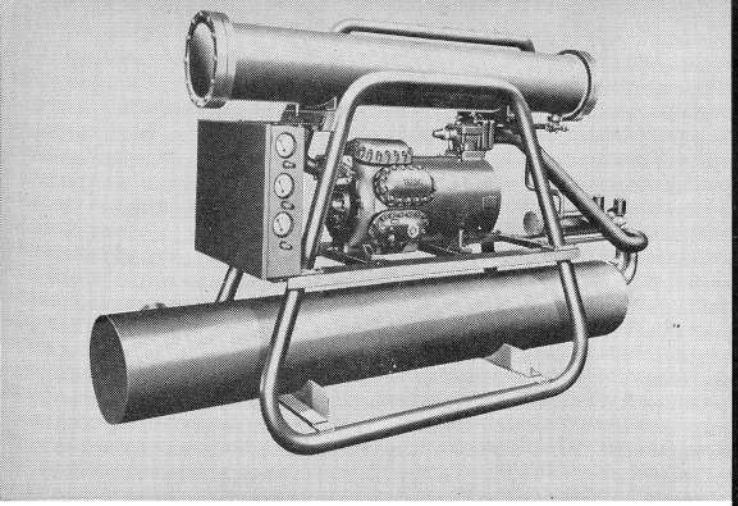
ROYAL ARCHITECTURAL INSTITUTE OF CANADA JOURNAL

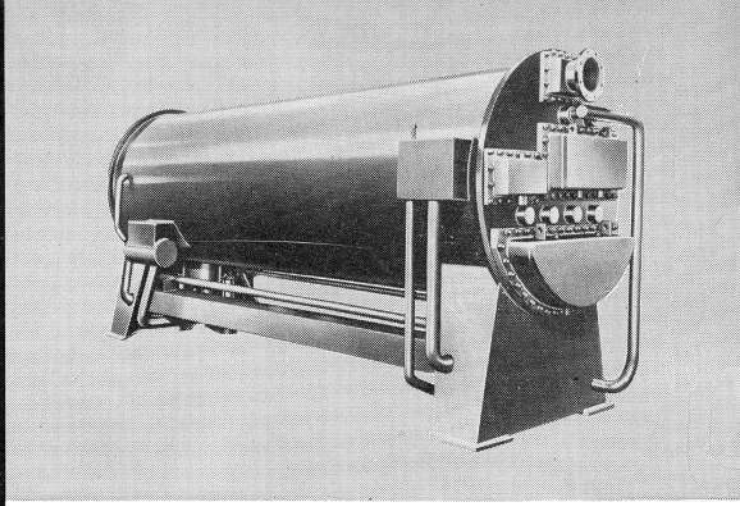
AUGUST 1960

ROYAL ARCHITECTURAL INSTITUTE OF CANADA

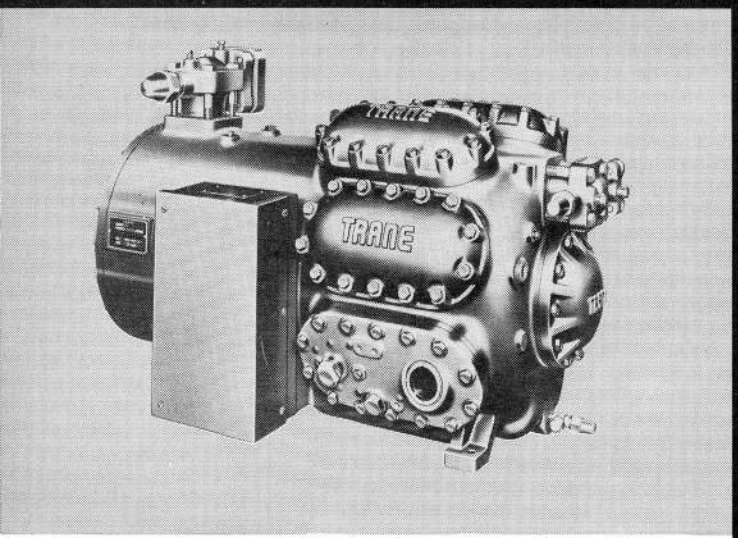
INSTITUT ROYAL D'ARCHITECTURE DU CANADA



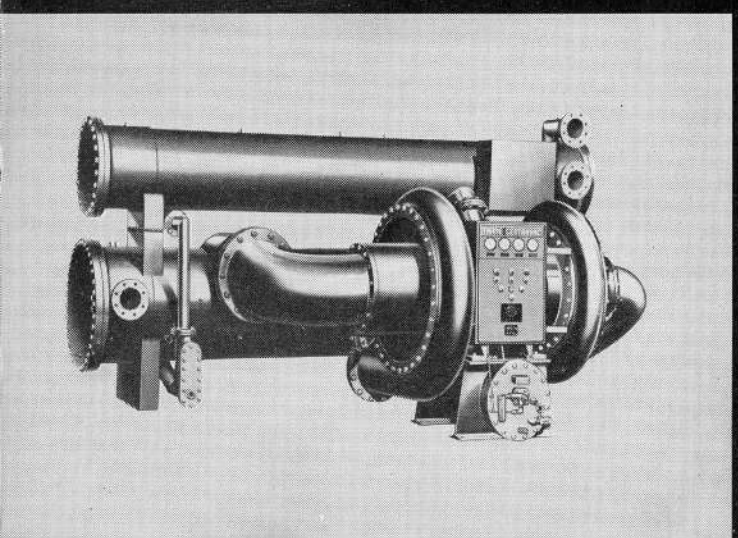
Here's the well-proven Trane Reciprocating Cold Generator, *now completely hermetic.* Engineering features include:—a new hermetic compressor, a new chiller and a new condenser with a built-in sub-cooler—all of Trane design and manufacture. Units are sized from 10 to 100 tons, incorporating a factory-wired control panel to cut on-the-job wiring cost.



New Trane Absorption Cold Generator. A compact single-shell packaged water chiller, specially designed to slash installation costs. It's *hermetic*, resists air intrusion and avoids crystallization. Fully automatic, it's available in 9 sizes—100 to 350 tons. Operating and maintenance costs for this steam or hot water operated Cold Generator are very small.



Trane Reciprocating Compressor—*hermetic* model designed for R.12 and R.22. One shell only contains motor and compressor, eliminates alignment problems. Multi-step capacity control reduces starting and stopping.
With an exclusive internal thermal protector, it's available in sizes 10 to 100 tons.



Hermetic CenTraVac with electric drive modulates to 10% of capacity or lower: Power saving is in almost direct proportion to load. Compact, lightweight with low silhouette design, it's used on more water chilling applications with hermetic centrifugal compressors than all other makes combined.

NEW HERMETICS BY TRANE

three fully-packaged air conditioning units

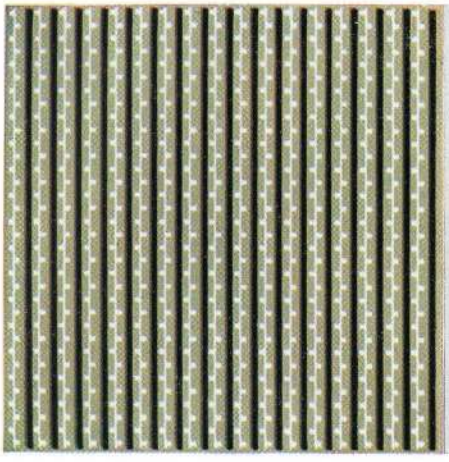
For more detailed information on these and other matched equipment advances, call your local Trane branch office or write—Trane Company of Canada, Limited, Toronto 14, Ontario.

TRANE

Manufacturers of air conditioning, heating and ventilating equipment.

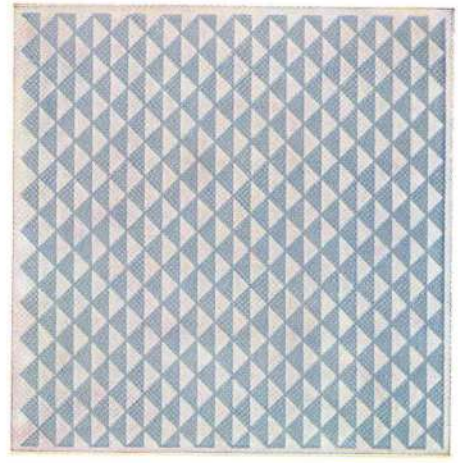
THC-60-1

take
a look
at...



PILKINGTON'S TILES

The wide range of Pilkington's tiles, both plain coloured and decorative, will delight you at once with its practicability and with its creative possibilities. And the skilled staff of Pilkington's Design Department will give you every assistance you need.



A sample pack containing the full range of plain colours and a booklet showing the full range of screen prints will be posted to you by our nearest agent on request. Please indicate if pack or booklet, or both, are required.

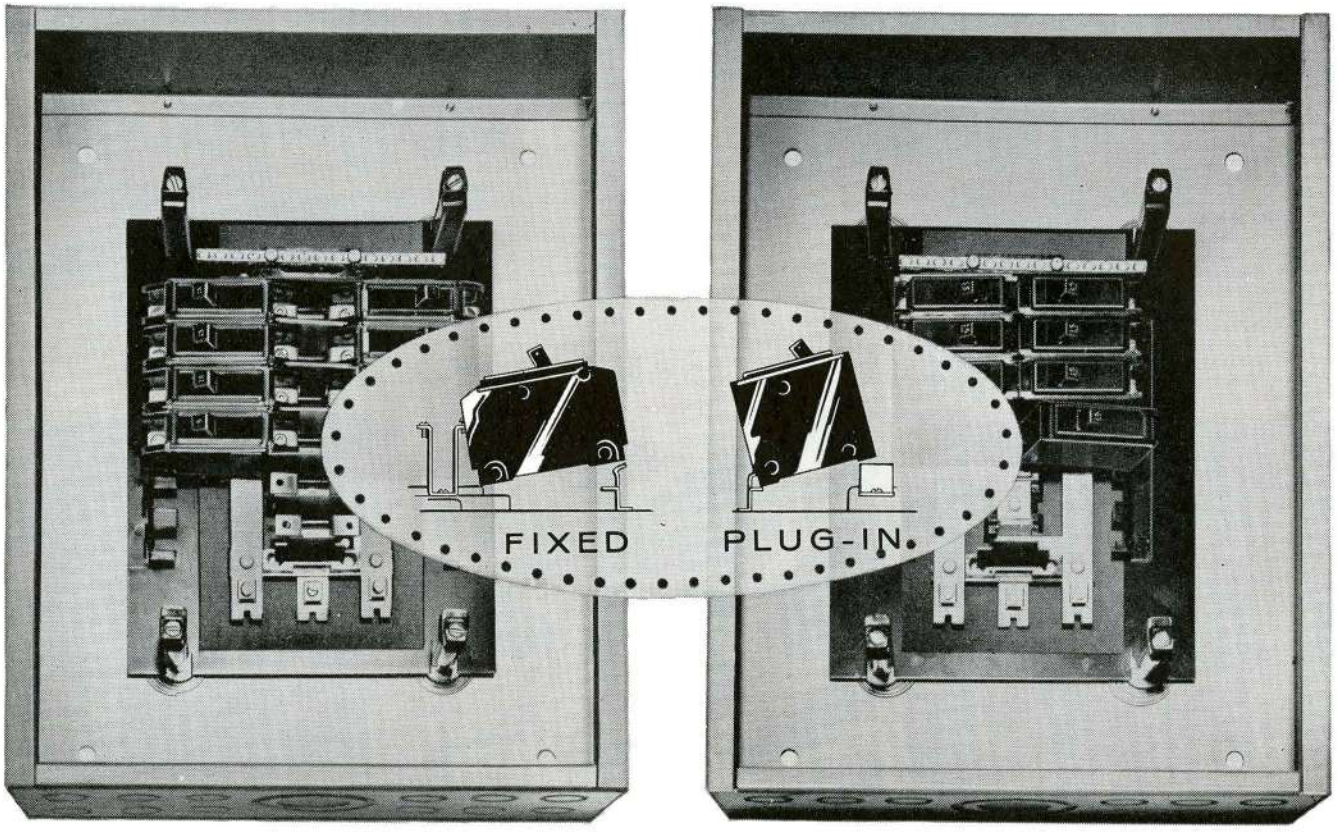
FREE SAMPLES

AGENTS

Quebec, Ontario, Manitoba, Saskatchewan and Maritime Provinces:
Kerr, Slee & Co., 1269, Greene Ave., Montreal, P.Q.
Alberta: Ronald F. Butler Ltd., 10532- 130 Street, Edmonton, Alberta
British Columbia:
Atlas Import Products Ltd., 1221, Glen Drive, Vancouver, B.C.

PILKINGTON'S TILES LIMITED
Clifton Junction, Manchester, England.

2505 ®

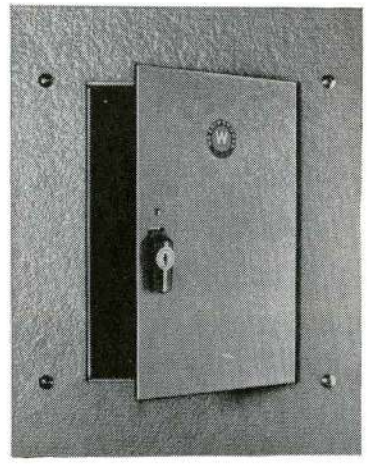


Convenience comes in every Westinghouse Panelboard!

It starts with a choice—fixed or plug-in Quicklag Circuit Breakers. These breakers are ambient compensated for enclosure. Both types are easy to remove . . . both give you dependable service and protection.

Westinghouse convenience extends right through the Panelboard—from the positive trip indication and phase identification to the exclusive easy-access features of interior assembly.

Investigate the complete line of Westinghouse Panelboards. Each model is engineered to give you top circuit protection and convenient handling. For full information, contact your nearest Westinghouse Sales Office, or write to Canadian Westinghouse Company Limited, Hamilton, Canada.



YOU CAN BE SURE...IF IT'S

Westinghouse

60A230

Fire Hose Cabinets by Wilson & Cousins

Specially designed and finished to match the interior trim
• Engineered to meet every requirement

at the

O'Keefe Centre

This is just one of the many fine buildings in which Wilson & Cousins Hose Cabinets are used to enhance rather than detract from a beautiful interior design. We invite you to review the many attractive styles and finishes available to you through Wilson & Cousins. Or, if you prefer, enquire regarding the building of cabinets to your personal design. (We are now doing this for a number of Canadian Architects). A note on your letterhead will receive our immediate attention.

WILSON & COUSINS CO. LIMITED / *Since 1881*
Canada's oldest and largest manufacturers of Fire Protection and Safety Equipment

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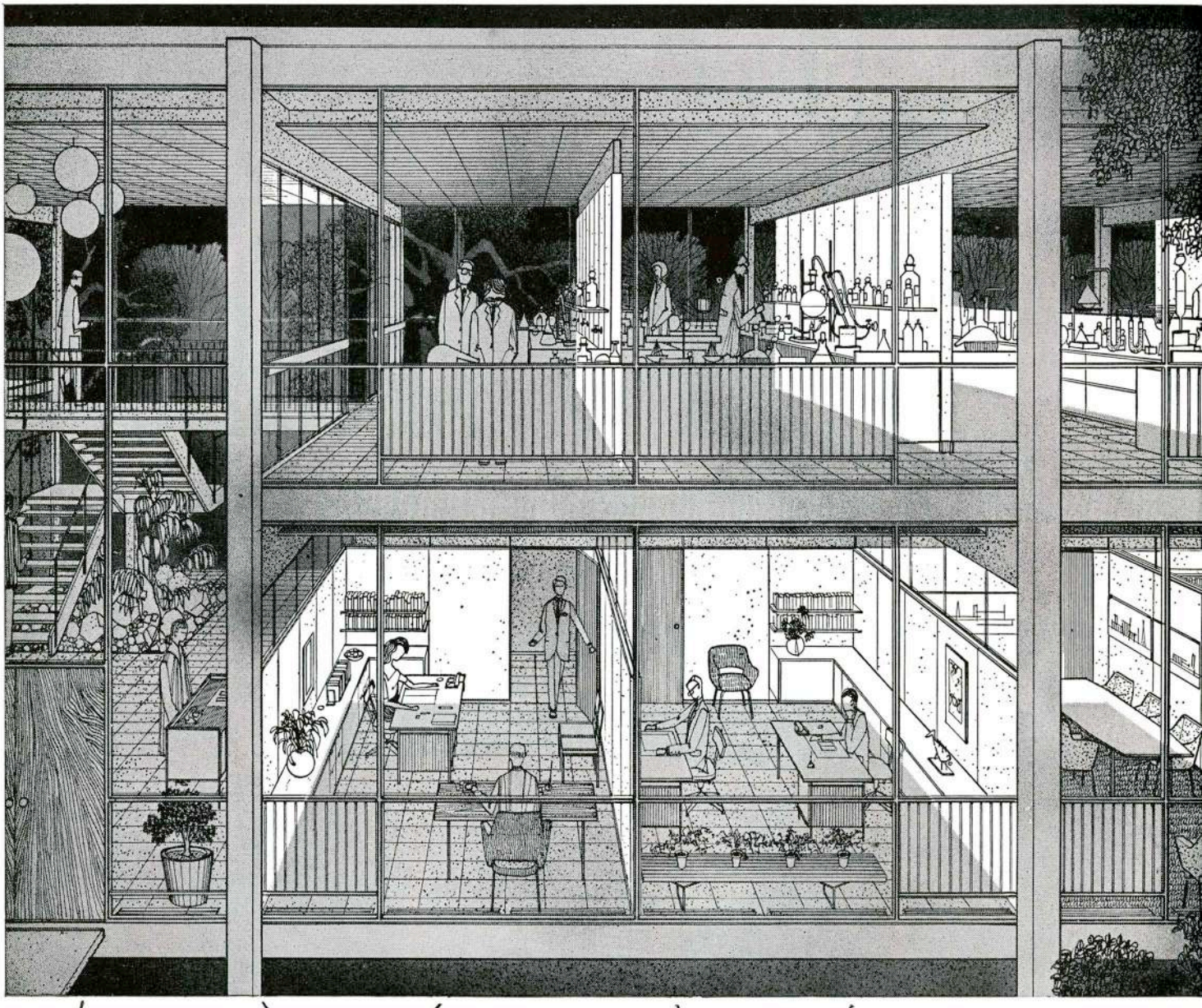
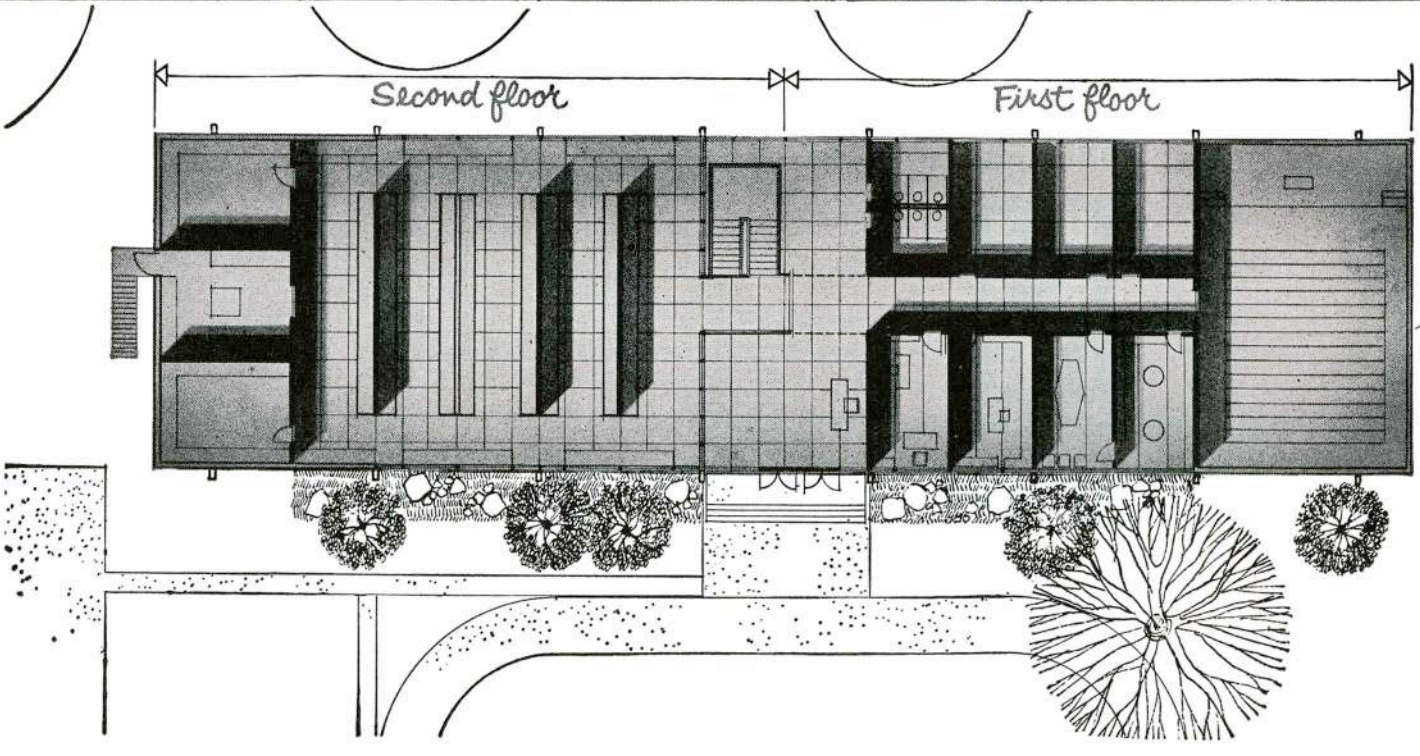
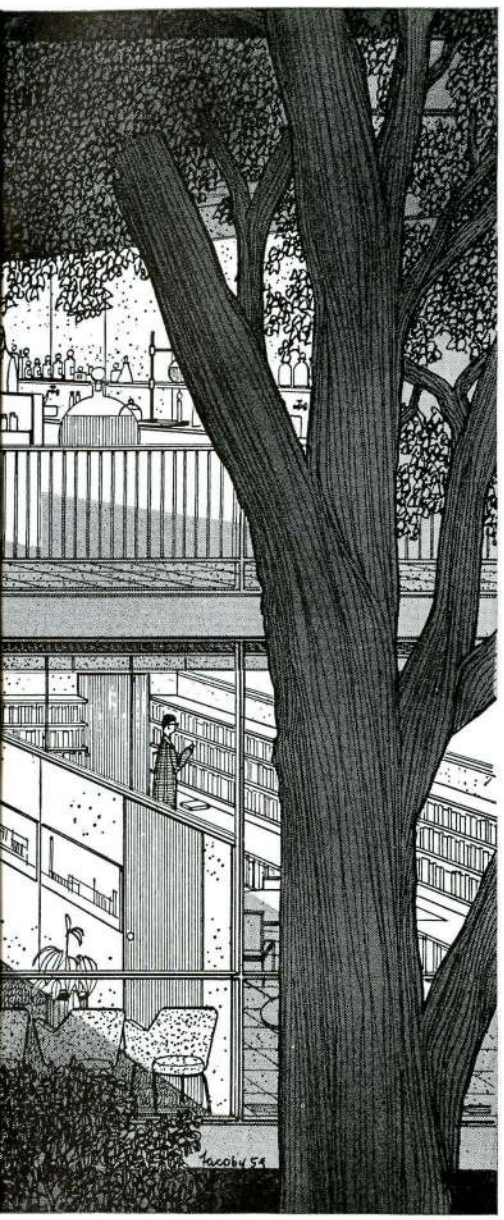
240 Birmingham St.
MONTREAL
714 Vitre St. W.
WINNIPEG
100 Lenore St.
CALGARY
3501 18th St. S.W.
VANCOUVER
364 Alexander St.

Architects: Earle C. Morgan and Page & Steele • Wilson & Cousins Equipment installed by Universal Plumbing & Heating Co. Ltd.




Second floor
First floor



First floor, partitions are J-M Class A Movable Walls with glass top filler. These are pre-fabricated panels with a non-combustible core, asbestos faced on both sides. Panels are 1¾" thick—can be painted or veneered in any number of ways to meet architectural requirements.

Second floor, laboratory sections are divided by J-M Imperial Movable Walls—asbestos panels attached to slotted steel studs. These walls can accommodate plumbing and service lines—can be varied from 3⅞", up to any necessary thickness.

J-M Sanacoustic® units make up the acoustical ceilings and J-M Terra-flex® Vinyl Tile covers the floors.

Good-looking walls with a future

This "showplace" is designed with Johns-Manville Movable Walls, for beauty and ease of making changes later on

An architectural designer was given this proposal:

A large company plans a research and development center in the suburbs. The building should be highly functional, yet striking. It must satisfy professional scientists and meet their needs for specialized equipment and services. It should contain attractive offices for executives and provide for future rearrangement and expansion. At the same time it should be a showplace for visitors and travelers along a nearby highway.

How well J-M Movable Walls are used to meet all these requirements is shown in the illustrations. Laboratory walls are the thickness necessary to enclose all required service lines. Other walls of minimum thickness with glass fillers separate administrative offices. All can be used together, are erected easily and can be readily relocated as needs change.

J-M Movable Walls come in modular components. They are functional, attractive, and can be decorated in any way. They are supplied and installed complete with all items such as doors, hardware, trim and glass by J-M trained construction crews.

For illustrated brochure, "Johns-Manville Asbestos Movable Walls," write to: Dept BA, Canadian Johns-Manville Co. Limited, 565 Lakeshore Road East, Port Credit, Ontario.

JOHNS-MANVILLE

JOHNS-MANVILLE JM PRODUCTS

A-4059

LOOK WHAT THEY'RE DOING WITH ALUMINUM

The Mackenzie Building, Toronto, Ont.
Owner: Dept. of Public Works of Canada
Chief Architect, E. A. Gardner
Architects: Shore & Moffat, Toronto, Ont.
General Contractor: Redfern Construction Co. Ltd., Toronto, Ont.
Aluminum Fabricator: Williams & Williams (Eastern) Ltd.

Everywhere throughout Canada today are the signs of change and progress as the new continues to replace the old. In Toronto, a significant example is the entirely aluminum and glass-clad Mackenzie Building which gives an impressive new appearance to the commercial heart of the city. Rising amid older buildings which represent earlier eras in Toronto's spectacular advance, it is a symbol of new architectural achievement in the modern age of aluminum. Its aluminum curtain wall with its distinctive integral grey anodized finish presents a distinguished exterior with all the beauty of classic lines—maintenance-free and enduring.

The services of Alcan's architectural sales specialists are freely available to your architect to help him take full advantage of aluminum's qualities in your building plans. Consult him or write for further information to Dept. 23, P.O. Box 6090, Montreal.

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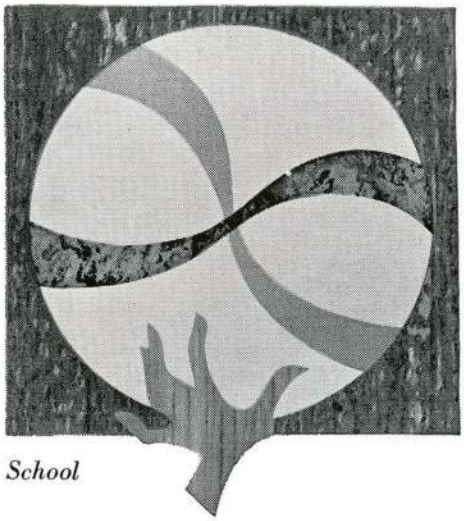


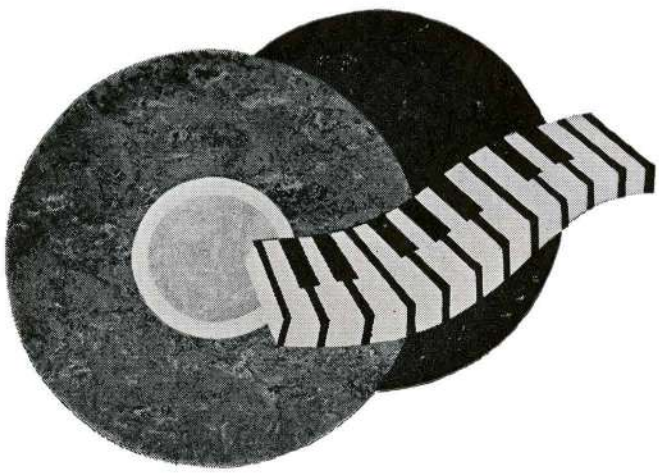
School

VARIATIONS ON A CIRCLE THEME WITH CUSTOM-MADE

DOMINION LINOLEUM

How to take a shape and shape it to specific flooring motifs! Custom-made Dominion Linoleum shows how with a circle, but is equally adept with triangles or trees, squares or ships.

The wide variety of colours and patterns in linoleum help to make more interesting motifs, and they are surprisingly economical, too. Consult our designers for ideas, or discuss with them how your own sketches can be worked out. For further information or literature, write Dominion Oilcloth & Linoleum Co. Ltd., 2200 St. Catherine Street East, Montreal.



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Soda Fountain

Available by-the-yard
or in tiles (9″ and 12″) in these
types...all inlaid...
MARBOLEUM • DOMINION JASPÉ
HANDICRAFT • BATTLESHIP
TILECRAFT (12″ tiles only).

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Dominion Oilcloth & Linoleum Co.
Limited • Makers of Dominion
Linoleum, Dominion Vinyl Tile,
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TWINDOW Insulating Windows

add to patients' comfort—give year 'round insulation at the new Saint John General Hospital

Hospital room temperatures must be carefully controlled to safeguard patients' health and comfort. This is especially true in winter when drafts and sudden drops in outdoor temperatures are common.

Twindow*—with its built-in insulating qualities (two pieces of glass separated by an imprisoned layer of dry, non-circulating air) —helps maintain rooms at an even heat. There are virtually no drafts at the window areas . . . and heating costs are substantially reduced. These are the reasons Twindow was used exclusively in the new Saint John, N.B., General Hospital. And what it has done here it can do for all types of buildings —schools, office buildings, municipal centres . . . and homes too!

The cost of Twindow Insulating Windows is surprisingly low! Find out today how well Twindow can fit in with your building plans.

*T.M.Reg'd.

ARCHITECTS: *Alward & Gillies—Mott & Myles Associated Architects, Saint John*

CONTRACTOR: *Acme Construction Co. Ltd., Saint John*

GLAZING CONTRACTOR: *Canadian Pittsburgh Industries Limited*

Modern miracles in glass made by

*** DUPLATE**

DUPLATE CANADA LIMITED

*T. M. REG'D

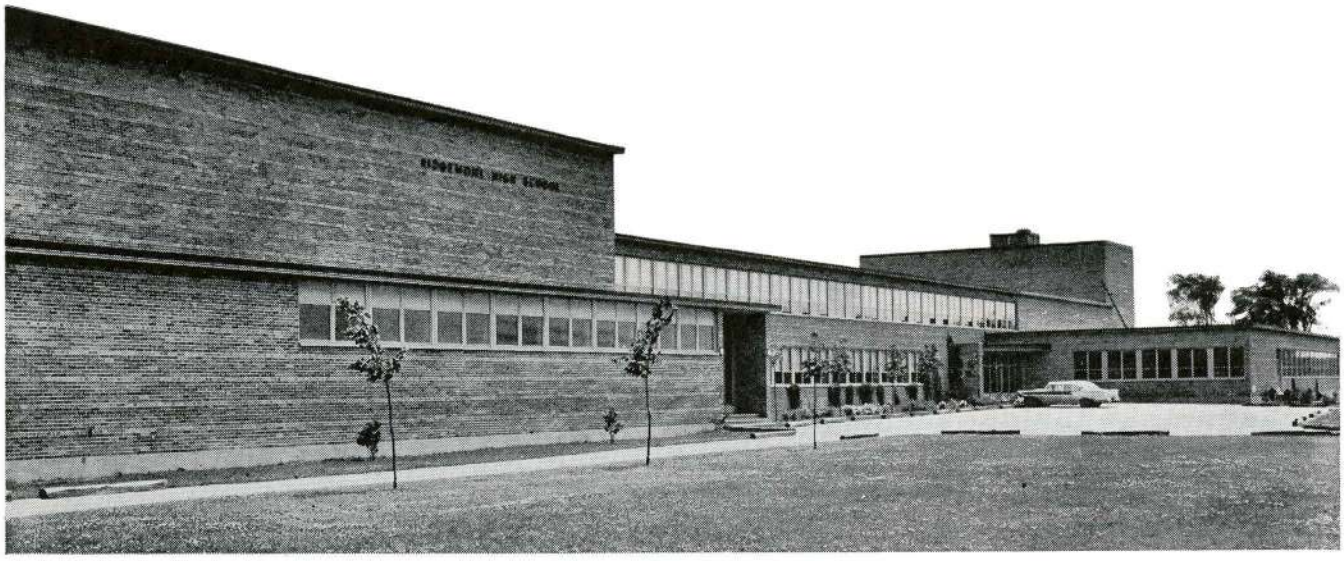
for brighter safer living!

Twindow is sold exclusively in Canada by

CANADIAN CPI PITTSBURGH

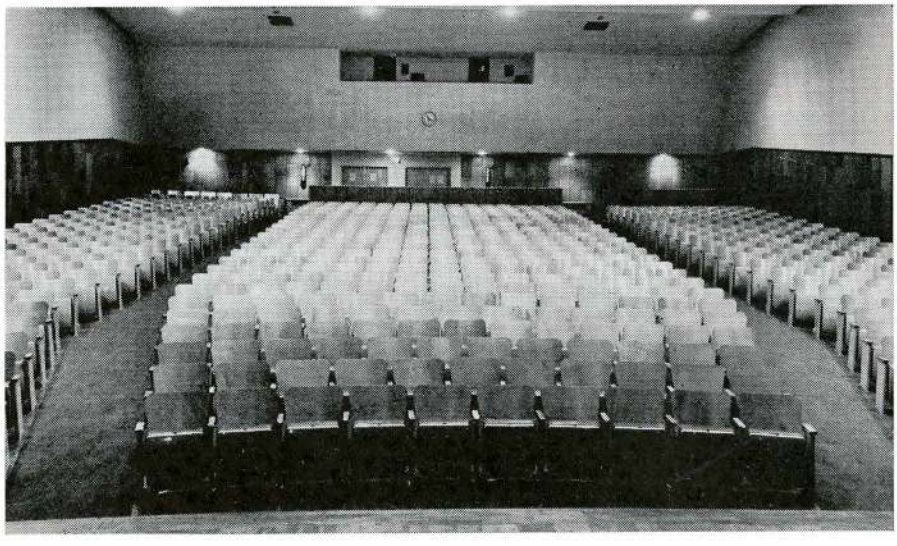
INDUSTRIES LIMITED

50 branches coast to coast



Ridgemont High School, Ottawa
Architect: Hazelgrove, Lithwick & Lambert
Contractor: F. E. Cummings Construction Ltd.
Floor Finisher: Durie Mosaic & Marble Ltd.
Auditorium floor has approximately 4,000 sq. ft. of chrome green Colorhard.

Ottawa School has COLORHARD Floor



STERNSON COLORHARD is floated into the surface of the concrete at the time of installation. It's as permanent as the concrete itself and as it colors it also hardens making a dense, smooth finish which resists abrasion — is easy to maintain with Colorhard wax in matching shades. All popular colors available from Sternson dealers coast to coast.

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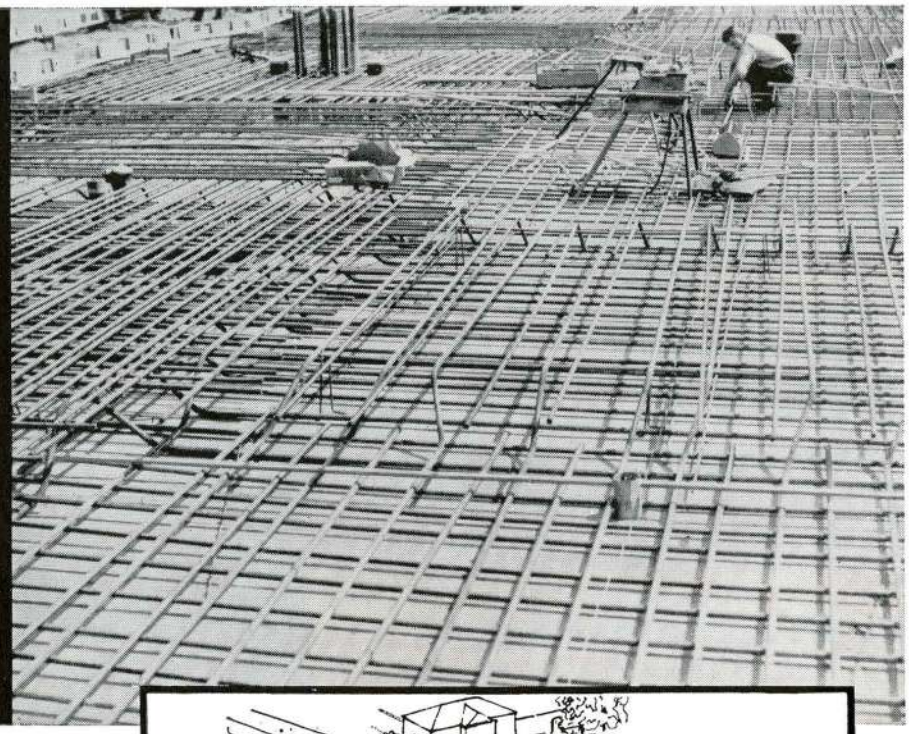
Scientifically developed and controlled
JUST CHEMISTRY

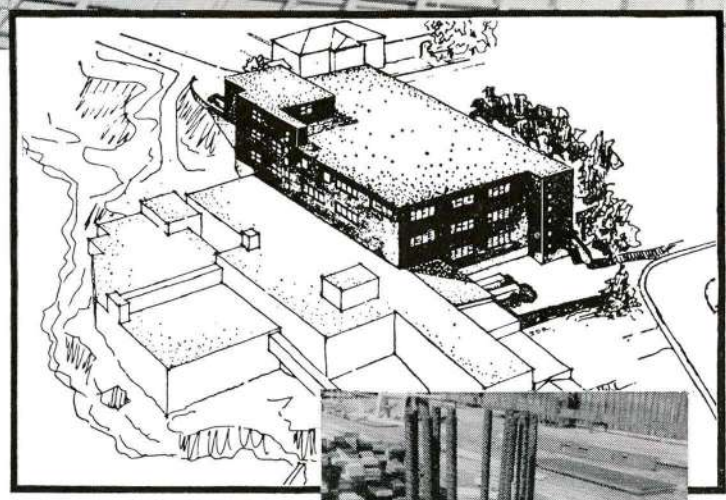
G. F. Sterne and Sons LIMITED

Structural Sales Division
Brantford, Ontario

Stelco reinforced floors...

have live load bearing capacity of 500 lbs. per square foot!



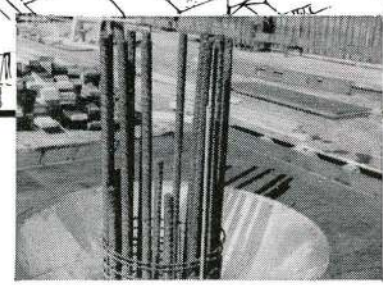


No. 14 (1½″ S.E.) and No. 18 (2″ S.E.) Hi-Bond Reinforcing Bars used in Dowels and Columns for new Factory Extension of American Biltrite Rubber Co. (Canada) Ltd., Sherbrooke, Que.

Reinforced concrete construction is used throughout the building. Upper floors are two-way reinforced, 14″-thick flat slabs supported on circular columns. 70 tons of No.14 and 100 tons of No. 18 Hi-Bond bars were used in columns and as dowels to provide an impressive live load bearing capacity. No.14 bar is available in lengths up to 90 ft. and No. 18 bar in lengths to 50 ft.

All Stelco Hi-Bond Reinforcing Bars are rolled from *new billet steel* for consistent quality and trouble-free welding and cold bending. Stelco also provides on-the-site deliveries of quantities as required.

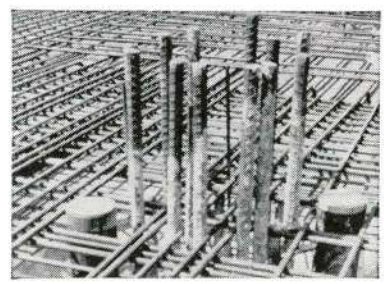
Stelco Hi-Bond Reinforcing Bars conform to CSA G.30.1 and G.30.6-1954 Specifications and ASTM Designation A. 305-51. For full information contact any Stelco Sales Office.



ARCHITECT:
J. Alphonse Bélanger, Sherbrooke, Quebec

CONSULTING ENGINEERS:
Coté, Lemieux, Carignan and Bourque, Sherbrooke, Quebec

CONTRACTORS:
R. E. Stewart Construction Corporation, Sherbrooke, Quebec



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HI-BOND REINFORCING BARS

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Sales Offices: Halifax, Saint John, Montreal, Ottawa, Toronto, Hamilton, London, Windsor, Sudbury, Winnipeg, Edmonton, Calgary, Vancouver
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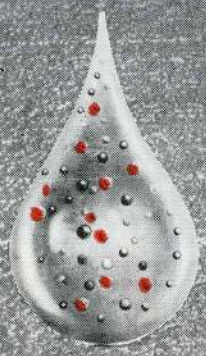


DAREX AEA

AIR ENTRAINING AGENT

on the job at Red Rock Falls

Answering the expanding North's demands for more power Ontario Hydro will bring Red Rock Falls generating station into service this year. The dam, powerhouse and spillway of single base line construction required approximately 97,000 yards of concrete.

Greater concrete durability was obtained by the even dispersion of air bubbles throughout the mix. This practice increased resistance to freezing and thawing, reduced water content and measurably improved workability. DAREX AEA by Dewey and Almy was the air entraining admixture used in concreting operations.

Because the existing ready-mix batching plant was too small for the large form area involved, a retarding admixture was used to delay the set of the concrete. DARATARD by Dewey and Almy was used to prolong the plastic condition of the concrete mix. Both Dewey and Almy materials were supplied and serviced by Construction Chemicals Limited, 88 Eglinton Avenue East, Toronto 12, Ontario.

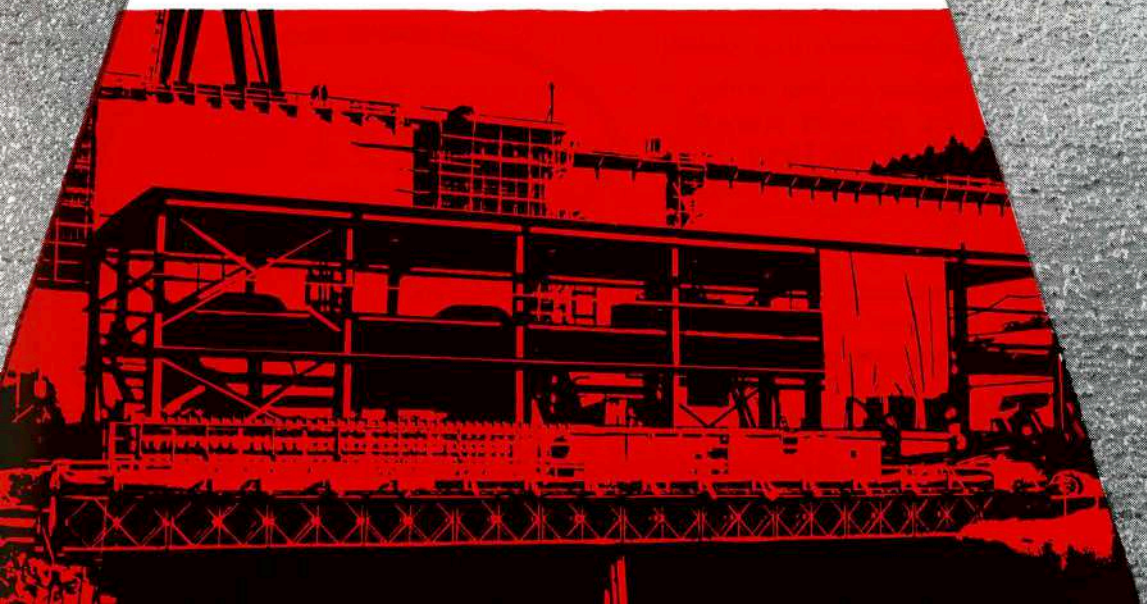
W.R. GRACE & CO. OF CANADA LTD.
DEWEY AND ALMY CHEMICAL DIVISION
255 Lafleur Avenue, LaSalle, Quebec

DEWEY AND ALMY ADMIXTURES
designed to fit particular concrete needs

DAREX AEA provides controlled air entrainment, greater durability

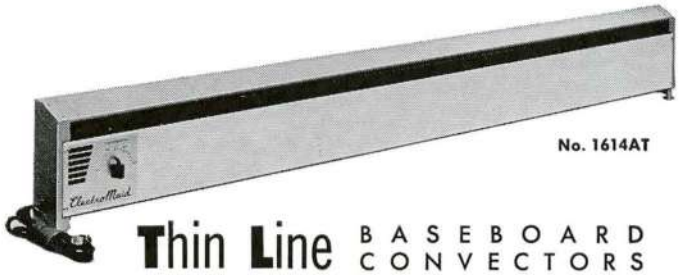
WRDA reduces water content, increasing concrete strength

DARATARD gives controlled retardation of initial set



ElectroMaid HEATERS AND REFRIGERATORS

Trade Mark Reg'd.



No. 1614AT

Thin Line BASEBOARD CONVECTORS

ElectroMaid Thin Line Baseboard Convectors are particularly suitable for comfortable perimeter heating, to make cold walls and window areas a thing of the past. Designed for modern living, with their slim and low construction they will fit even under the lowest picture windows and they will blend perfectly with any modern decor.

Available in sizes from 30" up to 108" long. Capacity of: 500W, up to 3000W. Voltage both 120 Volts and 240 Volts.

- Absolutely fireproof — absolutely quiet
- Heavy duty fin-type elements
- Low operating cost
- Smart, modern thin look
- Extremely efficient
- Heating elements guaranteed by 5 Year Protection Plan
- Available portable or permanent wall mounting
- Supplied with or without thermostat
- 7¼ in. high, 2¾ in. deep

RADIANT SPOT HEATING FOR INDOORS & OUTDOORS

The directed rays from a Spot Heater heat persons and objects, and not vast wall surfaces and large quantities of room air. For this reason, heating with Spot Heaters is very economical, and since the heat is instant its use is recommended for rooms infrequently occupied. Spot Heating is healthy and natural, heats like the sun or like fire in a fireplace.

- Radiant
- Corrosion Resistant
- Modern Appearance
- Fully protected
- Easily installed
- Safety wired
- Low cost
- Sun's wonder rays

ELECTROMAID

Combination 3 in 1 Unit

Refrigerator — 5 cubic feet
Stove — 3 Burner
Sink — Stainless Steel

A Real Space Saver

Ideal for Apartments and Motels

A complete kitchen unit

NATIONAL DESIGN AWARD WINNER IN 1955

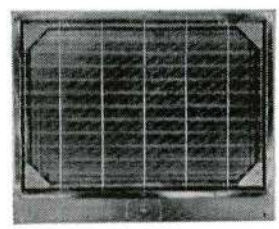
We manufacture one of the most versatile lines of refrigerators in Canada today.

UNIT HEATERS

Propeller type shown

Capacities from 1500W up to 60000W. Any voltage up to 575 Volts, as specified. Propeller and Blower type Unit Heaters for various industrial applications.

PERMANENT WALL MOUNTING RADIANT GLASS HEATERS



No. 1335

Available surface and recessed mounting, square shaped or long and low for Baseboard installation. With or without built-in thermostat.

No. 1384

It's a treat to heat with Radiant Glass Heaters because you SAVE MORE MONEY yet get better, more comfortable warmth in your home. The safest, most healthful, most efficient Heater ever made.

Capacities: 450W, 750W, 1000W and 1500W.

Please write for our general catalogue showing all our products. Also ask for Engineering Bulletin which explains procedure for heat loss calculation and determination of required heating capacity.

Contact us directly with any heating problem and our Engineering Department will give you a heating estimate based on your building plans.

Accept no substitutes — Insist on ELECTROMAID products

Nationally Known and distributed from coast to coast — serving Canada for over 25 years.

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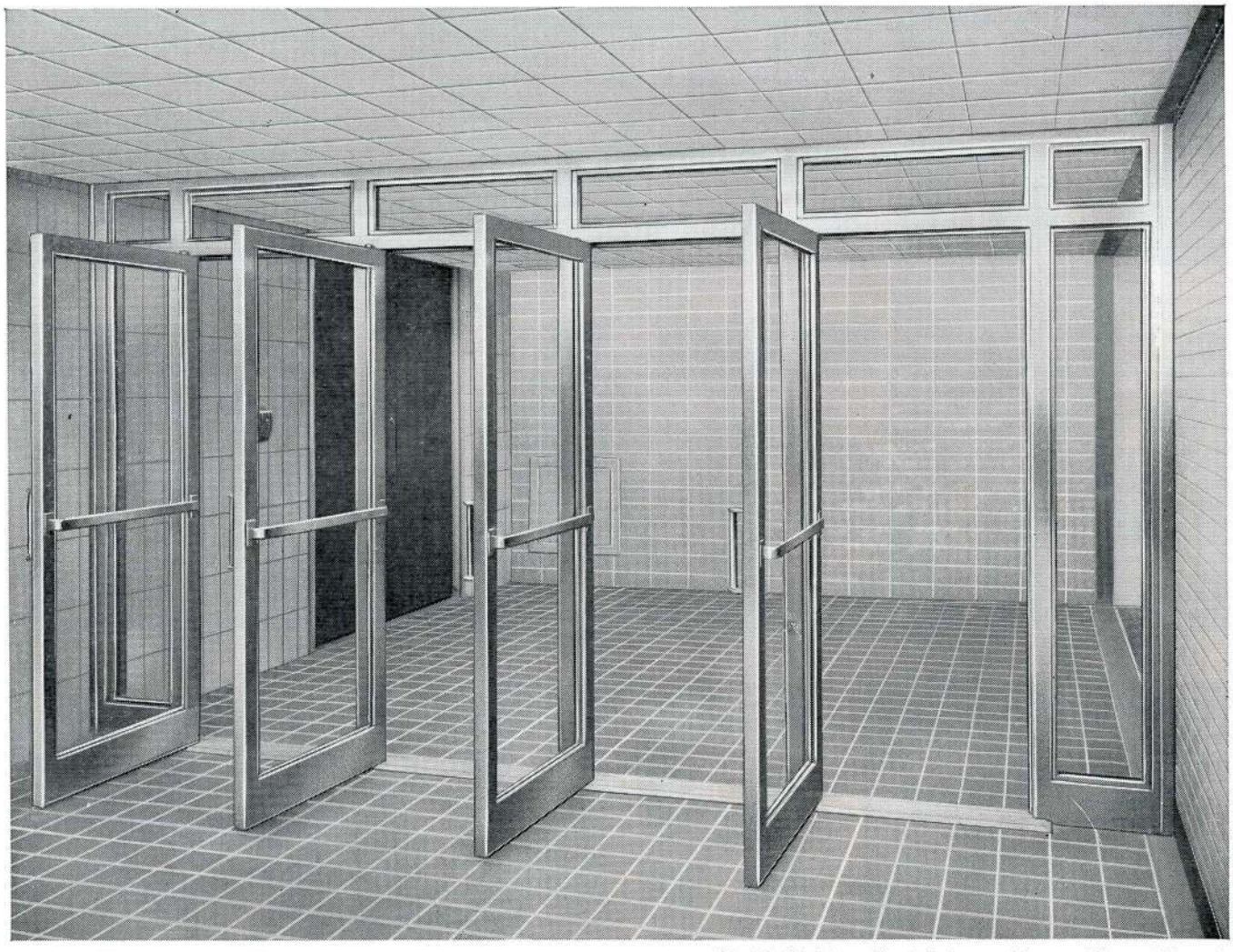
Write for our catalogue no. 90 describing our complete line of products.



Chubb Stainless Steel Entrance Doors at Dorval Airport

STAINLESS STEEL DOORS—DESIGNED AND FABRICATED BY CHUBB

The Stainless Steel division of the Chubb Safe Co. Ltd. now fabricates Stainless Steel doors. Made of Stainless Steel throughout, (including channel reinforcing) Chubb single and double doors require virtually no maintenance. All door sections are made from 18 gauge, and all frame sections from 16 gauge, type 304 Stainless Steel. The frame and door joints are welded and ground smooth to a #4 satin finish.

Chubb Craftsmen weld the doors to form one complete unit

The Chubb Safe Company, long renowned for all types of security and fire-resistive equipment, has expanded plant facilities to manufacture a variety of Stainless Steel architectural metalwork, including mullion sections and window sills.

The Stainless Steel division of Chubb have a group of trained experts ready to assist you with any problems regarding the use of Stainless Steel products for architectural use. We welcome your inquiries. Simply call your local Chubb office.

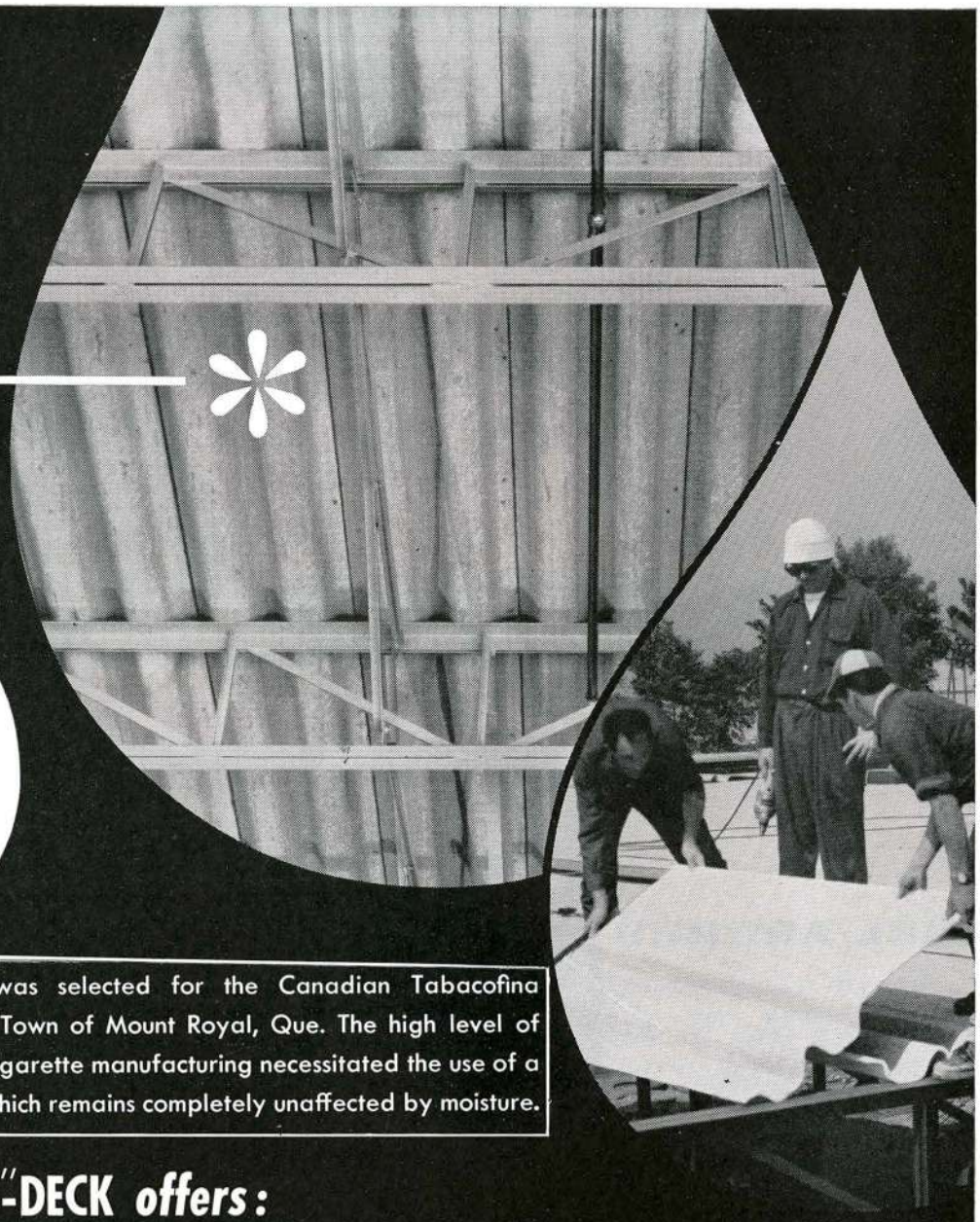
CHUBB

CHUBB SAFE COMPANY LIMITED

577 Oxford Street, Toronto 18, Clifford 5-1191

Branches: Montreal, Hamilton, Winnipeg, Vancouver. Agents across Canada.

where high HUMIDITY is present



Specify ASBESTOS-CEMENT Turnall (T. M. Reg'd.) "T"-DECK

* *Turnall* **"T"-Deck** was selected for the Canadian Tabacofina Limited Plant in the Town of Mount Royal, Que. The high level of humidity present in cigarette manufacturing necessitated the use of a roof deck material which remains completely unaffected by moisture.

ASBESTOS-CEMENT Turnall (T. M. Reg'd.) "T"-DECK offers:

- a low priced roof deck for 8'-0" maximum spans
- favourable strength-weight ratio
- will not rot
- will not deteriorate
- assembles rapidly and easily
- withstands all climatic conditions
- unaffected by high humidity
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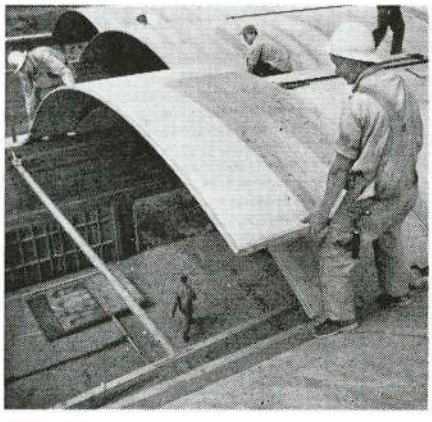

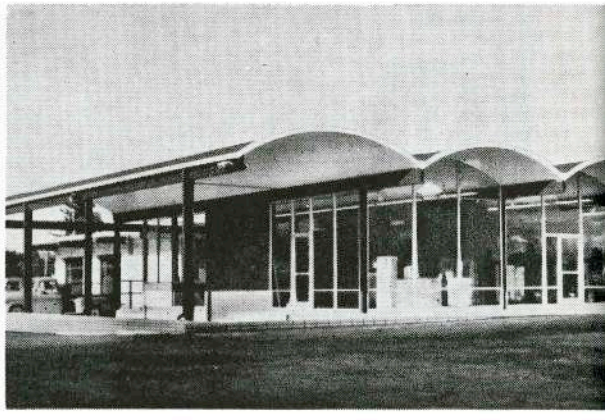

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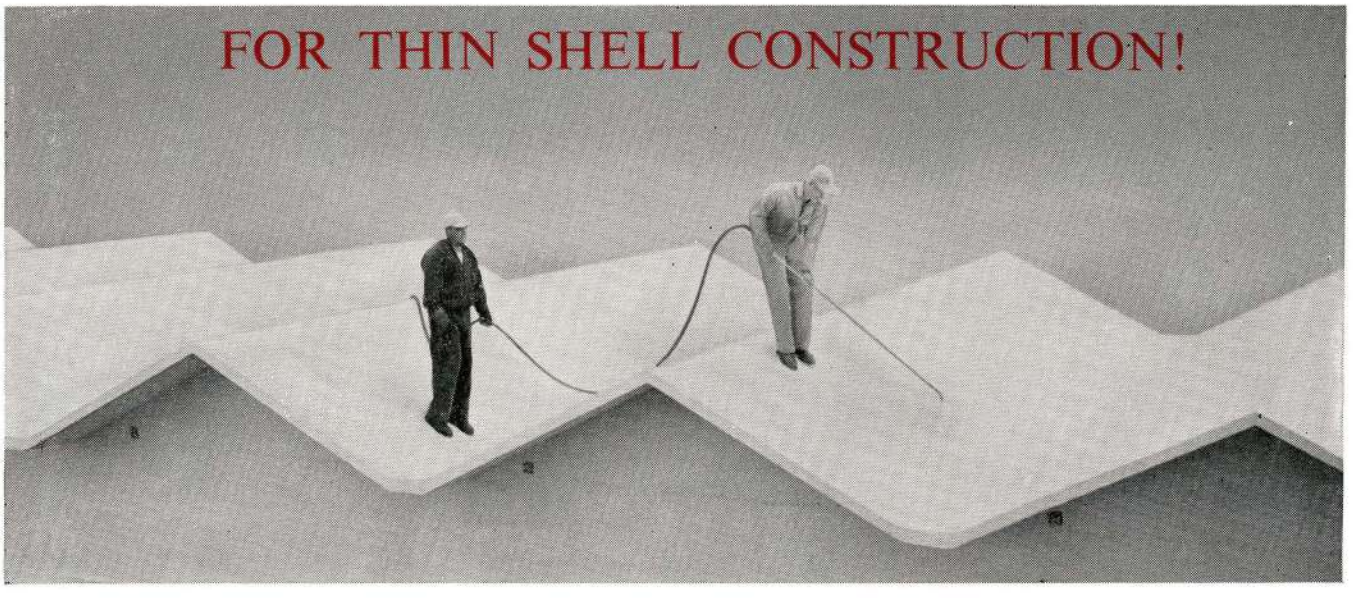

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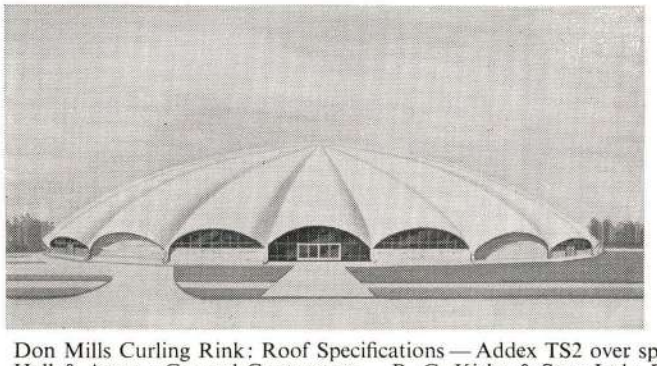

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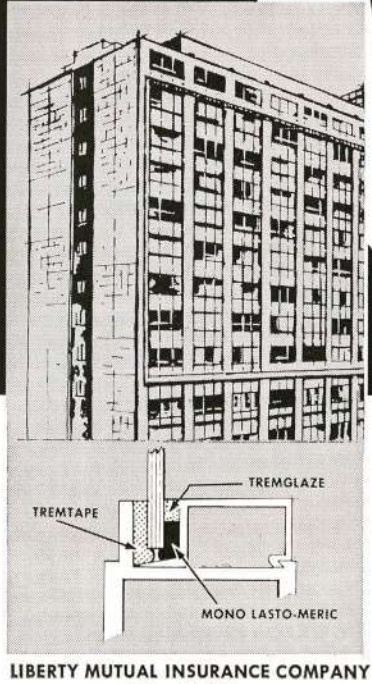

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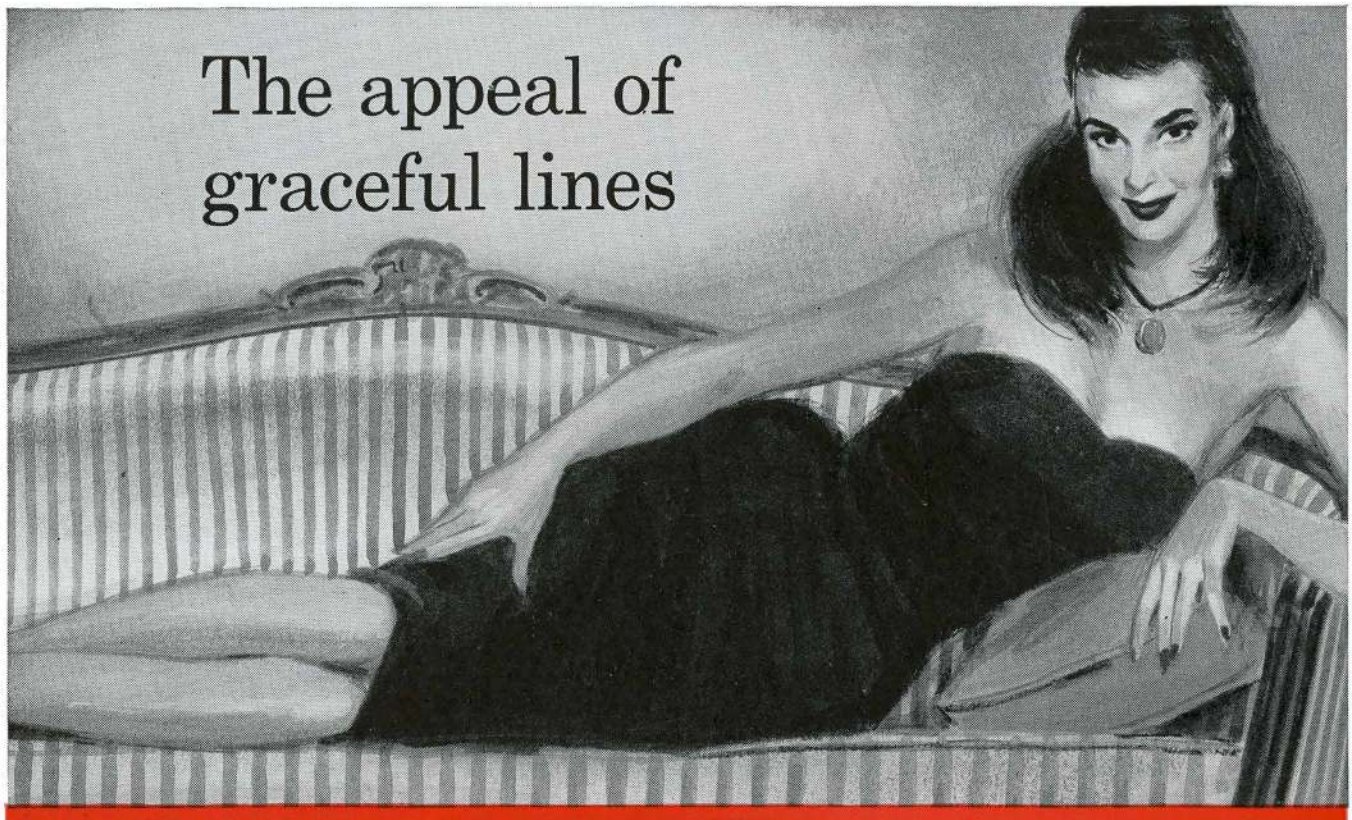

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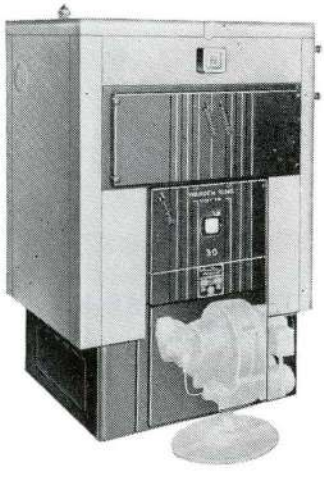

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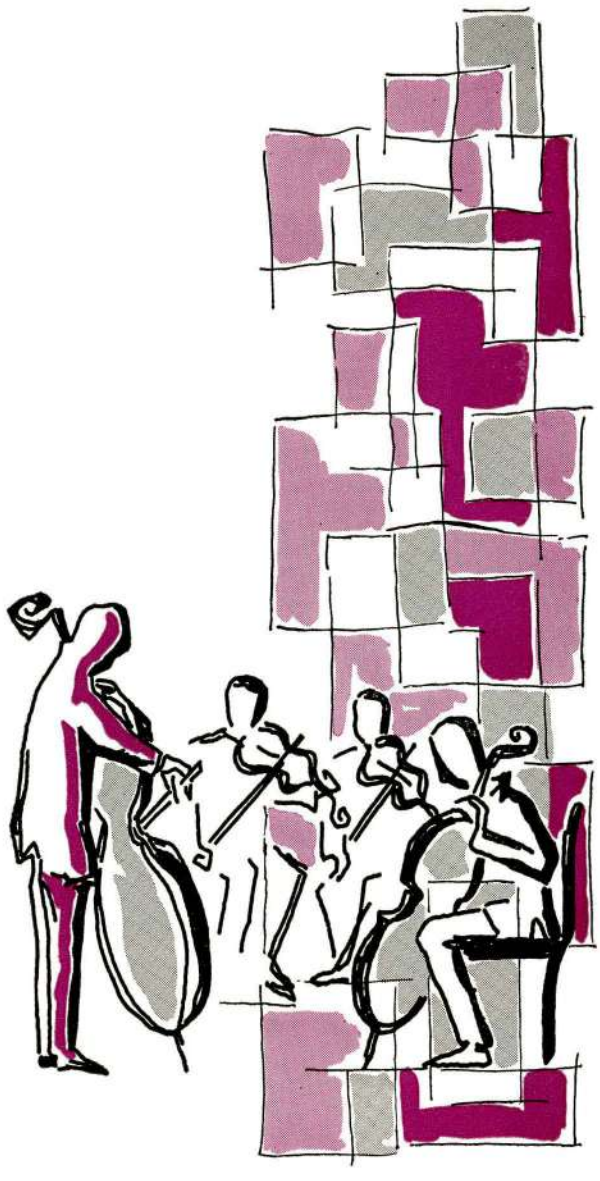

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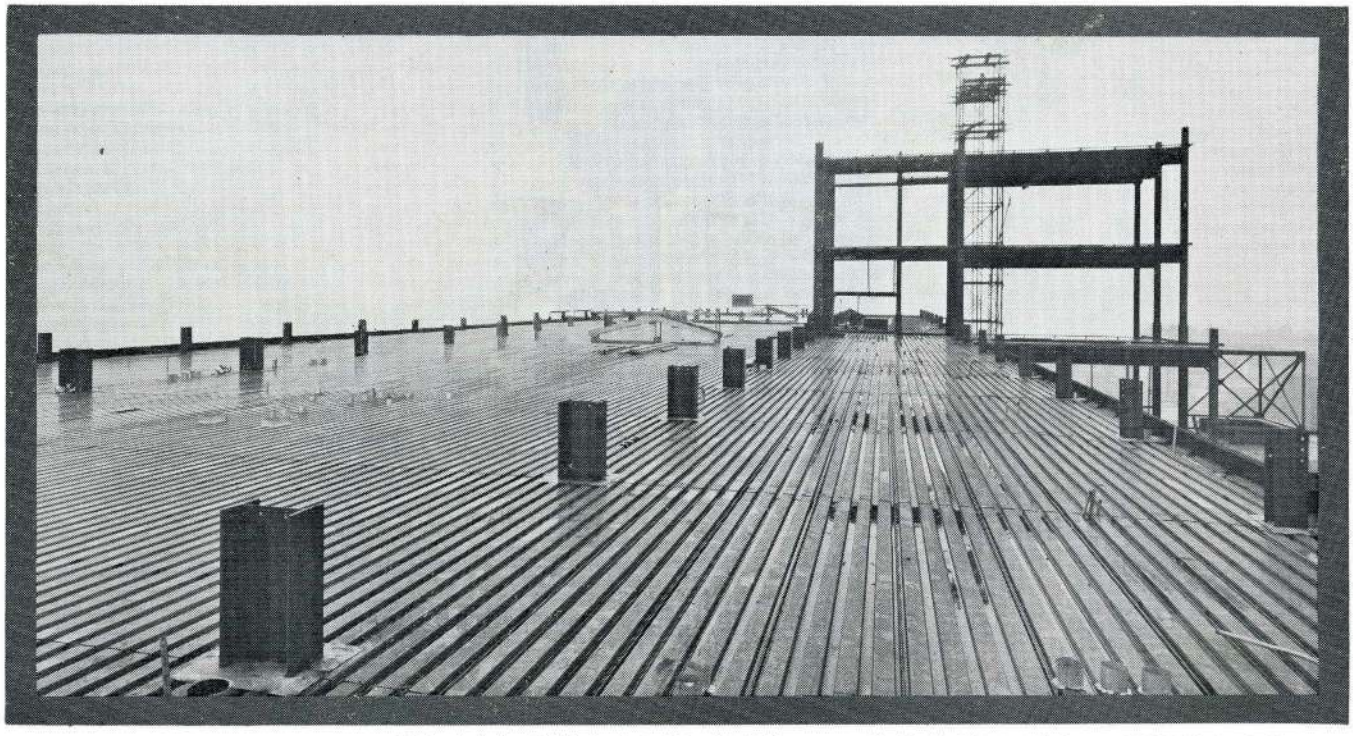
New Vancouver hospital uses economy and efficiency of galvanized steel roofing and flooring



Q-Roof deck of Lion's Gate Hospital, Vancouver, B.C. *Architects:* Underwood, McKinley & Cameron

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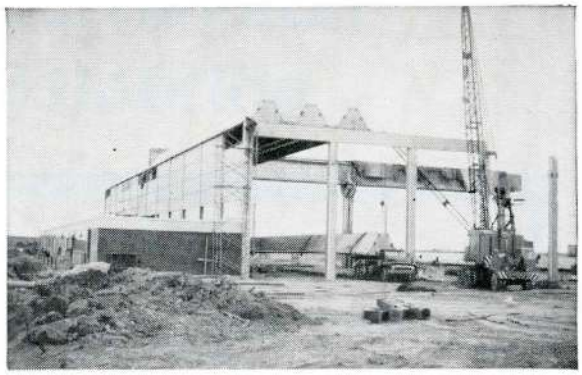
This new design by **Crang and Boake,** architects; **Reicher, Bradstock & Associates, Ltd.,** structural engineers; and built by **Camston Limited,** general contractors, resulted in a highly efficient building erected at a cost considerably below that of comparable facilities using other materials of construction.

The photographs and drawings show some of the unusually interesting design and construction features.

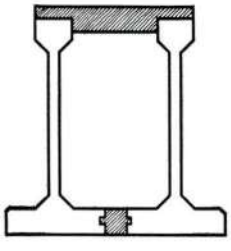


This photo shows the office area in the rear of the hangar. The box girder is in place as well as three folded plate roof slabs, each 10′ wide and forming folds 5′ deep with 60° sloping angles. Concrete members were manufactured by Precast Concrete Company Limited and erected by Assiniboia Construction Company.

new design ideas prove versatility of concrete

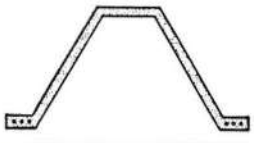
Typical section through main girder

The box girder was cast in four inverted T-sections each 80′ long. The top and bottom joints consist of cast-in-place concrete. The bottom flanges support the folded plate roof slabs.



Typical Section through roof slab

The folded plate roof slabs were precast in three sections of 41′ 8″ each. On site, a 3″ construction joint was placed between the units which were then post-tensioned together and hoisted into place.



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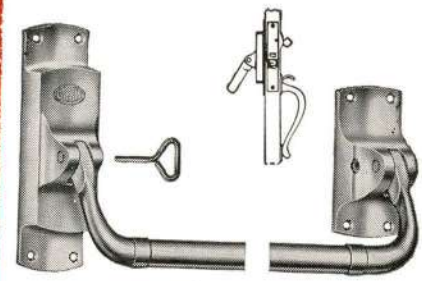

Corbin #126 Heavy Duty Exit Push Bar and Mortise Lock

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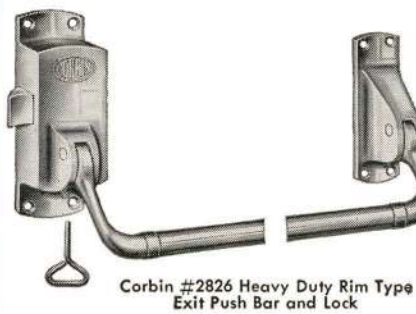

Corbin #2826 Heavy Duty Rim Type Exit Push Bar and Lock

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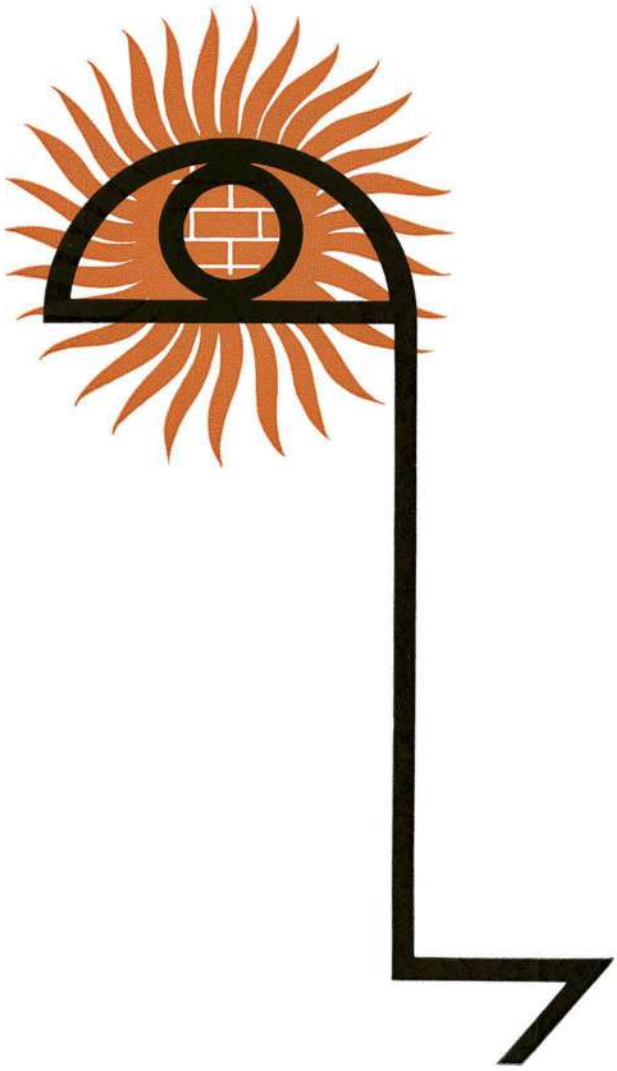
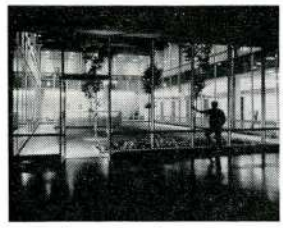


you see how spontaneously Architecture is born of Nature
and Man, how it emerges from his need and his power;
how it fulfills his desires

from Sullivan: Kindergarten Chats, Documents of Modern Art, Vol 4, published by George Wittenborn Inc.



Night view of court, new School of Architecture, University of Manitoba

SERIAL 420, VOLUME 37, NUMBER 8, AUGUST, 1960

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Architects and Planning

A MATTER THAT WILL LOOM LARGE in histories of our era will be the extraordinary interest which city governments, all over the world, are taking in the improvement of areas of urban decay. It goes under the title of urban renewal. In Canada, from St. John's to Vancouver, cities and towns are busy preparing plans and, what is the more remarkable, taking steps to carry them out as funds permit. From experience of our own on a planning board and from those of our friends who are professionals, we have, until recently, been looking upon planning as the most frustrating of human endeavours. Our city halls are choked with plans made by well-meaning people; plans that had a brief day of glory in the local press, and were then consigned to obscurity and dust in attic or basement.

But that day is past. By some kind of magic, citizens have become aware of the menace and the cost of blight, and are demanding remedies. In a special issue, the English "Architects' Journal" deals with urban renewal and the responsibility of the architect. *"It would be a great pity if the profession is not increasingly (and at length always) asked to take part in comprehensive development. Indeed, the theme of this year's Conference — urban renewal — suggests that the Institute takes this view and hopes that its members will seek to take a greater share in the responsibilities of large-scale redevelopment and new building. Their help is certainly greatly needed."*

It was Gordon Stephenson, whose departure for Australia is a distinct loss to Canada, who always emphasized the need for architects in the planning field. While planning today offers opportunity for such diverse disciplines as history, geography, economics, law and engineering, the well educated architect brings to city planning an appreciation of the elements that go to make a city beautiful as well as efficient. An understanding of proportion, scale and space relationships cannot be acquired by book reading or in the crowded curriculum of a one or two year post graduate course in planning. We have before us, as a profession, the not unrelated areas of housing and urban renewal toward which the architect's contribution could be tremendous.

The RAIC is not unmindful of its responsibilities in both, and the *Journal* can be counted on whenever its support would be of value.

It is, after all, August with the temperature at 85°, and, for those architects who can do little about urban renewal while they sip their gin and tonic at the summer cottage, we conclude with a story of high imagination and ancient daring in the planning field. We have just read of the Macedonian architect Deinocrates, the planner of Alexandria, who prepared a scheme in which he would convert Mount Athos into the statue of a man. His right arm was outstretched, and a town nestled in the hollow of his hand. It is a story that Thomas Creighton, Progressive Architecture, would enjoy as an example of early sensualism on a grand scale.

Architectes et Urbanisme

LORSQU'ON ÉCRIRA L'HISTOIRE de notre époque, on soulignera sans doute l'intérêt que tous les conseils municipaux portent au problème de la rénovation urbaine. Partout au Canada, cités et villes dressent des plans et, qui mieux est, prennent des dispositions en vue de les réaliser à mesure que leurs moyens financiers le leur permettront. D'après notre propre expérience de l'urbanisme et celle de nos amis qui sont des professionnels en la matière, nous avons jusqu'à tout récemment considéré l'urbanisme comme la plus frustrante des entreprises humaines. Nos hôtels de ville reçoivent une multitude de plans dressés par des gens remplis de bonnes intentions, des plans qui ont connu leur jour de gloire dans les journaux locaux pour être ensuite relégués à l'obscurité ou la poussière d'une cave ou d'un grenier.

Mais ces temps sont révolus. Comme par magie, les citoyens ont vu le danger et le coût que comporte l'abandon des vieux quartiers et ils exigent qu'on y remédie. Le "Architects' Journal" d'Angleterre vient de consacrer un numéro spécial à la rénovation urbaine et au rôle de l'architecte. *"Ce serait bien dommage si les architectes n'étaient pas appelés de plus en plus (et même toujours) à travailler aux projets d'urbanisme. Le sujet d'étude du Congrès de cette année — la rénovation urbaine — montre bien que l'Institut adopte cette opinion et compte que ses membres participeront davantage au réaménagement et à la construction qui vont se poursuivre sur une grande échelle. On a sûrement besoin de leur aide."*

M. Gordon Stephenson, dont le Canada peut regretter le départ pour l'Australie a toujours souligné le besoin d'architectes en urbanisme. L'urbanisme se prête à des disciplines aussi variées que l'histoire, la géographie, l'économique, le droit et le génie; l'architecte bien formé peut contribuer à la réalisation d'une ville belle en même temps que bien ordonnée. Ce n'est pas dans les livres ni dans un bref cours d'études d'un an ou deux en urbanisme que l'on apprend le sens des proportions et l'harmonie des formes dans l'espace. Nous avons en perspective, en tant qu'architectes, ce vaste programme d'habitation et de rénovation urbaine dans lequel l'architecte pourrait jouer un grand rôle.

L'Institut a conscience de sa responsabilité dans ces deux domaines et on peut compter sans réserve sur l'appui du *Journal*.

Enfin, nous sommes en août et il fait chaud. Aux architectes qui, dégustant un rafraichissement au chalet, ne peuvent se préoccuper de rénovation urbaine, nous rappelons l'anecdote suivante où se révèlent l'imagination et l'audace des urbanistes de l'antiquité. Déinocrate, urbaniste macédonien et auteur des plans d'Alexandrie, avait projeté de transformer le mont Athos en une statue d'homme. Le bras droit étendu, la statue devait tenir une ville dans le creux de la main. M. Thomas Creighton, de Progressive Architecture goûterait cette anecdote où il verrait sans doute un exemple des débuts de ce qu'il appelle le "sensualisme".

E.R.A.

FROM THE EXECUTIVE DIRECTOR'S DESK

TEAMWORK IN THE BUILDING INDUSTRY

BEGINNING EARLY THIS SEPTEMBER, members of the Institute who would like to play a part in the forward progress of the RAIC will get their opportunity. The profession at large is being asked to furnish funds to make possible implementation of the Report of the RAIC Committee of Inquiry into the Design of the Residential Environment.

For those who may have "come in at intermission" the Residential Environment Report was produced by the inquiry team of Peter Dobush, John C. Parkin and Ned Pratt, because of the profession's concern about the quality of the million or so houses built in Canada during the past decade. Financed by a $30,000 grant under Part V of the National Housing Act, the Report has, beyond question, had a serious impact on builders, developers, realtors, government and planning officials.

The job of implementing the thirty-two significant recommendations contained in the Dobush Report has been called "the most important single project the profession has ever undertaken".

It is noteworthy that the Report is being taken seriously outside the profession. The President of the National House Builders' Association is reported to have made this statement: "The RAIC report on the residential environment made obvious the need for closer contact between industry groups. *Almost none of its recommendations can ever reach fruition without it.* The RAIC has shown good faith in its own research by forming a committee and allocating funds to pursue the stated objectives . . .

"A planned series of conferences will probably be the most effective way in which all of us can assess our roles in bringing the RAIC recommendations to fulfilment. With carefully prepared agendas, there is no reason why a great deal of progress cannot be made within a year . . . The NHBA is ready to co-operate in setting up a program of discussion which would permit tangible accomplishments to be made."

To pave the way for "tangible accomplishments", the Royal Institute estimates that it will require an initial contribution of $15,000 to establish administrative machinery at RAIC Headquarters and appoint a well qualified full time administrator to maintain liaison with committees inside the profession, and with organizations and individuals outside the RAIC. The appointment should be made before October 1st.

It is obvious that the profession, spearheaded by James Murray's RAIC-CMHC Housing Committee, should move during the weeks that remain in 1960 to effect close liaison with interested parties throughout the house building industry.

By the time the 32nd recommendation has been implemented, it will ill behoove a casual observer to comment that the profession is slow to shoulder its rightful responsibilities in the construction industry today.

DÈS LE DÉBUT DE SEPTEMBRE, les membres de l'Institut qui aimeraient jouer un rôle dans les initiatives de leur association en auront l'occasion. On s'adressera aux membres en vue d'obtenir l'argent nécessaire pour donner suite au rapport du Comité d'enquête de l'Institut sur les conditions de l'habitation.

A ceux qui ne seraient pas déjà au courant, il faut dire que ce rapport sur l'aménagement du milieu domiciliaire a été préparé par une équipe d'enquêteurs composée de MM. Peter Dobush, John C. Parkin et Ned Pratt, par suite du malaise qu'éprouvent les architectes à l'égard de la qualité du million de maisons qu'on a construites au Canada depuis dix ans. Le rapport qui en est issu a incontestablement eu des répercussions sérieuses chez les constructeurs, lotisseurs, agents immobiliers, gouvernants et urbanistes.

On a dit que la mise en oeuvre des 32 recommandations importantes faites par le rapport Dobush constituait "l'entreprise en soi la plus importante dans laquelle les architectes se soient jamais lancés."

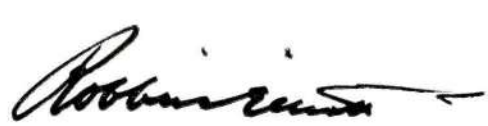
Remarquons que le rapport est étudié sérieusement même hors de la profession d'architecte. Le président de l'Association nationale des constructeurs de maisons aurait déclaré: "Le rapport de l'Institut royal sur les conditions de l'habitation a fait ressortir le besoin de relations plus étroites entre les représentants des divers groupes industriels. *Sans cette collaboration, on ne pourra réaliser à peu près aucune de ses recommandations.*

L'Institut a fait preuve de confiance en ses propres recherches en créant un comité et en affectant des fonds à la poursuite de ses objectifs.

La meilleure façon pour chacun de nous d'évaluer son rôle dans la mise en oeuvre des recommandations de l'Institut, serait au moyen d'une série de rencontres. Avec un programme préparé avec soin, nous pourrions accomplir beaucoup en moins d'un an . . . Notre Association est disposée à collaborer à l'élaboration d'un programme d'étude qui permettrait d'obtenir des résultats concrets."

Pour amorcer ces "résultats concrets", l'Institut Royal estime qu'il faudra une contribution initiale de 15,000 dollars afin d'établir des cadres administratifs au bureau central de l'Institut et nommer un administrateur compétent qui serait chargé de faire la liaison entre les comités au sein de la profession, et entre ceux-ci et les personnes et organismes intéressés de l'extérieur. Cette nomination devrait être faite avant le 1er octobre.

Entraînés par le Comité conjoint de l'Institut et de la SCHL sur l'habitation, les architectes devraient profiter des semaines qui leur restent en 1960 pour établir des liens étroits avec les intéressés dans l'industrie de la construction.



SCHOOL OF ARCHITECTURE

UNIVERSITY OF MANITOBA, WINNIPEG

By Ernest J. Smith

THE design of the new School of Architecture Building at the University of Manitoba, was indeed a challenge. A building for Architects – for the teaching of Architecture, with Professors of Architecture the clients and critics.

From a carefully framed program by Director John Russell and his staff (and the usual close budget), the building was conceived as a one-unit structure, two storeys in height, with an inner court into which major plan elements essentially introvert. Calm, almost classic form and proportions were striven for in an effort to create a piece of architecture which would have a certain timeless quality, and one which would live easily with the complexity of architectural styles which surround it on the prairie campus site.

The building measures 210′6″ x 116′4″, and is set on a recessed base, cantilevering over this base 10 feet at its north and south ends. The structure is a steel frame, which is boldly expressed directionally on the north and south façades of the building. The outer structural bays are 21′0″ x 36′6″, with central bays of 21′0″ x 44′0″. The plan module is 5′0¼″.

The building entries are approached from north and south by means of raised bridges, 22 feet wide and 61 feet long, enabling a raised transition externally before actual building entrance. The end of the main north bridge is designed to receive a piece of sculpture, developed by sculpter Cecil Richards during the building design. The entrance concourse, staff offices, staff lounge and library surround the inner court at the west end of the main floor, with the east end housing seminar and lecture rooms, which flank exhibition and assembly spaces.

The second floor contains student drafting studios capable of seating a maximum of 350, student lounge which overlooks the court, student washrooms, sample rooms and work rooms. In the partial basement, the freehand drawing studio, photo lab, workshop, sculpture and general studios are housed, in addition to mechanical and storage spaces. A ramp feeds to a service area and elevator at the basement level at the east end of the building.

The exterior walls of the building are essentially a

Architects and Engineers
Smith Carter Searle Associates, Winnipeg

Interior Designer
C. Grant Marshall

General Contractors
North American Building Ltd, Winnipeg

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curtain wall construction, detailed as a wood core with aluminum extrusion sections, with a combination of clear glass (gray on south elevation), transluscent glass with opaque asbestos sheets behind for opaque walls. The spandrels and columns are covered with precast concrete sections, having a texture of fine limestone aggregate reading through. The total effect of the building exterior is a subdued composition in grays, sparked by the aluminum mullion fins, a complement and background for trees and landscaping now being planted.

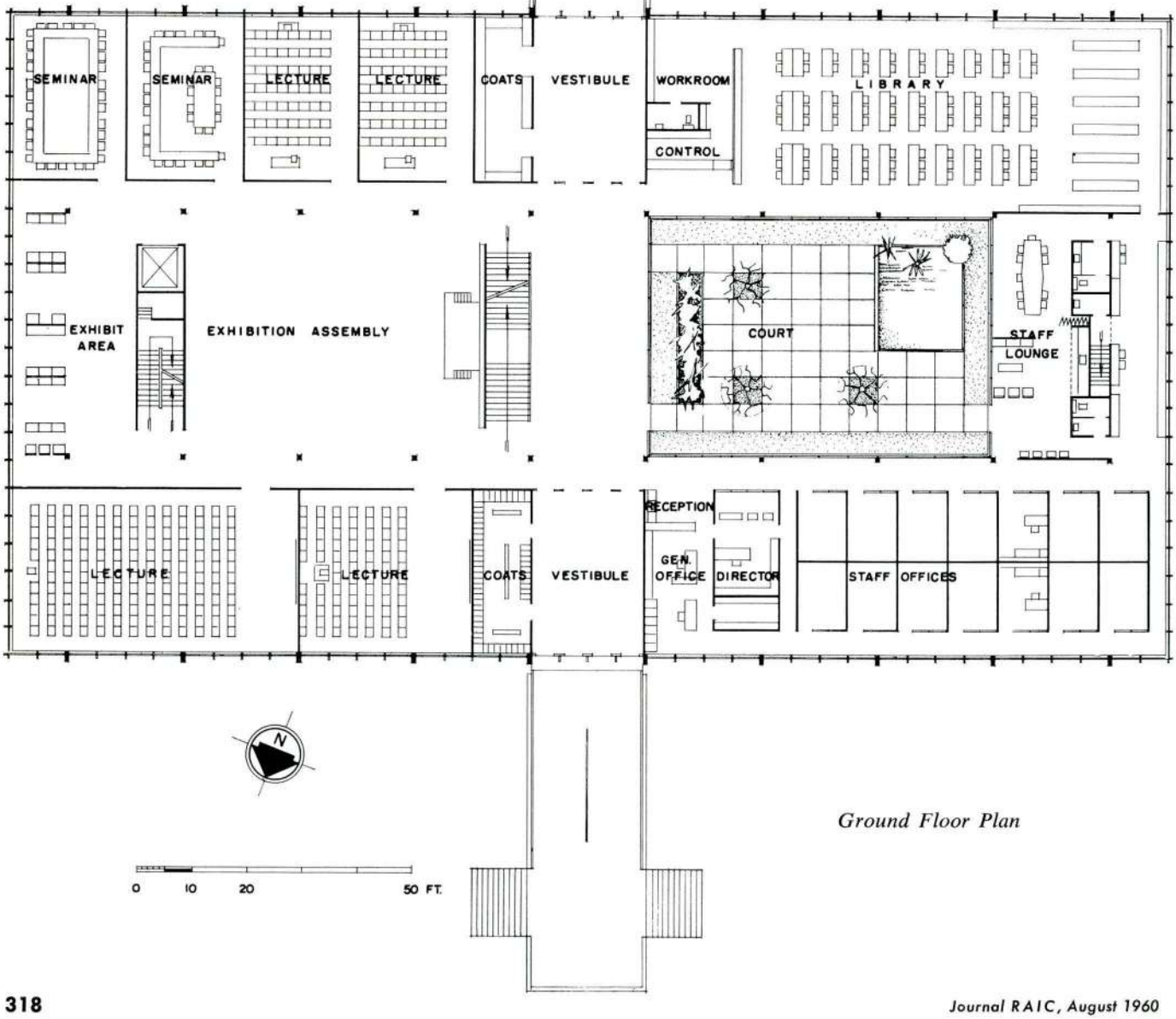
The walls of the interior court are a complete curtain wall of clear and opaque glass facing, set in aluminum extrusions, creating a crisp sparkling effect to a delightful inner-outer space, both day and night. The court floor is paved with large sections of precast exposed pebble aggregate slabs, set in a crushed limestone matrix. Planting areas for trees and flowers have been designed within the paved area, and a precise sculpture screen is located to give privacy to the staff lounge at the west end of the court.

Fenestration has been limited to a two foot horizontal band of glass at ceiling and floor throughout the drafting studios, and on the exterior walls of the building, limiting the broad prairie vistas to the outside. Floor to ceiling glazing has been limited to entries, staff office areas on the north, and to the inner court. Lecture and seminar rooms and library have glass only as a two foot horizontal band at the ceiling.

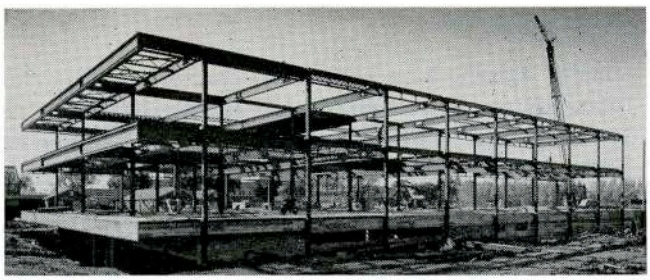
Floor finishes consist of terrazzo in main public traffic areas and washrooms and vinyl asbestos or asphalt tile throughout the remainder.

Walls in the main entry vestibules carry through the opaque glass curtain walls of the exterior. Walls in the main concourse and exhibition spaces on the ground floor are carried through in natural oak panelling, and the remainder of walls on the ground and second floor spaces are generally painted smooth plaster finish. Ceilings throughout the ground floor are acoustic plaster, and on the second floor they are acoustic tile.

Artificial lighting was studied carefully, not only for its intended function within the building, but also for its exterior impact on the total building design at night. A combination of fluorescent low brightness and incandescent "atmo-



Ground Floor Plan



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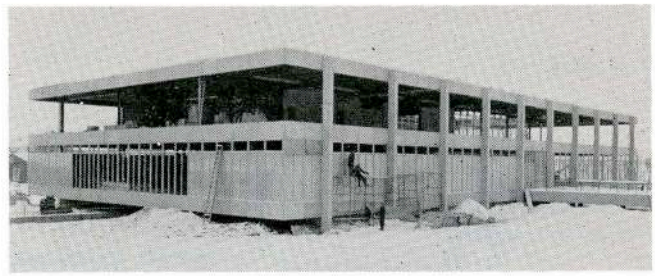
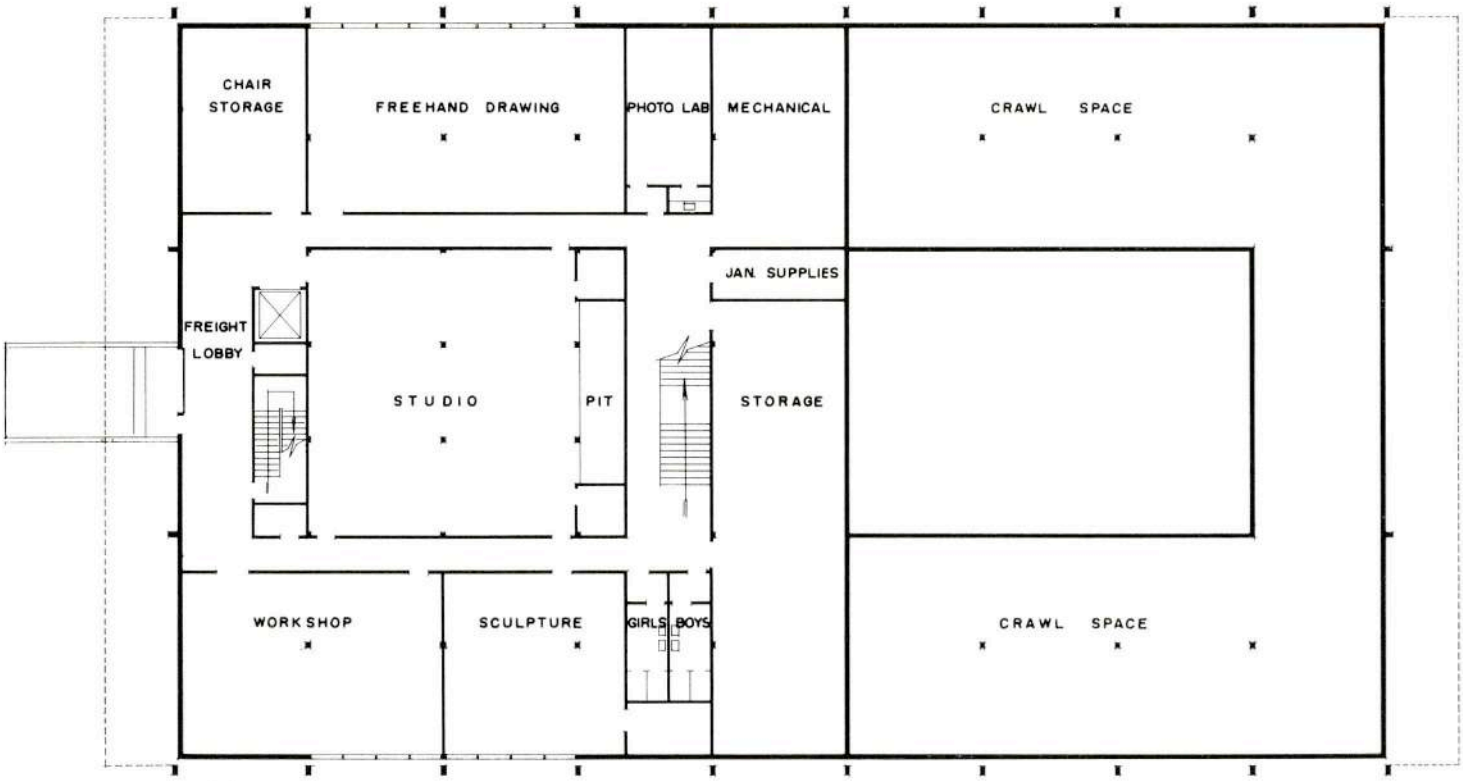
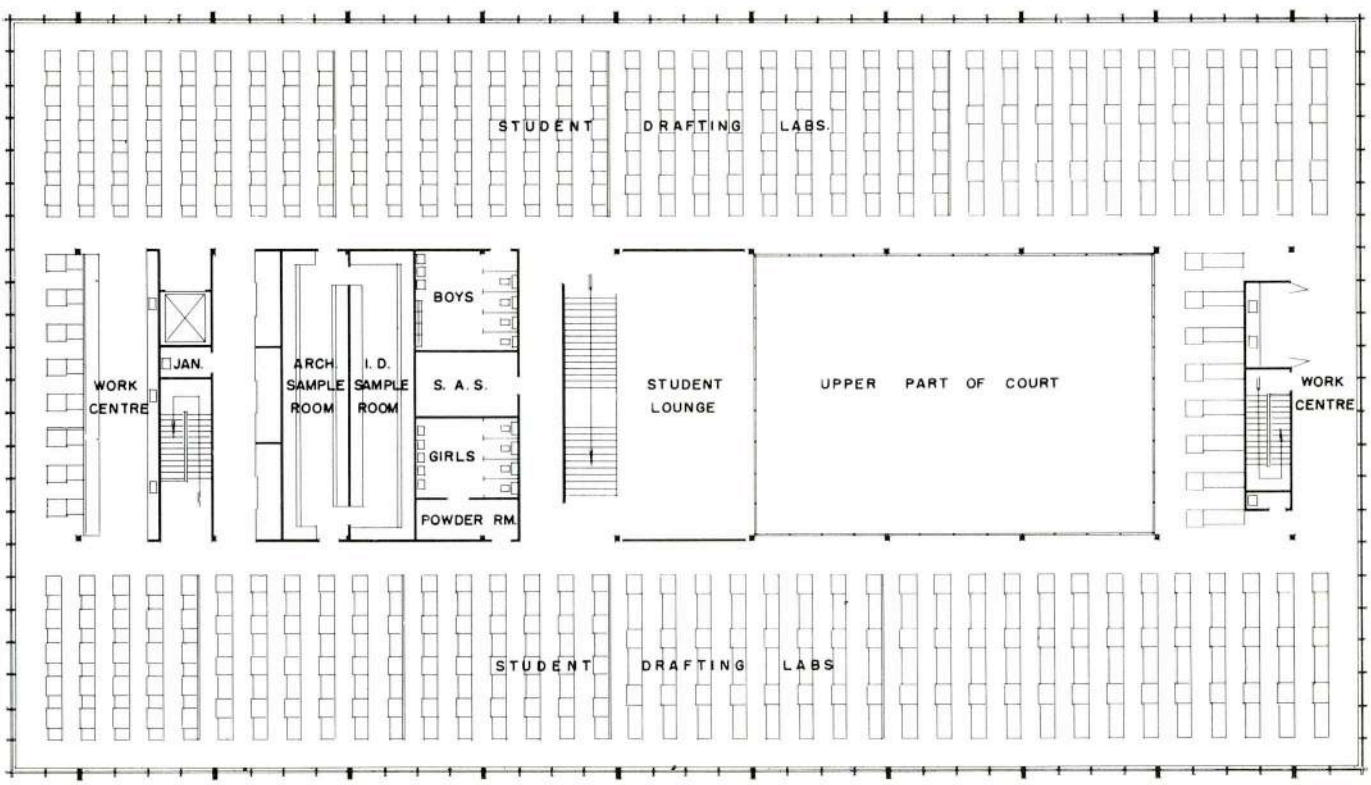


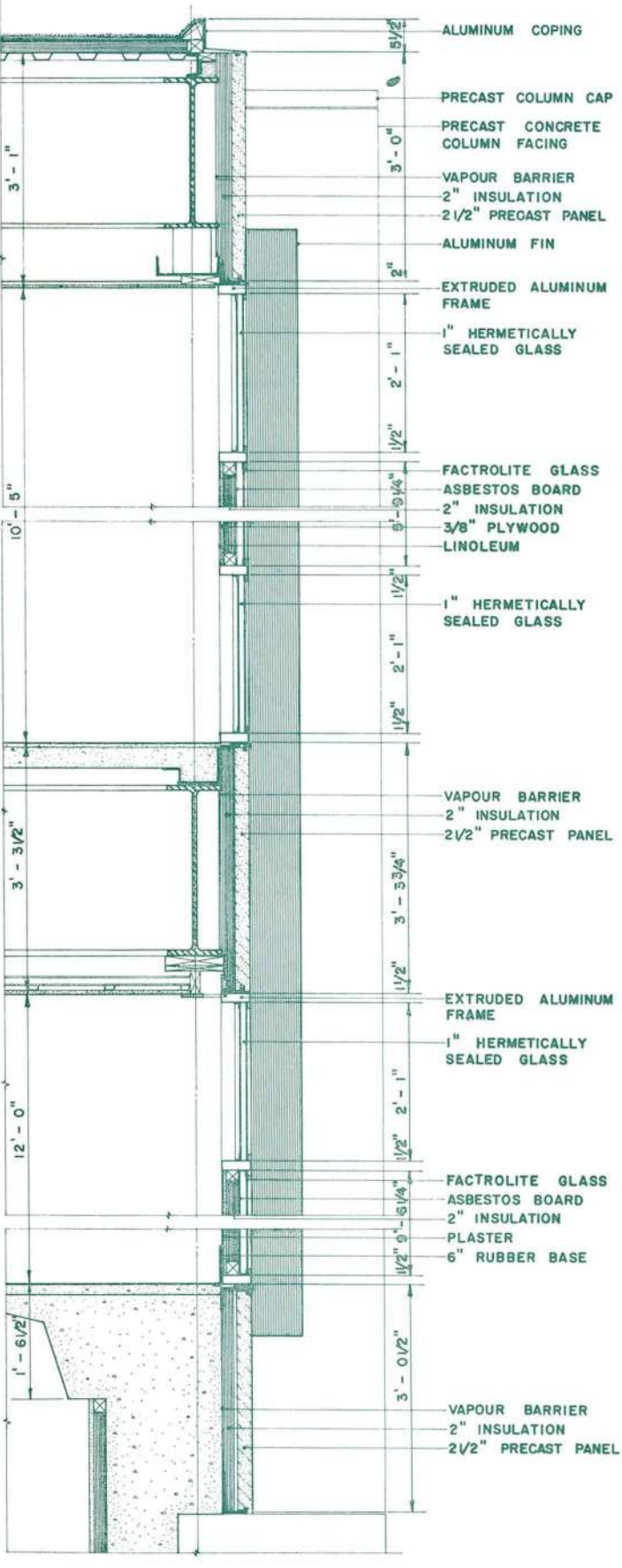


Basement Plan

Second Floor Plan



Detail of Wall



sphere" lighting have been used. Drafting studios, staff offices, lecture and seminar rooms and library employ the low brightness fluorescent; while entries, lounges and exhibition areas have been carried through with various forms of incandescent units. Exterior lighting in the inner court is effectively handled by incandescent flood "can" fixtures, located on the aluminum mullions at the level of the upper spandrels.

Heating of the building is a hot water system fed through low wall type or floor type continuous convector units. The building is completely ventilated from main fan units housed in a penthouse on the roof of the building. Air is introduced generally through ceiling diffusers which have been carefully organized with the total ceiling pattern. Certain areas of the building have been designed for future refrigerated ventilation.

Interior detailing and furnishing have been carried through to properly complement the architecture of the building. Vertical venetian blinds and sheer drapes dress appropriate window walls of the interior court and staff offices. Furnishings in lounges and library are in carefully chosen teaks, oaks and walnuts along with some complementing chrome leg tables and accent colored and textured upholstery fabrics. Potted plants are strategically placed as effective foils throughout lounge and library areas.

Drafting tables in drafting studios are detailed as black metal continuous stands, onto which can be placed drafting boards and under which can be fastened drawer units for individual students. Division panels have been designed which form separations and pin-up display boards throughout the drafting studio areas. Interior furnishings were handled in collaboration with Interior Designer Professor Grant Marshall. The construction cost of the new school, without movable furnishings, was $913,500 – $16.10 per square foot.

Interior of Library, view west

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South Wall of Court and Library

Director's Office from the Court

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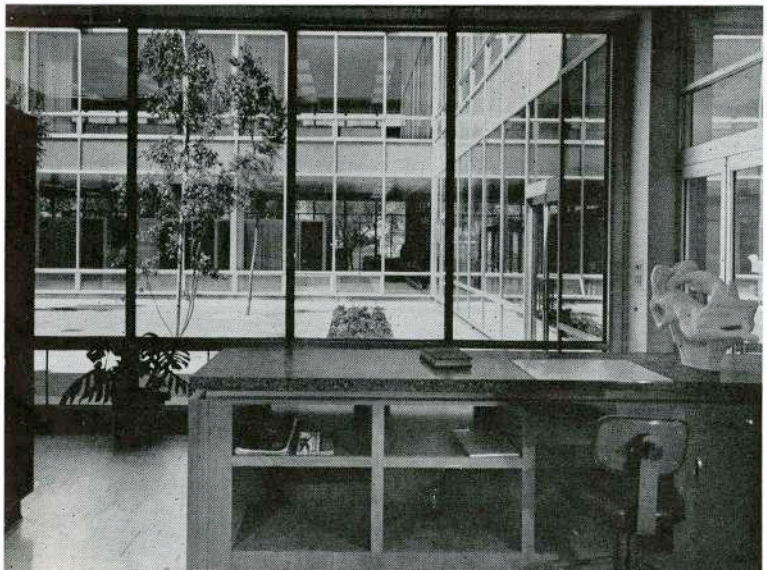
View from Librarian's Desk



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Exhibition Area and Auditorium

Students' Lounge

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Staff Lounge

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Conference Area and Staff Lounge

Maquette of Sculpture by Cecil Richards for North end of entrance platform

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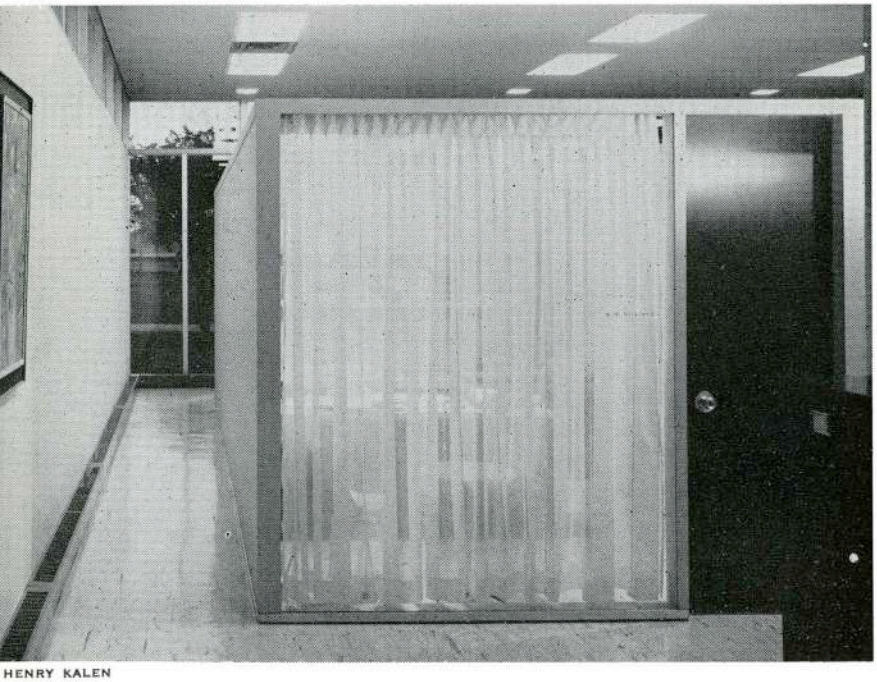
Administrative Offices



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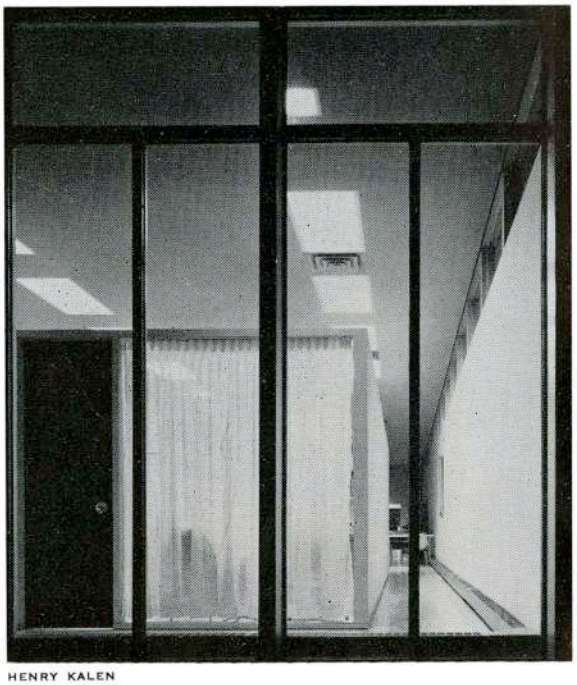


HENRY KALEN

Programming a School of Architecture Building

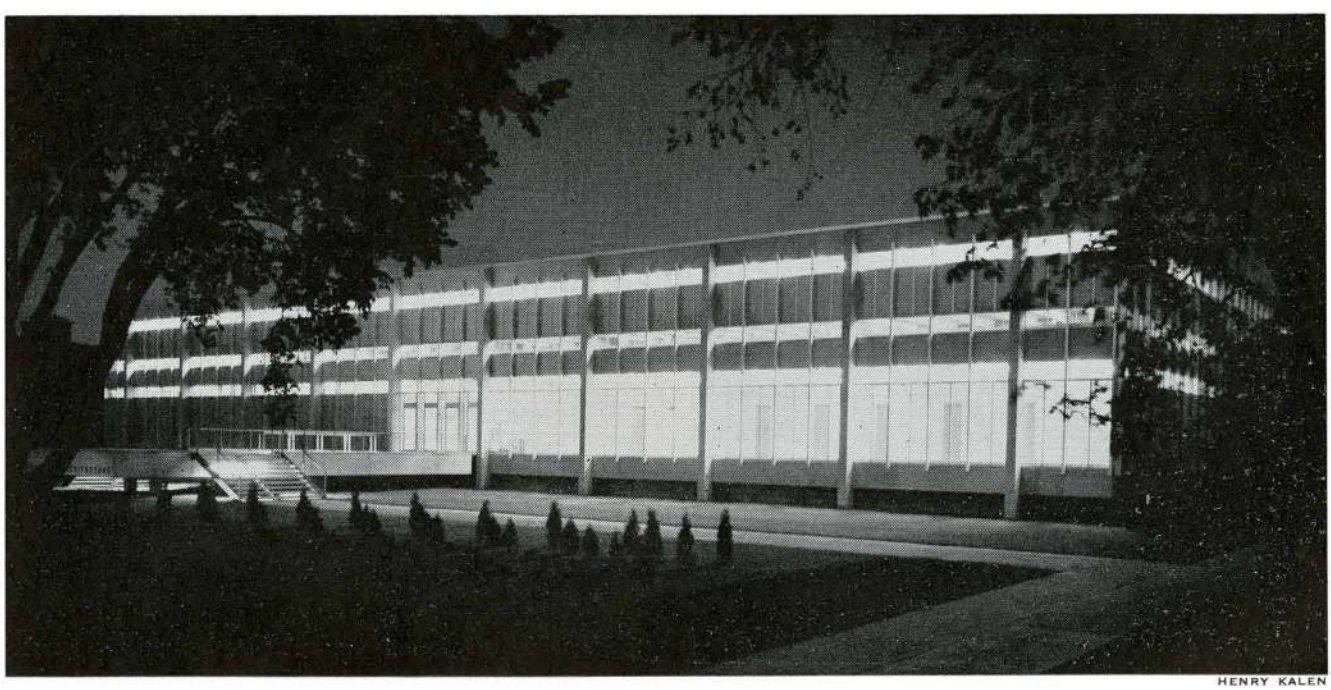
By John A. Russell, Director, School of Architecture, University of Manitoba

"Since buildings exert strong influences for good or bad upon those who use them, it is obvious that students of architecture can be either directly benefited or handicapped by the quality of the space provided for their work. The importance to them of direct contact with outstanding examples of architecture has already been stressed. For this reason alone, they have a legitimate claim to quarters which exemplify to the utmost degree the scientific and aesthetic precepts which they master. It is axiomatic that a school of architecture should occupy a building which in itself comprises an integral part of the education of its occupants and becomes a teaching device in the educational program."

The above paragraph introduces the chapter on Facilities, Personnel and Administration for Architectural Education in "The Architect at Mid-Century – Evolution and Achievement," edited by Turpin C. Bannister. Ever since its publication in 1954 this statement has served, and will continue to serve, as the springboard from which schools of architecture can develop the program details for the buildings which will meet their individual needs. Obviously, the aim in each case is to achieve a building of such size, character and attractiveness as will be needed to accommodate and to enhance the school's teaching program. Only by being housed in quarters which demonstrate the highest standard of structure and of aesthetics can a school of architecture hope to be convincing and inspiring in its teaching of the fundamentals of good architecture.

In the winter of 1957, when the Government of Manitoba announced that funds were to be provided for a building to house the School of Architecture at The University of Manitoba, the staff immediately saw this as a challenging opportunity to provide both efficient and effective surroundings for the teaching of Architecture and Interior Design, as well as to create a building that would demonstrate good architecture to the campus public as well as to the general public. Adopting Professor Bannister's statement as the keynote of its program, the staff studied the basic planning information included in the volume referred to and reviewed the several programs which it had prepared from time to time during the previous decade. After the initial program was evolved and presented to the appointed architects, Smith Carter Searle Associates, we had the unique privilege of working closely with the architects in the development of the building, both in the initial concept and in the final details. Bi-weekly discussions, which reviewed the requirements, analyzed the sketch plans, and discussed details of planning, materials, structure, equipment, color and furnishings, have produced a building that functions admirably in terms of usable space and, at the same time, is aesthetically impressive in its precise and immaculate detail.

The accompanying comparison of initially programmed areas and of areas as provided in the completed building reveals little change in the required elements. The changes in areas resulted from revised thinking, from over all budget limitations, and, in a few instances, from the limitations imposed by the design concept. The most noticeable increase, that in circulation area, resulted from the placing of the building astride the natural route of traffic between two parts of the campus: the designers therefore provided spacious vestibules and concourse to serve both as the entrance and as the passage through the building.



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The Editor of the *Journal* has asked me to list what I think the physical facilities of a school of architecture should include. In doing so I am naturally influenced by the recent satisfying and exciting experience of occupying for the first time a building designed for a school of architecture. It is certainly too early to give a truly objective criticism of the building; yet our brief occupancy has already confirmed the wisdom of many of the decisions embodied in its design. Furthermore, one's approach to a program for such a building is doubtless broader after the experience of building and occupying, and at the same time is less influenced by the seeming urgency of solving immediate needs, and the hasty, ill-considered decisions resulting therefrom. On the basis of experience to date, I therefore suggest the following advice and check-list for the building program of a school of architecture, with parenthetical comments based upon our experience at Manitoba.

1. Before commencing on the program for its building, a school should plan very carefully the long range development of its educational program: changes in curricular patterns and organization; changes in the length of the course; expansion of the undergraduate and graduate programs to include programs in related disciplines; increase or restriction of the number of students and the methods involved; present and future size of staff, both full time and part time, and their possible extra-curricular activities, both research and professional. *(In our case*, recent discussions of possible reorganization and expansion of the School's program suggest that such plans may be limited by the facilities provided by the new building. "Hind-sight" would suggest that long range curriculum planning should have preceded the determination of the building program; yet the thought of having delayed the commencement of construction for even such a sound reason still seems incredible to contemplate!)

2. The programming of area requirements should not only be concerned with the functional uses and the area standards therefor, but also with a provision of maximum flexibility so that future unforeseen developments can be accommodated and integrated effectively into the building spaces. Rigidity of planning will undoubtedly limit and control the future development of a school's program of instruction. *(In our case,* the flexibility of open spaces, plus the planning of a number of areas for multi-purpose use, has already paid dividends, thus proving conclusively the validity of this statement.)

Professor John Russell receives the Journal's Managing Editor in his office in the new School of Architecture

CAMPBELL AND CHIPMAN

3. The truism that "architecture students and teachers, despite their supercritical tendencies, are unusually responsive to attractive surroundings" should be kept constantly in mind as the aesthetics of the programmed environment are being determined. Edward D. Stone stated recently, ". . . In a college building, you can create an atmosphere which is conducive to study and to work, and which produces rapport between teacher and student." A building with too posi tive and definitive aesthetics may so dominate the student's development therein that his standard of aesthetic appreciation and judgment may become nothing but rubber-stamp plagiarism. *(In our case,* we have found that the negative neutrality of the simple geometric lines, planes and spaces of the building has inspired rather than defined imaginative conception on the part of both staff and students. Such, I suspect, was not the result expected by some when the design of the building was first determined.)

4. As a corollary to number 3, the importance of a school of architecture's building as a "showpiece" on the campus cannot be overstressed. The university community of teachers and students, to say nothing of the general public, should experience the best possible campus architecture and campus planning. In particular, the building which houses the school of architecture should be an admirable and outstanding demonstration of the usefulness and efficiency as well as the attractiveness and beauty of a fine piece of contemporary architecture. The students of today are the community leaders, the clients of tomorrow. They are the ones who will demand civic improvements in the business districts, in the parks, and along the highways. *(In our case,* the remarkable and stimulating development of the campus and its buildings attests to the University's recognition of its responsibility to foster good architecture and planning: its effect upon the campus public and the city in general is already evidenced by a lively awareness of architecture as a concomitant of daily living. The new Architecture Building has stimulated observation, enquiry and discussion which have resulted in greater appreciation, respect and understanding on the part of many laymen.)

5. The definitive program of the actual physical facilities of a school of architecture will of course vary from school to school, depending upon its teaching program, its staff, its student enrolment, its research program, its extra-curricular activities, its relationship to the rest of the university community, etc. The following elements are those which were definitely essential for our School at Manitoba.

Drafting studios. Adequate desk space and storage space are the prime requisites for each student, together with evenly distributed illumination of more than adequate intensity. Desirable area standards usually indicate a minimum of 50 sq ft per student. *(In our case,* we originally prescribed 30 sq ft per person for the first year students, 40 for those in second year, 50 for those in third year, and 60 for the two upper classes. In the final solution, the use of fixed 25 ft tables, with easily installed movable storage units and draft-

ing boards, has enabled us to seat six freshmen comfortably at one table, and to reduce the number of students at a table to three in the senior year. With 312 students in the School this past session, each freshman had 34 sq ft of floor space, while each senior had 62 sq ft. Experience this year would indicate that these areas have been both adequate and acceptable.) As the enrolment approaches the planned capacity of 350, each senior would probably be reduced to about 55 sq ft of floor space. It should be noted that the final presentation weeks for the senior theses occur after the underclassmen have completed their design lab work; therefore each senior has more than ample space into which to expand.

The question always arises as to whether drafting studios should be large open spaces or intimate enclosed spaces. (After considerable discussion, we decided that maximum flexibility in terms of variation of class enrolment, combined with a fixed orderly arrangement of the tables, should be the determining factors in planning the most workable drafting studios. In each of the two drafting areas of the building, 38 fixed tables, each 25 ft long, accommodate the classes in Architecture and in Interior Design, with movable screen partitions separating the nine classes from each other visually. An acoustic tiled ceiling, coupled with a generally cooperative attempt on the part of the students to create and maintain a working atmosphere, has made it possible to carry on class discussions and blackboard demonstrations in the drafting labs without too much disturbance from other classes. 16 ft chalkboards are provided on each of the space dividers, and a 7 ft band of linoleum 640 ft long encircles the entire second floor drafting space to provide ample area for the display of student problems to be discussed or criticized.)

Special studios. Provision should be made for the teaching of various media of graphic presentation, model making, sculpture; for workshops equipped with hand and power tools to provide for the making of models and for courses in basic and experimental design, furniture design, industrial design; for a well-equipped photographic laboratory and dark room to allow for both instruction and individual experimentation in this important media of interpretation and record; for a large, unobstructed area adjacent to the workshop to enable classes to experience building projects of various kinds. All such practical studios will provide the experiences so necessary to supplement those of the design labs. *(In our case,* the availability of these studios — some for the first time in the history of the school — has already made significant contributions to the total over all development of the students. These have been planned as a series of spacious, well lighted, well ventilated areas in the basement.)

Exhibition — Assembly. Ample exhibition space for travelling and exchange exhibitions and a hall large enough to accommodate the entire school for special assemblies and visiting lecturers are both most essential in a school of architecture. *(In our case,* the provision of these two features in a common area on the main floor, with lecture and seminar rooms opening out of it, has proved to be an ideal arrangement. An easily assembled, aluminum framed, self-supporting exhibition panel system provides great flexibility in exhibition arrangement. A sectional platform and 350 stacking chairs convert the area into an excellent lecture hall and film projection theatre. Parenthetically it might be mentioned that the metal divider strips in the terrazzo floor were placed at 43 in. intervals as guidelines for the placing of the rows of chairs. Large folding door panels slide out from the ends of the west wall of this area to screen it from the entrance lobby and to cut out the daylight from the court beyond. A power operated screen and a projection booth provide for film and slide projection. Speakers installed in the ceiling give good sound coverage for lectures, seminar discussions and sound movies. The size and shape of the area, enclosed by an acoustic plaster ceiling, oak panelled walls and a terrazzo floor has resulted in excellent acoustics: the University Chamber Music Group has performed here several times with outstanding success. The extension of the area eastward has provided desirable overflow exhibition space as well as a comfortable lounge and discussion area which is used almost daily.)

Classrooms. Lecture rooms should have good sight lines, excellent ventilation, excellent lighting, including special lighting for note taking when slides are being shown, and excellent acoustics. *(In our case,* black venetian blinds and recessed ceiling spotlights provide excellent slide lecture conditions. The combination of one large, one medium and two small lecture rooms has allowed for an efficient organization of the class timetable. Two seminar rooms which can double for lecture rooms are also provided. Two projection screens, chalkboards and a tack board are provided in each lecture room. In the two seminars, the tack board encircles three sides of each room and is equipped with a chalkrail for the easy display of design problems presented on board. Thus each seminar can be used as a jury room for design judgment, as well as for class discussion and criticism.)

Library. A library, an absolute essential for every school of architecture, should provide ample reading space for one quarter of the student body, ample shelf space for an expanding collection, ample space for slides and for vertical files, and a librarian's office and work space. *(In our case,* the library as planned provides for 80 readers, 8,000 volumes on easily accessible shelves, 50 vertical filing drawers for reference pamphlets, mounted photographs, thesis reports, etc. In a separate area connecting the library with the staff offices the slide library has been arranged, with provision for the storage of 37,000 large slides and 43,000 small slides.)

Materials sample room. An up-to-date collection of structural and finishing materials, typical structural sections, and a file of manufacturers' data and booklets is a most desirable teaching and research aid. This should be housed in a room carefully planned for efficient filing and organized display of the samples. It should be available to the students at all times and located immediately adjacent to their drafting rooms. *(In our case,* the arrangement of sample collections in the related fields of Architecture and Interior Design within a common area has been mutually beneficial to the two groups. A color centre with samples for matching and working out color schemes under various types of artificial lighting is maintained in this area.)

Drawing and model storage. It is safe to say that a school will never have too much storage space; too often this facility suffers from underestimation. Ample space should be provided for organized filing of the current year's student work as well as for the systematic filing of past work for reference and historical record. In addition, open flexible shelving should be provided for short term storage of models. *(In our case,* storage space on the upper floor provides a 4 in. vertical file for each student's work throughout the session; it is thus readily available for reference throughout the year and for staff review at the end of the year. The basement storage area provides for the filing of sample projects arranged in chronological order, as well as thesis projects; unfortunately this area is not large enough, nor have we provided sufficient temporary storage space for models, although the large 7 ft high "crawl" space at the west end of the building is adaptable to this use.)

Offices. Staff offices should be ample in size to allow for interviews and, in some cases at least, for drafting – 150 sq ft would seem to be a comfortable minimum. *(In our case,* aesthetic considerations implied by the over all concept of the building's design resulted in individual offices 113 sq ft in area. Although these are adequate for normal office study and interview activities, they do not provide sufficient space for grading of graphic assignments, for research programs involving drafting, or for professional consultation activities. Other spaces in the building have supplied the necessary grading areas, but staff members have had to rely upon their own facilities for professional and drafting activities.)

Lounges. Lounges for staff and for students may appear to be luxury items; however, most schools which have them will agree that they contribute in no small measure to the morale and esprit de corps of the entire school. *(In our case,* such lounges have been available this year for the first time in the history of the school. The resultant effect upon staff and students alike has been most salutary. The staff lounge contains a board table for staff and committee meetings as well as a lounge group; in addition, a small kitchen makes possible the preparation of coffee and limited refreshments. The student lounge, furnished as a memorial by the Alumni of the School, provides an attractive and comfortable space for relaxation and informal discussion.)

Circulation. In addition to the reference made above to the large entrance lobby of our building which serves as a concourse for campus public passing through the building, mention should be made of the court. This feature developed in the early stages of the planning conception as a source of light and as the focal point of an introverted scheme in which it had been decided that the outlook into a pleasant, intimate area within the complex would be more inspiring than the contemplation of the limitless expanse of prairie or the confused pattern of fragmentary views onto the campus itself. There appears to be unanimous agreement on the part of staff and students that this basic concept was right. Some have questioned whether the court should be roofed over during the winter months to provide a lush green and usable area throughout the school session; at the same time all agreed that it should be open in summer.

Conclusion. As is the case when one writes a design program for a class of students in architecture, the only conclusion which seems logical at the end of the list of requirements is the statement that the finished project is due at such a time and place. *(In our case,* the project is finished and has been found admirably suited to the requirements as defined by the program. It is my sincere hope that anyone who finds the above comments and suggestions useful will experience the fruition of programming, planning and building with the same degree of success which we have experienced; if such is the case, his fondest dreams and hopes will have been satisfied.)

	Initial Program		*Completed Building*
Drafting studios			
350 undergraduate students	14630		14630
10 post graduate students	1000		675
Special studios			
Graphic presentation studio	2000		1500
Sculpture studio	1750		900
Power tool workshop	1500		1200
Dark room laboratory	400		450
Multipurpose studio	3000		2250
Exhibition-Assembly area			
350 seating; exhibition area	3600		3850
Classrooms			
Lecture room seating 120	1500	(156)	1500
Lecture room seating 80	1000	(84)	900
Two lecture rooms seating 40	1000	(2 @ 56)	1200
Two seminar rooms seating 40	1200	(2 @ 35)	1200
Library			
Seating for 80; 8000 books; slide collection; librarian's office	3000		3740
Materials Sample Room	1000		900
Drawing and Model Storage	1000		950
Chair Storage	0		600
Offices			
Director	300		240
Reception – School office	400		420
14 staff offices	1680	(16)	1800
Studio	400		250
Lounge & meeting room	400		675
Lavatories	150		105
Student lounge & office	1200		1120
Student lavs and lockers	2000		1725
Vestibules, concourses, circulation, mechanical equipment, etc.	6000		10890
	sq. ft. 50110		sq. ft. 53670

Urban Redevelopment

TWO CENTRAL MORTGAGE AND HOUSING CORPORATION PROJECTS FOR VANCOUVER

McLean Park and Skeena Street

Chief Architect and Planner, CMHC
Ian Maclennan

Project Designer, CMHC
Erwin C. Cleve

In downtown areas of many Canadian cities the natural process of redevelopment with complementary increased land values and higher densities is being carried on by private enterprise. Such redevelopment, together with considerable new suburban development, has tended to lead to the neglect of the downtown fringe areas. With their decline and physical deterioration serious social problems of overcrowding and delinquency have developed. These areas are in need of rehabilitation or clearance, but, because of high rental returns to owners and vested interests it has been uneconomical for private redevelopment to take place. However, most municipalities have now recognized this spread of blighted housing as a serious problem requiring public action. Some of them have taken advantage of the Provincial and Federal legislations that have been enacted to deal with the problem, as for example, Vancouver, Regina, Windsor, Hamilton, Toronto, Kingston, Montreal, Halifax, Saint John, N.B. and St. John's, Nfld. to name but a few.

One of the aims of the National Housing Act is to improve housing and living conditions in Canada, and includes a section devoted to urban redevelopment and to public housing. Under this act a municipality may obtain a federal grant of up to fifty per cent towards the cost of carrying out a redevelopment study. In addition the municipality may also obtain further federal assistance of up to fifty per cent towards the cost of acquisition, demolition or rehabilitation, the remaining costs shared between the municipality and the Province. On the land cleared or in other associated areas where a need has been established, the Federal Government can contribute up to seventy-five per cent towards the cost of low rental public housing.

The McLean Park project in downtown Vancouver is an example of the first phase of major redevelopment proposals by the city and will provide housing for people moved from cleared areas. The Skeena Street project, also in Vancouver, is similar but provides for larger families and is located in a suburban area some distance from downtown. It compares with a third example from St. John's, Newfoundland, which is the sixth public housing project in that city directed towards accommodating low income families who could otherwise only obtain substandard accommodation. It was originally associated with the general redevelopment of a peripheral area of downtown. These projects are designed by the Architectural and Planning Division of CMHC directly or in consultation with architects and town planners retained by the Corporation.

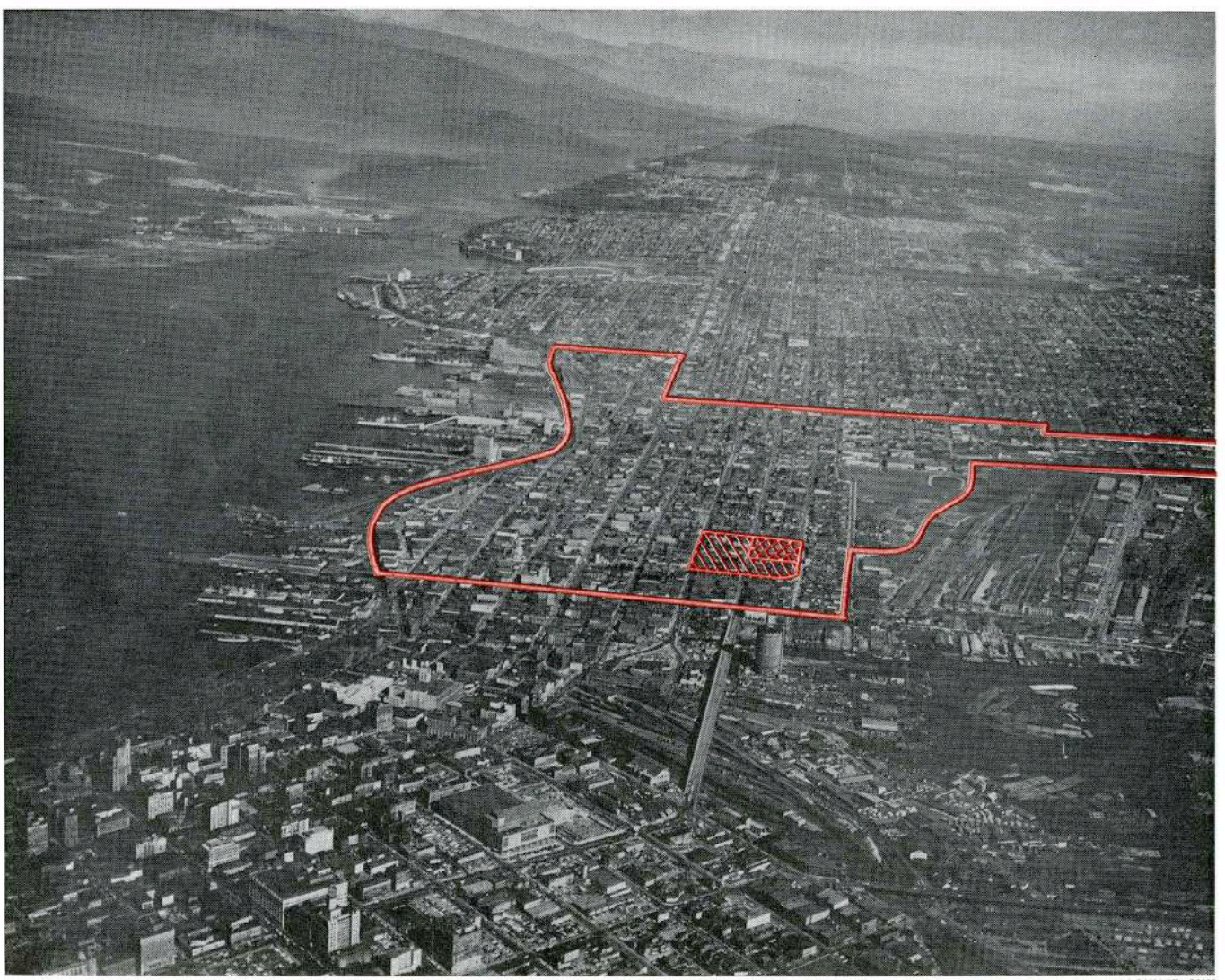
Vancouver Redevelopment Projects

In 1957 the City of Vancouver Planning Department published a redevelopment study in which it established that a bank of public housing be built to permit clearance proposals to proceed. An area of approximately 12.2 acres bounded by Keefer, Union, Jackson and Gore Avenues was selected. Within this area is the existing three and one half acre McLean Park, on which it is proposed to build the first phase of 155 units. An over-all design for the area was made which takes into account the building of a future express-way on the west and south boundaries of the site, and the closing of intermediate streets to form a "super-block". Parking facilities (restricted to the perimeter of the site) are provided for fifty-one per cent of the units. This makes possible a safe internal pedestrian system wherein paved areas can service as access roads for emergency vehicles. It is hoped in this way to provide a distinctive urban character for the total 420 housing units included in the plan. These dwellings range from bachelor to five-bedroom units and are contained in two fourteen-storey apartment blocks, three and four-storey maisonettes and two-storey row houses. The gross density is approximately 100 persons per acre.

The buildings will be of fire resistant construction with the high rise buildings being built in reinforced concrete frame construction and the maisonettes in masonry cross wall construction with reinforced concrete floors. The structural members will be exposed with infilling panels of stucco. Wherever possible the lower units of the maisonettes will be provided with private gardens and within the residual public space, provision made for children's play space.

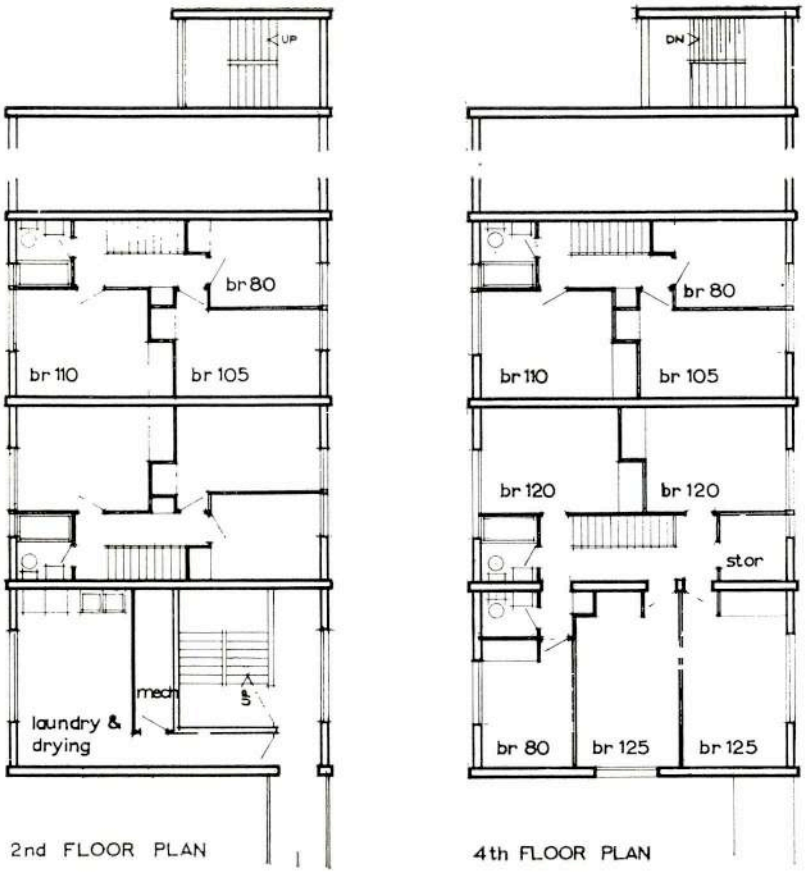
View of First Stage

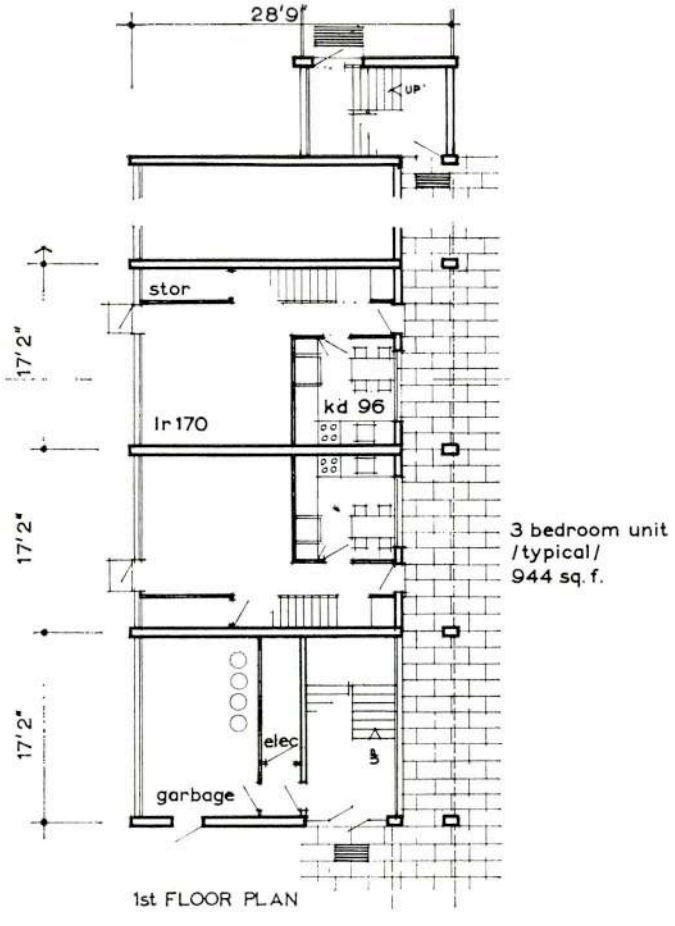
McLean Park Project

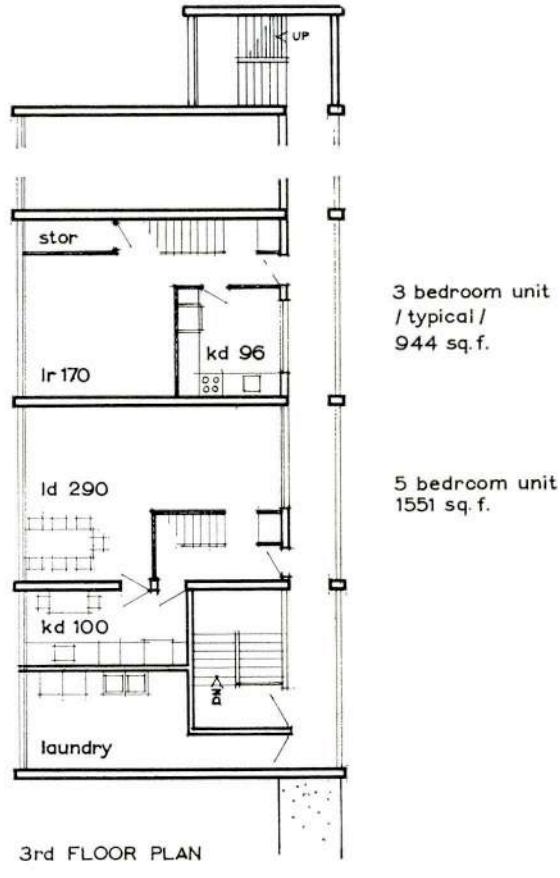


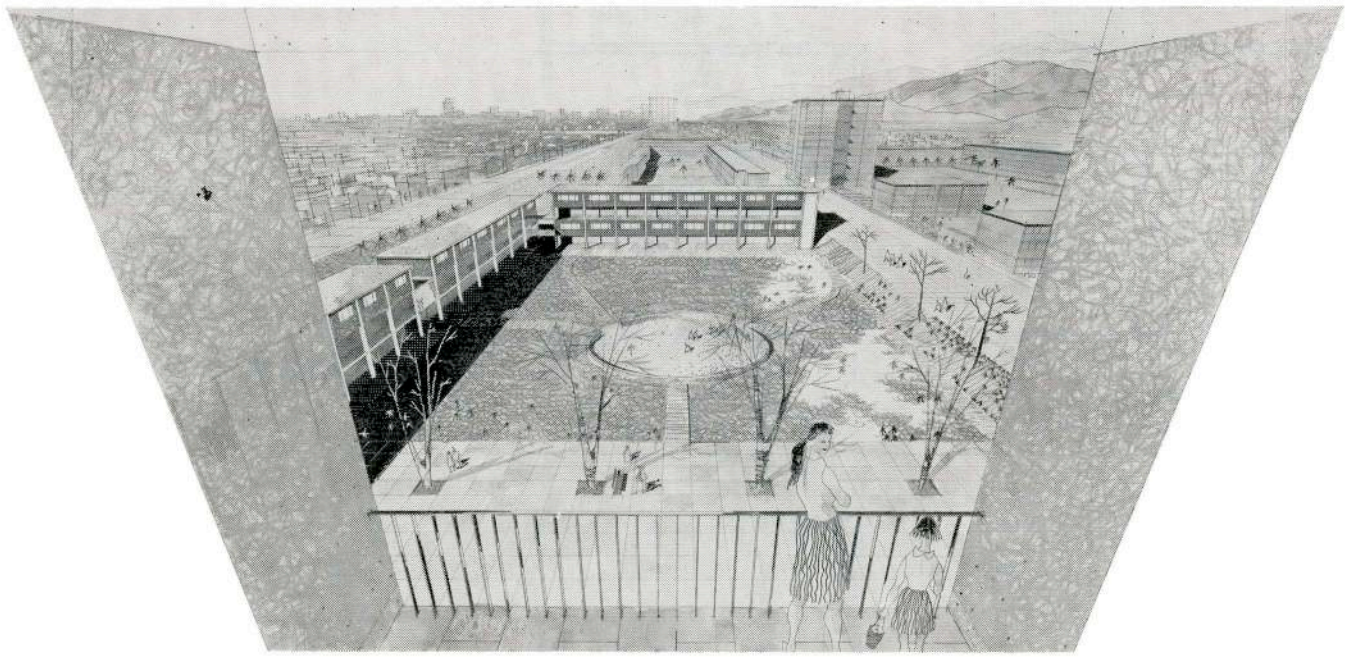
BILL BENNETT, VANCOUVER SUN

Four Storey Maisonettes

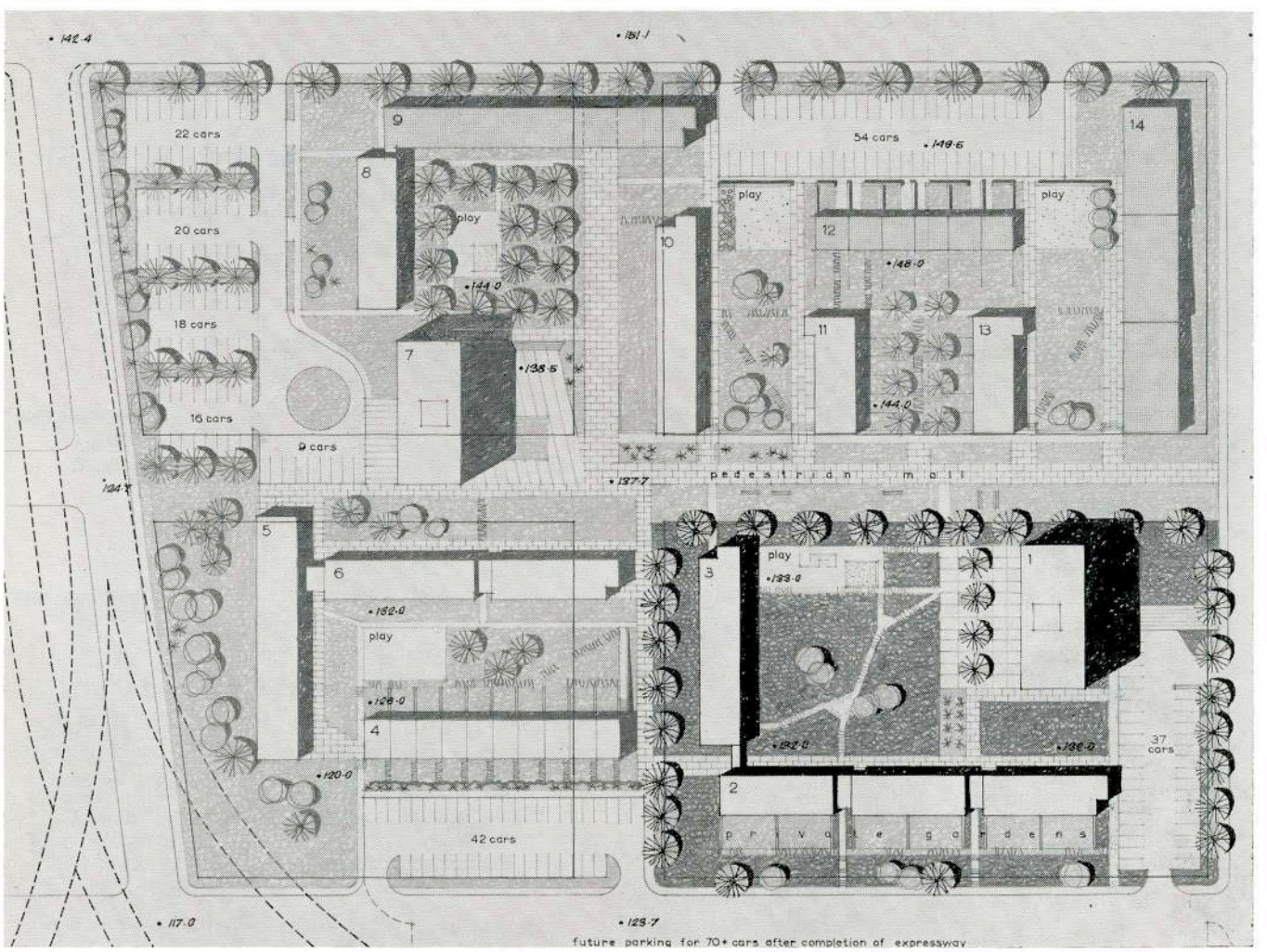




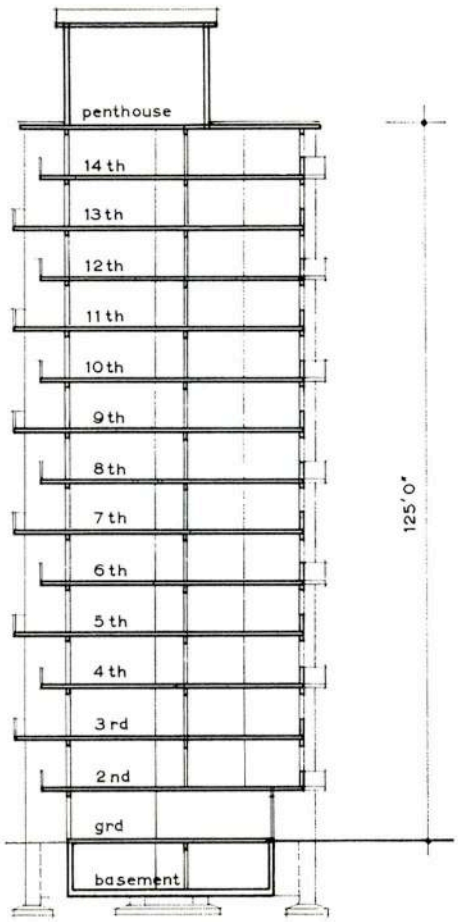




View of Super-Block (Design of play area since revised)

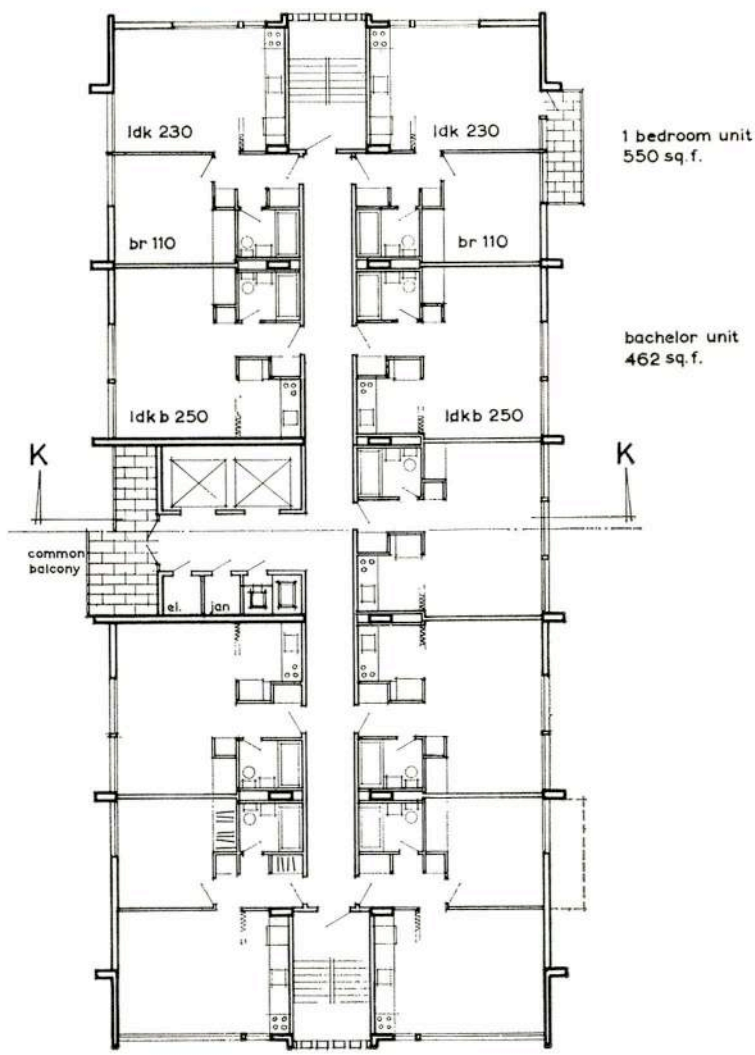


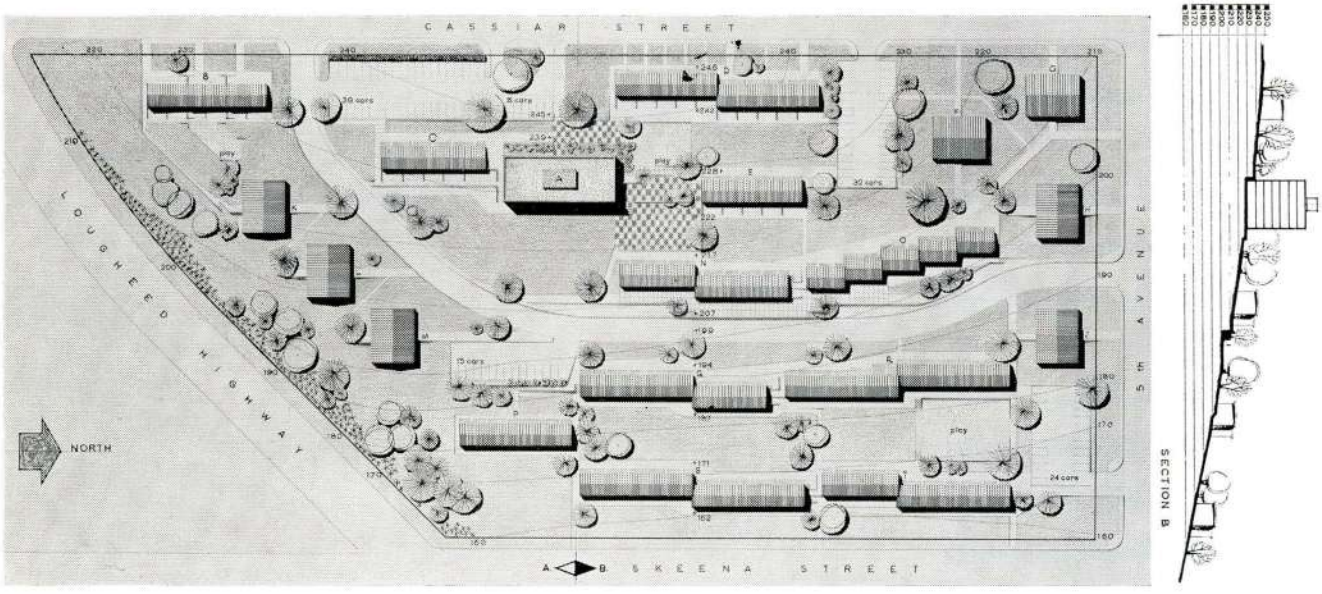
Plan of Super-Block. First Stage shown in darker tone



SECTION K

Fourteen Storey Apartment Block
Typical alternate floor plans

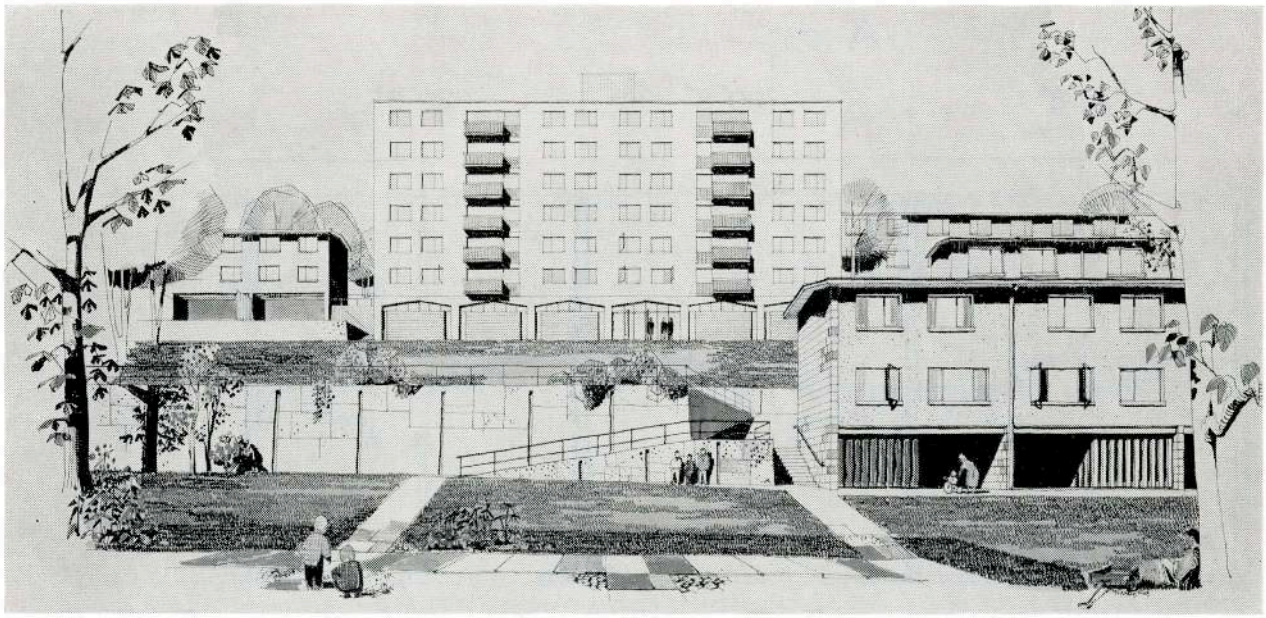




Site Plan and Section

The Skeena Street Project is entirely located on undeveloped land close to the city limits, adjacent to the Lougheed Highway. It is a steeply sloping site of 14.4 acres with a cross-fall of ninety feet. The surrounding area is suburban in character and the site has a fine view of the mountains to the north. The design provides for 236 housing units at a gross density of 61 persons to the acre. A large proportion of the units are for family occupancy with approximately sixty-eight per cent being two, three, four and five-bedroom houses. The bachelor and one-bedroom units are contained in centrally located six-storey apartment block with small community rooms in the basement. The larger units, in two and a half storey walk-up apartments and two-storey row houses, are designed to take advantage of the steep slope by using the basement wall to retain the earth. This helps overcome difficult grading problems and provides covered sitting-out and clothes drying space at basement level. In order to gain access to the different levels on the site a through road was considered necessary, although every effort was made to keep the parking areas as provided for fifty per cent of the units to the perimeter of the site. The creation of terraces to provide level areas for children's playgrounds and parking should greatly enhance the character of the area. The six-storey building will have a reinforced concrete frame with non-load bearing exterior walls of light masonry finished in painted stucco. The walk-up apartments and row-houses will be of wood frame construction on concrete block basements.

Both these projects have been approved by the City of Vancouver and the Provincial Government and working drawings are now in the course of preparation. Construction should start at the end of 1960.

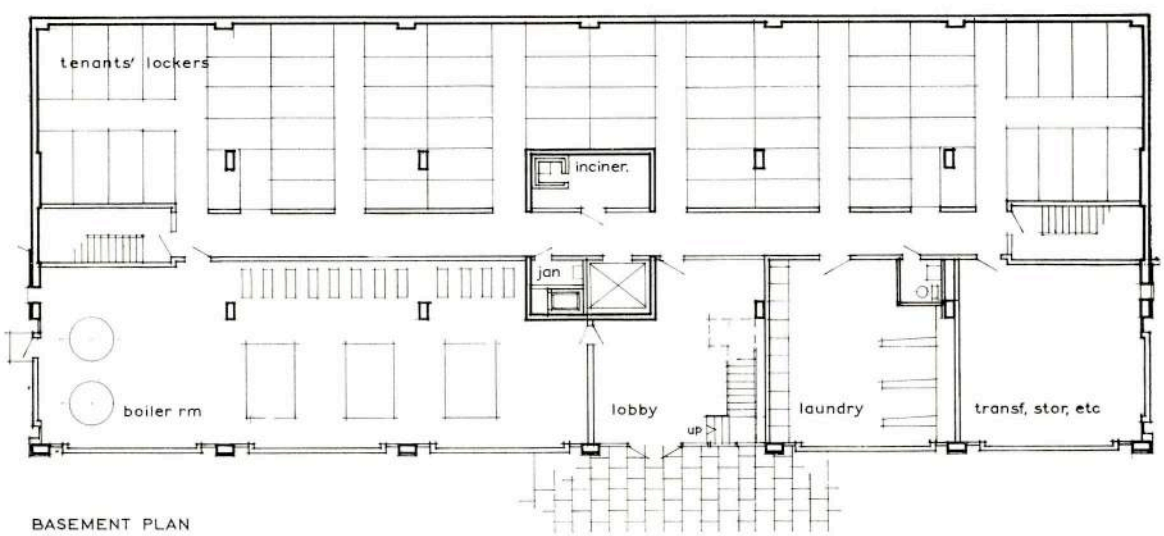


General View

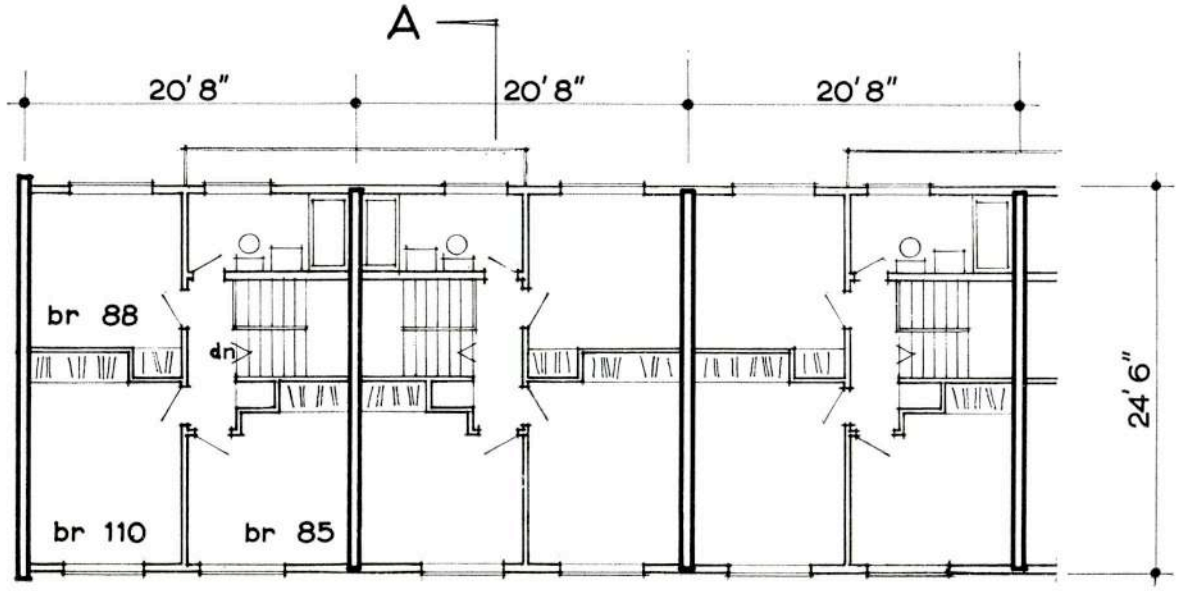
1 bedroom unit	1 bedroom unit	bachelor unit
554 sq. f.	545 sq. f.	446 sq. f.

1 ST FLOOR PLAN

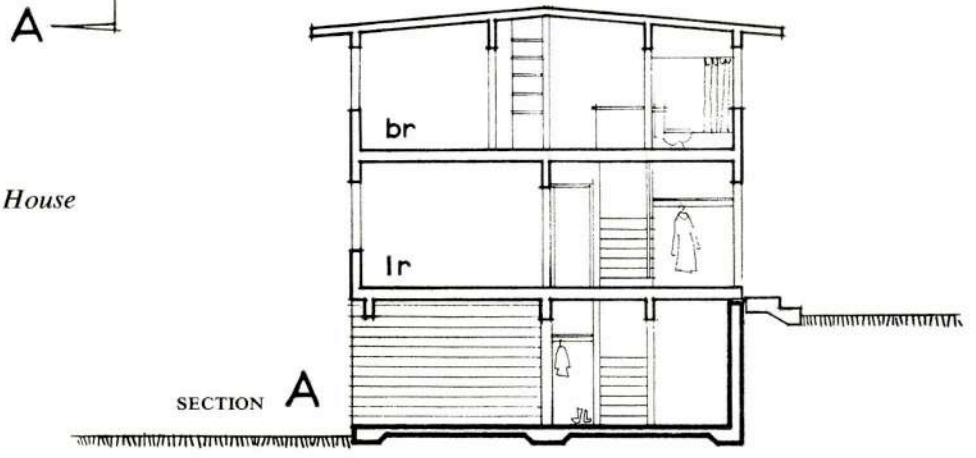
Six Storey Apartment Block



BASEMENT PLAN

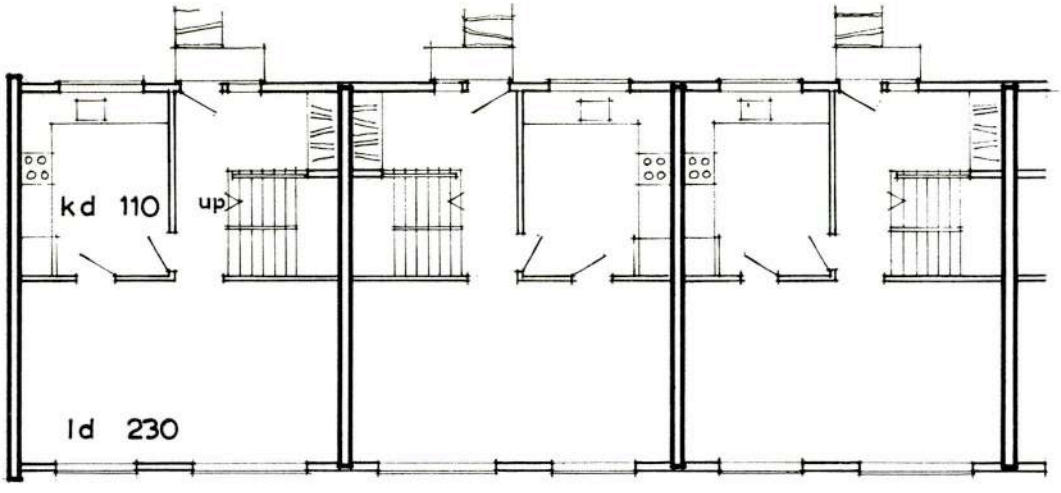


SECOND FLOOR PLAN



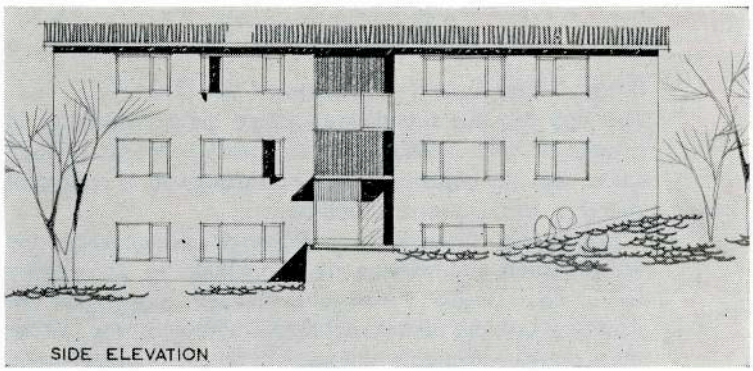
SECTION A

Three Bedroom Row House

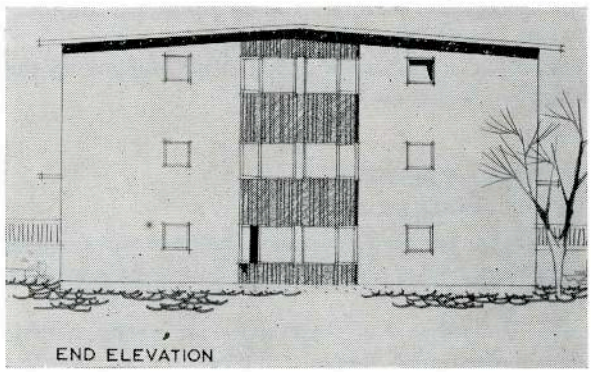


FIRST FLOOR PLAN

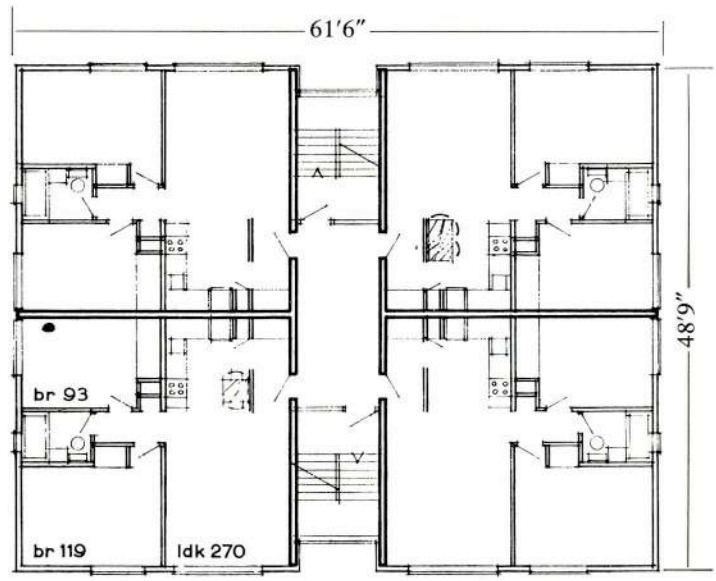
3 BEDROOM UNIT
1012 SQ FT



SIDE ELEVATION

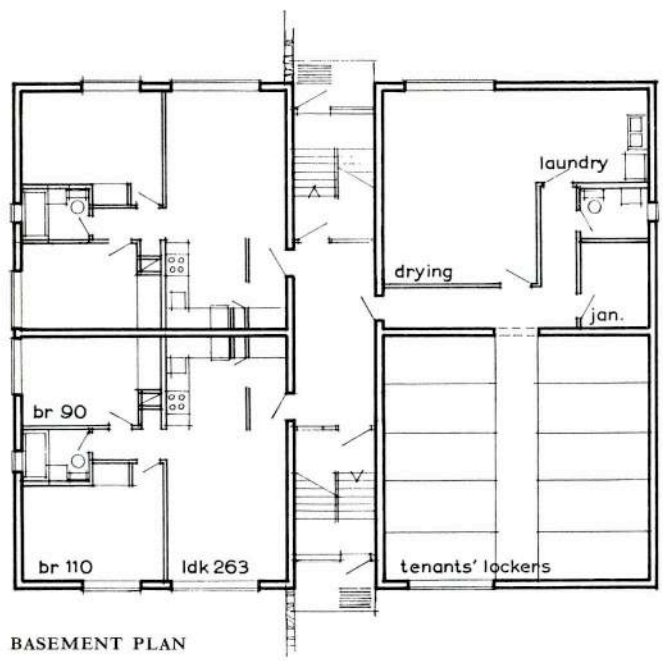


END ELEVATION



TYPICAL FLOOR PLAN

Two and a Half Storey Walk-up Apartments



BASEMENT PLAN

1960 Pilkington Travelling Scholarship and Awards

Winner
Enn Kayari,
University of Toronto

Second
Sarina Altman,
McGill University

Third
Julius Roy Izen,
University of Manitoba

Mr Kayari, left, 1960 Scholarship Winner, is congratulated by Eric R. Graham, Vice-President of Pilkington Glass

Report of The Jury

Winner: Enn Kayari — "Toronto Civic Opera"
The Jury felt this submission showed great proficiency in handling a difficult design task. The overall concept is imaginative and the scheme is carried through in a consistent character throughout the total design.

Major plan elements are well-related and workable and the elevations and massing are sympathetic to, and expressive of, characteristic auditorium and stage house forms. The structural concept relates well to the building forms and the site planning, including relationship to surrounding urban area, is exceptionally well solved. The drawings in this scheme exhibited a high degree of ability in draftsmanship and presentation.

The Jury felt there was a tendency to sublimate function to the pre-occupation of form. The over-use of a form element led to certain illogical space solutions in the design. The use of brick as an exterior facing of the building for the Toronto urban scene was questioned.

Second: Sarina Altman —
"A Music Centre for Montreal"
This entry was a very close contender for the top award. The lack of presentation of detail influenced the jury in their final decision.

In plan, the forms lent themselves admirably to their function — a thoroughly organic and well-integrated plan solution. When elevated in the third dimension, however, there was a question of the aesthetic form of the major auditorium element. The relationship of the auditorium form to the building base was questioned and it was felt it could have been improved with further study.

Third: Julius Roy Izen — "An Orthodox Synagogue"
The Jury felt this submission was one of the better presentations of the group. This showed a high degree of competence and ability. It would appear to be the product of a serious, mature student who is forming a strong, consistent design philosophy.

The Jury would like to make the following observations and recommendations:

The scope and quality of some of the solutions submitted was questioned. It should not be essential to submit two entries from each school if the scope and quality is not sufficiently high to warrant submission to this important scholarship award.

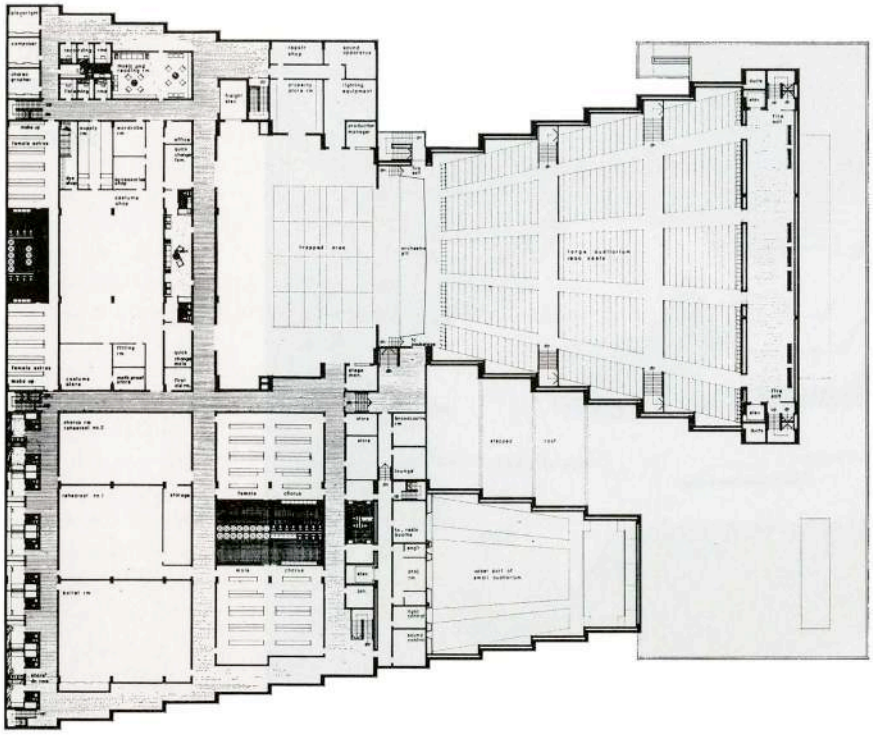
Some competitors failed to provide the basic requirements of their background, previous awards, academic standing, aspirations for their future etc. These details give the Jury a better insight into the competitors for judging purposes and it was felt they are important and should be a definite prerequisite in future years.

The Jury suggested that a very worthwhile retrospective travelling exhibit could be arranged by a showing of the Pilkington winners of the past 13 years and recommend that this be seriously considered and acted upon for the RAIC Assembly of 1961.

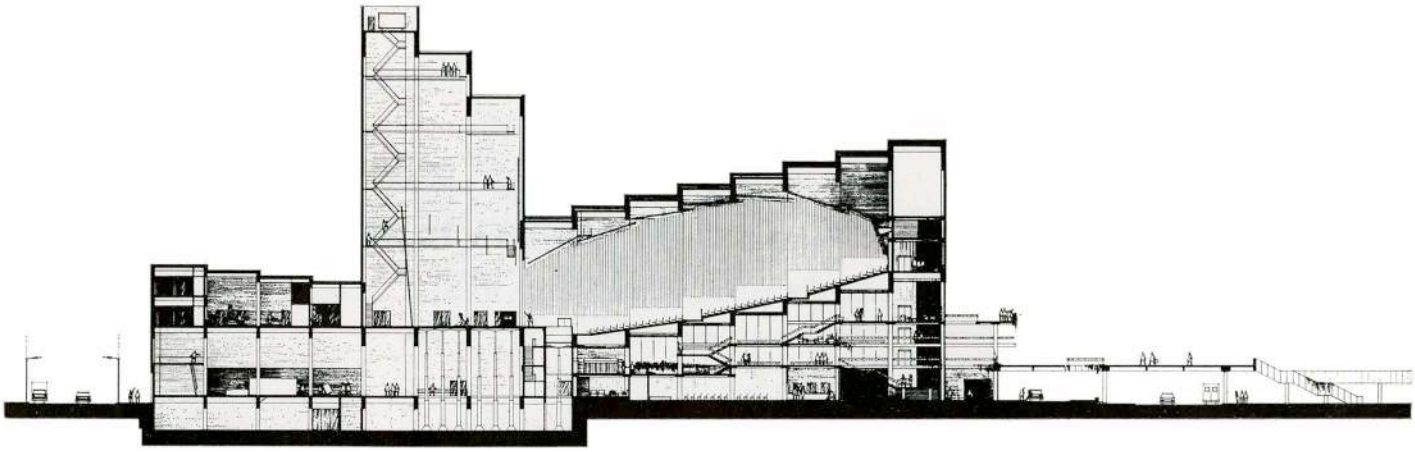
Ernest J. Smith
Jury Chairman

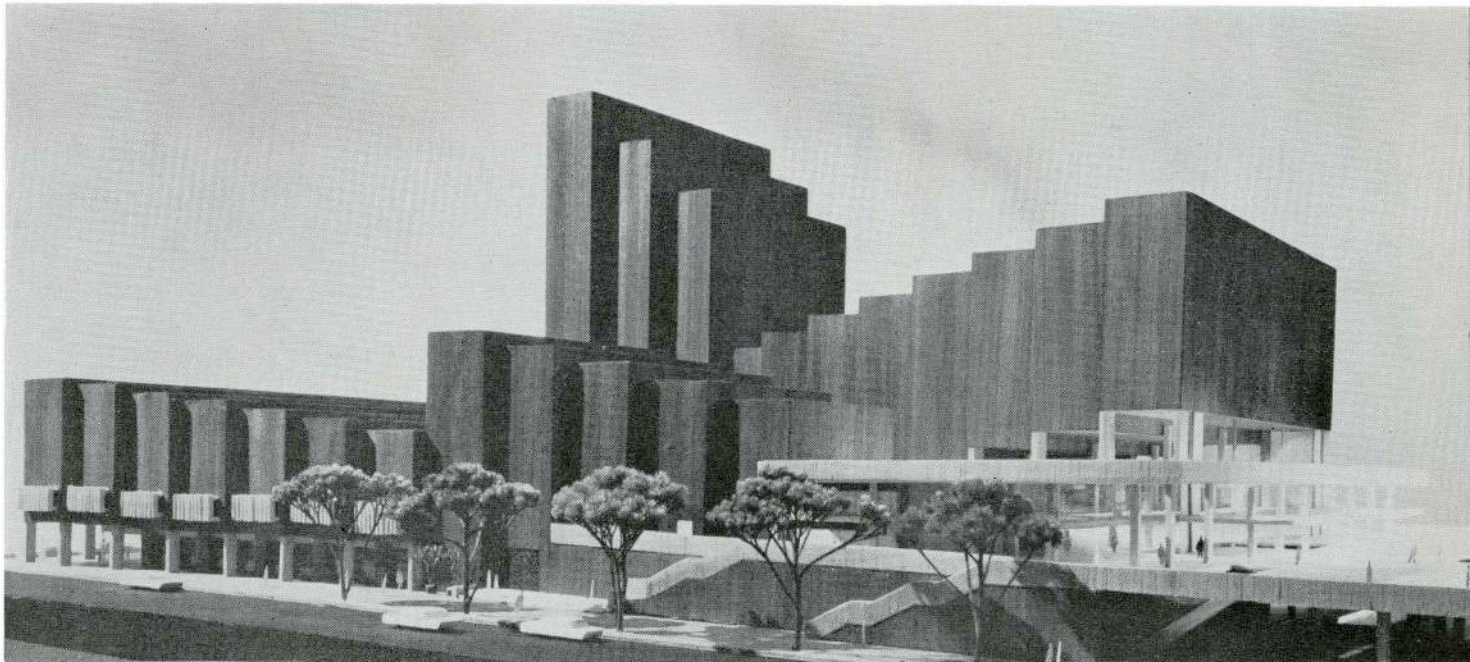
TORONTO CIVIC OPERA

ENN KAYARI



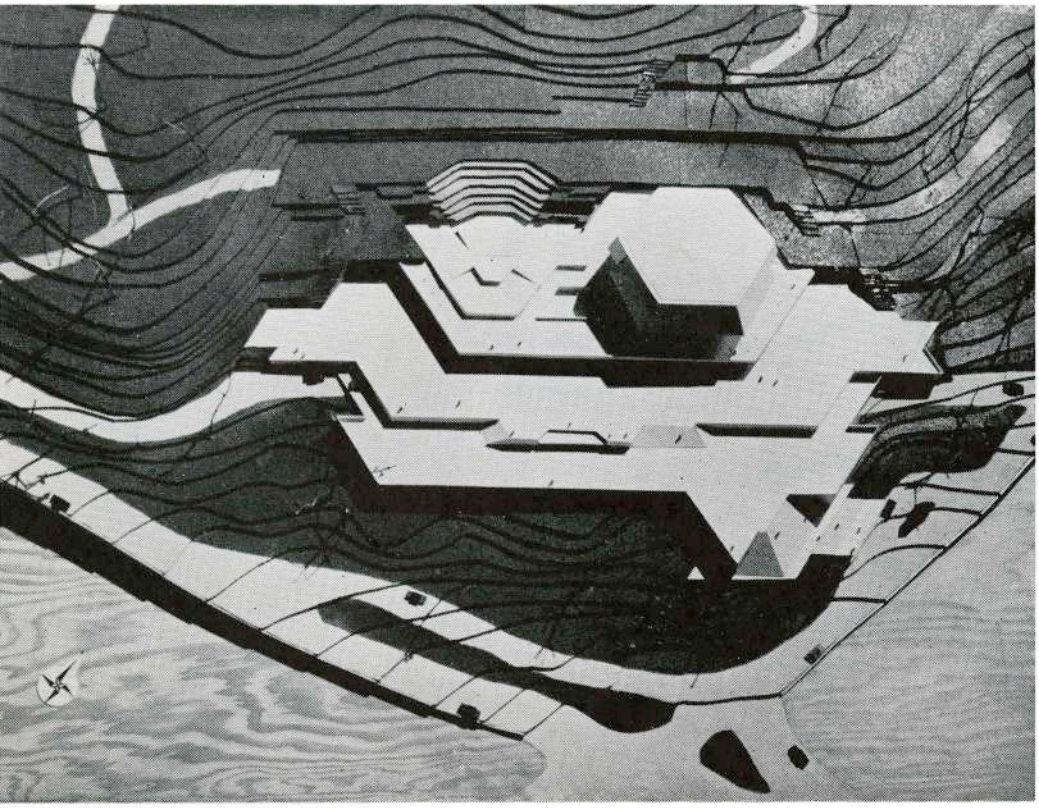
PERFORMERS' LEVEL I



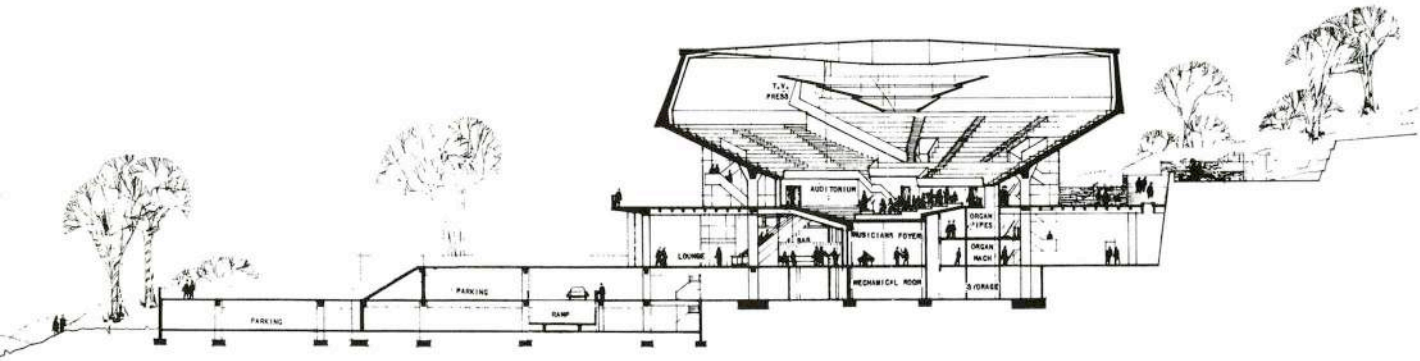


MUSIC CENTRE FOR MONTREAL

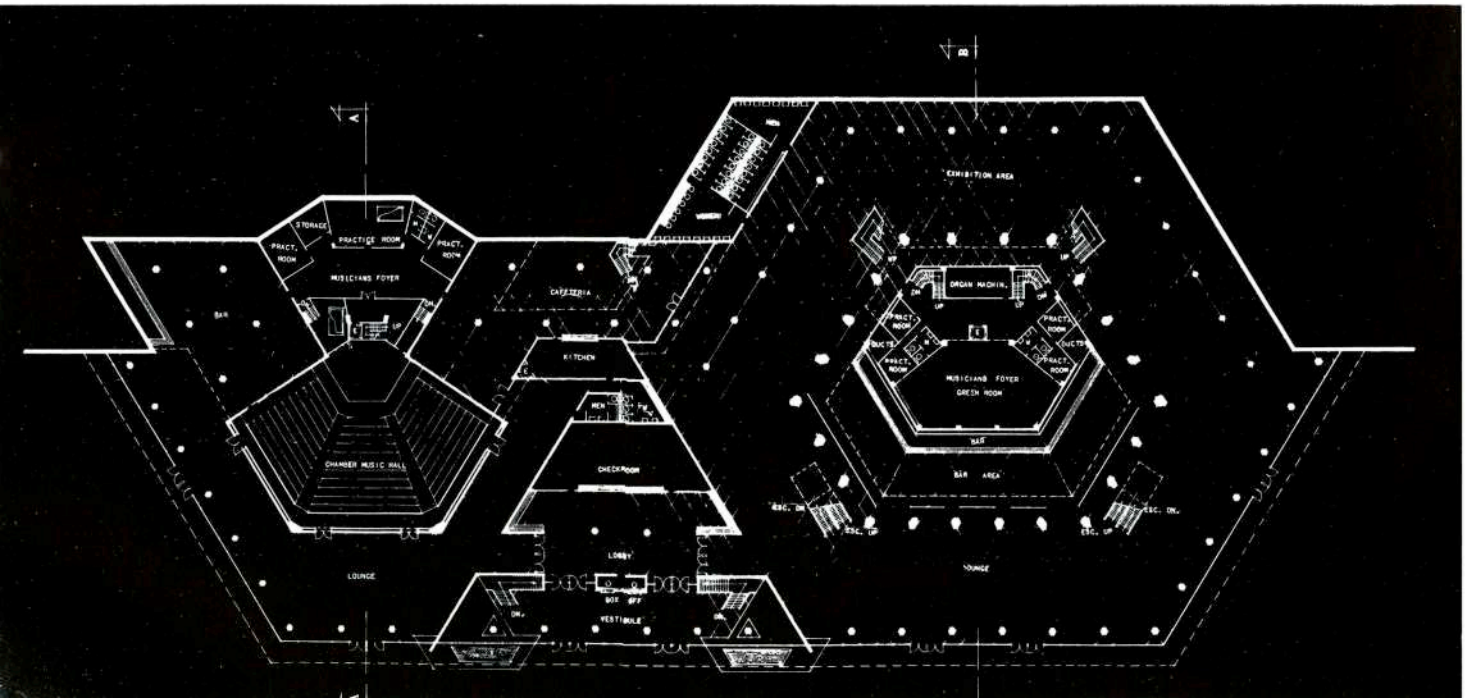
SARINA ALTMAN



Section B-B



Third Level Plan



Viewpoint

"Does Canadian contemporary architecture as a whole compare favourably or not with that of other highly civilized countries?"

In answering the question I have to put my own interpretation on the words "civilized countries". The words carry the connotation meaning the highly industrialized countries of the western world. Owing to manufacturing techniques and industrial capabilities, one can observe a certain interchangeability of parts and materials for buildings among the industrialized countries. Also observable is the interchangeability of ideas, outright adaption of forms, and importation of solutions from other countries, without sufficient consideration. Canadian design is unfortunately often not the outgrowth of the program of functional requirements but rather a return to a contemporary eclecticism. In this respect, Canadian architects are probably more prone to influences from outside our country than architects from other western nations. Publications, largely originating in the United States, of American work, as well as European and South American architecture, all tend to have an influence on Canadian designs out of all proportion to what they would have were the same buildings within visual reach and investigation first hand. I am inclined to agree with Lewis Mumford when he says we must not confuse uniformity with universality. To the extent that Canadian architecture can approach universality rather than mere uniformity, with designs eminently suited to clearly stated human purposes in relation to the Canadian condition, then we will have a Canadian architecture comparable to that of any other civilization, ancient or modern. Until this happens, Canadian architecture can only be said to be comparable to that of other western countries in that it is falling into the trap of being fashionable, derivative, and, if you like, "contemporary".

Gordon R. Arnott, Regina

Considering our total population the quality of our architecture compared to the other highly civilized countries is credible. We do not seem to have produced any real leaders in the international field, but when you consider it has really only been in the last decade that so called contemporary architecture has been practised to any degree in Canada, there is still time and possibilities in this respect.

I think if we sift through what has been done, and there has been a tremendous volume of work done during this period, we would find a lot of good, sound workable contemporary Canadian architecture in being.

As a country practitioner I can only say if our clients had more money to spend we could, and would give them architecture of better quality both materially and spiritually. I feel really good architecture is expensive.

We for instance are lucky to find clients who can afford twenty dollars a square foot (more like $14.50) so that a building at a cost in excess of forty dollars (reputed cost of Seagram Building in N.Y. C.) per square foot are to say the least not common among the clients of the average Canadian architect.

In defence of our efforts in lower cost construction, particularly wood, we have in my opinion more than held our own in the field of design, with countries where wood is a common building material.

I feel we must somehow try to shake the overwhelming influence American contemporary architecture seems to have on our young architects before we can evolve leaders who may be recognised in the international field of our profession.

James E. Secord, St. Catharines, Ont.

One's first reaction is to hurriedly answer "No", probably for two reasons. Few of us have had the opportunity to travel extensively and become familiar, in detail, with the architectural scene in other countries. Through publications we see only the best that is produced. We are growing rapidly and building much, but no more so, relatively speaking, than many other countries. West Germany is probably the best example of a high-pressure building program. In a time when building volume is high there is unfortunately a tendency to get a larger proportion of building of lesser merit.

Let us assume for the moment that our ill-conceived buildings form no larger a percentage of the whole building program than in other countries. Our question then resolves itself to a comparison of the good.

Recent municipal buildings and some housing in Canada need not take a back seat to anything that has been built in any country. In Ottawa we look at the new City Hall, Carleton University and the new Uplands Airport Terminal Building and we are encouraged. Canadian architecture is certainly on a par with that of other countries. But on turning around we go back to our assumption that our not-so-good constitutes a normal percentage. This may not be true. There is so much that, given a little more thought, could be so much better.

Two considerations come to mind: first, the individual building design, and second, and possibly the more important, the total scene – the relation of a building to its surroundings. Surely the fact that a building as a unit is ugly must rest heavily on the architects' shoulders, and the fact that an area is not contributing to the city must rest on many shoulders, but our profession can do much toward a solution. The control of the total scene is where our Canadian architecture appears, if anywhere, to be lagging behind that of other countries. A concentrated effort to become involved in area planning by the members of our profession will help. A realization that one's building can not stand alone but is one tree in a forest, will do much to improve that building and its neighbours as well.

D'Arcy G. Helmer, Ottawa

I have no great faith in the existence of a Canadian contemporary architecture nor, at the present time, in any distinctive regional architecture within Canada. In times past, architecture in various areas of Canada did show sufficient regional characteristics to justify some claim to a distinct identity. In the older provinces, many such distinctions might be drawn. However, I believe that at the present time we can make no claim whatsoever to the existence of a Canadian contemporary architecture, and little claim to any conscientious effort to achieve this. It may well be doubted if this can be achieved except on a regional basis, due to the marked lack of similarity in the environmental influences across Canada.

Most of our Canadian architects seem too bound up, consciously or subconsciously, in attempting to achieve results comparable to those presented in certain American periodicals, to devote much attention to the achievement of anything distinctively Canadian. Sadly, this concentration on the individual project has given us few examples of the serious integration of new work into the Community. In the rapid creation of urban and rural sprawl, we have an unenviable record. Perhaps all is not without hope as a few years back we seemed to be in the process of achieving a national identity which, only too soon, dissolved in a spate of egocentric self inflation. However, it does indicate that there is a possibility for the development of a Canadian character and, after all, Canada as a nation must be identifiable before there can be any identification of its architecture. Perhaps in the meantime we should be satisfied if we can develop within the various regions of Canada something distinctively our own, arrived at through an attempt to achieve distinctive solutions to our own problems by a logical application of available knowledge. We certainly have the opportunity of an uninhibited approach to architecture in our Northern regions.

The next contention within this month's question would appear to be whether or not Canada is a highly civilized country. Civilized, among its definitions, includes "instructed in learning, in morality, and in civil manners". Certainly we cannot claim that Canada leads the world in these qualities. If we attempt to assess the actual achievements of Canada or any other modern country relative to the potential achievement possible with available knowledge in these fields, we would be forced to the conclusion that, not only is Canada not a highly civilized country, but highly civilized countries in the moral sense do not exist.

In brief, then, my answer to your question is that we do not have a Canadian contemporary architecture and if we had, we could not compare it on the basis of non-existent high civilizations.

C. A. E. Fowler, Halifax

The Canadian architectural scene has shown many symptoms of maturing in recent years. The Inquiry into the Design of the Residential Environment of Canada is a very important step, and I hope that it will lead to much progressive action which will result in profound changes in that major field of Canadian architecture. Further, the proposals made at the Annual Meeting of the RAIC in Winnipeg in regard to the 1967 Centennial are a most promising indication that the thinking in regard to our cities' architectural planning needs is broadening. An increasing number of Canadian communities also have held or are holding architectural competitions for major building projects. All these actions are an encouraging sign that Canada is beginning to be aware of the need to improve her total civic surroundings.

However, when I try to visualize Canada's present total architecture as it expresses itself in its modern buildings and building groups, its streets and neighbourhoods, and if I try to compare this picture with that of countries which I consider civilized countries, I cannot help but feel that we still have a long way to go. As the question involves many varying values these must be clarified so that we can judge and compare.

First of all this means that both the public and those actively and creatively concerned with building show an understanding for the rich and complex social and civic patterns of our age, and are aware of the possibilities of planning for these. This awareness exists traditionally to a much greater extent in older countries; there is, however, a great need to develop it in new ways for our own younger communities.

Secondly, high architectural standards must include the development of a specific technology evolved to solve the specific building problems of this country, its geography, its climatic conditions, its specific labour market, its natural material resources. While it is true that much of modern technology is common international know-how, it nevertheless needs adaptation to very special local problems of building. I believe that Canadian architecture on the whole relies too much on solutions seen elsewhere, rather than on methods which though they may have been evolved elsewhere, must and can be adapted to solve Canadian problems.

Thirdly, this question involves aesthetic values. These must become a natural component of the architect's method of work. Much Canadian building seems either lacking in aesthetic conviction, or much too self-conscious of its separate importance, as a kind of space-light-form and detail decoration, rather than a vital expression of a way of living. We shall not be able to compare our architecture as a whole favourably with that of other civilized countries, until these values become part of our method of work and architectural action.

Lastly, I believe that in general the quality of a solution is in proportion to the quantity of time spent in systematic thinking about the problem. In our present organization of the whole building trade we have not enough time, and too much time is wasted. Here we compare very unfavourably with methods in many European countries. The time spent is often not in proportion to the complexity of the problem but in proportion to the economics of designing the job. This must be remedied.

Wolfgang Gerson, Vancouver

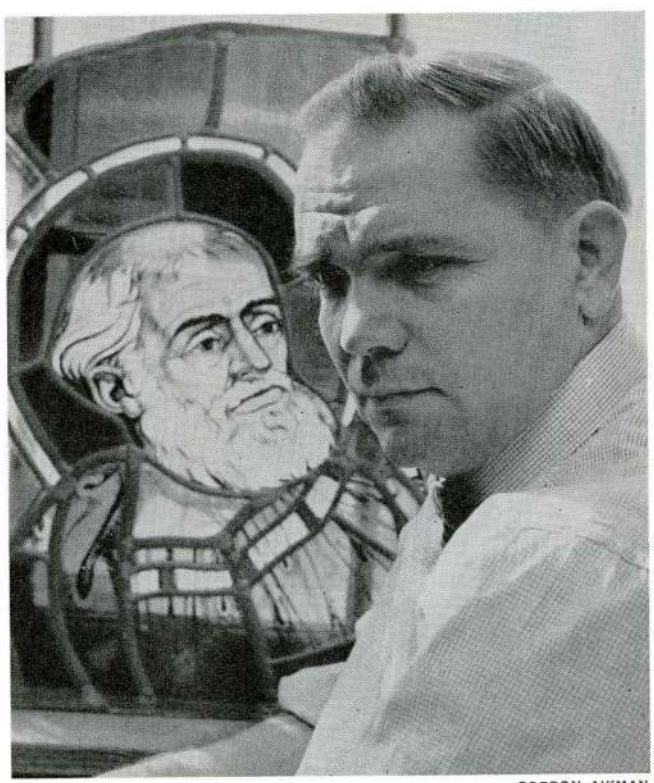
RAIC

Allied Arts Medal

1960

Mr Leo Mol
Sculptor
Winnipeg

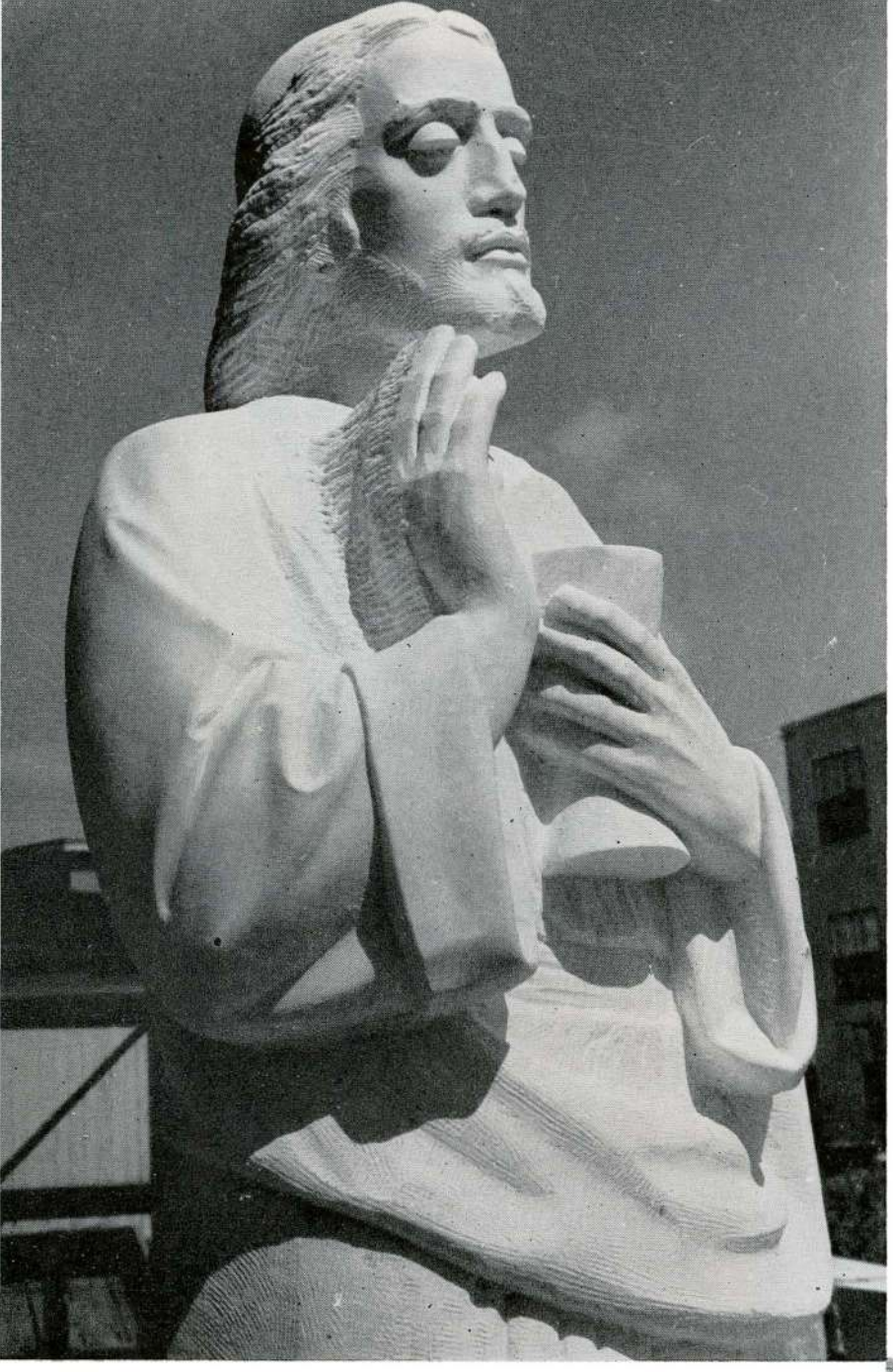
"Kneeling"
Terra-cotta; twelve inches; 1951
Hamilton Art Gallery



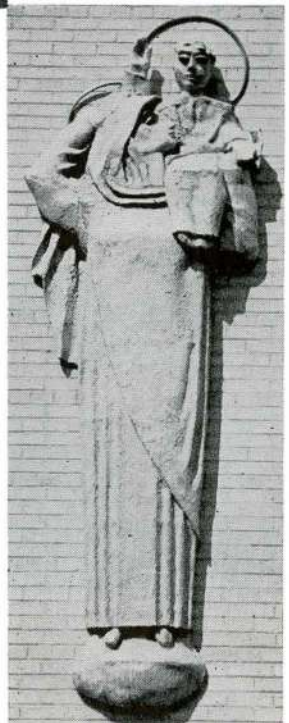
GORDON AIKMAN

Mr Leo Mol, the 1960 RAIC Allied Arts Medallist, was born in the Ukraine in 1915 and studied modelling in Vienna, Berlin and at the Academy of Fine Arts at the Hague. He came to Canada in 1948, making his home in the Norwood district of Winnipeg. He first exhibited in Winnipeg in 1949 and in 1952 held a one man show in the Winnipeg Art Gallery. He has also exhibited with the Royal Canadian Academy, the Montreal Museum of Fine Arts, the Hamilton Gallery, and in a four man show at the Toronto Art Gallery. Mr Mol has entered a number of competitions, winning a prize in the All-Canadian Jury show in Winnipeg, purchasing awards at the Hamilton Art Gallery in 1957 and the 1959 All-Canadian Jury show in Winnipeg in 1959, and an Honorable Mention at the Montreal Museum of Fine Arts. He is a member of the Sculptors Society of Canada and a Past President of the Manitoba Society of Artists.

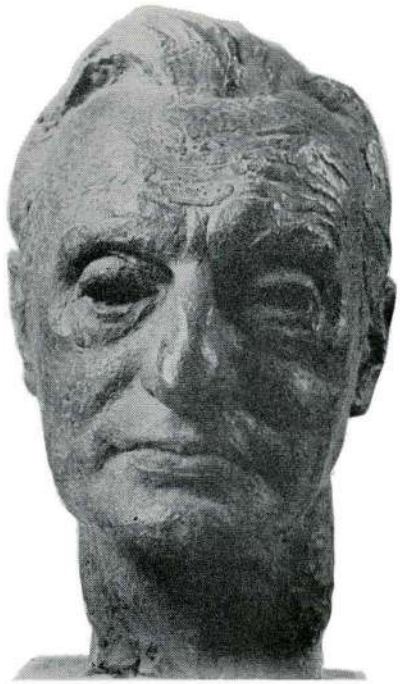
Mr Mol works in clay, plastics, stone, concrete, sheet and cut bronze, wrought iron and welded steel. He has also done works in stained glass and decorative panels and murals and oils. Two other examples of his works were published in the April issue of the *Journal* (Page 142) – a stained glass window in Westworth United Church, and a metal sculpture, designed by S. G. Elsey, in St Johns College Chapel, University of Manitoba.



"Christ"
Carrara marble; six feet; 1959
St Mary's Cemetery, Winnipeg
Commissioned by His Grace Bishop Pokock



"Blessed Virgin and Christ"
Bas-relief, aluminum plastic; eleven feet; 1958
Mary Mound School, West Kildonan
Commissioned by Green Blankstein Russell

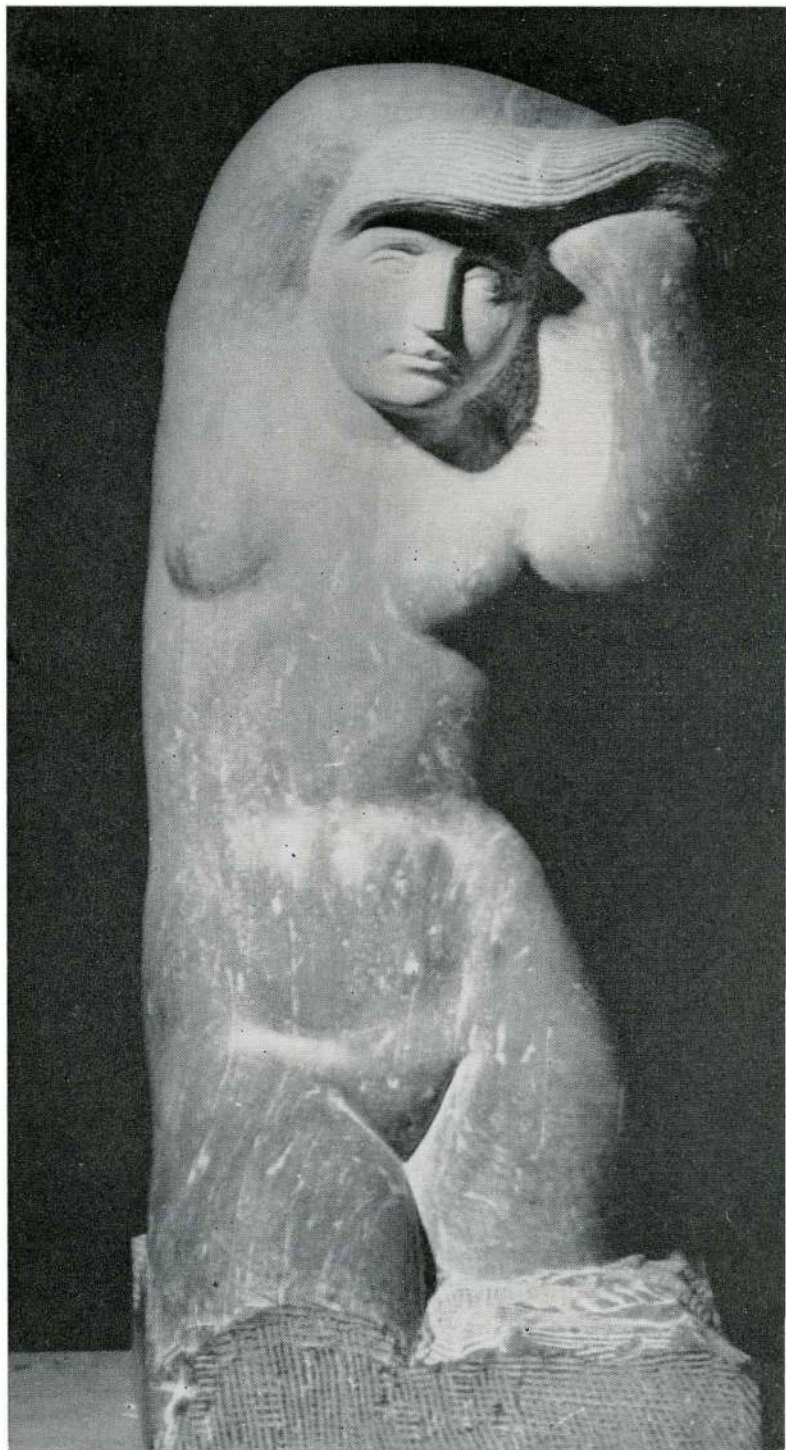


Top left, "Portrait of Mr A. Eastman"
Terra-cotta; life size; 1952
Property of the Artist

Top right, "Mask"
Tyndall stone; over life size; 1955
Private collection, Vancouver

Right, "Torso"
Vermont blue marble; thirty inches; 1955
Hamilton Art Gallery

Below, "Frederick Chopin"
Terra-cotta; over life size; 1951
Property of the Artist



ERIC TRUSSLER

ROBERTSON DAVIES ON ARCHITECTS AND ARCHITECTURE

"... Conspire to bring a whisper of magnificence, a shade of light-heartedness and a savour of drama into our daily lives"

An address by the distinguished Canadian editor, playwright and critic to the Ontario Association of Architects

YOU ARE KIND INDEED to ask me to be with you on this occasion, and I appreciate the honour you do me. You have completed three days of addresses, of boards, of panels, and yet here you are – only slightly tranquillised – to subject yourselves to yet another speech. I am not unaware that some of you, at any rate, expect me to make an *amusing* speech, and I truly wish that I could assure you that I am about to do so. But it is not in mortals to command success – especially funny success. Furthermore, I have all my life suffered from the fact that I am a deeply – I might almost say a neurotically – impressionable person, and for the past month or so the thought of the professional eminence and personal distinction of this audience has weighed so heavily upon me that I feel that it would be impertinent to offer you anything less than the most profound and solemn reflections of which I am capable. Further, still, as you so well know, every man cherishes in his heart the belief that, if fate had been kinder, he would himself have been a very great architect. So, if I should chance, however fleetingly, to be amusing, I assure you that it is entirely inadvertent, and has only happened because I can't help it, and I apologise for it in advance.

My subject, as you know, is *"Architecture, What Else . . .?* Who would pass up the chance to talk to a captive audience of architects about their own profession? To this topic, after some thought, I added the rider, "Literature, Of Course" because I lost courage and thought I couldn't talk long enough about architecture to fill up the necessary time.

You are, I hope, breathless with excitement, wondering how I can possibly bring these two great arts together in a single after-dinner speech. It has been easier than you might suppose. I am going to talk for a little while about the Drama and the Novel, and the influence of architecture on both. And, as plays and novels are really distillments of life itself, I shall inevitably talk about the influence of architecture on life.

Of course I am going to find fault. You know that without telling. Nobody speaks to an architect except to find fault. It is an occupational hazard you share with newspaper editors.

Let us begin with the Drama. You people have just about killed it because of the revolution you have brought about in theater design. There was a happy age when we had wonderful playhouses, with terrible scenery: now you have given us terrible playhouses with wonderful scenery.

When people went to the theater in the eighteenth and early nineteenth centuries, they bought an uplifting sense of personal splendor for the price of admission. Yesterday you listened to a discussion of The New Sensualism; those old theaters were packed to the doors with the Old Sensualism. To the doors? Yes, and outside the doors, as well. The playhouses looked like temples, and the audience approached them in a spirit they brought to no other building. Indoors, the playhouses were modelled

on palaces, and every playgoer became a nobleman or at least an associate of noblemen, when he took his seat. Many of those old buildings are still in existence, because even the most malignant and bloody-minded City Council cannot pull them all down at once, and when we visit them we are immediately impressed with their remarkable sensuous plasticity of surface. (You didn't know I could talk Architechtese, did you? I have always been a good linguist and can pick up a smattering of any language, quite quickly.) In those old theaters there is ornament everywhere. In the meanest of them there is a frieze, or perhaps a statuary group, of the Nine Muses, and Apollo is usually somewhere to be found. There is nothing that puts an audience in the right mood for a trivial farce about adultery so quickly as a good preliminary stare at the Nine Muses.

But it would be quite wrong to suppose that the baroque opulence of the old theaters meant that they were designed without taste. They were not, as foolish people suppose, all tawdry gold and garnet plush. There is a newly decorated theater in New York – the Billy Rose – which has been refurbished on that principle, and it is a horror. I don't ask for barbaric colour, but especially in a climate like ours, colour, inside and out is of the uttermost importance. The theaters I speak of were not garish or vulgar. No, those old theater interiors were decorated in the most elegant combinations of fawn, brown and gold, and in many of them a subtle use was made of a colour which modern decorators seem to shy away from – a wonderful olive green. Everywhere you saw combinations of richness and elegance of which the secret seems to be lost, for of late years there has been a widespread notion that the secret of elegance is austerity. Of course, in our saner moments we all know that the secret of elegance is taste. Austerity is what happens when people dare not trust their taste.

If you doubt what I say, visit the theaters I speak of. Go to that beauty at Drottningholm, in Sweden. Go to the Old Vic, in London, or the Theater Royal at Bristol. In this latter playhouse, even in the footmen's gallery, the elegance and excitement of the building is palpable, and I say, quite seriously, that it is easier to enjoy a play in such a theater than it is in the modern theaters I shall speak of in a moment. The reason is that the building was designed with enjoyment – public pleasure – foremost in the architect's mind.

One of the charms of these theaters which cannot be recaptured because of the change in our social structure, is the comfort and convenience of the boxes. People sat in boxes for privacy – and of course we all know that to desire privacy today is to show oneself unfriendly, and probably fascistic. But in those boxes one could see without having to be seen; the chairs were movable, which is a great comfort, because democracy has not yet reached the point where we are all born of one size; it was possible to flirt in them, which was a great addition to the entertainment, and if you had no taste for flirting, there was nothing to prevent you from taking a servant with a picnic basket, and having a light meal as you watched the play. Show me the theater today where you can flirt and eat, either consecutively or at once!

Don't let us talk about the movies. I know what goes on there, and I don't think it can be described as either eating or flirting – unless you use those terms very loosely.

These were exquisite playhouses, designed to flatter and accommodate the audience in the greatest possible comfort. But on the stage –! The scenic art was in its infancy – and a very peevish, rickety infancy, too. The scenery showed rooms with no windows, and frequently with no doors. When people wanted to enter or leave, they walked through open wings at the sides of the scene – apparently right through the wall. The royal palace and the swineherd's hut were both of precisely the same size. The effect of this scenic poverty on playwrights is of course familiar to you all; they couldn't depend on really handsome scenery, so they had to fall back on substitutes – like poetry. It was out of the question for them to write a play which depended on any circumstance of architecture. One of the great revolutionary plays of our time was *"A Doll's House,"* written by Ibsen in 1879; the climax of the action comes when the oppressed wife, Nora, leaves her husband's house and *slams the door*. With that play, Ibsen brought architecture and modern scenic design into the theater: if anybody could have found a door on a stage before that time, and had been so foolhardy as to slam it, everything behind the proscenium would have fallen down.

When Nora slammed the door, the modern theater was born. And what a house you have provided for it. Where's the sensuous plasticity now? Where's the stimulating visual sensuous delight you hypocrites were talking about yesterday? Do you see it in our modern playhouses? You were in the O'Keefe Center earlier today for what your program calls, with admirable restraint, a 'pre-lunch aperitif'. Did you happen to notice Apollo anywhere? How many Muses were there after you had finished your aperitif – nine, or thirteen? I don't know. I wasn't there. I'm only asking for information.

I know nothing about the O'Keefe Center, but I have been in a lot of other new theater buildings in Canada. I call them that, because I was in them on theater business, but they were really high schools or hockey arenas, or multi-purpose auditoriums which had, clinging about them, the fetid stench of secondary education and economical community planning. They were not temples. They were not dedicated to any of the gods, and they certainly had nothing to do with any of the rowdy, jolly demigods, like Folly or Pleasure. Maybe they had Stereo-Structural Sensualism; there seemed to be an awful lot of naked steel showing in some of them. I am so old-fashioned that it still makes me ashamed when I can see what holds a building up. It is honest, I know, but so is a woman dressed only in her girdle. But I don't like

women whose foremost characteristic is honesty; I prefer beauty and charm. It is pleasanter to be able to pretend that she doesn't need a girdle. Such painfully honest architecture might perhaps be called the New Immodesty.

But on the stage of these places! What elegance of design! What breathtaking splendour! And what practicality! Windows that open and shut at the touch of a finger; doors that never stick; taps that squirt water without fail – all the things, in fact, that you can't get in your new $70,000 house. There is always, and necessarily, an air of fantasy, of a splendour beyond ordinary life, about the stage. Nowadays it reveals itself, strange to relate, in the perfection of the carpentry and plumbing. And as for design – those of you who saw the Comedie Française when it last came to Toronto will remember the setting for *"Le Bourgeois Gentilhomme,"* which was the work of Susanne Lalique. Which of us would not have a house like that, if it could be built anywhere except in a theater?

You will notice that I have said nothing about accommodation for the actors. Of course it is always terrible, but even here there has been a change. In the old theaters they had smelly kennels in which to change their clothes. But nowadays, after the School Board has cut the estimates and changed the plans, they have nothing at all. Have you ever tried to transform yourself into a great character of drama in a schoolroom? Actors of an earlier day dressed in bad conditions too, even in barns. But the barns were unmistakably associated with Life; those schoolroom dressing accommodations speak of education, of repression, of being kept in after four, and their airvents whisper of lingering and dusty death.

Gentlemen, I appeal to you with all the force of which I am capable: give us back a theater which it is a pleasure to be in! Give us colour, give us Muses, give us Joy! Oh, I know how much trouble you take to get the right seats, but you are ministering to us at the wrong end. The spirit also demands its satisfactions, and man cannot live by foam rubber alone. Give us a whisper of grandeur, of excitement. Without it the theater perishes. And that means that you must feel something of the spirit of the theater in your own breasts. When you design an auditorium or a theater, I beg you to add to the puritanism which seems to be the fashion in modern architecture, another and vastly more appropriate spirit. I mean the spirit of one of the great ornaments of your profession, Sir John Vanbrugh.

Now let us turn to Architecture and the Novel. Modern novelists have turned their backs on architecture – except in detective stories, where it is absolutely essential to prove that nobody could have entered the room where the beautiful blonde was murdered. But the great novelists of the past leaned very heavily on architectural devices, usually of a kind not found in modern building. You know the kind of thing I mean. In countless novels written fifty years ago the heroine, having discovered that her husband was deceiving her with the beautiful brunette, crept away to the *nursery* to weep over her beloved children.

How is she expected to do that in a house which hasn't any *nursery?* No woman of ordinary sensibility can creep away to weep in the *rumpus-room*. The thing is a psychological impossibility, and by making it so you have contributed to the break-up of the modern home.

And the study – how many modern houses have a study? Yet every man needs a study. Not to study in, of course, but to retire to when the pressure of domestic life is too great. He summons the other members of the family to meet him there. "George, I should like to see you in my study", he says to his son, when he wants to tell him to stop spending so much money. "Mary, come to my study," he says when he wants to tell his daughter to break off her engagement to that beatnik she has been meeting on the sly. "My dear, will you come into my study," he says, when he wants to tell his wife that he knows what she has been up to with that handsome Mexican dentist. But most of all he needs his study to sulk in. Every man must have a private sulking-place, and as his wife always wants the bedroom for that purpose, he must have a study, or bottle up his sulks. And if he bottles his sulks, it won't be long before he has to be taken away in a straight-jacket. How can he sulk in the living-area, while his wife is right beside him in the kitchen-area, without so much as a screen to divide them? By forgetting the study you have struck an underhand blow at the mental health of the nation.

His wife, as I have said, sulks in the bedroom. I wish I could call it a *boudoir* but those wretched little boxes in modern houses cannot rise to the dignity of such a term. You know what a *boudoir* is. It's a bed room that you can pace in. Consider this passage, from a very fine novel, written not quite a century ago by Mrs Henry Wood:

> *Scarce able to see through the mist of tears that clouded her violet eyes, Lady Maude sought her boudoir. There, among the treasures she had brought from her childhood home, she paced the floor, lost in sombre reverie. Had I but known, she mused as she walked toward the window, had I but known when I gave my trust, my hand – yea, all that a woman holds in store of love and tenderness – to Cyril, that a day might come when I should wish, nay implore Almighty God for the power to recall every gift, I should have ended my life rather than yield to his suit. Yes, all of this, these broad acres, this stately mansion, yes and – O God, be merciful! – even my children, I should have wished undone . . . She turned from the window and resumed her weary pacing.*

Do you see what I am getting at? She said all of that while making one trip from the door to the window. The book tells us that Lady Maude was tall – say five foot eight – and therefore one of her paces might be estimated at twenty-five inches. Everybody knows that when you

are pacing and regretting at the same time, you take a step to every word. Therefore Lady Maude took 85 paces of 25 inches apiece, which is 2,125 inches or 177 feet from door to window. Assuming that the room was a double cube, and that she was walking the long way of it, that means that the dimensions of her boudoir were 177 by 88, giving her a floor space of 15,576 square feet. No wonder she was able to keep the treasures of her old home in it. She could have kept a couple of horses in it, without serious inconvenience.

But the important point is that she was able to pace in it, and the novel has a happy ending. I put it to you, gentlemen, would it have had a happy ending if Lady Maude had been cooped up in one of the bedrooms of which the Canadian Council of Women have been complaining about to Mr John C. Parkin?

If we are to believe the evidence of literature, the houses in which people have lived greatly, and sinned nobly, were all big. Evidence in support of what I say crowds into the mind. What were the words of King Duncan as he greeted Lady Macbeth at the entry to Glamis

This castle hath a pleasant seat. The air
Nimbly and sweetly recommends itself
Unto our gentle senses.

However, that is getting into the realm of public health and town planning, and I won't press it.

However, I would like to urge upon you the convenience and charm of an amenity which was to be found in virtually every house described by Sir Walter Scott. I refer, of course, to the Secret Passage. Time and again in Scott's novels somebody reveals that a secret passage leads from the castle to the shepherd's hut, and as it inevitably led also from the shepherd's hut to the castle, it meant that both the shepherd and the lord of the manor had the good of it. It made life much simpler at all kinds of junctures when simplicity was needed. You could escape from the castle in a hurry, and you could also get into the castle unseen. In cases of murder or abduction this was invaluable. In ordinary domestic crises it meant that somebody could slip down to the hut and borrow a bottle of whisky if guests came unexpectedly. Still more often, it meant that the shepherd could sneak up to the castle and steal a bottle of whisky when he wanted one. It provided that element of surprise, of the unexpected, which modern domestic architecture so noticeably lacks.

How long is it since any of you included a Secret Passage in a new house? Of course I realize the difficulties you work under. The trouble with modern contractors is that they don't know how to keep a secret. The union would certainly object to the old custom of cutting out the tongues of all the men who had worked on the job. The building inspector – they never have any imagination – would insist that it be equipped with electric light, drainage and an air-changing system, because he would not realize that the essence of a secret passage is darkness, dampness and a seepage of natural gas.

If you want to know what happens when somebody tries to build a secret passage today, just look at the mess on University Avenue at Bloor. The only secret is when it will be finished.

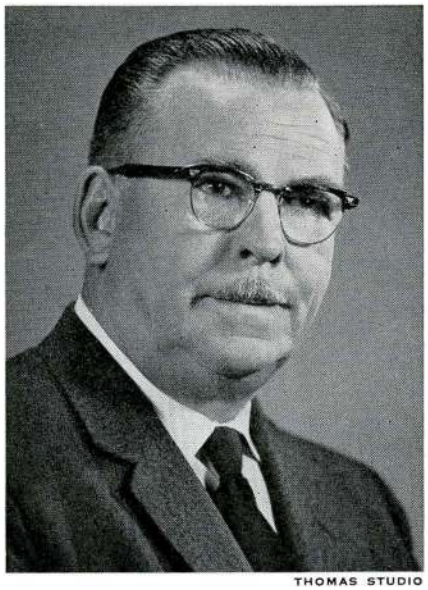
Yet another household convenience made familiar to us in historical novels is the *oubliette*. The works of Dumas are full of oubliettes. In its simplest terms, an oubliette is a very deep, dry well, or perhaps a disused privy, down which you can push people. Because the oubliette is deep and made of stone, they reach the bottom in a damaged condition, and there is no way out. A well-used oubliette can become rather objectionable, and ought to be located as far as possible from the boudoir. Among other things, the screams can be very trying to delicate nerves.

Please do not suppose that I am encouraging crime. The oubliette was not an instrument for settling family quarrels, or dismissing unwelcome guests. And – this is very important – no oubliette was ever built for that specific purpose. It became one when you threw really bad people – criminal, depraved people – into it. This circumstance, of course, has given rise to the proverbial saying that *you can't make an oubliette without breaking yeggs.*

I could continue in this strain for some time. There are countless amenities which every house needs, for literary uses, and which have been allowed to disappear from modern domestic design. The attic, for instance – invaluable for nostalgia; it is a proven psychological fact that you can't be nostalgic on the ground floor. And the cellar – admirable for murders, for knife-fights in the dark, for the walling-up of wives who have not worn well. Your objection, I know, is that a house equipped with all these handsome comforts would be rather large. True, but when the owners have finished with it, no ingenuity at all is needed to convert it into a first-class Funeral Home.

I have spoken of Drama and Fiction as they relate to architecture, and I hope I have reminded you of the fact that you, gentlemen, are the designers of the scenery against which we act out the drama of our personal lives. What our personal lives are, you know only too well, and I really think that you must bear some measure of blame. If we are dull, who knows what a livelier setting might not do to improve our performances? If we lack splendor, is it because we live in circumstances where a single splendid gesture might knock the place down? Don't suppose that I blame you entirely. You are what we have made you, fully as much as we are what you have made us. But would it not be possible for some of us – a few of you architects, and a handful of us ordinary people – to conspire to bring a whisper of magnificence, a shade of light-heartedness and a savour of drama into the settings of our daily lives? I think it would. Anyhow, I think we should try.

Institute News



THOMAS STUDIO

New Secretary of the RAIC

Mr Leonard E. A. Fallis has been appointed Secretary of the Royal Architectural Institute of Canada. He succeeds Mrs J. M. Johnson, who resigned at the end of June.

A resident of Ottawa, where he was born in 1911, Mr Fallis recently retired from the Royal Canadian Air Force with the rank of squadron leader after 28 years of service in Canada and abroad. The greater part of his service with the Air Force was as a supply officer, in which capacity he carried out a variety of administrative functions, including direction of staff, centralized stock control, warehousing, accounting, preparation of estimates and budgeting, and public relations work.

Under the direction of the Executive Director, the new Secretary will be responsible for general administrative duties in the RAIC office, including recording minutes of meetings of the Executive Committee and meetings of Institute Standing and Special Committees, maintaining the financial records of the Institute, assisting the Chancellor of the College of Fellows in organizational matters concerning the College, assisting in organization and administration of annual Assemblies of the RAIC, and in implementation of the Institute public relations program.

President Steele to Tour Western Canada in October

The President of the RAIC, Harland Steele (F), Toronto, will carry out a week-long tour through the cities of Vancouver, Calgary, Edmonton, Regina and Winnipeg, commencing October 10. He will be accompanied by Robbins Elliott, RAIC Executive Director.

Mr Steele expects to fly direct to Vancouver from Toronto and a busy schedule of events has been arranged by the AIBC for October 10-11. On Tuesday, October 11, the President is slated to address the Vancouver Rotary Club. On Wednesday, October 12, Mr Steele will visit Calgary and while in Edmonton on Thursday, October 13, he will present a brief on behalf of the RAIC to Premier Ernest Manning. The brief to the Alberta government concerns the problem of increasing the volume of Provincial government commissions awarded to architects in Alberta. On Friday Mr Steele will spend several hours in Regina before terminating his western tour at Winnipeg on Saturday, October 15.

At each stopover the President hopes to meet and talk to as many local architects as possible.

RAIC Plans Post-Assembly Air Tour of Five European Countries

Architects and their wives, whether they will be able to attend the 1961 Annual Assembly at Quebec City (May 17-20) or not, are eligible to take advantage of a special twenty-one day architectural tour of Europe, which is being arranged under the sponsorship of the RAIC. Apart from making possible a better knowledge of European architecture on the part of Canadian practitioners, the RAIC is interested in promoting a greater cultural exchange between European and Canadian architects.

The post-Convention tour – available to only 79 passengers – has been arranged to include Portugal, Spain, Italy, Switzerland and Holland. A chartered DC7C aircraft will depart Quebec City on May 21st at the close of the 1961 Convention, and proceed by direct flight to Europe. Members of the architectural societies in the five countries to be visited have offered to assist in every possible way to make the 1961 tour by RAIC members a success. After visiting Lisbon, Madrid, Rome, Florence, Venice, Lugano, Lucerne, Zurich, Amsterdam and Rotterdam, the tour will return to Montreal on June 12. An attractive low package plan rate will be available to participants.

Details with respect to the tour will be given in the September issue of the *Journal*. Architects who plan to join the tour, and who desire further information, are requested to write to the Secretary of the RAIC, 88 Metcalfe St., Ottawa.

$6,500 Senior Fellowship Awarded To UBC Director of Architecture

A senior fellowship in the amount of $6,500 has been awarded by Central Mortgage and Housing Corporation to Prof Fred Lasserre (F) of the University of British Columbia, it was announced by the Hon David J. Walker, minister responsible for operations of the Federal housing agency.

Professor Lasserre, founder and director of the university's school of architecture, will use the award to undertake the study of domestic architecture and housing conditions in Europe and North America. He has arranged for a one-year leave of absence from his UBC post.

Gerard Venne Chairman of 1961 Annual Assembly Host Committee

President Harland Steele has announced that the planning is already under way for the 54th Annual RAIC Assembly to be held at the Chateau Frontenac next May 17-20. The last Assembly in Quebec was in 1951. The 1961 Host Committee Chairman is Gerard Venne (F), Quebec City, who retired this year as a member of the RAIC Executive Committee of Council.

Mr Venne and members of his Quebec Host Committee met with Robbins Elliott, RAIC Executive Director, to discuss preliminary plans during a visit by the latter to Quebec City on August 20.

Canada Council 1961-62 Awards

The Canada Council has announced its 1961-62 program of offers to individuals of scholarships, fellowships and awards in the arts, humanities and social services. Copies may be obtained from the Council at Ottawa.

An Appreciation

On June 30, 1960, Mrs J. M. ("Jackie") Johnson resigned as Secretary of the RAIC after serving the Institute efficiently for the past four years. Mrs Johnson joined the RAIC staff in Ottawa in 1956 and became Acting Secretary upon the resignation of Mr C. J. C. Carroll later that year. She was appointed Secretary of the Institute following the re-organization of the RAIC Headquarters in 1958, and the appointment of Mr Robbins Elliott as Executive Director.

Gifted with an attractive and cheerful personality in addition to the capabilities displayed in carrying out her responsibilities, Mrs Johnson made many friends during her career with the Institute. The thanks and best wishes of the RAIC go with her upon her return to private life.

Joint Building Materials Committee to Meet at Toronto September 13

The first meeting of the Joint RAIC-CCA Committee on Building Materials will be held at OAA Headquarters on the morning of Thursday, September 13.

The Joint Committee, which was established following formal ratification at the 53rd Annual Assembly of the RAIC and the Summer Conference of the CCA during the first week of June, has the purpose of fostering closer liaison between members of the architectural profession and manufacturers and suppliers in order to facilitate the exchange of useful information concerning building materials.

A brochure, prepared jointly by the Association and the Royal Institute, was circulated during the month of August, in both French and English, to architects and suppliers throughout Canada. Committee members expected to attend the September 13 meeting at Toronto are:

Representing the RAIC:
- Ernest Smith, Winnipeg (Chairman RAIC Section)
- Peter Barott, Montreal
- Robert Briggs, Toronto
- S. A. Gitterman, Ottawa
- W. G. Leithead, Vancouver

Representing the CCA:
- A. W. Purdy, Calgary
- D. H. Jupp, Toronto
- C. O. P. Klotz, Montreal
- P. N. DuVal, Winnipeg
- J. C. Graham, Toronto

At the September 13 meeting the Committee is expected to discuss ways and means of implementing the initial four point program which proposes:

1. Publication of a guide for the preparation of product literature directed at architects.
2. Formation at the local level of joint committees representing architects and suppliers.
3. Organization of short term training courses for building materials salesmen.
4. Compilation of a directory of films, film strips and slide sets concerning construction materials and techniques.

It is possible that Keith Belch, Executive Assistant, Producers' Council Inc., Washington, D.C. will be invited to Toronto to give the RAIC-CCA Committee information concerning success attained by the Producers' Council in organizing architectural sales training courses in collaboration with the American Institute of Architects and schools of architecture in the United States.

Prof. Fred Lasserre to Represent RAIC at Commonwealth Conference

The RAIC will be represented at a preliminary conference of Commonwealth Architectural Societies at London in September by Prof Fred Lasserre, Director of the School of Architecture, University of British Columbia. The meeting, which has been called by the Royal Institute of British Architects, will take place at RIBA headquarters, 66 Portland Place, Sept. 19-23.

It is a gathering to "prepare the ground" for a full-scale Commonwealth conference in 1962. Twenty-five established architectural societies in Commonwealth countries have been invited to send one representative. The main purpose of the preliminary conference will be to make a factual study of data about conditions of registration and membership in each country.

The sponsors of the Conference hope to "undertake a study of arrangements that would enable architects and architectural students to study or practise freely in any part of the Commonwealth".

Obituary

It is with genuine sense of loss that the *Journal* records the death of Mrs Eva McMurtry after many years of service to the *Journal* and, in no small way, to the profession as a whole. Architects calling at the old office on Queen Street would always ask for her, and many, as visitors, would remember the pains which she took to answer their inquiries and make them feel welcome. In the same way, she was known and admired by printers, engravers and advertising agents in whose eyes she epitomized the *Journal* in their fields. To the staff in the office, she was a greatly loved and loyal friend whose life was inextricably linked with the *Journal* for nearly a quarter of a century. *E.R.A.*

Employment Wanted

Position in Canada wanted by senior draftsman with ten years experience in drafting, detailing, and as job captain and co-ordinator. Three years architectural study at Illinois Institute of Technology. William R. McArthur, 317 Carlisle, Southeast, Albuquerque, New Mexico.

Position in Canada wanted by 1960 graduate of School of Architecture, University of Texas. Walter C. Jones, Route 3, Box 77, Longview, Texas.

NEXT ISSUE
Motels
Windsor Auditorium

REGISTRATIONS

Ontario Assn of Architects
May 13, 1960

Moffat, Donald Ormond, B.Arch. (Tor); 10 Rosedale Road, Toronto 5, Ontario (Alan D. Akitt, Toronto)

June 16, 1960

Benattar, Jack, ARIBA, Dip.Arch. (Polytechnic); 10 Yewfield Crescent, Don Mills, Ont. (Bregman & Hamann, Toronto)

Bolton, Donald John, B.Arch (Tor); 433 Briar Hill Avenue, Toronto

Cheney, Gordon Lewis, M. A. Harvard, Dist. Arch. Dip. (Nottingham, Eng.); Apt. 402, 350 Mayfield St., Eastview, Ottawa. (Robert Fairfield, Toronto)

Combe, Lawrence William, B.Arch. (Tor); 2 Sultan Street, Toronto 5, Ont. (Bregman & Hamann, Toronto)

Connidis, Andrew Joseph, Dip.Arch. (Lond); 12 Lennox Street, Kingston, Ont. (Drever & Smith, Kingston)

Dakin, Arthur John, BA.(SA), ARIBA, MTPI; Division of Town and Regional Planning, School of Arch., U. of T.

Dawson, Frederick Arthur, B.Arch. (McGill); 4463 Sherbrooke St. West, Westmount, P.Q. (Dawson & Baker)

Heumann, Carl Gerhard, Dipl.Ing. (Technische Hochschule Stuttgart, Germany); 677 Spadina Avenue, Toronto 4, Ont. (Dept. of Public Works, Government of Ont.)

Ibronyi, Thomas, Dip.Arch. (U. of Budapest); 28 Upper Canada Drive, Apt. 114, Willowdale, Ont. (Shore & Moffat, Toronto)

Ind, Charles Peter Messiter, Dip.Arch., ARIBA (Lond); 50 Greenbelt Drive, No. 77, Don Mills, Ont. (Ontario Dept. of Public Works)

Matthews, John Anthony, Dip.Arch. (Manc.) ARIBA (Victoria Univ., Manchester, Eng.); 40 Pynford Crescent, Don Mills, Ont. (Imperial Bank of Canada)

McKay, William James, B.Arch. (Man); 405 The Heights Drive, Don Mills, Ont. (John B. Parkin Associates, Don Mills)

Petrulis, Vytautas, B.Arch. (Tor); Tor. Brick Prize, 1956; Arch. Guild Medal, 1958; Colonna of Can. Ltd Prize, 1958. 194 Rusholme Road, Toronto 4, Ont. (George A. Robb, Toronto)

Sherbowich, Stefan Wladyslaw, Dipl. Arch. (Oxford) ARIBA; 782 Brimley Road, Scarborough, Ontario. (J. B. Parkin Associates, Don Mills, Ont.)

INDUSTRY

Concrete Curing Agent & Seal

A combination curing agent and seal for new concrete floors, trade named Tremcrete, has been announced by The Tremco Manufacturing Co. The product eliminates constant wetting down of concrete during the curing stage, also the use of straw, burlap or paper. In one application, Tremcrete provides a high degree of water retention in the concrete while the proper cure takes place. It also exhibits superior abrasion resistance while the building is being completed and for some time after and resists dusting, solvents and alkalis. Tremcrete permits application of paint, linoleum, asphalt tile, etc, directly on the floor as soon as construction is finished and before tenants move in. Applied to new concrete floors 10 to 12 hours after final troweling it dries to tack-free stage in two to three hours. A data sheet is available from The Tremco Manufacturing Co. (Canada) Ltd, 220 Wicksteed Avenue, Leaside, Toronto 17, Ont.

◇

Kawneer Door Developments

Kawneer Company Canada Ltd, announces five new developments in aluminum and stainless steel doors and entrances, ranging from the Extra Duty "350" entrance package with several types of panic devices and built for heavy traffic, to the Narrow Stile "188" with slim, modern lines. Other doors are the massive and monumental Wide Stile "500", which meets government hardware specifications; the slender Style Leader "125" featuring a central identification panel; and Kawneer's Stainless Steel "200" with concealed manual or automatic closers. Further information may be obtained from the Company, 1460 Don Mills Road, Don Mills, Ont.

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New Asbestolux Brochure

A new illustrated brochure describing the characteristics, uses and specifications of Asbestolux, a fireproof, lightweight insulation board (AIA-RAIC 23-L) made of South African asbestos and silica bonded together, has been produced by Cape Asbestos (Canada) Ltd, 200 Bloor St East, Toronto. The material, which is as workable as wood and easy to handle, comes in a wide range of sizes and thicknesses from ¼" to ½".

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New Upholstery Decorator Kit

To aid the architect or interior decorator in his choice of upholstery fabric colors, Dominion Rubber Company, Montreal, makers of Naugahyde and Naugaweave vinyl upholstery fabrics, has brought out a decorator's kit, entitled *DECOR – A Guide To Color Harmony*. The kit contains swatches of all the Company's vinyl fabrics, grouped into six color families. The decorator may see at a glance all the different tones of greens, reds, greys, yellows, browns and blues that the firm offers in its entire upholstery fabric range.

Colors in the six groups start with the lightest tones ranging to the darkest ones. For example, if a decorator wishes to select a fabric in a red hue, he may choose from the palest pink or deep oxblood red, with 34 red tones in between. The color palettes contain 166 colors in all.

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CANADIAN
BUILDING DIGEST

DIVISION OF BUILDING RESEARCH • NATIONAL RESEARCH COUNCIL CANADA

Modular Coordination

by S. R. Kent

UDC 721.013

Modular coordination is the term given to a new procedure for integrating the size of building components so that their assembly may be simplified. It is the first change in measuring for the building industry since the inch and foot were established in uniform lengths by international agreement and became common units of measurement.

For an industry to devise a new unit of measure is not unusual. Many years ago, land sub-dividers found the inch and foot too small for convenience or accuracy and developed the rod, the chain and the mile as multiples of the smaller units. Similarly the building industry is now finding the inch and its fractions too small for common use and requires a new unit in order to coordinate conveniently the many dimensional parts of a building with accuracy.

The new unit is called the module. Its length is 4 inches, or 10 centimeters in the metric system, as established by standards institutions in Canada, United States, United Kingdom*, Norway, Sweden, Denmark, Russia, Poland, Belgium, France, Italy, Netherlands, Brazil and Germany**.

The Building Process

Traditionally, building components have been made on the site from local materials, hewn by hand to fit their required position in the structure. Materials were those which could be worked with hand tools into sizes that could be placed into the structure by a craftsman using only the crudest of machinery. Through his skill and ingenuity components were fitted together and secured in place to form walls, floors, and roofs; within the spaces thus created, furnishings and mechanical equipment were put into place.

With the Industrial Revolution came machines to reduce much of the handiwork in building and improved transportation to facilitate trade and provide a variety of materials. Manufacturers and suppliers of building materials joined the contractor in assuming responsibility for the erection of buildings, while the architect, formerly the 'master builder', concentrated on planning, designing, and coordinating the building process.

Wherever possible, changes are required to simplify building. To build is still to add one component to another. If components were of soft material like plasticene they could easily be cut and changed in shape and fitted together by easy manipulation. But this is not the case. Modern building materials are durable and hard. Some may be hand sawn with metal saws; others require specialized equipment. Glass block, double insulating glass, porcelain glazed sheet metal, metal windows, and mechanical equipment cannot be changed at all in shape after initial manufacture. To combine modern building materials under these restrictive conditions requires newer techniques than those of the traditional craftsman.

At the present time, building components are assembled either with or without careful pre-planning. In neither method are standard, machine-made component units used exclusively. Without assembly planning, the traditional cut-and-fit procedure takes dominant machine-made components, such as windows and doors which cannot easily be reshaped on the building site, and adds to them others such as brick or wood siding which can be cut. This method is common in light construction where the variety of components is small and those materials cut and wasted are relatively inexpensive.

In assembly planning, drawings are made of the whole building in plan elevation and section, followed by detail drawings of the component parts, according to manufacturers' catalogue information on size and shape. In spite of the wide range of sizes offered by manufacturers, it is not possible to obtain many components which can be integrated easily because there is no over-all pattern relating the dimensions. Thus dominant components, perhaps those most frequently occur-

*yet to be published.
**for interior work of a building only.

ring in the building or the most expensive to obtain in special sizes, are selected from the catalogue; all other components are then established in size on the drawings so that they can be manufactured as required. This planning procedure is essential for large projects because of the necessity of fitting together not only the components for the structure but also the heating and ventilating, plumbing, electrical, and other mechanical equipment. It does result in less cutting and reshaping on the site, but much time is spent in selecting from the catalogues those few components which do coordinate in size and in preparing precision drawings for the shop manufacture of the special sizes.

In the first method, time and material are wasted in cutting and fitting on the site where the waste is readily seen; in the second method, time is wasted in offices and in the efficient operation of machines making wide ranges and special sizes of components. Both building methods are handicapped by the waste resulting from the uncoordinated dimensions of the components.

A Coordinating Dimension for All Components

In selecting a dimension which can be used to coordinate the sizes of all components likely to be used in every type of building, attempts have been made to determine the dimension common to the majority. Unfortunately, because of the vast number of existing sizes, it has not been easy to find a common denominator. The dimension must be small enough to permit sufficient variation in total sizes; if 1 foot is selected, then doors would be 2, 3, or 4 feet, and walls 1 or 2 feet thick. These excessive totals or multiples of the coordinating dimension would be wasteful of material and make economical planning impossible. On the other hand, if the dimension is too small, such as 1 inch, then there is the possibility of as great a variety of sizes for the machine to make as now exists.

From the results of studies in different parts of the world, the dimension of 4 inches, and in countries using the metric system 10 centimeters, has been found most satisfactory. Thus a coordinating unit of measurement has been accepted which may be repeated in the sizes of all building components; the name for this unit is the standard building *Module.*

The word module comes from the Latin, modulus, meaning measure. Since 'module' does not denote a size in terms of a common unit of measurement, its use when applied to coordination in building has led to much confusion. As previously shown, the basis for coordination must be an agreed denominator for the sizes of building components in inches or centimeters. Manufacturers may advertise 'modular' desks, cabinets, and other fitments, which by themselves fit together because of some repeated measurement, as do children's blocks or the pieces in the game of dominoes, but the products do not bear any dimensional relationship to the other components in a building.

In establishing the building module as 4 inches, the possibility of dimensions other than simple multiples is not eliminated, because either custom or manufacturing and assembly methods may require that a component have a dimension smaller than the module in one or more dimensions. For these components to be useful modular size, two or more components are joined together to total a dimension which is a multiple of 4 inches. The most common example of this type of component is the clay brick. Owing to the manufacturing problems of firing large volumes of clay to a uniform dimension in the kiln, the height of the brick is kept less than 4 inches. As the next higher modular dimension is eight, bricks are sized so that three bricks, with their joints, will equal 8 inches, the modular height of each brick being $2\frac{3}{4}$ inches.

Modular Components

Having once set the standard building module, a uniform procedure may be laid down for any manufacturer to follow in order that the different components, when added together in the building, will total modular dimensions. The procedure recognizes three facts: (1) that between all components there is a space or joint, (2) that the joint may vary from the 'best' size to a practicable maximum or minimum, and (3) that the components may vary from the manufacturers' 'intended' size to a practicable oversize or undersize as a result of uncontrollable or unpredictable physical changes in the material during manufacture, expansion or contraction due to

temperature or humidity, or lack of precision manufacturing machinery.

In standards of the Canadian Standards Association, the Canadian Government Specifications Board and those of trade associations, manufacturers and builders have already agreed on reasonable deviations from the intended or 'manufacture' size which are in keeping with good building practice and quality manufacturing; and through job experience manufacturers and builders know the desirable size and acceptable maximum and minimum sizes of the joints required by the various components for sound construction. Therefore, the procedure simply requires that the sum of each component and its joint never be greater than a multiple of 4 inches, even when the component varies to its maximum manufactured oversize limit and the joint is at its minimum acceptable size; nor less than a multiple of 4 inches, when the component varies to its minimum manufactured undersize limit and the joint is at its maximum acceptable size.

Modular Range of Components

It is an economic necessity for a manufacturer to produce components only in a limited range of sizes, being certain at the same time that they will readily fit other building components. Yet with this restriction a sufficient number of sizes must be provided for adequate flexibility in the arrangement of components for variation in building design. Such a limited coordinating range is possible where manufacturers agree to select sizes from a framework of modular dimensions.

For some components, all their modular dimensions will be an even multiple of 4 inches (a concrete block 8 by 8 by 16 inches), while in others only two may be modular and the third non-modular (glass thickness, a non-additive dimension). In establishing a range, not every multiple of 4 inches should be selected for a component. Instead numbers such as 4, 8, 12 and 16 at the lower end of the order of multiples are preferred since greater flexibility can be achieved with additive combinations of the smaller numbers.

The range will be further reduced by elimination of dimensions which create components of aesthetically disturbing proportions such as those which are 'almost' square, 40 by 44 inches, or too long and narrow for manufacturing or installation practicality; by components having to 'fill in' between dimensions set by building codes; or by anthropometrical dimensions, such as door, desk, and ceiling heights. For example, in Sweden door components are two modular heights, 6 feet 8 inches and 7 feet, and four widths, 2 feet 4 inches, 2 feet 8 inches, 3 feet 0 inch and 3 feet 4 inches.

Modular Dimensions on Working Drawings

Throughout the building process, dimensions of components must be transmitted between architect, contractor, manufacturer, and craftsman. To avoid confusion and error, these instructions should be simple and clear. Mistakes often result when dimensions are difficult to read because there are too many fractional numbers crowded on a small drawing, or they are awkward to enunciate, record, add and subtract. Such mistakes are particularly costly when factory-made components which cannot be corrected on the job site are used.

The transmittance of modular dimensions is clear and simple, either by feet and inches in 4-inch multiples (e.g. 2 ft-8 in. by 9 ft-4 in.) or by a certain number of the 4-inch modules (e.g. 8M by 28M).

These non-fractional numbers may be clearly shown on assembly drawings when the scale of the drawing is as small as 1/8th or 1/16th inch to the foot. Such small scale drawings are quicker to draw, as unessential, fine detail is eliminated, and complete plans of large floor areas may be shown on one convenient size sheet of paper, i.e. at 1/16th inch to the foot a floor 480 by 640 feet within 30 by 40 inches. But whether modular assembly drawings are made at the smaller scales or at 1/4 inch to the foot, modular dimensions assist building contractors to reduce errors in taking off quantities and in site assembly.

To use modular dimensions properly, however, requires a complete understanding of what they really are. They are not usually measured from the surface of components, as in non-modular drawings, but from grid lines which control the sizes of components as the basis for coordination. Therefore, there must be a description of the distance or offset between the surface of the component and the grid line to which the dimension is given.

For most components this is one-half the established assembly joint of the component. This may be done in the large scale drawing, 1½ inches to the foot or 3 inches to the foot, that is commonly prepared for contract work, or in accepted industrial modular standards. Ultimately, most common components and their assembly joints will be described in the latter manner, as is already being achieved in Scandinavian countries, so that architects, manufacturers, and all tradesmen will become familiar with them and their repetition on working drawings will be unnecessary.

In small scale assembly drawings, where it is impossible to show both the grid line and the actual surface of the component as the two may be less than a pencil line's width apart, there should be clarification of the fact that the given dimension is to a grid line, which is preferable as previously shown, or to an off-grid point. This may be done by establishing the following drawing convention. "Dimensions given to a grid line: have the dimension line terminated with an arrowhead. Dimension given to an actual surface or point not on a grid line: have the dimension line terminated with a dot."

Continual developments in technology and mechanization are providing the building industry with larger and larger building components, together with methods of putting them in place on the site. Factory-made components such as curtain-wall panels, office partition walls, precast concrete stairs, precast concrete structural floor panels, and steel framing members can be used to the best advantage by planning for them during the early stages of the design work with the aid of a 'planning grid'. This planning grid is determined by the modular size of the components being used, so that there is assurance that whole components will fit into place without alterations.

Assembly of Modular Components

Manufacturing components in modular sizes and planning their assembly on paper is of limited value unless a similar degree of precision can be achieved in field assembly. A procedure for the accurate location of components must be introduced to many trades which at present are unaccustomed to factory-like precision work. Fortunately this can be done very easily by the reference grid system.

When a building is laid out on the site, a reference grid datum point is established; from this point horizontal and vertical grid lines are measured, radiating at 4-inch intervals. Only the position of the principal grid lines shown in the assembly drawing need be measured off, as it is from these that the actual position of a component is obtained by applying a dimension which is customary for the particular component in modular construction, or which is shown on the detail working drawing.

As an aid in finding the position of grid lines, it may be convenient to have a tape, and for laying modular masonry units a story-pole, marked off in 4-inch intervals. By constantly relating components to this grid position, there is no chance of their gradually creeping out of place and causing an error in an over-all measurement. This checking permits a deviation in the size of a component to be absorbed in its own joint, rather than have them accumulate.

Conclusion

The foregoing has been a summary of what is meant by the term "modular coordination" with some indication as to how this development in measurement can be applied in manufacturing, in building design, and on the construction job. The constructive results of its application will steadily increase as its use extends. The Division of Building Research is preparing publications showing how the modular system can be applied primarily in design work. Further information will be gladly provided to those wishing to see how the system can be applied to their own work.

This is one of a series of publications being produced by the Division of Building Research of the National Research Council as a contribution toward better building in Canada. The Division has issued many publications describing the work carried out in the several fields of research for which it is responsible. A list of these publications and additional copies of this Building Digest can be obtained by writing to the Publications Section, Division of Building Research, National Research Council, Ottawa, Canada.

Flexible Rodoply Flashing

Electrovert now includes flashing materials in its extensive line of building products. Rodoply was developed to provide a waterproofing and concealed flashing for every type of residential and industrial structure. It consists of a flexible impermeable thermoplastic material — polyvinylchloride, with added plasticizers and is manufactured in continuous sheet rolls. Rodoply is available in two thicknesses, .020″ and .040″. It has a high tensile strength; will not corrode, check, crack or peel, and is unaffected by aging. There is no apparent fatigue point and ultimate elongation is not less than 250%. It retains its characteristics when subjected to acids and alkalis and functions within temperatures of -50° and 175°F. For further information, write to E. Pallavicini, 3285 Cavendish Blvd, Montreal 28, P.Q.

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Improved Airport Runways

Master Builders Co. Ltd has prepared a new publication which reports on nine important airport projects in the U.S., Canada and the Dominican Republic, and explains the roles played by *Pozzolith,* in obtaining the high quality concrete required for this type of work; and *Masterplate,* in providing wear-resistant, non-dusting concrete floors for hangars, cargo and other service buildings. Discussion includes the problem of pavement cracking under hot weather placing conditions, 900 psi flexural strength concrete for special arresting gear test centre, and the concreting of banked turn-offs for increased runway capacity. Write the Company for Bulletin MBR-P-15.

◇

New Idea in Kitchen Hoods

An attractive, retractable kitchen hood which pulls out for use and can be pushed back for out-of-the-way convenience is available from Emerson-Pryne of Canada Ltd, 550 Hopewell Ave, Toronto. The Model 1500 retractable unit can be used at any position. It does not need to be drawn out the full length. The light turns on the first inch and the fan turns on in the second inch, both automatically. When through, the hood is pushed back and both fan and light turn off. The Model 1500 comes in three sizes, 30″, 36″ and 42″. Front panels are also interchangeable so that the builder can provide the styling requested by the buyer.

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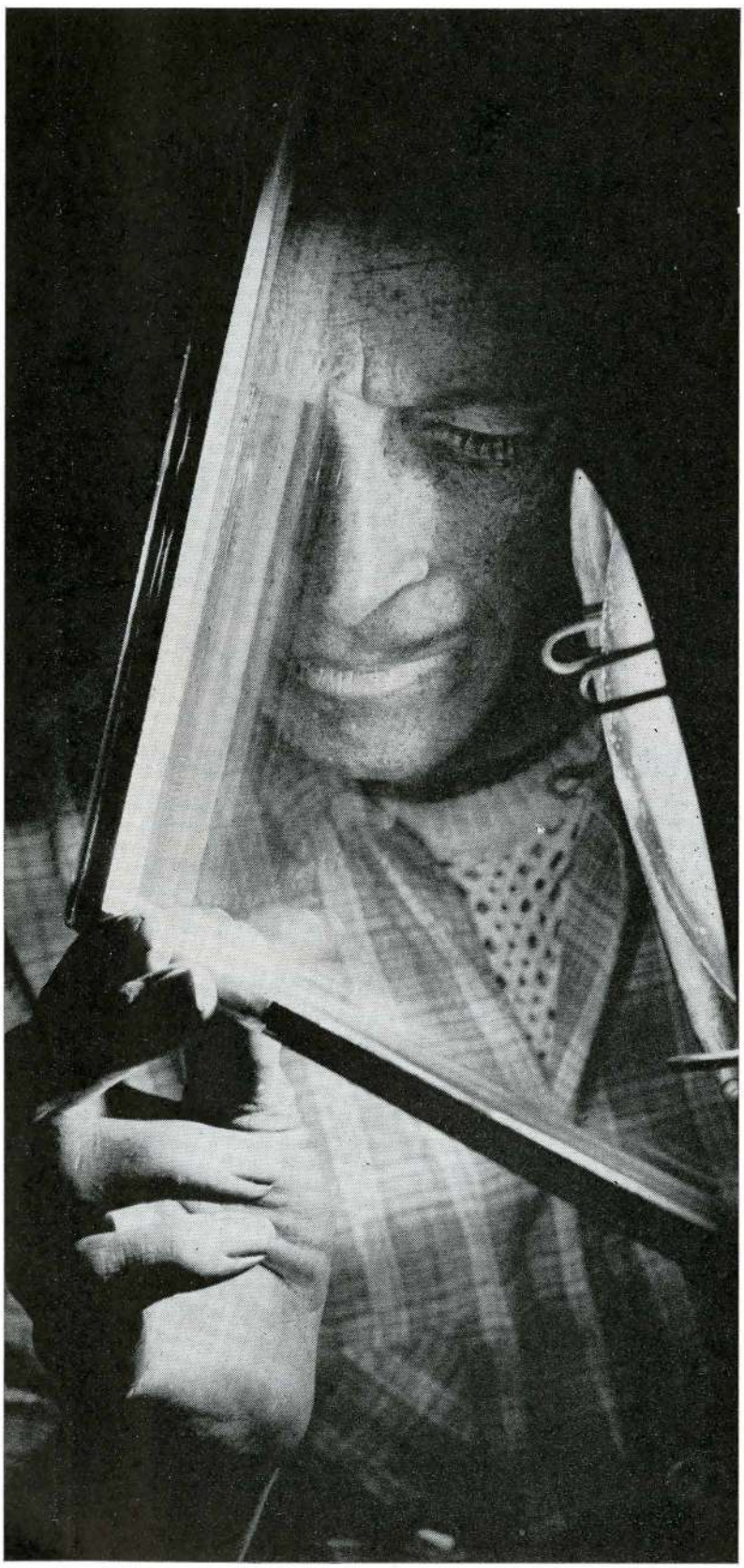

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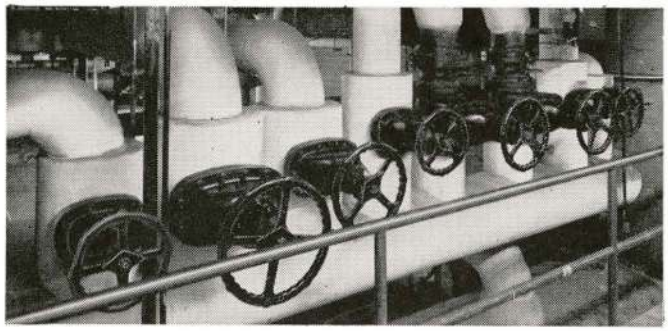
The opening of Toronto's O'Keefe Centre for the Performing Arts is a major event in the city's cultural activities. Built at a cost of $12 million, this remarkable theatre centre is designed to house the most versatile performances. Both stage and acoustics are adaptable for each type of event — opera, ballet, jazz, symphony, a Broadway musical, or a one-man show. Careful heating is of prime importance to the patrons' comfort, so Jenkins Valves were the logical choice to control the Centre's steam-heating system. Selected for flawless performance at low cost, you'll find valves with the "Diamond" trade mark playing similar roles in public buildings and plants from coast to coast. Jenkins Bros., Limited, Lachine, Que.

A battery of Jenkins Iron Body Gate Valves on the main boiler room header control the circulation of steam heat throughout the theatre centre.



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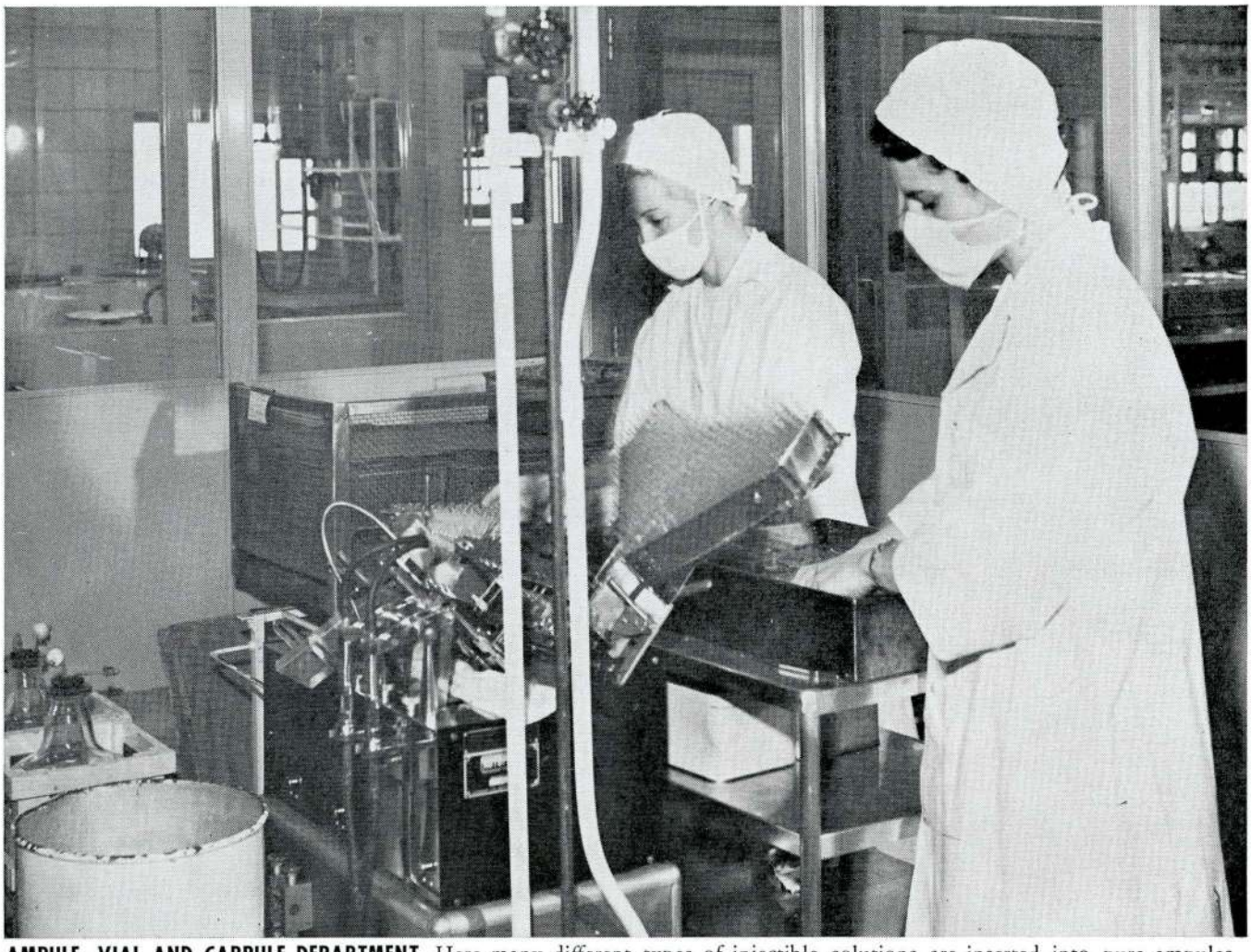

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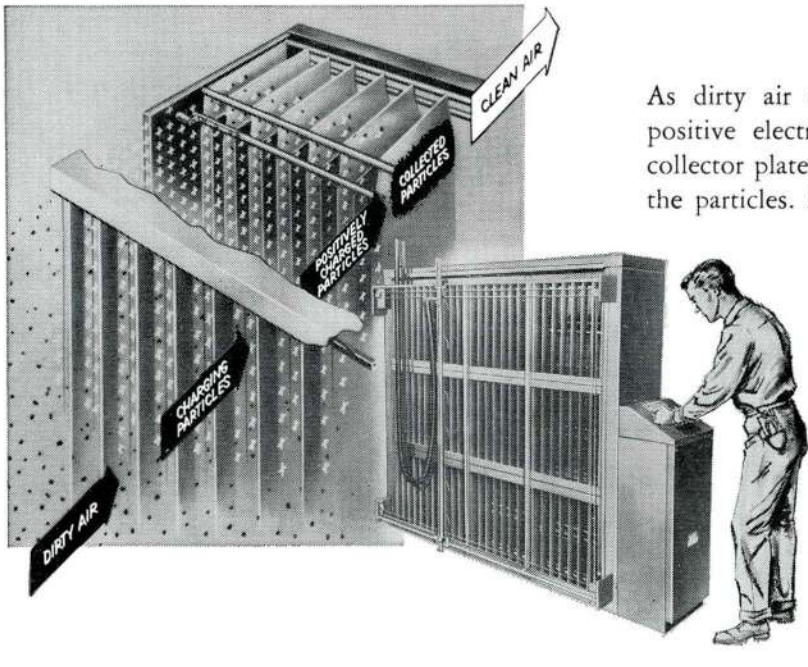

As dirty air enters the air cleaner, particles are given a positive electrical charge. The dirty air then passes over collector plates which have a negative charge and collect all the particles. Major causes of soiling and many respiratory ills are the common air-borne contaminants which range in size from 50 to .01 microns. Ordinary mechanical filters remove only part of these contaminants — for practical purposes, little under 5 microns in size. A Honeywell Electronic Air Cleaner not only removes large coarse particles, but microscopic carriers of many other kinds of dirt and disease as well.

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AIR CLEANERS ASSURE STERILE AIR

Honeywell Electronic Air Cleaners provide sterile, dust-free laboratories for processing of pharmaceuticals

At Aurora, Ontario, in the all-new building of Sterling Drug Mfg Ltd., Honeywell Electronic Air Cleaners keep air clean . . . free of dust, viruses and bacteria. Ultra-Violet lights within the exit ducts also help to purify the air exiting from the cleaner to provide virtually 100% purity. In one area, air is changed 20 times per hour to completely remove all dust and bacteria transmitted by human throats, bodies or clothing. Forty-nine actual tests, under normal operating conditions, proved the effectiveness of the installation.

The Honeywell Electronic Air Cleaner with activated charcoal filters can do such a complete job of purification it can cut year-round air conditioning costs up to 20%. Here's why: Air that is already heated or cooled can be cleaned and recirculated. This reduces the need for pulling in large volumes of outside air that may be costly to heat or cool.

The Honeywell Electronic Air Cleaner removes bacteria, virus and pollen particles as small as 1/2,500,000 of an inch . . . reduces the danger of communicable diseases and allergy discomforts. Models are available to fit any air conditioning or ventilating system.

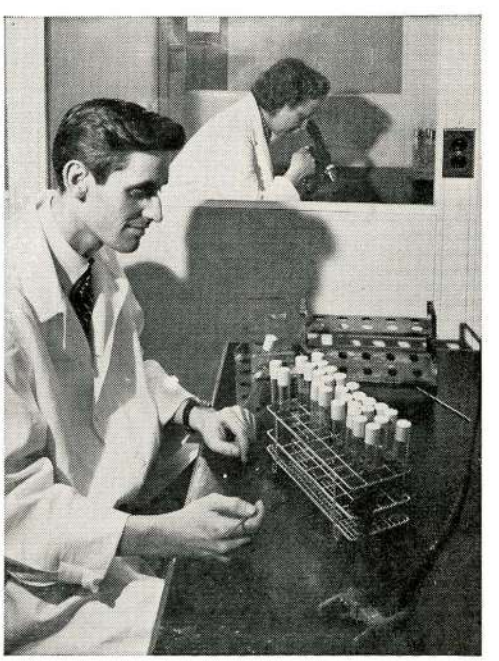
For expert assistance in specifying or installing Honeywell Electronic Air Cleaners call the nearest Honeywell office or write Honeywell Controls Limited, *Commercial Division*, Toronto 17, Ontario.

Honeywell

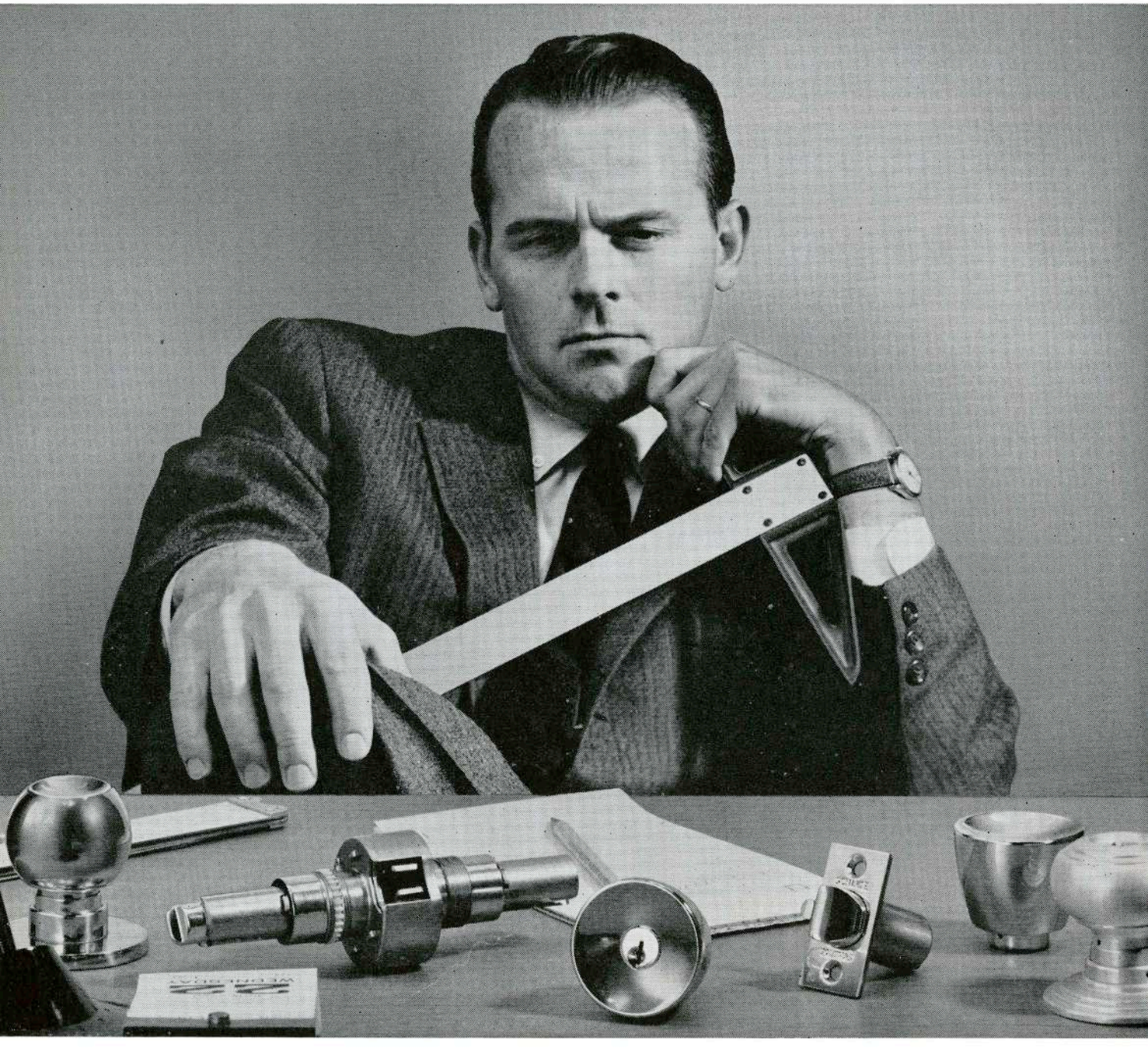
H HONEYWELL SINCE 1885 *First in Control*

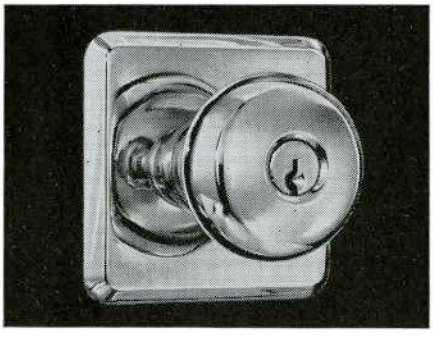
ON GUARD FOR PURITY. In the chemical section of the quality control laboratory, technical personnel test various raw materials, as well as manufactured products, to ensure that required standards are met.

STERILITY TESTS. In the bacteriological section of the quality control laboratory, technicians analyse germicides and test the sterility of injectibles. Honeywell Electronic Air Cleaners eliminate the air-borne bacteria and viruses.



When you look into locks, you get the **Schlage** idea





The Schlage idea expressed in stainless steel (Hanover design is shown). It defies the heaviest use, resists corrosion by industrial fumes or strong cleaners, will never lose its lustrous beauty.

"Excellence overall," says our architect friend, "can come only from excellence in every detail." And so he makes it a practice to compare, to consider, to *know*.

The more you investigate the subject of locks, the greater will be your confidence in *the Schlage idea*. It's the basic idea behind every one of Schlage's wide range of cylindrical locks. It means locks designed specifically to meet the needs of commercial buildings. It means locks made of the finest materials, machined to precision tolerances and painstakingly assembled. It means locks that last a lifetime.

See how perfectly *the Schlage idea* fits your next job.

SCHLAGE

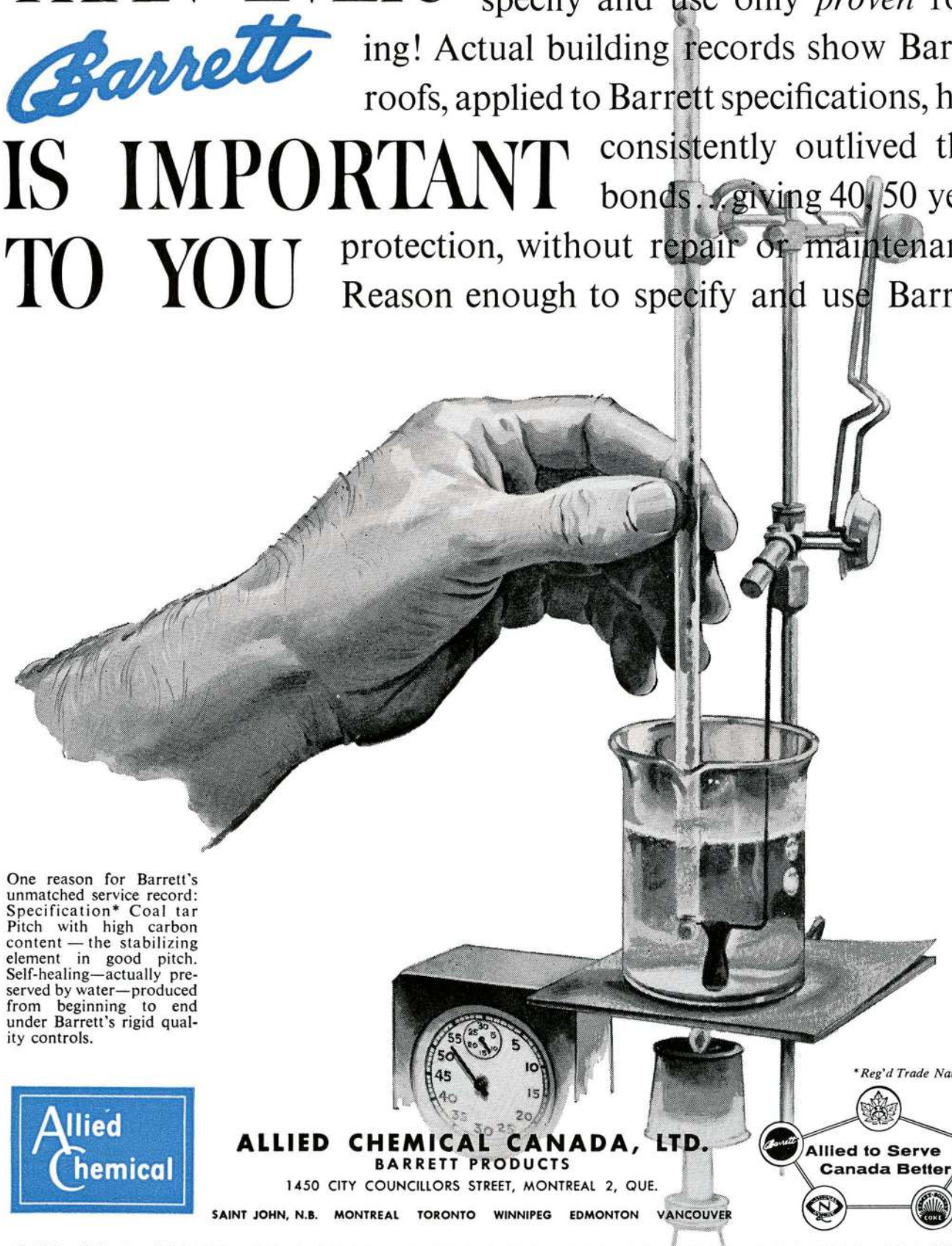
TRADE MARK REGISTERED

CANADA'S MOST DISTINGUISHED LOCK

1290 Marine Dr., Vancouver, B.C.

NOW, MORE THAN EVER *Barrett* IS IMPORTANT TO YOU

The responsibility for built-up roofing rests with you. It is, therefore, crucially important that you specify and use only *proven* roofing! Actual building records show Barrett roofs, applied to Barrett specifications, have consistently outlived their bonds . . . giving 40, 50 years protection, without repair or maintenance. Reason enough to specify and use Barrett!



One reason for Barrett's unmatched service record: Specification* Coal tar Pitch with high carbon content — the stabilizing element in good pitch. Self-healing—actually preserved by water—produced from beginning to end under Barrett's rigid quality controls.

*Reg'd Trade Name

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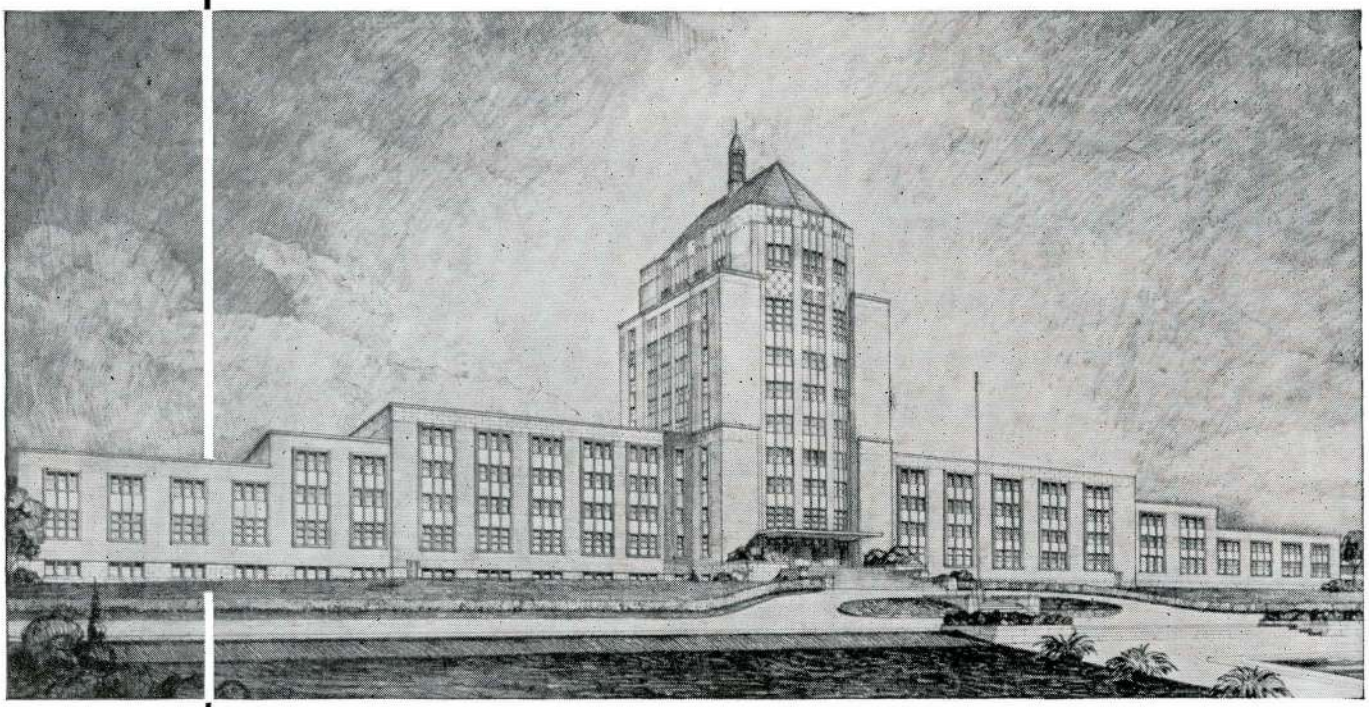
* VAPOR RADIATION throughout!

Confederation Building owned by the Government of Newfoundland



ARCHITECTS
A. J. C. Paine and Lawson, Betts and Cash

CONTRACTORS
Ross, Meagher Ltd., St. Johns, a subsidiary of Joseph Muscarelle Co. of New Jersey

PLUMBING, HEATING, VENTILATING and ELECTRICAL WORK
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(COPPER TUBE with STEEL FINS)

CONVECTORS (HEAL* TYPE)

FORCED FLOW UNITS

UNIT HEATERS

ALL ENCLOSURES — SPECIAL

40,000 square feet (E.D.R.) of Vapor radiation will be required to keep this impressive building at comfortable temperatures throughout all manner of winter conditions. Vapor is proud that their products have been chosen to fill this demand.

An outstanding feature of this installation is the fact that *all enclosures* have been specially designed and are being produced entirely by Vapor in their Montreal plant.

The reliability of Vapor Radiation has again been confirmed.

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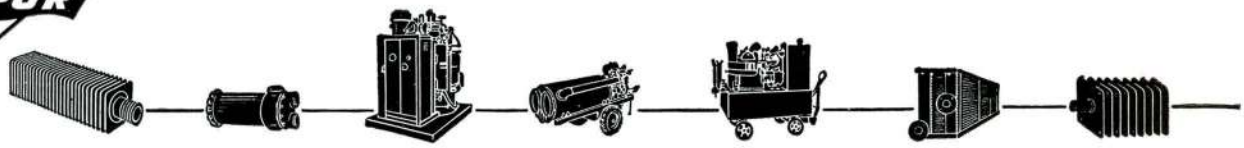

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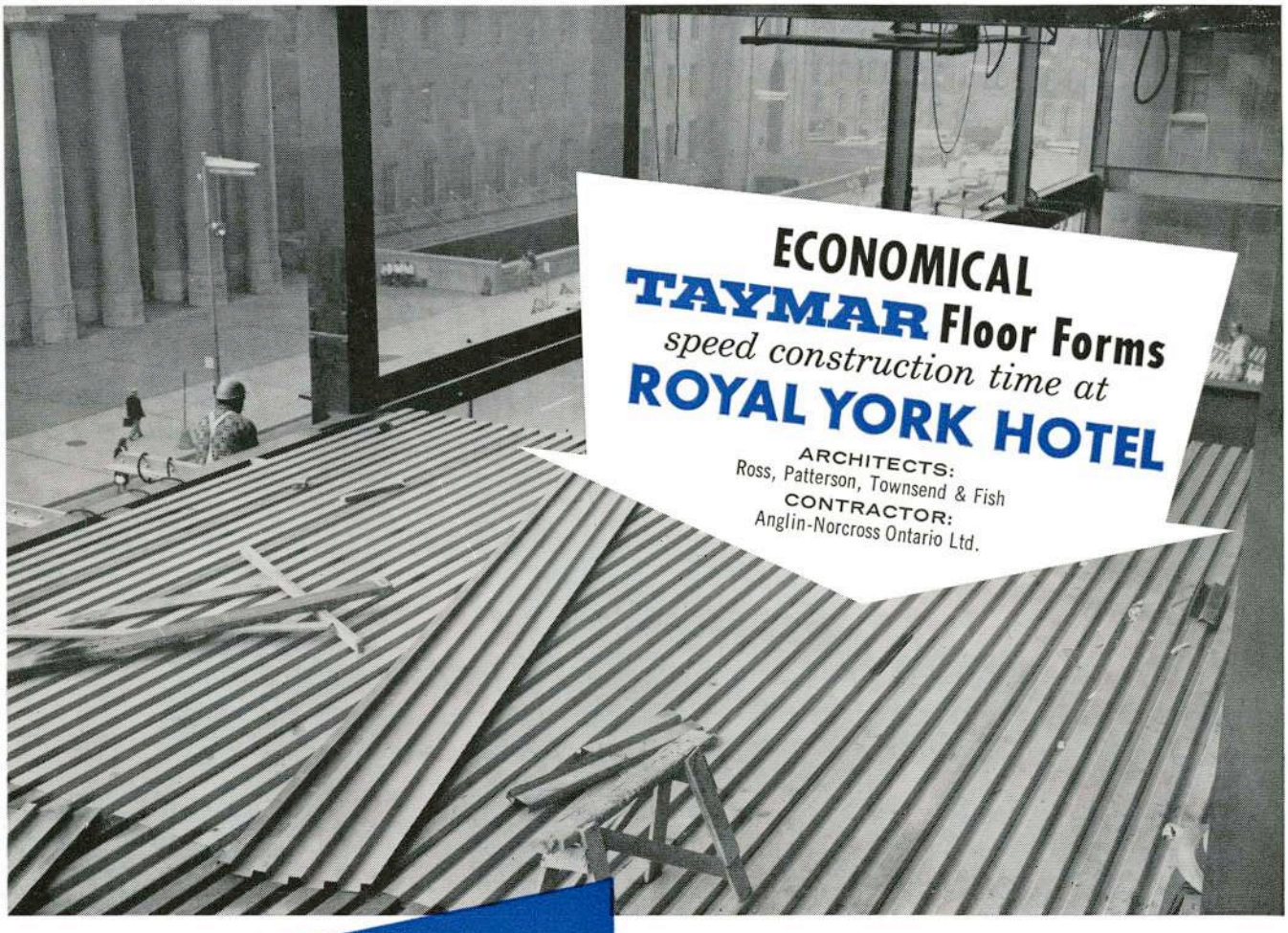
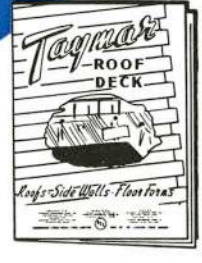


TAYMAR METAL FLOOR FORM

TAYMAR proved to be a remarkable time-saver in constructing the 17 storey addition to Toronto's Royal York Hotel.

TAYMAR panels join together quickly and conveniently, and are in immediate use to support equipment and construction crew. In the job shown here, 20 gauge TAYMAR Floor Forms served as a rugged base for pouring concrete slabs, over a 300,000 square foot area.

Strong, durable, yet lightweight and easy to handle, TAYMAR Sheet Metal Products are available in various gauges for roof and floor deck, and side wall panels.



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Western Bridge and Steel Fabricators Limited, Vancouver

what are your floor plans?

There are many areas in office buildings, department stores and hotels where you can make substantial savings for your clients by planning for and recommending the installation of COLORAY® wall-to-wall carpet. For appearance and acoustic qualities the superiority of carpeting is seldom questioned.

Comprehensive studies have revealed that the cost of maintenance of carpeted floors is as much as 50% less than uncarpeted floors. Further savings can be effected by using COLORAY carpet, proven to last up to three times as long as similarly priced carpets.

For full information write or call:

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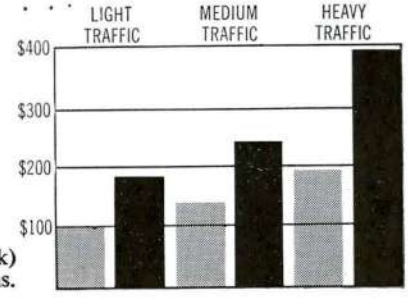
1600 Dorchester Blvd. West
Montreal 25, Que.
WE. 7-9321

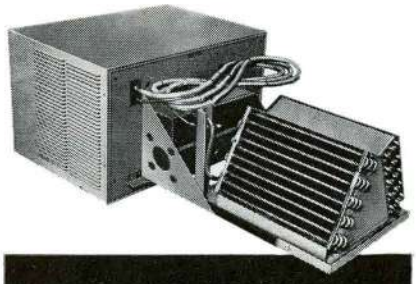
® Registered trade name of Courtaulds



This chart shows annual costs of upkeep for carpeted floors (grey) and uncarpeted floors (black) under different traffic conditions.

NEW...

Low-cost way to make your homes worth way more!



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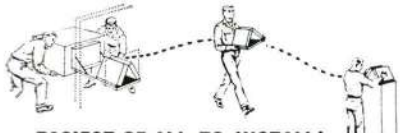
Make sure your homes are truly modern with low-cost, whole-house air conditioning. You'll cut installation time and costs with Fedders FlexHermetic, the remote system that's assembled . . . sealed . . . charged and tested right in the factory! And FlexHermetic delivers 22,000 BTU's of cooling power all through the house! Entire system covered by five-year factory warranty, too!



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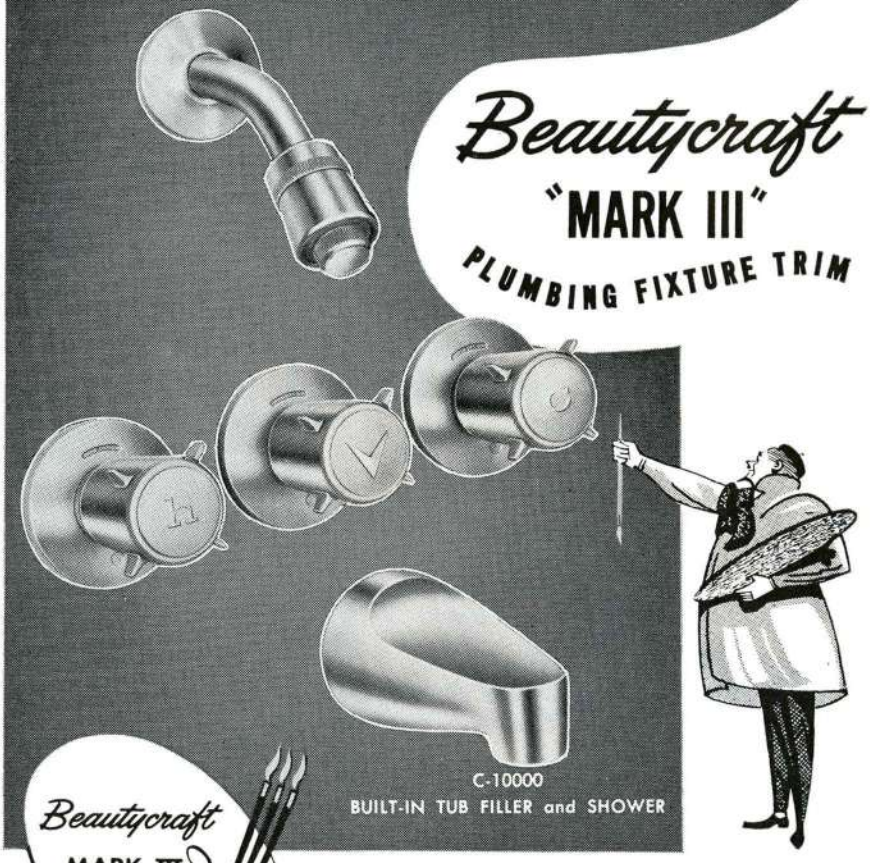

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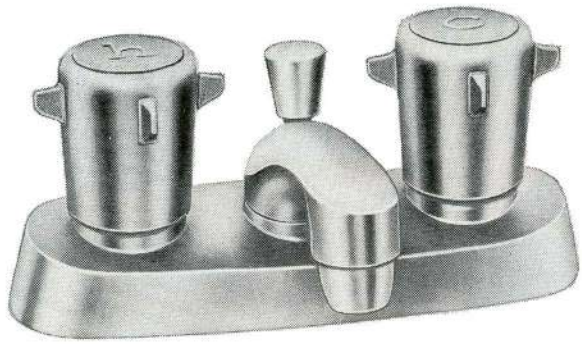
graciously modern . . .

Carefully manufactured to MUELLER QUALITY standards — Beautycraft "MARK III" brings new beauty and freshness to modern bathrooms, as reflected in the Tub and Shower combination (as illustrated).



centre-set C-10410

Distinctively, but graciously modernistic, Beautycraft "MARK III" Lavatory Trim is the "perfect mate" to the Tub-Shower unit.

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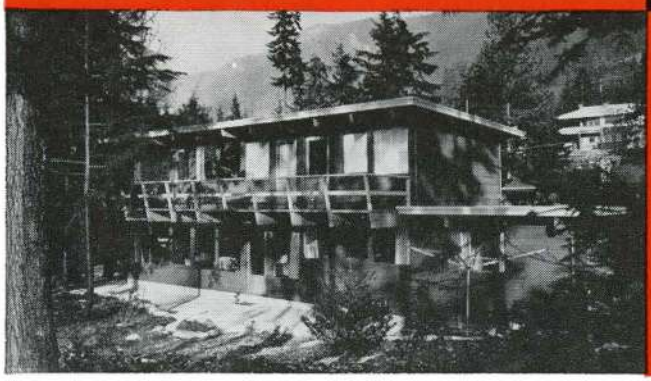
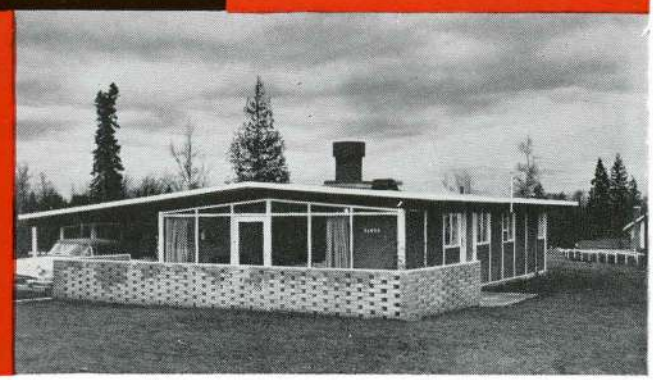
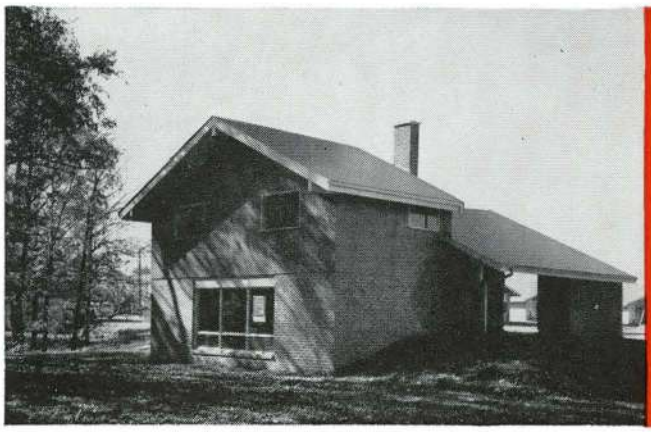


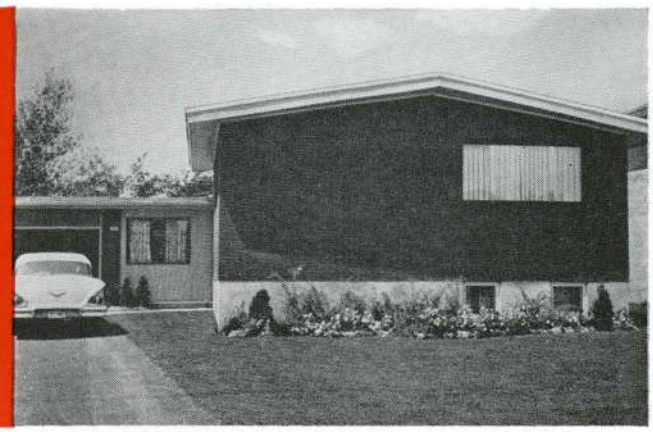
771 Winona, North Vancouver, British Columbia.
Builder: Lewis Construction Co. Ltd., West Vancouver, B.C.



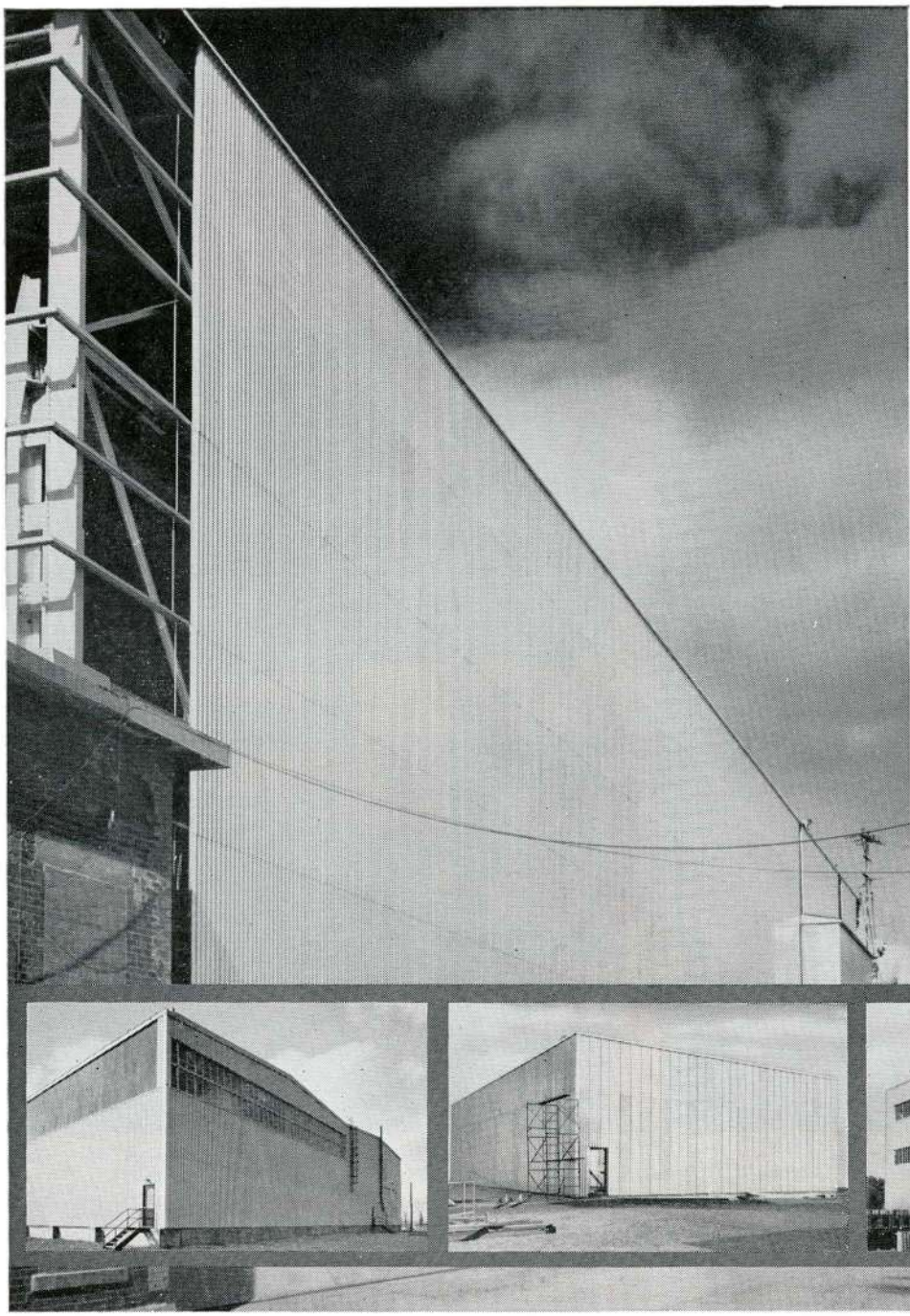
21025 Maple Ave., Langley, British Columbia.
Builder: Dodd Construction Ltd., P.O. Box 715, Langley, B.C.



57 Botany Hill Road, Toronto, Ontario.
Builder: Curran Hall Ltd., 1201 Bloor St. W., Toronto, Ont.



222 Sheraton Drive, Montreal, Quebec.
Builder: Harry Kivilo, 12 Crestwood, Montreal, P.Q.



ROSCO WALL PANELS

- ✓ ease of erection
- ✓ better insulation
- ✓ reduction of dead load
- ✓ fewer joints
- ✓ less scaffolding
- ✓ variety of design and economy for commercial and industrial buildings

Side wall construction with Rosco Insulated Wall Panels consisting of 2 metal sections enclosing 1″ or more of incombustible glass fibre insulation and fabricated in lengths to suit any structural frame requirements, speedily transforms a skeletal frame into a finished weather-proof structure. No interior scaffolding is necessary and Rosco Wall Panels reduce dead load weight by 95%.

Rosco Insulated Wall Panels are available in several designs, gauges, and finishes, which can be combined or interchanged to give the widest possible range of choice to the industrial or commercial building designer, to suit the particular requirements of any project.

In locations where severe corrosive agents are prevalent, such as paper mills, fertilizer plants, pickling areas, etc., Rosco Metal Wall Panels can be supplied with a Vinsynite-Vinyl shop treatment which will provide years of complete protection and freedom from maintenance. The "V-V" system is available in a wide range of attractive colours.

Contact any Rosco plant across Canada for complete information and planning assistance.

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CANADIAN CONSTRUCTION ASSOCIATION

Special double-seal collar design assures weathertight fit on one-piece Carlton "Mono-Flash" Neoprene Roof Vent Flashing. Finish material can be applied right over flashing's broad apron and up to base of collar. Du Pont neoprene synthetic rubber assures long life for flashing.

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Meets building code requirements. This new molded flashing is made with Du Pont neoprene synthetic rubber which resists sunlight, ozone, weathering, corrosion, heat and cold. It won't soften, won't crack, maintains a tight seal in spite of building settling or pipe expansion and contraction. It has passed code requirements in key cities and states . . . is now being used in government housing.

Several types available. Carlton "Mono-Flash" Neoprene Roof Vent Flashing comes in three standard pitches...handles either 1½", 2", 3" or 4" pipe for 3-12, 4-12, 5-12 and 6-12 roofs . . . handles 4" pipe on flat roofs or 7-12, 8-12, 9-12 or 10-12 roofs. It is sold exclusively by Carlton Manufacturing Company, Carrollton, Ohio.

For additional information and your regular copy of "Elastomers Notebook", write: Du Pont of Canada Ltd., Elastomers, 85 Eglinton Avenue East, Toronto 12, Ontario.

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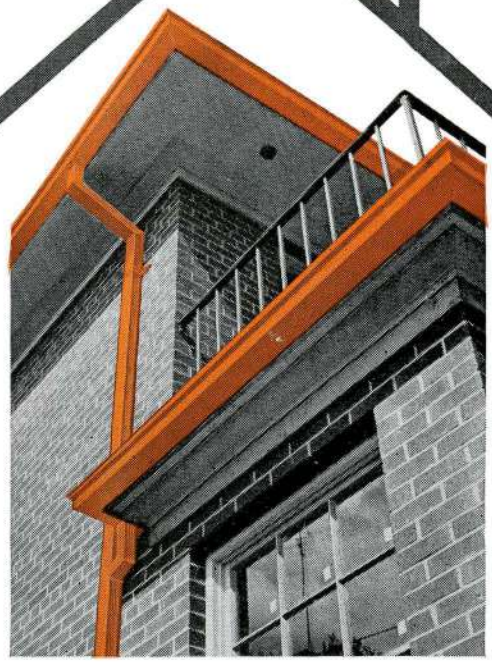
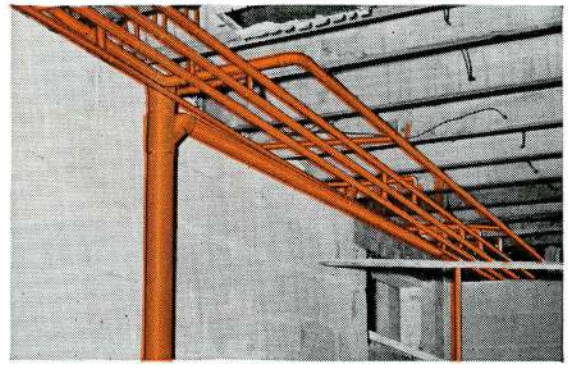
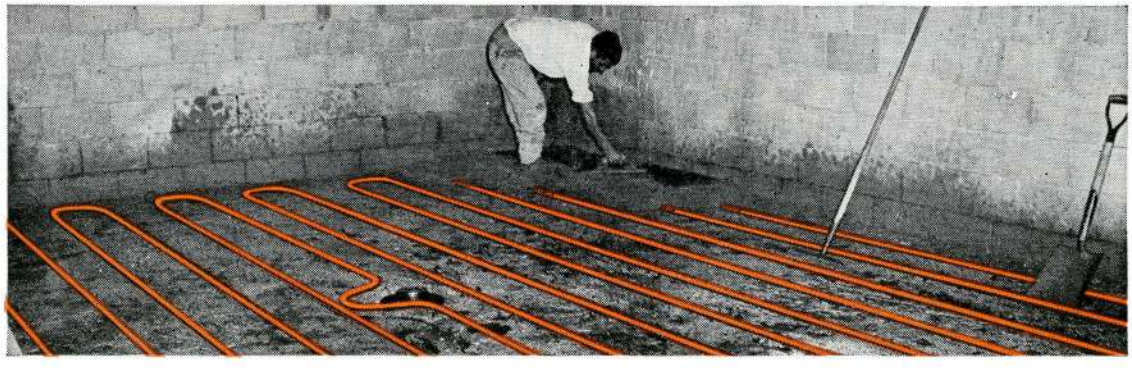
ANACONDA COPPER

gives roof to basement protection







Architects: Mollard and Whaley. *Consulting Engineers:* Quan, Carruthers, King & Quan. *General Contractors:* Eastbay Construction Company. *Plumbing and Heating Contractors:* Bruce K. Robinson Co. Ltd. *Copper Tube Supplier:* Quality Utilities Limited. *Sheet Metal Contractor:* Apex Roofing Service Ltd. *Sheet Metal Supplier:* Rosco Metal & Roofing Products Ltd.

Beautiful homes deserve the best and so the residence of W. A. G. Kelley, Toronto, is completely protected by Anaconda Copper.

For example, some miles of Anaconda Copper Tube went into the heating, plumbing and drainage systems. Of this, 10,000 feet of $\frac{3}{8}''$ tube was used for radiant heating alone (another 1,000 feet keeps the driveway free of snow). All flashings, eavestroughs and downspouts are made from sheet copper.

According to plumbing and heating contractor Bruce K. Robinson, "most of the piping was concealed so it was necessary to use material that would stand up – that was light and easy to work with, even in confined quarters. There was only one answer – copper tube."

For information on Anaconda Copper tubes for plumbing and heating and sheet copper for roofing and flashings, write Anaconda American Brass Limited, New Toronto, Ontario. Sales Offices: Quebec City, Montreal, Calgary and Vancouver.

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For buildings of distinction there is nothing to match the silver-grey beauty of Queenston Limestone . . . the unique Canadian building stone. Its smooth, hard texture gives Queenston Limestone high resistance to grime and weathering. It is the preferred specification of Architects who want a clean, simple and dignified exterior, with the highest possible degree of permanence.

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TIME AND MONEY SAVED can have more than the obvious appeals. In school construction, for example, certain architects and trustees found to their immense pleasure that the Flexicore system was so economical, compared with the older way of pouring concrete floors and roofs, that with the money saved they could add two rooms to the proposed schools! ☒ Flexicore slabs, of pre-cured, reinforced concrete, can be erected on the structural frame, at the rate of 2500 square feet a day, right after erection, and regardless of weather. ☒ In winter, plastic shielding can be put up, and the salamanders set going, and the sub-trades can instantly proceed with wiring, plumbing, and the like. No waiting while concrete cures! ☒ The Flexicore slabs are produced in various sizes and lengths to suit specific applications. Hollow cores cut the weight by about half; pre-stressed steel reinforcing maintains full strength, allowing handsome clear spans and extensive cantilevers. ☒ The cores also form natural paths for wiring, heating, etc. When placed, the slabs need only be levelled and grouted to form a rigid area, ready for flooring or roofing.

Now, more economies: The underside needs only paint to form a practical, attractive ceiling. No ceiling plastering anywhere in the building! And, the Flexicore system allows a saving of from 2″ to 8″ per storey in wall height. On a multi-storey building, here is a great saving in material and labour. ☒ Compare all this with the time and money consumed by old-fashioned concreting methods. The savings are immense. APPROVED CONSTRUCTION: The Flexicore system is designed to ACI standards . . . widely accepted and endorsed by leading architects and engineers . . . used on over 20,000 buildings. Please write the company nearest you for full information.

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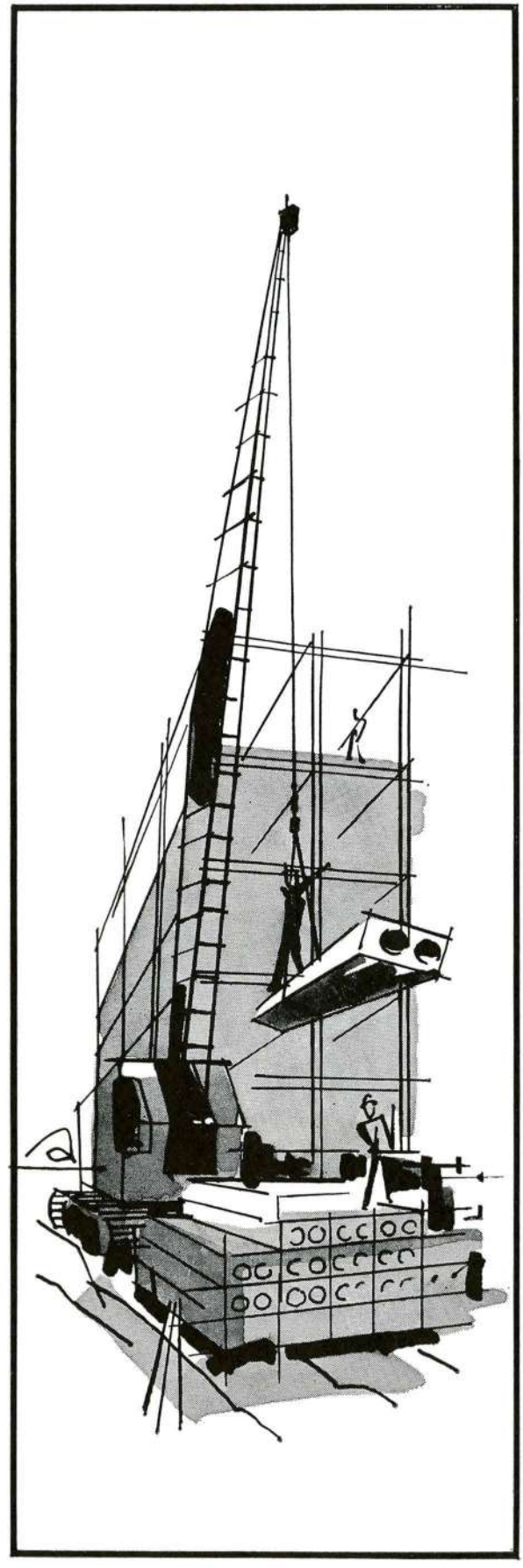

CF 108

MAINTENANCE COSTS GOING DOWN! That's the way it is with Johns-Manville Transitile. This modern material for smart industrial construction has earned its reputation as the economical maintenance-free sidewall. Transitile is practically indestructible. Made from tough steam cured asbestos and cement — corrugated Transitile is fireproof, rotproof, weatherproof; never needs refinishing or painting. Goes up fast too, because Transitile comes in large sheets and requires only a minimum of steel or wood framing. Ideal for siding or roofing on either new or remodeled buildings. Write today for complete data to: Dept. BA, Canadian Johns-Manville Company Limited, Port Credit, Ontario.

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In today's modern architecture, efficient sound and intercommunication planning is becoming more and more important. Whatever kind of building you're planning—church, hospital, auditorium or school—call in General Sound. We will supply, install and service whichever system suits your needs best. General Sound has the largest, most comprehensive sound service in the country. Top quality equipment—Northern Electric, DuKane and Altec—backed by the finest engineering and service skills available. Our experts will be glad to offer you advice and assistance. Contact any General Sound office listed below.

General Sound GS

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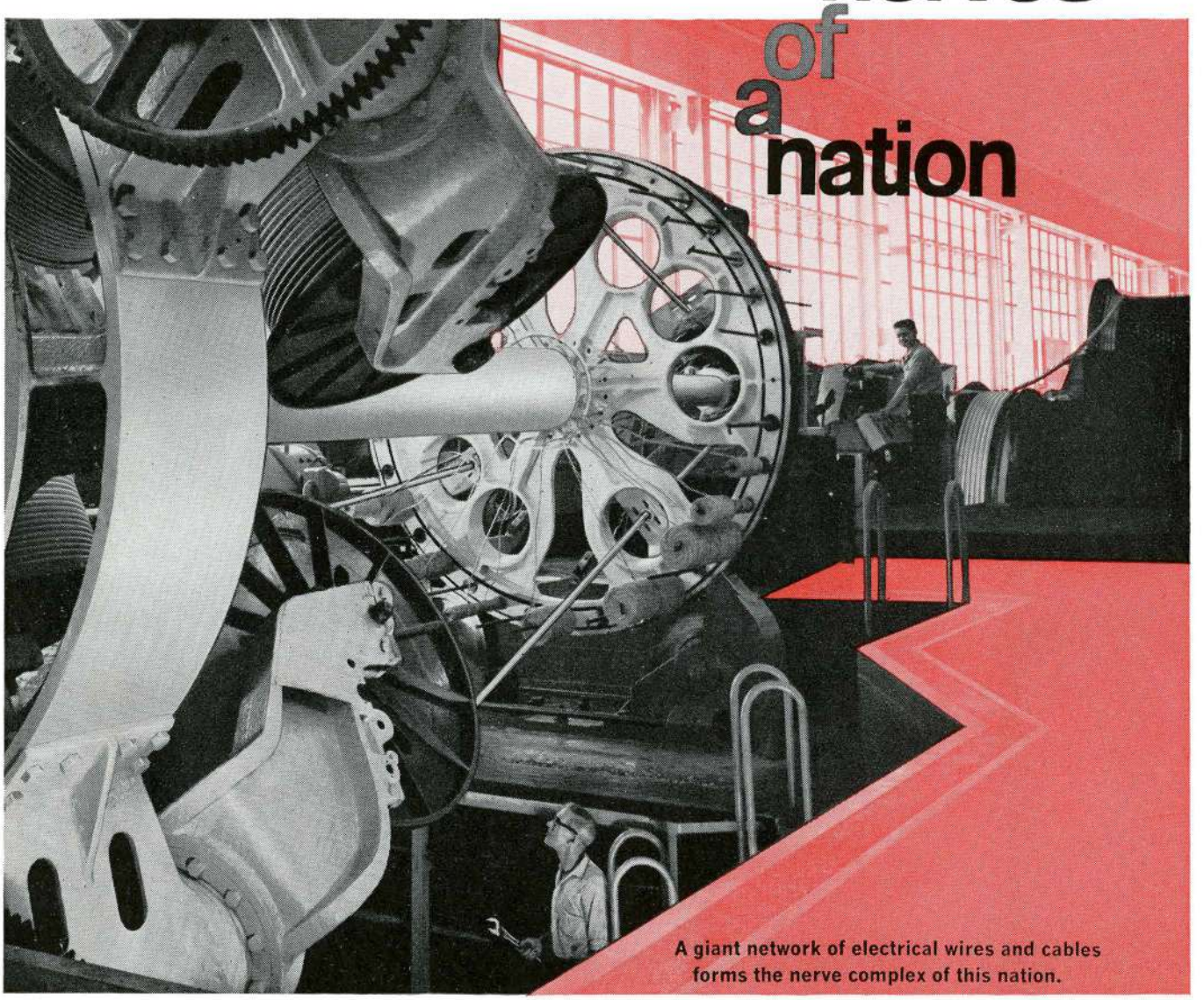
building the nerves of a nation



A giant network of electrical wires and cables forms the nerve complex of this nation.

Conductors being cabled together on a custom-built closing machine, one of hundreds of precision machines used to make Power Cable at Northern's plant in Lachine, Quebec . . . to supply a complete range of Power Cables for Canadian industry.

Myriad types of wires and cables, from a single conductor to intricate combinations, are required for communications and power systems. Northern Electric's wire and cable plant at Lachine, Quebec supplies them — often custom-designed and manufactured to industry's requirements.

This is possible because at Northern Electric, product research and development never stops. Advances are continually being made in engineering, production techniques and in the creative solutions to electrical conductor problems.

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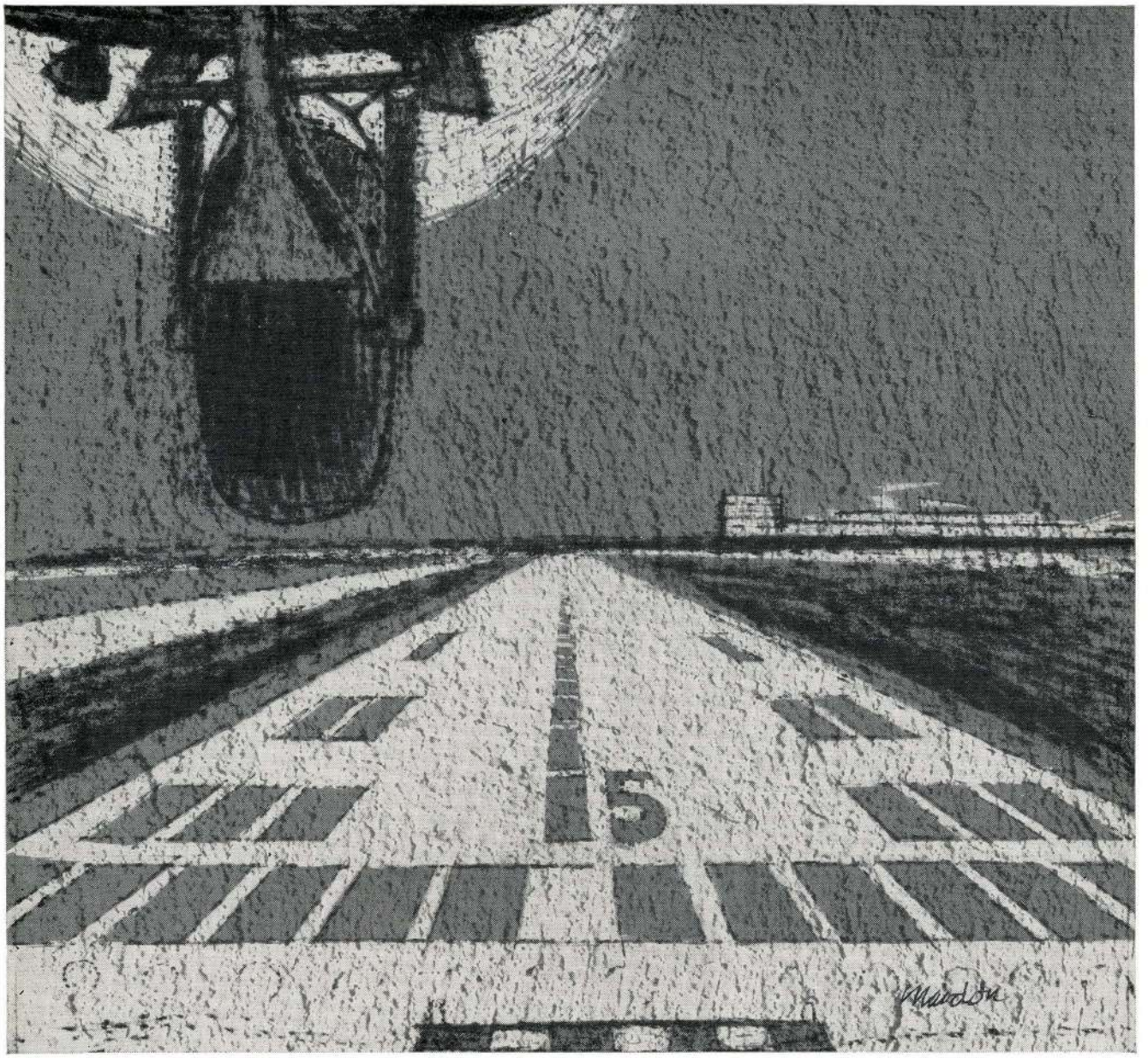
3060-4



EDMONTON INTERNATIONAL AIRPORT, *Edmonton.* POZZOLITH, *Master Builders concrete admixture, was used in this project to reduce water and control entrainment of air and rate of hardening. Owner: Department of Transport, Canadian Government. Design and Supervision: Dept. of Transport. Resident engineer: G. E. Niel, Dept. of Transport. Contractor: Tallman-Terminal Construction Company, Winnipeg.*

Horizons are merely a Challenge

Horizons are "stretchable." For fifty years Master Builders Company has been demonstrating this fact—to the benefit today of architects, engineers, builders and contractors throughout Canada.

There was, for instance, the break-through by Master Builders research in the principle of *metallic aggregates which tremendously increases wear resistance of concrete floors.

Today, Master Builders Company still leads the industry in the research and development of products and methods for improving users' control of the qualities and economics of concrete and mortar. Wherever you use concrete . . . for floors, highways, bridges, buildings or airfields . . . consult Master Builders. With products developed and perfected by research . . . with an advisory field service always at your disposal . . . your concrete can be made more useful, more versatile and more economical.

**Master Builders* MASTERPLATE *is metallic aggregate, combined with other components which improve floor properties. A* MASTERPLATE *"iron armoured" concrete floor is 4 to 6 times more wear-resistant than the best plain concrete floor.*

Our 50th year of service

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A variety of Rusco Prime Window types and sizes were used by architect Keith L. Graham to achieve distinctive design and functional advantages for Parrsboro's newest school. For ventilation, both lift-out, sliding panels and hopper types were used. In the auditorium, a plate-glass gable end runs right to the roof line.

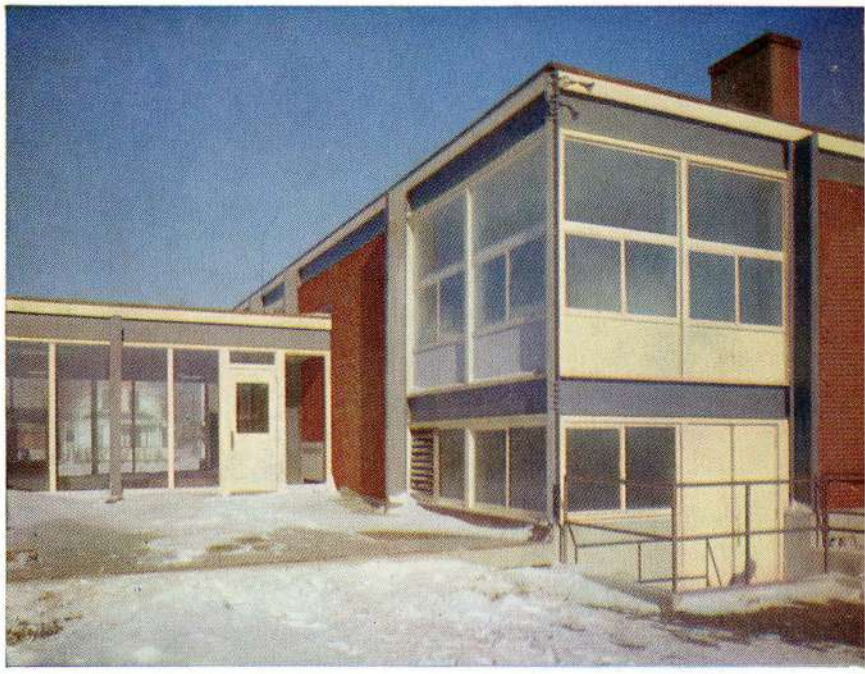
NEW SCHOOL FOR PARRSBORO, NOVA SCOTIA

ARCHITECT:
Keith L. Graham

The wide choice of window types and sizes, complete fabrication, and modern Slim-Line design were all factors in the choice of Rusco Prime Windows for this beautiful new school at Parrsboro, Nova Scotia.

Rusco's variety of fixed-light and ventilating window types gave complete flexibility in architectural design. Rusco's tubular steel sections permitted a freer use of glass without sacrificing structural strength. And, because the windows were delivered prefabricated for installation, the builders were able to close-in ahead of the cold weather, and save on installation time.

Rusco's baked-on decorator colors are another new dimensional beauty offered architects and builders from coast to coast.



Gleaming white, baked-enamel Rusco Slim-Line Windows were contrasted with the soft grey columns, pastel colored panels and brick for lasting beauty.

RUSCO
PRIME WINDOWS

RUSCO Steel

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Rusco Windows-Doors (N.S.), P.O. Box 1445 North, Halifax
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