New Hampshire ARCHITECT

NT
MAS MORE
RECTORY
RONT ENTRANCE

OFFICIAL PUBLICATION
ew Hampshire Chapter of the American Institute of Architects

MARCH
1958

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The President's Message

Ornament, judiciously applied, will enhance the beauty of furniture, but no amount of ornament can effectually conceal the ill proportions of an unfortunate design.

Color applied to furniture by means of enamels and stains is an effective means of obtaining individuality in the home. It has the added virtue of contributing a lighthearted, informal atmosphere. Such an environment is especially desirable in children's rooms. By means of color, especially in furniture, we are getting still farther away from the sepulchral chill of our grandmother's "parlor." More than anything else, a carefully selected color scheme will aid in the furnishing of a cheerful, happy, livable room, designed to enhance the attractiveness of the entire home.

If a selection of period furniture is desired, it is well to make sure that the particular style chosen is sympathetically and correctly interpreted. There is much period furniture, so called, which is unworthy of the name. But authentic reproductions and original designs inspired by the master cabinetmakers of the past can be obtained from a few well-known manufacturers.

The design of the furniture should be compatible with the architecture of the house. Many true colonial houses with their fine interior features present a bizarre appearance when filled with furniture made from chrome-plated tubing with plastic topping or covering and excessive amounts of mirrors and glass.

Another requirement of furniture selection—comfort—is no less important than appropriateness and beauty, the other two. A piece of furniture can be neither appropriate nor beautiful, in the strict sense of the word, if it lacks in practical utility. Obviously, the first consideration should be utility. For instance, it is often possible in selecting a table to make a gate-leg serve two purposes where another design could serve but one. Common sense should dictate here very largely in the general type of furniture chosen.

Seating furniture, chairs, settees, davenports, and benches, should be suited to the physical requirements of the people for whom they are selected. Tradition designates father's chair as a large overstuffed piece and mother's chair as a small rocker. Perhaps in your individual case the very opposite would be more appropriate.

Many excellent styles and types of furniture are available today that are made from various types of material and the upholstery coverings run the gamut from genuine leather to fabrics made from coal.

Several of the present day designers have produced notable furniture and furnishings that fulfill every requirement for comfort and convenience as well as being in complete harmony with the contemporary architecture of most of the houses being built today.

John T. Betley

New Hampshire ARCHITECT

VOL. 9 MARCH, 1958 NO. 8

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Saint Thomas More Rectory at Durham.

Interior Photos of Harmon Work by David K. Johnson, Dover, N. H.

Exterior Photos by R. S. Harmon, Jr. Durham, N. H.

New Hampshire Architect is published monthly, under the direction of the president and board of directors of the New Hampshire Chapter, American Institute of Architects, to promote the objectives and public relations of the chapter. Advertising rates furnished upon request.

RUSSELL S. HARMON, A.I.A.

ı 1922 Russ Harmon completed his nal architectural education under the lage of Professor Eric T. Huddleston, A. I. A., and was graduated by the versity of New Hampshire from its class in Architecture. Because of the pling nation-wide railroad strike and olute lack of architectural and con- ction work at this time, he spent his post graduate year as an instructor physics, mechanical drawing and ual training.

he next year he gained valuable ex- ence as foreman and field engineer the construction of the Queen City lge over the Merrimack River in Man- ster, New Hampshire. Following the pletion of this structure, the Amos- g Manufacturing Company employed s as its architect where he accom- ned many building modifications and gned a new wool dye house, as the new structure built by the textile pany which already was beginning to out to southern competition.

hen followed almost eight years of gled architectural and engineering k with the well known contracting of T. Stuart and Son Company where many years he was construction erintendent. Just before the impact he "depression" was felt, he was em- ed by the J. McCormick Company of vidence, R. I., to superintend the construction of thirty-five miles of the first cross-country gasoline pipe-line in New England. The next move for him in the construction field was employment as senior resident engineer by the highway department of the State of New Hampshire. For six years the efforts of Russ Harmon were in the supervisory engineering field either as resident engineer or construction superintendent on several of the highway department's largest projects, including the construction of the first traffic circle, built as such, in the State of New Hampshire.

The next few years were spent with private contractors where he either engineered or superintended the successful construction of many highway and bridge projects, the enclosed ice skating rink for the Skating Club of Boston, a sizeable section of the, then new, twelve-foot diameter Metropolitan Boston Aqueduct, a new submarine barracks and a large extension to the outside machine shop in the Portsmouth Naval Shipyard. Still gaining valuable construction experience, his responsibilities were involved in defense housing, prior to World War II at Westover Field, Mass., and at Portsmouth for the United States Government.

The advent of World War II found Naval Reserve Lieutenant R. S. Harmon in the Civil Engineer Corps where his

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Residence of Mr. and Mrs. Russell S. Harmon

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architectural and engineering "know-how" stood him in good stead from 1942 to 1950,—both in this country and overseas. Russ directed the construction of or supervised contractors involved in the construction of: air strips, dry docks, towers, buildings, highways, bridges, pipelines, revetments, utilities, piers, quays, coffer-dams, piling and other waterfront work.

After Commander Harmon returned from the war, he operated his architectural office in Durham for a brief period only to return to active duty for over two years during the Korean conflict to carry out the contracting, construction and maintenance duties of a senior Civil Engineer Corps officer. Concurrently he was able to keep a small measure of his architectural practice alive in Durham.

Upon his return to civilian life, after the Korean conflict, Russ became supervising architect for the architectural firm of M. A. Dyer Company of Boston, on the 20 million dollar Columbia Point Housing Project. After completion of this project, he supervised the construction of a large gymnasium and school addition and preliminary design of new dormit later constructed for Boston College.

When the opportunity presented i for him to carry on his architectural in the Portsmouth Naval Shipyard, tain Harmon gravitated to it. Bei Navy man at heart, Russ is doing work he likes, is enjoying his beau home in Durham and is happy in a panding private architectural practi

Mr. Harmon is licensed in the Stat New Hampshire as a registered arch and as a professional engineer.

NEW BULLETIN ON VERMICULITE AVAILABLE

A new technical bulletin on Caspro miculite Concrete is now available writing to California Stucco Product N. E., Inc., 169 Waverly Street, bridge, Mass.

The new bulletin contains latest nical data, typical construction details specifications for installation.

SAINT THOMAS MORE RECTORY
Durham, New Hampshire

ARCHITECT: RUSSELL S. HARMON
Durham, N. H.

GENERAL CONTRACTOR: E. RAYMOND RICKER
Berwick, Maine

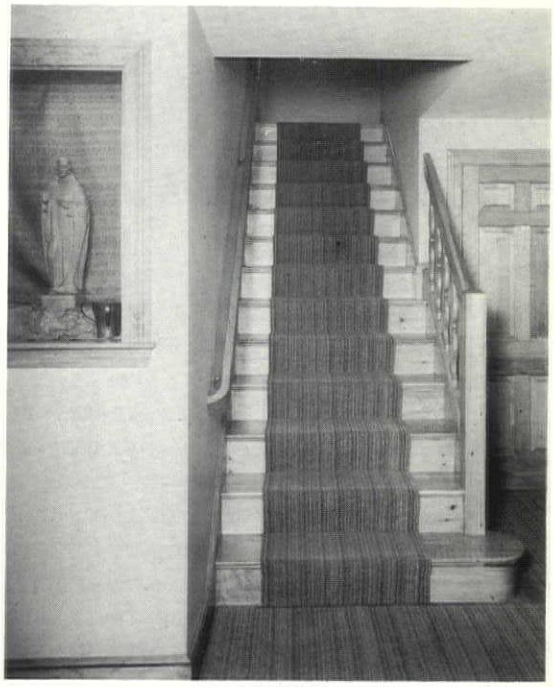
After the parish of Saint Thomas More outgrew the classroom space assigned to it by the University of New Hampshire for its formal religious meetings, and after the new church was well established, the next logical step was the construction of a much needed rectory.

Exterior from the Southwest

The home of the Reverend J. Desmond O'Connor had no suitable quarters for visiting clergy and other dignitaries. Furthermore, the town of Durham boasted of no hotel. In addition to the need for guest facilities, suitable office space with an adequate waiting room was required. Beyond his day-to-day living needs, Father O'Connor considered a committee room with a separate entrance highly desirable. The relationship of first floor entrances and halls was to be such that use would not encroach upon the privacy of the cadre.

The site chosen for the new rectory was a height of land on church property above and to the east of the Catholic church. As most of Durham is either ledge rock or clay, it was initially assumed, and later found to be true, that the height of land level with the street was solid ledge. Therefore, the original location was shifted approximately six feet to eliminate blasting and to increase the quantity of fill material for proper grading. The established elevation of the first floor was not changed and the nearly level driveway to the two car garage was built as planned.

An interesting feature of the brick-veneered, square shaped, modified Georgian colonial structure is the gleaming white cross above the architrave of the colonial entrance.



Entrance Foyer

After entering the front vestibule, a step or two to the right brings one into the restful waiting room with its warm oak wainscot. Then upon entering

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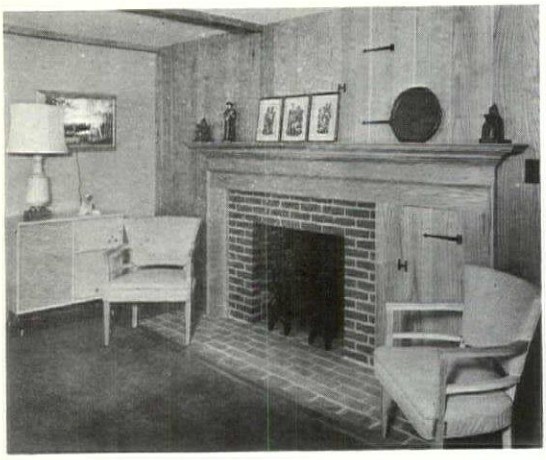
Father's office, one can feel that his appreciation of the aesthetic is fully exemplified in the oak-paneled walls and fine furnishings. In full complement to Father's favorite oak, the feeling of quietness and reverence is developed further by the soft brown tone of the cork tile floor and the beautiful fissured tile acoustical ceiling.

Should one go straight ahead from the front vestibule into the lower hall, the soft carpeted stairs, enhanced by the graceful coping of the flat balusters, carry our thoughts back to the days of Washington and Lafayette. A glance to the left and there is a softly illuminated niche containing an unbelievable beautiful wood carving in the image of Christ.

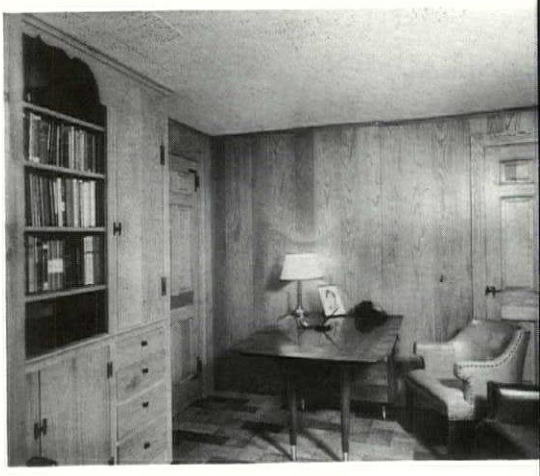


Living Room

As we move a few steps to the left, we find a spacious living room with its oak-beamed ceiling and Father's favorite oak paneling on the fireplace wall. An ecclesiastical feeling, generated by the careful and selective placing of icons, is strongly increased as we gaze through the small paned windows upon Our Lady of Fatima in the churchyard.

The gracious square dining room and the immaculate ample kitchen provide comfort and convenience for the daily satisfaction of the physical being.

On the second floor are three suites, each comprised of a study, bedroom and tiled bath. Attic space with its four eyebrow windows is undeveloped but may prove of value in the future when and if a need arises. The knotty-pine sheathed committee room, with its separate entrance, is proving to be a valuable adjunct to the rectory which in a great many ways is now fulfilling many needs of the priest and his parish.



Office of the Parish Priest

First Floor Plan

Second Floor Plan

Scale: 0 5 10 15

Rectory for Saint Thomas More
Durham, New Hampshire
Russell Sanborn Harmon
Architect

RESIDENCE for BRAD and HELEN McINTIRE
Durham, New Hampshire

ARCHITECT: RUSSELL S. HARMON
Durham, N. H.

GENERAL CONTRACTOR: W. H. BATCHELDER
Durham, N. H.

Early in the development of the project, it was decided that the structure would have a "conventional modern" exterior with a modified colonial interior and that the rectangular form would be utilized to effect certain economies in construction. The beautiful countryside rolling down to the meandering Oyster River with its colonial mill site and dam with the Exeter Road in the distance provides an enchanting vista in any season of the year. In order to lose no appreciation of an ever-changing panorama, it was decided early in the development of plans to incorporate three "picture" windows in the front of the house. Therefore, real "picture" windows were provided in the living area, dining area and in the front bedroom. Although the horizontal panes of glass in the double-hung windows definitely conform to the "rambling ranch" exterior, it was felt that in no way would they detract from the interior colonial decor including the "christian" doors.

The spacious living and ample dinin areas are separated only by a five-by-fiv divider of unique shelved design. Thi gives the diner the feeling of being in separate dining room. In the living roo the effect of spaciousness and gracious li ing is increased by the "openness" beyon the divider.

The comfortable dining area, with its two built-in china cabinets of early American Type, is further enhanced by a very interesting mural. This excellent creation by Professor John Hatch of the University of New Hampshire is his conception of what the McIntire view would have been in colonial days. To establish an authentic basis for his painting, artist Hatch scouted the banks of the Oyster River for landmarks and other historical data.

Although thhe country pine kitchen is Helen McIntire's pride and joy, the Judge is extremely proud of his music room with its cove lighting, cork tile floor, acoustical ceiling, open fireplace, built-in wood box and concealed record cabinets. While the several built-in speakers furnish the final word to Brad's high-fidelity sound reproduction system, his real joy knows no bounds with his new pipe organ.

The open flagstoned patio with its tinted plastic roof on its redwood egg-crate frame enhances the gracious living of the McIntires as they and their guests enjoy "the view" including the lily-padded fish pond with its itinerant bullfrog near the towering blue spruce. The scenes are no less entrancing under the mantles of winter, spring or fall. At certain times, the screened-in porch on the opposite side of the house, off the music room, provides for ideal relaxation or restful inspiration aided frequently by dulcet tones from the carillon of the University.

To return to the grounds for a moment, it seems that in bygone days of ox-power, someone erected a rugged well-capped

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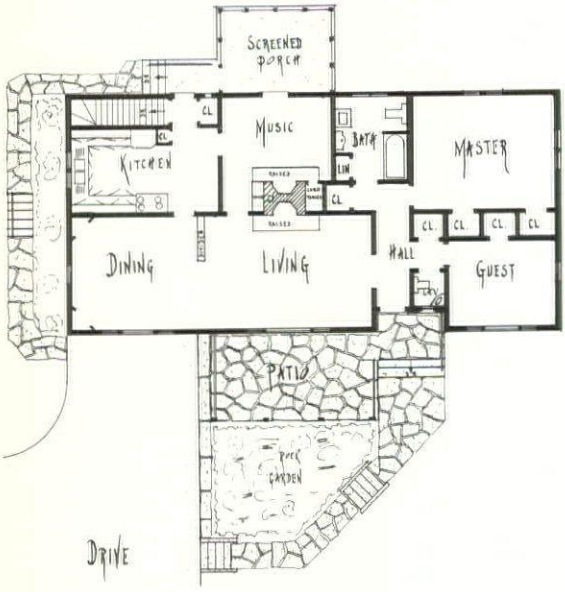
granite wall at the front property line. This wall is now beautifully complemented by the new retaining wall of weather-beaten granite supporting a very colorful rock garden adjacent to the driveway and the patio. As the McIntire property was part of an almost palatial early American estate, it boasted of many beautifully landscaped paths. Hidden in the brush and verdure were found two old granite six-step flights of stairs including granite stringers. These were dismantled, moved and incorporated in the flagstone walk from the driveway to the front entrance, —which was where we started.

Music Room



RESIDENCE FOR BRAD & HELEN MC INTIRE
DURHAM, NEW HAMPSHIRE
RUSSELL SANBORN HARMON A.I.A. ~ ARCHITECT
SCALE 0 5 10 15

ANNUAL MEETING OF CHAPTER MAY 22

Andrew Isaak of Manchester has bee appointed chairman of a committee i charge of arrangements for the annua meeting of New Hampshire Chapter, A I. A., by President John D. Betley, to b held in the Manchester area on Thur day, May 22. Election of officers is t highlight the meeting.

In the April issue of New Hampshi Architect, the time and place of th meeting will be published, together wit the program for the annual event.

NEW HAMPSHIRE CHAPTER DISCUSSES INCORPORATION

Plans for the incorporation of Ne Hampshire Chapter, A. I. A., were di cussed at the February meeting of th chapter held at the Highway Hotel Concord, presided over by Preside John D. Betley.

The recommendations for incorporati of the chapter were brought before th meeting by the executive committee which Norman P. Randlett of Lacon is the chairman.

No action was taken, but Preside Betley stated that a decision on incorpor tion will be made at the May meeting.

SANYMETAL 1958 CATALOG ON TOILET COMPARTMENTS, SHOWER STALLS, HOSPITAL CUBICLES

A 28-page, 4-color catalog illustrat Sanymetal toilet compartments, show stalls, hospital cubicles and dressing roo compartments. The catalog (designat Number 95) contains a complete set Sanymetal color samples (22 colors ava able), standard specifications, and descri tions of advanced construction featur including the new Sanymetal "8800" co cealed door latch, and Sanymetal stirr bracket supports.

Simple diagrams give required inform tion regarding mounting of stalls floors, walls, etc., as well as exact dime sions of standard designs. An extensi variety of floor layouts is included. Wr to Maurice Laframboise, Manchest N. H., for "Catalog 95."

ALTERATIONS TO FIRST CONGREGATIONAL CHURCH

Barrington, New Hampshire

ARCHITECT: RUSSELL S. HARMON
Durham, N. H.

GENERAL CONTRACTOR: LENDALL R. CAVERLY
Dover, N. H.

This 117 year old landmark of rugged timber construction rested, more or less peacefully, on its granite curbing foundation for over a century. Down through the years New England weather has caused the granite slabs to move in various directions,—some in, some out, and some down. Thus, excessive strains were induced in many of the timbers causing varying amounts of deflection which adversely affected both interior and exterior appearances. It was rapidly becoming apparent that something would have to be done to maintain the structural integrity of the church while a growing congregation felt the need for additional modern facilities.

A bequest by the late Mr. and Mrs. Frank C. Young provided an impetus toward planning for the much needed modernization and included a library to be named for the sponsors. Soon, building and fund-raising committees were formed and the project was on its way. Early consideration was given to building an addition to the rear of the church. This was abandoned, for one reason or another, and the final determination was to add to the front of the church. To change the century-old facade and come up with a new face satisfactory to all concerned proved to be quite a challenge in itself.

The final solution resulted in provision for a library, Sunday school rooms and toilet facilities on the first floor of the addition. The basement, under the new addition, coupled with a partial new basement under the church, would furnish space enough for what were considered essential additional facilities.

It was originally planned to excavate under the church for stairs, foyer, kitchen, heater room and part of the auditorium. As the excavation progressed, it was determined that the wooden beams and joists, for the most part, were in an excellent state of preservation. It was apparent that this condition resulted from adequate ventilation caused by air circulation past the ends of the granite blocks and under the wooden sills. Another aid to preservation was the lack of dampness due to percolation and drainage through the underlying sand and gravel. A low water table eliminated all doubt and hesitancy in effecting the economy of constructing the basement auditorium.

After the basement of the addition was excavated, the next step was to support the church building while excavating under it. The new wide flange steel beams, for permanent use to support the addition's floor, were ingeniously used by the Contractor to support the old edifice during the phases of excavation and of forming and pouring the new concrete foundation walls of the church. The success of these operations resulted in increasing the scope of the work to provide a full and complete dry basement under the entire old church. Thus, additional space, at a nominal cost, was made available for future use by the parishioners when needed.

Aside from the conventional uses for parish halls, the new auditorium was found entirely adequate for regular Sunday services while much needed redecoration was being accomplished in the sanc-

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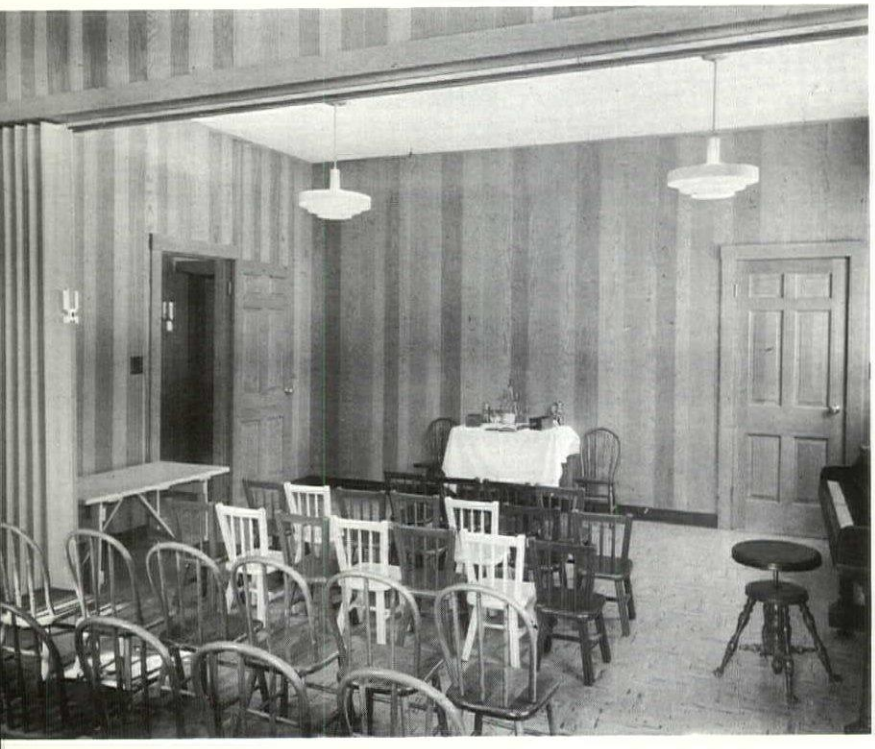
tuary and vestry of the church. The accompanying photograph was taken at this time.

A genuine feeling of cordial reverence is generated by the feather-edged knotty pine used on walls of the library and auditorium. Oak paneling used for the hall wainscot and for the walls of the large classroom offer a feeling of rich sturdiness and stability. When required, the large classroom can be divided into two smaller rooms by means of the two folding plastic covered doors.

Mottled beige colored plastic tile used on all the floors is a fine complement to the rich wood grained and pastel shaded walls. The use of acoustic tile ceilings and the concentric light fixtures result in excellent control of sound and illumination.

Although no use is currently planned for the attic of the addition, the installation of dormers could provide considerable usable space.

All in all, the patient appears quite happy with the result of the operation.

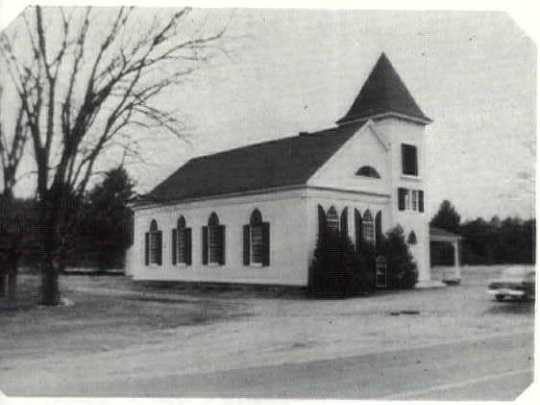


Sunday School Room

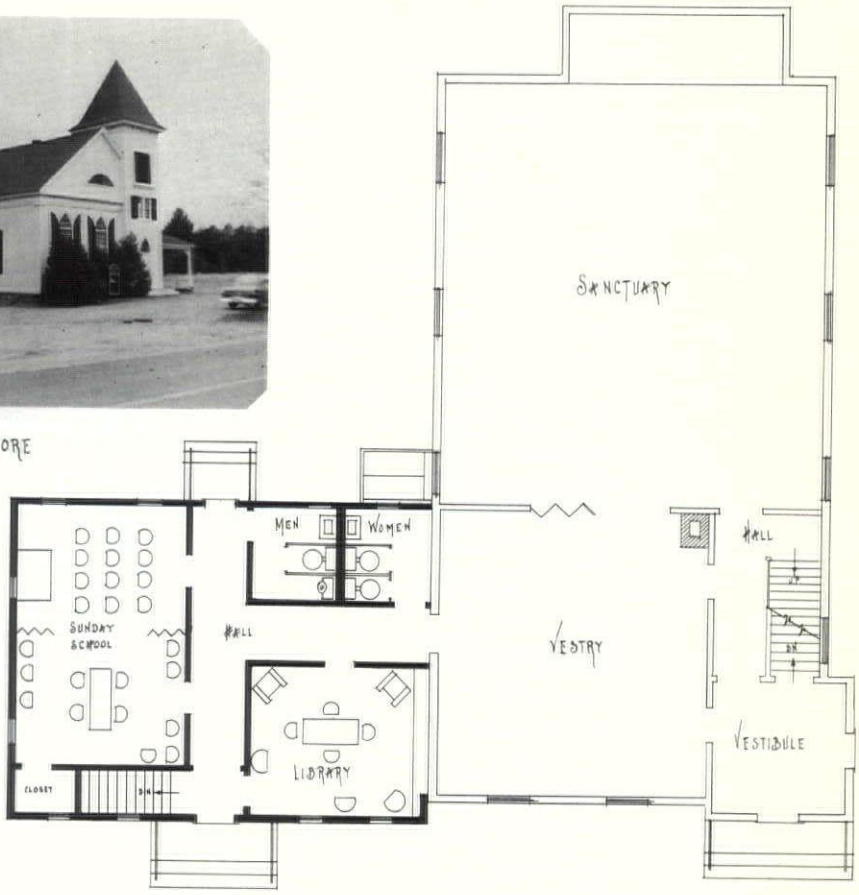
Auditorium

ADDITION TO CONGREGATIONAL CHURCH
BARRINGTON, N.H.

RUSSELL SANBORN HARMON
DURHAM - NEW HAMPSHIRE
ARCHITECT



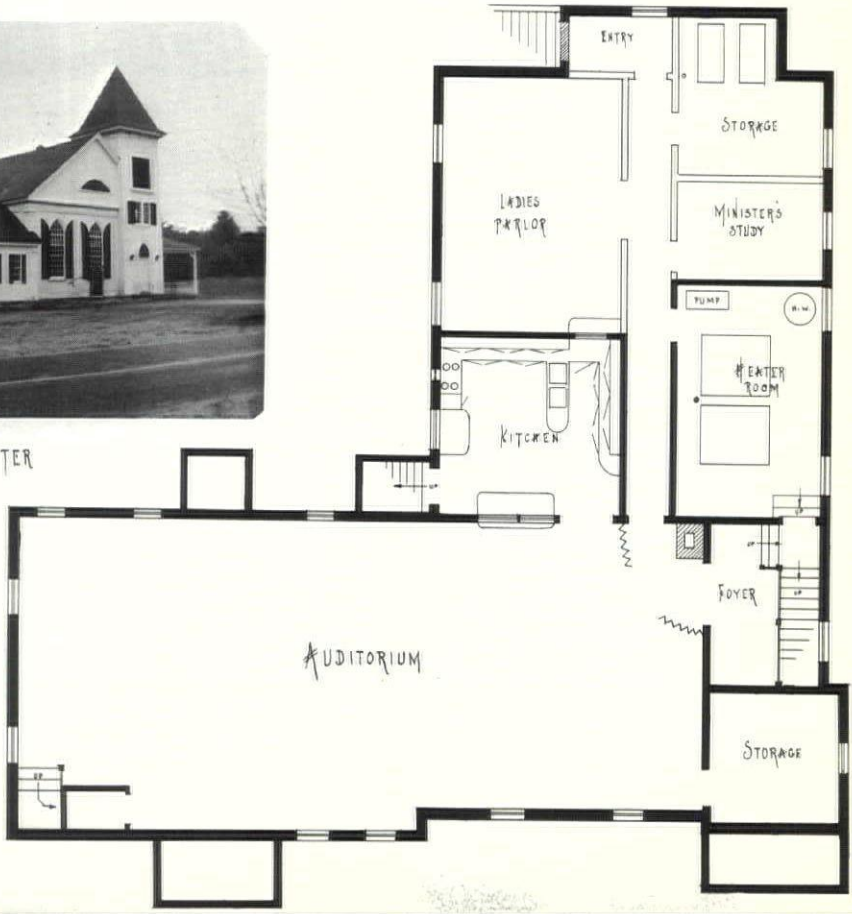
BEFORE



FIRST FLOOR PLAN

SCALE IN FEET

AFTER



BASEMENT PLAN

SCALE IN FEET

CRAIG SUPPLY COMPANY READY TO SERVE ARCHITECTS

In our immediate area numerous types of business have installed Coolair Ventilating and cooling fans. For variety, consider installations in summer theatres, dry cleaning plants, newspaper and printing concerns, shoe factories, creameries and about any place where man performs his daily tasks.

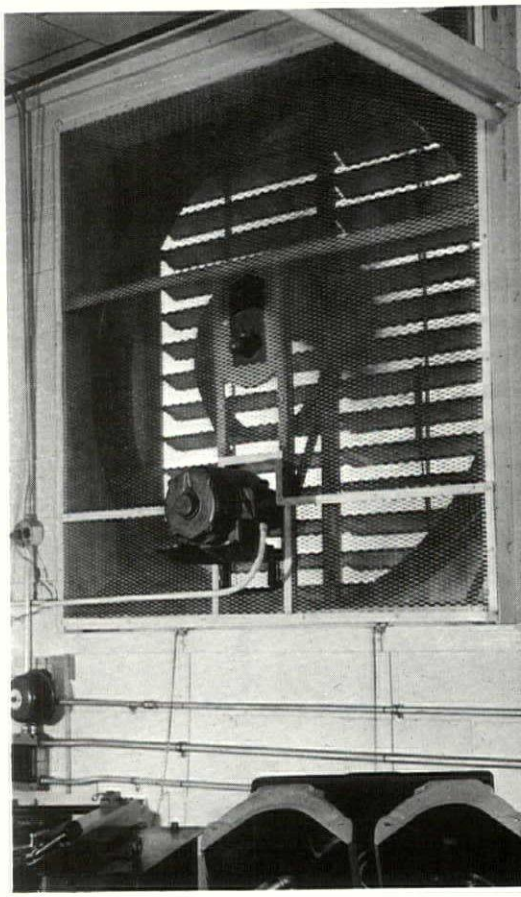
Frequently it's the same old story, "Why didn't we think of it in the beginning," when commercial and industrial establishments are faced with the problems of temperature, moisture and fume control for the benefit of employees and customers alike. Once at this stage, it behooves the management or proprietor to take remedial action to alleviate these conditions.

It's been proven time and again that the average installation for cooling and ventilating proves inadequate, or is not tailored to its requirements.

Ripping out walls, ceilings, etc., to do the job over again is time consuming, expensive and messy.

The architect, owner and other interested parties in planning new construction, should definitely include and make use of adequate systems for removal of fumes, moisture and excess temperature.

If you have an existing problem of ventilating and cooling your place of business, or are in the planning stages, call in the staff of Craig Supply Co., Inc., Durham, N. H., as they have the answer to you every question, can assist and direct yo in the proper installation of Coolair fans



One of Two Coolair Units Installed in New Concord Industry

MARTIN-SENOUR COLOROBOT BRINGS UNLIMITED COLOR AND AUTOMATION TO PAINT

A color mixing machine, operated by punch card, now is bringing automation to the paint industry. Called Colorobot, the mechanical brain, developed by the Martin-Senour Company, can prepare any of an unlimited range of colors within a few seconds.

The architect or color stylist can select any one of 7500 colors which can be custom made through the new electronic machine—COLOROBOT. The colorobot was the result of the combined efforts by the Martin-Senour Company; Morton Goldsholl, Chicago industrial designer; a Arthur G. Russell Co., Forestville, Con designers and builders of precision m chinery.

The colorants—green, two intensities yellow, black, purple, two intensities red, and blue—are added to full quantit of standard quart, gallon, or five gal cans. Colorobot permits color modifi tions with as many as three colorants any given formula, delivering them stantly and simultaneously.

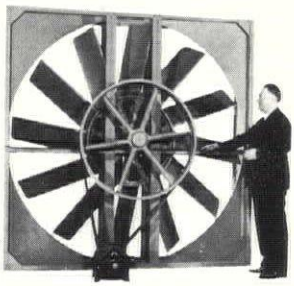
(Continued on Page 22)

Coolair TRADE MARK ®

RESIDENTIAL
COMMERCIAL
INDUSTRIAL

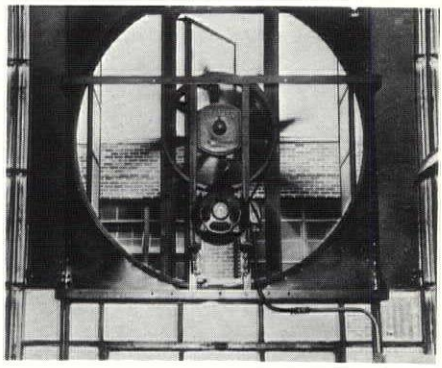
VENTILATING and COOLING FANS

FROM ATTIC FANS TO HEAVY-DUTY INDUSTRIAL TYPE FANS AND SHUTTERS



Every commercial and industrial building has its own individual cooling and ventilating needs. It takes a trained man to analyze these needs and meet them in a practical, economical manner. Even in buildings of almost identical size and design, differences in windows and doors, partitions, workroom operations, heat-producing equipment and many other factors must be considered.

Coolair Representatives are factory-trained to plan Breeze-Conditioning systems correctly.



CRAIG SUPPLY CO., INC.

99 Madbury Road

DURHAM, NEW HAMPSHIRE

PHONE: 276-R

(Continued from Page 20)

To facilitate the architect in choosing his color layouts, Martin-Senour has prepared many architect tools. A color sample case of chips containing 576 interior colors in three types of finishes is the key. This is supplemented by accordion color folders, color plans, sample color cards, and the new Trend color book containing 976 color samples.

The range of finishes of Colorobot colors includes exterior, trim, floor, flat, semi-gloss, gloss, etc. These are made from alkyds, latex, strains, and oil bases —all this from the electronic machine.

Your editor was fortunate in being able to see the first Colorobot in New Hampshire just last week at a press showing. Plans are being made to take the Colorobot throughout New Hampshire and Vermont this spring to show to architects, painters, and others interested in color styling. Meantime, we suggest it would be time well spent to contact Clark & Stearns, Inc., Manchester, distributors of Martin-Senour products for a demonstration.

Within seconds after a punched card is insert into the slot of the Martin-Senour Colorobot, a of an unlimited number of colors in any fini can be instantly mixed ready for use.

FORMBLOC MASONRY CONSTRUCTION

BY ARNOLD A. PERRETON, A. I. A.
Architectural Consultant
for Formbloc, Inc.

ontinued from February Issue

ow is Formbloc better than other asonry Wall Construction.

Formbloc construction combines the est features of the masonry wall and the ncrete wall. By combining these fea-ires a better construction is realized as llows:

1. Better Insulation

The use of a Formbloc masonry shell ith an insulating concrete core provides e possibility for obtaining better ther-al insulation in 8″ and 12″ exterior asonry walls. For example, the 5″-thick onolithic core of vermiculite concrete in e 8″ wall, block up all masonry joints d, when poured integrally with wood or etal door and window frames, it also ocks up all joints around these openings. is stops all **air infiltration** through any rt of the masonry wall, which formerly s been a difficult condition to overcome masonry walls laid up of conventional llow units. Also, with the use of a rmiculite core treated integrally with terproofing, **moisture migration** is re-lled, and this keeps the inside of the ll dry. With this method the conden-tion within the wall due to high hu-dity within the building, and the mois-re penetration due to leakage through e joints and porous facing material on e outside are eliminated. Hence, this ter-repellent core eliminates the mois-re inside the wall and the resultant mpness frequently found in buildings th walls of solid gravel concrete, hollow sonry units, and even with cavity walls. kewise, the non-conducting character of e expanded mica in the vermiculite con-te core, plus its myriads of non-con-ting cells, prevent **thermal conductiv-**. Consequently, the core is superior to e cavity in hollow units and in cavity lls, which tend to trap hot or cold air, king the building hot in summer and cold in winter. Due to the fact that there is a minimum of air infiltration, moisture migration and thermal conductivity, the Formbloc wall is considerably superior to the conventional hollow unit and cavity walls.

Since the U factor can be kept to even less than .12 in the 8″ Formbloc walls, it is 6 times better than the .70 of the concrete wall, more than 4 times better than the .53 of the hollow unit wall and solid brick wall, and 3 times better than the .34 of the cavity wall, when sand and gravel units are used. A similar relationship exists in the 12″ walls.

In order to improve the thermal insula-tion in the conventional masonry-unit walls, units made of cinder, expanded slag, clay or shale, with a U factor of .34, have been used. If one of these materials is also used in making Formbloc units, a corresponding improvement can be made. However, if hard and dense units made of gravel concrete are preferred for durabil-ity, they can be used in the shell of the Formbloc wall and will still provide ex-cellent thermal insulation with a core of vermiculite concrete.

In some cases, in conventional hollow-unit masonry construction, the cores have been filled with dry insulation such as cork or vermiculite, to gain a U factor of about .39, with sand and gravel units. This is similar to Formbloc construction, but this fill does not block the end joints, it tends to settle, and does not provide an all-over insulation as does the monolithic concrete core in the Formbloc walls.

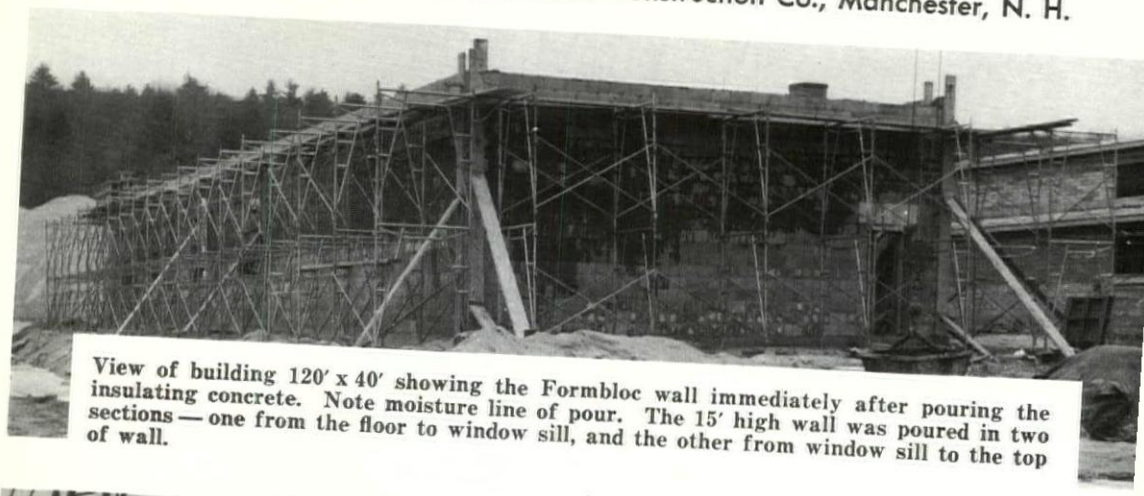
From the point of view of sound-insula-tion, the vermiculite core with its excel-lent and well-known coefficient of sound absorption, makes an ideal medium for the reduction of sound transmission through exterior Formboc walls and Formbloc partitions, and through other structural forms, such as vaulting, roof and floor

(Continued on Page 26)

DURATECH BUILDING FOR DURACRETE BLOCK CO., MANCHESTER, N. H.

ARCHITECT: Alexander Majeski, Manchester, N. H.

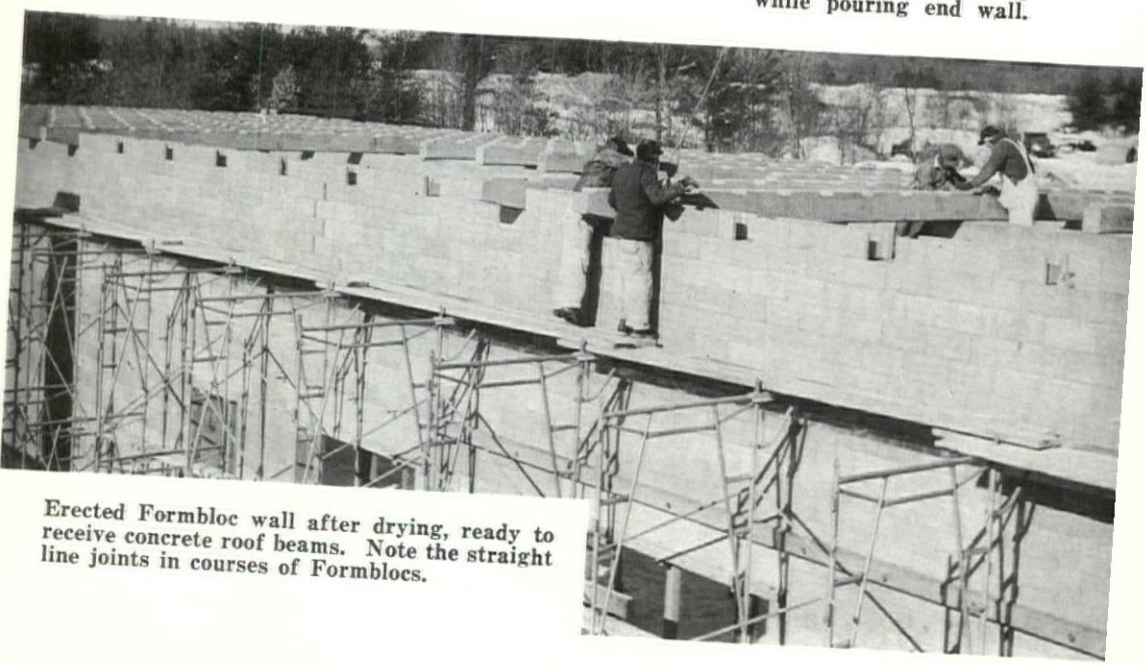
GENERAL CONTRACTOR: David Davison Construction Co., Manchester, N. H.



View of building 120′ x 40′ showing the Formbloc wall immediately after pouring the insulating concrete. Note moisture line of pour. The 15′ high wall was poured in two sections — one from the floor to window sill, and the other from window sill to the top of wall.

Corner of Formbloc wall being poured from bucket on crane.

Inside view of building while pouring end wall.



Erected Formbloc wall after drying, ready to receive concrete roof beams. Note the straight line joints in courses of Formblocs.

(Continued from Page 23)

slabs, when used in conjunction with Formboc units.

From the point of insulation against harmful radiation, such as X-Rays, atomic radiation and others, the concrete core can be composed of a variety of radiation-resisting materials, to provide the proper protection within the building or sections of the building.

In all, it can safely be said that the insulated Formbloc construction is better in many ways than other types of masonry construction.

2. **Greater Strength**

The reinforced concrete core in the Formbloc wall increases the potential strength of masonry construction. The type and amount of the reinforcement, the strength of the concrete in the core, and the strength of the Formbloc units can be adjusted more easily to meet greater strength-requirements as far as vertical, transverse, and other loads in walls and other structural forms are concerned, than in conventional masonry construction. Also, the concrete core, properly reinforced, gives the Formbloc structure a superior shatter-proof quality against the shock of hurricanes, floods, tornados, earthquakes and explosions. The strength of the Formbloc structural member, along with the possibility of strong anchorage and moment connections, provide a structure insured against most severe shock conditions.

3. **More Fire-Proof**

Formbloc wall construction meets the Board of Underwriters requirements. A letter from the National Board of Fire Underwriters, dated February 25, 1949, contains the following statement which is of interest:

> "Further, we think it would be proper to permit these walls to be of the same thickness as specified for solid walls of plain concrete, as provided in Section 907-11 of The National Building Code. This means that they may be two inches less than that required for solid masonry walls, but not less than 8 inches."

This acceptance of the 8″ Formbloc wall, as equivalent to a 10″ masonry wall, provides equal fire-proofing at a lowe cost; or more fire-proofing is provided b Formbloc construction than by soli masonry construction of equal thickness

4. **More Durable**

Numerous structures built of Formbl wall construction, which have been inspe ted over the past ten years, have show no indication of condensation, cracks, other structural defects, either with t use of an insulated or a structural co Since reinforcing rods are encased in t moisture-resisting concrete core and structural steel or metal furring is neede the rusting of structural steel membe and metal furring, the rotting of wo furring, formation of plaster mould, a efflorescence due to dampness inside t wall are avoided. Also, since a dens and harder concrete is usually used in t Formbloc unit, better weathering and more durable finish can be had in case is not stuccoed, plastered or otherwi coated with a finish material. In gener Formbloc construction assures a mo permanent and durable structure, whi is easy and more economical to maintai

5. **More Flexibility**

The combination of masonry units a concrete in Formbloc construction mak its use and application in building mo flexible. Concrete masonry units can used in places where only concrete or oth similar materials were used before; wh concrete, with masonry units as a for can be used where its use has been avoid due to the prohibitive cost of form wo Also, Formbloc units can be used by u skilled workers as well as by maso skilled in their trade, since they can be l dry as well as in mortar; and concrete c be used by unskilled workers, where he tofore intricate form work required wo ers skilled in this trade. Concrete mason units, combined with a concrete co permit these materials to be used not o for wall construction but also for vaulti floor and roof slabs. In general, Formb construction permits more flexibility in t use of concrete and masonry materia labor, and new structural forms in types of building construction.

Continued on next page

MOTEL AT SAUNDERS BAY, GILFORD N. H.
Showing section of Formbloc being filled with insulating concrete, delivered by ready mix truck. A 3 inch hose and a diaphram pump were used as shown.

6. Faster Construction

The use of Formbloc wall construction r either concrete or masonry walls eeds up construction time. The use of e 8″ and 12″ Formbloc for concrete walls minates the need for erecting and strip-ng of form work. By erecting dry Form-oc walls and filling them with structural insulating concrete, one saves from 50-% of the usual time consumed in using etal or wood form work for foundation lls and other concrete walls in the first ory and upper stories in all types of ildings. In comparison with masonry lls, the use of Formbloc dry construc-n, filled with concrete, instead of brick asonry work, saves from 40-50% of the ne. With the Formbloc units laid only a thin horizontal mortar joint, instead using the conventional masonry work, saving of 20% of time can be made. is saving of time in erecting Formboc lls, along with the speedy filling of the ll with concrete from the transit mix job mixer on ground level, and with a mp on upper levels, assures the faster nstruction of all types of buildings.

(Continued on Page 28)

7. Favorable Cost

The material and labor costs of Formbloc Wall construction and other types of masonry wall construction, not including the cost of footing, window and door frames, or contractor's overhead and profit, are approximately as follows:

A. COST OF FORMBLOC WALL - DRY CONSTRUCTION

	8" wall	12" wal
(1) With structural concrete filler:		
Formbloc Unit, sand and gravel concrete, Zone I, per unit	$0.29	$0.
Stabilizing steel, per unit	.04	.
Filler, sand and gravel concrete, @ $14/cu. yd.,		
(1 cu. yd. fills 80 - 8" units) per unit	.175	
(1 cu. yd. fills 50 - 12" units) per unit		.
Labor - 1 layer, 1 or 2 tenders, and 1 carpenter, @ $80 to $100 per day for laying, filling and cleaning blocks, setting frames, etc., at rate of 1,000 blocks per day, for foundations, per unit	.08	.
Total Cost per unit	$0.585	$0.
Total Cost per sq. ft. of Formbloc wall	$0.66	$0.
(2) With insulating concrete filler:		
Formbloc Unit, sand and gravel concrete, Zone 1, per unit	$0.29	$0.
Stabilizing steel, per unit	.04	.
Filler, vermiculite concrete, @ $24/cu.yd.,		
(1 cu. yd. fills 100 - 8" units) per unit	.24	
(1 cu. yd. fills 70 - 12" units) per unit		.
Labor - 1 layer, 1 or 2 tenders, and 1 carpenter, including pump equipment, @ $100 to $120 per day, for laying, filling and cleaning blocks, setting frames, etc. at rate of 1,000 blocks per day, for first and upper stories, per unit	.10	—
(slightly less for foundations)		
Total Cost per unit	$0.67	$0
Total Cost per sq. ft. of Formbloc wall	$0.75	$0

B. COST OF FORMBLOC WALL - MORTAR CONSTRUCTION

Eliminate stabilizing steel and lay Formbloc units with thin horizontal mortar joint, but with no vertical mor joints. Add 5 cents to above total costs.

C. COST OF OTHER MASONRY WALL CONSTRUCTION
From Contractor's Quotations

	8" wall	12"
(1) Concrete wall		
Plain concrete, including form work for walls above 8' high, @ $35/cu.yd., per sq. ft.	$0.90	$1.
For house foundations, less than 8' high wall, per sq. ft.	.55	.
(2) Concrete block wall		
Gravel concrete units and labor, per sq. ft.	.58	
(3) Brick wall		
Common brick and labor, per sq. ft.	1.35	2
(4) Brick and backed-up block wall		
4" brick and 4" block, per sq. ft.	1.07	
4" brick and 8" block, per sq. ft.		1

(5) Cavity wall

	10" wall	14" wall
Two 4" blocks, per sq. ft.	$0.82	
One 4" and one 8" block, per sq. ft.		$1.00
One 4" brick and one 4" block, per sq. ft.	1.10	
One 4" brick and one 8" block, per sq. ft.		1.30

(6) Frame wall

Including 2 x 4 studs, sheeting, clapboard, insulation and sheetrock, per sq. ft. - $0.97.

nparing the cost of Formbloc wall construction with that of other minimum-cost masonry wall and frame con-ction, we find that with the exception of concrete block walls, and poured concrete wall for house founda-s, the Formbloc wall construction is lower even when using insulated concrete filler. If the cost of heating, the use of the concrete wall at .70 and the concrete block wall at .53, is considered in comparison with Formbloc wall at .145, the insulated Formbloc wall would be less costly when considered over the life span he house or other building. Also, an 8" insulated Formbloc wall at 75 cents per sq. ft., compared to a frame at 97 cents, is considerably cheaper and provides better insulation. Therefore, it can be said that Formbloc construction, either with a structural or insulating filler, is very favorable in cost compared to other masonry rame wall construction.

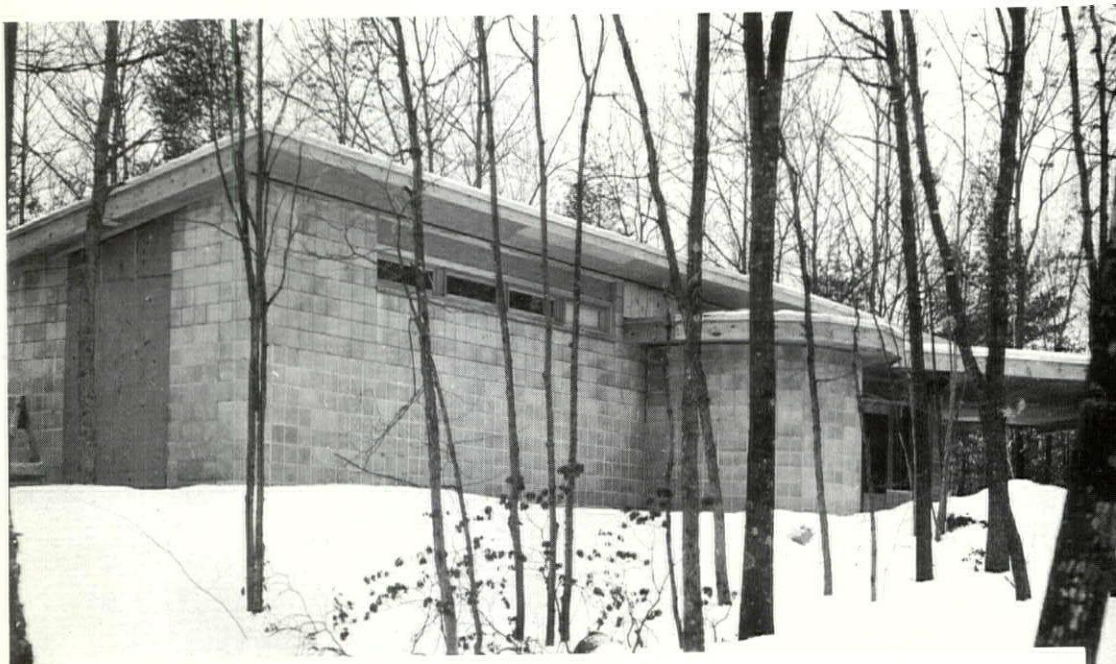
This article will be continued in the April issue

RESIDENCE FOR MISS LILLIAN BACCILUPPO, BEDFORD, NEW HAMPSHIRE

ARCHITECT: Alexander Majeski, Manchester, N. H.

GENERAL CONTRACTOR: Roycraft Construction Co., Manchester, N. H.

View from driveway of house under construction. The straight walls, varied angles and curved walls indicate the flexibility of Formbloc masonry construction.

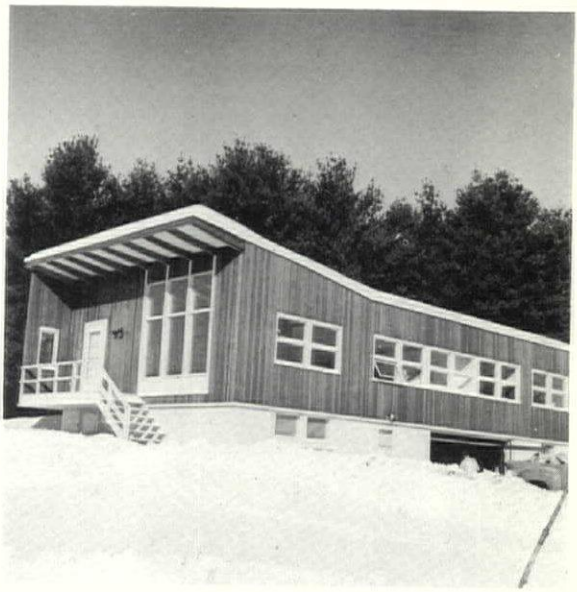


Another view of the house showing Formbloc walls laid dry and filled with insulating concrete. Walls are to be left natural with grouted joints. Note the joints in the lower courses grouted in, and the joints in the upper courses still unfinished.

FORMBLOC

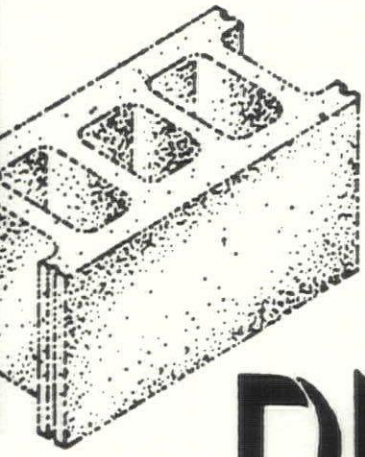
FOR NEW
CONOMICAL WALLS

The Least Expensive Insulated Reinforced Concrete



Residence of Mr. and Mrs. Robert Schaffer
of Concord, N. H.

Designed by—
Arnold Perreton, A. I. A.
Concord, N. H.



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Joseph F. Lampron, Secretary of New ampshire Chapter, A.I.A., announces the ection of the following Chapter Comittees for 1957-1958:

CHAPTER ACTIVITIES

Chapter Affairs, Membership, Centenal Observance, Education, Office Practice, wards and Scholarship:

Norman P. Randlett, Chairman, Eugene Magenau, Maurice E. Witmer, Eric T. uddleston, Edgar H. Hunter, Charles H. ray.

PUBLIC RELATIONS

Public Relations, Government Relations, H. Architect, Home Building and Conruction Industries, Collaboration with esign Professions:

Richard Koehler, Chairman, Alexander Majeski, Shepard Vogelgesang, Alexder R. James, Carl E. Peterson.

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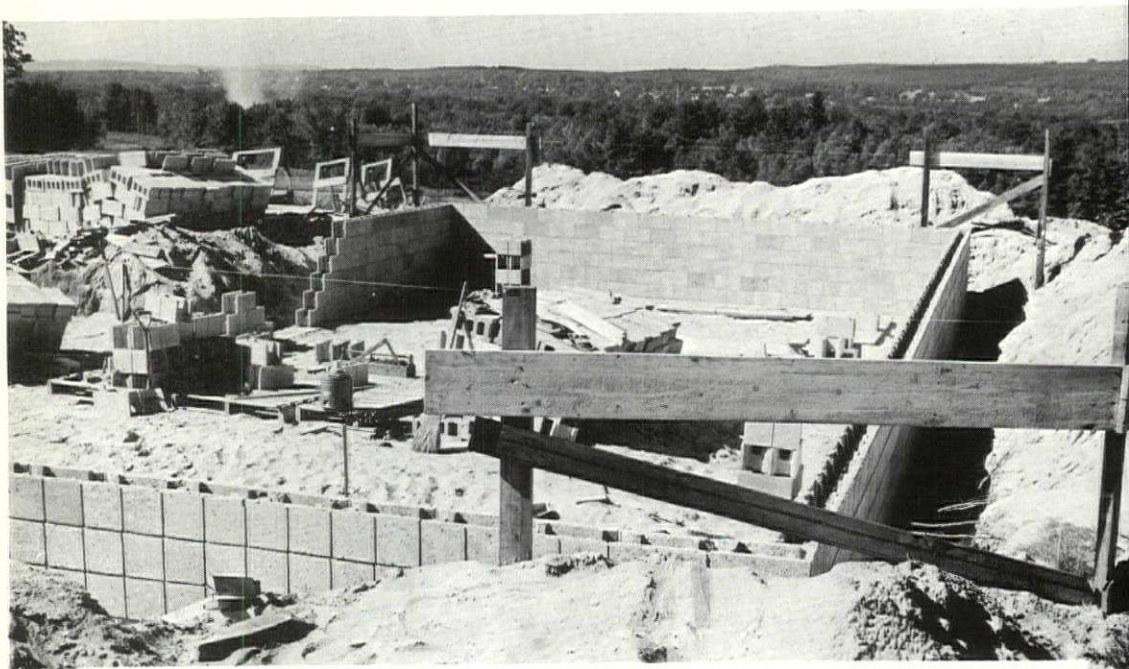
MEMBER OF SUBCOMMITTEE ON ILDING PRODUCTS REGISTRATION

Norman P. Randlett

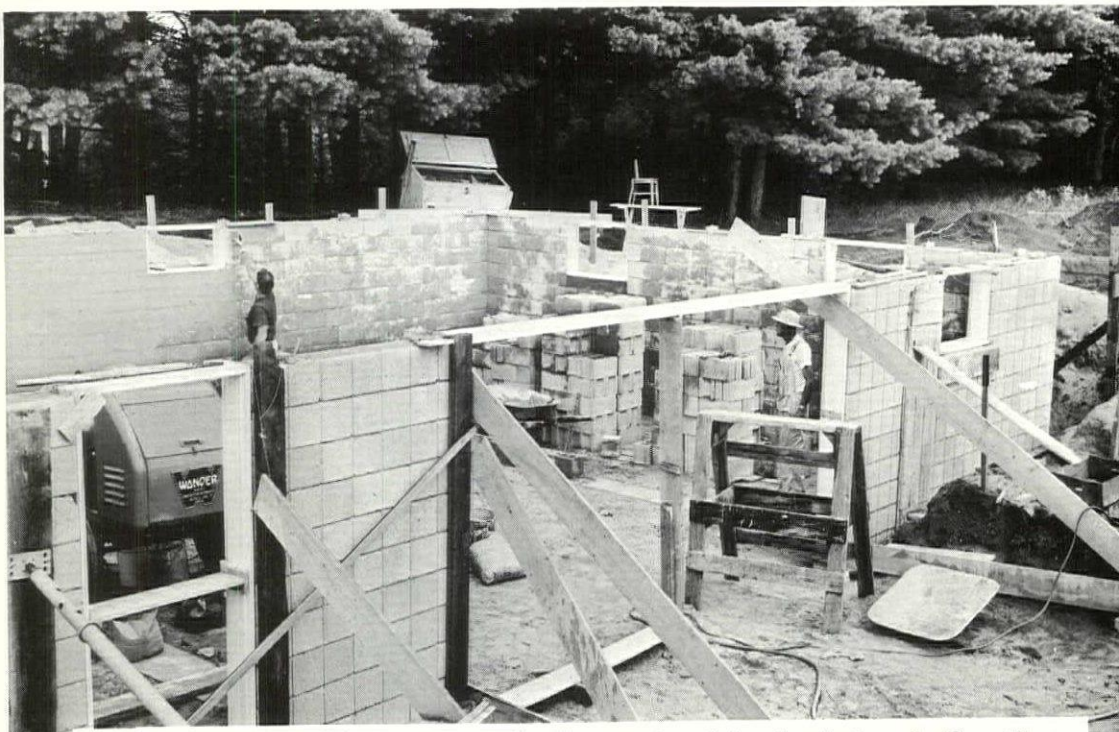
RESIDENCE FOR MR. and MRS. ROBERT SCHAFFER, CONCORD, N. H.

ARCHITECT: Arnold Perreton Associates, Concord, N. H.

Progress photos of insulated Formbloc foundation wall constructed in 1957.



First Stage — Formbloc dry wall erected on footing. Note straight line of wall, corners, continuous void, square face pattern on outside of wall and smooth on inside.



Third Stage — Formbloc masonry wall after pouring, being brushed on inside with a cement wash to fill all joints. Exterior of wall ready to be waterproofed below grade and painted above grade.

NEW HAMPSHIRE ARCHITECT

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