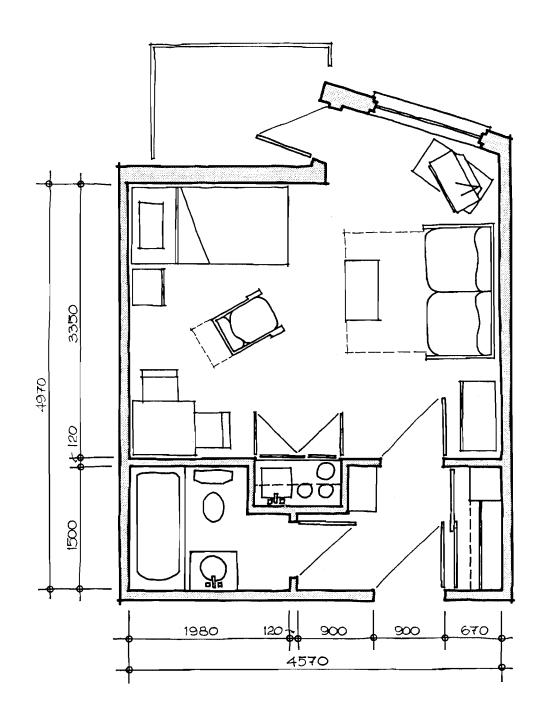


Illustration 111. Plan of a typical unit in a residential project located in Marienberg, Sweden (24.2 m^2). Reference: Tameanko (1976). Scale 1/4": 1'-0".



In conclusion, it is essential to mention, concerning the dimensions of the unit, that most of the people with whom we have talked confided to us that most of the residents preferred a smaller unit containing a kitchen and a bathroom as opposed to a larger unit where certain facilities would have to be shared. Some would even go so far as to affirm with conviction and concern (Tom McKeown, interview) that when we start to force a portion of the population to share things as essential such as the bathroom and the kitchen, we are starting to create a second type of society.

9. CONFIGURATION OF THE UNIT

In this section, we deal with the psychological and sociological needs which must be taken into consideration to define the shape of the unit¹.

9.1 Need to move around

Provision must be made for sufficient clearance to allow access to the unit as well as enough room for departures and arrivals without congestion.

The kitchenette must open directly onto the eating area since there is much interaction between the two areas.

It should be possible to conduct the various activities which normally occur in the unit without having to move several pieces of furniture each time.

Nothwithstanding the preceding requirements, we should always attempt to minimize the total area of the unit reserved for traffic.

We are not able to list these needs in order of priority.

9.2 Need for normality and stability

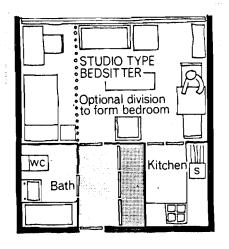
The occupants need to have the impression that they are living in a unit which is comparable to the units in which most people live. They also need to have the impression that their situation is stabilizing and that the unit which they are occupying is permanent, even if they themselves are in perpetual movement. This means that they need, among other things, an environment which is closer to that of a house than that of a hotel or motel room. This challenge is not easy to meet in an area of 25.0 m².

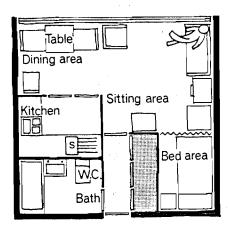
In units with only one space which must be used for several functions, differentiating between the zones reserved for each function (illustrations 108, 110 and 112) may contribute to making the unit feel more like a house.

There are several ways of creating distinct living zones:

- an L-shaped unit, rather than a square or a rectangular unit, facilitates the creation of distinct zones;
- 2. a window with certain depth rather than a window which is merely a pane of glass becomes a point of interest (illustration 113);
- 3. a full height window with a guard rail, when it's open, becomes a balcony (illustration 114);
- a bay window makes it possible to have an oblique view;
- 5. a window sill with certain depth becomes a usable surface (illustration 113);
- 6. a bed recessed in an alcove separated from the rest of the unit by a dwarf wall becomes a bedroom (illustration 115);
- 7. a vertical clothes closet or a refrigerator surrounded by three walls contributes to the formation of a kitchen nook (illustration 116);

Illustration 112. Unit plans in which the entrance way, kitchen, bathroom, rest area, living area, and eating area are clearly differentiated. Area: 25.5 m². Reference: Department of the Environment¹ (1974). Scale 1:100.





¹ Authorization to be obtained for the use of these illustrations.

Illustration 113. A window with certain depth rather than a window which is merely a pane of glass becomes a point of interest. Chambredor House, Montréal (left) and the Portland Hotel House, Vancouver (right).



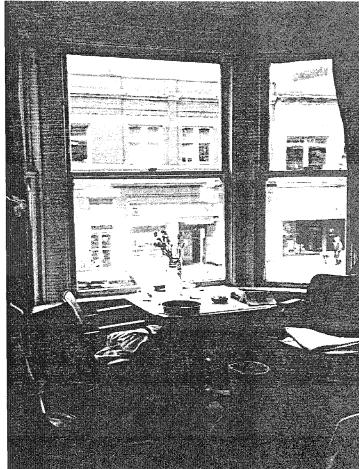
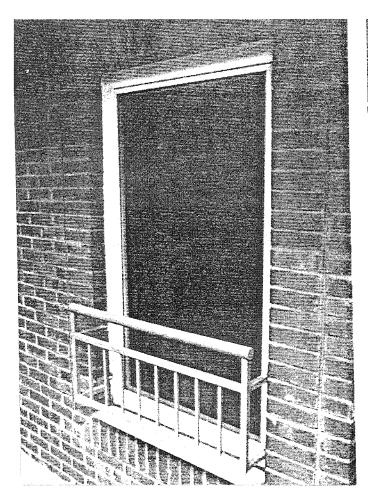


Illustration 114. A full height window with a guard rail becomes a balcony-Alexandre-de-Sève House, Montréal (left) and Logan House, Montréal (right).



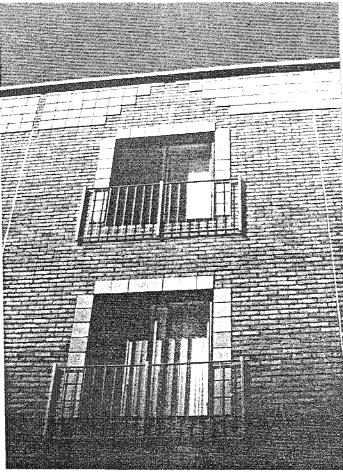


Illustration 115. An alcove separated from the rest of the unit by a dwarf wall becomes a bedroom. Four Sisters House, Vancouver.

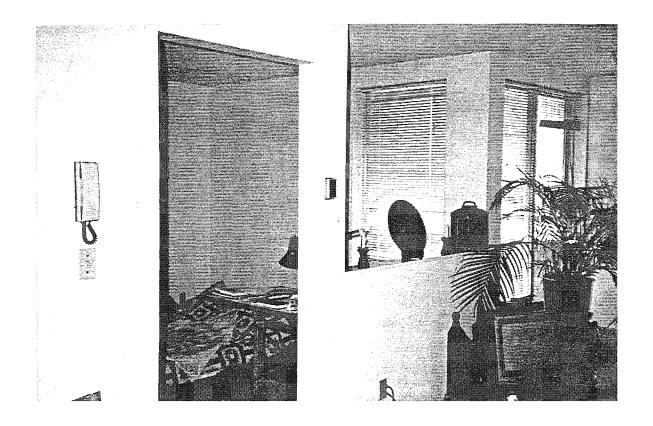
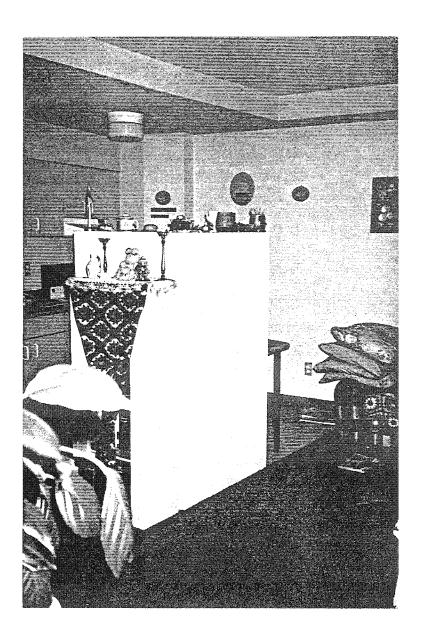


Illustration 116. A refrigerator surrounded by three walls and covered by a horizontal surface contributes to differentiating the kitchen component from the living space.



- 8. a ceiling lamp suspended in the right spot, over the table, creates a dining room;
- 9. a "sidelight" window beside the entrance door conjures up the image of an entrance way to a real home (illustration 55).

The impression of permanency and stability which the unit conjures up will also depend on its resiliency, its capacity to adapt to the changing needs of the residents. We brought up this viewpoint in the preceding section when we mentioned that, above all, people should not immediately feel obliged to move as soon as their financial condition improves or as soon as they feel the need for a few more square meters of space to invite relatives, friends or children over. It is precisely to guarantee this resiliency that we had included the double chesterfield bed among the pieces of furniture which we qualified as essential. Certainly not all the residents will need a chesterfield bed but it seemed essential to us to provide each unit with the potential of adapting to meet this need even if this particular piece of furniture was not provided to all the residents.

9.3 Need for identity

Housing, of course, is more than just a place to sleep and the activities which can occur in this space are as varied as the residents themselves. Thus housing should be sufficiently flexible to adapt to all sorts of personal tastes and excentricities. In brief, the unit should allow the residents to feel at home. If the residents do not feel at home they will end up with the impression of living in temporary housing. Let us point out that when the possibility is given to the residents to control their space, they are also being given the possibility of affirming their identity and of taking charge on their own personal lives.

This possibility is closely associated with the need of personalizing and adapting one's space which we shall discuss in the following section; moreover, architectural suggestions which apply here will also be found in the next section. These suggestions are designed to provide the resident with optimum choice and maximum individuality.

9.4 Need to personalize and adapt one's space

The residents need to feel that their units are territories which belong to them and which they can decorate, mark, arrange and organize as they wish (illustration 117). This need to occupy a personalized space is perhaps particularly important for residents in the city core given that their units are one of the few areas which they can legitimately personalize.

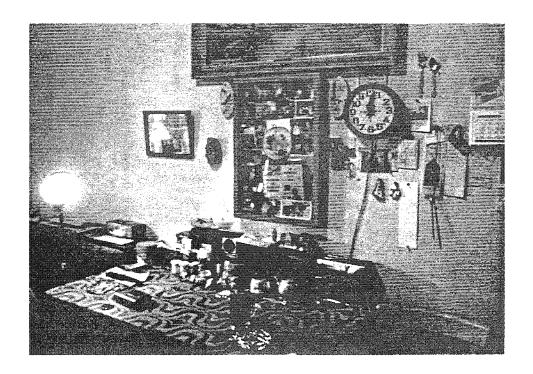
Unit flexibility and adaptability are characteristics which help the residents feel at home. These characteristics are all the more important in that there are many types of singles and their needs evolve continually.

Unfortunately however, the layout of the room is often not conducive to change. For example, the location of the bed may be limited to only one wall and that of the television to one corner.

The room should thus be designed has to allow for various arrangements of the same furniture type and size. What this means is creating spaces which may be interpreted in various ways by various residents. Spaces with the following characteristics will facilitate this:

- simple shape, i.e., no exaggerated dimensions either in length or in width;
- 2. neutral and ambiguous shape, i.e., use of zones is not predetermined;
- 3. dimensions above minimal standards;
- 4. the unit provides maximum uninterrupted floor or wall space to make it easier to arrange the furniture;
- 5. the layout of the unit makes it possible to place the bed elsewhere than under the window to avoid cold air drafts;
- 6. window sills are deep to allow the residents to place objects on them;

Illustration 117. The residents need to feel that their rooms are territories which belong to them and which they can decorate, mark, arrange and organize as they wish. (Photograph: Sonia Côté).



7. the entrance to the room is recessed or in an alcove, so that each of the doors as well as the floor and the sides of the resulting entrance way can be personalized.

Another way, albeit more artificial and more expensive, to personalize units consists in making provision, within the same "rooming house", for rooms of comparable dimensions but with varied shapes. This approach does not seem as appropriate since this would mean that the architect takes the initiative of personalizing the units rather the residents themselves.

9.5 Need for privacy

The need for privacy is closely associated with the degree of control which one can exercise over the territory which one occupies. How can someone possibly have the impression of living in a private area when he/she is continually exposed to prying eyes or continually bothered by the noise of neighbors? When you can hear your neighbour this makes you think that your neighbour can also hear what you say and guess what you are doing.

From an architectural point of view, privacy can be controlled in one's room through the judicious location of doors and windows; through screens, partitions and walls; through the proper layout of the particular spaces contained within the room and through good soundproofing. Privacy also depends on the degree of independence which one has in relation to one's neighbors and in relation to the facilities which one needs to live. In the units for low-income singles which we studied, the residents often mentioned to us that they found it difficult to protect their privacy against the intrusion of visitors or passers-by in the corridors. The way in which the entrance zone to the room is set up should contribute to satisfying this requirement for privacy (see illustrations 107 to 111). From the entrance

Designers should consult specific information sources published by CMHC as pertains to soundproofing.

way, one should not be able to see the bed, the inside of the bathroom (when the door to the latter is open) or the kitchen. Thus it would be desirable to locate the living area in the "public" sector of the unit, near the entrance way. Inversely, the space where the bed is found should be located in the most private sector of the unit.

9.6 Need for view outside and to have access to windows

If at all possible, provision should be made for a window allowing for a nice view on the outside. Being able to look at a natural or urban landscape and to observe daily activities in the neighborhood may be particularly beneficial for people living alone. This is all the more important in that numerous singles suffer from solitude and spend much time in their rooms. And when one spends much time in the same room, it is important to be able to escape to another universe, to get out of one's routine and to let one's mind rest.

The success of the window depends, as we observed in the first chapter, on the location and the shape of the lot, but it also depends, as you will be able to observe in the following paragraphs, on the location and the shape of the window (illustration 118).

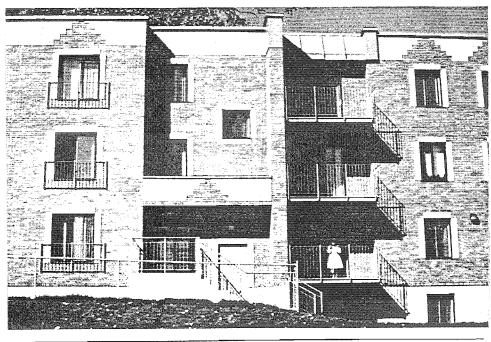
9.6.1 Location of the window

The window should be located so that one can have access to it and there should be enough clearance around the window to accommodate a rocking chair or a comfortable arm chair.

Where the window is located so that the residents have a good view on the outside, it is highly likely that the people passing by also have a good view on the inside. Thus the location of the window and the exterior landscaping should be such that the residents do not feel obliged to close the blinds permanently for privacy purposes.

Illustration 118. The importance of windows in rooms designed for low-income singles was clearly understood by the architects Dupuis Dubuc and Associates (Logan House, Montréal).

This house contains both rooms for people living alone (left side) and units for families (right side); this situation is clearly reflected in the way the windows are designed. On the other hand, the view which one has from the windows (lower photo) is not the best.





The height of the window sills should also make it possible for the residents to observe what is going on in the street from a seated position near the window since only being able to see the sky or the walls of neighboring buildings is not particularly stimulating. This then means that the higher the room is the lower the window sill should be.

9.6.2 Shape of the window

The three window models presented in illustration 119 show the various aspects which should be considered when choosing the shape of a window.

Table 9 presents a comparison of the advantages and disadvantages of each of these models.

9.7 Need to be stimulated by the space within the unit

We have already pointed out the importance of the sensorial and psychological stimulae represented by windows. The interior space, included within the partitions of the unit, however, must also stimulate the senses and the mind. To attain this objective, the space within the unit should be articulated and have a certain degree of complexity. To make this possible, particular attention should be paid to:

- . the shape of the space;
- . the location and the shape of the windows;
- . the recesses for the opening in the walls;
- . the profile of the ceiling and wall;
- . the choice of colours.

In particular, it is imperative to avoid an institutional atmosphere as well as the impression of conformity and limitation. In ordinary houses, for example, bedrooms have different shapes, windows are located at different places in the bedrooms, and the colour of the walls, blinds, carpets and the furniture style often vary from one bedroom to another.

Illustration 119. Three window models (School of Environmental Design and Urban Studies and Evan H. Walker, 1968); the advantages and disadvantages of each of these models are presented in Table 9.

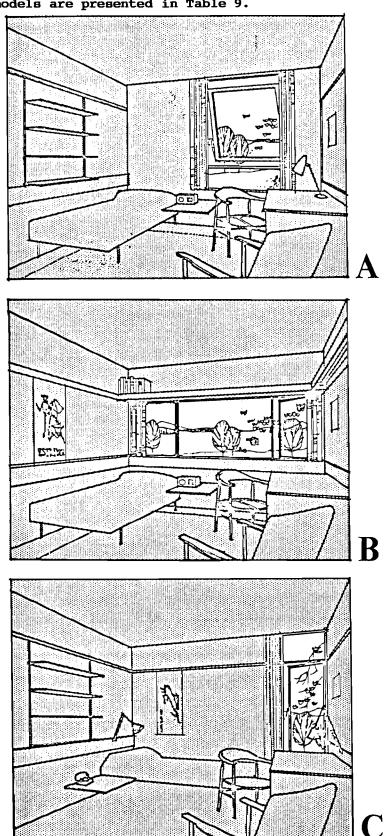


Table 9. Comparative evaluation of the three window models shown in illustration 119.

	A	В	C
Window Models	Central	Horizontal	Vertical
Possibility of observing activities	1 ¹	2	1
occurring outside when one is seated			
near the window			
Scope of field of vision	2	1	3
Lighting in the room	2	1	3
Flexibility allowed as pertains to	3	1	1
layout of furniture			
Probability of compatibility with the	1	3	2
architectural vocabulary of surrounding			
residential buildings			

N.B. In addition to these three types of windows, the bay window, which allows for oblique views and offers a greater sense of space, would also have to be considered.

caption: 1 = Good 2 = Average 3 = Poor

9.8 Needs associated with social activities and watching television

The notion of how low-income singles live is all too often simplified. A large number of units which we visited and studied seemed to have been designed as if they were never supposed to be occupied by more than one person. In actual fact, however, we were able to observe that the residents often have visitors in their units. Our visits and studies have also given us the impression that many units have been designed as if they were to be used solely as bedrooms. Of course the fact of the matter is that, notwithstanding the fact that these units are small, they are much more than just bedrooms.

Social and recreational activities such as watching TV are, in fact, important and thought has to be given to this in arranging the furniture. Among other things, it should be ensured that the chairs can be placed in a circular manner since when they are lined up in rows, they do not promote exchange among the residents. The possibility should exist of locating the television set and of adjusting the lighting in the unit so that the light coming through the window does not reflect on the screen and so that the screen can be clearly seen by two or three people both sitting on chairs or by the resident from the bed.

Lastly, since the space is small and since it may often occur that there are not enough chairs to accommodate all the visitors, all the nooks and corners of the space must be used. We are thinking here of such things as window sills which, when they are deep enough, are areas where visitors can sit down.

9.9 Need for independence and control

We pointed out in the preceding sections the fact that it is hard to imagine people feeling independent if they must share a kitchen or bathroom with other people. It is also important to mention that the feeling of independence is closely associated with the possibility which the residents

have to control what may appear to some as being secondary details but which in fact are very significant, namely:

- . to be able to control the temperature in one's unit;
- . to open the window(s) in one's unit;
- . to lock the door in one's unit (this remark applies particularly to rooms in shared units);
- . to control the natural light which comes into one's unit;
- . to protect oneself against people gawking through the window or through the entrance way to one's unit.

9.10 Need for space or need not to feel closed-in

By need for space, we mean not having to feel closed-in or not having the impression of living in a congested space. When one lives in a reduced space, one is, of course, in much closer contact with the vertical and horizontal partitions of this space. The smallest defects are perceived with much more clarity and the slightest disorder may create a impression of congestion (illustrations 120 and 121). In this context, the idea of differentiating the zones reserved for each function may give the impression of living in a larger space since it appears to be more orderly and complex. We should point out, however, that a perfect balance is hard to attain in this respect since a space which is too fragmented may be perceived as being smaller than it actually is.

As pertains to the danger of giving the impression of disorder and congestion, the fact of setting up the kitchen area apart from the other spaces, in a semi-open alcove, for example, means that the food, dishes, pots and pans are not visible from the rest of the unit.

Illustration 120. In a space with reduced dimensions, the slightest disorder may give the impression of congestion and confusion (photo on the right: Sonia Côté).

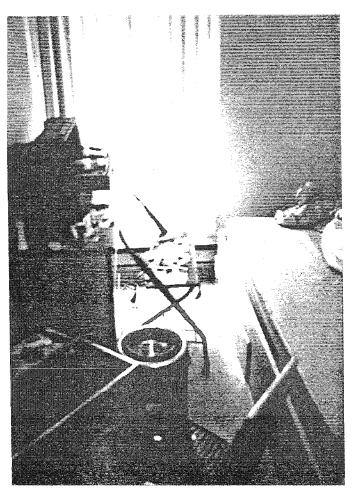
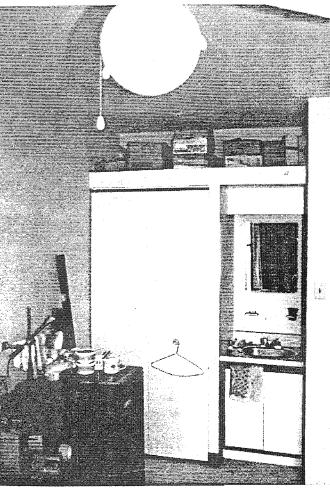




Illustration 121. When the unit is too small, and when there is not sufficient storage space, the horizontal surfaces rapidly become congested and this contributes to creating a closed-in feeling.







Let us mention lastly that the presence of one or more large windows contributes enormously to accentuating the impression of space in one's unit.

10. ATMOSPHERE IN THE UNIT

In this section, the focus is on the psychological and physiological needs which should be taken into consideration to create a bright, soundproof and comfortable atmosphere in the unit.

10.1 Need for light

The studies which have been conducted on the housing market over the past few years systematically stress the very great importance which people grant these days to the quality of natural light. This observation applies to all levels of society and one can presume that this need is particularly important in units for single people where there is often only one window and where certain residents often stay inside for hours on end.

The quality of the light depends, on one hand, on the shape and the location of the window (section 9.6.2, illustration 119).

It also depends, of course, on the area of the window. In this regard, the National Building Code requires an area corresponding to at least 10% of the floor area. In a unit which is made up of only one room and which only has one window, however, we believe that this area should be much larger. The quality of light depends finally on the depth of the unit. For example, the distribution of light would be poor in narrow and deep units.

10.2 Needs for acoustic tranquillity

When one is living in a unit which is made up only of one room and this room is of reduced dimensions, it goes without saying that one is in much closer contact with one's neighbors and one's tolerance is quickly put to the test. For this reason, noise and voices coming from neighboring units are magnified to the point where they may become exasperating even if they are not necessarily really loud. For units formed by only one room this problem is especially bothersome in that you cannot change rooms to get away from the noise.

Soundproofing problems are particularly critical in houses designed for low-income singles due to the residents' unorthodox and conflicting life styles. As an example, it would be very difficult for an individual with sleeping problems to tolerate the noise of his/her immediate neighbors who are carrying on in the middle of the night.

Poor soundproofing also infringes on the need for privacy and space which we already mentioned and the need for security which we will deal with later on.

As pertains to the need for privacy, a poorly soundproofed unit gives the resident the impression that the partitions of the unit are paper thin, allowing neighbors to tune in on his/her conservations and to virtually detect every gesture and movement made.

As pertains to the need for security, a poorly soundproofed unit gives the resident the impression that the partitions of the unit are fragile and that he/she is vulnerable to theft or aggression.

Finally, poor soundproofing contributes to accentuating the impression of being closed-in.

For all these reasons it is not exaggerated to affirm that the quality of soundproofing is one of the architectural characteristics which are most important in determining the degree of livability of units designed for low-income singles.

10.2.1 Sources of noise

During the visits which we made, the sources of bothersome noise which were reported most often to us are the following:

- . voices, televisions, hifi's, etc. coming from units on either side, above or below;
- . the sound of people walking in the corridors or in the neighboring units;
- . slamming entrance way doors in neighboring units;
- . slamming exit doors with panic bars;
- . the noise transmitted through the window coming from neighboring units and balconies, from the street or from the back yard;
- . noises from utility rooms (furnace, machinery, elevator shaft, etc.);
- . noise coming from common rooms (community living area, laundry room, interior common traffic areas, etc.);
- . noise generated by certain types of locks;
- . noise generated by the ventilation and other mechanical systems.

10.2.2 Suggestions and recommendations

Insulation against airborne noise between units may be possible in two ways: (1) through the mass of the partitions, and (2) through the juxtaposition of various light and flexible partitions (gypsum board).

- Insulating against impact noise may be possible through: (1) the use of floating slabs or (2) through the installation of soft flooring. You will see, however, in section 12.1 below, that this second solution is not viable in a unit due to problems related to carpet maintenance.
- 3. See that the community spaces are well located as well as the premises containing noisy equipment; in other words, as far as possible, locate sources of noise away from the living areas. This is possible through the interposition of spaces which are noise neutral, such as storage areas, entrance ways, corridors, clearances or other noiseless premises. An attempt must also be made, as far as possible, to segregate the "humid" rooms (kitchen and bathroom) in one unit from the "calm" rooms in adjoining units. This segregation is to be respected on the horizontal as well as the vertical plane which presupposes, if other distribution constraints do not prevent this, that the various "humid" rooms will be stacked one over the other. This also means that rooms with different functions should not be adjoining.
- 4. In shared units, the doors and the partitions separating the rooms should meet the same acoustic performance criteria as the doors and partitions separating units and separating units from corridors.
- 5. Entrance doors to the units and to the rooms (in shared units) should be absolutely soundproof.
- 6. The door frames should be equipped with resilient materials such as rubber door stops to avoid noises due to slamming doors.

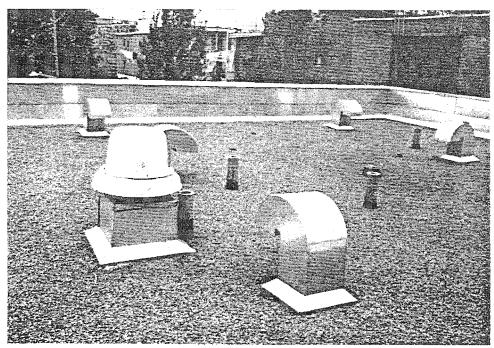
- 7. The quietest fans should be chosen, flexible connections should be used between the fan and the ducts and the fan should be installed on a floating slab.
- 8. In order to deal with extreme cases, for example, a person who refuses to turn down the television or hifi set, it would be useful to be able to turn off the electricity in the unit involved from a central location.

Lastly, we would like you to point out that soundproofing and, in particular, soundproofing in the design of residential buildings, has become a specialty in the field of architecture and there are many publications (see bibliography) providing good insulation advice. For this reason, we have not discussed the technical aspects [ex., sound transmission class (STC), and impact insulation class (IIC)], and we limited our intervention here to outlining the main principles of soundproofing dealing with problems experienced daily in the houses which we visited. In any case, we are of the opinion, considering the problems of promiscuity which we referred to earlier in this section, that the criteria of soundproofing comfort in houses designed for low-income singles should be as high as those in the most expensive buildings.

10.3 Need for mechanical ventilation

The need for mechanical ventilation is just as critical as the need for lighting in units for singles due to their small dimensions (illustration 122). This need is particularly important during the warmer periods of the year due to low natural air ventilation and to the relatively large quantity of heat produced by the electric range as well as by the refrigerator compressor. The problem with natural ventilation is that an air draft cannot be created in a unit made up of only one room, with one window and one door, particularly when the door must remain closed for fire protection purposes. The quantity of heat produced is particularly large considering the ratio of household appliances per square meter which is very high in these houses. Lastly, let us mention that the need for mechanical ventilation is accentuated by the fact that the percentage of smokers is high in these houses.

Figure 122. The need for mechanical ventilation is just as critical as the need for light in units designed for low-income singles.





11. UNIT SECURITY

In this section we deal with the four dimensions of the security concept which should be considered in designing units:

- . security in relation to theft and aggression;
- . security in relation to vandalism;
- . security in relation to fires;
- . security in relation to accidents.

11.1 Security in relation to theft and aggression

Theft, which represents the number one crime in Canada, constitutes the greatest threat for housing (Canada Mortgage and Housing Corporation, 1981). It would seem that this is particularly true in houses for low-income singles since it has been reported to us that these houses contain a high risk client group in relation to theft. To support this, here are a few examples of incidents which occurred in some of the houses which we visited:

- . fire extinguishers stolen in the corridors;
- . toilet paper stolen in the community bathrooms;
- . food stolen from community kitchens in shared units.

One interesting thing here is that most of the thefts which were reported to us occurred in the community areas. It is true, nevertheless, that we did perceive a feeling of insecurity among the residents in relation to the danger of theft in their units. The tenants distrust each other and most are aware of the fact that it is better to lock the door of one's unit or room. In passing we note that, in certain shared units, the doors of the bedroom could only be locked from the inside; this situation disturbed the residents and rightly so.

A certain concern in relation to aggression and harassment was expressed by women, mainly in the houses where the bathrooms were shared. In a mixed house it was even reported to us that one woman was afraid to leave her unit because of the threat of harassment by a particular individual. An excerpt from a letter prepared by a woman living in a house occupied solely by women illustrates just as dramatically what certain women living in mixed residences can feel:

"...a mixed "rooming house" can often be an endless misery for a woman (and) an all-woman's residence ... is a real blessing..."

in City of Toronto Housing Subcommittee, 1984

In other houses, to the contrary, it was reported that an attempt was being made to balance the men/women population since this had a positive effect on residents of both sex. However, this balance is difficult to attain because the general client group in these houses is made up mainly of men. In summary, we had the impression that, generally speaking, residents of both sex were more concerned with the danger of theft than with that of aggression and it was mainly women who feared aggression.

Recommendations

- The entrance doors should be designed so as to make it possible for the residents to see the visitors before opening the door. Most of the residents prefer to see the visitors without being seen or heard themselves.
- 2. From the staff person's office or unit as well as from the community premises (lounge, laundry room, etc.), one should be able to see the corridors providing access to the units. Psychological security, in fact, is a complement to the physical security guaranteed by the lock. When one feels that access to the units can be supervised, i.e., the sensation which is referred to as the "Defensible Space" concept developed by Newman (1972), this contributes to the feeling of security and may be a disincentive for people who may have the intention to commit crimes.
- 3. The doors, frames and locks of the entrance ways to the units and especially of the exterior entrance ways to the house, it goes without saying, should be sufficiently solid to resist intrusion.

11.2 Security in relation to vandalism

The owners of private "rooming house"s appear much more concerned with the problem of vandalism that the staff people working for non-profit organizations. Certain owners of private houses claim that

We are conscious of the fact that this recommendation contradicts the need formulated in chapter 2 (section 2.4), i.e., to be able to have access to one's unit or to leave it in complete privacy. This then is a situation where the architect and the client will have to come up with a compromise solution. This compromise solution would vary from one house to another depending on the clientele involved.

this is due to the fact that the client group in houses managed by non-profit organizations is easier to deal with than that in private houses.

To illustrate the difficulties experienced by the owners of private houses, here are a few examples of incidents which were reported to us:

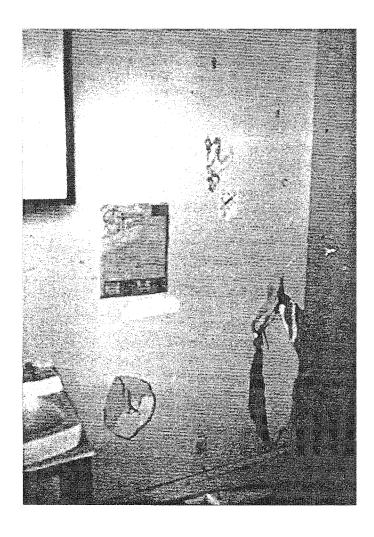
- . the tenant in a room on the third storey of a house goes off the deep end, demolishes all the walls in the room and throws all the furniture, including the refrigerator, out the window (illustration 123);
- . one resident destroys the letter boxes in the vestibule to a house because the expected social welfare cheque did not arrive;
- . many residents express their aggressive feelings by scratching the walls of the corridors with their keys;
- . it is a common occurrence for the furniture to bear the scars of careless smokers;
- . smoke detectors are often removed (this is, in the main, due to the ventilation problems which were described in the preceding section).

In light of these examples, it is evident that we cannot count solely on the quality of a building's architecture to prevent these crimes, especially those that are committed within the units.

The major measures which could be adopted to prevent incidents inside the units consist in using finish materials which are easy to maintain and durable as well as strong top quality pieces of furniture.

Lastly, the common areas which provide access to the units will be protected against vandalism to the extent that these areas are visible from the staff person's office or unit as well as from the community premises.

Illustration 123. Photo of a room which was completely demolished by the person living in it.



11.3 Security in relation to fire

The clientele in houses intended for low-income singles are considered by all the people with whom we have talked as being high risks in relation to fire. This is due particularly to the fact that among this clientele, there are a number who smoke, who are alcoholics and drug users. A large number of residents also suffer from mental illness which makes the situation even more dangerous. For example, it was reported to us that in Montréal, 52 roomers lost their lives between 1980 and 1986 due to fire (Committee of the Homeless, 1987). For these reasons, certain owners of private houses do not allow cooking in the units.

Considering these elements, Professor Jean-Luc Poulin is of the opinion that all units for low-income singles should be protected by automatic sprinkling systems. These houses do, in fact, represent serious fire risks. Fire codes allow for the construction of bachelor units without automatic sprinklers in non-combustible buildings as well as in combustible buildings on the condition, in the second case, that the units in the building have two exits. The presence of automatic sprinklers in all units would make it possible to waive the requirements for two exits per unit in combustible buildings, on the condition, of course, that there are two exits per floor.

It goes without saying that there has to be smoke and heat detectors in each unit. The fact is, however, that a certain number of staff people and owners of "rooming house"s have reported to us that residents often remove these devices or cover them in order to make them inoperative. This is due to the fact that there is much heat and often a fair amount of smoke produced in these spaces which means that these devices are activated frequently, which, in turn, irritates the residents. For these reasons, there should always be a central control board located in the staff persons office or in the janitor's office to monitor the status of these safety devices.

11.4 Security in relation to accidents

Each year, thousands of people have accidents in their homes. The only place where more accidents occur is on the highway. In many cases, these accidents could have been avoided at practically no expense, if more care had been taken when the buildings were designed. In addition, in many cases, if an accident is not due to the architectural design of the building, it is due directly to a lack of attention or to distraction due to the fact that people do not have complete control of all their faculties. A large number of low-income singles are particularly singled out in these cases (i.e., smokers, alcoholics, people on drugs and the mentally ill); these people are prone to accidents because their psychological capacities are often lessened and their concentration power reduced.

This section proposes means to deal with situations which appear to us as being the most dangerous. The reader can find, in more specialized design guides (Canada Mortgage and Housing Corporation, 1978), as well as in the Residential Construction Standards and the National Building Code, all the elements which must be taken into consideration to ensure security of the residents as pertains to accidents.

11.4.1 Doors within the unit

The doors of the rooms should open to the inside so as not to obstruct movement of those within the unit. If two doors are close to one another, provision should be made so that they do not come into contact. In bachelor units, as opposed to shared units, it is suggested that sliding doors be used for the bathroom since they take up less space. If, on the other hand, there is no sliding door for the bathroom, the door should at least open towards the inside of the bathroom.

11.4.2 Work surfaces in the kitchen

Group together the refrigerator, sink and electric range to form a continuous work surface of the same height all the way across. We thus eliminate the risk of spilling pots, of burning and scalding the residents.

11.4.3 Kitchen cupboards

The kitchen cupboard doors located above the work surfaces, if they are supported by hinges, should not extend beyond the work surface when open so that the residents are not always hitting their heads. Numerous accidents occur when people climb up on chairs or on other objects to reach a shelf which is too high for them. A food closet, at ground level, with movable shelving, would greatly reduce the necessity of climbing up on ladders.

11.4.4 Lighting in the kitchen

Good lighting is necessary above the sink and the electric range so that the person preparing the meals has sufficient visibility.

11.4.5 Bathtub and shower

Adhesive strips should be installed in bathtubs or shower stalls or slipproof carpets should be provided. Around the bathtub, there should also be grab bars.

Combined bath/shower installations should have at least one soap holder installed 750 to 850 mm above the bottom of the bathtub.

The combined bath/shower taps should be installed 750 to 850 mm above the bottom of the bathtub. Poorly placed taps and accessories increase the risk of falls, particularly in cases of combined bath/shower installations.

The shower taps should be installed 1,200 to 1,350 mm above the bottom of the shower stalls.

Many accidents occur due to confusion between hot and cold water taps. These taps should be clearly identified, using a colour for example. Thermostatic taps are more expensive but reduce the risk of being scalded.

11.4.6 Wash basin

The wash basin should be contained in a vanity resting on the floor so that people can grab on to the wash basin or sit on it without tearing it away from the wall.

12. UNIT MAINTENANCE

Among the units occupied by low-income singles, there were clean units and deteriorated units as is the case in all classes of society. But, in general, the people keep their dignity even if they are poor and they appreciate cleanliness. The problems associated with healthiness in the building and the issue of maintenance were raised, moreover, in most meetings which we had with residents and building managers. Here are a few examples of comments made by the staff person and a resident in the same house.

"One of the first surprises people have when they come here is that they find it clean, they find it nice in relation to their previous experience (very poor environment, poorly maintained, not painted, doors which do not close, bugs, no services), for most of these people, coming here is like moving into a palace."

Comments' made by staff person

"The thing that I like is that there are no bugs here. Elsewhere, bugs were everywhere, in all the rooms that I had been in there were bugs. Here, this is the main thing when you come into a place and you know there is no bugs, let me tell you something, that's good for the moral. It was all newly painted when I came in here."

Comments made by a resident

It also has to be noted that a good number of residents have trouble taking care of their units. This applies of course to physically disabled people but mentally disabled people as well as alcoholics and those consuming drugs are also singled out here.

Comments collected by Sonia Côté, student, School of Environmental Design and Urban Studies, University of Montréal.

When residents cannot look after the maintenance of their own rooms, this means that this has to be done by the building managers. Thus it is important to design spaces and choose materials which makes maintenance easier, quicker and inexpensive.

Another important factor to be noted in relation to maintenance is that the units are the key areas because it is in the units, as opposed to the community areas, where maintenance is harder and where most of the damage is caused.

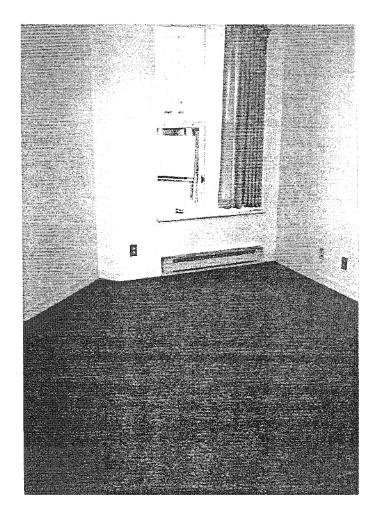
12.1 Maintenance of floors and walls

Floors represent one of the most vulnerable elements in the units. This is due mainly to the fact that floors are the first area where the negligence of certain residents becomes evident.

We are not in a position, as we did for the community spaces, to recommend the use of carpets in the individual units (illustration 124). This experiment, moreover, was attempted in a certain number of the houses which we visited with little success. The main problems were cigarette burns and kitchen stains.

Thus it is recommended to use resistant materials which are hard and smooth on the floors and walls in the bathroom as well as in the kitchen since these are the areas where damage most often occurs. This is particularly true for the bathroom. For this reason, the floors and walls in this room should be covered with ceramic tiles and the bathroom should contain a drain so that it can be thoroughly washed down.

Illustration 124. Floors are one of the most vulnerable elements in the units and we are not in a position to recommend the use of carpet.



This photograph was taken in one of the units in the Options Bytown House where we were told that they regretted the use of carpets in the units, but were satisfied with the use of carpets in the corridors.

Elsewhere, less impersonal materials could be used such as wood on the floor and gypsum board on the walls but these materials will have to be covered by resistant varnishes and top quality paint, which are easily washable, to facilitate maintenance.

Certainly materials which are easy to maintain tend to have an institutional impersonal look, but nothing prevents the residents from personalizing their units. Experience shows, moreover, that residents show more respect for pieces of furniture and decorative elements when they own them than when they are provided.

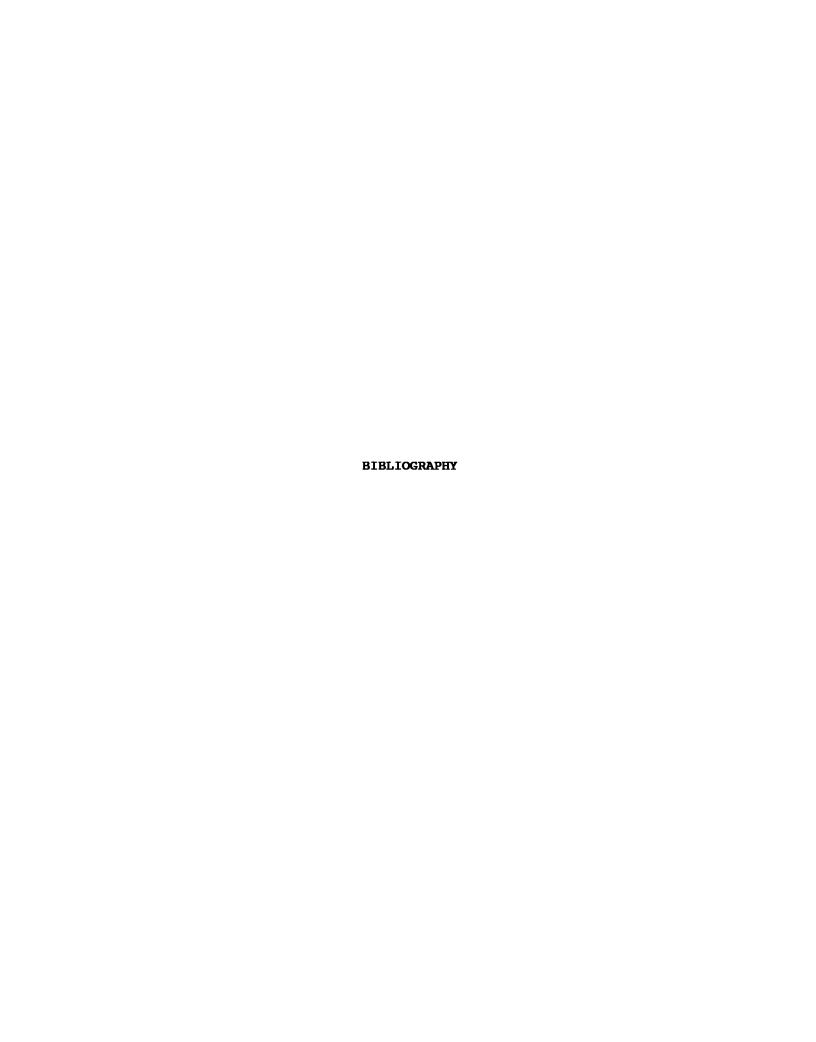
12.2 Maintenance of windows

We mentioned previously that when a person lives in a reduced space, inevitably there is more contact between this person and the partitions of the space surrounding the person. For this reason, dirty windows are perceived as being a major problem. It is thus desirable that it be easy to wash these windows from the inside of the unit. The cost of washing the windows, moreover, is much higher when it has to be done from the outside.

Lastly, it is recommended that window sills be covered with wood and varnished rather than being covered with gypsum board, since varnished wood is more water and snow resistant and this is particularly important when residents forget to close their windows, which happens rather often.

12.3 Washing the bathtub

Experience has shown that bathtubs with slip-proof finishes were difficult to maintain. For this reason it is recommended to install bathtubs with a smooth finish and to provide for slip-proof carpets.



BIBLIOGRAPHY

- Acide Scop. (1985). Construire en participation. Paris: Georges Pompidou Center.
- Alexander, Christopher et al. (1968). A Pattern Language which Generates Multi-Service Centers. Berkeley Center for Environmental Structure.
- Alternative Housing Subcommittee (1985). Off the Streets. A Case for Long-Term Housing. City of Toronto.
- Andrews, Ian (1987). Report of a Population Survey of Homeless People in Downtown Ottawa for the IYSH Project. Ottawa: School of Social Work, Carleton University.
- Ball, Rick (1989). Making Space Design for Compact Living. New York: The Overlook Press.
- Beaudoin, Carmen (1989). Ressources pour personnes itinérantes de la région du Montréal métropolitain. État de la situation. Comité spécial de la direction générale pour les personnes itinérantes.
- Beauséjour, Rita et al. (1979). Étude sur les conditions de vie des chambreurs vivant sur le territoire du CLSC St-Louis du Parc par l'équipe du projet "Action Chambreurs". Rapport soumis au CLSC St-Louis du Parc.
- Bélanger, Anne et al. (1984). Maisons de chambre en construction neuve. Étude et projets réalisés par des étudiants de l'Unité H.P.U., École d'architecture, Université de Montréal.
- Berbery, Maya (1989). Les personnes seules à faible revenu et l'itinérance. État des problèmes de logement. Service de l'habitation et du développement urbain, Ville de Montréal.
- Boston's Public Facilities Department (1993). Intern's Report on SRO's. Not published.
- Boudreault, G. et al. (1984). C'est pas le château. Rapport de recherches sur les conditions de vie des chambreurs et sur la situation du marché des maisons de chambres dans le centre-ville de Québec. Comité de consultation et d'aménagement du quartier St-Roch et Société Action-Chambreurs.
- Burki, Mary (1991). A Look at SRO Hotel Residents with Recommendations for Management and Design in Karen A. Franck and Sherry Ahrentzen, New Households New Housing, New York: Van Nostrand Reinhold.

- Centre for Urban Research and Action (1979). Landlords and Lodgers. A Study of Rooming Houses in Melbourne. Second Report of AHRC Project 48: Public Housing Provisions for the Marginally Housed.
- Chigot, Claude (1990). Des initiatives en Europe en faveur de l'insertion socio-économique par l'habitat des personnes démunies. Rapport du séminaire Européen. Paris : Europil.
- Chung, Barry Allan (1980). The Design of Housing for Young Working Singles. A thesis submitted in partial satisfaction of the requirements for the degree Master of Arts in Architecture and Urban Planning in the University of California, Los Angeles.
- City Living (1985). Somerset Street Rooming House, an Evaluation. City of Ottawa Non-Profit Housing Corporation.
- City of Toronto Housing Subcommittee (1984). By Ourselves, a Case Study of Cityhome's Low Income Singles.
- City of Toronto (1979). Report of the Mayor's Task Force on Bachelorettes.
- City of Toronto Planning Board Staff (1975). Housing Low Income Single People.
- Comité des sans-abri (1987). Vers une politique municipale pour les sans-abri. Rapport déposé au Conseil municipal de la Ville de Montréal.
- Comité hébergement (1988). Dossier itinérance-hébergement. Regroupement des organismes communautaires jeunesse du Montréal métropolitain.
- Conseil canadien de l'habitation (1982). Comment rendre l'habitation plus facile d'accès pour tous. Accessibilité à l'habitation. Vol. 1.
- Conseil canadien de l'habitation (1983). Accessibilité à l'intérieur. Accessibilité à l'habitation. Vol. 3.
- Côté, S. et Trudel S. (1990). Pratiques d'habiter des personnes seules à faible revenu. Le cas des maisons de chambres publiques. Rapport d'étude non publié. Montréal: Faculté de l'aménagement, Université de Montréal.
- Côté, Sonia (1992). Pratique d'habiter des personnes seules à faible revenu : le cas des maisons de chambre publiques. Montréal: Université de Montréal. Thèse de maîtrise en voie de préparation.
- Crane, Catherine (1982). Personal Places. New York: Whitney Library.

- Daly, Gérald (198). A Comparative Assessment of Programs Dealing with the Homeless Population in the United States, Canada and Britain. York University: Faculty of Environmental Studies.
- Department of Community Development (1977). Report of the Rooming House Advisory Committee. City of Ottawa.
- Department of Environment (1974). Housing Single People 2. London: Her Majesty's Stationary Office.
- Department of Environment (1971). Housing Single People 1. London: Her Majesty's Stationary Office.
- Drake, M., O'Brien, M. et Biebuyck (). Single and Homeless. London: Department of the Environment, Her Majesty's Stationary Office.
- Edmonds, John (1977). Housing for Single Young People: the Design and Adaptation of Existing Housing Types for Shared Use, Research Paper 12. York Institute of Advanced Architectural Studies, University of York.
- Edmonton Coalition of Homelessness (1987). Homelessness in Edmonton. Executive Summary.
- Eleb-Vidal, Monique et al. (1988). Penser l'habité. Le logement en question. Liège: Pierre Mardaga, éditeur.
- Etherington, Alan and Associates (1987). Evaluation of 90 Shuter Street, Toronto. Final Report Prepared for Community Services Department, Municipality of Metropolitan Toronto.
- Europil (1990). Des initiatives en Europe en faveur de l'insertion socio-économique par l'habitat des personnes démunies. Compte rendu du séminaire Européen qui a eu lieu en avril 1990 grâce au concours: de la Commission des Communautés Européennes, du ministère de l'Équipement et du Logement, du ministère du Travail, de l'Emploi et de la Formation Professionnelle, du Fonds d'Action Sociale et de l'Agence Nationale pour l'Amélioration de l'Habitat.
- Faculté de l'aménagement et Evan H. Walker Consultants Ltd. (1969). Projet EFL-SCHL, Enquête sur l'habitation. Rapport de recherche. Université de Montréal.

- Franck, Karen A. (1991). Overview of Single Room Occupancy Housing in Karen A. Franck and Sherry Ahrentzen, New Households New Housing. New York: Van Nostrand Reinhold
- Franck, Karen A. (1991). The Single Room Occupancy Hotel: A Rediscovered Housing Type for Single People in Karen A. Franck and Sherry Ahrentzen, New Households New Housing. New York: Van Nostrand Reinhold.
- Goulet, François (1988). Problématique des maisons de chambres de Montréal. Cahier d'étude en habitation. Service de l'habitation et du développement urbain, Ville de Montréal.
- Gouvernement du Québec (1988). Les sans-abri au Québec. Étude exploratoire. Ministère de la Main-d'oeuvre et de la Sécurité du revenu, Direction de la recherche, Études prévisionnelles et structurelles.
- Groupe de travail sur les maisons de chambres (1985). Rapport du groupe de travail présenté à l'administration municipale de Montréal.
- Ontario Task Force on Roomers, Boarders and Lodgers (1986). "A place to call home". Report presented to the Honorable Alvin Curling, Ontario Department of Housing.
- Groupe Logement Pour G.L.E. (1991). De l'hôtel meuble au meuble social. Rapport interne non publié.
- Hamayon, Loïc and Michel, Claude (1982). Guide d'accoustique pour la conception des bâtiments d'habitation. Paris: Éditions du moniteur.
- Hoglund, J. David (1985). Housing for the Elderly: Privacy and Independence in Environments for the Aging. New York: Van Nostrand Reinhold Company.
- Hopkins, Steve (1983). Arguments en faveur du logement stable avec soutien par les participants au Single Displaced Persons' Project. Rapport non publié traduit par le service linguistique du YMCA de Montréal.
- Hulchanski, J. David et al. (1991). Solutions to Homelessness: Vancouver Case Studies. Vancouver Centre for Human Settlements, University of British Columbia.
- Illinois University (1971). Guidelines for the Planning and Design of Regional and Community Correctional Centres for Adults. Urbana: Department of Architecture.

- Klein, Jack and Sears, Henry (1969). Habitat de l'étudiant. Ottawa: The Runge Press Limited.
- Lapointe, Jean (). Éléments de programmation architecturale utilisés dans l'aménagement des maisons de chambre. Rapport inédit préparé pour le projet de recherche "Vivre à Saint-Roch".
- McGregor, J.A. and Serge L. (1983). The unacknoweldged housing form: a study of "rooming house"s in Montréal. Report presented by a project subsidized by a grant from Canada Mortgage and Housing Corporation under its External Research Program.
- Module de l'habitation (1989). Enquête auprès des propriétaires de maisons de chambres: résultats préliminaires. Service de l'habitation et du développement urbain, Ville de Montréal.
- Module de l'habitation (1989). Habitation, Bilan 1988/Plan d'action 1989. Service de l'habitation et du développement urbain, Ville de Montréal.
- Morris, Sir Parker (1977). Homes for Today and Tomorrow. London: Department of the Environment, Her Majesty's Stationary Office.
- Mostoller, Michael (1991). The Design of a Single Room with Furniture for a Residential Hotel in Karen A. Franck and Sherry Ahrentzen, New Households New Housing. New York: Van Nostrand Reinhold.
- Newman, Oscar (1972). Defensible Space: Crime Prevention Through Urban Design. New York: Collier MacMillan.
- Oberlander, Peter and Fallick, Arthur L. (1988). Homelessness and the Homeless: Response and Innovations. The University of British Columbia: Centre of Human Settlements.
- Oberlander, Peter and Fallick, Arthur L. (1987). Shelter or Homes? A Contribution to the Search for Solutions to the Homelessness in Canada. A Progress Report. Vancouver: The Center for Human Settlements, The University of British Columbia.
- Osmond, H. (1976). Function as the Basis of Psychiatric Ward Design in Proshansky H.M. et al., Environmental Psychology: Man and his Physical Setting, New York: Holt, Rinehart and Winston.

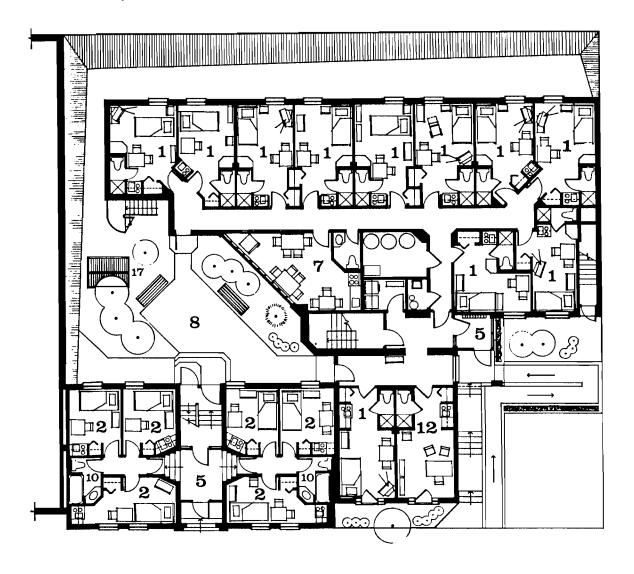
- Plante, Magali (1989). Enquête auprès des ressources d'hébergement temporaire et permanent. État de la situation et pistes de solution. Rapport produit pour le Service de l'habitation et du développement urbain, Ville de Montréal.
- Progressive Architecture (1987). P/A Inquiry. Affordable Housing. February Issue.
- Progressive Architecture (1988). Low-Cost Housing. October Issue.
- Progressive Architecture (1991). The P/A Affordable Housing Competition. June Issue.
- Robinson, Julio W. et al. (1984). Towards an Architectural Definition of Normalization: Design Principles for Housing Severely and Profoundly Retarded Adults. University of Minnesota, Center for Urban and Regional Affairs.
- Canada Mortgage and Housing Corporation (1987). Noise Control. Ottawa: C.M.H.C.
- Canada Mortgage and Housing Corporation (1981). Protecting your home against burglary. Ottawa: C.M.H.C.
- CMHC (1991). Non elderly singles in Canada: Summary Report. Ottawa: Canada Mortgage and Housing Corporation.
- Tameanko, Marvin (1976). Innovative Housing for Single People of Low Income. A thesis submitted in conformity with the requirements for the Degree of Master of Architecture in the University of Toronto.
- Teasdale, Pierre (1985). Internal Spaces of the Dwelling. Advisory Document. Ottawa: CMHC.
- Van Der Ryn, Sim et al. (1965). "The Ecology of Student Housing". Journal of the College of Environmental Design, University of California.
- Van Der Ryn, Sim et Silverstein, Murray (1967). Doorms at Berkeley, an Environmental Analysis. Berkeley: Center for Planning and Development Research, University of California.
- Ville de Montréal (1989). Habiter Montréal. Énoncé de politique d'habitation.
- Welch, Polly et al. (1984). Independence Through Interdependence, Congregate Living for Older People. Commonwealth of Massachusetts, Department of Elder Affairs.

- Winberg, Ellie and Wilson, Tom (1981). Single Rooms: Stories of an Urban Subculture. Cambridge, Mass.: Schenkman Publishing Company Inc.
- Zeisel, John et al. (1983). Midrise Elevator Housing for Older People. U.S. Department of Housing and Urban Development.
- Zeisel, John (1981). Inquiry by Design. Monterey: Brooks/Cole Publishing Company.
- Zeisel Research (1977). Low Rise Housing for Older People, Behavioral Criteria for Design. U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

APPENDIX 1

TYPICAL FLOOR PLAN FOR EACH OF THE HOUSES VISITED

Illustration 125. Ground floor plan, Alexandre-de-Sève House, Montréal (residence no. 1). Scale 1:200.



Main Characteristics of the Ground Floor, Alexandre-de-Sève House

Location: 1579 Maisonneuve Blvd. East

Montréal, Québec

H2L 2B3

Number of residents: 40

Grouping of units: there are two "rooming house" models used on the ground floor in this house: rooms (1) along a corridor as well as rooms grouped (2) in three-unit clusters around complete bathrooms.

Rooms along the corridor (1): these contain a compact kitchen, a shower and a toilet; their areas vary from 13.1 m^2 to 16.8 m^2 ; these units, in our opinion, seem to be extremely small.

Entrance ways (5): there are two entrance ways to this house which contributes to creating a certain amount of confusion.

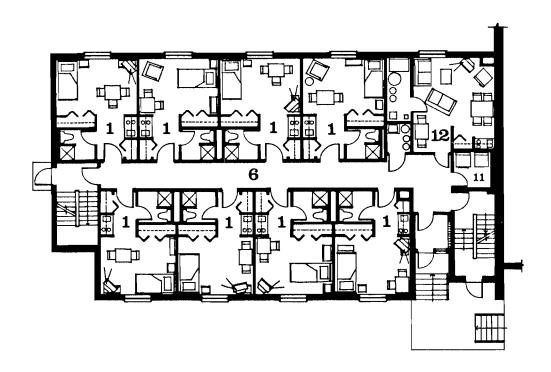
Community living area (7): the dimensions of this room (approximately 24 m²) are not sufficient to accommodate all the residents at community meals but the relation between this space and the exterior community amenity space is very good; on the other hand, it would have been preferable to have access to this room from the entrance hallway.

Exterior community amenity space (8): this is an inner court, a real oasis of peace, a very welcome escape from the intense traffic and noise on Maisonneuve Boulevard

Community sanitary space (10): the complete bathroom is not very practical since it is shared by three residents and only one person can use it at once.

Support staff space (12): the support staff office had to be set up in a space which had been planned for a unit.

Illustration 126. Ground floor plan, Logan House, Montréal (residence no. 2). Scale 1:200.



Main Characteristics of the Ground Floor, Logan House

Location: 1580 Papineau Street

Montréal, Québec

H2K 4H8

Number of residents: 26

Grouping of units: the ground floor contains "rooming house" units (1) along a corridor.

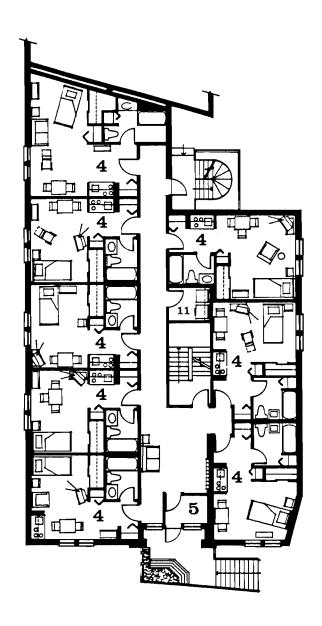
Rooms (1): these contain a compact kitchen, a shower and a toilet; the areas of these units vary between 21.6 m^2 and 22.1 m^2 and are considered by house management as being more acceptable than the areas of the units at Alexandre-de-Sève House.

Traffic space (6): the layout of the units along a long rectilinear corridor gives this space an institutional character, especially since the finish materials are hard and smooth.

Laundry room (11): the location of this room is good, i.e., near the entrance way and next to the stairway; on the other hand, the residents in the next unit might be bothered by the noise made by the machines.

Support staff space (12): the support staff office had to be set up in a area which was intended to become a unit.

Illustration 127. Ground floor plan, Chambrenfleur House, Montréal (residence no. 3). Scale 1:200.



Main Characteristics of the Ground Floor, Chambrenfleur House

Location: 480 St-Antoine Street East

Montréal, Québec

H2L 1A5

Number of residents: 26

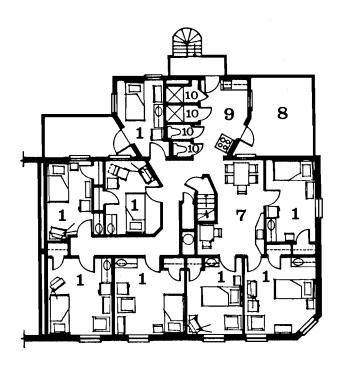
Grouping of the units: the ground floor in this house contains bachelor units (4) along a corridor.

Bachelor units (4): these contain a compact kitchen and a complete bathroom; the areas of these units vary from $24.6 \, \text{m}^2$ to $33.6 \, \text{m}^2$ and are considered acceptable by the house manager.

Entrance way (5): the entrance way, including its interior extensions (vestibule and entrance hall) and exterior extension (porch) is large and pleasant.

Laundry room (11): the laundry room is located in a central position which was chosen so that there is the least possible noise to bother people in the units close by.

Illustration 128. Third floor plan of the house located at 2539 Lafontaine Street, Montréal (residence no. 4). Scale 1:200.



Main Characteristics of the Third Floor of the House Located at 2539 Lafontaine Street

Location: 2539 Lafontaine Street

Montréal, Québec

H2K 2A4

Number of residents: 11

Grouping of units: the third floor in this house contains eight "rooming house" units (1) grouped (some layouts are more coherent than others) around sanitary spaces, and a community kitchen; in fact this is the upper level of two triplex buildings which have been combined.

Rooms (1): these contain a sink and a small refrigerator; their areas vary from 9.0 m^2 to 14.0 m^2 ; among these units, those with areas of 14.0 m^2 appeared to us to be acceptable but not those with 9.0 m^2 .

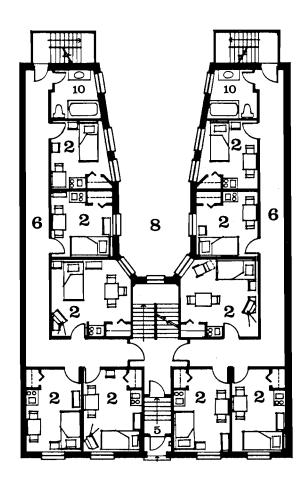
Community living area (7): in this house, the dining room is used as the community living area; thus it is here that the residents come to watch hockey games on television.

Exterior community amenity space (8): this is a large balcony which is used not only as an amenity space but also has a storage space for bicycles.

Community kitchen (9): since the house is located in two recycled triplexes, the community kitchen, which is, in fact, one of the original kitchens, gives the house a very residential character.

Community sanitary spaces (10): these spaces are made up of stalls and each of these stalls contains only one fixture.

Illustration 129. Ground floor plan of the house located at 2060 Clark Street, Montréal (residence no. 5). Scale: 1:200.



Main Characteristics of the Ground Floor of the House Located at 2060 Clark Street

Location: 2060 Clark Street

Montréal, Québec

H2X 2R7

Number of residents: 30

Grouping of units: the ground floor in this house contains two clusters of five "rooming house" units (2); each of these clusters shares a complete bathroom.

Rooms (2): these contains a compact kitchen; their areas vary between 11.2 m^2 and 16.0 m^2 ; among these units, those with areas close to 16.0 m^2 seemed acceptable to us but those with areas near 11.0 m^2 did not.

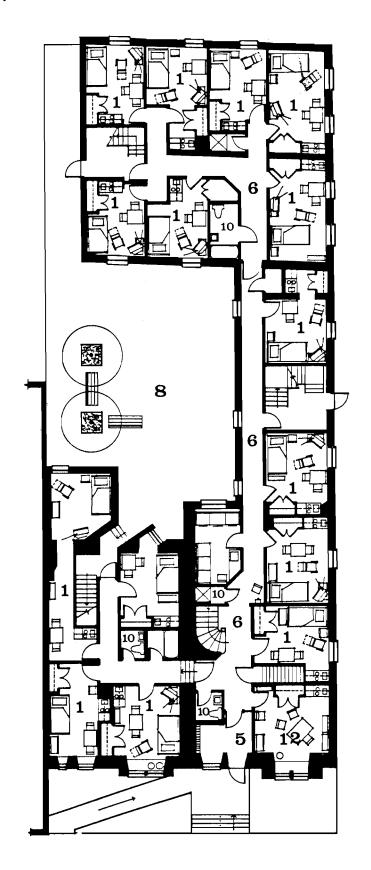
Entrance way (5): the dimensions of the entrance way to the house are rather small considering the size of the house, but the exterior extension of the entrance way, i.e., the porch, is well protected.

Traffic spaces (6): the traffic network is simple and facilitates spatial orientation; on the other hand, the very narrow dimensions of the corridors and the blind walls along the latter mean that the traffic spaces, with the exception of the stairwell, where there is window, are not very stimulating.

Exterior community amenity space (8): the inner court created by the two wings of the building could lead one to believe that this is a natural exterior community amenity space, but in fact, the residents make very little use of this space since it is very small and not very inviting; moreover, the distance separating the windows in the units across from each other is clearly insufficient.

Community sanitary spaces (10): these complete bathrooms are not very practical given that they are shared by five residents and only one person can use them at a time.

Illustration 130. Ground floor plan, Chambredor House, Montréal (residence no. 6). Scale 1:200.



Main Characteristics of the Ground Floor, Chambredor House

Location: 416 René-Lévesque Blvd. East

Montréal, Québec

H2L 2K8

Number of residents: 58

Grouping of the units: the ground floor in this house contains "rooming house" units (1) along corridors.

Rooms (1): these contain compact kitchens; their areas vary from 11.4 m 2 to 21.9 m 2 ; and, as in the preceding example, only those with areas of 16.0 m 2 seemed acceptable to us.

Entrance way (5): the dimensions of the vestibule are large (6.0 m^2) and make it possible for the residents to check their mailboxes without disrupting traffic.

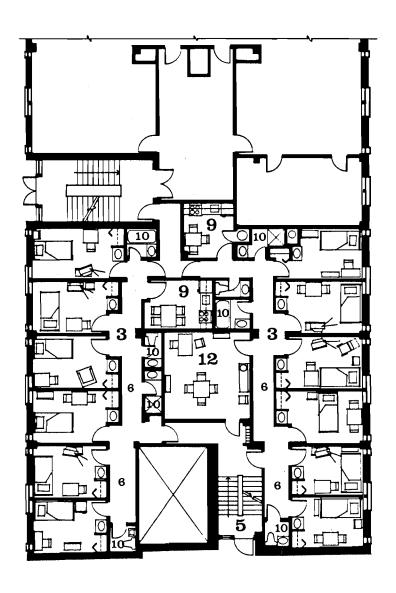
Traffic space (6): the corridors are long, narrow and monotonous; only a few windows providing a view of the inner court add a little life to the traffic space.

Exterior community amenity space (8): this space does not seem to be used and it is not very attractive considering how small it is and the small amount of light available.

Community sanitary spaces (10): a certain number of these spaces are made up of complete bathrooms as well as rooms with stalls.

Support staff space (12): the support staff office had to be set up in a space which was intended to be used as a unit.

Illustration 131. Ground floor plan, St-Dominique House, Montréal (residence no. 7). Scale 1:200.



Main Characteristics of the Ground Floor, St-Dominique House

Location: 20 Guilbault Street East

Montréal, Québec

H2X 1A1

Number of residents: 26

Grouping of the units: the ground floor in this house contains two shared units (3) containing six bedrooms each.

Shared units (3): in each of the bedrooms in the shared units, there is a wash basin; the areas of these rooms vary from 10.9 m^2 to 12.7 m^2 and these all seem to be too small to us.

Entrance way (5): this space leaves a lot to be desired, i.e., the entrance way is part of a stairwell.

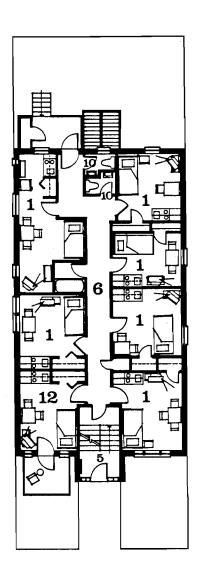
Circulation spaces (6): these spaces are dull since they are long, narrow and without any natural lighting.

Community kitchens (9): in these spaces, there is a table and a few chairs in addition to counters and kitchen appliances; these spaces are not very attractive since there are no windows.

Community sanitary spaces (10): these spaces are made up of stalls, each containing two fixtures.

Support staff space (12): the support staff office is near the entrance way in a room which also doubles as the community living area.

Illustration 132. Ground floor plan for the house located at 7120 Iberville Street, Montréal (residence no. 8). Scale 1:200.



Main Characteristics of the Ground Floor of the House Located at 7120 Iberville Street

Location: 7120 Iberville Street

Montréal, Québec

H2E 2Y4

Number of residents: 20

Grouping of units: the ground floor in this house has seven "rooming house" units along a corridor.

Rooms (1): these contain a compact kitchen and the areas vary from 10.8 m^2 to 16.7 m^2 ; only those units with areas of 16.0 m^2 and over appeared acceptable to us.

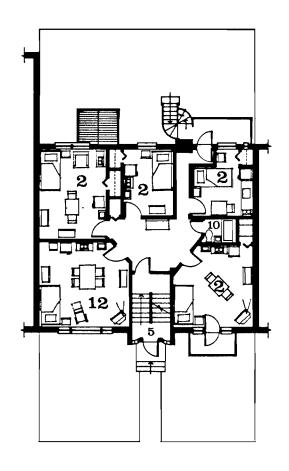
Entrance way (5): this is a typical entrance way to an old building which originally contained five units (2 in the basement, 1 on the ground floor and 2 on the second floor); the entrance way is contained within a stairwell and is certainly not attractive.

Traffic space (6): this space is very "run-of-the-mill"; this is a corridor which served the former unit on the ground floor.

Community sanitary spaces (10): these contain stalls.

Support staff space (12): the janitor lives in one of the rooms.

Illustration 133. Ground floor plan for the house located at 5201 2nd Avenue, Montréal (residence no. 9). Scale 1:200.



Main Characteristics of the Ground Floor in the House Located at 5101 2nd Avenue

Location: 5201-2nd Avenue

Montréal, Québec

H1Y 2Y2

Number of residents: 12

Grouping of units: the ground floor in this house has five "rooming house" units (2) grouped around a central staircase and a complete bathroom.

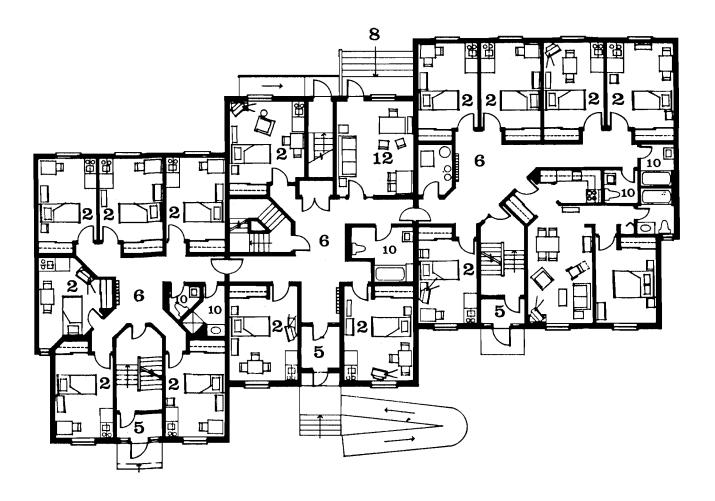
Rooms (2): these contain a refrigerator as well as a counter on which is placed a two-element hot plate; the areas of these units vary between 10.8 $\rm m^2$ and 16.7 $\rm m^2$; only those units with areas of 16.0 $\rm m^2$ and more appeared acceptable to us.

Entrance way (5): this is a typical entrance way to an old building which originally contained three units on three different levels; the entrance way is contained in a staircase and is not particularly attractive except for the entrance hall which is very warm, given its residential characteristics.

Community sanitary space (10): the complete bathroom is not very practical in that it is shared by five residents and only one person can use it at a time.

Support staff space (12): the janitor lives in one of the rooms.

Illustration 134. Ground Floor plan of the house located at 506 Bronson Street, Ottawa (residence no. 10). Scale 1:200.



Main Characteristics of the Ground Floor in the House Located at 506 Bronson Street

Location: 506 Bronson Street

Ottawa, Ontario

K1R 6J8

Number of residents: 55

Grouping of units: the ground floor on this house contains three clusters of "rooming house" units (2); the clusters contain 4 to 6 rooms grouped around a landing as well as community sanitary spaces with stalls.

Rooms (2): these contain a compact kitchen; their areas vary from 15.0 m^2 to 17.6 m^2 ; among these units, only those with areas of 16.0 m^2 and more appeared acceptable to us.

Entrance ways (5): there are three entrance ways to this house which means that each cluster of units is more clearly differentiated.

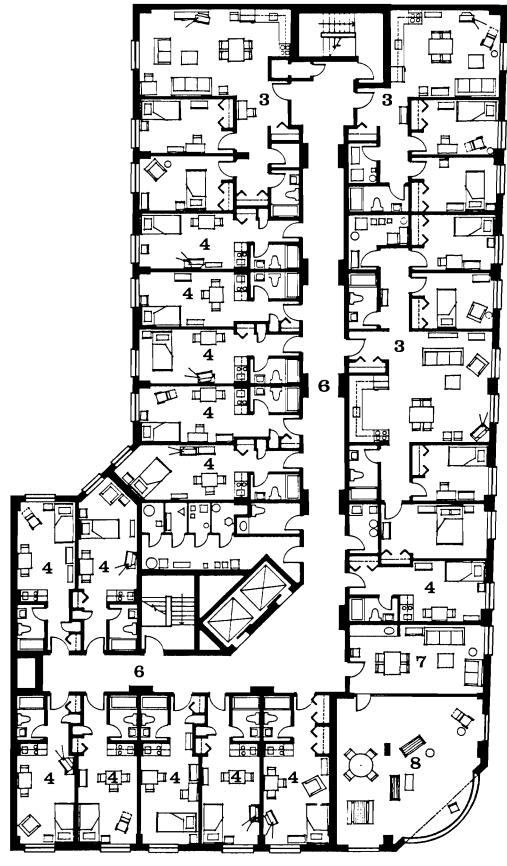
Traffic spaces (6): the traffic network is effective and compact; the absence of long corridors and the recessing of the doors to the units gives each resident greater privacy and makes these spaces feel more residential than institutional.

Exterior community amenity space (8): the vast yard at the back of the house is greatly appreciated by the residents.

Community sanitary spaces (10): these spaces are divided into stalls except for the central bathroom which is complete; this layout is not very practical in that only one of the three people sharing this space can use it at a time.

Support staff space (12): the support staff office had to be set up in a space that had been intended as a community living area.

Illustration 135. The 5th floor plan, Options Bytown House, Ottawa (residence no. 11). Scale 1:200.



Main Characteristics of the 5th Floor in the Options Bytown House

Location: 380 Cumberland Street

Ottawa, Ontario

KlN 7J5

Number of residents: 60 (Options Bytown only occupies a portion of the

building)

Grouping of units: the 5th storey in this building has 12 bachelor units (4) and three shared units (3); among the shared units, two have 2 bedrooms and one has 4 bedrooms.

Bachelor units (4): these contain a compact kitchen and a complete bathroom; the areas of these units vary from 23.7 m^2 to 25.6 m^2 and are considered as acceptable by the house manager.

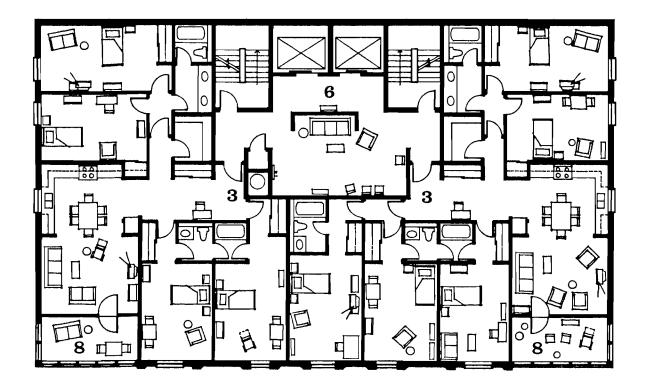
Shared units (3): in each of the rooms in the shared units, containing only basic furniture, the areas vary from 12.5 m² to 16.4 m² and seemed satisfactory according to the comments we received from the house manager as well as from a community worker. These latter people reported to us, however, that despite the fact that the shared units contained a large kitchen as well as large living areas and dining areas, most of the residents preferred to live in bachelor units even if this meant less room. Moreover, the signs of personalization were more evident in bachelor units and in units shared by two people than in units shared by four people.

Traffic space (6): the traffic space is simple and facilitates spatial orientation since it follows the direction of the neighboring streets.

Community living area (7): this room is used by the support staff since the residents on the 5th floor do not want the residents from other floors coming into their territory.

Exterior community amenity space (8): unfortunately this roof terrace is only used by the support staff for the reasons described in the preceding paragraph.

Illustration 136. Typical floor plan in the house located at 90 Shuter Street, Toronto (residence no. 12). Scale 1:200.



Main Characteristics of a Typical Floor in the House Located at 90 Shuter Street

Location: 90 Shuter Street

Toronto, Ontario

M5B 2K6

Number of residents: 77

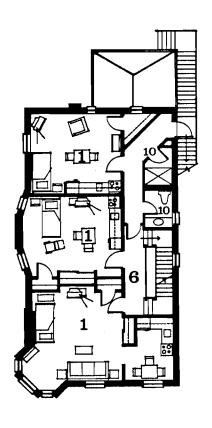
Grouping of units: each of the floors in this house has two shared units (3); among these units, one has five bedrooms and the other, four bedrooms.

Shared units (3): for a certain number of the rooms in these units, two residents share the same bathroom whereas for other rooms, the bathrooms are totally separated from the room which only contains basic pieces of furniture; the areas in these rooms vary from 19.9 m² to 26.2 m² depending on whether they contain bathrooms; these areas seem satisfactory according to the comments from some residents in this house.

Traffic space (6): the space for traffic is compact and efficient; in front of the elevator, however, what could be called a semi-private lounge was set up which did not seem to be used very much on the floors which we visited. We attribute this mainly to the fact that there is no window in this space.

Exterior community amenity space (8): originally, each of the units had a balcony but the balconies were enclosed by windows to increase the interior area of the units.

Illustration 137. Typical floor plan for the house located at 490 Huron Street, Toronto (residence no. 13). Scale 1:200.



Main Characteristics of Typical Floor Plan in the House Located at 490 Huron Street

Location: 490 Huron Street

Toronto, Ontario

M5R 2R3

Number of residents: 10

Grouping of units: this typical floor has three "rooming house" units (1) opening onto a corridor along which community sanitary spaces with stalls are also found.

Rooms (1): these contain a kitchenette; their areas vary from 21.6 m^2 to 33.0 m^2 ; this large area contributes to creating open spaces and, in the case of the largest unit, to differentiating the various zones.

Traffic spaces (6): the opening of the corridor on the stairway perpetuates the residential character of this recycled middle class home.

Community sanitary spaces (10): these two spaces contain stalls; the first has a shower and the second a toilet as well as a wash basin.



Main Characteristics of the House Located at 58 Lewis Street

Location: 58 Lewis Street

Toronto, Ontario

M4M 2H3

Number of residents: 15

Grouping of units: a typical floor in this house has four bachelor units grouped around a landing; two of these units face the street and the two others face the backyard.

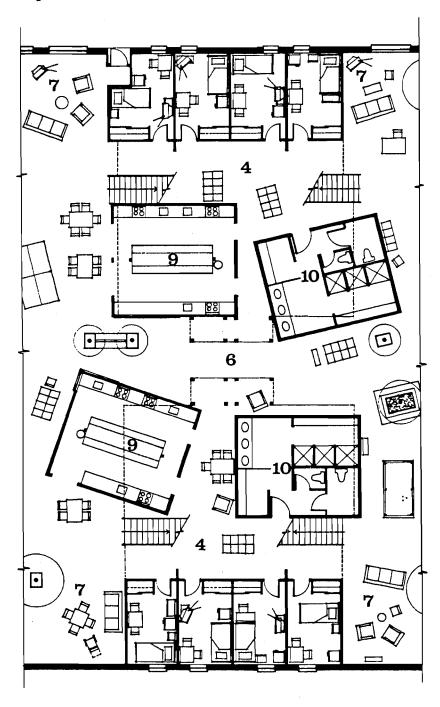
Bachelor units: the units in this house are the biggest we visited; their areas (approximately 33.0 m²) make it possible to set up alcoves which can be used as bedrooms, living areas or dining rooms, as the residents' wish; another interesting characteristic: spacious clothes closets, which separate the alcoves from the bathrooms, act as buffer zones between these two spaces and are used as dressing rooms.

Community living area (7): to the right of the entrance way, on entering the house, there is a small living area which is frequently used by the residents.

Exterior community amenity spaces (8): in this house, there are two of these spaces; the first is the balcony which is above the entrance way, and on which there are two benches facing each other; the second is the backyard; according to the staff person, these two spaces are quite popular.

Illustration 139. Plan for the central portion of the ground floor in the Street City House, Toronto (residence no. 15). Scale 1:200.

In illustration 140, we are shown an axonometric drawing representing all of the house and, in illustration 141, we can see a photo of the "main street" which goes through the house.



Main Characteristics of the Central Portion of the Ground Floor of the Street City House

Location: 393 Front Street East

Toronto, Ontario

M5A 3S4

Number of residents: 72

Grouping of units: within this house, which has kept its warehouse features, we find six maisonnettes; each of the latter is the equivalent of one shared unit (3) with 12 rooms, four of which are on the ground floor and eight on the upper floor.

Shared units (3): these shared units are very cozy and really give the impression of being maisonnettes due to the two storeys; on the ground floor, we find the community kitchen (9) with a sanitary space (10) including several fixtures as is the case in certain student residences.

Traffic spaces (6): the traffic spaces around the maisonnettes really seem like streets, given the large distances separating them, and also given the nature of the flooring (bare concrete) which looks more like a sidewalk than the corridors usually found in these establishments.

Community living areas (7): these spaces sprung up spontaneously in residual spaces around the units and contribute to creating an informal atmosphere.

Community kitchens (9): in each kitchen there is a central island which is very appropriate since it makes it possible for several residents to work in the kitchen at the same time without it being too crowded.

Community sanitary spaces (10): these spaces, due to their nature, do not provide the residents with much privacy.

Illustration 140. Axonometric drawing of the Street City House, Toronto

The portion of the ground floor plan shown in illustration 139 is identified by the letter A.

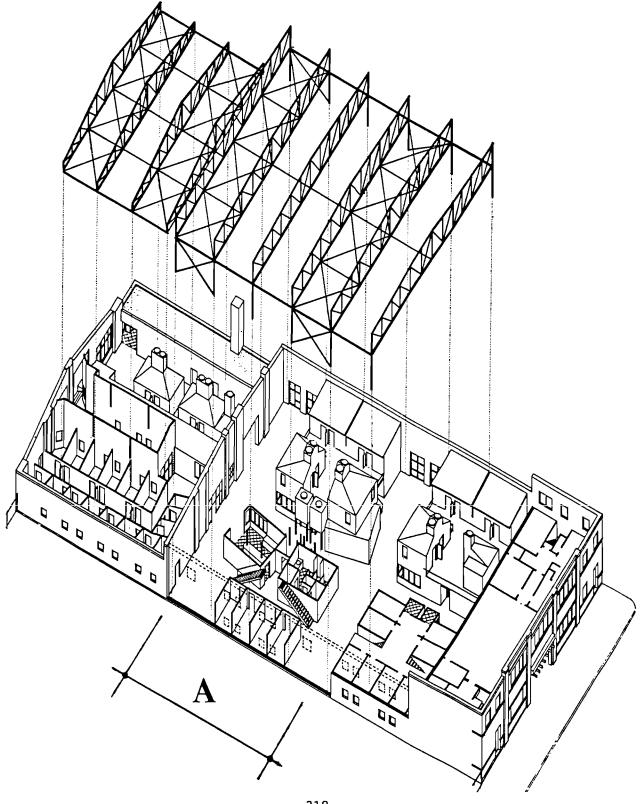
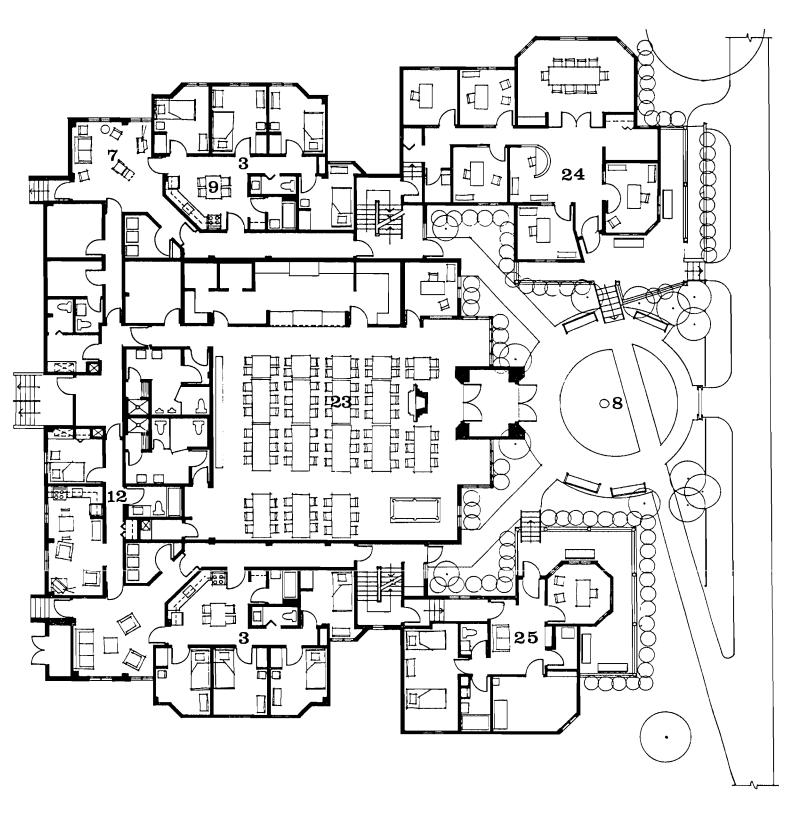


Illustration 141. "Main Street", Street City House. (Photo: Ian Smith - Rubenzahl).



Illustration 142. Ground floor plan of the Operation Friendship House, Edmonton (Illustration no. 16). Scale 1:200



Main Characteristics of the Operation Friendship House

Location: 9526-106th Avenue

Edmonton, Alberta

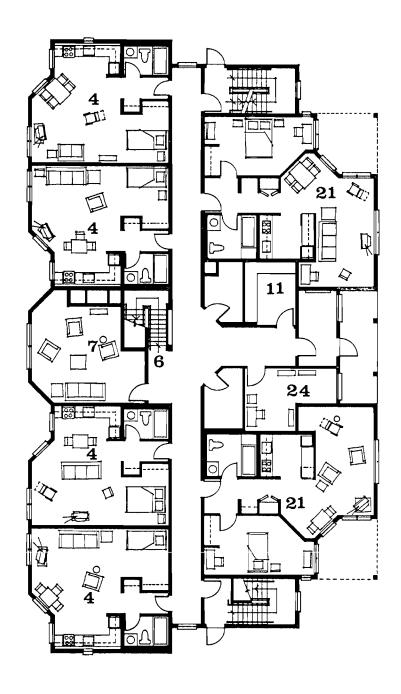
T5H ON2

Number of residents: 40

This is a three-storey house and forms a sort of belt around a day centre (23). The house was built at the back of the lot so as to minimize its scale seen from the street. The Day Centre's main function is a cafeteria but it offers various services to the residents of the building and to the residents in the community at large. The most interesting part of this building's architecture is the inherently residential nature which the architect was successful in giving it. In addition to being set back from the street, the building was fragmented into various pavillons, administration (24), infirmary (25), support staff housing (12), which reflects the architectural characteristics of the neighbouring residences.

Shared units (3): each of the units contains four bedrooms, one community kitchen (9), one complete bathroom as well as one bathroom with a toilet and wash basin. Between each pair of units, on the corners of the building, there are spaces which can be used as lounges (7) where the residents can watch TV or play cards for example.

Illustration 143. Ground floor plan of Hutton Place House, Edmonton (Residence no. 17) Scale 1:200



Main Characteristics of Hutton Place House

Location: 9520-110th Avenue

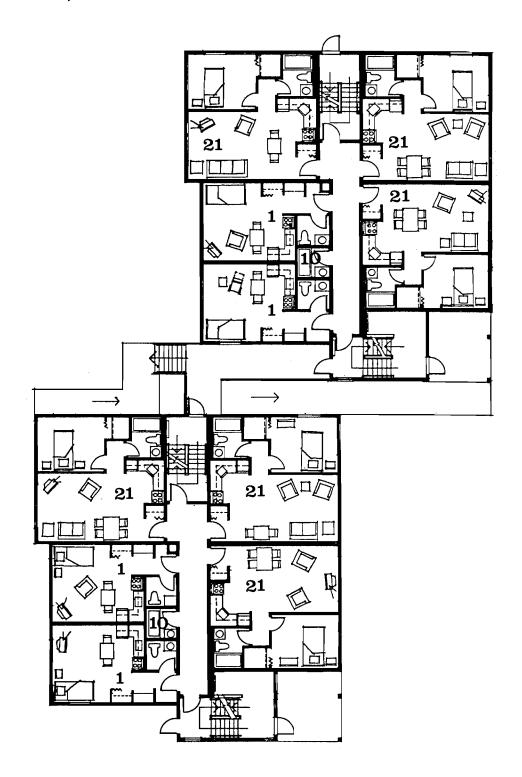
Edmonton, Alberta

T5H ON2

Number of residents: 20

This is a relatively standard construction with a corridor in the centre and units on both sides. There is a total of 20 units, including 2 one-bedroom units for people in wheelchairs, and 18 bachelor units. On the ground floor, there is one office (24), a laundry room (11), a lounge (7), two storage areas as well as four bachelor units (4) and two 1-bedroom units (21); on the second floor, there are nine bachelor units and, lastly, on the third floor, there are five other bachelors. One interesting point: the architect left the central stairs (6) open which contributes, to a certain extent, to lending a more residential character to the building.

Illustration 144. Ground Floor Plan of the Project 3 House, Edmonton (Residence no. 18). Scale 1:200.



Main Characteristics of the Project 3 House

Location: 9528 and 9523-107 Avenue

Edmonton, Alberta

T5H ON2

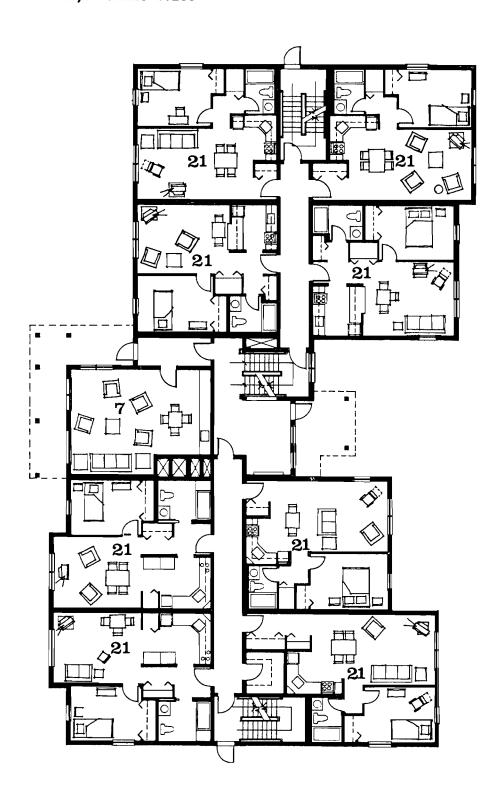
Number of residents: 26

This property is made up of two contiguous houses each containing three stories and 13 units: 6 "rooming house" units, each with a kitchen and a bathroom containing a toilet and a wash basin, three bachelor units and four one-bedroom units.

In each of the houses, the unit mix is as follows: three bachelor units in the half-basement; two "rooming house" units (1) and three one-bedroom units (21) on the ground floor; four "rooming house" units and one one-bedroom unit on the upper storey.

In each of the houses, the tenants who live in the "rooming house" units have access to common bathrooms (10). In each of the houses there is a common lounge (located on the upper floor), a laundry as well as a janitor service.

Illustration 145. Ground Floor Plan for the Project 4 House, Edmonton (Residence no. 19). Scale 1:200



Main Characteristics of Project 4 House

Location: 9535-108th Avenue

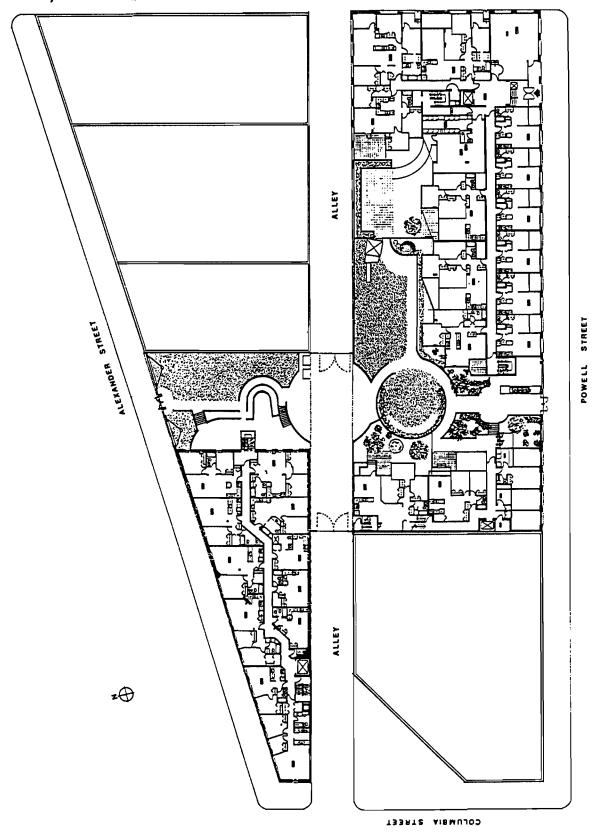
Edmonton, Alberta

T5H ON2

Number of residents: 24

The building contains three stories and is made up exclusively of one-bedroom units (21). There are 24 in all, 8 of which are in a half-basement, 8 on the ground floor and 8 on the upper floor. In this building, in addition to the units, there is a common lounge (7) on the ground floor and, on the upper floor, a laundry room opening onto a roof terrace.

Illustration 146. Plan of the Four Sisters House, Vancouver (Residence no. 20). Scale 1:500



Main Characteristics of the Four Sisters House

Location: 151 Powell Street

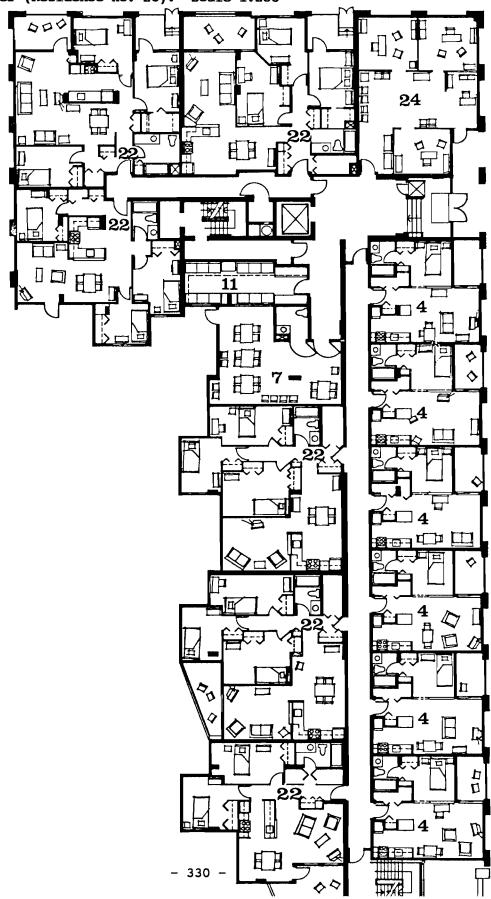
Vancouver, British Columbia

V6A 1G2

Number of residents: 300

The project is made of up of three buildings grouped around an interior court. One of the buildings (North Side) was formerly the 5-storey Fleck Warehouse which was recycled. The other two structures are new buildings, one of which has three stories (West Side) and the other, seven (East Side). In the very middle of the project there is a playground for children (8) protected from street and alleyway traffic by a grille. Within the project, there are various common rooms such as a library, childcare centre, laundry room, a room to cultivate and care for plants, a lounge as well as a meeting room. At various levels, there are roof terraces and all the spaces, with the exception of the roof terrace which is on the top of the recycled warehouse, are accessible to people in wheelchairs. Finally, one interesting fact to be noted, the units intended for singles are focused on the street for animation reasons whereas those units for families are focused on the interior court for security reasons.

Illustration 147. Ground Floor Plan of the East Side of the Fourt Sisters House, Vancouver (Residence no. 20). Scale 1:250

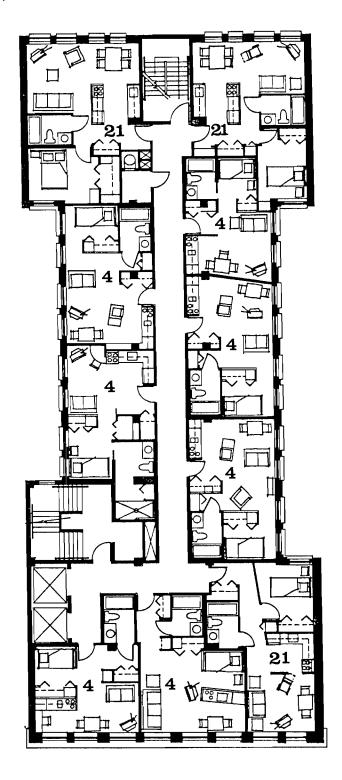


Main Characteristics of the Ground Floor Plan of the East Portion of the Four Sisters House

Grouping of units: The ground floor in this portion of the house is made up of six bachelor units (4) along the Powell Street side (see global plan, illustration 146); two three-bedroom units are found along the alleyway to the east of the site (22); three three-bedroom units (22) as well as one two-bedroom unit are positioned along the interior court. The administration premises are located (24) at the intersection of the alleyway and the street; on the court side, in the very middle of the property, there is a laundry room (11) as well as a common lounge (7).

Bachelor units (4): one interesting fact to be pointed out, the plan for each of the units is designed so that each of the component spaces is clearly differentiated.

Illustration 148. Typical Floor Plan for the Tellier Tower House, Vancouver (Residence no. 21). Scale 1:200



Main Characteristics of a typical floor plan in the Tellier Tower House

Location: 16 East Hastings

Vancouver, British Columbia

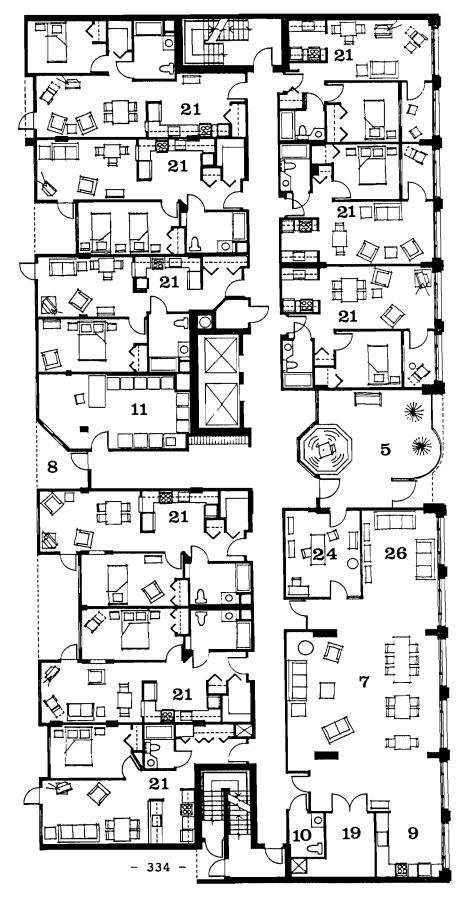
V6A 1M9

Number of residents: 96

Grouping of units: one typical floor in this house contains seven bachelor units (4) and three one-bedroom units (21). This then means that there are approximately ten units per floor, which is a reasonably acceptable scale.

Bachelor units (4): What is remarkable about these units is that they were designed with partitions which are not full height. This means that the space is fluid within each unit and that the component spaces nevertheless remain differentiated. As for the kitchen, in certain units, only the refrigerator is surrounded by partitions and this contributes to differentiating the kitchen space without unduly cutting up the space in the unit.

Illustration 149. Ground Floor Plan for the Pendera House, Vancouver (Residence no. 22) Scale 1:200



Main Characteristics of the Pendera House Ground Floor

Location: 113 Pender Street West

Vancouver, British Columbia

V6B 1S4

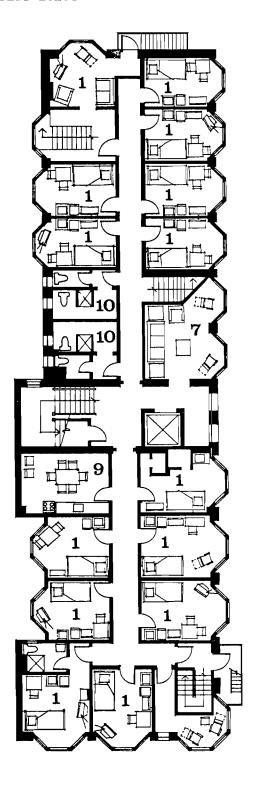
Number of residents: 114

Access to the ground floor is through a small exterior covered court (5) separated from the sidewalk by a security grille. Looking out on this court is the janitor's office (24) as well as a small library (26). Lastly, on the ground floor, there are nine one-bedroom units (21), one common activity room (7), one kitchen (9), one shed (19), one bathroom (10) and one laundry room (11). Lastly, the back door (8) opens onto a vast courtyard with a depth of 16 metres which stretches out over the whole width of the property.

Entrance to the property (5): This is organized in a very intelligent manner since it makes it possible for the tenants, when they enter, to have a view from the entrance way on the common activity hall which makes it possible for them to decide, in complete liberty, depending on who is in the activity hall at that particular time, to join the group or not. Conversely, from the community hall, it is possible to control, without attracting any undue attention, all entrances to the building.

Laundry room (11): The site for the laundry room was also well chosen since its proximity to the courtyard (8) and the common activity hall (7) means that it is possible to do one's washing while making good use of one or the other of these two spaces.

Illustration 150. Plan of the Portland Hotel House second floor, Vancouver (Residence no. 23). Scale 1:200



Main Characteristics of a typical floor plan for the Portland Hotel House

Location: 412 Carrall

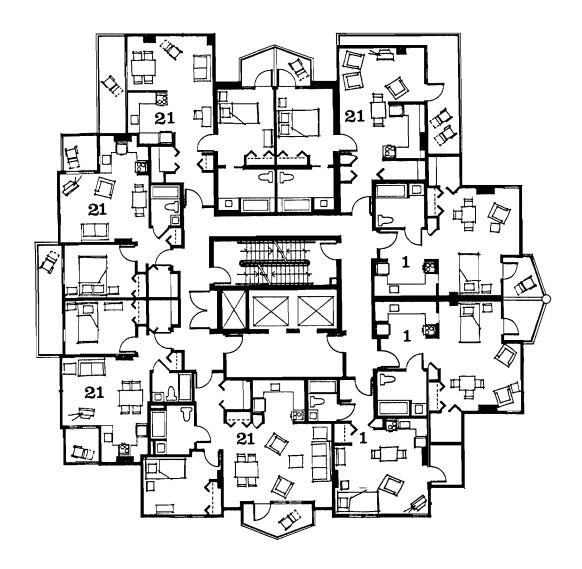
Vancouver, British Columbia

V6A 1M9

Number of residents: 70

Each of the floors in this building contains "rooming house" units: within each of these rooms there is a bed, lamp, dresser, table, chair, small refrigerator and wash basin. On the second floor, there is a small lounge (7), and on each of the floors there is a community kitchen (9) as well as two individual rooms containing a shower and a toilet as well as one room containing only a toilet (10).

Illustration 151. Typical Floor Plan for the New Continental House, Vancouver (Residence no. 24). Scale 1:200



Main Characteristics of a typical floor plan in the New Continental House

Location: 1067 Seymour

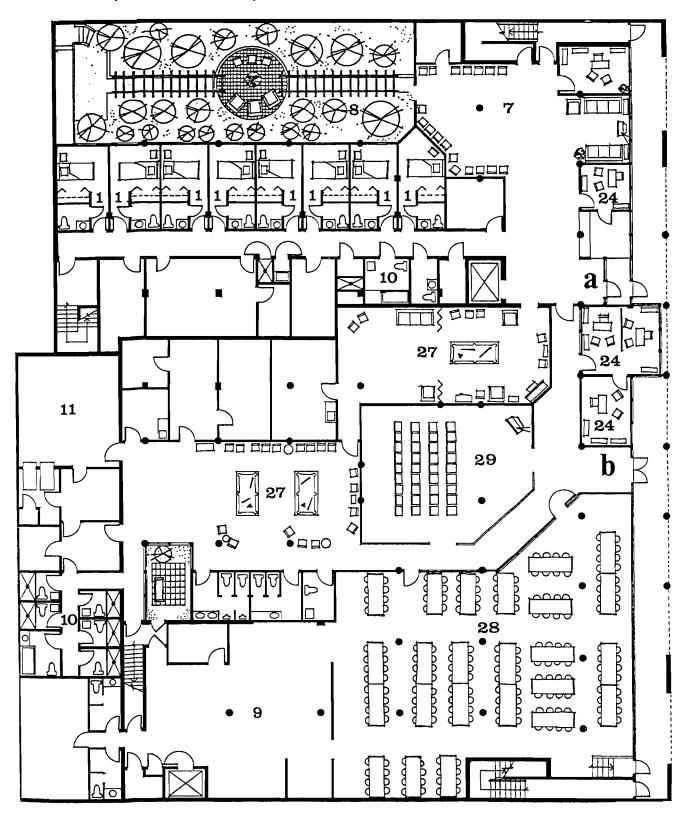
Vancouver, British Columbia

V6B 5S4

Number of residents: 110

Grouping of units: Around a central service core are grouped three bachelor units (1) and five one-bedroom units (21); depending on the floor, the number of these types of units can vary. This way of grouping the units gives a particularly private character to the traffic spaces; this ambiance is all the more accentuated by the fact that most of the doors to the units are recessed.

Illustration 152. Ground Floor Plan for the Veterans' Memorial Manor House, Vancouver (Residence no. 25). Scale 1:200



Main Characteristics of the Ground Floor at the Veterans' Memorial Manor House

Location: 310 Alexander Street

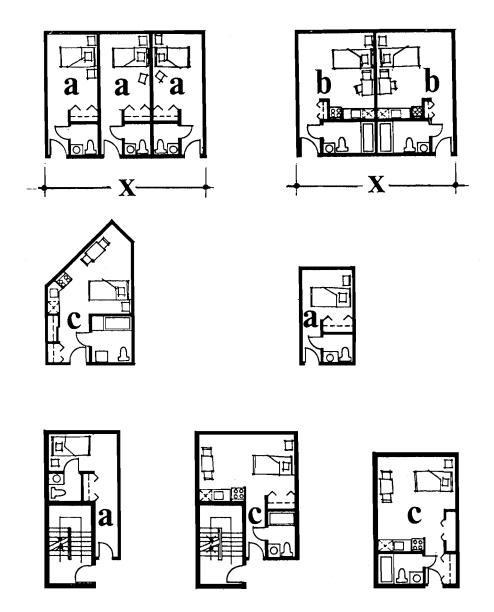
Vancouver, British Columbia

V6A 1C4

Number of residents: 131

At the ground floor level, there is one portion of the building which is reserved for housing (entrance a) whereas the other portion (approximately two-thirds) houses a daycentre (entrance b). The portion of the ground floor reserved for housing contains eight "rooming house" units (1), one reception counter near the entrance way, offices for the support staff (24), a common lounge (7), a small kitchen (9), a games room (27) as well as bathroom, shower room and toilet (10). Right next to the units there is a magnificent courtyard (8). The other portion of the ground floor housing the daycentre contains a cafeteria (28), a commercial kitchen (9), a television room (29), a billiards room (27), offices for support staff (24), showers (10) and a laundry (11).

Illustration 153. Plan of various types of units in the Veterans' Memorial Manor House, Vancouver (Residence no. 25). Scale 1:200



Main Characteristics of units in the Veterans' Memorial House

The building contains 134 units of varying sizes and these units were grouped in the building so as to make it possible for the residents, as they get progressively more independent, to evolve from very rudimentary "rooming house" units (a) to units with compact kitchens (b) and finally to bachelor (c) units with complete bathrooms.

Certain units were also designed in a modular fashion to facilitate long-term adaptations and even to make it possible to replace in a space "x" metres wide, three type "a" units by two type "b" units.

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APPENDIX 2 MODEL PLANS - UNITS

These model plans are preceded by tables showing our hypotheses as to the various combinations of furniture, sanitary fixtures, appliances associated with the preparation of meals, and storage space which may be contained in the units depending on their size.

Table 10. Types of combinations of furniture contained in the unit and used in the model plans

TYPES:	A.	B.	С	D	E 2	F
Single Bed	1	1	1	1	1	-
Double Bed	_	-	_	-	-	1
Bedside Table	1	1	1	1	1	2
Single Dresser	1	1	1	1	1	_
Double Dresser	-	-	_	-	_	1
Table (2 people)	1	1	1	1	1	_
Table (4 people)	-	_	_	_		1
Chair	2	2	2	2	3	4
Rocking Chair	-	1	1	1	1	1
Television	-	_	1	1	1	1
Single Chesterfield Bed	-	-	_	1	-	-
Double Chesterfield Bed	-	-	_	-	1	1
4.5 m ² space ³		-	-	-	_	1

^{1.} In type A and B combinations, given that there is no special space provided for the television, the latter must be placed on a table or a dresser.

². Type E combination lists the essential pieces of furniture which should be found in all units.

^{3.} This additional space is provided to increase the unit's flexibility.

Table 11. Types of sanitary fixtures contained in the unit and used in the model plans.

TYPES:	A	В	С	D	E
Wash Basin with Counter	0				
Toilet		0			
Toilet Wash Basin with Counter			0		
Toilet / Shower				0	
Toilet / Wash Basin with Counter / Bathtub					0

Minimal solution acceptable.

Table 12. Types of appliances associated with the preparation of meals contained in the units and used in the model plans.

TYPES:	A	В	C.	D
Refrigerator	0			
Compact 1500 mm X 600 mm kitchen		0		
Compact 1800 mm X 600 mm kitchen		_	0	
Refrigerator / Sink / Electric Range			-	0

¹ Minimal solution acceptable.

Table 13. Type of storage space contained in the unit and used in the model plans.

TYPES	A	B*	С
600 X 1300 mm space	0		
600 X 1600 mm space		0	
600 X 2400 mm space			0

¹ Minimum solution acceptable.

Table 14. Description of model plans based on type of furniture, sanitary fixtures, appliances associated with preparation of meals, and storage space.

Types o Model P Develop	lans	Types of Furniture Combinations ²	Types of Sanitary Fixture Combinations ³	Types of Appliances Associated with the Preparation of Meals ⁴	Types of Storage Space ⁵
1S and	1R	A	A	_	A
2S AND	2R	В	A	-	A
3s AND	3R	В	A	A	A
4s AND	4R	В	C	A	A
5S AND	5R	В	В	В	A
6s AND	6R	В	D	В	A
7S AND	7R	В	D	С	A
8s and	8R	C	D	C	A
9s and	9R	D	D	C	В
10S AND	10R ⁶	E	D	C	В
11S AND	11R	E	E	C	C
12S AND	12R	F	E	D	C

¹ Letter "S" refers to the square plans and letter "R" to the rectangular plans.

² See Table 10 for the description of these types of combinations.

³ See Table 11 for the description of these types of combinations.

⁴ See Table 12 for the description of these types of appliances.

⁵ See Table 13 for the description of these types of spaces.

⁶ Minimal solutions acceptable.

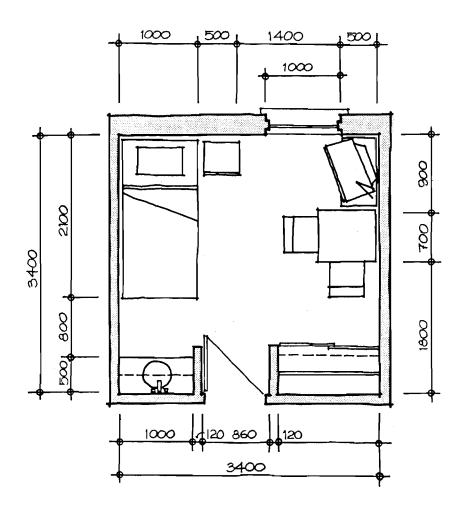
Table 15. Comparison of the areas required to accommodate the same furniture, appliances and storage space using the square plan and the rectangular plan.

SQUARE PLAN	TS.	RECTANGULAR PLANS			
Type of Model Plan	Area (m²)²	Type of Model Plan	Area (m²)²		
1s	11.5	1R	10.0		
2S	13.0	2R	11.5		
3s	14.5	3R	13.0		
4s	16.0	4R	14.5		
5 S	16.0	5R	16.0		
6S	17.5	6R	17.5		
7S	19.0	7R	19.0		
8s	20.5	8R	20.5		
98	20.5	9R	22.0		
10s	24.0	10R	25.0		
11S	31.0	11R	31.0		
12S	35.5	12R	35.5		

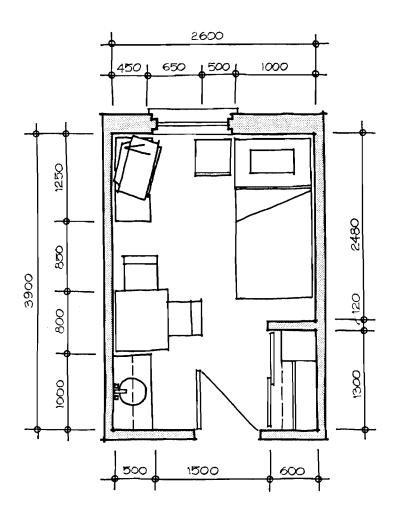
¹ Minimal solutions acceptable.

This area includes the storage space, the bathroom (depending on the particular case), as well as the area taken up by the partitions enclosing the unit.

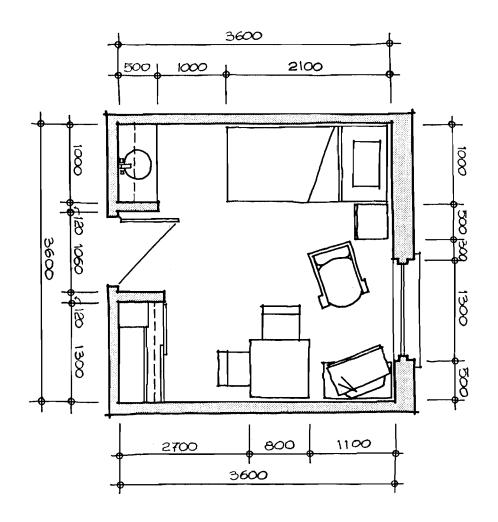
11	lustra	atio	on 154.	Model	Plan 1S	Area:	11.5 m^2 .	Scale	1:50
•	Type	of	furniture	combinati	on (see T	able 10)	• • • • • • • • • •	:	A
•	Type	of	sanitary:	fixture co	mbination	(see Table	11)	:	A
•	Type	of	appliance	s associat	ed with t	he preparat	ion of meals	3	
	(see	Tal	ble 12)				• • • • • • • • • •	N	/A
	Type	of	storage s	pace (see	Table 13)			:	A



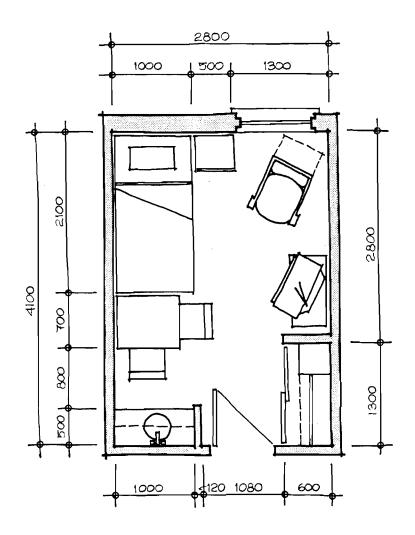
11	lustra	tic	on 155.	Model Pla	n 1R	Area:	$10.0 \text{ m}^2.$	Scale	1:50
	Type	of	furniture c	ombination	(see Tabl	e 10)		:	A
	Type	of	sanitary fi	xture combi	nation (s	ee Table	11)	:	A
•	Type	of	appliances	associated	with the	preparat	ion of meals		
	(see	Tak	le 12)					: N	/A
	Type	of	storage spa	ce (see Tab	le 13)			:	A



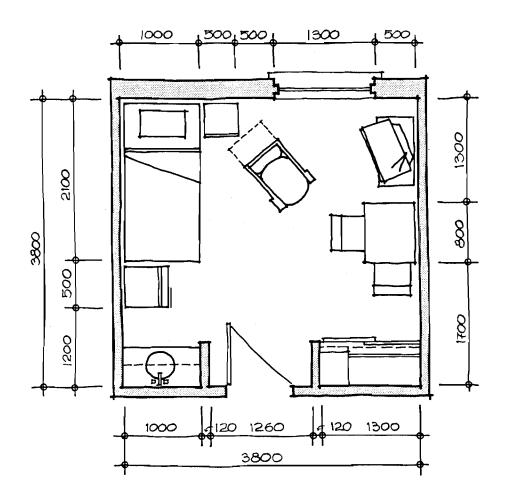
Ill	ustra	tion 156.	Model Plan 2S	Area:	13.0 m^2 .	Scale	1:50
	Type	of furniture	combination (see T	able 10)		:	В
			ixture combination				A
. '	Туре	of appliances	associated with t	he preparat:	ion of meals	3	
	(see	Table 12)			• • • • • • • • • •	: N	/A
	Type	of storage sr	ace (see Table 13)			:	A



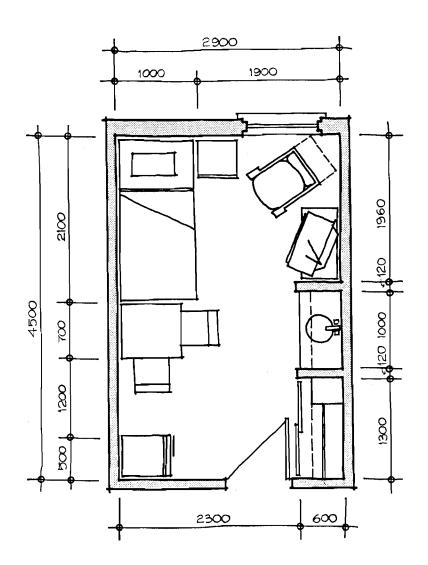
11	lustra	ati	on 157.	Model Plan 2R	Area:	11.5 m^2 .	Scale	1:50
	Туре	of	furniture	combination (see	Table 10)		:	В
•	Туре	of	sanitary f	fixture combination	on (see Table	11)	:	A
	Type	of	appliance	s associated with	the preparat	ion of meal	.s	
	(see	Ta	ble 12)				: N	/A
	Type	of	storage s	pace (see Table 13	3)		:	A



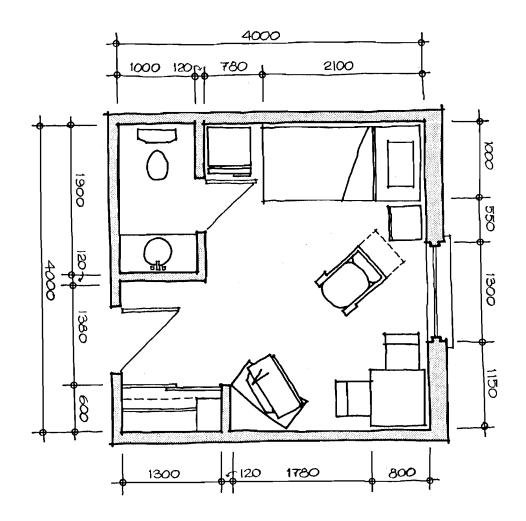
Il	lustra	ati	on 158.	Model 1	Plan 3S	Area:	14.5 m ² .	Scale	1:50
	Туре	of	furniture	combinati	on (see Ta	ble 10)	• • • • • • • • • •	:	В
•	Type	of	sanitary f	ixture co	mbination	(see Table	11)	:	A
	Type	of	appliances	associate	ed with th	e preparat	ion of meals	3	
	(see	Ta	ble 12)					:	A
	Type	of	storage sp	ace (see	Table 13)			:	A



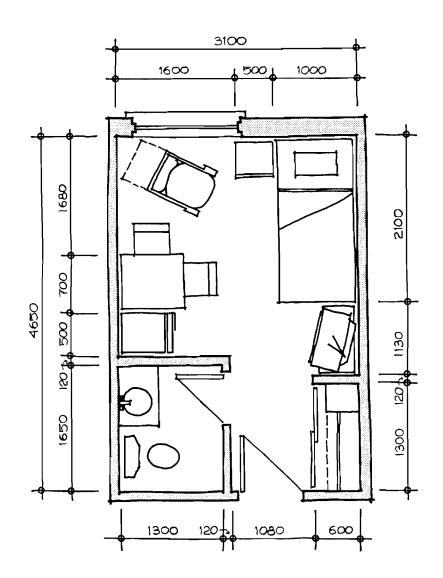
11	lustra	tic	on 159.	Model Pl	lan 3R	Area:	13.0 m^2 .	Scale	1:50
	Туре	of	furniture o	combination	n (see Tai	ble 10)		:	В
	Type	of	sanitary f	exture comb	oination	(see Table	11)	:	A
	Type	of	appliances	associated	d with th	e preparat:	ion of meals	l .	
	(see	Tak	ole 12)					:	A
	Type	of	storage spa	ace (see Ta	able 13)			:	A



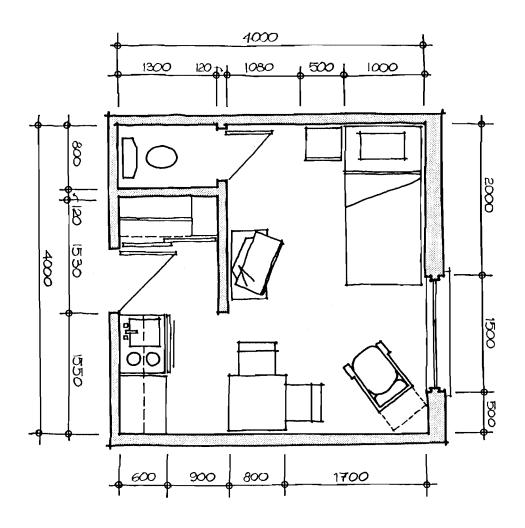
11	lustra	atio	on 160.	Model	Plan 4S	Area:	16.0 m ² .	Scale	1:50
	Туре	of	furniture	combinati	on (see Ta	able 10)	• • • • • • • • • •	:	В
•	Type	of	sanitary	fixture co	mbination	(see Table	11)	:	С
•	Туре	of	appliance	s associat	ed with the	ne preparat	ion of meals	3	
	(see	Tal	ole 12)					:	A
	Type	of	storage s	pace (see	Table 13)			:	A



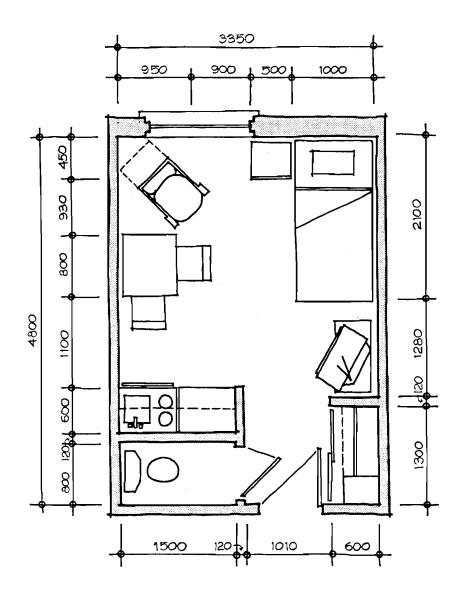
Illustr	ation 161.	Model Plan 4R	Area:	14.5 m^2 .	Scale	1:50
. Type	of furniture	combination (see T	able 10)	• • • • • • • • • • •	:	В
. Type	of sanitary f	ixture combination	(see Table	11)	:	С
. Type	of appliances	associated with t	he preparat	ion of meals	3	
(see	Table 12)			• • • • • • • • • •	:	A
. Type	of storage sp	ace (see Table 13)			:	A



11	lustra	atio	n 162.	Model	Plan 5S	Area:	$16.0 \text{ m}^2.$	Scale	1:50
	Туре	of :	furnitur	e combinat	ion (see Ta	ble 10)		:	В
	Type	of s	sanitary	fixture c	ombination	(see Table	11)	:	В
•	Type	of a	applianc	es associa	ted with th	e preparat:	ion of meal	8	
	(see	Tab:	le 12) .					:	В
	Type	of s	storage	space (see	Table 13)			:	A



Il	lustra	tion 163.	Model Plan 5R	Area:	16.0 m ² .	Scale	1:50
	Туре	of furniture	combination (see Ta	ble 10)	• • • • • • • • • • •	:	В
•	Type	of sanitary	ixture combination	(see Table	11)	:	В
	Type	of appliances	s associated with th	e preparat	ion of meals	3	
	(see	Table 12)	• • • • • • • • • • • • • • • • • • • •			:	В
	Type	of storage si	pace (see Table 13)			:	A



I1	lustra	atio	on 164.	Model	Plan 6S	Area:	$17.5 \text{ m}^2.$	Scale	1:50
	Туре	of	furnitur	e combinat	ion (see 1	Table 10)	• • • • • • • • •	:	В
	Type	of	sanitary	fixture c	ombinatior	n (see Table	11)	:	D
	Type	of	applianc	es associa	ted with t	the preparat	ion of meal	s	
	(see	Tal	ble 12) .					:	В
	Type	of	storage	space (see	Table 13))		:	A

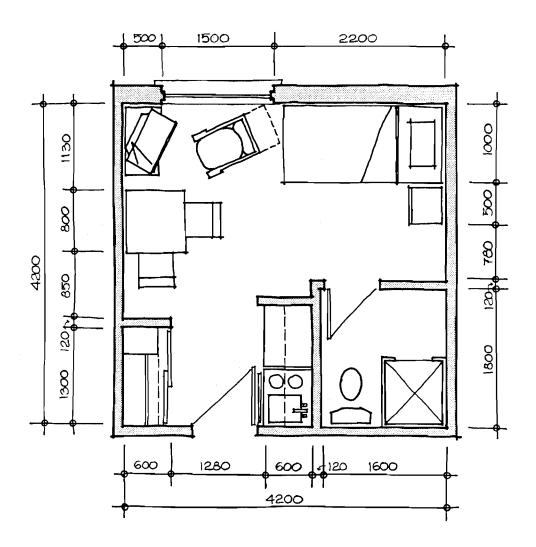
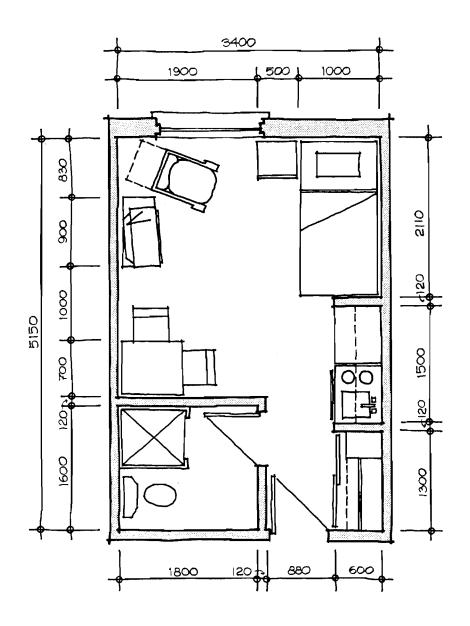
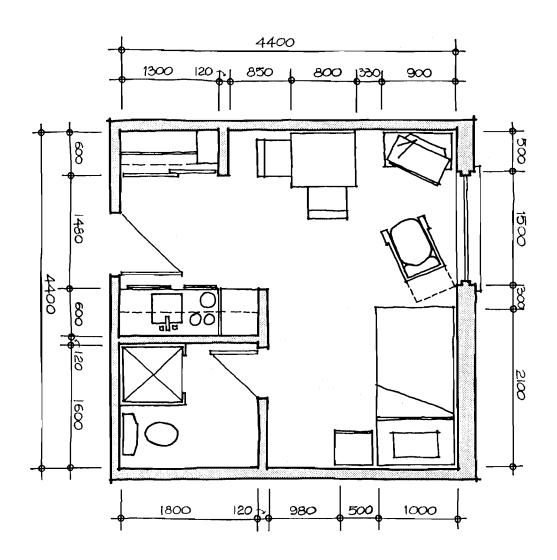


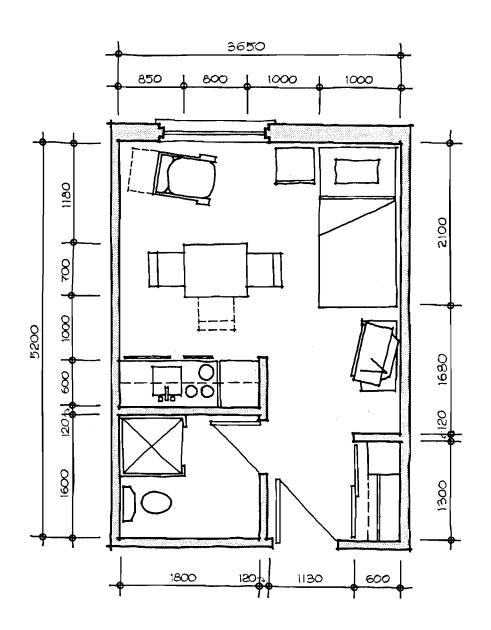
Illustration 165.				Model	Plan 6R	Area	: 17.5	m².	Scale	1:50
	Туре	of i	furnitur	e combinat:	ion (see]	Table 10)			 .:	В
	Type	of s	sanitary	fixture co	ombinatior	n (see Tab	le 11) .		 .:	D
	Type	of a	applianc	es associa	ted with t	he prepar	ation of	meals		
	(see	Tab:	le 12) .						 .:	В
	Type	of s	storage	space (see	Table 13)			 .:	A



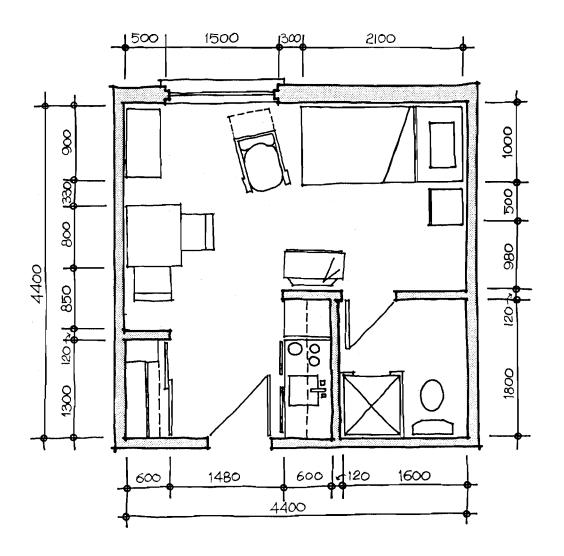
11	lustra	ati	on 166.	Model	Plan 7S	7	Area:	19.0 m ² .	8	Scale	1:50
•	Туре	of	furniture	combinat	ion (see	Table 1	LO)	• • • • • • • •		. :	В
•	Type	of	sanitary :	fixture c	ombinatio	n (see	Table	11)		. :	D
•	Type	of	facilities	s associa	ted with	the pre	parat	ion of mea:	ls		
	(see	Ta	ble 12)							. :	C
	Type	of	storage s	oace (see	Table 13	3)				. :	A



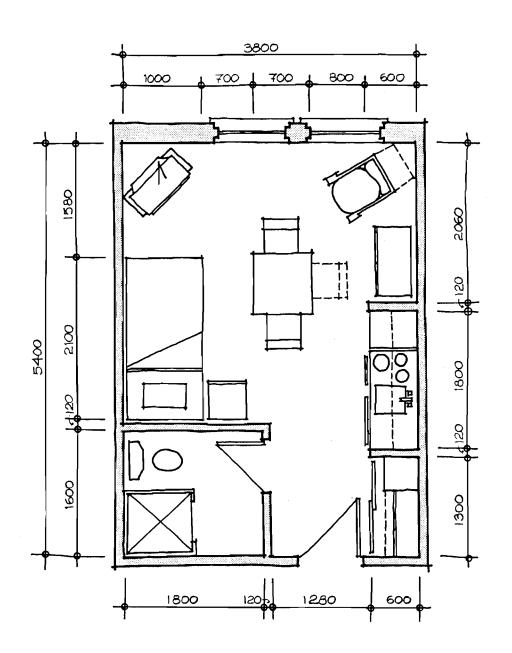
Il	lustra	ation 167.	Model Plan 7R	Area:	19.0 m ² .	Scale	1:50
•	Туре	of furniture	combination (see T	able 10)	• • • • • • • • • •	:	В
•	Type	of sanitary f	ixture combination	(see Table	11)	:	D
•	Туре	of appliances	associated with t	he preparat	ion of meals	3	
	(se e	Table 12)			• • • • • • • • • •	:	С
•			ace (see Table 13)				



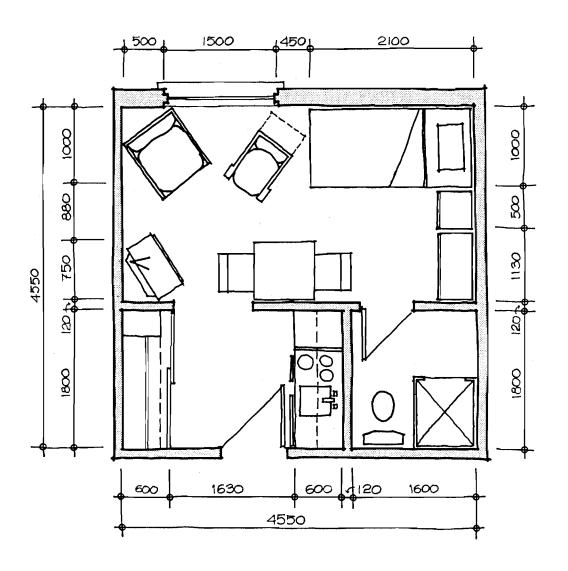
Ι	llustra	ation 16	8.	Model Pla	in 85	Area:	20.5 m ² .	Scale	1:50
	туре	of furn	iture co	mbination	(see Tab	le 10)		:	С
•	Type	of sani	tary fix	ture combi	.nation (see Table	11)	:	D
	Type	of appl	iances a	ssociated	with the	preparati	ion of meal	s	
	(see	Table 1	2)					:	С
	Type	of stor	age spac	e (see Tab	ole 13) .			:	A



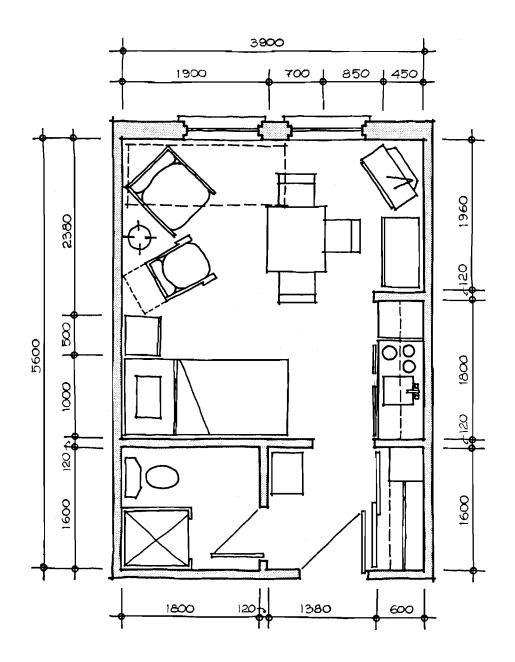
Il	lustra	ation 169.	Model Plan 8R	Area:	20.5 m^2 .	Scale	1:50
	Туре	of furniture	combination (see T	able 10)	• • • • • • • • • •	:	С
	Type	of sanitary f	fixture combination	(see Table	11)	:	D
	Type	of appliances	s associated with t	he preparat	ion of meals	3	
	(see	Table 12)				:	С
	Type	of storage s	pace (see Table 13)			:	A



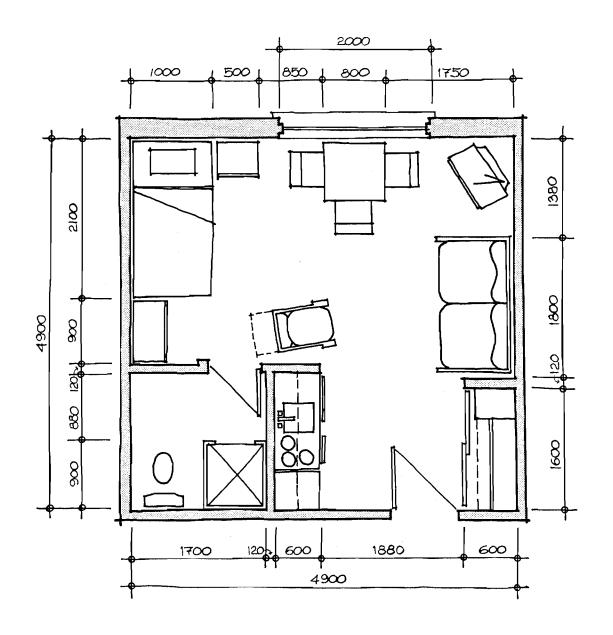
11	lustra	tio	on 170.	Mod	el Plan 9	S	Area:	20.5 m	² •	Scale	1:50
	Туре	of	furnitu	re combin	ation (se	e Table	10)			:	D
•	Type	of	sanitar	y fixture	combinat	ion (se	e Table	11)		:	D
	Type	of	applian	ces assoc	iated wit	h the p	reparat	ion of r	neals		
	(see	Ta)	ole 12)					• • • • • •		:	С
	Type	of	storage	space (s	ee Table	13)				:	В



11	lustra	atio	on 171.	Model.	Plan 9R	Area:	$22.0 \text{m}^2.$	Scale	1:50
	Туре	of	furniture	combinati	on (see Ta	able 10)	• • • • • • • • • •		D
	Type	of	sanitary :	fixture co	mbination	(see Table	11)	:	D
	Type	of	appliance	s associat	ed with the	he preparat	ion of meals	3	
	(see	Ta	ble 12)					:	С
	Type	of	storage s	pace (see	Table 13)			:	В



IJ	lustra	ıti	on 172.	Model	Plan 10s	3	Area:	24.0	m².		Scale	1:50
•	Туре	of	furniture	combinat	ion (see	Table	10)	• • • • •			. . :	E
•	Type	of	sanitary	fixture c	ombinatio	on (se	e Table	11) .			.:	D
•	Type	of	appliance	s associa	ted with	the p	reparat	ion of	meal	s		
	(see	Tal	ble 12)								:	С
	Type	of	storage s	pace (see	Table 13	3)					:	В



11	lustra	ation 173.	Model Plan 10R	Area:	25.0 m ² .	Scale	1:50
	Type	of furniture	combination (see T	able 10)	• • • • • • • • • • •	:	E
	Type	of sanitary f	ixture combination	(see Table	11)	:	D
•	Type	of appliances	associated with t	he preparat	ion of meals	3	
	(see	Table 12)		• • • • • • • • •		:	C
	Type	of storage sp	ace (see Table 13)			:	В

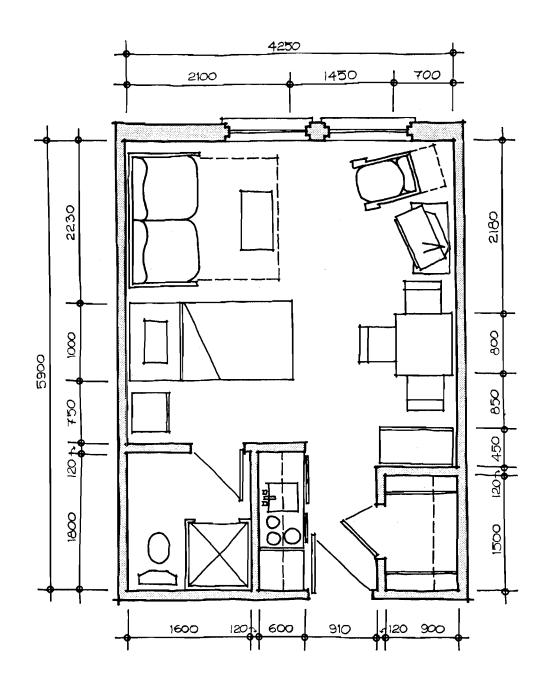
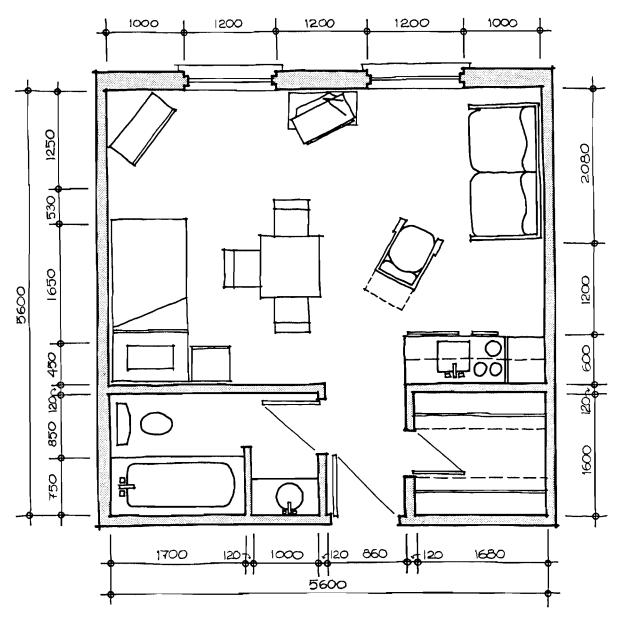
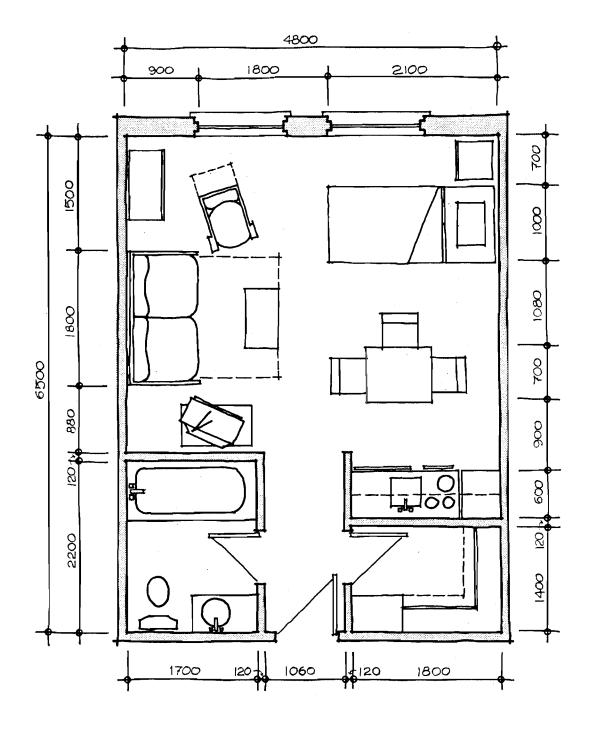


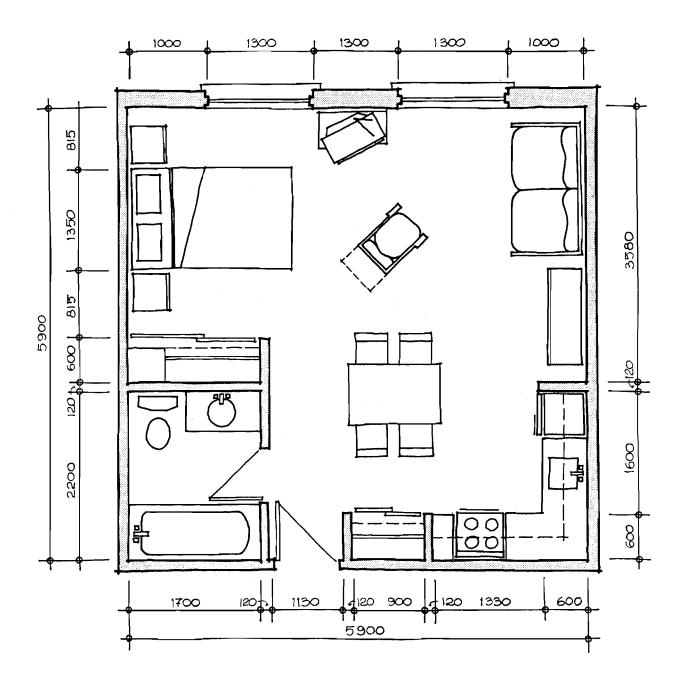
Illustration 174.	Model Plan 11S	Area:	31.0 m ² .	Scale	1:50
 Type of furniture co Type of sanitary fix Type of appliances a 	cture combination (se	e Table	11)		E E
		• • • • • •			_



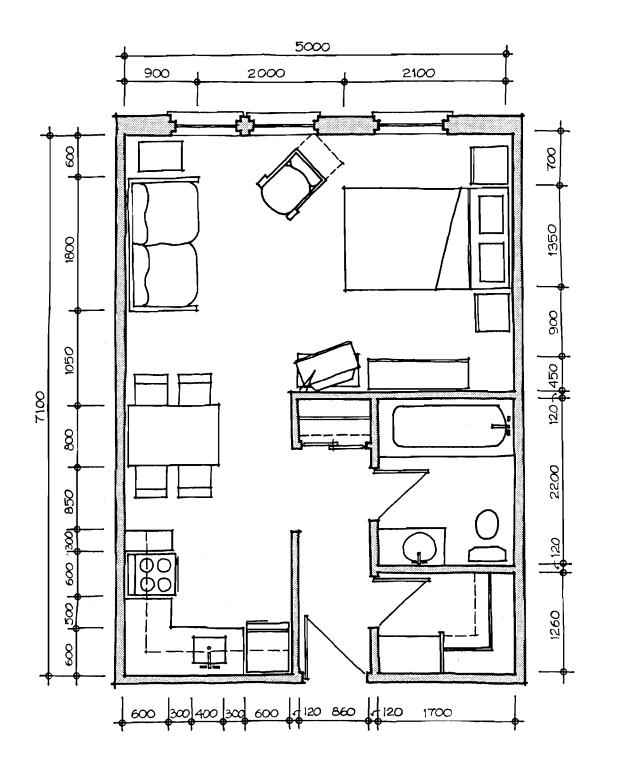
Illu	stra	tion 175.	Model Plan 11R	Area:	31.0 m ² .	Scale	1:50
. T	ype	of furniture co	ombination (see Ta	ble 10)		:	E
. T	ype	of sanitary fix	kture combination	(see Table	11)	:	E
. T	ype	of appliances a	associated with th	e preparat	ion of meals		
(see	Table 12)			• • • • • • • • • • •	:	C
. т	vpe	of storage space	ce (see Table 13)			:	C



11	lustra	ation 176.	Model Plan 1	L2S A	rea:	$35.5 m^2$.	Scale	1:50
	Type	of furniture	combination (se	ee Table 1	.0)	· • • • • • • • • • • • • • • • • • • •	:	F
•	Type	of sanitary	ixture combinat	ion (see	Table	11)	• • • • • •	E
•	Type	of appliances	s associated wit	h the pre	parati	ion of meals	i.	
	(see	Table 12)					• • • • • •	D
	Type	of storage s	pace (see Table	13)			:	С



11	lustra	atio	on 177.	Mode	l Plan 12	2R	Area:	35.5 m ² .	Scale	1:50
•	Туре	of	furnitur	e combina	tion (see	a Table	10)			F
										E
•	Type	of	applianc	es associ	ated with	n the p	reparat	ion of me	als	
	(see	Tal	ole 12) .						:	D
	Type	of	storage	space (se	e Table 1	L3)			:	С



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APPENDIX 3 MODEL PLANS - TWO KITCHENS

These model plans are preceded by a table showing our minimal hypothesis as to the articles which must be stored in any kitchen.

Table 16. Minimal dimensions and storage volume necessary in the kitchen.

This table represents an hypothesis as to the articles which must be stored in the kitchen.

Location	Articles D	imensions (L x D x H)	Volume (m³)
1	Misc (occasional articles)	1800 x 300 x 300	0.162
2	Salt, flour, sugar, etc.	300 x 300 x 300	0.027
3	Cereal, biscuits, coffee, tea, rice, etc.	400 x 300 x 300	0.036
4	Canned goods, bread, jams, etc.	600 x 300 x 200	0.036
5	Glasses, cups, saucers, etc.	300 x 300 x 200	0.018
6	Dishes (bowls, plates, etc.)	500 x 300 x 300	0.050
7	Spices, dried bread crumbs, etc.	300 x 300 x 200	0.018
8	Misc (ex., articles associated with hygiene)	400 x 300 x 300	0.036
9	Garbage bag on the inside of door	400 x 200 x 500	0.040
10	Cleaning products	525 x 400 x 525	0.110
11	Pots, pans, etc.	500 x 600 x 300	0.090
12	Potatoes, empty bottles, etc.	300 x 600 x 400	0.072
13	Eating utensils	300 x 600 x 125	0.023
14	Utensils for preparing meals	300 x 600 x 125	0.023
15	Dish towels, saranwrap, etc.	300 x 600 x 125	0.023
	Total Volume		0.764

Location of storage space in the kitchens shown in illustrations 178 and 179.

Illustration 178. Kitchen model plan: optimal solution. Scale 1:50

The figures appearing in this illustration apply to the articles which must be stored (Table 16).

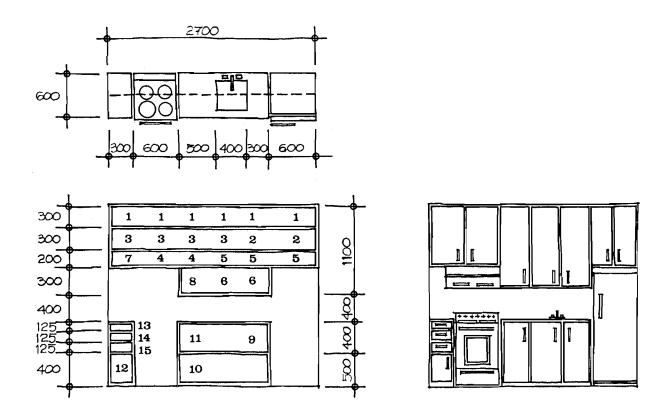
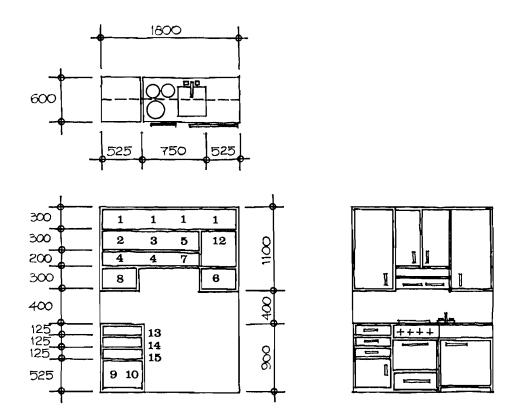


Illustration 179. Kitchen model plan: minimal solution. Scale 1:50

The figures in this illustration apply to the articles which must be stored (Table 16).



APPENDIX 4

MODEL PLANS - THREE STORAGE SPACES

Each of these model plans is preceded by a table representing one of three hypotheses as to the quantity of articles which must be stored in the unit.

Table 17. Storage: solution for temporary housing.

This table reflects an hypothesis as to the articles which must be stored in the units and as to the dimensions and volumes required to contain them. This table also specifies the degree of accessibility desirable to the shelves and storage spaces.

Location	Articles	Accessibility ²	Dimensions (L x D x H)	Volume (m³)
1	Short clothes	1	600 x 600 x 1000	0.30
2	Long clothes	1	400 x 600 x 1600	0.38
3	Boots & shoes	1	1000 x 600 x 600	0.18
4	Dirty clothes hamper	1	300 x 600 x 700	0.13
5	Linens	1	300 x 400 x 300	0.04
6	Bedding	1	300 x 400 x 300	0.04
7	Maintenance materia1 ³	1	100 x 400 x 1500	0.06
8	Sanitary articles	2	300 x 400 x 300	0.04
9	Maintenance material	2	300 x 400 x 300	0.04
10	Misc objects	2	1000 x 400 x 300	0.12
11	Misc objects	3	1300 x 400 x 500	0.26
	Total Volume			1.59

Location of shelving and storage space in the closet shown in illustration 180.

² Accessibility desirable to the shelving or storage space: 1 = necessary; 2 = more or less necessary; 3 = not necessary.

Space provided for ironing board.

Illustration 180. Model plan for storage space: solution for temporary housing. Scale 1:50

The figures appearing on this illustration reflect the articles which must be stored (Table 17).

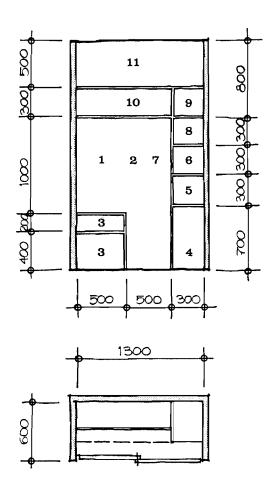


Table 18. Storage: minimal solution for permanent housing.

This table reflects an hypothesis as to the articles which must be stored in the units and as to the dimensions and volumes required to contain them. This table also specifies the degree of accessibility desirable to the shelves and storage spaces.

Location	Articles	Accessibility ²	Dimensions (L x D x H)	Volume (m³)
1	Short clothes	1	600 x 600 x 1000	0.36
2	Long clothes	1	600 x 600 x 1600	0.58
3	Boots & shoes	1	1200 x 600 x 600	0.29
4	Dirty clothes hamper	1	300 x 600 x 800	0.14
5	Linens	1	300 x 400 x 300	0.04
6	Bedding	1	300 x 400 x 500	0.06
7	Maintenance material ³	1	100 x 400 x 1600	0.06
8	Sanitary articles	2	300 x 400 x 300	0.04
9	Maintenance material	2	300 x 400 x 300	0.04
10	Misc objects	2	1000 x 400 x 300	0.12
11	Misc objects	3	1600 x 400 x 500	0.32
	Total Volume			2.05

Location of shelving and storage space in the closet shown in illustration 181.

Accessibility desirable to the shelving or storage space: 1 = necessary; 2 = more or less necessary; 3 = not necessary.

³ Space provided for ironing board.

Illustration 181. Model plan for storage space: minimal solution for permanent housing. Scale 1:50

The figures which appear on this illustration reflect the articles which must be stored (Table 18).

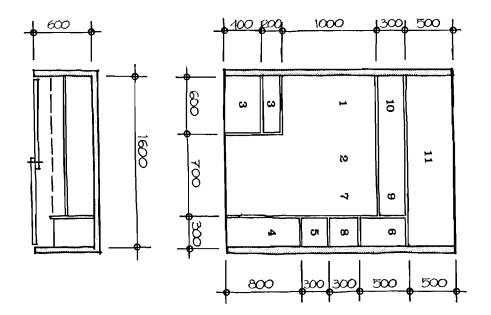


Table 19. Storage: optimal solution for permanent housing.

This table reflects an hypothesis as to the articles which must be stored in the units and as to the dimensions and volumes required to contain these articles. This table also specifies the degree of accessibility desirable to the shelves and storage spaces.

Location	Articles	Accessibility ²	Dimensions (L \times D \times H)	Volume (m³)
1	Short clothes	1	1000 x 600 x 1000	0.60
2	Long clothes	1	800 x 600 x 1600	0.77
3	Boots & shoes	1	2000 x 600 x 600	0.36
4	Dirty clothes hamper	1	500 x 600 x 900	0.27
5	Linens	1	500 x 400 x 300	0.06
6	Bedding	1	500 x 400 x 400	0.08
7	Maintenance material ³	1	100 x 400 x 1600	0.06
8	Sanitary articles	2	500 x 400 x 300	0.06
9	Maintenance material	2	300 x 400 x 300	0.04
10	Misc objects	2	1600 x 400 x 300	0.19
11	Misc objects	3	2400 x 400 x 500	0.48
	Total Volume			2.91

Location of shelving and storage space in the closet shown in illustration 182.

Accessibility desirable to the shelving or storage space: 1 = necessary; 2 = more or less necessary; 3 = not necessary.

Space provided for ironing board.

Illustration 182. Model plan of storage space: optimal solution for permanent housing. Scale 1:50

The figures appearing on this illustration reflect the articles which must be stored (Table 19).

