The inside story on metal buildings for golf courses

by Robert E. Stevens

How can savings in construction of your new maintenance building be realized when today's building and construction costs are at all-time highs? Metal building systems offer certain economies, from getting the building up and ready to use sooner to reduced maintenance for years after the building is complete.

One big way "systems buildings" can cut costs is by speeding design, bill of materials ordering and acquisition, and field construction. Generally speaking, a systems approach cuts total project time approximately one-third compared to conventional construction.

Structural systems

Golf course superintendents or others involved with the overall management of golf facilities can choose from a wide variety of functional framing systems. Many courses have several canopies conveniently located to provide protection against sudden changes in the weather; canopies consist only of roof panels and structural supports.

Some small buildings, such as Armco's Tec-Line buildings, need no structural framing members through 24 feet in length. Beyond 24 feet, light frames are introduced to extend the building to any desired length. These buildings can house pump stations on courses with elaborate irrigation systems. They can also be used for remote restrooms, separate caddy houses, concession stands, golf car storage, or pro shops.

The most popular of all metal building structural systems are the clear-span designs because of their

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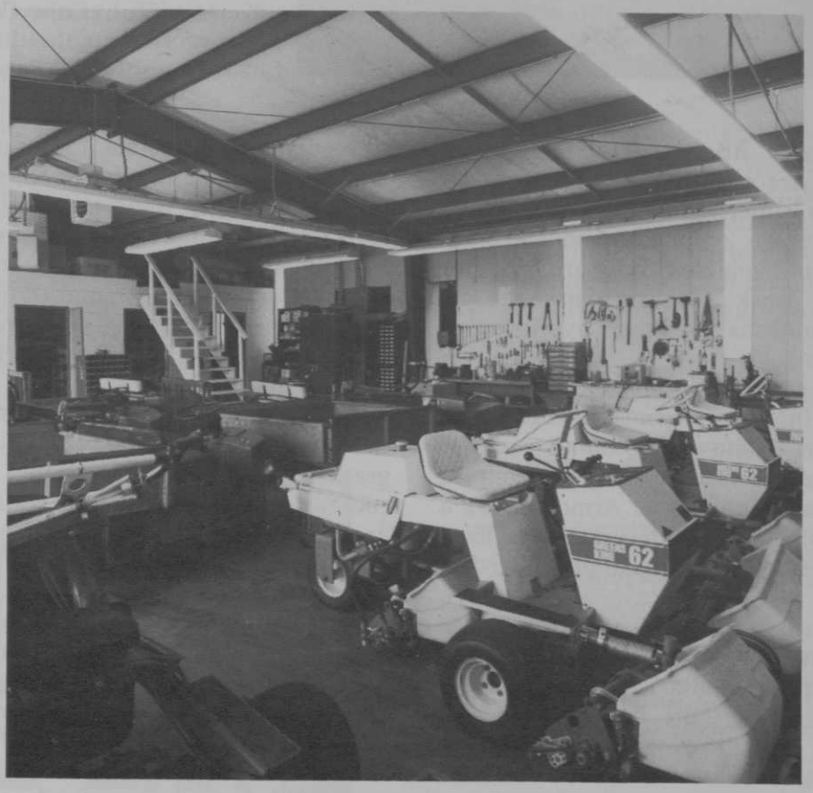

Interior and exterior of maintenance building at Middletown's Weatherwax Golf Course in Ohio. Note how high ceiling permits step-up storage above office and stockroom.

LEFT: Golf car storage at Brown's Run Country Club, Middletown, Ohio. ABOVE: Clubhouse at Palmetto-Pine Country Club, Cape Coral, Fla., was completed in 6 months.

spacious, unobstructed interiors. These are most likely the type a golf course superintendent would select for storage of maintenance equipment and vehicles. They are ideal for repair work because there are no obstructions caused by interior columns.

Larger buildings, of course, require interior columns for additional support. Beam-and-column structural systems are used by many golf courses for their clubhouses. Armco offers a new single-slope design that allows the aesthetic advantage of a near-flat roof.

Wall and roof panels

An economical and functional framing system is just the beginning of any metal building system. Covering systems — consisting of wall and roof panels — are even more important. After all, a pleasing exterior appearance plays an important part in employee morale and public opinion.

Wall panels, like golf balls, come in varying degrees of quality. The best wall panels are well designed aesthetically and offer low-maintenance service. Armco Steelox wall panels, for example, have a pebble-grained exterior finish to enrich the appearance of the wall and resist accumulation of dirt on the surface. Moreover, Steelox is available in ten Duranar 200 colors. These durable colors are achieved with a factory-enameled fluoropolymer coating to resist blistering, checking, chipping, cracking, flaking, peeling, or excessive color change.

Steelox panels have interlocking ribs to eliminate the need for unsightly through-the-wall bolts or fasteners. These ribs also provide a convenient stud system for application of insulation or interior finishing materials such as wood paneling, dry wall, or steel interior wall systems.

Roof systems, too, have been designed for improved maintenance performance. Aluminized Steel offers superior weathering characteristics with its high reflectivity to keep summer heat out and winter heat inside the buildings. Because steel has greater strength than aluminum, steel roof panels are better able to resist excessive deflection, a frequent cause of rib separation and consequent leaks. The extra strength of 24-gauge steel provides the ability to absorb impact, thereby providing long-term resistance to foot traffic and movement due to vibration or thermal expansion and contraction. In 1976, Armco introduced its Steelox CF roof which has a concealed fastening method and a nonconducting thermal spacer to provide a dependable covering system with economical thermal characteristics for energy conservation.

Roof and wall panels are assembled with removable nuts, bolts, and sheet metal fasteners. Therefore, when it comes time for expansion, a pre-engineered wall system can be reused. It's a simple matter of removing the original material, adding new structural members and extending the sidewalls. Then, original components are reassembled. Unlike a block or brick wall, there is no loss of materials. And because the pre-engineered panels are standardized, there is compatibility in appearance.

Design/build contracts

Most metal building manufacturers distribute through independent dealers who are usually equipped to coordinate the entire construction project and thereby provide a single-source service.

By negotiating a "turn-key" contract, the building owner can assign the full range of building responsibilities to a single source. These responsibilities can include foundations, mechanical and electrical equipment, interior finishing, fencing, landscaping, and everything else required to make your new facility attractive and efficient. The Armco dealer is organized to design the facility with qualified professionals or assist the golf course's own independent architects or consulting engineers. In the construction phase, the Armco dealer is the general contractor.

With single-source responsibility, a building owner can avoid the frustration, time, and expense normally associated with conventional construction methods. The design and construction phases can be placed on a "fast track" basis for earlier occupancy and lower initial costs for the owner.

Costs

Predictability of cost is another advantage. Major cost factors for facilities are labor, materials, design, and financing. On-site labor represents the largest factor for most construction projects. Hourly labor rates are high and spiraling higher. In addition to high hourly pay for construction workers, many union contracts have nonwage clauses, which call for contractors to include hourly contributions for pension, vacation, health and welfare, and apprenticeship training. Bricklayers, carpenters, electricians, ironworkers, laborers, operating engineers, and plumbers all have different rates. Then there is the question of which building trade members perform that work. Even within the same craft, the rates can vary widely from local to local. The labor factor is the most expensive and most complicated element in estimating the cost of a new building.

Metal building materials account for about 20 percent of the cost of a typical completed facility. But because pre-engineered steel components — structural members, wall panels, and roof panels — are drilled, welded, and cut to size at a factory, field labor costs and jurisdictional problems are reduced to a minimum. Thus, the installed cost of a brick or block wall will often significantly surpass that of a steel wall. The reason, obviously, is that steel panels are bolted together to form a wall in a matter of minutes; the bricks must be laid one by one, a process consuming many more man-hours.

Because machine-made steel components are standardized, the design and specification phase lends itself to analysis by computer. Thus, a computer can order the minimum materials needed and, thereby, reduce the specification workload on the designer.

The speed with which a metal building is completed relates directly to both the labor and financing factors. Quick assembly means that the project is under roof much faster and, therefore, far less susceptible to delays caused by foul weather.

These delays can contribute to a higher labor factor in the cost of construction. Without such delays, inside work — such as installation of electrical wiring, lighting, heating, air conditioning, ceilings, and interior walls and partitions — can begin and end sooner.

The earlier your building is ready for occupancy, the sooner you realize a return on your investment. After all, your original decision to build newer, more efficient facilities was made in anticipation of either making more money or reducing expenses. Another point to be considered with the speed of construction is the financing factor and today's high interest rates.

Conclusions

Metal building systems have the design flexibility to meet specific appearance needs and preferences. Initial cost is usually less than conventional construction because computerized design, standardized components, factory production, and ease of construction all combine to minimize original investment. Procedures required for design and construction of metal buildings allow owners to occupy their new facilities several months sooner than with other types of buildings.

Low maintenance and operating costs are possible with weathertight construction, durable color finishes, and easy-to-apply insulation materials. Flexibility of interior layout and attractiveness of exterior design make metal buildings ideal for golf facilities.

Dealers are listed under "Buildings — Metal" in the Yellow Pages. □