The new Urbandale Junior High School project presented our firm with a unique problem. The "boiler" room was located at one end of the building, the gymnasium ventilating units were located at the other end of the complex, and the central air handling system was positioned near the middle of the project. There was only one logical solution for the heating medium for this system... hot water. Hydronics allows the engineer to have complete flexibility in pipe routing and sizing. Therefore, it was possible to design the air handling coils for a 40° drop rather than the conventional 20° drop. The ability to reset the water temperature automatically also allows a closer control of final temperatures as well as energy savings. Hydronics, in this case heating water, is a part of a closed system where the hot water generators will last longer as they are not exposed to oxidation processes. Maintenance on piping serving a closed system is a fraction of that for other systems and feedwater treatment is almost negligible. Hydronics was the only right answer for this project!

— Ralph R. Schilling, P.E.
Isolation in the Landscape
John Roberts Associate Professor of Landscape Architecture at Iowa State University examines the present relationship of Architecture and the Landscape.

Des Moines Urban Core
After some unsuccessful attempts to bring new life to the Des Moines central business area, the business community and citizens of Des Moines are making a new Civic Center a reality. The success of this project should give new life to Des Moines downtown core.

Energy Efficiency of Buildings
James Schoenfelder outlines an approach to evaluating the energy efficiency in buildings.

The Architect and Construction Management
Peter C. Darin, Jr. E.E. discusses the role and qualification of the construction manager. This is a relatively new field which is expanding rapidly to encompass all types of construction.

News
Upcoming events, items of regional interest, announcements of professional honors are all presented in the news. Contributions to the Iowa Architect news are welcomed.
GENERAL UNITED FINANCIAL CENTER... Although grading for this handsome West Des Moines, Iowa project was started in severe winter weather, the methods of construction used and the pre-purchasing of long lead items accomplished completion in only 12 months.

One of the factors was the use of lightweight Haydite concrete over electrified metal floor deck... a system specified not only to speed construction but to also achieve structural economy, and to provide for future flexibility in interior space layout.

Haydite was selected, again, for the concrete blocks used in the corridor walls through the center of the building on the 1st, 2nd, 3rd and 4th floors.

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The relationship between a building and its site is of concern to all of us. Examining a possible architectural trend which is, in effect, weakening this relationship is of particular concern to me.

I should, at the onset, disclaim any particular criticism of contemporary architecture. My intention is not to evaluate architecture as an entity, but to examine concepts which directly effect landscape architecture and architecture.

As I observe many of the latest architectural projects, the buildings appear to be turning inward and facing the landscape architect with an imposing solidarity. In effect, the building may give the feeling of independence from its site and region, an object in space if you will. Very often the building and landscape concepts do not relate, nor really need each other to exist.

If blame is eventually assessed for any disassociation between the building and its site, it may well lie in a misdirection between architecture and landscape architecture. Each discipline began to move along parallel paths while abandoning Beaux Arts attitudes, but somewhere during the last few decades we lost it.

In order to view today with some perspective, let us review some changes which have taken place.

Beginning about 1930, both architecture and landscape architecture began to break the literal chains of Beaux Arts thought. Each discipline sought to find alternative precepts to those historic tenants which, in the words of Garrett Eckbo, presented simple and infallible systems of design and made it unnecessary to ask the question why.

Schools of landscape architecture began to produce professionals and, later, faculties who examined physical design in terms of human experiences within volumetric space. The historic traditions of the axis parterre garden, and allee, stamped upon the ground, became victims of new thought. The pedestrian was not to be confined within fixed dimensions, but was made to freely move about, use, and enjoy space. The central building became the reason for a designed landscape to exist and the two spaces could achieve fame by becoming inseparable. Parallel to this collective change in attitude was experimentation in energy conservation prior to WW II.

Architecture and its educational environs have moved gradually toward the development of a closed interior space which will efficiently respond directly to human comfort. Internalized mechanical systems allow a building to become independent of the site and the regional environment. Air and light control systems become closed. Window sash is fixed. Pedestrian entries are fewer. Windows may decrease efficiency.

Solar glazing in the latest architecture reflects light energy, but also reflects the landscape upon itself. In order to reflect heat and glare, this glass presents an opaque appearance from without. A landscape seen from within has all the character and color obtainable through a cheap pair of sunglasses.

Architecture has reacted to an increased demand for controlled environments by enveloping interior space within impregnable walls. These highly efficient walls and their materials exclude undesirable weather while simultaneously leading to newer concepts in contemporary architecture.

Several of these contemporary developments trouble me in relationship to landscape architecture. First, the internalization of environmental technology has lead, either by oversight or design, towards an Inward orientation of space. A philosophy of architecture which is based upon a continuous notion of fixing all things important between four walls must view the site as a secondary concern.

Secondly, views of the outdoors are often desirable, if not traditional, but solutions often create a double problem. As previously noted, the use of solar glass portrays the building's exterior as a solid, while distorting the landscape view. Solutions which limit visibility to a few highly selective wall openings reinforce vistas, but become mysterious logic when viewed from without.

A third point relates to topography. Very often a building is set upon a geometric earth pedestal. The obvious intent is to raise above the landscape, not to mention the physical and psychological climb necessary for one to rise to the building's level.

Contemporary architecture collectively seems to pull away from and, hover above the landscape. So far as I can see, the landscape architect has responded by creating ambiguous site planning. In a phrase, the ambiguity is a "park-like" concept of positive tree masses broken by amoebic open space. The building can often be removed and replaced with a tennis court with no one the wiser. In a sense the designer is concerned with the landscape in itself as independent space. But when the building concept does not really intend a union with its exterior, there is little opportunity to create one.
The period which lies ahead holds one element which may lead both architecture and landscape architecture to re-examine their relationships. The previous cheap energy decades allowed, if not forced, the internalization of architectural space. Landscape architecture responded by also creating independent spaces within themselves. A future shortage or economic reduction in energy sources may create a regeneration of the symbiosis between exterior and interior environments.

We are presently seeing new experiments in architectural concepts which strive to conserve or produce energy within themselves. Will architecture externalize itself so as to allow a choice of human environments and seasonal experience? A new concept of architectural expansion in the midwest could recognize seasonal periods when exterior weather is comfortable and energy consuming equipment reduced. A regional architecture could encompass exterior space as a viable experience during the dynamic seasons. Exterior variations and orientation would reduce a dependence upon solar glazing and allow personal adjustment of heat or glare.

The landscape architect could respond to building space as site specific. The organization of plants and material spaces could function with, and in, sympathy to conditions of the building function and appearance.

My hope is for a future architecture which will not continue inwardly oriented, but will expand to encompass the excitement of our seasons. Energy shortages may force this to happen, but it could also encourage an increasing enclosure of space so as to insulate interior from the exterior. If we do find ourselves existing within enclosed energy efficient buildings, and with little contact to the exterior, then both disciplines need to examine their academic and professional directions. Architecture will be one of technological expansion, while landscape architecture will only indirectly support architecture. Buildings and people could become even further removed from their exterior environment.

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New Hope for Des Moines Urban Core

Over the past few years there has been a growing change in the attitudes of concerned people for the quality of living that a healthy city must provide. This change in outlook is due to many factors but is best expressed in the renewed interest in the conditions of the urban core of many of our major cities. People are beginning to realize that the once dynamic heart of a city has many attributes which are unique and can be found nowhere else in the fabric of the ever expanding urban areas.

Des Moines has for some time been in need of a concerned effort to provide a healthy and vital central area. On July 31, businessmen representing the Civic Center of Greater Des Moines, announced the completion of a multi-million dollar fund drive. It capped five long months of money raising, and three long years of struggling for a new multi-purpose theater for the performing arts. Ever since the KRNT Theater closed its doors on August 4, 1972, Des Moines has labored without a replacement. Previous attempts, which had tied the Theater to wider urban renewal issues, were all voted down. But now, on its own, teamed with $9.1 million in private donations and enthusiastic city leadership, a Civic Theater and Plaza will finally be made reality.

Designed by Charles Herbert and Associates, Inc., the proposed facility will accommodate a wide variety of uses including stage productions, symphonies, pop concerts, and closed circuit T.V. The main floor and balcony are continental seating with a capacity of 2741. When completed in 1978, the $11.4 million Theater Complex will encompass two city blocks to the immediate east of the central business district. Half of the complex is formed by a large plaza which terraces down to a sunken pool and waterfall. Silhouetted against overstory trees, it will act as a natural...
amphitheater and buffer zone for the downtown area. Entry to the Theater is made through two large glass lobbies, one looking over the Plaza to the west, and one facing the Capitol to the east.

The project exemplifies what business-government cooperation can achieve. Complete artistic and functional control of the Theater will remain in the hands of the Foundation. The land will be leased from the City at $1 per year for a 99 year lease. The City, which will eventually buy the land with $2 million of public funds, will maintain the Plaza and operate the Theater for the Foundation.

In addition, the City gives assurances that the next parking ramp will be on the block immediately to the north of the Theater, provided such a ramp is economically justified. Pending lease approval by the urban renewal board, the Theater Complex will provide a tremendous face lift for a section of Des Moines that has dwindled into no more than an urban parking lot.

The Theater is but one part of the City's drive to keep its head above the water. It, like so many other CBD's, is in danger of becoming a sterile eight hour a day paper processing center. But with two large office buildings recently completed, and a Performing Arts Complex on the way, city officials hope to cap it all off with a $5 million "Skywalk" system. The Skywalk, which would tie together a 12 block area, has already received Federal Department of Transportation approval. Having met the necessary standards, Des Moines is eligible for federal walkway and bikeway funds allocated through the Iowa Department of Transportation.

Up to 70% of the proposed Skywalk, or $3.5 million, may be paid for with federal funds. The remaining money would be divided between a special assessment on downtown businesses (25% or $1,250,000), and general obligation bonds (5% or $250,000). Climate controlled for year around shopping, the walkway would extend from the Savery and Kirkwood Hotels of the east side, through stores and businesses to a metro transit transfer station at the west side of the central business district. The transit station would presumably become the hub of central business district oriented bus traffic, taking congestion out of the heart of the shopping district and providing direct access to the skywalk. With immediate access to three parking ramps and metro transit, shoppers would be completely protected from the elements. By humanizing an often hostile environment, city fathers hope to do the shopping centers one better and recapture a portion of the retail sales dollar.

One of Des Moines biggest boosters and Mayor, Richard Olson, said of the potential development, "The Skywalk, along with the Theater-Plaza Complex, would be two of the greatest contributing factors in turning the downtown area around . . . if we can get these things, the rest will be downhill". It's the City's fondest hope that the money spent to revitalize the central business district for shoppers and workers alike, will snowball into something much bigger. Olson, as quoted by the Des Moines Register, said, "I think these projects could well contribute to bringing hundreds of millions of dollars in new construction into the downtown area".

Even if Mayor Olsons optimistic predictions turn out smaller than hoped, the Theater/Plaza Complex and proposed Skywalk are heathly signs of what a concerned business community can accomplish.
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Improving the energy efficiency of buildings

By James Schoenfelder
Head, Department of Energy Management
Architects — Hansen Lind Meyer

Whether you believe the current energy problem is contrived or real, the fact remains that fossil fuel supplies are limited and that energy costs are going to increase dramatically. These two facts alone dictate that we as a society must adjust our values. Energy must be used frugally.

Space conditioning waste

Estimates are that 33 per cent of the total energy consumed in Iowa is used for space conditioning. This represents 41 million barrels of oil annually. You can imagine the significant reduction of fuel consumption by improving the overall efficiency of existing buildings by only 10 to 20 per cent. New construction can show even greater energy efficiency. Studies show that with minimal initial investment (1 to 2 per cent above conventional costs), good construction quality and energy conserving design features, the energy consumption of new buildings could be reduced by 60 per cent as compared to conventional structures.

The above statistics point out that the architect and the building industry can make a substantial impact on this country’s future energy consumption. Most Iowa architects are aware of their potential role in the energy conservation picture; a few have already initiated in-house programs to insure energy-conscious design. Our firm has initiated the policy that all projects will undergo energy analysis to improve energy efficiency.

Highly efficient buildings, however, generally require an increase in construction cost. Therefore, the owner must often make the decision to initiate appropriate energy conserving measures. It has been my experience that most building owners are truly concerned with energy conservation and request special investigation into alternate fuels and conservation methods.

How much will it cost?

One of the tools the owner can use to help him evaluate the additional first cost for energy conserving features is life cycle cost analysis. This analysis tells the owner how much he can expect to pay for maintaining and operating the building as compared to its first cost. For example, if the 2 per cent increase in first cost truly does result in a 60 per cent fuel reduction, this expenditure will most likely pay for itself in less than two years. Larger first-cost items such as solar collectors will necessarily require longer periods to pay for themselves; consequently, the owner must critically evaluate the pay-back as related to life expectancy of the structure. A renter contemplating a long-term lease would also be wise to compare the relative life-cycle costs of buildings and building types.

The following is a simple example of life cycle costs as applied to fuel consumption: During the first year of operation, your firm experienced a $6,000 fuel bill. You’ve determined that, by spending $25,000, you can reduce your fuel consumption by 30 per cent. You anticipate 25 years of operation at your present location.

Iowa Business Indicators

<table>
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<th>Industrial Sales of Electricity (000 KWH)</th>
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<td>Total Value of Construction ($000)</td>
<td>577,566</td>
<td>575,598</td>
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<td>Farm Marketings ($000,000)</td>
<td>35,490</td>
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<td>New Car Registrations</td>
<td>824.00</td>
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<tr>
<td>Ordinary Life Insurance Sales ($000,000)</td>
<td>4,930</td>
<td>9,101</td>
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<td>*Corporate Charters</td>
<td>200.2</td>
<td>194.0</td>
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<tr>
<td>No. Issued</td>
<td>307</td>
<td>286</td>
</tr>
<tr>
<td>No. Dissolved</td>
<td>5</td>
<td>31</td>
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<tr>
<td>Workforce (000)</td>
<td>1,279.8</td>
<td>1,237.7</td>
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<tr>
<td>Unemployment</td>
<td>64.8</td>
<td>46.6</td>
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<tr>
<td>Rate (per cent of workforce)</td>
<td>5.1</td>
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<tr>
<td>Employment</td>
<td>1,214.9</td>
<td>1,191.1</td>
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<tr>
<td>Bank Debts ($000,000)</td>
<td>76,709</td>
<td>72,822</td>
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<tr>
<td>Iowa Savings &amp; Loans ($000,000)</td>
<td>26.4</td>
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<tr>
<td>Mortgage Loans</td>
<td>53.8</td>
<td>47.5</td>
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*Does not include non-profit corporations

*Annual rate of bank debits to demand deposits

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<th>QUARTERLY PERIODS</th>
<th>1973</th>
<th>1974</th>
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<tr>
<td></td>
<td>II</td>
<td>III</td>
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<tr>
<td>Net Taxable Retail Sales ($000,000)</td>
<td>1,849</td>
<td>1,999</td>
</tr>
<tr>
<td>Personal Income ($000,000)</td>
<td>13,804</td>
<td>14,055</td>
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<tr>
<td>Seasonally adjusted</td>
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<td></td>
</tr>
<tr>
<td>Latest Revision</td>
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<td></td>
</tr>
<tr>
<td>r = revised</td>
<td></td>
<td></td>
</tr>
<tr>
<td>p = preliminary</td>
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Iowa Stock Index* Dow Jones Industrial

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<tr>
<td>Stocks Index</td>
<td>138.84</td>
<td>169.96</td>
<td>180.54</td>
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<tr>
<td>Dow Jones</td>
<td>703.69</td>
<td>739.05</td>
<td>768.31</td>
</tr>
</tbody>
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*Stacy R. Henderson, Piper, Jaffray & Hopwood, Inc. (1967 = 100)
Indications are that fuel prices will increase 5 per cent per year for the next 25 years. If you secure a 25-year loan at $8.5 per cent interest, does it pay you to invest in fuel conservation?

The real cost of the $25,000 amortized over 25 years is $60,420.

The fuel savings over 25 years = $6000 x .3 x 51.1 = $91,980.

The answer is yes.

In fact, by investing $25,000 in energy conservation, you've saved $31,560 over 25 years of operation. This would average out to an additional yearly profit of $1,267.

New buildings can obviously be built which use energy more efficiently than did their older counterparts, but will they be? We are in a transitional period when many new buildings will still be built with little regard for energy conservation. We are also saddled with many existing inefficient structures which have a relatively long life expectancy. What are we to do with these structures?

Several government agencies have published information on how to reduce a building's energy demand and conserve fuel. A few of the many methods suggested are: replace single glazing with insulating glass; weatherstrip and caulk windows and doors; set back thermostats at night; reduce lighting levels; periodically clean and maintain heating and cooling equipment.

One question yet to be answered is: Which buildings need to initiate energy conserving measures? How does a building owner know if his building is efficient or not?

Measuring energy efficiency

A concept which seems appropriate was proposed by David Grumman and is published in the March, 1974, issue of Building Systems Design. This concept establishes a Qu index which takes into account the building variables of size, location and use. The result is an index number by which one building can be logically compared to another with regard to energy usage. The following formula is used to calculate the Qu index:

$$Qu = \frac{EBTU}{(\text{sq. ft.})(\text{hr.})(\text{HDD} + \text{CDD})}$$

Grumman points out that most buildings fall between 4 and 12 when this index is expressed as BTU x 10^-3 per (sq. ft.) (operating hours) (degree day). The lower the Qu index, the more efficient the building.

It appears that a reasonable Qu for an Iowa structure would be 4. If we are to assume a 20 per cent reduction in energy consumption for existing structures, then it is evident that any building in Iowa with a Qu greater than 5 should implement energy conserving procedures. In most cases, buildings with Qu's substantially greater than 5 could quite easily and economically reduce their energy consumption by 20 per cent.

+ 51.1 is the multiplier equivalent to the running sum of a 5 per cent annual increase in fuel cost.

* EBTU = The total building energy consumption per year (kilowatt hours; cu. ft. of gas; gallons of oil; lbs. of coal) converted to equivalent BTU's.

Hr. = The total number of hours per year that the major equipment would need to be run in order to maintain the occupied spaces at the occupied design conditions. This number is approximately equal to the total annual hours of occupancy proper.

Sq. Ft. = The total gross square footage of conditioned space.

CDD = Cooling degree days per year.

HDD = Heating degree days per year.
Everywhere you look,

there's a new look in concrete masonry

members of IOWA CONCRETE MASONRY ASSOCIATION

<table>
<thead>
<tr>
<th>Company</th>
<th>Location</th>
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<tbody>
<tr>
<td>Clinton Block Co.</td>
<td>Clinton, Iowa</td>
</tr>
<tr>
<td>Lake View Concrete Prod. Co.</td>
<td>Lake View, Iowa</td>
</tr>
<tr>
<td>Oskaloosa Concrete Products Co.</td>
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<tr>
<td>Marquart Concrete Block Co.</td>
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<tr>
<td>Rock Valley Block &amp; Tile Co.</td>
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<tr>
<td>Concrete Products Co.</td>
<td>Sioux City, Iowa</td>
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<td>Demco, Inc.</td>
<td>West Des Moines, Iowa</td>
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<td>Zeidler Concrete Products Co.</td>
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<td>Concrete Products Co.</td>
<td>Iowa Falls, Iowa</td>
</tr>
<tr>
<td>Bergman Concrete Products Co.</td>
<td>Sumner, Iowa</td>
</tr>
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The process of design and construction of major projects is going to be managed; the only question is "who will do the managing?" The architect, or the architect/engineer is a logical candidate for the role of the Construction Manager because of his understanding of how to provide professional services for a fee. Construction Management calls for the same client/professional relationship, uncompromised by divided self-interests.

A serious misunderstanding of what Construction Management is, and what a Construction Manager does, has led a large number of unqualified people — professional, technical, and managerial — to self-appoint themselves as practitioners of an art they have not mastered. And unless the Construction Manager is prepared to learn or assemble a number of skills not normally within any one profession's competence, he is not going to be able to act as a Construction Manager for a sophisticated client. The function of Construction Management goes far beyond changing a letterhead to include those two words.

What has brought about this surge of interest in Construction Management? Essentially, it arose because the building client has become dissatisfied with the ability of architects and the allied construction industry to provide a quality facility, and at the same time, to control the time it takes to design and construct it, as well as the total cost of the facility. In a time of rapidly escalating costs of both labor and materials, the client feels that the most effective weapon he has against building cost inflation is better management of the processes. Most architects, engineers, and contractors will admit that design and construction have not been managed nearly as efficiently as most business and manufacturing operations.

The logic by which the best modern management operates is that you must Plan, Organize, Implement, and then Control the process of whatever you mean to accomplish. In this case, to design and construct a physical facility.

While it seems obvious that the Construction Manager is expected to control both construction cost and the time required for designing and building the project, most owners are adding another criteria: the ability to understand and manage financial planning and cash flow requirements.

The architect cannot count completely on a demonstrated record of successfully managing the design process, although obviously, that is a first requirement. Even if his firm has mastered perfectly the management of his traditional phase of the project, it is only a part of a greater whole. The Construction Manager must be as familiar with all of the construction processes as a true general contractor; he must be as skilled in the area of cost control as a talented comptroller; as knowledgeable of scheduling control as a plant manager; and as financially savvy as an investment banker.

Now there is no intention to suggest that all of these talents must be centered in some Superman, some Renaissance man to end all Renaissance men. But what we have learned at SH&G through a series of successful Construction Management projects (and one spectacularly unsuccessful one) is that all of these skills must be represented on the Construction Manager's staff, immediately available to him.

As a result of our firm's experience, we believe that the following talents must be available within any firm offering Construction Management services:

1) Design process experts. They are completely familiar with the managers of the design process in all of the significant disciplines (planning, architectural, mechanical, structural, electrical and civil).

2) Business managers. These must not only be trained in, but experienced in, managing a business or process. But to fully understand the design and construction process, they must have a background in the estimating, negotiating and supervision of field projects, as well as a working knowledge of the design process either as an architect or as one of the engineering disciplines.

3) Cost controllers. In addition to knowing how to estimate the costs of the various systems in a building, these people must also understand the cost implications of all decisions made by the design disciplines. Value engineering, life-cycle costing, and owners' cost implications are part of this repertoire. As decisions are made and the design progresses, these cost controllers must be able to quickly and accurately estimate the cost of various design alternatives.

4) Schedule controllers. This skill involves an understanding of the contractors' time requirements in all of the trades, as well as the time needed by the designers, whose work is interdependent on one another (for example, the structural engineer must know the weight of the rooftop mechanical equipment
must be aware of the implications of all special knowledge they have of the construction labor and/or materials conditions in the project area. If one kind of specialized labor, like steamfitters, is in short supply in the project area, this information must be programmed into the decisions of the mechanical engineer on the selection of the HVAC system. And if the structural designer is choosing between concrete and steel, both the cost and the availability of these materials in the job area must be available to him.

5) Financial expertise. The Construction Manager must have on hand people who understand what the cash flow requirements of various projects will have on the owners. While the embarrassment of not having cash ready for payment of work put in place is obvious, it is equally important that large amounts of money not be borrowed, nor bonds issued, too long in advance of when the funds are needed. It could mean extra interest paid, or borrowing at a disadvantageous time. This need to know how much and when money will be needed is equally important to the industrial or business client, a hospital board, or a school board, and poor advice can be costly. Any such extra cost of a facility adds nothing to its quality or its function. The Construction Manager must know the financial relationships of design decisions and the market for the project space. For example, a known rent structure will set certain size and cost parameters that can be exceeded only by risking the project’s financial soundness. This is especially true in rental apartments and speculative office space.

The very breadth of the services required in Construction Management indicate that they will almost never be found in a single individual, and that a team of experts will have to be assembled. Since these should be top men in their fields, it means that they will be expensive, and it appears that only the larger organizations will be able to offer all these services under one roof, and will be able to secure the volume of projects that will make these services economically viable. However, it is perfectly possible for the smaller firm to assemble as a joint venture the kind of expertise demanded.

The general contractor, who may have top-quality civil, architectural and structural construction people, has a different problem in that he will have to add the mechanical and electrical construction people, plus the architectural and engineering design management and the financial expertise. Another entry is the management expert, who also owns but one leg of the stool, and will have to find both design and construction management people.

While Construction Management is important on the traditional lineal scheduling process of Program, Design, Bid, and Construct, it is absolutely vital to the success of any accelerated and overlapped process, such as Phased Construction, Fast-Track, or UTAP, or whatever. Under such systems, design decisions can be implemented as they are made without having to wait until the entire design process is completed and documents prepared for bidding.

But this can be successful only if the Construction Manager has given the designers all of the information they need to make those original decisions. For example, on one extremely successful project, SH&G was able to pour footings and order structural steel almost immediately because the client had accepted the criteria that the bay size would be 40' X 50', the buildings would be one-story and truss-roofed, and the HVAC would be roof-mounted. Obviously, this ruled out any later change to a high-rise structure, except at a predictable cost in time and money. While the designer might think of this as a constriction on his options, the design process always consists of a series of decisions building on the ones that went before. The traditional system makes the same irrevocable (because of cost) decisions, but they are not acted upon until the last one is made.

It will be the Construction Manager’s ability to lay out a realistic construction schedule that will permit him to identify the proper sequence and detailing of all the design and construction operations in order to make the most effective use of the time, money, and people resources at his command. Decisions on quality criteria remain the province of the owner and his architect, but the Construction Manager is responsible for recommendations on the time duration of design and construction, and the cost of construction. Unless it conflicts with an owner/architect aesthetic or quality standard, he will also be able to utilize performance criteria in the specifications.

During the implementation of these people, time and money resources, the Construction Manager must constantly monitor and forecast the progress, with special emphasis on the identification of variances and/or problems that threaten the Owner’s objectives. He must take prompt and effective action to control those problems.

In an early stage of one of SH&G’s projects, the Construction Manager visited a supplier’s factory, and became convinced that there was no way that the deadline for some critical electrical equipment could be met, and that this failure would set back the project several months. Since on-time delivery was the Owner’s prime objective, another manufacturer was located who could meet the delivery date, and the contract was transferred to him. On a traditional project, no action would have been taken until the manufacturer actually failed to deliver, and then the contractor would attempt to find a substitute. In this case, the early recognition of the problem and the prompt action eliminated any delay in the project.

Although the construction schedule gives subcontractors specific dates for the beginning and the end of their work, one or another trade often falls behind, threatening the schedule of every trade that follows. In this case, the experienced Construction
Manager will insist that the sub go on overtime, or add more workmen, to make up the time and progress he has lost. As an aside, we have learned that prompt payment of sub-contractors for work put in place insures that men will not be pulled off your job because some other job is more reliable in payment. Many of these contractors operate on a close margin, and quick inspection, certification, and payment, will give your job a high priority with these small businessmen.

The process of Construction Management is one of orchestrated teamwork, with the Construction Manager as the conductor (but not dictator) of the activities of Owner, Architect/Engineer, and Contractors. One of the surest ways for a project to fail to meet its objectives is to allow the Owner to avoid or postpone the decisions he must make, at the time he must make them. As the Owner, he has the right not to make them, but the Construction Manager must make crystal clear the cost in time and money of such a delay, so that the Owner's decision (or non-decision) is an informed one.

How do you assure this kind of decisiveness? One successful tactic is that of regularly scheduled meetings, with a pre-published agenda of all problems that require decisions, and the stipulation that every item on the agenda MUST be resolved before the meeting is adjourned. Under such a stricture, it is amazing how many tough decisions get made quickly!

While many architects and architectural firms will not be interested in providing this CM service, and will prefer playing the traditional role of design architect, working closely with the other design disciplines, one fact has to be faced: projects are going to be managed by somebody.

This does not imply any diminution of the role or responsibility of the design professional. In fact, there are some important advantages to be gained. The designer will get a crash course in how to manage his own design process that should make him more efficient and more profitable. He should be able to eliminate the false starts and re-starts in design that come from getting facts too late to prevent errors or false premises. And he will get an education in how the other parts of the process function that should improve his own skills as well.

To summarize, any professional or firm interested in doing Construction Management must broaden the skills available to include all those we have named. The architectural firm with a sound background of managing all of the other design disciplines starts with the same excellent potential as the A/E.

Construction projects are going to be managed, and this responsibility is going to be given to those who know how to manage the processes from beginning to end. Some of these managers will be architects or architect/engineers, some will come from the ranks of the general contractors, and some may even come out of management consultant firms. The field is wide open, may the best manager win.

Continuing Education Begins at ISU

EINO KAINLAURI

The first in an ongoing series of seminars for architectural practitioners, on the subject of LOSS PREVENTION THROUGH QUALITY CONTROL, is scheduled at the Scheman Continuing Education Building on the ISU campus Friday and Saturday November 14th and 15th.

Planned and coordinated by Eino Kainlauri, newly appointed to the faculty of the Department of Architecture and with the assignment to create and implement Continuing Education for architects, the program is a cooperative venture of the Department of Architecture, the Engineering Extension Division of ISU, the Board of Architectural Examiners and the Iowa Chapter AIA.

Because of increasing problems with professional liability insurance costs, it is timely and vital that the first short course be aimed at improving professional services and reducing the vulnerability of professional practitioners by tightening the accuracy of all relationships between architect and client, and developing more complete communication between all parties in the construction process in contract documents from the conception of the idea to the delivery of the completed building.

Explanatory mailings and registration materials have been sent to practitioners in Iowa and adjacent states. The cost is $50 which includes working materials, all presentations by recognized authorities, small group participations in each of three specific area workshops, two luncheons and the banquet.

Since this is the first of the series, and since Continuing Education is becoming increasingly urgent in this age of consumerism, a large enrollment is expected. It will be two days well spent and will be a good boost for a program long needed and well conceived.
New Acting Chairman
ISU Department of Architecture

Professor Wesley Ivan Shank, the new Acting Chairman of the Architecture Department of ISU, has been with the University since 1964. His field of teaching has included History of Architecture, Architectural Design, and Theory of Urban Design.

Born in 1927, he graduated in 1951 with a Bachelor of Arts in Architecture degree from the University of California in Berkeley, and received his Master of Architecture degree from McGill University in 1965. A registered architect in Iowa and California, he holds N.C.A.R.B. Certification and had several years of experience in practice with California firms before coming to Iowa.

Professor Shank is consultant to Historic American Buildings Survey, and has prepared a catalogue of recorded historic architecture in Iowa. A number of his writings have been published, including "Studies of Historic Iowa Architecture" by the Iowa State University Engineering Research Institute under the auspices of the Iowa Arts Council and the Department of Architecture, and several articles in the Journal of the Society of Architectural Historians. Before his appointment as the acting Chairman, Professor Shank served as Chairman of various department committees.

Professor Shank is a member of the Society of Architectural Historians, the National Trust for Historic Preservation, and of the Advisory Committee for the State Liaison Officer of the National Register. He is a past member of the Board of Directors of the Iowa Society for the Preservation of Historic Landmarks. His travel experiences include trips to Europe, Canada, and Mexico.

DESIGN AND CONSTRUCTION DOCUMENTATION SEMINAR HELD AT ISU

A seminar on quality control of design and construction documentation was held Nov. 14-15 in the Scheman Continuing Education Building at Iowa State University, Ames. The seminar was sponsored by the ISU department of architecture and Engineering Extension.

Quality control and loss prevention, clients and fees, practice laws, and personnel development were the introductory topics addressed by Eino Kainlauri, associate professor of architecture and Engineering Extension. Charles DeKovic, assistant professor of architecture with the ISU physical plant, discussed "Debugging Architects' Documents" at the Friday morning general session.

Three simultaneous workshops were held Friday afternoon. Ray Crites, FAIA, professor of architecture, moderated the workshop on design documentation. Construction drawings was the subject of a workshop led by John Radcliffe, AIA, of Brooks-Borg-Skiles, Des Moines. The third workshop discussed construction specifications and was moderated by John Russo, assistant professor of construction engineering. The three workshops were repeated Saturday morning and afternoon.

Other seminar speakers included Richard Stanley of Stanley Engineering Consultants of Muscatine; Ken Lewis, executive secretary of the Master Builders of Iowa; Kenneth Carruthers, V.P. and Director of Design, Perkins and Will Partnership, Chicago; John Roberts, associate professor of landscape architecture and urban planning; Jerry Quebe, AIA, of Hansen, Lind and Meyer Architects, Iowa City; William Grundmann, associate professor of landscape architecture; Werner Zarnikov of Smith-Voorhees-Jensen, Des Moines; and Ken Mast, Jens Olson and Sons of Waterloo.

WOMEN IN CONSTRUCTION NAME NEW OFFICERS

The Greater Des Moines Chapter #80 of National Association of Women In Construction have elected the following officers for the 1975-1976 Year:

PRESIDENT
Jaunita Kinkade of Veenstra & Kimm Engineers located in West Des Moines, Iowa

VICE PRESIDENT
Donna Perry of Swanson-Gentleman Company, Des Moines, Iowa

RECORDING SECRETARY
Karen Carmichael of One Trip Plumbing & Heating Company, Des Moines, Iowa

CORRESPONDING SECRETARY
Joan Southard of Systems Management Company, Des Moines, Iowa

TREASURER
Sylvia Dahm of the Real Estate Department of Iowa-Des Moines National Bank
DIRECTORS
Gladys Rodine of Master Pools by Harry Rodine Company, Des Moines, Iowa
Alpha Leonard! of Baker Mechanical Company, Des Moines, Iowa
Jean Janes of The Weitz Company, Des Moines, Iowa
Katherine Shields of McAninch Company, Norwalk, Iowa

IMMEDIATE PAST PRESIDENT
Ruth Norman of Bolton-Hay Company, Des Moines, Iowa

LOOK FORWARD — LOOK BACKWARD
1976 CHAPTER CONVENTION SET

The 1976 Iowa Chapter convention is coming back to town. On January 29, 30 & 31 Iowa architects will gather at the Fort Des Moines Hotel for two days of sessions dealing with the theme "Look Forward — Look Backward". Contacts are under way for nationally known speakers, both professional and entertaining. The chairman of the awards jury will do a critique of the entries as well as presenting the winning awards. It is not to early to make room reservations at the Fort Des Moines and to make plans to attend this bicentennial convention of the Iowa Chapter AIA. John Wetherell is General Chairman.

CONGRATULATIONS TO 1976 OFFICERS

At the Annual Meeting October 17th in Ames H. Kennard Bussard with Wilkins Bussard Dikis in Des Moines was confirmed as President for 1976. Named 1st Vice President and President-Elect was Norman E. Wirkler with Durrant-Deininger-Dommer-Kramer-Gordon in Dubuque. Wayne J. Snyder with Thorson Brom Broshar Snyder in Waterloo was elected 2nd Vice President; John Ratcliffe with Brooks Borg Skiles in Des Moines will be the 1976 Secretary and James I. Dwinell with Charles Herbert & Associates in Des Moines Treasurer.

Newly named as a Director for 3 years by the Chapter membership is William J. Laffan with Stewart Robison Laffan in Davenport. Bernard I. Jones with Foss Engelstad Heil in Sioux City has 2 years left as a Director and John D. Benz with Hansen Lind Meyer in Iowa City continues for his 3rd year.

BROSHAR ELECTED REGIONAL DIRECTOR

Robert C. Broshar, past president of the Iowa Chapter, was elected October 24 in St. Louis to serve a 3 year term as Central States Regional Director and member of the Institute Board, replacing Herbert Duncan of Kansas City and to serve with Robert Lawrence of Oklahoma City. The Central States Region is composed of 9 chapters in 5 states, Iowa, Nebraska, Missouri, Kansas and Oklahoma.

BOOK REVIEW

A history of Iowa City's architecture by University of Iowa Professor Laurence Laffore has been published. Entitled "American Classic," the new work traces the history of Iowa City and the U.S. by showing how political, social and economic developments are reflected in the city's buildings.

From the beginnings of Old Capitol and the first modest stone houses, architecture in Iowa City followed the trends and fashions of design that were the contemporary expression of culture in America, notes Laffere, who is chairman of the U of I Department of History.

"The heritage of America and of all of western civilization is present and alive," he states in the new book, which is published by the Division of the State Historical Society, Iowa City, part of the Iowa State Historical Department.

"Iowa City is an open archive of the way the country was settled, of inherited notions of beauty and virtue, of new ways to use resources, human and physical. There are houses and whole streets that recall the taste and
tempo of different groups during the past four generations," he writes.

The large format book 9 1/2" x 11", is illustrated with more than 80 of the author's photographs. All of the buildings shown still exist in modern Iowa City.

A Philadelphian by birth and an Iowan by adoption, Lafore holds a Ph.D. degree from the Fletcher School of Law Diplomacy. He served in the Department of State and Foreign Service and taught at Trinity College and Swarthmore College before coming to Iowa in 1967.


The U of I historian also is co-author of "Philadelphia; the Unexpected City," a book of pictures and comment, and has published four novels. His most recent work of fiction, "Nine Seven Juliet," is set in Iowa.

Lafore's new work grew out of his interests in architectural history and photography, as well as from his work as chairman of the Architectural Heritage Committee of Iowa City's Project Green.

THE AMERICAN LEGION HEADQUARTERS OFFICE BUILDING, DES MOINES, IOWA

Work has been completed on the new American Legion Headquarters Office designed by Cervetti-Weber & Associates, Inc. of Marshalltown. Located in an area of Des Moines which is experiencing a renewal effort, the building makes a direct statement concerning its function while at the same time blending into and enhancing the surrounding environment.

The design concept was to utilize, straightforward shapes in scale with the surroundings, together with a simple use of materials and color, to achieve a building which by design became an integral part of its environment, yet one which bespoke its function and which gave pleasing space relationships for personnel utilizing the building.

The building is a one story structure with pre-cast concrete panel exterior. Structural elements are steel joist and concrete block.

General Contractor for the building was King-Bole, Inc., Des Moines, Iowa.

PAN-AMERICAN CONGRESS OF ARCHITECTS TO BE HELD IN MEXICO

The 15th Pan-American Congress of Architects will be held in Mexico City from December 7th to the 13th, 1975. The 1st Congress was held in 1920 in Montevideo, Uruguay. The Pan-American Federation of Architects Associations, sponsoring the Congress, is composed of professional organizations from 26 countries in North and South America. Mr. Rafael Norma, President of PFAA, has sent to the Iowa Chapter several packets describing the facilities, and the program, including technical visits and important social gatherings. In addition pre- and post-congress excursions are being designed by travel experts, with advice from architects, which will allow the delegates to visit other places of interest in Mexico.

NATIONAL CHAIRMAN APPOINTED

At the 20th Annual Convention of the National Association of Women in Construction held in Denver, Colorado, recently, Vi Hatfield was appointed National Organization and Extension Chairman. The National Association of Women in Construction will become International this November when they establish a Chapter in Edmonton, Alberta, Canada.

Vi Hatfield is a member of the Greater Des Moines Chapter No. 80 and is with the firm of Wagner, Marquart, Wetherell, Architects in Des Moines, Iowa.

- PARKER MIRRORS AND WASHROOM EQUIPMENT
- HALSEY TAYLOR ELECTRIC COOLERS AND FOUNTAINS
- SNYDER FIBERGLASS TUB AND SHOWER COMBINATIONS
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With an electric heat pump and the proper insulation... you get the best of both worlds.

Because the electric heat pump uses energy to transfer heat rather than to create it, with the exception of a few of the coldest days of the winter, it actually provides more energy in the form of heat than it uses in the form of electricity.

Couple the energy saving features of the heat pump and less wasted heating and cooling energy with proper insulation, and you have the best of both worlds.

The electric heat pump and proper insulation in a well designed structure assure comfort in both the summer and winter, and a heating and cooling system that helps fight the higher cost of energy.