

THE MASONS' LINE

NEWSLETTER OF THE UTAH MASONRY COUNCIL

3rd Issue 2009

Sustainability in Masonry is Reflected in the History



Daniel Clark

On a recent trip to Europe (England and France), I was thrilled to see the incredible structures built with stone, mortar, cement, and early CMU's. These buildings ranged from small

stone farm houses, walls, and barns to marble-cut Cathedrals and Castles. The detail and craftsmanship was amazing.

Masons and stone cutters were some of the highest paid trades on these projects. They were respected and sought after for their skills and craftsmanship. They had many of the same privileges that royalties had. Their skills and knowledge

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MESSAGE FROM THE EXECUTIVE DIRECTOR

The Construction Trades Business Advisory Board...

Granite, Canyons, Jordan, Murray, Tooele, and Salt Lake School Districts Step Up to Support Industry Leaders in the Building Trades



Aleta Fairbanks

True or False: The only path to securing a lucrative income is through attaining a college education.

Of course, we know that this is a false statement. When managed properly, construction work can be very profitable in a stable economy. Unfortunately, all too often students are not aware of the opportunities and rewarding careers that are avail-

able in construction work. In fact, dedicated, ambitious, and skilled craftsmen have an excellent opportunity to earn an income far above average. The Construction Trades Business Advisory Board was established this year to combat the lack of interest in the construction industry. We are strengthening our educational programs on a larger scale through uniting multiple industry representatives and educators throughout the Salt Lake Valley. This advisory board serves as a forum where education and industry requirements are discussed and

class curriculum is created to fulfill these needs.

Troy Guevara of G2 Masonry and I cur-
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ARCHITECTS CORNER

Architects Turn to Masonry for Strength, Durability, and Sustainability



Craig Ames

In 1974 Art Pasker of Pasker, Gould, Ames and Weaver Architects broke ground on the Hilton Hotel which pioneered the use of tall load bearing masonry walls. This 'Atlas' brick unit that was used is still working hard at the now Sheraton Hotel, as well as at hundreds of schools and other projects throughout Utah.

PGA&W Architects turn to masonry for strength, durability, and sustainability. Having designed numerous Fire Stations along the Wasatch Front, we have found that concrete masonry units are the first choice for apparatus bay areas. Concrete block gives the firemen the hard rugged walls needed for the high use apparatus bays. Masonry provides the cleanable wall surface to withstand diesel truck fumes and repeated cleaning over the years.

An added bonus of the masonry walls

is their quick construction time and superior strength. After "the big earthquake," Fire Stations must be standing to serve the community. The strength of masonry walls will help insure that the garage doors will open after an earthquake and that the roof will still be in place.

PGA&W Architects and the United Fire Authority recently completed the new Emigration Canyon Fire Station. This Station utilizes both brick and stone exterior walls. This gives the station fire proof walls in the oak brush canyon as well as a unique mountain aesthetic.

The endless pallet of color and texture from masonry products has served PGA&W and their clients well over the years. PGA&W is grateful for the skilled masons in Utah who we have been able

to work with over the past 46 years, and we hope to work together on many more masonry projects in the future.



Emigration Canyon Fire Station



Executive Director

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rently sit on this Board. Curriculum, networking, and certification committees have been established. Objectives have been identified, and deliverables have been assigned. We understand that several basic requirements must be addressed. It's necessary that we teach counselors about the viability of careers in construction. Construction is not a default profession for unmotivated students. Skilled tradesmen are the product of formal education, on-the-job training, and continuing education. It is also important that an initial list of skills be identified. Students must acquire a level of professionalism and strengthen their reading, writ-

ing, and other communication proficiencies. We decided to have specific industry professionals review what is being taught on the high school level and then itemize other skills that students must obtain in order to be valuable employees. Satisfactory completion of these skills can then be recorded on a certificate of completion that may be presented to future employers.

Because parents have a direct influence on the professions their children select, they must also be made aware of the opportunities a career in construction provides. Parents will quickly realize that success in the construction industry requires advanced training and is rewarding, prestigious, respected, and also well-paying. It is imperative that we have a

good balance between construction projects and construction workers. Although the recession has had a negative impact on construction and all related construction trades, the economy will recover. And, in order to meet the needs of our future workforce, it is necessary that we continue training and developing informed, skilled craftsmen today.

Youth who demonstrate proficiency with tools, have an interest in construction, enjoy being productive, and take pride in a job well done should be encouraged to investigate the building trades....especially masonry!

Alta Fairbanks

Sustainability in Masonry is Reflected in the History

(continued)



Mont Saint Michel, France

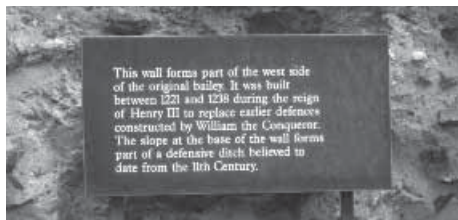
were passed down through the generations by their families.

The construction of these magnificent buildings took several hundred to even thousands of years to complete. Because of this, the architects and designers often never lived to see the completion of the building they started. All of this was done without the use of modern tools that we have today. (Cell phones, digitizers, photos, multiple sets of plans, computers, mixers, power cutting tools, trucks, etc...)

Anyone who thinks that masonry is not a sustainable, long lasting product does not understand the foundations of history. The detail and beauty of the castles, estates, kingdoms, churches, etc. still exist today – thousands of years later – as a symbol of sustainable construction using masonry. This area is just one great example of the legacy where masons and masonry construction have left their impressive mark in history.

Serving on the board and participating with the UMC, I have been able to get to know some very good people who share a similar appreciation for masonry. The UMC wants to serve its members in any way it can. The UMC is only as good as its members who participate and support it.

The UMC allows for peers in the ma-



sonry industry, both manufacturers and installers, to learn and develop together. There is a common focus with the UMC board and members: it is to help others appreciate, understand and utilize masonry in design and construction. UMC is a great resource for CMU, brick, stone and related products' questions. We have a diversified and impressive training program, including Utah State DOPL's accreditation, through UMC's association with the Associated Builders and Contractors (ABC). Take advantage of the opportunities UMC has to offer.

The activities that are put on by the Council are first class. Coming up on November 13, 2009 is the Excellence in Masonry Design Awards banquet. We would encourage everyone to put this date on their calendar to attend. It is always a fun and entertaining event. It's a great place to network and to meet new and old friends.

2009 Excellence in Masonry Design Awards

The entries this year have been numerous and represent several categories. The competition will be rigorous, which will make it difficult to choose the top project for Best of Show. Therefore, we are very fortunate to have an excellent panel of judges that has been secured to select this year's winners. Our jurors are from the Austin, Texas area, and they are delighted to judge such a prestigious awards ceremony. **The Head Juror, Keith Hickman**, plans on flying to Salt Lake to attend the banquet. We are delighted to welcome him and have him in attendance.

"Save the date": Friday, November 13th is the date of our festive awards banquet where our Excellence in Masonry Design Award winners will be announced. It will be held at the Little America Hotel in Salt Lake City. Plan on arriving early for the reception and enjoy the display of each project that was entered into the competition in addition to mingling with new and old friends. The Master of Ceremonies will be Brian Mullahy. He will apprise us of the latest news, which will be followed by a wonderful flash piece spotlighting each entry. Then the competition results and presentation of the awards will culminate the evening. It is a nice, exciting event, and everyone is invited to attend. Invitations with all the details will be sent out shortly.

**Thanks to all of you for
your support in creating
a "SUPER" design
awards competition!**

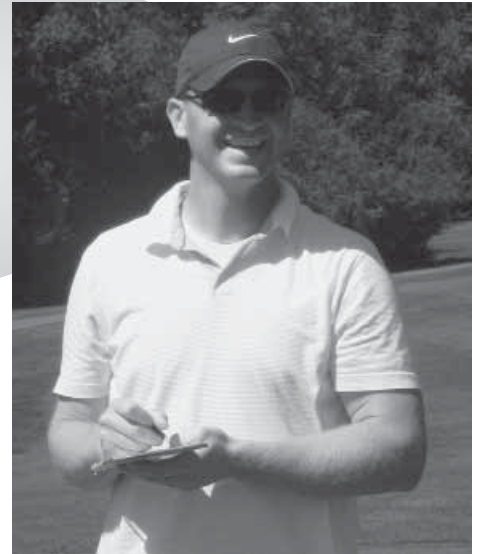
"Mad About Masonry" Golf Tournament

A bright sunny morning and lovely weather greeted the golfers at Wasatch Golf Course for the annual Mad About Masonry Golf Tournament. Incredible prizes were up for grabs this year on every hole. UBIC sponsored many holes demanding a hole-in-one for cameras, cruises, a set of golf clubs, or \$20,000.00 cash.

The whistle was blown and the tournament began with golf carts and clubs clanking as all took off to their assigned holes. The heat of day was soon felt, and the drink sponsors were greatly appreciated by all: **IMS MASONRY, QUIKRETE, and SPEC MIX by ASH GROVE PACKAGING.** Much disappointment was expressed over no brick putters on hole 18...no worries, they will be back next year!

Our delicious lunch was sponsored by:
AMCOR MASONRY PRODUCTS, BUEHNER BLOCK, LEHI BLOCK, and SUNROC.

As usual, awards and prizes were presented during lunch.





\$100 each went to the 1st Place winners: **Shane Demler, Jesse Demler, Steve Caldwell, and Cory Hampton;**

Each 2nd Place winner received \$75: **David Costanzo, Brett Le Due, Mark Christison, and Brian McKean;**

There was initially a tie for the 3rd Place winners, but **John Whitaker, Larry Laybourne, Kris Pasker, and Don Jenson** were eventually rewarded with \$50 each.

\$50.00 was awarded for a variety of challenges from the following hole sponsors:

BASF-THE CHEMICAL COMPANY, BUXTON MASONRY, CHEMICAL LIME, DOYLE HATFIELD MASONRY, DUNN ASSOCIATES, HESS PUMICE, IMS MASONRY, INFINITY INSURANCE, INTERSTATE BRICK, QUIKRETE, SPEC MIX by ASH GROVE, and UTELITE CORPORATION.

Western States Equipment donated a nice Calloway golf club and balls. The success of our golf tournament was a result of all of our sponsors as well as those who participated in the tournament and the staff at Wasatch State Park Golf Course. Thanx... and, until next summer, keep practicing for the coveted hole-in-one PRIZES!



TECHNICAL DIRECTOR

Utah Masonry Council is pleased to announce our new Technical Director



Redge Hudson

Redge Hudson, S.E. brings experience and professionalism to the Council with over 13 years of experience in residential and commercial structures, including masonry, wood, concrete, concrete tilt-up, and steel design. Redge is joining us after serving Mendenhall Smith as Senior Engineer in their Utah office for three years. He was also a Principal and Senior Project Manager of JCI for three years and previously provided services as a Project Manager for Mendenhall Smith in their Las Vegas office for six years. His experience has brought him up through the ranks of client interaction as well as design dynamics. He has enjoyed interacting with architects, project managers,

and construction workers while designing and resolving construction issues on the job.

In 2005 and 2006, Redge was the Project Officer for the ABS Group, a subcontractor for FEMA. He had the opportunity of working in New Orleans on a BAT (Building Assessment Team) inspecting the devastation caused by Hurricane Katrina. He assessed the amount of resulting damage to various structures and then provided FEMA and applicants with recommendations.

Redge is well versed in current building codes and project quality control in identifying and resolving design integration issues. He is fluent in AutoCAD and proficient in Enecalc, RetainPro, and Risa as well. In addition to doing contract work for UMC and for Mendenhall Smith (of Las Vegas), he has started his own engineer-

ing firm in Utah County.

Redge, the father of four, has been married to a wonderful woman, Lyndee, for over 15 years. He is very busy outside of work, running to and from soccer, football, dance and basketball activities. Redge enjoys golf, hiking and reading. (His son has to laugh at him because he has a bad habit of continually starting a new book. It is a well-known fact that he will have four different books going at one time.) Redge stays involved in whatever activities his children are doing, takes an active role in their education, and serves on the board of a charter high school. Redge and his family relocated in Utah from Las Vegas over six years ago, and they are loving it.

Welcome to the Council, Redge!

New Segmental Retaining Walls Design Manual Updates Methodologies and Seamlessly Incorporates Supplemental Manuals

The National Concrete Masonry Association (NCMA) announces the release of the 3rd edition of its *Design Manual for Segmental Retaining Walls*. This edition, the first full revision in 12 years, features updated methodologies and incorporates two previously separate supplemental manuals from NCMA, *Segmental Retaining Walls-Seismic Design Manual* and *Segmental Retaining Wall Drainage Manual*. The updated methodologies include:

- Updated bulging calculation methodology**
- New offset surcharges**
- New rectangular distribution of dynamic load**
- New variable deflection on dynamic analysis**
- New Internal Compound Stability (ICS) Analysis**

The more than 200 pages in *Design Manual for Segmental Retaining Walls* are organized into the following chapters:

Segmental retaining wall components

- Roles and responsibilities on projects involving SRWs**
- Segmental retaining wall design overview**
- Conventional segmental retaining wall design**
- Reinforced soil segmental retaining wall design**
- Internal compound stability**
- Seismic design of segmental retaining walls**
- Drainage design considerations**
- Design guidelines for project geotechnical engineers**
- Sample specifications**

The 3rd edition is being released in conjunction with Version 4.0 of NCMA's industry standard Design Software for Segmental Retaining (SRWall 4.0).

An electronic version of *Design Manual for Segmental Retaining Walls* is included with the purchase of the new SRWall 4.0 software, and hard print copies of the design manual are available as a separate purchase. To order, visit the NCMA bookstore at: www.ncma.org.

Update on Masonry Codes and Requirements



David Pierson, S.E.

2009 IBC

As some of you may be aware, there has been a significant change in how Utah adopts building codes. Until just recently, the Uniform Building Code Commission would adopt the statewide building code. Under that process, the cycle of code adoption was fairly well established, with the State adopting the new International Building Code in January of the year following its publication. Thus, the 2009 IBC would have been slated to become the statewide building code in January 2010.

Because of legislation that was passed last spring, the authority to adopt building codes has been taken from the UBC Commission. Now the Legislature holds the authority for adopting the statewide building code. While the pros and cons of this new process may be debated, the end result is that the 2009 IBC will not be adopted in January 2010. The earliest it may be adopted is June 2010, but it could be delayed until January 2011 (or beyond). This will be just one more thing for UMC to monitor and keep you abreast of.

So, until the 2009 IBC is adopted, we will continue to operate under the 2005 MSJC Code and Specification, with amendments noted in Chapter 21 of the 2006 IBC. Then, once the 2009 IBC is adopted, the requirements will change to the 2008 MSJC, again with amendments noted in Chapter 21 of the IBC.

Lap Splice Lengths

One item of primary interest would be the required lap splice lengths. MSJC continues to have requirements for lap splice lengths that are excessively long (in my opinion). The IBC (thankfully, again, in my

opinion) continues to amend the requirements for lap splice lengths. This will continue with the 2009 IBC. So, in the absence of some special circumstances, the maximum lap splice requirements should still be 72 bar diameters (45 inches for #5 bars, 54 inches for #6 bars).

On-site Testing Requirements

While it was implicitly required by the 2006 IBC, the 2009 IBC will explicitly require that *f'm* be verified on a periodic basis (Table 1704.5.1 Item 2). This is to be in accordance with Article 1.4 of the ACI 530.1 "Specification for Masonry Structures". IBC Chapter 2105.2 re-iterates these requirements. This requires that *f'm* be verified by **EITHER the unit strength method OR the prism test method** (not both)!

If the engineer feels it necessary to require the test prism method, the prisms must be built and tested in accordance with ASTM C1314. This ASTM test requires several sets of prisms, and if the masonry is partially grouted, then some must be grouted and some not (this is often overlooked). Building, curing, transporting and testing masonry prisms is generally more expensive than verification using the unit strength method. Test prisms should only be specified when necessary.

More common should be the unit strength method. In this case, there are three requirements:

1. The actual units must comply with ASTM C90 or C55 for CMU, or ASTM C62, C216, or C652 for Clay Masonry. CMU units must be tested in accordance with ASTM C140 and Clay Units in accordance with C67. Here, it is acceptable to have a certification from

the manufacturer if they have a testing program in place. Otherwise it is necessary that the units be tested by a testing agency. Note that the minimum required unit strengths must be specified in the construction documents.

2. The bed joint thickness must be verified.

3. The grout must either:

Conform to ASTM C-476 (which is proportions only, no testing required)

OR

Be verified for a strength of 2000 psi (or higher if we want) by testing in accordance with ASTM C-1019. This test is a difficult test (it is not cylinders) and **should only be required if necessary**.

Mortar proportions must still be verified (Table 1704.5.1, item 1a). It is proper to specify mortar by proportions only, based on the type of mortar required. No reference should be made to a required strength of the mortar, and no testing of the mortar should be required unless there are special requirements.

Engineers should take careful note of the code requirements and make sure that the specifications (or their general notes) do not require excessive or conflicting requirements with regards to inspection and testing of masonry.



11TH NORTH AMERICAN MASONRY CONFERENCE

JUNE 5 – 8 2011

The 11th North American Masonry Conference (NAMC) will be held at the Minneapolis campus of the University of Minnesota on June 5 – 8, 2011. It is two miles from downtown Minneapolis, which offers outstanding restaurants, entertainment and shopping, and is easily accessible from the Minneapolis-St. Paul International Airport.

The objective of the conference is to provide a forum for engineers, architects, contractors and others interested in masonry for the exchange of scientific engineering architectural, construction, evaluation, and repair information on masonry. This conference seeks to bring together worldwide expertise to address current issues related to masonry in seismic regions and green technology application in masonry.

The Masonry Society is now accepting abstracts for

the 11th North American Masonry Conference. Please consider submitting papers to this important masonry conference! All submissions should be sent to: NAMC@umn.edu. Questions? Contact Phil Samblanet, The Masonry Society's Executive Director, at psamblanet@masonrysociety.org. He can also be reached at 303-939-9700. The details on the conference have been posted at <http://www.masonrysociety.org/NAMC/index.html>.



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