



W.A. Heine, President

**"Wouldn't it be fun
to build buildings
that way?"**

Here's a scenario to consider:

Suppose the owner, designer, and builder decide to construct their next building as a Team-suppose that they all get together at the Inception of the project and set out to prepare a game plan.

Imagine that, as part of the process of putting together their game plan, they:

- Spend time getting to know each other;
- Learn what each of them do best;
- Understand each other's strengths and capabilities;
- Gain confidence and trust in each other.

And as this Team prepares their game plan, suppose they clearly define the owner's goals and objectives, as well as their own roles and procedures they will follow in order to achieve those goals.

Plus, their game plan provides for a periodic review of the work completed and the work remaining, that would allow the Team to revisit their goals and make necessary improvements.

And, as the project progresses, all of the team communicates with each other- openly, and with trust and confidence. They share with each other their problems and challenges, and together the team members arrive at solutions which strengthen the team and enhance the final product...

And when it is done...

- The goals were achieved,
- The owner's, designer's, and builder's expectations were greatly exceeded,
- Everyone felt good about what they had done, and
- Everyone wanted to do it again, the same way, the TEAM WAY!!

WOULDN'T IT BE FUN TO BUILD BUILDINGS THAT WAY??

IT CAN HAPPEN.



It's Not *Brain* Surgery
by Mark Gray
 —Senior Estimator, Texas

In its most elemental form, construction cost estimating consists of answering two simple questions:

How many? and *How much?*

Sounds fairly uncomplicated, doesn't it? In actuality, though, it can be a very involved process. Because, just like everything else in the proverbial real world, scores of variables tend to complicate even the basic concepts.



GET ANHOLD OF YOURSELF DR. HOLZMANN.
 IT'S NOT CONSTRUCTION ESTIMATING -
 IT'S ONLY BRAIN SURGERY!

Hence, several different levels of estimates can be used to project construction costs, and each serves a different purpose. One very common method is the 'square foot' estimate. Owners, brokers, developers, and designers all enjoy talking in terms of square foot costs. It's a rudimentary way of placing varying building types on the same playing field. This type of estimate is characteristically used prior to the preparation of project documents-when budgets are being analyzed and established. Costs are typically broken down into separate construction elements and then combined as a whole, in terms of costs per square foot. Such a breakdown enables the building team to alter selected construction components in order to fit unique project requirements.

We must be extremely careful, however, when we make comparisons using square foot estimating parameters. The following example illustrates why square foot costs can sometimes prove dubious.

Restroom	A	B
Item	\$ Value	\$ Value
Drywall Partitions	\$ 800.00	\$ 400.00
Door/Frame/Hardware	\$ 550.00	\$ 550.00
Ceramic Tile Floor	\$ 650.00	\$ 163.00
Ceramic Tile Base	\$ 120.00	\$ 60.00
Ceramic Tile Wainscot	\$1300.00	\$ 650.00
Paint	\$ 72.00	\$ 36.00
Acoustical Ceiling	\$ 125.00	\$ 31.00
Plumbing	\$1500.00	\$1500.00
HVAC	\$ 500.00	\$ 350.00
Electrical	\$ 300.00	\$ 250.00
Total	\$ 5917.00	\$3990.00
OR	\$ 59.00/SF	\$ 160.00/SF

Consider two restrooms, each with a toilet and a sink, and equivalent unit price allowances for finishes. Restroom A measures 10' x 10'; Restroom B measures 5' x 5'. Both serve the same humanitarian purpose, but which one costs more-per square foot? The smaller one, by an astonishing amount. Observe



Although this sample is probably extreme, the point is simple... square foot estimating can be deceiving unless owner needs are well-defined between all building team members.

(And you thought the *Air Force* paid too much for toilets.)

COMPUTERS & CONSTRUCTION

by **Kim Lum**

—Project Manager, Hawaii

If you think MC² is only part of an Einsteinian formula, think again! It is also one of several computer programs American Constructors uses extensively to improve performance. A brief look at three of these programs, MC², P3, and Expedition, show how computers are helping us do a better job controlling costs and keeping projects on schedule.

The estimating program, MC², is very useful in that it is able to create a detailed estimate by pulling costs from an internal database. Since most of the calculations are done by the computer, the estimator can spend more time analyzing the estimate, performing "what-if" analyses, and looking for systems within the project that might be improved. In this way, the program MC² speeds up and standardizes the whole takeoff process, resulting in higher confidence and efficiency.



The completed estimate is then downloaded from MC² into the scheduling program, P3 by Primavera. This interface saves time because it transfers activities directly into the schedule. Once activities are linked in this way, American can review resources and identify priority items, improving the chances of timely project completion.

To keep track of the myriad of information involved in each construction project, American Constructors uses Expedition, another Primavera product. This program helps track and transfer changes and requests between architect, contractor and subcontractor. It also standardizes the system of collecting information, creating consistency within the organization and making the transition between projects easier for field and office personnel.

American Constructors is currently studying how to utilize the information in architects' CAD databases. An interface between CAD and the estimating procedure would again reduce takeoff times and improve the accuracy. The chance to manipulate CAD drawings would benefit clients by improving our ability to detail and coordinate projects.

In general, computers allow faster access to more accurate information. Computers have fortunately eliminated much of the manual manipulation of data allowing more time to plan and implement the work. Overall, this results in increased productivity and a better product for the owner.

New Projects

Manele Bay Resort—Hawaii

The Lanai Company recently announced the selection of American Constructors Hawaii, Inc. to build their golf club house and maintenance facility at their shoreside resort in Lanai. The buildings are a part of the Challenge at Manele, a Jack Nicholas designed championship golf course. The Lanai Company's Rick Duggan is directing construction.

Koele Clubhouse—Hawaii

Construction is underway on a golf clubhouse for the Lanai Company at their Koele Lodge. Scheduled completion is October 1993. The new facilities include locker rooms, pro shop, snack bar, as well as golf cart storage and maintenance areas. American Constructors' team is under the direction of Burl Smith assisted by Alan Perry.

Hotel Norbo—California

This four-story, unreinforced masonry hotel was built in the early 1920's and is located in downtown Los Angeles. American Constructors will completely reconstruct the interior of the building and renovate the exterior. The Project Superintendent is Dave Bushnell.

Moore Hall—California

This building is located on the campus of the University of California at Los Angeles and was also built in the 1920's. The project includes the renovation of a historic theater ceiling with cast plaster and hand painted decoration. Work is led by Project Superintendent Doug Snider, Project Engineer Hitesh Patel and Assistant Superintendent Brian Rogers.

Projects in Completion

Lois Apartments—California



The renovations on this historic, three-story, unreinforced brick building earned an award from the Los Angeles Business Council for its architectural and landscaping beauty. A complete new wood building was built inside the existing brick walls, and the existing brick was seismographically reinforced. American Constructors' team was led by principal Greg Parker and Project Manager Dave Bushnell.

Wo International Center—Hawaii

This two-story concrete structure was recently completed for Punahou School, Hawaii's oldest private school. The building contains classrooms and an auditorium devoted to the study of international culture and politics.



photo by Franzen

New Personnel

Austin

Mark Gray

Mark Gray has joined American Constructors as senior estimator. He holds a Master's Degree in Construction Management from Texas A&M and has worked in the Austin area as an estimator for the past five years.



Hawaii

Jeff Mindes

Jeff Mindes just graduated from Stanford with a MS in Civil Engineering. Jeff will be handling the renovation of Pauahi Hale, as well as the new McDonald's in Waikele.

California

Doug Snider

Doug has joined American Constructors as the Project Superintendent on the UCLA Moore Hall project. He has extensive background in development and construction, most recently with Robert Mayer Corporation, where he handled all of the development on a 639-unit, ocean front condominium project.