New Hampshire Architect

School Costs Issue

OFFICIAL PUBLICATION

New Hampshire Chapter of the American Institute of Architects

20¢ COPY
$2.00 YEAR
Your Clients Will Really "GO" For . . .

They are trouble-free and Fuel Saving

- We can make Quick Delivery
- Stop in or Phone Us

C. R. SWANEY CO.
Nash Engineering Co.
Vulcan Radiator Co.
Pumps for Vacuum Heating,
Condensation, Boiler Feed, Sewage
Hot and Cold Water and Process
Trimline Baseboard and
Commercial Fin Tube Radiation
335 Newbury Street - Boston 15, Ma
KENmore 6-5613

Concrete Blocks
Cinder Blocks
Bricks – All Kinds
WEL-BILT Overhead
Operating Doors
Masonry Supplies

C. R. SWANEY CO.
Nash Engineering Co.
Vulcan Radiator Co.
Pumps for Vacuum Heating,
Condensation, Boiler Feed, Sewage
Hot and Cold Water and Process
Trimline Baseboard and
Commercial Fin Tube Radiation
335 Newbury Street - Boston 15, Ma
KENmore 6-5613

Concrete Blocks
Cinder Blocks
Bricks – All Kinds
WEL-BILT Overhead
Operating Doors
Masonry Supplies

C. R. SWANEY CO.
Nash Engineering Co.
Vulcan Radiator Co.
Pumps for Vacuum Heating,
Condensation, Boiler Feed, Sewage
Hot and Cold Water and Process
Trimline Baseboard and
Commercial Fin Tube Radiation
335 Newbury Street - Boston 15, Ma
KENmore 6-5613
IN THIS ISSUE

New Hampshire Architect is publishing an analysis of the costs of twenty-three new schools and additions that have either been completed or have been under construction in New Hampshire within the past year.

The purpose of this issue is to give the members of every school committee, charged with the building of schools in their communities, an opportunity to study the costs of schools in various sections of the State. At the same time it affords the architects and contractors an opportunity to exchange approximate costs with each other.

This analysis is made possible by the enthusiastic cooperation of the Architects, Contractors, and Sub-contractors. Credit for the publication must also be given to Paul E. Farnum of the State Board of Education, who gave valuable assistance in the preparation of this issue.
The President’s Message

It is a disturbing thought to realize that in an age such as ours a man who thinks for himself is often labeled as a queer and uncomfortable specie to have around. In many instances organized political, social, educational and religious groups have ready-made convictions neatly tabulated and systematized which require only the minimum of effort to adopt—the only requirement is that the subscriber leave the “brain-work” to the leaders. Results of such action are evident, but what is not evident is the increasing dependency of the minds which refuse to function on their own. It can be disastrous when so many believe that “it hurts to think.” An adult who, without self-explored convictions but with deep-rooted skepticism, wavers and vacillates at the dinner table cannot be expected to create stability in the young minds which are listening, nor can teachers, lawyers or men of cloth without well-thought-out convictions be expected to fulfill the much needed role of guideposts.

In this period of concentration upon improved educational facilities, it behooves the planners not to lose sight of the relationship necessary between the student and the teacher, and that very fundamentally the whole problem is one of education without pampering either the student or the teacher. School plant conveniences whether for administrative ease or physical comfort for teachers and students are secondary to the quality of teaching and quality of receptiveness.

I am distressed that gymnasiums are so easily included in a building program while library and industrial arts rooms fight to hold the darkest corner. I was amazed when an electric basket-ball scoreboard salesman told this to me: “In the potato country, they live big! Cadillacs are common in most farmyards! When I located one of the town philanthropists on his tractor and had spun my sales-pitch, he reached into his dungerees, pulled out a fist choking roll of bills and pealed off fifteen one hundred dollar bills for a scoreboard!” This was the time when the government was purple-dyeing the potatoes and paying producers not to produce. Little wonder that scoreboards were so easily paid-for and also little wonder why teachers were bemoaning the discipline problem. Aberrations from the fundamental purpose of education can only be corrected when those entrusted with programming and those architects chosen to execute the program take it upon themselves to do a little rationalizing and then, having something of substance to create, do so with a courage which certainly will be needed.

I am forever startled with the reply which a nationally known architect made before a bonding group when asked: “What is your opinion of bonds?” to which he answered: “If you refer to bonds which insure payment for errors of an entrusted body of people, I am against them! I am against them because they invite the protected to be careless of the charge placed upon them!”

Richard Froehle
The next few years will be critical ones for New Hampshire school districts:

Our school enrollment will increase about 17,000 pupils or nearly 20% between 1953-54 and 1959-60. During this period we will need annually 400 new elementary teachers and 125 new high school, including replacements.

New buildings, additions to existing schools and classroom renovation costing nearly $40,000,000 will be needed to replace the buildings now obsolete and inadequate up through the school year 1959-60.

Two years ago, the State Department of Education completed a survey of all school facilities in the state under a special Federal grant appropriated by the 83rd Congress. Every New Hampshire school building was visited and such facts as the type of construction, capacity of building, service systems, age of structure, initial cost, adequacy of plant, and rehabilitation or renovation needed were evaluated. This data is of value now in studying the school plants of this state and in determining future needs.

New Hampshire constructed no schools during World War II. Following this war period, school districts were sadly in need of new construction to replace obsolete structures and to accommodate the increasing school population. There is hardly a sizable community in the state today that has not built a new elementary school, added to an existing building or renovated an old structure. The following table indicates the expenditures for capital outlay during the past ten year period and clearly shows the increase in construction following World War II.

<table>
<thead>
<tr>
<th>School Year</th>
<th>Expenditure for Capital Outlay</th>
<th>By N. H. School Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1942-43</td>
<td>$138,658</td>
<td></td>
</tr>
<tr>
<td>1943-44</td>
<td>90,508</td>
<td></td>
</tr>
<tr>
<td>1944-45</td>
<td>142,118</td>
<td></td>
</tr>
<tr>
<td>1945-46</td>
<td>216,759</td>
<td></td>
</tr>
<tr>
<td>1946-47</td>
<td>260,534</td>
<td></td>
</tr>
<tr>
<td>1947-48</td>
<td>542,619</td>
<td></td>
</tr>
<tr>
<td>1948-49</td>
<td>1,590,001</td>
<td></td>
</tr>
<tr>
<td>1949-50</td>
<td>2,960,228</td>
<td></td>
</tr>
<tr>
<td>1950-51</td>
<td>3,480,920</td>
<td></td>
</tr>
<tr>
<td>1951-52</td>
<td>3,175,671</td>
<td></td>
</tr>
<tr>
<td>1952-53</td>
<td>2,733,305</td>
<td></td>
</tr>
</tbody>
</table>

New Hampshire has nearly 600 school structures with only 11.0% of these schools fire restrictive and 75% of them combustible. Of the 416 structures which are combustible, 174 are two stories in height and 22 have three or more stories.

The following table showing the size of school plants lists the small number of one room buildings compared with over 800 in use in 1920.

**SIZE OF SCHOOL PLANTS**

<table>
<thead>
<tr>
<th>No. of Classrooms</th>
<th>Elementary</th>
<th>Secondary</th>
<th>Combined</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Classroom</td>
<td>123</td>
<td>3</td>
<td>3</td>
<td>123</td>
</tr>
<tr>
<td>2-3</td>
<td>113</td>
<td>13</td>
<td>4</td>
<td>113</td>
</tr>
<tr>
<td>4-6</td>
<td>88</td>
<td>13</td>
<td>4</td>
<td>94</td>
</tr>
<tr>
<td>7-13</td>
<td>75</td>
<td>17</td>
<td>17</td>
<td>120</td>
</tr>
<tr>
<td>14-20</td>
<td>13</td>
<td>17</td>
<td>17</td>
<td>38</td>
</tr>
<tr>
<td>More than 20 rooms</td>
<td></td>
<td></td>
<td></td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>412</td>
<td>37</td>
<td>56</td>
<td>505</td>
</tr>
</tbody>
</table>

(Continued on Page 33)
DESCRIPTION:
Reinforced concrete footings; concrete foundation walls; steel frame Auditorium roof; wood frame classroom roof; brick and cinder block exterior walls; interior block bearing walls; concrete floor with asphalt and ceramic tile finish; interior block walls painted; acoustical tile ceilings; aluminum windows; roofing 5-ply built-up gravel topping; exterior doors wood; interior doors metal. Plumbing: 6 toilets, 2 urinals, 3 basins, 3 classroom sinks, 1 slop sink, 4 drinking fountains. Heating: forced hot water two zones; radiation wall type; oil fired boiler; exhaust fans for classroom ventilation; exhaust fans for toilet rooms and teachers' room ventilation. Electrical: 58 lighting fixtures, exit lights, emergency lighting.

SPECIAL FEATURES:
Building is designed for future classroom additions at classroom end with no changes to existing building necessary. Boiler of adequate size for addition has been installed as part of present system.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$50,592.00</td>
<td>77.9</td>
<td>$6.94</td>
<td>$ .41</td>
</tr>
<tr>
<td>PLUMBING</td>
<td>2,520.00</td>
<td>3.9</td>
<td>.346</td>
<td>.02</td>
</tr>
<tr>
<td>HEATING AND VENT.</td>
<td>8,938.00</td>
<td>13.7</td>
<td>1.24</td>
<td>.07</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>2,950.00</td>
<td>4.5</td>
<td>.405</td>
<td>.02</td>
</tr>
<tr>
<td><strong>TOTAL COST OF BUILDING</strong></td>
<td><strong>$65,000.00</strong></td>
<td><strong>100</strong></td>
<td><strong>$8.13</strong></td>
<td><strong>$ .54</strong></td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 121,050 cu. ft.—FLOOR AREA: 7,284 sq. ft.—FLOOR HEIGHTS: Class Rooms 11'-4"; Auditorium 18'-0"—DATE OF BIDS: May, 1954.

Edward Benton Miles, A.I.A., Architect - Exeter, N. H.
HERBERT W. PAUL

70 McDuffie St.  Dial 3-6525
Manchester, N. H.

Painting Contractor
— for —
Candia Elementary
Epsom Elementary
Holderness Elementary

Specializing in Commercial
and Industrial Painting

A. L. FRANKS & CO.
Electrical Engineers
and Constructors

1196 Elm St.  Tel. 2-3761-2
Manchester, N. H.

Electrical Contractor
— for —
Candia Elementary School

Electrical Design
Electrical Consultation
Electrical Investigations and Reports

JOSEPH W. MOORE
Registered Professional Engineer
Manager
State of New Hampshire Serial No. 482

DAVID W. DAVISON

449 HAYWARD STREET  Tel. 4-4041
MANCHESTER, NEW HAMPSHIRE

GENERAL CONTRACTOR

for
Candia Elementary School
Nottingham Elementary School
and
Salem Elementary School
DESCRIPTION:

Charlotte Avenue and Fairgrounds Schools have been designed as 13 room schools. The first stage of construction, completed in 1954, consisted of 7 classrooms together with other facilities. The Multi-Purpose Room, Toilet Rooms, Shower and Locker Rooms, Teachers' Rooms, Office, Kitchen, Health Room and other facilities, were designed to be large enough to accommodate the pupils of 13 classrooms. At present these facilities bear an undue burden of cost because they are being used by the occupants of 7 classrooms only.

Construction Details: Concrete foundations, concrete floor slabs, exterior walls of brick veneer with cinder block backers, roof frame steel joists except steel bents and wood rafters in Multi-Purpose Room, gypsum roof plank, 5 ply built-up roofing, aluminum awning windows, asphalt tile floors, acoustical tile ceilings, wainscots of structural glaze tile, enameled steel chalkboards, heating with steam heat and unit ventilators, roof fans for ventilation, concentric ring incandescent light fixtures in classrooms.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft</th>
<th>Cost Per Cu.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$185,615.00</td>
<td>76.5</td>
<td>$8.59</td>
<td>$.5</td>
</tr>
<tr>
<td>PLUMBING</td>
<td>16,000.00</td>
<td>6.6</td>
<td>.72</td>
<td>.0</td>
</tr>
<tr>
<td>HEATING AND VENT</td>
<td>30,585.00</td>
<td>12.6</td>
<td>1.41</td>
<td>.1</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>10,300.00</td>
<td>4.3</td>
<td>.48</td>
<td>.0</td>
</tr>
<tr>
<td>TOTAL COST OF BUILDING</td>
<td>$242,500.00</td>
<td>100</td>
<td>$11.20</td>
<td>$.7</td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 333,000 cu. ft. — FLOOR AREA: 21,600 sq. ft.

Tracy and Hildreth, A.I.A., Architects - Nashua, N. H.
SCHOOLS FEATURED IN THIS ISSUE WHICH WERE BUILT WITH

ENSMORE FACE BRICK AND NATCO GLAZED TILE

High School—Exeter, N. H.—NATCO Clear Glaze Facing Tile
Conant School—Jaffrey, N. H.—DENSMORE Sandstruck Face Brick
Peterborough School—Peterborough, N. H.—DENSMORE Sandstruck Face Brick
Salem School—Salem, N. H.—DENSMORE Sandstruck Face Brick
Newmarket Gym—Newmarket, N. H.—NATCO Salt Glazed Facing Tile
Troy School—Troy, N. H.—NATCO Tex Dri-Wall Tile
Tilton-Northfield School—Tilton, N. H.—NATCO Tex Dri-Wall Tile
Elementary Schools (2)—Nashua, N. H.—DENSMORE Waterstruck Face Brick—NATCO Salt Glazed Facing Tile
Wilton School—Wilton, N. H.—DENSMORE Sandstruck Face Brick
Holderness School—Holderness, N. H.—DENSMORE Sandstruck Face Brick

DENSMORE BRICK COMPANY
Brick Manufacturers
Distributors For All Clay Products
Lebanon New Hampshire
DESCRIPTION:

Reinforced Concrete Foundations; Structural Steel Frames; Reinforced Concrete Floors; Insulrock slab and wood roof decking; Twenty year bonded roof with copper flashings; Brick exterior wall facing, with cinder backing tile; Cinder tile interior partitions; Ceramic Tile showers; Ceramic Tile toilet floors; Asphalt tile floors, Gymnasium floor rock maple; Acoustical tile ceilings; Steel interior door frames; Aluminum sash; Wood exterior doors and interior doors; Modern paint decorations; Modern electrical system; 5 zone forced hot water system; Forced ventilation system; 109 Plumbing fixtures.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft</th>
<th>Cost Per Cu. Ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$228,363.00</td>
<td>77.1</td>
<td>$6.87</td>
<td>$.37</td>
</tr>
<tr>
<td>PLUMBING</td>
<td>24,033.00</td>
<td>8.1</td>
<td>.72</td>
<td>.04</td>
</tr>
<tr>
<td>HEATING AND VENT.</td>
<td>30,035.00</td>
<td>10.2</td>
<td>.90</td>
<td>.05</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>13,738.00</td>
<td>4.6</td>
<td>.41</td>
<td>.02</td>
</tr>
</tbody>
</table>

TOTAL COST OF BUILDING: $296,169.00 100 $8.90 $.48

TOTAL VOLUME: 591,652 cu. ft.—FLOOR AREA: 33,246 sq. ft. New Building; 17,268 sq. ft. Exist. Building—DATE OF BIDS: November 24, 1953—FLOOR HEIGHTS: Basement 10'-0"; Ground Floor 10'-0"; First Floor 10'-0"—GYMNASIUM 20'-3"

ALTERATIONS TO THE EXISTING BUILDING ARE INCLUDED IN NEW CONSTRUCTION COSTS.

Irving W. Hersey Associates, A.I.A., Architects, - Durham, N. H.
R. L. GALLOWAY
Walpole, N. H.
Tel. 150

Plumbing, Heating and Refrigeration
Fixtures and Supplies

Plumbing Contractor
— for —
Jaffrey High School
— and —
Peterborough High School

The Loyal Appliance Co.
6 Main St. Tel. 1534
BRATTLEBORO, VT.

Electrical Contractors
— for —
Jaffrey High School Addition
— and —
Peterborough High School Addition

CONANT HIGH SCHOOL ADDITION

Erected by
L. J. RAYMOND CO., INC.

General Contractor
Office: 781 WATER STREET
FITCHBURG, MASS.
Tel. 2-9727
DESCRIPTION:


Special features: Original bid based on brick veneer was changed to block walls and “Quik-brick” will be used for the exterior wall facing instead of painting.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft</th>
<th>Cost Per Cu. Ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$53,517.00</td>
<td>83.2</td>
<td>$6.04</td>
<td>$.47</td>
</tr>
<tr>
<td>PLUMBING</td>
<td>4,000.00</td>
<td>6.2</td>
<td>.45</td>
<td>.03</td>
</tr>
<tr>
<td>HEATING AND VENT.</td>
<td>4,050.00</td>
<td>6.3</td>
<td>.45</td>
<td>.03</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>2,800.00</td>
<td>4.3</td>
<td>.31</td>
<td>.02</td>
</tr>
<tr>
<td>TOTAL COST OF BUILDING...</td>
<td>$64,367.00</td>
<td>100</td>
<td>$7.25</td>
<td>$.55</td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 115,102 cu. ft.—FLOOR AREA: 8,855 sq. ft.—FLOOR HEIGHTS: Ground Floor 10'-6";First Floor 10'-6"—DATE OF BIDS: July, 1954.

Arnold Perreton & Associates, A.I.A., Architects - Concord, N.
DURACRETE BLOCKS

Have entered into the construction of many of New Hampshire's New Schools and many School Additions.

SCHOOLS USING DURACRETE CEMENT BLOCKS

EXETER HIGH SCHOOL • EXETER ELEMENTARY SCHOOL
CANDIA ELEMENTARY SCHOOL • NEWMARKET GYMNASIUM

EPSOM ELEMENTARY SCHOOL — TOTAL BLOCK CONSTRUCTION

LITTLETON HIGH SCHOOL • SALEM ELEMENTARY SCHOOL
Elementary Schools at

HOOKSETT • HOLDERNESS • LOUDON
WILTON • RUMFORD AT CONCORD

Manufacturers of Concrete, Cinder and Catch Basin Blocks

DURACRETE BLOCK CO., INC.

Dial Manchester 5-6293 — 2-7011
Rear Manchester Sand and Gravel Co.
HOOKSETT, N. H.
DESCRIPTION:
Concrete footings; concrete block foundations; masonry wall bearing construction with concrete floors on earth; roof framing; Douglas fir rafters and boarding; roof: tar and gravel 20-year bonded; outside walls: brick with concrete block back-up; interior partitions: concrete block painted, asphalt tile floor covering throughout excepting toilets which have ceramic tile; Corridor wall dadoes: Vitritile 4'--10" high; ceilings: J. M. Fibretone acoustic panels; doors: wood; windows: structural wood projected; heating: steam and Vulcan radiation; plumbing: 14 sinks, 9 water closets, five urinals, two drinking fountains, six lavatories; electric: rigid conduit and ventilation fans.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$112,975.00</td>
<td>71.4</td>
<td>$6.39</td>
<td>$.416</td>
</tr>
<tr>
<td>PLUMB., HEAT., VENT.</td>
<td>38,000.00</td>
<td>23.8</td>
<td>2.00</td>
<td>.140</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>7,341.00</td>
<td>4.8</td>
<td>.40</td>
<td>.024</td>
</tr>
<tr>
<td>TOTAL COST OF BUILDING</td>
<td>$158,316.00</td>
<td>100</td>
<td>$8.79</td>
<td>$.580</td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 270,802 cu. ft.—FLOOR AREA: 18,000 sq. ft.—DATE OF BIDS: August 17, 1954—FLOOR HEIGHTS: 10'-8" to 11'-3"

ALFRED T. GRANGER Associates, A.I.A.
Architects and Engineers
Hanover, N. H.
Plumbing, Heating and Ventilating

At New Exeter Elementary School

Installed by

L. L. Lurvey & Company
Plumbing, Heating, Ventilating and Sprinkler Contractors
Chestnut Hill Road
Rochester, N. H.

Roofing Contractor

— for —

Exeter Elementary School

LETOILE ROOFING CO.

38 Lancaster St. Phone 2-4031
Haverhill, Mass.

Roofing and Sheet Metal Work of every description

S. E. LaPERLE and SONS

General Contractors and Builders

16 SCHOOL STREET
EXETER, NEW HAMPSHIRE
PHONES:—Res. 3373 Office 3561

GENERAL CONTRACTOR

for

NEW EXETER ELEMENTARY SCHOOL
FAIRGROUNDS ELEMENTARY SCHOOL - NASHUA

DESCRIPTION:

Charolette Avenue, and Fairgrounds Schools have been designed as 13 room schools. The first stage of construction, completed in 1954, consisted of 7 classrooms together with other facilities. The Multi-Purpose Room, Toilet Rooms, Shower and Locker Rooms, Teachers' Rooms, Office, Kitchen, Health Room and other facilities, were designed to be large enough to accommodate the pupils of 13 classrooms. At present these facilities bear an undue burden of cost because they are being used by the occupants of 7 classrooms only.

Construction Details: Concrete foundations, concrete floor slabs, exterior walls of brick veneer with cinder block backers, roof frame steel joists except steel bents and wood rafters in Multi-Purpose Room, gypsum roof plank, 5 ply built-up roofing, aluminum awning windows, asphalt tile floors, acoustical tile ceilings, wainscots of structural glaze tile, enameled steel chalkboards, heating with steam heat and unit ventilators, roof fans for ventilation, concentric ring incandescent light fixtures in classrooms.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$185,615.00</td>
<td>76.5</td>
<td>$8.59</td>
<td>$.55</td>
</tr>
<tr>
<td>PLUMBING</td>
<td>16,000.00</td>
<td>6.6</td>
<td>.72</td>
<td>.05</td>
</tr>
<tr>
<td>HEATING AND VENT.</td>
<td>30,585.00</td>
<td>12.6</td>
<td>1.41</td>
<td>.10</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>10,300.00</td>
<td>4.3</td>
<td>.48</td>
<td>.03</td>
</tr>
<tr>
<td>TOTAL COST OF BUILDING</td>
<td>$242,500.00</td>
<td>100</td>
<td>$11.20</td>
<td>$.73</td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 333,000 cu. ft.—FLOOR AREA: 21,600 sq. ft.

Tracy and Hildreth, A.I.A., Architects - Nashua, N. H.
Another GOOD ROOF

by

THERRIEN

ROOFING and SHEET METAL WORK

A. W. Therrien Co.

59 Depot St.  Tel. 3-6193

Manchester, N. H.

CHARLES H. AUSTIN, INC.
ESTABLISHED 1803
ELECTRICAL INSTALLATIONS AND SUPPLIES
178 MAIN STREET
NASHUA, N. H.

Electrical Contractor

— for —

Nashua's
Two New Elementary Schools

All Wood Finish

— for —

Nashua's
Two New Elementary Schools
furnished by

UNWIN LUMBER COMPANY

16 Spruce St.  Tel. 7853

Lawrence, Mass.

Manufacturers of
High Grade Finish Lumber and
Framing, Doors, Windows, Cabinets
and Building Materials

Heating & Ventilating

for Nashua's Two
New Elementary Schools

— by —

EDMUND B. KELTY COMPANY

189 Walker St.  Tel. Glenview 2-7937

Lowell, Mass.
DESCRIPTION:


<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft</th>
<th>Cost Per Cu. Ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENERAL CONTRACT</td>
<td>$82,837.50</td>
<td>76.1</td>
<td>$8.10</td>
<td>$.52</td>
</tr>
<tr>
<td>HEATING &amp; PLUMBING</td>
<td>22,838.00</td>
<td>21.0</td>
<td>2.23</td>
<td>.14</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>3,160.00</td>
<td>2.9</td>
<td>.31</td>
<td>.02</td>
</tr>
<tr>
<td><strong>TOTAL COST OF BUILDING</strong></td>
<td><strong>$108,835.50</strong></td>
<td><strong>100</strong></td>
<td><strong>$10.64</strong></td>
<td><strong>$.68</strong></td>
</tr>
</tbody>
</table>


Hudson & Ingram, A.I.A., Architects & Engineers - Hanover, N. H.
CHARLES A. GOVE, INC.
Electrical Contractor  Wiring Supplies
367 Union Ave.      Phone 610
Laconia, N. H.

---

Plumbing and Heating
Installed at
Holderness Elementary School
— by —
Fitzmorris Plumbing and Heating, Inc.
Whitefield, N. H.
Tel. 7-2503

---

CARON CONSTRUCTION CO., INC.
General Contractors and Builders
161 BAKER STREET          PHONES: 2-4073 — 2-8475
MANCHESTER, NEW HAMPSHIRE

GENERAL CONTRACTORS
for
Holderness Elementary School
and
Rumford Elementary School Addition
at Concord
DESCRIPTION:
Foundation, footings and walls concrete; brick and cinder concrete walls above; these are bearing walls. Concrete floor slab on fill; bar joists and gypsum plank roof. Interior partitions cinder block; finish floors asphalt tile; finished walls painted. Ceilings acoustical tile; roof covering composition. Exterior and interior doors wood, metal frames. Windows steel pivoted. Plumbing: 6 toilets, 2 urinals, 4 lavatories, 2 sinks. Heating: 2-pipe steam with convectors. Electric: thin wall and rigid conduit, fluorescent fixtures.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$27,315.00</td>
<td>69.3</td>
<td>$7.30</td>
<td>$.45</td>
</tr>
<tr>
<td>PLUMBING, HEATING</td>
<td>6,990.00</td>
<td>17.7</td>
<td>1.86</td>
<td>.116</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>1,943.00</td>
<td>4.9</td>
<td>.71</td>
<td>.032</td>
</tr>
<tr>
<td>PAINTING</td>
<td>888.00</td>
<td>2.3</td>
<td>.24</td>
<td>.015</td>
</tr>
<tr>
<td>STRUCTURAL STEEL</td>
<td>2,264.00</td>
<td>5.8</td>
<td>.60</td>
<td>.038</td>
</tr>
<tr>
<td>TOTAL COST OF BUILDING</td>
<td>$39,400.00</td>
<td>100</td>
<td>$10.71</td>
<td>$.652</td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 60,064 cu. ft.—FLOOR AREA: 3,754 sq. ft.—FLOOR HEIGHT: 11'-0"
Another GOOD ROOF

by

THERRIEN

ROOFING and SHEET METAL WORK

A. W. Therrien Co.

59 Depot St.  Tel. 3-6193
Manchester, N. H.

259 Webster St.  Dial 3-1082
Manchester, N. H.

R. C. Peabody Co., Inc.

Plumbing  •  Heating  •  Sprinkler

Contractors

Sales  Installation  Service

720 Union St.  Dial 2-0824
Manchester, N. M.

Plumbing and Heating Contractor

— for —

Hooksett School

Electrical Contractor

— for —

Hooksett Elementary School

Keystone Electric Co.

“You Phone Us — We Wire You”

36 Alsace St.  Dial 2-9541
Manchester, N. H.
LITTLETON HIGH SCHOOL - LITTLETON

DESCRIPTION:
Reinforced Concrete Foundations; Structural Steel Frame; Reinforced Concrete Floors; Gypsum slab roof deck; Twenty year bonded roof with copper flashings; Brick exterior wall facing, backed with fire clay and cinder tile; plastered and cinder tile interior partitions; Ceramic tile shower; Ceramic tile toilet room floors; Asphalt tile floors, with rubber tile base; Except Gymnasium; Gymnasium floor rock maple, acoustical tile ceilings; steel interior door frames, Aluminum sash; Wood exterior and interior doors; Modern paint decorations; Venetian blinds; program clock system; inter com and speaker system; sprinkler system; five zone forced hot water system, oil fired; forced ventilation system; stand by generator; modern electric system; 143 plumbing fixtures.

ITEM | Cost | % of Total Cost | Cost Per Sq. Ft. | Cost Per Cu. Ft.
--- | --- | --- | --- | ---
STRUCTURE | $374,336.00 | 78.4 | $6.66 | $ .463
PLUMBING | 25,564.00 | 5.4 | .45 | .028
SPRINKLER SYSTEM | 12,050.00 | 2.5 | .21 | .013
HEATING AND VENT | 34,861.00 | 7.3 | .62 | .038
ELECTRICAL | 30,412.00 | 6.4 | .54 | .033

TOTAL COST OF BUILDING | $477,223.00 | 100 | $8.48 | $ .518

TOTAL VOLUME: 921,170 cu. ft.—FLOOR AREA: 56,313 sq. ft.—DATE OF BID: September 24, 1954—FLOOR HEIGHTS: Glass Room Section, Basement 10'-0"; First Floor 12'-0", Second Floor 12'-0"—GYMNASIUM: 20'-0"

Irving W. Hersey Associates, A.I.A., Architects, - Durham, N.
"QUIK-SEALER and PRIMER"

low...Paint 2 coats, prime and
finish, right around the room
in only one day!

right...it's done with
Nu-Hue Quik-Sealer
right...it's a primer
and a sealer
right...

it dries to recoat in only 2 hours

SEAMANS SUPPLY COMPANY
MANCHESTER, NEW HAMPSHIRE
DISTRIBUTORS

E. E. BIGELOW
222 Main St. — Tel. 4-3334
Littleton, N. H.

ELECTRICAL CONTRACTOR
REFRIGERATION CONTRACTOR

Electrical Contractor
— for —

Littleton High School

LITTLETON HIGH SCHOOL
NOW UNDER CONSTRUCTION
by
JAMES J. VIETTE
GENERAL CONTRACTOR
Keene, New Hampshire
28 Washington Street — Tel. 1050
LOUDON ELEMENTARY SCHOOL - LOUDON

DESCRIPTION:
Reinforced Concrete Foundation; Structural Steel Frame; Reinforced Concrete floor slabs; Pre-cast Concrete Roof Plank; Twenty year bonded roof with copper flashings; Brick exterior wall facing with cinder backing; Tile; Cinder tile interior partitions; Asphalt tile floors, Acoustical tile ceilings, metal sash; Wood exterior and interior doors; Modern Paint decoration; Three zone forced hot water heating system; Oil fired; Forced Ventilation System; Modern Electric System; Plumbing fixtures 23; Septic tank and sewerage disposal system.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$63,284.37</td>
<td>79.4</td>
<td>$6.98</td>
<td>$.50</td>
</tr>
<tr>
<td>PLUMB., HEAT., VENT</td>
<td>13,556.00</td>
<td>17.0</td>
<td>1.50</td>
<td>.10</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>2,840.00</td>
<td>3.6</td>
<td>.31</td>
<td>.02</td>
</tr>
</tbody>
</table>

TOTAL COST OF BUILDING........................................... $79,680.37 100 $8.79 $ .62

TOTAL VOLUME: 124,840 cu. ft.—FLOOR AREA: 9,064 sq. ft.—DATE OF BIDS: September 11, 1953—FLOOR HEIGHTS: Basement 11'-2", First Floor 11'-0"

ALTERATIONS TO THE EXISTING BUILDING ARE INCLUDED IN NEW CONSTRUCTION COSTS.

Irving W. Hersey Associates, A.I.A., Architects,  - Durham, N. H
The DIAMOND MATCH CO.

DOVER, N. H.

Has Long Supplied Materials for New Hampshire Schools—
—including the Recent Construction of —

LOUDON ELEMENTARY

NEWMARKET GYMNASIUM

SEABROOK ELEMENTARY

Foster & Bamford, Inc.

18 No. Main St. Dial CA4-1031
Concord, N. H.

General Contractor

for —

Loudon Elementary School

"Steel When You Want It"

LYONS IRON WORKS, Inc

STEEL STRUCTURES DESIGNED AND FABRICATED ARCHITECTURAL AND ORNAMENTAL IRON Office and Works
MANCHESTER NEW HAMPSHIRE

It was our privilege to furnish the STEEL for the Construction of the following Schools

CANDIA ELEMENTARY SCHOOL EPSOM ELEMENTARY SCHOOL
TUCK HIGH SCHOOL, EXETER EXETER ELEMENTARY SCHOOL
HOOKSETT ELEMENTARY SCHOOL JAFFREY HIGH SCHOOL
SALEM ELEMENTARY SCHOOL NEWMARKET GYMNASIUM
LITTLETON HIGH SCHOOL SEABROOK ELEMENTARY SCHOOL
PETERBOROUGH HIGH SCHOOL RUMFORD AT CONCORD
CHARLOTTE AVENUE AND FAIRGROUNDS ELEMENTARY SCHOOLS AT NASHUA
TROY ELEMENTARY-HIGH SCHOOL

25
DESCRIPTION:
Concrete footings; concrete block foundation walls; masonry wall bearing construction with concrete floors on earth; roof framing: Douglas fir rafters over school portion, longspan joists over Multi-Purpose Room with boarding and roof plank; roof: tar and gravel 20-year bonded; outside walls: brick with concrete block back-up; interior partitions: concrete block painted, asphalt tile floor covering throughout excepting toilets which have ceramic tile; Corridor wall dados: Vitritile 4'-10" high; ceilings: J. M. Fibretone acoustic panels; doors: wood; windows: classroom portion: structural wood projected, steel in Multi-Purpose Room; heating: steam and Vulcan radiation; plumbing: 12 water closets, 9 lavatories, 6 sinks, 6 urinals, 4 drinking fountains; electric: rigid conduit, ventilation fans.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$164,434.00</td>
<td>76.7</td>
<td>$7.65</td>
<td>$.442</td>
</tr>
<tr>
<td>PLUMBING</td>
<td>8,876.00</td>
<td>4.1</td>
<td>.41</td>
<td>.024</td>
</tr>
<tr>
<td>HEATING AND VENT</td>
<td>31,130.00</td>
<td>14.5</td>
<td>1.45</td>
<td>.084</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>10,009.00</td>
<td>4.7</td>
<td>.46</td>
<td>.027</td>
</tr>
<tr>
<td>TOTAL COST OF BUILDING</td>
<td>$214,449.00</td>
<td>100.</td>
<td>$9.97</td>
<td>$.567</td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 372,000 cu. ft.—FLOOR AREA: 21,500 sq. ft.—DATE OF BIDS: August 4, 1954—FLOOR HEIGHTS: 10'-8" to 11'-3"; Multi-Purpose Room 20'-9"

ALFRED T. GRANGER Associates, A.I.A.
Architects and Engineers — Hanover, N. H.
LOVEJOY & SMITH  
8 Green St.  
Tel. Conn.  
Nashua, N. H.

Plumbing Contractors  
— for —  
Milford Elementary School  
Plumbing, Heating and  
Sheet Metal Work

STONE-CRETE BLOCKS  
— for —  
Milford Elementary School  
furnished by  
BLOCKS, INC.  
Miller St.  
Tel. LE7-5970  
Leominster, Mass.

— Architects and Contractors —  
Write for information about  
Our "GLAZED-CRETE" Blocks
NEWMARKET HIGH GYMNASIUM ADDITIONS – NEWMARKET

DESCRIPTION:
Reinforced Concrete Footings; Grouted Concrete Block Foundations; Structural Steel and Wood Framing; Two inch wood roof decking; Twenty year Insulated Bonded Roof; Brick exterior wall facing with Cinder Wall Backing; Cinder Tile Interior Partitions; Ceramic Tile Showers; Asphalt Tile and Rock Maple finished floors; Metal Sash; Steel interior door frames; Wood exterior and interior doors; Modern Paint Decorations; Three zone forced Hot Water Heating System, Oil Fired; Forced Electric System and Stage Lighting; 26 Plumbing Fixtures.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$75,029.17</td>
<td>76.</td>
<td>$7.38</td>
<td>$.36</td>
</tr>
<tr>
<td>PLUMBING</td>
<td>5,400.00</td>
<td>5.4</td>
<td>.53</td>
<td>.03</td>
</tr>
<tr>
<td>HEATING AND VENT.</td>
<td>14,655.00</td>
<td>14.8</td>
<td>1.44</td>
<td>.07</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>3,836.00</td>
<td>3.8</td>
<td>.37</td>
<td>.02</td>
</tr>
<tr>
<td><strong>TOTAL COST OF BUILDING</strong></td>
<td><strong>$98,920.17</strong></td>
<td><strong>100</strong></td>
<td><strong>$9.72</strong></td>
<td><strong>$.48</strong></td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 205,702—FLOOR AREA: 10,166—DATE OF BIDS: October 7, 1953—FLOOR HEIGHTS: Basement 10' - 0” First Floor 10’ - 0”—GYMNASIUM: 20' - 0”

ALTERATIONS TO THE EXISTING BUILDING ARE INCLUDED IN NEW CONSTRUCTION COSTS.

Irving W. Hersey Associates, A.I.A., Architects, - Durham, N. H
We believe that granite Steps if specified as follows and as indicated by the sketch should permit the use of same in your new school building or projects of similar nature. The width of the Step should vary from 1'-2" to 1'-3\(^{\frac{1}{4}}\)", and the risers from 0'-6\(\frac{1}{2}\)" to 0'-7\(\frac{3}{4}\)"; the length to vary from 6'-0" to 9'-0". There should be a tolerance allowable of 0'-1\(\frac{1}{4}\)" plus or minus to permit economical production. The tread surface should be specified as finished with a machine non-slip surface and the risers with a smooth machine surface. The bottom or bed should be indicated as level at the required height of the riser. The ends should be jointed. With this construction the only variation necessary would be stringers extending 0'-\(\frac{1}{4}\)" or 0'-6" on each side of the joints. We would be pleased to furnish you with per lineal foot prices for the above specified Step delivered on trucks to job site.
NOTTINGHAM CENTRAL SCHOOL - NOTTINGHAM

DESCRIPTION:
This 4 room school was erected in 1953 consolidating in one building the activities of several district schools in the town. One of these district schools has been moved to the new site and serves as an Assembly Room and community hall for the new school, the two structures being connected by a covered passageway.

Construction Data: Concrete foundations and floor slab. Wood frame walls with clapboard exterior and plaster finish inside, wood frame roof with asphalt strip shingles, wood awning windows, asphalt tile floors, acoustical tile ceilings, partitions of wood studs with plaster, plastic wainscots in Toilet Rooms, heating by forced warm air, lighting with concentric ring fixtures.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft</th>
<th>Cost Per Cu. Ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$39,485.00</td>
<td>84.8</td>
<td>$7.83</td>
<td>$0.53</td>
</tr>
<tr>
<td>PLUMB., HEAT., VENT</td>
<td>5,083.00</td>
<td>10.9</td>
<td>1.02</td>
<td>0.07</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>2,029.00</td>
<td>4.3</td>
<td>0.40</td>
<td>0.03</td>
</tr>
<tr>
<td><strong>TOTAL COST OF BUILDING</strong></td>
<td><strong>$46,597.00</strong></td>
<td><strong>100</strong></td>
<td><strong>$9.25</strong></td>
<td><strong>$0.63</strong></td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 74,040 cu. ft.—FLOOR AREA: 5,045 sq. ft.

Tracy and Hildreth, A.I.A., Architects — Nashua, N. H.
Sanborn Electric Co.
235 Laurel St. Phone 2-0835
Manchester, N. M.

Electrical Contractors
— for —
Nottingham Elementary School
Residential and Industrial
Wiring and Repairs
for Light, Heat
and Power

H. B. Greenwood Co.
Manufacturers of
FINE WOODWORK

Detail Work A Specialty

We Furnished the Millwork
— for —
Nottingham School
and several other
New Hampshire Schools

Mailing Address
EAST KINGSTON, N. H.
Tel. South Hampton 1163-W1

Upon Completion....
EPSOM ELEMENTARY SCHOOL
will be Faced with

Quikbrik

The Amazing NEW Brick Finish
Beautiful Real Brick Exteriors that Last
the Life of a Building

P. H. McGRANAHAN COMPANY, INC.
555 Valley Street — Manchester, N. H. — Dial 2-9373

Plastering Contractors for
Peterborough High School — Nottingham Elementary School
Charlotte Avenue and Fairgrounds Schools—Nashua
Rumford at Concord
DESCRIPTION:


<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$237,890.00</td>
<td>73.3</td>
<td>$6.80</td>
<td>$.36</td>
</tr>
<tr>
<td>PLUMB., HEAT., VENT</td>
<td>69,346.00</td>
<td>21.3</td>
<td>2.00</td>
<td>.11</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>17,249.00</td>
<td>5.4</td>
<td>.50</td>
<td>.03</td>
</tr>
<tr>
<td>TOTAL COST OF BUILDING</td>
<td>$324,485.00</td>
<td>100</td>
<td>$9.30</td>
<td>$.50</td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 650,534 cu. ft.—FLOOR AREA: 34,982 sq. ft.—FLOOR HEIGHTS: Class Rooms 10'-8"; Lunch Room etc. 10'-0"; Gym 20'-0"—DATE OF BIDS: March, 1954.

While there are still many elementary schools needed in the smaller N. H. communities, construction will be slow due to lack of funds and an indecision on the part of the voters as to the type and kind of building that should be built.

Our major problem in 1954 and in the immediate period to follow, concern us with—

1. Additions or new buildings to keep pace with increasing birth rate.
2. The construction of secondary school plants to house an adequate program.
3. The formation of natural cooperative school districts and the construction of school facilities to house these children.

Many New Hampshire communities have used up their present borrowing capacity and now have little lee-way to build new structures for this increasing school population. This is one reason why much interest is now being shown in the formation of larger administrative units. This state is still burdened with many small secondary schools. Many of these school plants are inadequate to provide the space needed for the broad secondary program required today. To construct a new secondary building for a small enrollment of 100 to 200 pupils is expensive and very inefficient since it is the special facilities such as the auditorium-gymnasium, shower and locker rooms, the science department and the practical arts facilities that absorb a major portion of the building budget. It costs little more to accommodate twice this number of pupils in a larger school as a few additional classrooms are about the only new spaces needed. It is through the formation of larger natural attendance areas that sufficient funds can be borrowed to construct adequate secondary school facilities under our present statutes.

Careful consideration was given to the formation of more efficient administrative units and the estimated cost of these facilities in rearranged attendance areas in the survey of school facilities recently completed. It is very evident that by careful planning and the formation of larger natural attendance areas that one building can frequently serve the need of two and that there will be a major saving in the initial cost.

I think that architects should be interested in what school board members expect from an architect and what he should provide for them in a new building. Board members seldom ever serve on more than one building program during their period of service and for this reason must learn all the fundamental principles of school planning and construction. Some have a very little idea of what an architect really does and why the contractor cannot go right ahead and build them a school without any plans at all.

Seldom do school board members appreciate why one building in a neighboring district should cost $1,200.00 per pupil and another $800.00 accommodating the same enrollment and possibly with the same general characteristics. The problem of quality, the choice of building materials and possible structural economics are so important and must be carefully explained by the architects and his assistants to the building committee.

(Continued on Page 52)
PETERBOROUGH HIGH SCHOOL, Alterations & Additions - Peterborough

DESCRIPTION:
Reinforced Concrete Foundations; Structural Steel Frames; Reinforced Concrete Floors; Gypsum slab and wood roof decking; twenty year bonded roof with copper flashings; Brick exterior wall facing, with cinder backing tile; Cinder tile interior partitions; Ceramic tile showers; Ceramic tile toilet floors; Asphalt tile floors, gymnasium floor rock maple; acoustical tile ceilings; steel interior door frames; aluminum sash; Wood exterior doors and interior doors wood; modern paint decorations; program clock system; Modern electrical system; 9 zone forced hot water system; forced ventilation system; 150 plumbing fixtures.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$297,307.00</td>
<td>74.3</td>
<td>$5.58</td>
<td>$.50</td>
</tr>
<tr>
<td>PLUMBING</td>
<td>30,500.00</td>
<td>7.6</td>
<td>.57</td>
<td>.03</td>
</tr>
<tr>
<td>HEATING AND VENT</td>
<td>51,650.00</td>
<td>13.0</td>
<td>.97</td>
<td>.06</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>20,466.00</td>
<td>5.1</td>
<td>.38</td>
<td>.02</td>
</tr>
<tr>
<td>TOTAL COST OF BUILDING</td>
<td>$399,923.00</td>
<td>100</td>
<td>$7.50</td>
<td>$.61</td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 785,132 cu. ft.—FLOOR AREA: 53,269 New Building; 27,119 sq. ft., Existing Building—DATE OF BIDS: August 16, 1954—FLOOR HEIGHTS: Basement 10'-0", First Floor 10'-0", Second Floor 10'-0"—GYMNASIUM: 18'-2"

ALTERATIONS TO THE EXISTING BUILDING ARE INCLUDED IN NEW CONSTRUCTION COSTS.

Irving W. Hersey Associates, A.I.A., Architects, - Durham, N. H.
Another GOOD ROOF by

THERRIEN

ROOFING and SHEET METAL WORK

A. W. Therrien Co.
59 Depot St. Tel. 3-6193
Manchester, N. H.

P. Madonia Company
Fitchburg, Mass.
Tel. Fitchburg 3-9006

Contractors and Builders

— of —

Peterborough High School

ALFRED G. STEVENS COMPANY, INC.

Contractors and Engineers
46 Manchester St. Dial 3-7062
Manchester, N. H.

Electrical Contractor — for —
Exeter High School

— for —

Heating Contractor

— for —

Peterborough High School

Total Cost: $155,759.

Scope of Work: Alteration of existing building included new fire-proof stairs, new halls, new toilets, kitchen and lunch room, asphalt tile floor, and painting throughout, exterior repairs; all at a cost of $67,759.00. The addition included 4 classrooms and activity room on one floor as further described below at a cost of $88,000.00.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft</th>
<th>Cost Per Cu. Ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$74,380.00</td>
<td>84.5</td>
<td>$9.11</td>
<td>$.74</td>
</tr>
<tr>
<td>PLUMB., HEAT., VENT</td>
<td>9,757.00</td>
<td>12.0</td>
<td>1.35</td>
<td>.09</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>3,863.00</td>
<td>4.5</td>
<td>.54</td>
<td>.03</td>
</tr>
<tr>
<td>TOTAL COST OF ADDITION</td>
<td>$88,000.00</td>
<td>100</td>
<td>$11.00</td>
<td>$.86</td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 102,432 cu. ft.—FLOOR AREA: 7,106 sq. ft.—FLOOR HEIGHT: Class Room 10'-6"; Activity Room 16'-8"

Another
GOOD
ROOF
by
THERRIEN

ROOFING and SHEET METAL WORK

A. W. Therrien Co.
59 Depot St. Tel. 3-6193
Manchester, N. H.

CARTIER ELECTRIC
Electrical Contractor
Factories and Homes—24 Hour Service
747 Harvard Street
Manchester, N. H.

PHONES:
Office 2-5968
Lionel Cartier 3-7131
Marcel Cartier 3-0469

Electrical Contractor
— for —
Rumford School—Concord

FRANCOEUR-GILL CO., INC.
214 UNION AVENUE TEL. 1090
LACONIA, NEW HAMPSHIRE

Plumbing and Heating Contractors
for
Rumford School At Concord
and
Thornton Elementary School

Plumbing Contractors
for
Epsom Elementary School
SALEM ELEMENTARY SCHOOL - SALEM

DESCRIPTION:
Reinforced Concrete Foundations; Structural Steel Frame; Pre-Cast Concrete Roof Plank; Twenty year Bonded Roof with copper flashings; Brick exterior wall facing with Cinder Backing Tile; Cinder tile interior partitions; Asphalt tile floors; Acoustical tile ceilings; Steel interior door frames. Aluminum sash with plastic dome secondary lighting; Wood interior and exterior doors; Modern paint decorations; Two zone forced hot water heating system; oil fired; Modern Electric System; 22 plumbing fixtures; Septic tank and sewerage disposal system.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$64,912.00</td>
<td>76.2</td>
<td>$7.52</td>
<td>$.54</td>
</tr>
<tr>
<td>PLUMB., HEAT., VENT</td>
<td>15,394.00</td>
<td>18.1</td>
<td>1.78</td>
<td>.13</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>4,906.00</td>
<td>5.7</td>
<td>.56</td>
<td>.04</td>
</tr>
<tr>
<td><strong>TOTAL COST OF BUILDING</strong></td>
<td><strong>$85,212.00</strong></td>
<td><strong>100</strong></td>
<td><strong>$9.86</strong></td>
<td><strong>$.71</strong></td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 119,901 cu. ft.—FLOOR AREA: 8,628 sq. ft.—DATE OF BIDS: June 18, 1954—FLOOR HEIGHTS: 10'-2"

Irving W. Hersey Associates, A.I.A., Architects, - Durham, N. H.
PLUMBING, HEATING and VENTILATING
FOR SOME OF NEW HAMPSHIRE'S FINEST SCHOOLS
by
W. J. PARENTEAU
Manchester, N. H.
Res: 88 Belmont Street
Dial 2-9413
Shop: 147 Maple Street
Dial 2-8130

Plumbing, Heating and Ventilating at
EXETER HIGH SCHOOL
CANDIA ELEMENTARY SCHOOL
SALEM ELEMENTARY SCHOOL
NOTTINGHAM ELEMENTARY SCHOOL

Plumbing at
NEW NASHUA ELEMENTARY SCHOOLS
ELEMEHTARY SCHOOL - SEABROOK

DESCRIPTION:
Concrete footings; concrete block foundation walls; masonry wall bearing construction with concrete floors on earth; roof framing: Douglas fir rafters over school portion, longspan joists over Multi-Purpose Room with boarding and roof plank; roof: tar and gravel 20-year bonded; outside walls: brick with concrete block back-up; interior partitions: concrete block painted, asphalt tile floor covering throughout excepting toilets which have ceramic tile; ceilings: J. M. Fibre-tone acoustic panels; doors: wood; windows: classroom portion: structural wood projected, steel in Multi-Purpose Room; heating: two pipe forced hot water reversed return system; plumbing: 11 water closets, 7 lavatories, 3 sinks, 6 urinals, 2 drinking fountains; electric: rigid conduit and ventilation fans.

ITEM | COST | % OF TOTAL COST | COST PER SQ. FT. | COST PER CU. FT.
--- | --- | --- | --- | ---
STRUCTURE | $108,616.00 | 77.2 | $8.08 | $.50
PLUMB., HEAT., VENT. | 26,000.00 | 18.4 | 1.94 | .118
ELECTRICAL | 6,150.00 | 4.4 | .46 | .022
TOTAL COST OF BUILDING | $140,766.00 | 100 | $10.48 | $.640

TOTAL VOLUME: 217,000 cu. ft.—FLOOR AREA: 13,430 sq. ft.—DATE OF BIDS: August 31, 1954—FLOOR HEIGHTS: 10'-8" to 11'-3"; Multi-Purpose Room 17' clear.

ALFRED T. GRANGER Associates, A.I.A.
Architects and Engineers

Hanover, N. H.
B. Foster Electric Co.

Portsmouth, N. H.

Albany St. Tel. 3848

---

Electrical Contractors

— for —

Seabrook Elementary School

---

Plumbing

— at —

Newmarket Gymnasium

— and —

Plumbing and Heating

— at —

Seabrook Elementary School

Installed by

Standard Plumbing and Heating Company

25 Hanover St. Tel. 1796-W

Portsmouth, N. H.

"We are blind until we see that in the human plan,
Nothing is worth the making if it does not make the man,
Why build these cities glorious if man unbuilided goes?
In vain we build the work unless the builder also grows."

by Edwin Markham

---

THE MAXAM COMPANY

GENERAL CONTRACTORS

Portsmouth New Hampshire

New Hampshire Schools by the Maxam Company Shown In This Issue

SEABROOK ELEMENTARY SCHOOL

Others Previously Constructed

CHESTER - SALEM - STRATHAM
NEW CASTLE - NORTH HAMPTON
DESCRIPTION:
Concrete footings; concrete block foundation walls; exterior walls above grade and interior partitions are painted cinder blocks; roof is framed with wood rafters; floor construction is concrete slab on grade; finish on floors is asphalt tile; ceiling tile on ceilings; insulation between rafters; tar and gravel roofing; steel interior and exterior doors; steel sash; roof ventilators; zoned hot water heat; incinerator; lavatory with hot and cold water and drinking fountain in each classroom; activity bench and movable wardrobe in each classroom; windows are low vision strips instead of customary high windows.

This structure replaces three widely separated district schools. The plan will permit expansion if it becomes necessary because of the future development of the town. A community room will serve the needs of the adults in the town besides being the school's activity room. By means of a folding partition the community room and the first grade room can be thrown together; either for use by the first grade or by the community.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$40,957.00</td>
<td></td>
<td>$7.32</td>
<td>$.572</td>
</tr>
<tr>
<td>STRUCTURE</td>
<td>77.6</td>
<td>Per Sq. Ft.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLUMB., HEAT., VENT</td>
<td>8,736.00</td>
<td>16.4</td>
<td>1.56</td>
<td>.121</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>3,100.00</td>
<td>6.</td>
<td>.56</td>
<td>.044</td>
</tr>
<tr>
<td>TOTAL COST OF BUILDING</td>
<td>$52,793.00</td>
<td>100</td>
<td>$9.44</td>
<td>$ .737</td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 71,575 cu. ft.—FLOOR AREA: 5,595 sq. ft.—DATE OF BIDS: October, 1954—CLEAR STORY HEIGHT: 9'-9"
DOLE'S
RADIOLECTRIC SERVICE
Tel. 685
D. W. Highway    Route 3
Plymouth, N. H.

———

Electrical Contractor
— for —
Thornton Elementary School

Rumford Elementary School
at Concord

— and —

Hooksett Elementary School
were built with

BRICKS
Manufactured by

W. S. GOODRICH, INC.

Epping, N. H.
Manufacturers of
Water Struck Bricks

ARMAND ROUX
Tel. 2118-W Laconia, N. H.

General Contractor

For

THORNTON ELEMENTARY SCHOOL
ELEMENTARY SCHOOL for the Tilton - Northfield Union School District

DESCRIPTION:
Concrete footings; concrete block foundation walls; exterior walls are Naitco Tex-Dri Units; Interior partitions are cinder block; framing is steel beams and columns with wood rafters; floor construction is concrete slab on grade; finish flooring is asphalt tile; perforated asbestos acoustical ceiling tile; insulation between rafters; built up roofing; steel exterior doors, wood interior doors, sound proof door for health unit; steel sash; mechanical ventilation; hot water heat with a separate zone for each classroom; lavatory with hot and cold water and drinking fountain in each classroom; toilets in four classrooms; folding partition between two rooms to form an activity room; steel venetian blinds for all windows; movable activity benches and wardrobe units; steel storage cabinets.

This structure was built to relieve crowded conditions in other schools in the towns of Tilton and Northfield. Without changing the building, four additional classrooms can be added as piping and electrical conduit to their locations are in place and the boiler is of adequate size for four future rooms.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$85,787.00</td>
<td>71.5</td>
<td>$7.86</td>
<td>$.594</td>
</tr>
<tr>
<td>PLUMB., HEAT., VENT.</td>
<td>$26,384.00</td>
<td>21.9</td>
<td>2.41</td>
<td>.182</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>$8,000.00</td>
<td>6.6</td>
<td>.75</td>
<td>.054</td>
</tr>
<tr>
<td>TOTAL COST OF BUILDING</td>
<td>$120,171.00</td>
<td>100</td>
<td>$11.02</td>
<td>$.83</td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 144,819 cu. ft.—FLOOR AREA: 10,904 sq. ft.—DATE OF BIDS: June, 1953—CLEAR STORY HEIGHT 11'-1"

Norman P. Randlett, A.I.A., Architect - Laconia, N. H.
NORTHERN'S PLUMBING, HEATING AND VENTILATING SYSTEMS CAN BE FOUND IN MANY NEW HAMPSHIRE SCHOOLS

Among them are:

PLUMBING AND HEATING AT
LITTLETON HIGH SCHOOL
TILTON-NORTHFIELD ELEMENTARY
HEATING AT JAFFREY HIGH SCHOOL

Plumbing, Heating and Ventilating at
Loudon Elementary School

NORTHERN HEATING & PLUMBING CO., Inc.

7-21 WATER STREET — LACONIA, NEW HAMPSHIRE — TEL. 706
ADDITION TO TROY ELEMENTARY HIGH SCHOOL BUILDING

DESCRIPTION:
Concrete foundations; exterior walls of classrooms are Natco Tex-Dri units; exterior walls of gymnasium are cinder blocks; interior partitions are cinder blocks; roof is framed with structural steel and wood; gymnasium roof supported on structural steel rigid frames; floor construction is concrete slab on grade except reinforced concrete over locker room area; finish flooring is asphalt tile except for wood on stage; inlaid court markings in gymnasium; ceiling tile with acoustical tile in kitchen and gymnasium; tar and gravel roofing on level roof areas, asphalt shingles on gymnasium; all roofs insulated; exterior face of cinder block walls and all interior wall surfaces are painted; plastic covered sponge rubber pads are on end walls of gymnasium; wood doors; movable wardrobes and activity bench units; steel storage cabinets; steel sash; mechanical ventilation; zoned steam heat; new boiler in boiler room of existing building; changes in heating system of present building were made; lavatory in each classroom with hot and cold water; drinking fountain in each classroom. A special feature in the classrooms is low vision strips instead of customary high windows.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$85,126.00</td>
<td>66.2</td>
<td>$5.80</td>
<td>$ .332</td>
</tr>
<tr>
<td>PLUMB., HEAT., VENT.</td>
<td>36,242.00</td>
<td>28.1</td>
<td>2.46</td>
<td>.141</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>7,281.00</td>
<td>5.7</td>
<td>.51</td>
<td>.029</td>
</tr>
<tr>
<td>TOTAL COST OF BUILDING</td>
<td>$128,649.00</td>
<td>100</td>
<td>$8.77</td>
<td>$ .502</td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 246,420 cu. ft.—FLOOR AREA: 14,656 sq. ft.—DATE OF BIDS: February, 1954—FLOOR HEIGHTS: Classrooms 11'; Gymnasium 27' Offices 8'-1"; Lockers 7'-11"

Norman P. Randlett, A.I.A., Architect - Laconia, N. H.
GLASS and GLAZING
   — for —
Loudon Elementary School
   — and —
Troy Elementary School
   — by —
Adams Glass Co., Inc.
Concord, N. H.
7 Odd Fellows Ave. — Dial CA4-1062

Plumbing and Heating
   — for —
TROY SCHOOL ADDITION
   Installed by

RIVERS and HENRY
O. A. Rivers R. H. Henry
KEENE N. H.
Rear 97 Main St. Tel. 2044

THE MacMILLIN COMPANY, Inc.
BUILDERS

22 MECHANIC STREET KEENE, NEW HAMPSHIRE

BUILDERS
of
MILFORD ELEMENTARY SCHOOL
and
TROY ELEMENTARY SCHOOL
**Senior High School Addition to Present Tuck School - Exeter**

**DESCRIPTION:**

Outside walls: face brick and concrete block; floor construction of Basement: reinforced waterproof concrete slab on earth covered with asphalt tile throughout excepting toilets and showers which have ceramic tile; First floor: reinforced waterproof concrete slab on earth with floor covering of asphalt tile and ceramic tile and portion: open truss joists with Steeltex and concrete; Second floor: open truss joists, Steeltex and concrete covered with asphalt tile excepting toilets which have ceramic tile floors and dadoes; Corridors of first and second floor: Vitritile dadoes, locker height; steel stairs with asphalt tile treads and smoke screens; roof: Douglas fir rafters, planking or roofing with insulation, 20-year tar and gravel roof, flashing and drip edge: copper; interior partitions: concrete block painted; door frames and trim-metal combination; built-in steel lockers in Corridors; ceilings: J. M. Fibrecone acoustic panels; windows: structural wood in school portion, steel in Gymnasium and Locker Room portion; plumbing: 30 water closets, 23 lavatories, 13 urinals, 13 sinks, gang showers off Boys Locker Room, separated showers off Girls Locker Room, 7 drinking fountains; heating: new Boiler Room with two-pipe vented return steam and with steam and returns connection to present High School; electric: rigid conduit, ventilation fans.

**ITEM**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$398,379.00</td>
<td>68.6</td>
<td>$7.18</td>
<td>$.438</td>
</tr>
<tr>
<td>PLUMB., HEAT., VENT.</td>
<td>130,000.00</td>
<td>22.3</td>
<td>2.34</td>
<td>.142</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>52,223.00</td>
<td>9.1</td>
<td>.92</td>
<td>.050</td>
</tr>
<tr>
<td><strong>TOTAL COST OF BUILDING</strong></td>
<td><strong>$580,602.00</strong></td>
<td><strong>100</strong></td>
<td><strong>$10.44</strong></td>
<td><strong>$.630</strong></td>
</tr>
</tbody>
</table>

**TOTAL VOLUME:** 915,000 cu. ft. — **FLOOR AREA:** 55,500 sq. ft. — **DATE OF BIDS:** August 17, 1954 — **FLOOR HEIGHTS:** Ground Floor to 1st Floor 10'-5"; First floor to 2nd floor 11'-5"—Gymnasium 23' to bottom of trusses.

**ALFRED T. GRANGER Associates, A.I.A.**

Architects and Engineers - Hanover, N. H.
WE CERTAINLY ARE PROUD
OF OUR WORK AS
Builders of some of
New Hampshire's Finest Schools

including

TUCK SENIOR HIGH SCHOOL
at Exeter, N. H.

also

FAIRGROUNDS ELEMENTARY SCHOOL

and

CHARLOTTE AVE. ELEMENTARY SCHOOL

At Nashua, N. H.

SWANBURG
CONSTRUCTION CORP.

MANCHESTER, N. H.
DESCRIPTION:

In 1950 this office designed an addition to the existing Wilton School Plant consisting of 4 classrooms, Cafeteria, Teachers' Room, Nurse's Room and Heater Room. At that time the design contemplated the possibility of future additions. Completed in 1954 are two additions to the school, each addition containing two classrooms.

Construction Details: Concrete foundations, concrete floor slabs on grade, exterior walls of brick with cinder block backers, roof construction of steel joists, gypsum plank and 5 ply built-up roofing; windows steel sash and glass block, asphalt tile flooring, acoustical ceiling tile, interior partitions of cinder block, wainscots of glazed structural tile and ceramic tile, heating by finned-tube radiation, ventilation by roof fans, lighting by fluorescent fixtures.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Cost</th>
<th>% of Total Cost</th>
<th>Cost Per Sq. Ft.</th>
<th>Cost Per Cu. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRUCTURE</td>
<td>$54,500.00</td>
<td>78.0</td>
<td>$9.43</td>
<td>$.63</td>
</tr>
<tr>
<td>PLUMB., HEAT., VENT.</td>
<td>11,000.00</td>
<td>15.5</td>
<td>1.88</td>
<td>.13</td>
</tr>
<tr>
<td>ELECTRICAL</td>
<td>4,500.00</td>
<td>6.5</td>
<td>.79</td>
<td>.06</td>
</tr>
<tr>
<td>TOTAL COST OF BUILDING</td>
<td>$70,000.00</td>
<td>100</td>
<td>$12.10</td>
<td>$.82</td>
</tr>
</tbody>
</table>

TOTAL VOLUME: 85,700 cu. ft.—FLOOR AREA: 5,775 sq. ft.

Tracy and Hildreth, A.I.A., Architects - Nashua, N. H.
BEAUTIFUL CERAMIC TILE

for Greater Part of Schools Listed Below

SUPPLIED BY STYLON CORP., MILFORD, MASS.

and installed by

MERRIMAC TILE CO., INC.
DERRY, N. H.

Phone 214
Frank J. Indoccio, Pres.

Milford Elementary  Wilton Elementary  Jaffrey High School
Troy Elementary  Tilton-Northfield Elementary
Holderness Elementary  Seabrook Elementary
Charlotte Avenue and Fairgrounds Elementary Schools at Nashua

PITTSBURGH GLAZING
WILL BE FOUND IN MANY
NEW HAMPSHIRE SCHOOLS

including

Milford Elementary School
Littleton High School
Peterborough High School
Salem Elementary School
Newmarket Gymnasium
Tilton-Northfield Elementary School
Thornton Elementary School
Nashua Elementary Schools
Wilton Elementary School
Epsom Elementary School
Rumford (Concord) Elementary School
Candia Elementary School
Holderness Elementary School
School officials are more or less agreed that adequate teaching space is the number one requirement of a good classroom. No longer is the 22'x 28' classroom with 616 square feet sufficient for a class of 30 children in an elementary school. School people agree that 800 square feet are necessary for a classroom. Whether the room is rectangular, square or even hexagonal in shape, if the plan seems best that way, is a local problem. The width of the toilet room, the area of the kitchen is not too frequently scrutinized by the building committee but left up to the architect. The size of the basketball court and seating capacity of the bleacher area is always of major importance to those on the committee interested in athletics. Too frequently more emphasis is given to this activity than can be justified in the building budget.

School board members have had little experience in the selection of building hardware and frequently criticize an architect later when the entrance door hardware breaks down or needs to be replaced. It is here that I think school committees should be informed as to the kind and quality of hardware being purchased, together with the items subject to heavy usage such as toilet fixtures, drinking fountains, door closers and possible short cuts in the heating and plumbing systems.

As architects, an attempt should be made to effect savings in items such as inexpensive wardrobe units, storage space for classroom supplies, janitorial and hot lunch material without the expensive shelving, storage counters and mill work so popular in the classroom of years ago.

Our experience thus far in the construction of elementary schools and a few secondary plants has taught us as school people that:

- Professional help in the selection and appraisal of the site is needed and very important, and that a poorly drained soil and lack of adequate bearing may absorb a major portion of our building appropriation.

- Good schools can be built without tile corridor walls and that the acoustical treatment of the ceilings and even classroom walls is very important for the later comfort and efficiency of the school.

- Fewer toilet fixtures in well located toilet rooms serve the needs of the school better than large gang toilets for large numbers of pupils.

- Larger classrooms for elementary children with less expensive finish which will frequently cost the district no more in the end is desirable.

- Too frequently we accept a small site in the center of a community when we know that that 12-15 acre site on the edge of the village or community is needed to develop a well rounded program.

- We must be satisfied with the multi-use of space when building budgets are limited and that it is useless to plan these large areas, ideal from a teaching point of view, when the budget will not permit them.

- Adequate storage areas for the school supplies, room for the school custodial spaces for the health program and suitable quarters for the principal, guidance director and teachers are important today.

- The school lunch program is an important item and is here to stay. The kitchen and food storage room is necessary but the noon feeding can take place in classrooms, and corridor coves. The activity room itself may not be the best place for feeding children due to the big demand from the physical education and group activity program.
FOLD-A-WAY PORTABLE PRODUCTS
for Multiple Use of Space

- Wheel quickly to any room
- Set-up or Fold-A-Way in seconds
- Store in amazingly little space

Example—

One man converts gym to lunchroom in just 10 minutes

This Multi-Purpose Room in the new Falcon Heights, Minnesota, elementary school serves as lunchroom, auditorium and gymnasium. Its busiest time is the noon lunch period. Changeover from Phy. Ed. class to lunchroom takes 10 minutes. Eight Erickson Portable Fold-A-Way tables with benches are set up to seat 192 pupils at one time. Over 300 pupils are fed during the period. Dan Forsyth, custodian, makes the changeover without help except for clearing and washing the Formica table tops.

Case History courtesy of: Superintendent Emmett Williams; Principal B. M. Nelson; Architects Magney, Tusler & Setter.

Represented by
ROBERT A. BENNETT, INC.
Hurricane Road — Tel. 400 — Keene, New Hampshire
BEST WISHES
for
CHRISTMAS and the NEW YEAR

John D. Betley, Manchester
Horace G. Bradt, Exeter
Dirsa and Lampron, Manchester
Alfred T. Granger Associates, Hanover
Irving W. Hersey Associates, Durham
Hudson and Ingram, Hanover
Koehler and Isaak, Manchester
Willis Littlefield, Dover
Lyford and Magenau Concord
Alexander Majeski, Bedford
Edward Benton Miles, Exeter
Arnold Perreton and Associates, Concord
Carl E. Peterson, Manchester
Leo P. Provost, Manchester
Norman P. Randlett, Laconia
Tracy and Hildreth, Nashua
William L. White, Exeter
Walter Thomas Williams Rochester
Maurice E. Witmer, Portsmouth

Each of the above firms has one or more individuals in the
A. I. A.
CHAMPAIGN, ILLINOIS — Contract awards for construction of new churches and other religious buildings are setting new high records this year and the outlook is for even greater activity in the field next year, it was stated by Dr. George Cline Smith, economist for F. W. Dodge Corporation, construction news and marketing specialists. This was stated in a lecture to mid-western architects attending a four-day short-course at the School of Architecture of the University of Illinois.

"As in any high level construction rate activity," Dr. Smith said, "the question overbuilding is sometimes raised. We certainly not overbuilding our churches. Since church building follows demand, speculation is not a factor, it is doubtful whether we could ever have an overbuilt church situation even in the most materialistic sense of the word."

Dr. Smith disclosed that construction contract awards for religious buildings and related construction in the Dodge Reports for the first nine months of 1954 a new all-time high in that category for any first nine months in Dodge's 63-year history. The figures are for the 37 western states covered by Dodge's construction news service. He said also that in breaking last year's nine-month high record by a 25 cent margin, the religious category was well ahead of the 13 per cent increase in the general totals of the Dodge construction contract figures.

He predicted that the nine-month total $362,000,000 was so great as to virtually assure that the 1954 total will set a new yearly record, above the $384,000,000 total for 1953.

Ever since the end of World War II, with the exception of a minor dip in the post-War, religious buildings have led to occupy a more important place in the construction picture," Dr. Smith said.

(Continued on Next Page)
said. "In 1946, the first full postwar year, such construction amounted to only 2.5 per cent of all non-residential building contract awards.

"So far in 1954, religious buildings have equalled seven per cent of total non-residential awards, thus accounting for a much more important share of the total."

Dr. Smith cited the Dodge figures on religious construction contract awards as being in line with the independent findings of the government Census Bureau to the effect that "the United States is becoming more church minded, and the church membership since 1916 has grown considerably faster than the population of the nation. While the data are spotty, this growth has apparently been fairly steady thru depression, war and postwar years."
WASHINGTON—A national survey by the Educational Research Service of NEA shows that soaring enrollments have added to the headaches of administrators in urban school districts.

Although the impact will be felt in cities over 100,000 population on the elementary level, urban districts with 2,500 to 5,000 population will also feel the bulge in the lower grades.

Some 600,000 grade school students in 110 larger cities will find themselves enrolling in classes with 40 or more pupils. In the same group of cities, at least 110,000 elementary children will be ending classes with as many as 45 or more pupils.

Elementary classes in 95 communities of 2,500 to 5,000 population will average between 31 and 32 pupils. Medium-sized cities with populations between 5,000 and 100,000 will not be hit as badly as larger and smaller cities.

The national survey is conducted every four years under the direction of Frank W. Hubbard, director of NEA's Research Division.

"Not only the teaching load, but also the effectiveness of instruction, become major problems when classes are expanded to keep pace with the influx of children each year," Dr. Hubbard declared when releasing the study.
### New Hampshire Architect Schedule

**1954 - 1955**

<table>
<thead>
<tr>
<th>Architect</th>
<th>Date Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dirsa &amp; Lampron</td>
<td>January 1, 1955</td>
</tr>
<tr>
<td>Koehler &amp; Isaak</td>
<td>February 1, 1955</td>
</tr>
<tr>
<td>Willis Littlefield</td>
<td>March 1, 1955</td>
</tr>
<tr>
<td>Lyford &amp; Magenau</td>
<td>April 1, 1955</td>
</tr>
<tr>
<td>Leo Provost</td>
<td>May 1, 1955</td>
</tr>
<tr>
<td>Horace G. Bradt</td>
<td>June 1, 1955</td>
</tr>
<tr>
<td>John A. Carter</td>
<td>July 1, 1955</td>
</tr>
<tr>
<td>Orcutt and Marston</td>
<td>August 1, 1955</td>
</tr>
<tr>
<td>John D. Betley</td>
<td>September 1, 1955</td>
</tr>
<tr>
<td>Maurice E. Witmer</td>
<td>October 1, 1955</td>
</tr>
</tbody>
</table>

---

*Everybody... WHO IS ANYBODY READS THE New Hampshire Architect*
PALMER

PLUMBING SUPPLY COMPANY
Wholesalers
Plumbing - Heating - Mill Supplies

Distributors of
EIL-McLAIN BOILERS
KOHLER ENAMELWARE
PETRO OIL BURNERS

ROCHESTER, LACONIA, KEENE, N. H.
PORTLAND, ME.

“Competent Engineering Service”

Sanel Industrial and Equipment Supply
159 So. Main St. - Concord, N. H.

— We Now Stock —
Chicago Pneumatic Compressors and Air Tools, Timken Rock Bits,
Air Hose, Suction Hose,
Black and Decker Electric Tools
Skil Saws - Atlas Saw Benches

We stock machine bolts and cap screws,
All sizes to 12”

We can make any size bolt
TRY OUR PRICES and SERVICE

“MONADNOCK BLOCKS”
CONCRETE — CINDER

Made to Meet A.S.T.M. Requirements

Arthur Whitcomb, Inc.
725 Main St. Keene, N. H.
Phone 110
FOR MODERN SCHOOL DESIGN
HORN BROS.

Folding Partitions - Folding Wardrobes
Folding Gymnasium Bleachers - Folding Stages
TRUSCON STEEL WINDOWS AND DOORS
Modern Designs, Dependable Quality and Convenience

CRAFTSMEN, INC.
Manufacturer's Agents for Building Contractors' Specialties
Milford: Tel. 707
Rochester: Tel. 1671

Serving Northern New England and New York with Steel Products

Our large steel fabrication plant can provide you with structural steel, ornamental iron and fabricated platework. Our warehouse is kept stocked with complete inventories of steel and steel products. Prompt delivery is our goal on all orders, large or small.

VERMONT STRUCTURAL STEEL CORP.
207 Flynn Ave. DIAL 4-9844 Burlington, Vermont