

RAIC JOURNAL

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EDITORIAL

AS CHAIRMAN of the Editorial Board it becomes my privilege to extend to the readers of the *Journal* everywhere, the most cordial Greetings of this festive season, and also to thank all those who throughout the past year have so generously contributed to the success of the *Journal*.

As we look back across the days that now lie behind, we have great reason for rejoicing in that we live in a land of bounteous opportunity — a land which promises great things for the coming year. And for years to come.

From sources within and without our borders, we are encouraged in the belief that the *Journals* of 1952 were well received and merited some degree of recognition. We are justly proud that our publication is not the venture of the few — but rather the voluntary and whole-hearted effort of the entire membership of the Institute from coast to coast.

We sincerely thank all those, within and without the profession, who have contributed their interest, their time and effort, and their material. Much credit is due to our Editor, our Publisher, our advertisers and our Editorial Board group across the land for a job well done.

We look forward to even greater things in the coming year. May we attain an even greater realization of our aims. May we serve the profession in an even greater capacity, and last but not least, may the *Journals* of 1953 become an even greater means of strengthening the ties which bind the profession throughout the length and breadth of this vast country.

We wish for all a Joyous Christmas and a New Year which will continue to bring peace, happiness and opportunity.

ARTHUR H. EADIE
Chairman of the Editorial Board

THEATRE DESIGN—A PRODUCER'S POINT OF VIEW

THEATRE PLANNING is a specialization in which the general practitioner in architecture may need particular guidance. He should avoid repeating the mistakes of others who have gone to outmoded sources, or have copied antiquated theatre plans, or have been influenced by the rather popular delusion of economy and efficiency that is embodied in many so-called multipurpose halls. Surely the time has come to abandon the idea of constructing the combination auditorium-gymnasium that already graces or disgraces too many school buildings. The conventional building, common in the commercial theatre, is not necessarily the best model, based essentially, as it is, on an eighteenth century form and adapted to the limitations of city real estate.

A theatre, good or bad, is money spent well or ill, and the building will probably have to last at least a generation. Properly designed — perhaps for planned expansion but, certainly, for flexibility — a theatre is an investment in the future of a community.

Even a vast expenditure of money does not guarantee satisfactory results. For a midwest state college in the United States, in 1941, one million dollars was spent, without benefit of consultant, on a theatre with one stage for both an auditorium seating 5500 and a theatre seating 700. (An instance of multipurpose stage rather than multipurpose hall, for a change.) That million dollars, however, was fairly well spent. Only the director of dramatics complained. His work was "hampered by lectures, concerts, convocations, and one thing or another. The theatre is poorly planned for rehearsals, the stage being the only space and seldom available. Provision for making costumes and storing them is inadequate; so also for the storing of scenery which has to be carried a considerable distance along narrow corridors. The gridiron is too low. There is no cyclorama, no paint frame, no orchestra pit, no green room, inadequate office space and not the best acoustics." A rather sad ironic footnote on an expenditure of a million dollars.

One of the most popular delusions dear to the hearts of boards of education is that of the multipurpose hall — the combination gymnasium-auditorium that may be a catch-all for all activities requiring space under cover. Properly planned, the combination is possible. Being really equipped for stage productions does not spoil a building for other uses. But to provide adequately for these others while skimping or ignoring theatre needs will certainly impair, if not prevent, its use as theatre. A stage is not a

basket-ball court; a proper theatre is neither a gymnasium nor a dance hall.

Furthermore, what is good for a gymnasium is not good for an auditorium, for the following reasons which Miss Dorothy Somerset of the University of British Columbia has very well set forth: "(a) in a combined gymnasium-auditorium adequate stage space and stage facilities are usually sacrificed to the requirements of the gymnasium; (b) a gymnasium requires a level floor which does not provide as good vision for any type of stage performance as does a sloped floor; (c) chairs must be collapsible and removable. This necessitates storage space for the chairs and a great deal of handling; moreover such chairs are not usually very comfortable" (nor very quiet); "(d) gymnasium and auditorium activities are likely to overlap, making it difficult, if not impossible, to arrange satisfactory schedules; (e) combination gymnasium-auditoriums as a rule have poor acoustics, for the reason that sports activities usually require hard-surface walls and large windows, whereas good auditoriums have special wall surfaces and no windows." Compromise in the design in order to serve multiple uses, especially if they are incompatible or conflict in time, may serve none of them satisfactorily. A producer's first plea, therefore, is for access, for a reasonable amount of time, to facilities that are facilities, adequate and feasible.

If the building or some part of it is to be regarded as theatre, certain facilities must be provided. In such a plan the heart and core would be the stage and appurtenances thereto. Stage, workshop (for the arts and crafts of production) and the public spaces (the auditorium itself, lobbies, cloak rooms, box office, rest rooms, telephone booths) are the three parts of a theatre. In the planning it is the workers' precinct — stage and workshop — that should be considered first. The public areas, with which the planners are more familiar, are usually fairly well planned.

Lack of space is the most prevalent sin — on stage, off stage and back stage. A wide but shallow alcove raised off the floor and cut off from the auditorium by a velvet curtain and lit by strong white footlights is not a stage. In the stage and workshop, let us at least have space, even if at first it is only empty space. It won't go to waste and it won't be empty for long. Even while something is being done on stage — rehearsal or performance — something else is going on off stage in the workshop and preparation spaces — building or setting up of scenery, making costumes, putting on make-up, etc. As time goes on, more and more scenery

and properties and costumes will be made, used, stored, and used again.

The major cries of the producer are more space and adequate lighting.* The producer assumes that those who plan the building will see to it that the public spaces will also, from a producer's point of view, be satisfactorily provided for; that is, that the paramount requirements of good sight lines and good acoustics will be realized. Needless to say, in the planning, these various parts of the building are regarded as functionally interrelated.

Specifically what space and what size should there be, particularly in the conventional style auditorium? To begin with, the proscenium opening is what determines the most important dimensions. In width it should not extend across the full width of the auditorium, even though the side walls of the auditorium fan out in diverging lines from the proscenium. The width of this opening should preferably be at least 25' but not greater than 30' or 32'. Intimacy and better proportion in the stage settings will thus be possible. The height should be approximately $\frac{2}{3}$ of the width. A minimum height of 12' or 14' will give us both good sight lines (even from a balcony) and good proportion in the opening. This is but a minimum height below which the figure of the actor may be out of proportion, but greater height is advisable so long as it is not a fixed installation that cannot be lowered and raised. The arch should not be equipped with the expensive drapes that get permanently fixed so that they cannot be raised, lowered or removed. An adjustable and removable inner proscenium could be added, perhaps by an amateur stage and carpentry crew.

The minimum width of the stage (behind the proscenium) should be no less than twice that of the proscenium. If the latter is 30' there should be at least 15' of wing space on each side. More would be very welcome and useful — enough space, in fact, to set up a complete stage setting on wagons off stage either right or left.

In modern practice there is a trend toward horizontal handling of scenery instead of the eighteenth and nineteenth century "flown" or vertical method. And where real estate values do not limit the building to a narrow lot, a high loft is not absolutely necessary. Again, space — square footage — is the more important thing. Assuming that most communities would be loath to spend much money for such machinery as revolving or elevator stages require, they must still consider whether scene shifting will be done on-the-floor or overhead.

Is a gridiron necessary? Edward C. Cole of Yale University says the chief, though not the sole, function of the gridiron and its attendant flyloft is to facilitate the handling of scenery. There are several structural types of scenery which cannot be set or shifted by any means other than hanging and flying. There are other structural types which may be set and shifted by other means but may be handled

most efficiently by hanging and flying . . . A theatre without a gridiron forces the technician to extremes of inventiveness and inefficiency to mount and handle scenery and lighting equipment. (1)

Arch Lauterer of Mills College says some mechanical device for the rapid, easy and economical shifting of hanging scenery and lights is necessary, but this does not mean that it need be the conventional perpendicular grid . . . However, if the theatre is to be a producing studio where productions are made as well as shown and situated in a locality where real estate values are less a factor, then this theatre should have a horizontal or transverse gridiron. This type of scene and light-shifting mechanism gives four times the stage floor area, so necessary to the mounting of shows and rehearsal space, in the same building cubage as that of the high grid . . . Transverse shifting of lights and scenery affords the rapid changes needed for repertoire and experimental theatre production in our creative, civic and educational theatres.

Frederic McConnell of the Cleveland Play House says that in a new theatre there the conventional stage-house is eliminated, as not worth its construction and operation cost. Staging practice has established the validity of designing from the floor up, rather than from the top down, based upon a technique of horizontal handling of scenery and equipment instead of vertical . . . Many plays are staged in a single undisturbed unit, rendering the high loft a total loss, a barren space for the consumption of heat and the collection of drafts . . . A lightweight and flexible gridiron will be suspended from the top to take care of occasional lighting equipment and masking pieces. (2)

At least some overhead space and rigging are indispensable. If a full loft were provided its cubic footage would be about the same as that required for the alternative horizontal handling of scenery and equipment; approximately 450 times the proscenium width. I, personally, should rather have money put into working floor space than into loft storage. A transverse gridiron does not require the greater height of the conventional commercial theatre stage-house.

The depth of the stage from curtain line to back wall (not from the front of the apron) should be adequate not only to accommodate any required setting of reasonable size but also to provide ample surplus room for equipment, operations, and traffic (behind the cyclorama) backstage. Authorities maintain that this depth should be no less than one and one quarter to one and one half times the proscenium width. But, with a proscenium 30' wide, we could make do with a depth of 35' or even 30'.

A shallower stage than this would be ample for lectures, debates and the ordinary uses for which a raised platform is adequate. This, however, can be accomplished by a fore-

*This paper does not deal with lighting. In this most important and highly specialized field, the architect will be guided by the consultant professional electrical engineer. Due to the fact that so few theatres are built, even the most competent electrical engineer cannot take the time to keep up with changes in stage lighting demanded by producers. It is suggested that the architect arrange to have the stage director and some of his technicians meet the professional engineer. The architect should be present at all such meetings for he, not the engineer, is responsible for expenditure.

Editor's Note

(1) *Are you Going to Build a Theatre?* The National Theatre Conference, 1947, p. 14-15. (Amateur technicians, however, have been ingenious.) See also Gillette, A.S. *Planning and Equipment the Educational Theatre* Cincinnati: The National Thespian Society, 1945, especially pp. 17-18, re: The Counterweight System.

(1) *Ibid.*, pp. 15-16. And of a plan that he presented in *Theatre Arts*, September, 1946, he says, "The transverse gridiron about which this theatre is planned gives working floor space rather than the old aerial storage space."

(2) *Theatre Arts*, September 1946, p. 548.

stage (apron) of 6' or 8' extending in front of the curtain and used with the curtain closed. Some producers would like a wider apron than this, especially for the staging of certain "period" productions. They may have this cheaply and easily. If the orchestra "pit" is not actually a pit but merely requisite space on the floor of the auditorium, and if the first three rows of seats are removable (to furnish this space — about 16 square feet per instrument), the carpenters can build a sectional platform that would temporarily occupy that space. If this space is to be orchestra "pit" at times, the stage floor needs to be 42 inches to 4 feet above the auditorium floor.

Behind the curtain let nothing encroach upon the necessary work-space, temporary storage space, and acting area nor reduce their usefulness — no radiators, no ventilation ducts, no windows, no doors, (except in the side walls, and none visible.) The walls can be rough and unfinished and should be a dark colour to reduce the reflection of light. We need space for the handling of scenery, placement of lights, etc. and at times for the effect of distant vistas off stage. We need a cross-over passage, indoors, from right to left backstage. We need also a sizable door with loading platform on the stage level (preferably roofed somehow, to protect material being loaded or unloaded in bad weather) for the bringing in of scenery from outside. And we should insist on a long-grain soft wood floor (behind the curtain and laid parallel to it) into which stage screws can be put for the bracing of scenery. That kind of wood splinters less than other kinds. But the stage floor is often, if not usually, covered by a canvas floor cloth — a means of protection against splinters and of deadening the sound of footsteps.

Obviously, if each of the wings, right and left, off stage is to give us space equal to that on stage, the dimensions of the wings are determined by the width of the proscenium and the depth of the stage. Shop space is very desirable too (in a school or university theatre) — where carpentry and painting can be done, scenery and tools stored — and of height and area sufficient to set up a set of scenery just as it would be on the stage. The size of the shop, therefore, is also determined by those key dimensions of proscenium-width and stage-depth. Beyond this, storage space — allowing for expansion — should be considered. As the stage carpenters build more and more pieces of scenery including steps, stairs, platforms, fireplaces — which can be used over and over again — room must be found in which to store them. And the "flats" need such storage (upright preferably) that will not cause them to warp nor get torn or punctured. Furniture may be made or acquired until a sizable place for its safe and efficient storing is necessary. It would be a pity to have the size of one's growing stock of properties limited by a lack of space in which to store them. But even if a group does not make or add to its properties, space is necessary for the temporary safe storage of rented or borrowed material. Costumes, too, may be created and acquired. That means a costume workshop and commodious wardrobe, dry and well lighted. Lighting equipment — beyond that which are fixed installations — will probably increase as time passes and it will need space for storage and for service and repair.

It is not possible to be arbitrary in setting dimensions for these various workshop and storage spaces. A producer

would say, "Let them be ample. Let there be room for expansion. For furniture, steps, stairs, platforms and for costumes let the ceiling of the store rooms be not lower than 9' or 10'. For such things as platforms and other set pieces let there be a minimum of 20' by 25' floor space; for costume workshop and storage, no less than 20' by 40'; and for the electricians' workshop and storage, at least 12' by 20'."

Dressing rooms are also important, especially if the theatre is equipped and big enough to accommodate touring professional companies. In their own commercial theatre the stars at least are not accustomed to roughing it in their dressing room facilities. But even if there be only two rooms — one for each sex — we must bear in mind that the size of a cast may at times be large. *H. M. S. Pinafore* may have a sizable crew and Sir Joseph's sisters and his cousins and his aunts may be numerous. In one room, or in several, for each sex, it would be best to reckon on space enough for at least fifteen persons with room for their costumes and their own clothes — probably 20 sq. ft. per person.

The needs of the audience, too, must not be slighted. Above all, the auditorium should be democratic, in which everyone can see and hear with comfort. Horizontal sight lines are determined by lines drawn through the right and left ends of the proscenium width from points $\frac{3}{4}$ of the stage depth and $\frac{1}{3}$ right and left of the perpendicular bisector of the proscenium width. Three sections of seats are preferable to two or four so as to eliminate a center aisle. The rows of seats should not be parallel to the curtain line but in concentric curves, the center of which is about 10' behind the back wall of the stage. An inclined floor is best, rising 2" per foot, preferably in a regular parabolic curve (but not the parabolic reverse system prevalent in some recent moving picture houses).

Safety, too, is important, especially if emergency occurs. That is why the "continental" or aisle-less plan of seating is recommended. Each row of seats is its own aisle. Bottle-necks in the few longitudinal aisles are avoided. With only aisles along the side walls no one's view is obstructed by those walking down the aisles. There is no need to rise to allow latecomers to pass along the row to their seats. One authority assures us that "the 32-inch minimum back-to-back spacing is actually not nearly so safe for emergency egress, nor so comfortable for regular traffic ingress, as the 40-inch spacing" of the continental plan. In fact, a certain theatre, seating 477, with this plan, empties in $2\frac{1}{2}$ minutes. The wider back-to-back spacing reduces the seating capacity slightly (or requires a bit more cubic footage), but this loss is more than repaid by extra comfort, convenience and safety.

The auditorium should be insulated against outside sound and light. A windowless structure, is therefore, simpler and cheaper in construction and maintenance, with colourful artificial light for illumination.

It would be well to remember, also, that a theatre, for most people, is a place for entertainment. They come to it in festive spirit, expecting something of glamour or excitement or emotional experience. The theatre's design and decoration should contribute to this spirit and atmosphere. A cramped and drab foyer and a gymnasium-like auditori-

um can be depressing even to the insensitive.

"All spaces and services for the audience should be generous; a person who worries about his temperature, his hearing, his seeing, his knees, his coat, his ticket, or his automobile cannot be entertained." So said George H. Quinby, having made a personal survey of forty university theatres built in the United States between 1930 and 1943. And significantly enough, his year's survey revealed that, of those forty, only two or three were quite satisfactory to the producers who had to work in them. Some of the results, too many of them, were even wretched and grievous. Ninety-five percent faulty is not a good record for the planners. Surely we can do better than that.

BIBLIOGRAPHY

A few sources of information have been given in footnotes above. To these, the following recent publications are especially recommended. (And the *Architectural Forum* — Theatre Reference Number — September, 1932, and the *Architectural Record*, May, 1930, would repay looking into.)

Bell, Stanley, Norman Marshall and Richard Southern *Essentials of Stage Planning*. London: Frederick Muller Ltd., 1949.

Burris-Meyer, Harold, and Edward C. Cole. *Theatres and Auditoriums*. New York: Reinhold, 1949.

Leacroft, Richard. *Civic Theatre Design*. London: Dennis Dobson Ltd., 1949.

Papers presented at the 8th Ann Arbor Conference, *The Theatre*. Ann Arbor, University of Michigan College of Architecture and Design, 1950.

Watson, F. R. *Acoustics of Buildings* (3rd ed.). New York: John Wiley and Sons, 1941.

BULLETINS AND PAMPHLETS

Barrows, Alice, and Lee Simonson. *The School Auditorium as a Theatre*. U.S. Office of Education Bulletin, 1939, No. 4, Washington, D.C., U.S. Government Printing Office, 1939.

Motion Picture Herald, 1946, May 4. Spring Buyers' Number. Catalogue of air-conditioning and ventilating systems, chairs, acoustical equipment, etc.

Russell, John A. *The Auditorium and Stage in Your Community Centre*. Western Canada Theatre Conference (University of Saskatchewan), 1945.

PERIODICALS

"Architecture for the Theatre", *Theatre Arts Monthly* (September, 1946), pp. 538-551.

"Community Theatre", *Architectural Record* (October, 1939), pp. 78-104.

"Community Theatre", *Architectural Record* (January, 1940), pp. 39-41.

Lyndon, Maynard. "Community Theatres", *Architectural Record* (July, 1938), pp. 120-124.

Schlanger, Ben. "Theatre Auditorium Seating Plans Freshly Considered", *Architectural Record* (June, 1944), pp. 90-94, 97, 102.

A THEATRE CHECK LIST

A composite (with some selection) of a number of lists — in which the aim is to be complete enough so that items that might be considered may not be overlooked by being omitted.

LOCATION should have accessibility, harmony with its location, easy exits on several sides, parking space (requires usually at least six times as much land as the theatre).

MATERIALS, ENGINEERING, EXISTING BUILDING CODE REQUIREMENTS

PUBLIC SPACES: ENTRANCE, VESTIBULE, FOYER, ETC. (the first consideration: ease of movement); auto and foot entrances separate, vestibule (at least 10' by 15') — to provide a series

of three doors between outdoors and the auditorium proper; durable floor or floor covering with maybe sinkage for mats; display and photo frames, with recessed lighting or spot-lighting, for announcements (may be in the foyer); box office, with ticket rack(s) and one or more wickets; lobby or foyer; cloak room or check room near entrance; men's and ladies' rest rooms and lavatories, mirrors, soap receptacles, paper towels, waste paper receptacles, cigarette ash receptacles; manager's office adjacent to box office; usher rooms and lockers; staircases (check width with local building codes), handrails for both sides, center handrail for wide stairs; public telephone booth(s).

FIRE PRECAUTIONS: Hose reel recesses, extinguishers, alarms, sprinklers, tools, fire escapes.

MAINTENANCE: Janitor's room, slop basins on each level, maintenance material storage for cleaning materials: vacuum cleaner, brooms, brushes, etc; for advertising material, programs, posters, etc.

AUDITORIUM

SIZE: (Reckon 6 sq. ft. (min.) per seat to 8 sq. ft. — for "Continental" or aisle-less plan); 300-1,000 seats (700 maximum for effective dramatic work, especially with non-professionals).

SHAPE: Dictated entirely by sight lines and acoustics; fan-shaped; floor incline — 2" rise per foot — parabolic curve preferably.

FREE FROM LIGHT: No windows, or with curtains or other means of being darkened; indirect entrance from semi-darkened hall.

SIGHT LINES: Democratic — from every seat to cover nearly the entire stage; vertical and horizontal plane; seating space the width of the proscenium arch or fan-shaped back from this width; floor slopes — allow three- or four-head clearance; relation of walls to stage; height of stage floor in relation to auditorium (3' to 4').

ACOUSTICS: (The services of a professional and acoustical consultant are invaluable); insulation against outside and inside disturbing noises; no adjacent corridors leading to other parts of the building; auditorium surrounded by rooms or placed on the side of the building away from street and car noises; only curtains at auditorium entrances (or noiseless doors); insulation of all apparatus foundations; actors or speakers must be able to make themselves heard in all parts of the auditorium without undue effort; sloping of the ceiling for purposes of sound-distribution; ceilings under balcony not parallel to the auditorium floor; no parallel walls; no concave curved areas of wall, ceiling or balcony front; resonant panelling and acoustic materials on ceilings, walls, floor; may need splays at proscenium; must check on the absorption values of audience, seats, floor and wall covering, broken or pierced surfaces; for control, may need adjustable ceiling splays over stage and forestage; be sure that the auditorium is kept live; let reverberation time be that which falls half way between the optima for speech and music for the cubage in question unless provision has been made for controlling reverberation time; be sure of constant reverberation no matter to what extent the auditorium is filled; floor sinkage for carpets (aisles).

BALCONY: Retreated over lower hall or foyer for better sight lines and acoustics, cross-overs, exits, handrails, projection booth, not horse-shoe-shaped.

ORCHESTRA PIT (if any): Sixteen square feet per player; not less than 12' deep (i.e., wide) across entire front of auditorium; elevator, or covered by a removable fore-stage; investigate a new location (theatre people have long complained about the orchestra being between the stage and the audience).

SEATING PLAN: "Continental" or with longitudinal centre aisles?; not less than 34" back to back, and somewhat staggered; curved rather than straight — radius of first row 20' from center of the back wall of the stage; aisles preferably only against the side walls where seats are undesirable, these aisles 3' to 4' wide (if there are other aisles: 3' wide at the

front of the auditorium, becoming wider by 6" every 10'), check with codes; if orchestra pit is there, first row of seats 3' from it.

SEATS: Widths: 19"-24" (20"-22" is customary); comfortable and silent — no wicker; covered with material that is easily cleaned, non-fading, long-wearing; windshield (behind the last row of seats).

LIGHTING: To illuminate the aisles for traffic; bright enough for program reading; soft and pleasing; contributing to the atmosphere; flexible in form and brightness distribution; directed predominantly toward the front of the auditorium; some from the sides, to light the people in the audience "in the round"; flexible in colour — for variety and interest (be kind to flesh tints); no distracting nor unpleasant light-reflecting surfaces.

EXIT DOORS to open outward; exit lights (emergency lighting) on circuit separate from all other lights; avoid steps if possible; plant walkways in truss space — for access to recessed spotlights and ducts.

PROSCENIUM (Bear in mind: sight lines and the proportions of actors); height above auditorium floor 3' to 4'; dimensions: 20'-35' wide (30' is a good width), 10'-15' high (if too high, bad acoustically); design: simple, structural, rectangular; flexible and variable in width and height by means of a movable inner proscenium, related in design to the auditorium; approach by forestage and series of steps or by adequate flight of steps at the sides.

STAGE: (The heart of the theatre, it is much more than is seen by the audience); depth equal at least to proscenium width; width equal at least to twice the proscenium, half on each side; if gridiron and flying rigging are to be used, height equal to two to three times the proscenium height plus 3' for blocks; walkway above gridiron: 5'-6' clearance under the roof; gridiron to cover the entire acting area; overhead or hung loft blocks; three or five I-beams; gridiron hung or wall-borne; skylight in "stage house" to comply with fire regulations; ladders or steps (spiral stairs) to gridiron; access to the roof; fly gallery 20'-25' above the stage floor; free side wall for pin rail; rigging: one set of lines for every foot of stage depth (need not be regularly spaced); counterweight system; mechanical equipment for scene shifting (which might take the place of gridiron and rigging) such as: revolving stage or elevator stage or wagon stage or end-pivoted stage (jack-knife) or combination of these or at least a stage with sizable space; removable or fixed fore-stage; hardwood apron to 2' back or curtain line; stage floor soft wood — pine or fir — long-grained covered with removable canvas or linoleum on acting area; may be trapped in sections 3' square — loose beams.

SIDE WALLS: Unplastered; painted a dark colour; inset with two-by-fours for attaching cabinets, shelves, cable hangers; space on each side for stacking scenery.

CYCLORAMA: Either (1) permanent sky dome (concentrates voices) or (2) plastered back wall; reflects and spreads voices; must be free from obstruction; eggshell finish; if in fixed position, makes full depth of stage necessary for all exterior scenes; or (3) flown stretched fabric; reduce openings in the stage walls to the minimum (none in the back wall if there is no cyclorama in front of it); necessary doors placed to be least in the way.

FIRE DOORS: One large door to admit scenery and large properties; accessible to the street — loading platform 42" high from street or ramp or both, covered somehow as protection against inclement weather; clear passage to stage and storage; masked from light when opened; one foot higher than highest scenery; 4' wide or wider — may be double

doors each 4'; noiseless.

STAGE ENTRANCE: Door to auditorium — may be one left and one right; cross-over on or under the stage (preferably at stage level); act curtain; asbestos or steel fire curtain; signal system of lights or buzzers or other "intercom", connecting stage manager with "front of the house", dressing rooms, etc.

LIGHTING FACILITIES: Switchboard (usually stage right, if on stage floor); may be on permanent bridge over the stage or may be a means of control out-front in the auditorium; has working space all around; work lights on circuit separate from switchboard; disappearing trough of footlights; perhaps, light trough for cyclorama; perhaps, light bridge; auditorium beam lights or side wall lights (i.e. spotlights) — with access to them; balcony-rail spotlights (if too low, cast shadows on background) or spotlight booth; sound effects equipment and public address system; perhaps facilities for radio broadcasting, with control booth and observation booth (sound proof).

PREPARATION SPACES: Scenery building and painting (with access to the stage yet isolated because of the noise of carpentry, etc.); large door to the stage; lights; lockers; work bench; shelves; slop basin and running water; paint frame and paint bridge (or slot in the floor); scene dock (for storage); storage for stairs, platforms, other set pieces, etc.

ELECTRICAL DEPARTMENT: Power A.C. (or D.C.); workshop; storage for equipment and supplies: lamps, cables, gelatines, etc., easy access to the units for relamping or operational service; battery room for emergency lighting; transformer vault and distribution room.

PROPERTIES DEPARTMENT: Open space for furniture; shelves for small articles; cabinets or cupboards; may be a "current production storage space" — to store, between performances, properties too valuable to leave in open space.

COSTUME DEPARTMENT (includes designing, cutting, sewing, fitting, dyeing, storing): Near the dressing rooms; lights and power; shelves, racks, hangers, wardrobes; fitting booth; full-length mirror(s); work table and table for sewing machine; daylight for workers, but wardrobes and storage spaces protected against sun-fading; costume storage must be absolutely damp-proof.

MAKE-UP (may be a room separate from dressing rooms): Mirrors; make-up tables (or shelves table height); wall lights (or lights around the mirrors); power for curling irons, etc.; storage cabinet; hampers or waste baskets; water; maybe a full-length mirror.

DRESSING ROOMS (so located so as to keep noise and light away from the stage): At least two: one for men and one for women; may be star(s); 2-, 3-, 4-person rooms; mob or chorus room; may be a minimum of two near the stage; trunk and baggage access and storage; adequate illumination: direct and evenly distributed; lockers or clothing racks or wardrobes, with hangers; may be portable rack(s) for costumes; full-length mirrors; hot and cold running water; paper towels and waste paper receptacle; minimum of two lavatories; kitchen.

GREEN ROOM (Assembly or club room for actors) and/or rehearsal room(s); between the dressing rooms and the stage; not less than 15' by 25' (preferably larger, if also rehearsal room).

MUSIC ROOM (may be in the basement or other part of the building): Lockers, cabinets and shelves; lavatories.

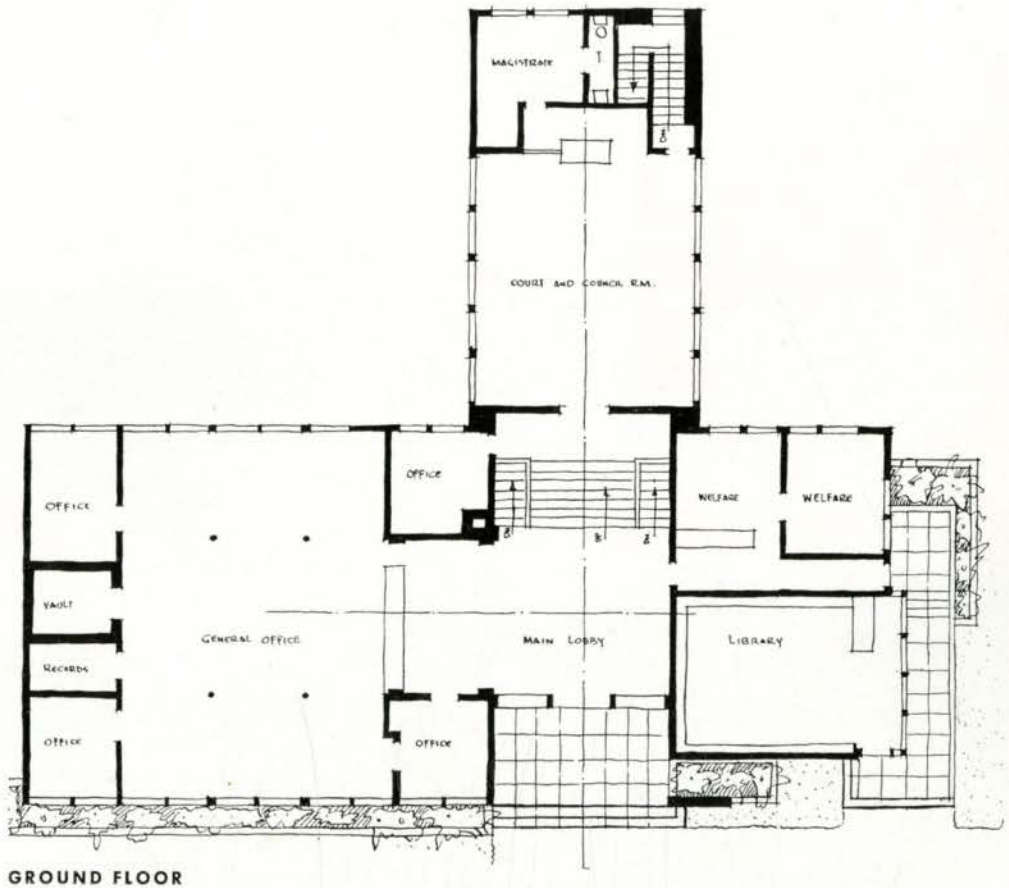
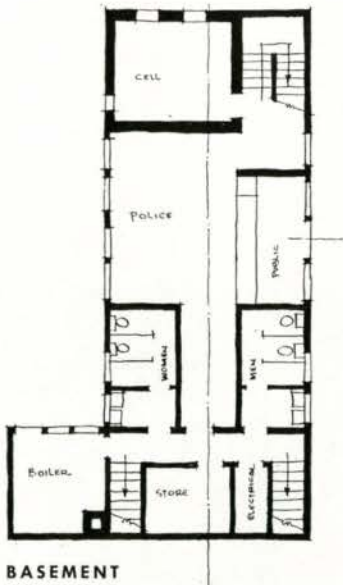
BASEMENT: Boiler room; coal and oil storage; refrigerating plant; transformer room; contactor room for the stage switchboard; motor generator room; meter room; battery room for emergency lighting; pumps; incinerator; air-conditioning, heating, ventilating.

HANEY MUNICIPAL HALL, HANEY, BRITISH COLUMBIA

PERCY C. UNDERWOOD, ARCHITECT

Alouette Industries, General Contractors

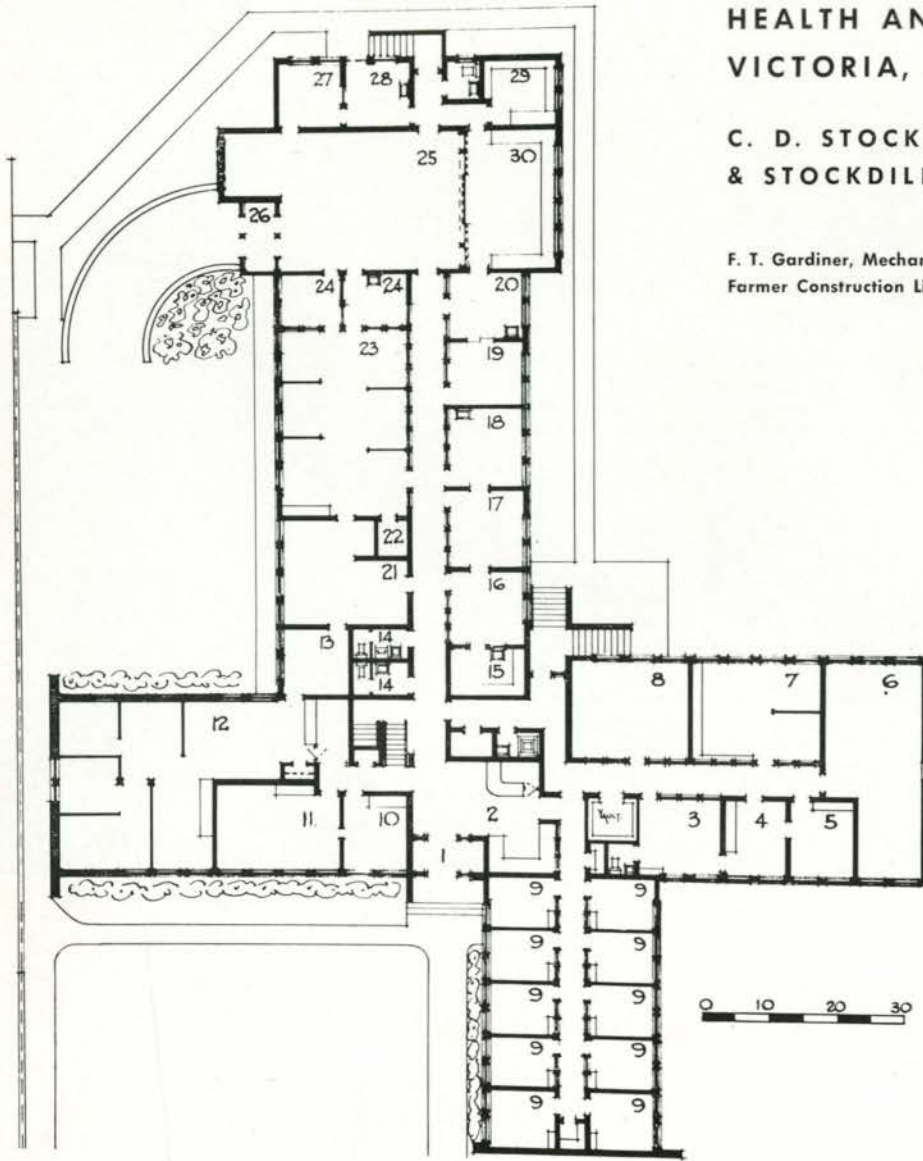




HEALTH AND WELFARE CENTRE, VICTORIA, BRITISH COLUMBIA

C. D. STOCKDILL OF BIRLEY, WADE
& STOCKDILL, ARCHITECTS

F. T. Gardiner, Mechanical Engineer
Farmer Construction Limited, General Contractors



1. Main Entrance
2. Reception Room
3. Welfare Administration
4. Secretary
5. Assistant Administration
6. Filing
7. Accounting
8. Stenographers
9. Interview Rooms
10. Public Health Educator
11. Committee Room
12. Sanitary Inspectors
13. Chief San. Inspector
14. Washrooms
15. Mimeo. Room
16. Secretary
17. Medical Health Officer
18. Dental
19. Nursing Supervisor
20. Assistant M.H.O.
21. Nurses' Stenos.
22. Cloakroom
23. Nurses
24. Interview Rooms
25. Auditorium
26. Clinic Entrance
27. Psychologist
28. Psychologist
29. Storage
30. Clinic for Babies





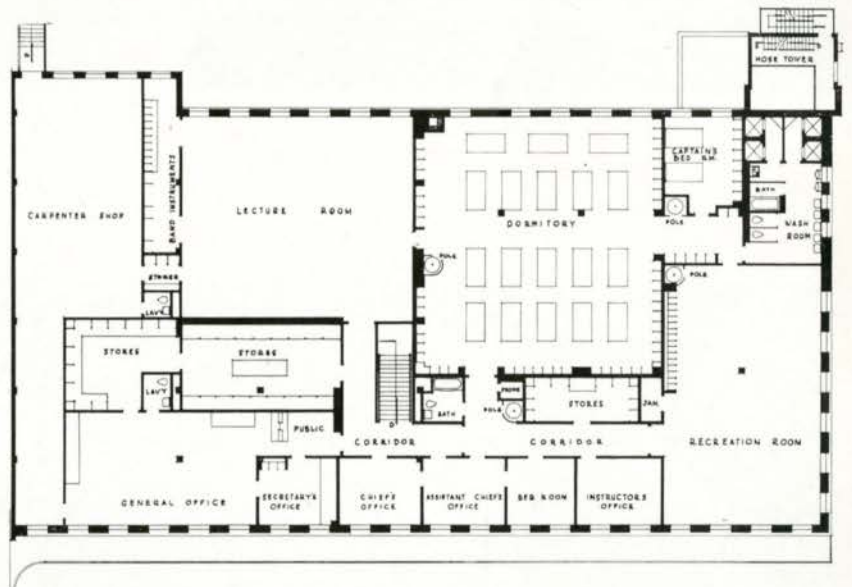
FIRE HALL, VANCOUVER, BRITISH COLUMBIA

TOWNLEY AND MATHESON, ARCHITECTS

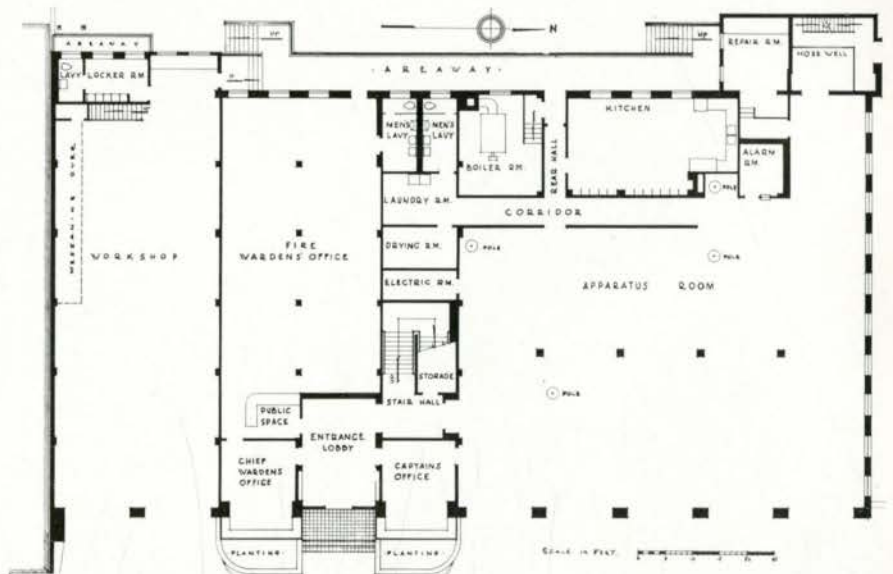
John A. Read, Structural Engineer
Armstrong & Monteith Construction Co., Limited,
General Contractors

LOOKING SOUTH-WEST

2ND FLOOR



GROUND FLOOR



CITY HALL, SHAWINIGAN FALLS, QUEBEC

ARTHUR LACOURSIÈRE, ARCHITECT



CHARLES MARCOTTE

CAUCUS ROOM

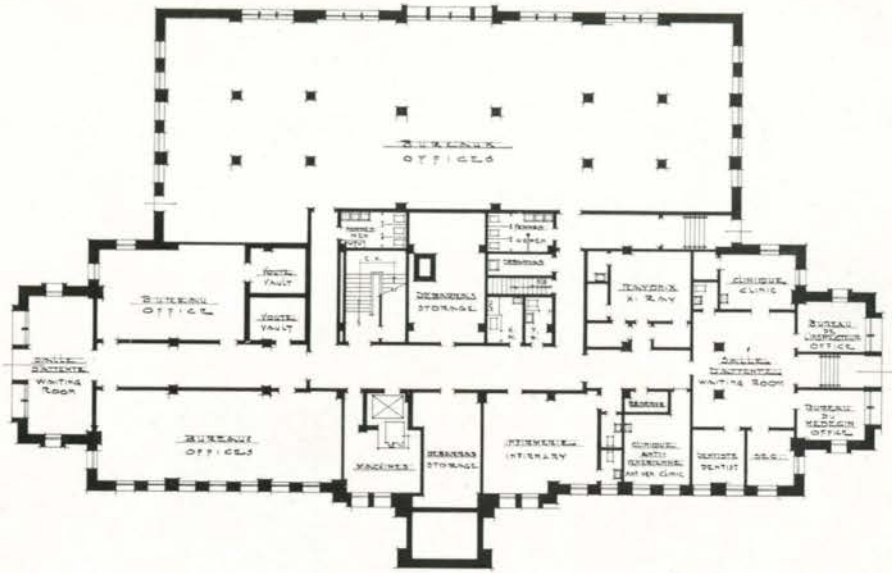


CHARLES MARCOTTE

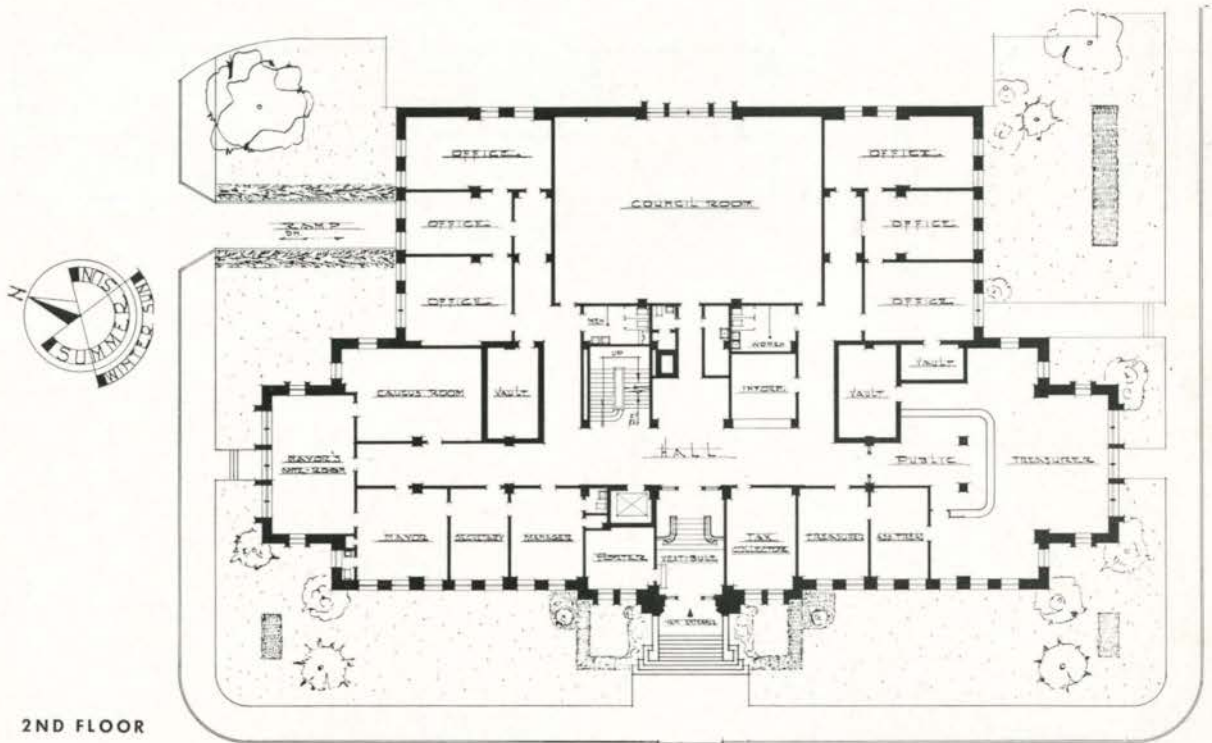
COUNCIL CHAMBER

NORTH-WEST CORNER



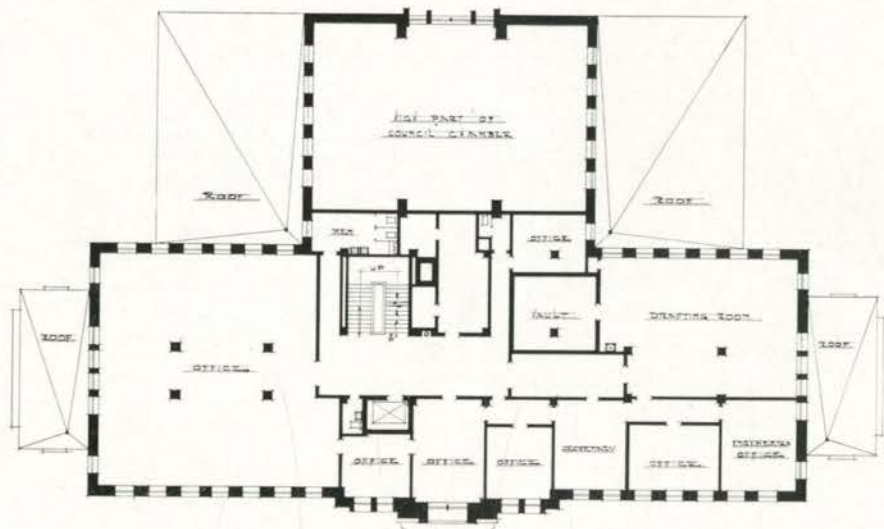


GROUND FLOOR



2ND FLOOR

SCALE 1/4" = 1'-0"

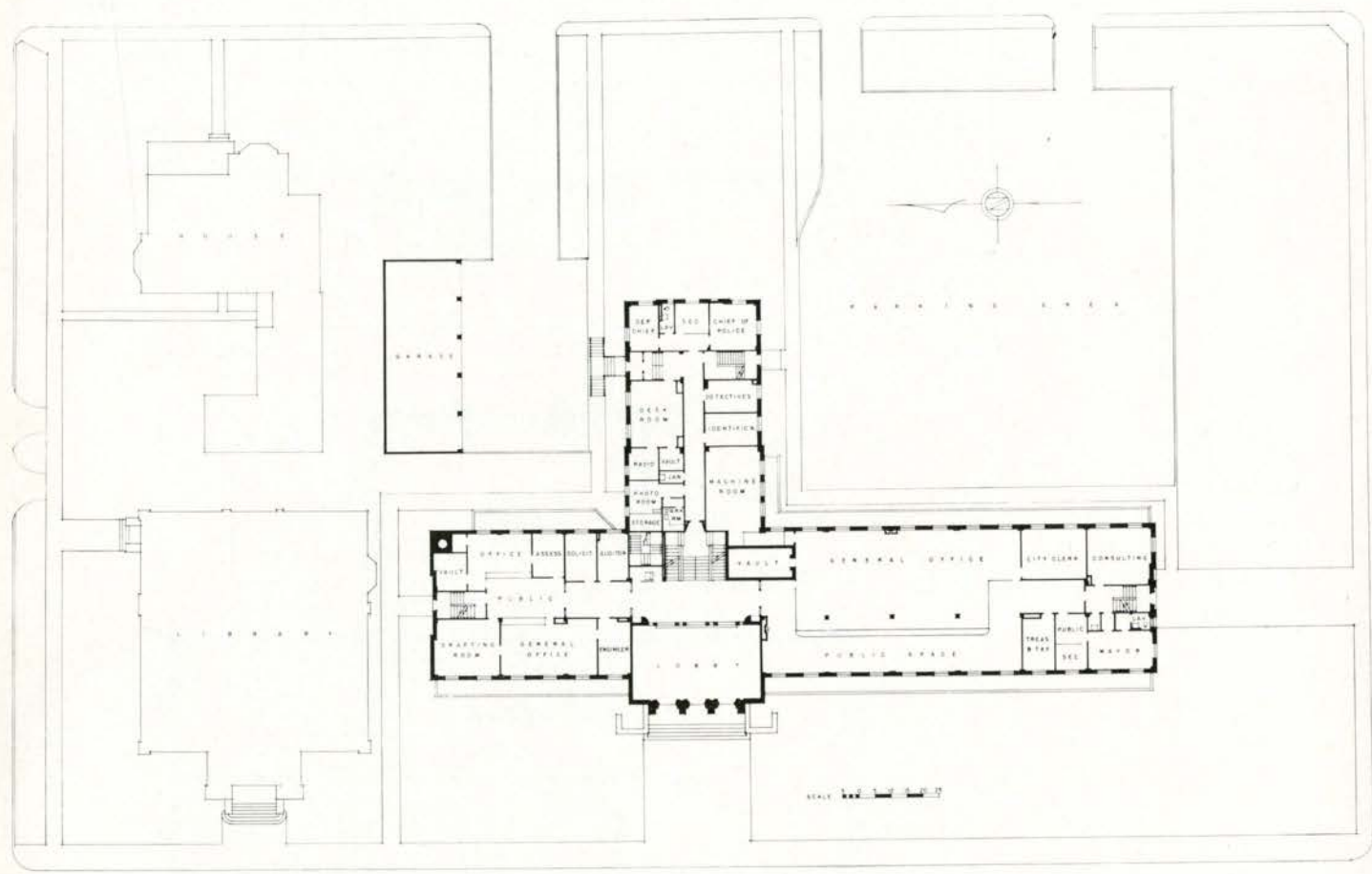
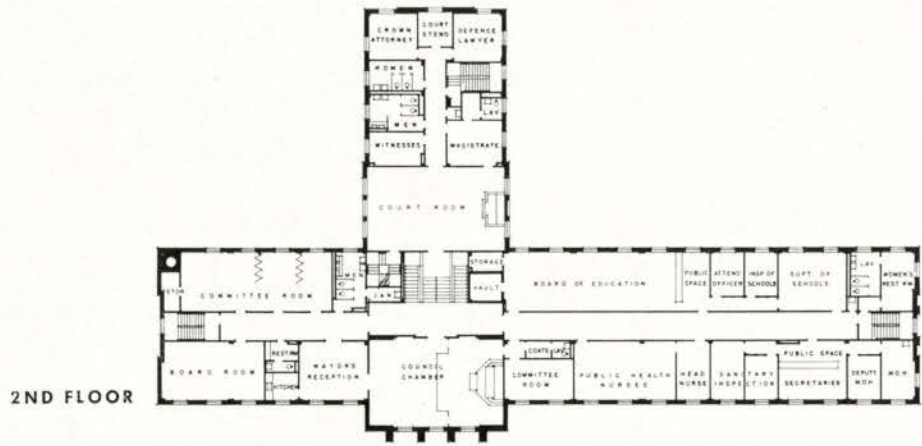


3RD FLOOR

CITY HALL, PETERBOROUGH, ONTARIO

MARANI & MORRIS, ARCHITECTS

H. H. Angus & Associates Limited, Mechanical Engineer
 Eastwood Construction Co., Limited, General Contractors



1ST FLOOR



MAYOR'S RECEPTION ROOM

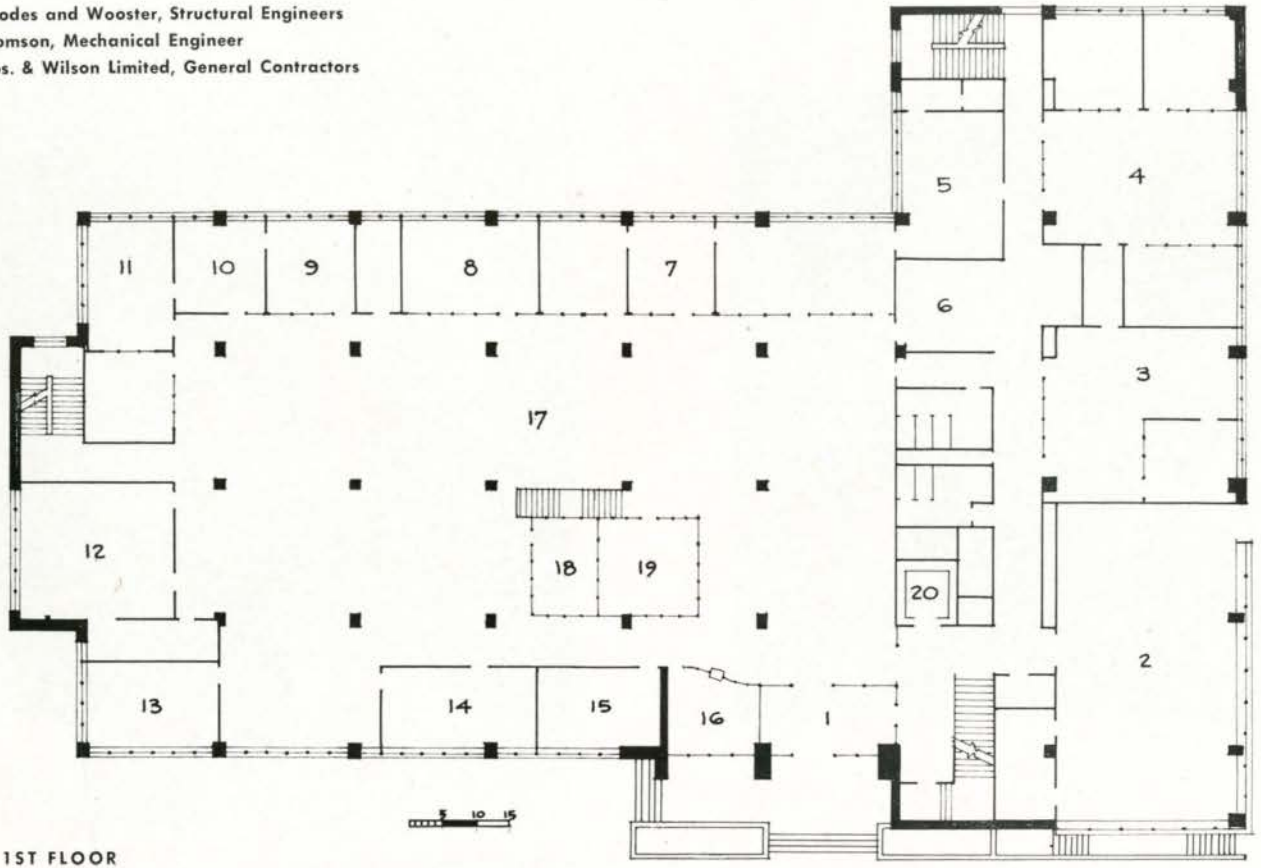
WARNER BROS.



SCHOOL BOARD ADMINISTRATION BUILDING, VANCOUVER, BRITISH COLUMBIA

E. D. KING, ARCHITECT; G. W. PECK, ASSISTANT ARCHITECT

Swan, Rhodes and Wooster, Structural Engineers
D. W. Thomson, Mechanical Engineer
Smith Bros. & Wilson Limited, General Contractors

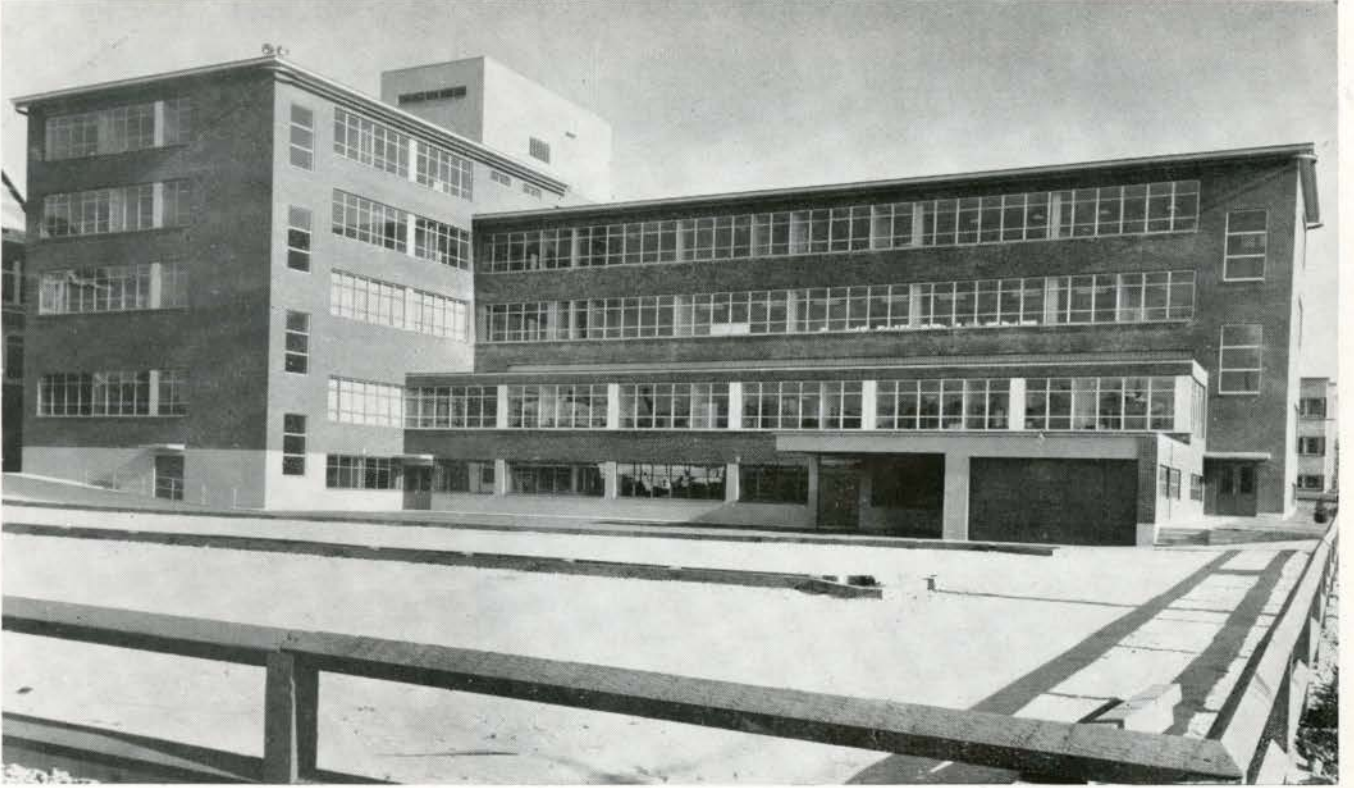


1ST FLOOR

SOUTH-EAST ELEVATION



INDUSTRIAL PHOTOGRAPHICS



NORTH ELEVATION

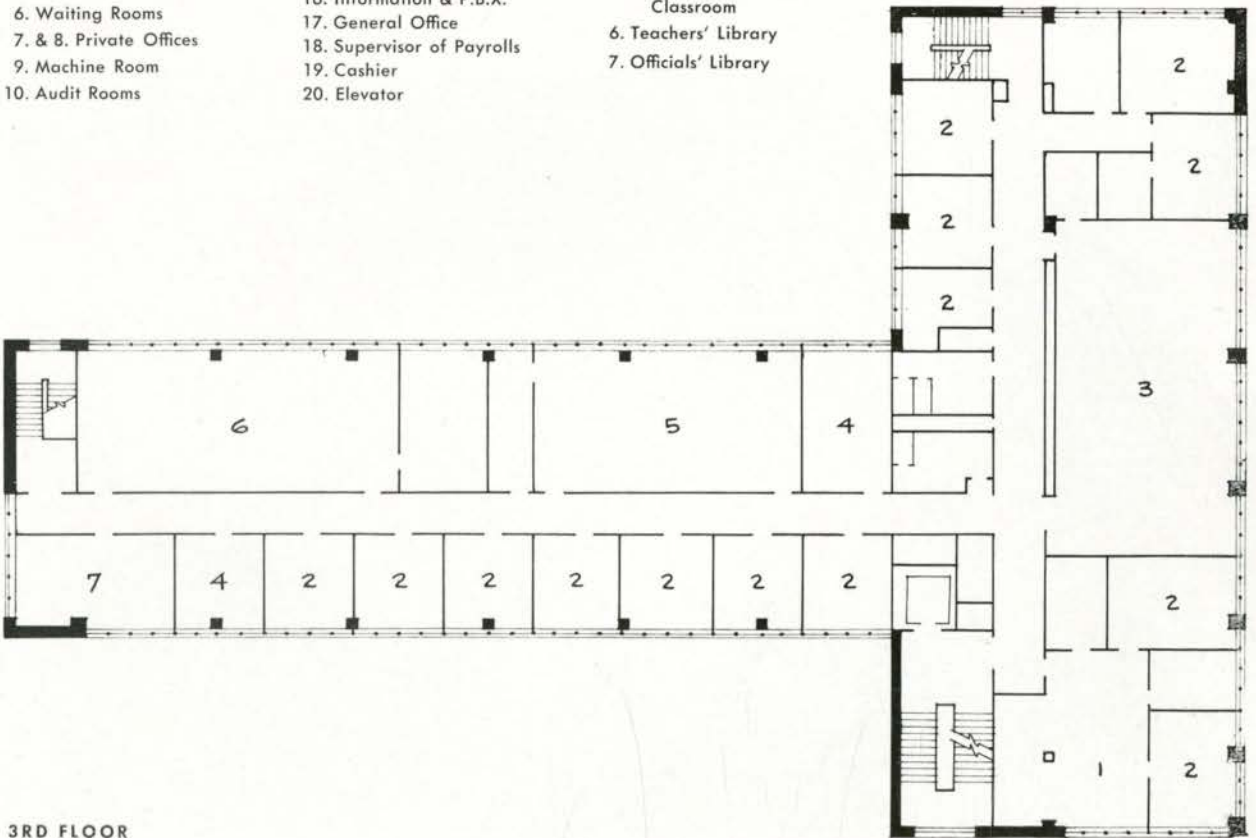
1ST FLOOR

- 1. Lobby
- 2. Assembly Rooms
- 3. Adult Education Director
- 4. Inspectors of Schools
- 5. Superintendent of Schools
- 6. Waiting Rooms
- 7. & 8. Private Offices
- 9. Machine Room
- 10. Audit Rooms

- 11. Accountant
- 12. Purchasing Agent
- 13. Building Superintendent
- 14. Chief Engineer
- 15. Conference Room
- 16. Information & P.B.X.
- 17. General Office
- 18. Supervisor of Payrolls
- 19. Cashier
- 20. Elevator

3RD FLOOR

- 1. Supervisors' Stenographer Pool
- 2. Supervisors' Offices
- 3. In-Service Training Workshop
- 4. Conference Room
- 5. In-Service Training Music Classroom
- 6. Teachers' Library
- 7. Officials' Library



3RD FLOOR



ADMINISTRATION BUILDING

HASTINGS COUNTY HOME
FOR THE AGED,
BELLEVILLE, ONTARIO

CRAIG & MADILL, ARCHITECTS

Wallace, Carruthers & Associates Limited, Structural
Engineers

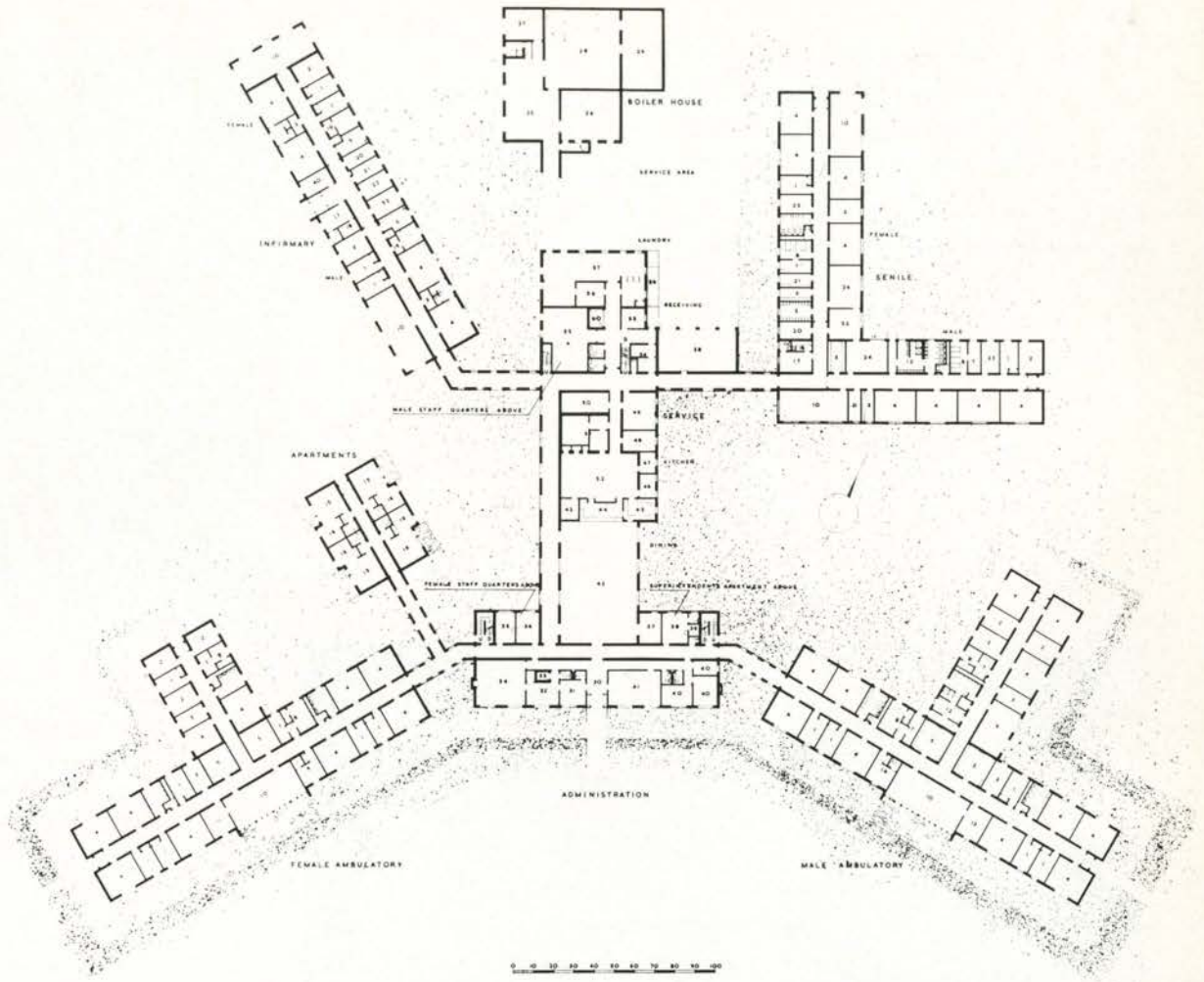
H. H. Angus & Associates Limited, Mechanical Engineers

M. Sullivan & Son Limited, General Contractors

DAY ROOMS FACING SOUTH TO BAY OF QUINCY



1. 1 Bed Room
2. 2 Bed Room
3. Linen
4. 4 Bed Room
5. Locker Room
6. Hobby Room
7. Clean Clothes
8. Bath
9. Matron
10. Day Room
11. Sewing
12. Change Room
13. Smoking Room
14. Orderly
15. Living Room
16. Bed Room
17. Nurse
18. Dispensary
19. Sub Utility
20. Wheel Chairs and Stretchers
21. Blankets
22. Utility Room
23. Isolation
24. Dining Room
25. Pump Room
26. Wood Shop
27. Electrical Room
28. Boiler Room
29. Coal
30. Lobby
31. Secretary
32. Superintendent
33. Vault
34. Library and Board Room
35. Beauty Shop
36. Barber Shop
37. Chair Storage
38. Doctor
39. Dressing Room
40. Visiting
41. Lounge
42. Resident Dining Room
43. Truck Wash
44. Servery
45. Dish Washing
46. Pot Wash
47. Special Diets
48. Vegetable Preparation
49. Staff Dining
50. Day Storage
51. Refrigerated Area
52. Kitchen
53. Stores Accountant
54. Garbage and Can Wash
55. Bulk Storage
56. Clean Linen Storage
57. Laundry
58. Garage
59. Loading Dock
60. Elevator to Basement Storage

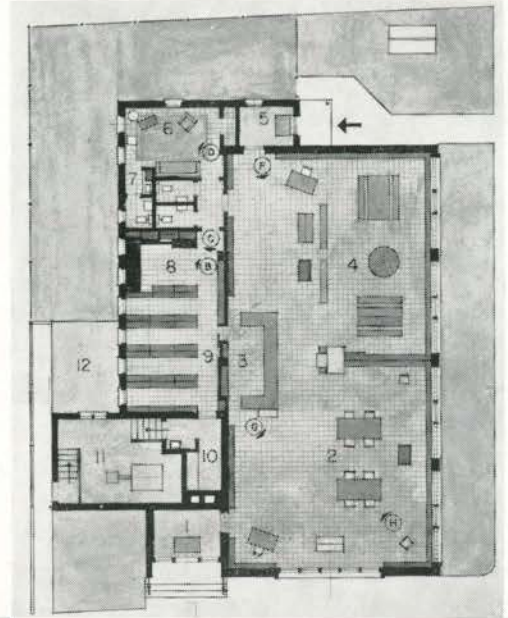


RESIDENT DINING ROOM



**HAMILTON PUBLIC LIBRARY,
MOUNTAIN BRANCH, HAMILTON, ONTARIO
HUSBAND, ROBERTSON & WALLACE, ARCHITECTS**

W. H. Cooper Construction Company Limited, General Contractors



1. Main Vestibule
2. Adults' Reading Room
3. Librarian
4. Children's Reading Room
5. Children's Entrance
6. Staff Room
7. Kitchen
8. Work Space
9. Stack Room
10. Store Room
11. Boiler Room
12. Roof over Fuel Room



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HALIFAX, NOVA SCOTIA

LESLIE R. FAIRN, ARCHITECT

Standard Construction Company Limited, General Contractor



CIRCULATING LIBRARY

BOLLINGER





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INCORPORATED BY THE DOMINION PARLIAMENT 16th JUNE, 1908, 1st APRIL, 1912, AND 14th JUNE, 1929

NEWS FROM THE INSTITUTE

CALENDAR OF EVENTS

Annual Meetings of Provincial Associations:

Alberta, Cascade Hotel, Banff, January 23rd and 24th, 1953.

Manitoba, Fort Garry Hotel, February 2nd, 1953.

Ontario, Royal York Hotel, Toronto, January 16th and 17th, 1953.

Quebec, Windsor Hotel, Montreal, January 27th to 29th, 1953.

1953 ANNUAL ASSEMBLY — The 46th Annual Assembly of the RAIC is to be held at the Royal York Hotel in Toronto on Thursday, Friday and Saturday, April 23rd, 24th and 25th, with the pre-assembly meetings taking place on Wednesday and the general assembly convening on Thursday morning. Mr. L. E. Shore has been appointed Convention Committee Chairman, and plans are already underway for an interesting program.

SWEET'S CATALOGUE — Members are advised that the Institute is in possession of a Sweet's File Architectural which may be seen at any time in the Executive Offices of the RAIC at 88 Metcalfe Street, Ottawa.

ALBERTA

It is common to speak of a district in which many peoples from diverse countries are brought together as a melting pot. The simile seems to me, in spite of its wide acceptance, to be inappropriate. A concrete mixer would be nearer the mark. Alberta, it is generally understood, is a melting pot. In this particular melting pot we quite expect occasional temperatures of forty degrees below zero, even at that we experience no melting mood. What the simile is intended to imply is that here is a country in which many varieties of mankind are welded together so as to produce a harmoniously working society, and welding implies heat. Albertans prefer to think of their country as a testing laboratory, — a place in which, with relatively open space and with minds not severely tied to formal conventions and ingrown customs, experiments may be tried and new ideas may be given a fair chance to show their worth, if worth they have. If we are told that there is nothing new under the sun we can point out that we have discovered that there are a great many old things under the sun that have never been put to their proper use, or their full use or to any use at all, and that they may be given a trial. This, we are told, invites disaster. We don't mind taking risks. By these we learn. Generally the threatened disasters do not come. They seem to melt away unaccountably. At one time it was held that to try to develop a country which, in winter, had occasional temperatures of forty below zero would be disastrous. We cannot see that it was.

A natural consequence of our condition as a testing ground is that our architecture presents a hodge podge of

ideas just as does that of our older provinces, but not any more so. This is the province of Canada which possesses the greatest potential natural wealth of any. Lest this statement should come as a surprise to Albertans, I ought to say that I recently heard it made by an economist from Bay Street, Toronto, to an Edmonton audience on his word of honour as an economist with a dominion-wide view of the situation. There is a peculiar virtue, or is it vice, in that word "potential" for there seems to me less evidence of "actual" wealth amongst the generality of people here than one sees in some other less favoured provinces. We never are but always to be blessed. We are building up industries with great zeal and consequently we are building up our cities with our minds intent, not mainly on what we are making them, but rather on what we vaguely hope they are going to be. This building up process necessarily creates mess and plenty of it. This mess we become accustomed to and overlook. In fact those who make it do not see it as mess at all. To a stranger it is probably the only thing visible. We feel great pride in what we are doing but a visitor from a more finished country stands aghast. He does not appreciate that blessed word "potential" which holds such a spell over us.

It is fortunate, however, that whereas formerly immigrants of foreign extraction came to us requiring to be taught everything, we now get many from whom we can learn many lessons. They may require to learn much about our ways but sometimes they can even tell us of better ways.

Cecil S. Burgess

ONTARIO

It was suggested that a short treatise on football would be timely since this letter is postmarked "Hamilton", but unfortunately the recent rainy season in Toronto required a quick change of subject matter.

Perhaps a review of the potential development in the Hamilton area would be of interest particularly since the St. Lawrence Seaway is becoming a reality. Even now, in point of tonnage, Hamilton Harbour is the third largest of any port in Canada. Ships from England, Netherlands, Norway, Sweden and other European countries, as well as twenty-seven shipping lines of the U.S.A. and Canada, make this harbour a port of call from April to December. The Hamilton Harbour Commission operates, and annually expands, its facilities for loading, unloading and warehousing all types of products. They also have harbour land which can be leased for industry requiring harbour facilities. It is difficult to comprehend the ultimate development which will take place when the Seaway is completed.

There are many reasons why this city has more than five hundred industries, producing well over a half billion dollars worth of goods. Hamilton is located in the centre

of the richest consumer market in Canada. It has a population of over two hundred and eight thousand and the suburban area adds another fifty thousand. It is the centre of the Canadian steel industry with two of Canada's four largest basic steel producers, The Steel Company of Canada and the Dominion Foundries and Steel Company. These two companies recently spent over a hundred million dollars expanding their production facilities. The availability of steel has drawn many steel fabricating plants to the area.

Hamilton may be considered an electrical centre with the Canadian Westinghouse Company manufacturing all types of electrical power equipment, appliances, lamps, radio, television and electric equipment. This operation requires many small feeder plants which are located in the city.

The textile industry is well represented with eleven textile plants. The Provincial Textile Institute which trains students in co-operation with the industry is also located here.

Hamilton district is rapidly becoming a centre of the Canadian Automobile industry. With Studebaker and Austin in the city and Ford only twenty-two miles away, there will be an increasing demand for automobile parts and supplies. Many feeder plant sites have been acquired and enquiries for property in the area are at an all time high.

The cheap electrical power, the excellent transportation facilities, the diversity of skilled workmen, the availability of raw materials and essential services, and the proximity of a great consumer market have made Hamilton attractive to industry, and the substantial industrial expansion that has taken place since the war is concrete proof of the vitality of this important economic area.

Alvin R. Prack

1953 O. A. A. CONVENTION

Plans are being finalized to make the annual convention and general meeting, scheduled for the Royal York Hotel, Toronto, January 16-17, one of the most inspiring and memorable get-togethers that Ontario architects have ever had.

There are to be two main features: the annual exhibition of new building materials and techniques, in which 45 firms will participate, and a photographic exhibition of industrial buildings completed within the past five years. The building products exhibition has established itself in O.A.A. members' minds as a chance to glimpse what the future holds for construction. The photographic exhibition will help them assess current trends in architectural design.

The general meeting, opening the convention, will be held on the morning of Friday, January 16. It will be followed by a luncheon at which O.A.A. members and their wives will be guests of the Toronto Chapter. The luncheon speaker is to be Carl Feiss, the well-known Washington, D.C., architect who contributes a bright and spritely monthly column to an American architectural publication.

In the afternoon there will be a particularly timely panel discussion on the subject, "Can School Construction Costs Be Reduced?" Chairman will be Professor Anthony Adamson of the School of Architecture, University of Toronto.

The participants will be Burwell R. Coon, J. A. G. Easton, and John C. Parkin, all of Toronto, and H. H. Roberts, Westport, Ontario.

That evening the architects will be the guests of the exhibitors for cocktails, and the architects will later play host to the exhibitors at a buffet supper. A dinner party is planned for the ladies, and the highlight of the evening will be an informal dance, at which entertainment will be provided by students of the School of Architecture, University of Toronto.

The Saturday morning tour, so popular at previous conventions, has been retained. This year the new Frigidaire plant at Leaside will be visited. At luncheon, a leading economist will make "An Economic Forecast For The Province of Ontario." The afternoon will witness a seminar on the St Lawrence Seaway and the impact it will have on the architectural profession. The chief architect of the Tennessee Valley Authority, Harry Tour, is expected to be present and take part in the discussion.

The annual dinner on Saturday evening will close the convention. This is a black tie affair and will be graced by the presence of a witty and distinguished speaker from Detroit, Michigan. He is Roger Allen, the head of the firm of Roger Allen and Associates, specialists in the design of educational and institutional buildings. The firm does considerable work for the State of Michigan, and in the past 10 years, a very large number of public projects have been handled.

Mr Allen is a former president of the Western Michigan Chapter, A.I.A. and a former president of the Michigan Society of Architects, which consists of the Detroit, Western Michigan and Saginaw Valley Chapters of the Institute.

Arrangements for the 1953 convention are in the hands of a capable committee, with Robert G. Calvert as chairman. Other committee members are George Abram, Herbert G. Cole, Margaret Christie, Donald Jackson, D. G. W. McRae, James A. Murray, Frank Newton, and John Caulfield Smith. John D. Miller is Secretary.

John Caulfield Smith

OBITUARIES

David Wynyard Bellhouse was born in Manchester, England. At the age of three years his parents moved to Germany and it was there he received his early education. He studied architecture in Bruges, returning to London in 1880, continuing his studies in the Royal Academy Schools. In 1883, he emigrated to Canada and took up land in the Glenboro district, 130 miles west of Winnipeg.

In 1888, he moved into Winnipeg — a city of around 15,000 persons — and started an architectural office with little success owing to lack of clients requiring architectural services. He gravitated to the office of the Division Engineer of the C.P.R., staying with the company until 1912. At this time, he again entered the architectural field and continued in practice until 1938 when he retired. Upon his retirement, he was made a life member of the Manitoba Association of Architects.

Mr Bellhouse was probably one of the first architecturally trained men to arrive in the west and to practise his profession.

In his early days he was known as a keen cricketer and

rugby player, and could always be seen in his later years watching the games. He was an ardent sportsman, hunting and fishing and enjoying the great outdoors, the woods and lakes of the province. He reached the age of 92 years, enjoying a full life of simple pleasures and had a host of friends.

C. W. U. Chivers

Huntly Ward Davis. The late Mr Davis was born in Montreal, where he received his early education. He was a graduate of the Massachusetts Institute of Technology; joined the Province of Quebec Association of Architects in 1903, and at the time of his death was still active in practice as one of the oldest members of the Association and of The Royal Architectural Institute of Canada.

In the early years of the twentieth century, Mr Davis was a "contemporary architect" for during this era of post Victorian vulgarity, he allied himself with that small group of young architects who saw beyond the ornate fashion of the day and consistently designed quiet, dignified town houses, country homes, banks and institutes of learning, always in the tradition of fine craftsmanship and classical proportion. The Greenshield and Townsend country houses still grace the bays of Lake Manitou in the Laurentians and the main building of the Children's Memorial Hospital, The Trafalgar Institute, the Walter Molson residence on MacGregor Street, and the head office of the Bank of Toronto in Montreal are all permanent monuments to a man who followed the highest traditions of the profession.

During the last few years, although well beyond the age when others retire, Mr Davis, at the age of 75, was still young enough to understand the trend of more functional design and it was not surprising that in 1952 he designed and supervised the building of several small, efficient, new branches for the Bank of Toronto in the Montreal area.

Mr Davis thus worked with dignity and courage for a full half century as a member of the architectural profession.

Norton A. Fellowes

BOOK REVIEW

FURNITURE TREASURY (Mostly of American Origin), Volume III. Wallace Nutting. The MacMillan Company of Canada Limited. Price \$11.00.

Dr Nutting has produced another volume of the Furniture Treasury series, containing almost 550 pages with a large number of illustrations from drawings. This will be a useful volume to collectors of American furniture, as it contains a large amount of miscellaneous information, but it will hardly please the precise on account of its chatty style and the unnecessary remarks included, such as those on women as collectors on pages 10 and 11. The style of the book in general is conversational rather than literary. Dr Nutting has spent much time and money on the study of his chosen subject, and many people will, no doubt, profit by his experience. The publisher's statement must be somewhat amended to be correct. The book will not "tell you how to collect antique furniture", but it will give you a

considerable amount of information about American furniture. It cannot be recommended to those who collect English or continental furniture, as they can hardly help being displeased by the narrowness of the views expressed in it. This is exemplified by the statement on page 143 regarding European furniture imported into the United States:

"beginning in the south of Europe not one per cent of the things imported as old are so. As one goes north, though the proportion rises in England to perhaps five per cent, it is still too small to appeal to a person of good judgment. That is, the man who keeps his head will not buy unless he is the one in a hundred thousand who really knows".

Dr Nutting does not make this statement on his own authority, but in the next paragraph speaks of it as a statement which apparently has his endorsement and approval. Such a slur upon the intelligence of the American customs service is not justified. The present writer has had repeated personal experiences of American customs appraisers, and has always found them capable. The book is not exactly modern, as it was completed seventeen years ago, but there seems to be no doubt that it will be useful to many collectors and dealers, and it may share the large sale of the previous volumes of the series.

F. St. G. Spendlove

CONTRIBUTOR TO THIS ISSUE

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LETTER TO THE EDITOR

Belleville, Ontario

Sir:

In Quebec City, I, along with some other unwary architects, held up my hand and volunteered, under editorial duress, to submit at least one possible subject for the *Journal's* detail page. The enclosed is one of the efforts I had in mind.

Modesty prompts me to shave the back of my neck in readiness for the guillotine's blade — the subject is yours for publication or cremation. It is not necessary to return drawings or snaps.

W. A. Watson

Editor's Note: We publish this letter as a model which might be imitated by all our correspondents. The affection and regard which we hold for former student Watson may be imagined.

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