

THE SOCIETY OF AMERICAN MILITARY ENGINEERS

# ARCHITECTURAL PRACTICE COMMITTEE

QUARTERLY JOURNAL

# SAME PRESIDENCY JOHN MOGGE

Not all roads lead to the same place but as long as you follow what you believe in you might be lucky enough to end up on the same path as Col. John Mogge, Ph.D, RA, CSIP, F.SAME, USAF (Ret.).

I won't bore you with Mr. Mogge's typical bio, which you can look up with a simple Google search; instead, I would like to share with you—our dedicated APC Journal readers—the fascinating man that we have been fortunate to have as our 2014-2015 National SAME President.

Like most newly licensed architects, I procrastinated a bit on gathering my thoughts enough to send Mr. Mogge my seemingly intelligent questions. Thankfully with the help and encouragement of JJ Tang (APC Committee Chair) and David Packard (APC Communications Vice Chair) I buckled down and produced several questions that I found intriguing and perhaps a bit challenging. No worries though, Mr. Mogge handled my interrogation with ease.

# YL: So, what do you do for fun or on your spare time?

JM: Well, you know, the time demands are pretty extensive but oddly enough it includes exercise; I tend to do some aerobics and some weight lifting. It's something I've done all my life. But one of the reasons we live here in Tampa is I love salt water and fishing. So my latest

recreation is salt water fishing and kayaking. YL: How do you maintain a good work, volunteer—such as participating in professional organizations like SAME and AIA, and life balance?

JM: [laughs] Well, I kind of chuckled when I read this question in the material you sent me. But honestly, I don't really have much balance [laughs] - it's pretty much SAME and CH2MHill right now; and my wife constantly chides me about that BUT we've been married 38 years and she knows I'm a bit of a Type-A guy. It was a conscious decision and she fully supported me in the opportunity to help SAME with a little bit of leadership and, obviously, I'm honored and humbled to have the opportunity. But she can't complain a whole lot! Because she is also a near full time volunteer, Guardian ad Litem in the State system. So she's just as busy. But you know, a constant for both of us right now are our grandchildren and our faith. We do find the time to make sure those things are top priority.

YL: As a newly licensed professional, I'm curious as to what advice you would give to new, young architects.

JM: I've been registered since 1977 so almost 38 years now; a lot has changed. I am currently coaching my daughter-in-law a little now on her exams but mostly just cheer leading and trying my best to keep her focused on it. It's actually really neat



Col. John Mogge, Ph.D, RA, CSIP, FSAME, USAF (Ret.) SAME President 2014-2015



**Yvonne Lee, AIA, NCARB** SAME APC Liaison & Graphic Designer

# INSIDE

Memb	er Ne	ws <b>7</b>	,

Mentor	Meda	1 (
--------	------	-----

# "BIM Test Flight with NAVFAC" 12

#### Feature Firm

•	$\sim$	n	+2	cts	20	
_	υ	Ш	lα	CLS	20	

18

# SAME and AIA signed Memorandum of Agreement



JJ Tang, AIA, M.SAME, APC Committee Chair



Edmond G. Gauvreau, AIA, M. SAME, 2015 Chair, AIA Public Architects Knowledge Community

Welcome to 2015!

Collaboration with AIA is one of our prime objectives for the SAME Architectural Practice Committee. We want to let you know that SAME Executive Director BG. Schroedel and AIA Chief Executive Officer Mr. Robert Ivy signed a Memorandum of Agreement in the beginning of 2015, a Meet and Greet between SAME and AIA has also been scheduled on January 22 to officially kick off collaborations between SAME **Architectural Practice Committee** (APC) and AIA Public Architect Knowledge Community (PAKC).

We wish to welcome the combined members of the American Institute of Architects (AIA) Public Architects Knowledge Community (PAKC) and the Society of American Military Engineers (SAME) Architecture Practice Committee (APC) to our new community and activities for 2015. With the MOA in place, PAKC and APC will share information and opportunities between us, sharing our common goals for the advancement of our profession. As the 2015 chairs of the PAKC and APC, one of our goals is to "grow the tent" of public architecture, increasing exposure of our work and initiatives between PAKC and APC, and expand it to the broader constituencies of AIA, SAME and beyond.

The MOA outlines the following areas of mutual support:

**Promotion of Excellence of Built** Environment - SAME will include AIA members on SAME national Urbahn Medal Jury. AIA will include a public sector architect on AIA's Thomas Jefferson Award Jury.

**Annual Conferences - SAME and AIA** agree to support each other's national conference by providing speakers for consideration by the other's Program Committees.

**Professional Development, Education** and Training - SAME and AIA will advertise each other's webinars and seminars and allow for exchange of member rates for select webinars and seminars.

**Published Materials** - SAME and AIA agree to share published materials where mutually beneficial that promote excellent architecture and the built environment. Each organization will consider articles submitted by the other organization for publication in their respective magazines, websites and other materials.

Membership and Working Relationships - SAME and AIA staff directors will develop working relationships for the mutual benefit of the two organizations. SAME Posts and AIA Chapters will be encouraged to host joint meetings and training seminars.

Last year, the AIA passed a resolution to investigate creating a new category of membership, specifically to allow public agencies to purchase memberships to be attached to positions within their organizations. A working group is now being formed to determine how such a category can be stood up while conforming to current regulations. This resolution was written by the DC AIA Chapter,







with support from the National PAKC and others. If it comes to fruition, public agencies will be able to offer AIA membership as a potential benefit to its employees.

One initiative being started this year by Elizabeth Chu Richter, FAIA, 2015 AIA President, is to re-examine the current statutory limitation on design fees. I will be participating in a small group discussion, along with Paula Loomis, FAIA, F.SAME, and Charles Enos, AIA, M.SAME. We may be reaching out to our combined communities to get your input and suggestions.

Another initiative at AIA will be

a summit meeting in late February on design-build standards and requirements. AIA wishes to assure that federal agencies allow the broadest number of firms to participate in design-build projects and solicitations. Several APC members will be receiving invitations from AIA to participate in this summit on behalf of their agencies – we look forward to your attendance at this summit.

We are very excited about joining forces together to promote our profession and practice, and encourage you to actively participate!

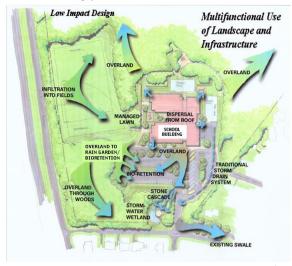
JJ Tang

Ed Gauvreau

# LAST QUARTERLY CALL

JJ Tang, APC Chair, opened the Quarterly Call on October 22 with a welcome, introductions, and a review of the APC Mission Statement and Organizational Structure Review.

JJ discussed the APC Mission Statement and took reports from Vice Chairs. He reintroduced Service Branch Liaisons and Scott Leister as the APC Architectural Liaison Coordinator. Announcements included an webinar titled "BIM Lessons Learned on DoD Projects", scheduled for October 31, 2014, and promoted nominations for SAME National Awards, including the Urbahn Medal. We received an update on the Memorandum of Agreement between SAME and the AIA. Additional details, including recent updates, are included elsewhere in this publication. JJ discussed a change in the title of this publication and stressed the need to provide articles, as well as the opportunity to share your stories under "Firm Profiles". We continue to experience high attendance numbers in SAME Continuing Education webinars, so we are encouraged, but concerns about transmission quality must be addressed. JJ encouraged participation in the Small Business Conference and closed his remarks with comments about the coming transition in APC leadership, noting that opportunities for all positions will be available in the coming year.



Integrating LID into Master Plans (Source: Low Impact Development Center)

We were honored to have SAME President John Mogge join the call. Please see a full interview with John elsewhere in this publication.

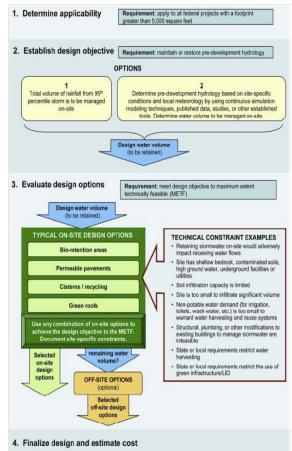
	_	_					_	_				_				_			
Table 10-2 Stormwater Management Related to Fort Hood Visual Zones																			
Fort Hood Visual Integrated Management Practices																			
	Bioretention (Rain Garden)	Grassed Swales	Permeable Pavers	Open Cell Pavers	Permeable Pavement	Rainwater Harvesting (Barrels)	Soil Amendments	Tree Box Filters	Filter Strips	Vegetated Buffers	Microbasins	French Drains	Xeriscapes	WetPonds	Benches	Inlet Pollution Removal Devices	Dry Wells	Infiltration Trenches	Detention Basins
Family Housing	1	✓	1	✓	✓	✓	✓		1	<b>V</b>	1	1	✓	1	<b>V</b>				
Troop Housing	1	✓	✓	1	✓	✓	1	1	1	1	1	✓	✓	✓	✓				
Maintenance and Warehouse	1	✓				✓		<b>V</b>		<b>V</b>			✓	<b>V</b>	<b>V</b>	<b>V</b>	1	✓	1
Community Core	1	1	1	1	1	✓	1	1	1	1	1	1	✓	1	1	1		✓	1
Recreation and Open Space	1	✓	1	1	✓	1	1	1	1	1			✓	<b>V</b>	<b>V</b>		1		1
Airfields	<b>√</b>	1		✓	1	✓			1	1	1		✓	<b>V</b>	1	1	1	✓	✓
Rangelend		1							1	1					1		1		

Reference to Installation Design Guides at Fort Hood.

Sharon Sartor and Erin Cox, both employed by the U.S. Army Corps of Engineers, Baltimore District presented a program titled "Army Low **Impact Development Program Overview:** Planning and Tools."

Low Impact Development (LID) is defined as "retaining pre-development hydrology and natural design approaches as a mechanism for pollutant removal and improvement in storm water quality and quantity". Sharon and Erin went on to further define LID as "a stormwater management approach with basic principles modeled after nature". With these principles in mind, Federal legislation in the form of the Energy Independence and Security Act (EISA) (December 2007) began to guide federal project development and policy toward the incorporation of LID principles. UFC 3-210-10 (November 2010) set out criteria and standards in conjunction with EISA Section 438.which was formally adopted through Army Sustainable Design and Development (SDD) Policy in December 2013. As a result, the Army has developed guidance and tools in support of its planning and design process. Finally, the presentation introduced the US Army LID Technical User Guide and the USACE Sustainability Center of Expertise (CX) and walked participants through an application of

## LID, utilizing the tools.



The EPA and DoD Implementation Process (EPA Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act)

Sharon Sartor is an Ecologist with the U.S. Army Corps of Engineers, Baltimore District. Sharon works in the Planning and Environmental Services Branch and provides water resource management and natural resources support to Military Installations within the Chesapeake Bay watershed. Sharon is the program manager for the Office of the Assistant Chief of Installation Management's effort to integrate Low Impact Development in Army construction. Sharon is also the Co-Chair of the USACE Regional Center of Expertise for Hydrology and Low Impact Development and was an instructor for the Army Low Impact Development Training course, sponsored by OACSIM. Sharon holds a Masters in Environmental Management from Duke University.

**Erin Cox** is a civil engineer with the U.S. Army

Corps of Engineers, Baltimore District. She works in the Site Development section of the Military Design Branch, providing civil/site design services for military construction at Installations within the Baltimore District. Her specialty within site development is stormwater management, including low impact design and regulatory stormwater and land disturbance permitting. Erin is a member of the USACE Center of Expertise for Low Impact Development and was an instructor for the Army Low Impact Development Training course, sponsored by OACSIM. Erin holds a bachelor's degree and master's degree in Civil Engineering from the University of Maryland, College Park. She is a licensed civil engineer in the state of Maryland.

The entire presentation is available at the SAME APC webpage, http://www.same.org/apc



A new American Institute of Architects (AIA) publication is now available for public architects. "The Cornerstone" is AIA's digital newsletter of the Public Architect's Knowledge Community and Emily Marthinsen, AIA, Campus Architect and Assistant Vice Chancellor for Physical and Environmental Planning, University of California, Berkeley, is the 2014 Editor. Similar in many ways to the APC Journal (although less technical), the newsletter provides a forum and perspective for those of us in public service. Other members of the Public Architects Advisory Group include Vergel Gay, AIA; our very own Edmond Gauvreaua, AIA; David Trevino AIA; and Lee Solomon, AIA. All are profiled in this issue and each tells a unique story about their profession, based on their agencies and the responsibilities each has. In the future, contributors to this journal will be encouraged to publish articles in "The Cornerstone" with reciprocal input from members of the AIA. You are encouraged to read this and future issues, available at <a href="https://lyris.aia">https://lyris.aia</a>. org/t/1323055/15806177/33577/6/

# QUARTERLY CONFERENCE CALL



The Architectural Practice Committee will host a quarterly conference call on Thursday, January 22, **2015 from 12:00 – 1:15 pm EST**. Video conference callin number: For web connection, go to: https://www. spiderphone.com/05698937 (This link will help connect both your browser) and dial +1 212-812-2800 and enter 0569 8937 for phone connection.

Time: 12:00 pm to 1:15 pm, Eastern Standard Time; 11:00 am to 12:15 pm, Central Standard Time; 10:00 am to 11:15 am Mountain Standard Time; 9:00 am to 10:15 am, Pacific Standard Time; 8:00 am to 9:15 am, Alaska Standard Time; 7:00 am to 8:15 am, Hawaii Standard Time.

The agenda for the quarterly conference call includes an update on committee focus area initiatives, open discussion, and 1 AIA LU/HSW/SD credited presentation.

The AIA credited presentation will be given by **Terry** Deglandon, USACE; Mike Smiley, DoDEA; and Cheryl Fromme, USACE, titled "Department of Defense **Education Activity (DoDEA) 21st Century Schools and** the Design Center".

DoDEA is responsible for K-12 schools located on U.S. military bases in the United States as well as overseas. In response to criticism from the US Congress, DoDEA has changed the way it teaches as well as how it designs schools. The approach has been referred to as "21st Century Education", a student-centered education model. This course will present core concepts of DoDEA's 21st Century Education, how facility design responds to those ideas, the Design Center approach to shared creativity and standardization, and how the school facility is actually used for education and

enrichment of students. Examples of recent projects will be presented.

Learning Objectives are:

- 1. DoDEA 21st Century School Concept
- 2. Design Center Operation
- 3. School Design Focus Areas
- 4. Teaching Tools Integrated into School Design

Terry Deglandon is a graduate of Louisiana Tech University and an architect registered in Virginia. Following 19 years of practice designing education projects, houses, commercial projects, prisons, and military facilities with 4 different firms, he joined the Corps of Engineers in 2000. Terry spent much of his time with the Corps leading the Architecture Section and Center of Standardization. He received the Urbahn Medal from SAME in 2006. He is currently the Chief of Engineering Branch at Norfolk District Corps of Engineers. He has participated in various roles on the DoDEA School program.

Mike Smiley, the Chief of Facilities for DoDEA, is responsible for a \$5B school recapitalization program begun in 2011. He is an Aeronautical & Astronautical Engineering who has flown for the Air Force, and worked for the DoD in Europe and the U.S. during his military and civilian career. In HQ DoDEA, he has been instrumental in justifying/obtaining funding while overseeing both the MILCON construction and the O&M funding programs, DoDEA transitioned from "conventional schools" to educational facilities specifications supporting a 21st Century, studentcentered education.

Cheryl Fromme is a P.E. in Virginia with exceptional talents in Engineering, Design, Acquisition and Leadership. She is currently the Deputy Chief of **Engineering and Construction Branch at Norfolk** District. She is also the district Program Manager for the DoDEA Schools, leading the DoDEA Design Center. Cheryl worked with Mike Smiley and others to develop a vision for the DoDEA facility program which included establishing the current Education Specification, an interactive relationship between DoDEA Education and facility design, a group of A-E firms that are a significant part of the Design Center, and a Sustainment Restoration/Modernization program for DoDEA.

# MEMBER NEWS



Suzanne DiGeronimo FAIA. FSAME 2015 SAME Fellows Golden Eagle Award Recipient, APC New York Post Liaison



Each spring the Academy of Fellows honors two individuals: one a SAME Fellow, for contributions to the engineering profession; and the other a non-member, for contributions to national security.

## **Golden Eagle Award**

The Society of American Military Engineers has recognized "Fellows" since 1972 and, over the years that followed, the honor has become more formalized. In 1995, the Academy of Fellows was organized to bring all Fellows together in furtherance of SAME's missions and goal. The entire, rich history of the Academy is available on the SAME Academy of Fellows website. Each year, the SAME Academy of Fellows honors two outstanding Americans: a SAME Fellow for outstanding contributions to the engineering profession; and a prominent leader for significant contributions to national security.

This year, the Golden Eagle Award for Outstanding Contributions to the Engineering Profession will be presented to Suzanne DiGeronimo FAIA, FSAME, on March 12, 2015 at the SAME Fellows Golden Eagle Award

Suzanne represents a small firm, minuscule by Federal standards and also represents the minority profession of architects in an engineering society. Still, her enthusiasm for the Society is as strong as any and truly by this example, recognition of achievement in the world of SAME is open to all. Suzanne's involvement with SAME began in 1981. She became New Jersey Post President, North Atlantic Region Membership Chair, Society Board of Directors, Executive Committee, and Vice President of the Society. As Chair of the first Investiture of the Academy, Suzanne designed the new logo and medal for new Fellows. Suzanne is currently the New York Post Architectural Liaison for the Architectural Practice Committee.

The Architectural Practice Committee and our community are proud to recognize and congratulate Suzanne on her selection of this great honor as the newest recipient of the SAME Academy of Fellows Golden Eagle Award!

# UPCOMING CONFERENCES

#### JANUARY 2015

## **Continuing Education Courses at** BWI

January 28, **Embassy Suites BWI Airport** (Linthicum, MD)

## **Transition Workshop & Job Fair**

January 29-30, **Embassy Suites BWI Airport** (Linthicum, MD)

#### FEBRUARY 2015

# **Annual Small Business Workshop** and Matchmaking

February 3, Marriott Louisville (Louisville, KY)

## **2015 Post Leaders Workshop**

February 19-21, **Embassy Suites Phoenix Airport** (Phoenix, AZ)

#### **2015 Student Leaders Workshop**

February 20-21, **Embassy Suites Phoenix Airport** (Phoenix, AZ)

## **2015 Student Chapters Workshop**

February 21-22, **Embassy Suites Phoenix Airport** (Phoenix, AZ)

# **NOVA Small Business and Government Conference**

February 25, Army Navy Country Club (Arlington, VA)

## Savannah Post 2015 E-Week

February 26, (Savannah, GA)

## **MARCH 2015**

# **DOD and Federal Agency FY2016 Program Briefings**

March 10-11, Hilton Alexandria Mark Center (Alexandria, VA)

#### **Fellows Luncheon and Investiture**

March 12. Hilton Alexandria Mark Center (Alexandria, VA)

## **Golden Eagle Awards Dinner**

March 12 Hilton Alexandria Mark Center (Alexandria, VA)

## **Industry Day Education & Training** Workshop

March 30-April 1, University of Missouri – Kansas City (UMKC)

#### **APRIL 2015**

# 2015 Small Business Industry Days and National Energy Forum

April 13-16 (Chicago, IL)

## 8th Symposium on Design & **Construction Issues at Hazardous Waste Sites**

April 15-17, Double Tree Hotel (Philadelphia, PA)

## **TISP Critical Infrastructure Symposium**

April 20-21, Westin BWI Airport, (Linthicum, MD)

For more information on upcoming SAME events, please visit: http://www.same.org/index.php/ events/calendar-of-events

# CONTINUING EDUCATION

## **BIM** in the Total Project Life Cycle: Design, Construction, Operations and Maintenance

Wednesday, March 11, 1:00 p.m.- 5:00 p.m. 4PDHs

## Sponsored by:

The Architectural Practice Committee & The Facility Asset Management Committee

Moderator: Bob Harris, NAVFAC

#### Panel:

David Gutierrez, NAVFAC Dean McCarns, NAVFAC Jason Fairchild, USACE Mitch Cornelius, Mortenson Construction Inc. Rachel Riopel Wiley, HDR Architecture Inc.

This four hour seminar will include perspectives relating how BIM has transformed the process during each stage of the project's life cycle. From early planning and conceptual design, to construction, operations and maintenance, representatives from each stage including private sector design and construction contractors as well as the US Army Corps of Engineers (USACE) and the Naval Facilities Engineering Command (NAVFAC) will share how their role has changed and how they see it evolving in the coming years.

For more information please visit the 2015 Workshops at the DoD Briefs website or click here to Register Now!



# DESIGNING THE MENTOR MEDAL

# Gerald C. Brown Mentoring Award



The Gerald C. Brown Mentorina Award presented for outstanding mentoring efforts

Fellows Mentoring Award in 2004 to recognize SAME Fellows for outstanding mentoring efforts. The first award was presented in March 2005. In 2009, the SAME Board of Direction renamed the award the Gerald C. Brown Mentoring Award in honor of the founder of the Academy of Fellows. Brig. Gen. Gerald C. "Jed" Brown, USA (Ret.). Jed chaired the working group that formalized organizing the Fellows into an Academy in 1994 and served as the first chair of the Academy. Nearly all

the workings of the Academy in place

today were formulated under the

leadership of Gen. Brown.

For 2015 the SAME Fellows

Gerald C. Brown Mentoring Award

am honored to have been asked to

SAME created the Academy of

winner will receive a medal that I

design.

The Gerald C. Brown Mentoring Award draws its inspiration from the pledge the Fellows take when invested, which is: "I charge you to be a mentor. A Fellow sets and abides by the highest ethical standards. A Fellow espouses continual professional development. A Fellow shares knowledge of the professional with members and nonmembers."

A few notes on the design of the new medal, the basic size and proportions match other Society medals. The Mentor award is based on the Fellows emblem in terms of proportions of the displayed eagle, shield size, ribbon and laurel leaves at bottom.

An interesting fact about image symbolism as it pertains to military

use and more traditional heraldry is that there are no set rules. All symbols are open to interpretation. What ultimately matters are the meanings attributed by individuals or organizations to the images deemed as important and unique to them. That said, there are some traditional symbols that are more or less widely recognized for certain meanings.

I tried to incorporate these traditional symbols where I could in the design having spent a good deal of time researching symbolism and meaning. The better web resources include: www.americancollegeofheraldry. org, www.digiserve.com/ heraldry/symbols, and www. familytreesandcrests.com though they do not all agree uniformly. Different sources give different interpretations.

So on to the Gerald C. Brown Mentoring Award. Jed Brown was from Maine, as he often proudly proffered. He loved Maine lighthouses and had taken it as a personal challenge to visit all the lighthouses there were to be visited. He owned a house in Maine on Lighthouse Road within walking distance of one. How appropriate I thought, to use a lighthouse as the central symbol on the medal.

The lighthouse not only represents associations with Jed Brown but also guidance, direction, and protection; all qualities that can all be attributed to mentorship. Further it is a strong visual image and instantly recognizable. The lighthouse is traditionally depicted as a fire on top of a pedestal and denotes a person who is, "Watchful



Preliminary sketch of the Mentor Medal

and/or raises the warning in time of danger."

In other symbolism I took the liberty to make associations with more traditional heraldry. I substituted the laurel leaves that ring the Fellows logo and that are displayed prominently on other society emblems. For a mentor award that is honoring someone involved in educating the next generation, I felt the laurel's traditional connotation of victory and triumph (which is well known) was not in line with modern educational principles and values. Where victory is a clear goal with a desired end result, the act of learning is perceived ideally as an ongoing process that never ends. Likewise, while success can be valued and celebrated, we ought to acknowledge that in education, failure can also be valuable and oftentimes more instructive. I did keep the laurel leaves below the lower ribbon to represent "laurels" on the awardee. Laurels are also unique to the Fellows emblem and therefore visually strengthen the connection between the Fellows and the Mentoring Award Medal.

IMAGE SYMBOLISM (traditional-commonly accepted): Cherry Blossom: Education, learning, flowers also represent hope and joy.

Ivy: Friendship, continuity

Serpent also snake, lizard: Wisdom Rocks: Refuge, safety and protection

Eagle (displayed position): Protection, bravery, alertness. As symbol of USA: Liberty, strength, spirit, action.

Wheat sheaves (in eagle talons): Abundance and Hope. Prosperity, peace.

Arrows (in eagle talons): Readiness, protection and defense.

Shield: Defender or warrior.

Other mentor qualities and associated symbols: Patience: Chamomile, Calf (also represents humility and sacrifice)

Giving and generosity: (I felt this is important quality for mentors) Apple, heart

One of the most widely recognized symbols for wisdom is a column or pillar entwined by a snake (a serpent or lizard as well). On this a lot of sources seem to agree, although it's unfamiliar to me. The column symbol's associations with fortitude and constancy were appealing for a mentor award. The format of the medal would not allow the symbol to be included literally as a separate element, however, in this design,



Final design of the Mentor Medal

figuratively, the lighthouse doubles as a pillar, with flutes on the exterior to strengthen the visual association. The contrasting banding (seen on most lighthouses) is spiral and, as it entwines itself around the structure, it represents the snake.

Regarding the casting and finish: I imagine the piece to be finished in such a way that the round beacon light and beams would receive a bright reflective surface. The rest of the piece would have a darker, flat bronze or copper overall finish with a bright brass-like accent with a dark wash or stain applied to deepen recesses and bring out details.

So there you go, an image just crammed with symbolism.

There is still time to nominate! Nominations due Jan 21. See Criteria to achieve the Mentoring Medal and more at: <a href="http://same.org/index.php/about-same/">http://same.org/index.php/about-same/</a> awards-a-recognition-programs?id=248#sthash. BrbTnjY6.dpuf

- Suzanne DiGeronimo, FAIA, FSAME

# Taking an Early BIM Test Flight with NAVFAC via **Design-Build Projects**

by Scott Harm, AIA, NCARB



Scott Harm, AIA, NCARB

Mr. Harm is an active member of the Society of American Military Engineers and its Architectural Practice Committee. He is the current Secretary of the Washington State Board of Architectural Registration. He has been focused on Department of Defense work for the last 17 years and specializes in the delivery of Design-Build projects.

In July 2014, the Naval Facilities **Engineering Command Northwest** (NAVFAC NW) awarded the Korte Company and Belay, a Division of POWER Engineers (Belay|POWER), three design-build (D/B) projects at Naval Air Station Whidbey Island (NASWI). Awarded in rapid succession, within about 45 days, the three projects had a combined construction value of \$110 million and had stakeholder interest as high as the Chief of Naval Operations. With the challenge of delivering these three large projects, a flight simulator and two significant hangar modernizations and renovations, almost simultaneously, both the design and construction teams were faced with obvious management and execution challenges related to schedule, construction, and field management.

With these challenges in mind, the project team thought it was imperative and in the best interest of NAVFAC NW to use Revit Building Information Modeling (BIM) to safeguard the projects' schedules. This decision was made even though the Navy's adoption of BIM was not scheduled until FY16 and the projects' RFPs required drawing submittals in AutoCAD 2010. Based on the Belay POWER team's recent success using BIM for NAVFAC NW on a Bachelors Quarters (BQ) project and Korte's avid use of the tool in the field, the team had confidence that BIM's capability could seamlessly meet the simulator and hangar projects' challenges. Our team appreciated the capability of BIM to help coordinate multi-discipline teams and identify

and remedy systems interferences, engage stakeholders in the design process, and facilitate sound technical decisions, all while keeping complex, fast-track projects like these on schedule.

Additionally, our team believed that early use of BIM would help NAVFAC move closer to full BIM implementation like the U.S. Army Corps of Engineers (USACE) did more than a decade ago. Using BIM before formal implementation would help NAVFAC and its consultants to realize both BIM's advantages and disadvantages, preparing them to meet its challenges with solid solutions.

#### **BIM to Address Lessons Learned:**

Belay POWER's earlier BQ project for NAVFAC NW was a substantial remodel and modernization of standalone, eightplex BQ buildings in a campus-like setting. Working with Coburn Contractors of Montgomery, Alabama, we learned at the postaward kickoff meeting that the project had known, potential challenges. The NAVFAC NW project manager, design manager, and the Resident Officer in Charge of Construction (ROICC) described a number of complex, field-related issues that had not been realized until well into the construction of similar BQ projects nearly completed at the installation. The rigid frame of a cast-in-place and concrete masonry unit superstructure built in the 1970s was making it difficult to implement the new floor plan and to make the mechanical and electrical upgrades. These challenges, largely the result of extremely tight vertical and horizontal clearances,



BIM of NAVFAC NW's P-251A the simulator building at NASWI helps to visualize all systems and interfaces.

were negatively impacting the schedule.

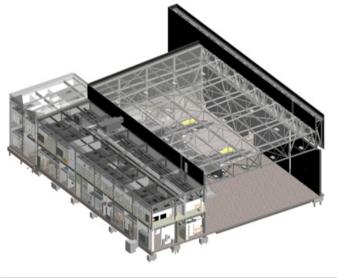
After some preliminary discussions about how to address these challenges, the D/B team invited the Contracting Officer's Technical Representative and the Navy's project and design managers to the first Design Quality Control (DQC) meeting via WebEx, a video conferencing medium. During the meeting, we introduced the concept of working with BIM and "flew around" the preliminary virtual model we had created. After we reassured the Navy's team that formal submittals of design documents would be per the RFP requirements, they were quickly excited by the platform's efficiencies and its ability to convey design intent to our specialty subcontractors in the field. After that first meeting, the Navy continued to join every other weekly DQC meeting, which helped them to see, literally, that we were proactively addressing the concerns of the earlier projects and providing appropriate solutions for each issue.

## **Current Challenges and Future Advantages:**

Our current NASWI projects include extensive modernizations and expansions to two 1950s-era maintenance hangars and a seven-bay flight simulator building. These projects are in support of the platform transition to the P-8A "Poseidon" and the EA18-G "Growler." Adding another level of complexity to a an already rigorous volume of work, our subconsultant and subcontracting teams on the combined projects include KPFF Consulting Engineers for civil/ structural design and three different combinations of mechanical, electrical, and plumbing (MEP) engineers and integrated MEP D/B subcontracting firms. All team partners in each of the three configurations had to buyin to the BIM commitment in order for the Korte and Belay POWER senior management team to achieve the desired, successful outcome.

Requiring each design team member to participate

in the BIM process despite the RFP requirements and the design fees submitted during the lowest price technically acceptable selection process was a challenge that has already returned dividends. For example, during our coordination meetings with specialized subcontractors, we immediately took advantage of the opportunity to tailor our design details to coordinate with the equipment that had already been incorporated into the bid price. We were able to confirm with the contractors who would be implementing the design in the field that our details suited their means and methods. This early coordination and concurrence maximized opportunities, confirmed tolerances, and expedited the specification and equipment schedule and submittal process. We believe that using the models to communicate design intent to our subcontractors, the Navy, and the Boeing Company (tenant) has increased their level of confidence that the projects' deadlines will be met and issues causing the most concern are being adequately explored and resolved.



Partial section rendering of P-239 Hangar 10 expansion



BIM of NAVFAC NW's P-251B Hangar 6 at Naval Air Station Whidbey Island.

Soon, both the USACE and NAVFAC will have adopted BIM for developing designs, but they will likely continue to rely on hard-copy submittals for review by their technical evaluators. We recently completed the 50% design submittal for the flight simulator building, and our production of hard-copy original prints proved challenging. For that submittal, our production staff had to "flatten" images of the Revit model to create the hard-copy prints. The 2D images are relatively easy to generate, but flattening a BIM image to meet Whole Building Design Guide standards presents its challenges and can often produce anomalies on a drawing surface (shadow images from other sections of the model). To accommodate this issue, design managers should consider that translating the model to hard copy requires additional time which should be accommodated in each milestone design submittal. Not until the software-to-software dialogs are more adequately resolved will the production of hard-copy originals go as smoothly as it should using BIM files. Private-sector projects for the most sophisticated clients (tech companies as an example) are moving quickly to a paperless design submittal process, in part to alleviate this challenge.

## **Handing It Over and Sharing the Knowledge:**

Working within the familiar requirements of DB contracts, our design teams give the original model to the contractor to use for procuring equipment, material take-offs, issuing RFIs, integrating shop drawing details, and for construction-phase submittals. The contractor will input procurement and construction data even while the designers are finishing the design. For example, as the procurement of primary mechanical equipment is achieved, say an Air Handling Unit (AHU), the contractor will input the specific make and model of the AHU into the BIM. This data will be tracked throughout the design process, and eventually incorporated into the design specifications and then to the construction-phase submittals. With the concurrence of NAVFAC field staff, we have often found

that a proprietary design document together with a specification enhances the construction submittal process by reducing review times, and can even reduce construction submittals to a formality, saving everyone time and money. In the D/B model, the risk and control associated with the use of the model is owned by the prime contractor, who holds the contract with the designers, until and even after it is turned over to an owner as part of an as-built package.

Conversely, in the Design-Bid-Build (D/B/B) model, where the design services agreement would most likely be held by the owner, the delivery of the original model could introduce opportunities for mismanagement or misinterpretation. This could introduce an increased level of liability to the designer that current model law and most BIM Implementation Plans might not vet adequately address. The prescribed level of design detail found within a model is of particular concern in a design services contract. This level of design might not be understood or clearly articulated to a general contractor who uses the model's intelligence for material takeoffs leading to materials procurement during the bidding process and actual procurement after the post-award "buy out" of a project.

For this reason, there is an increased need for the clear communication of a model's content when it passes from the creator (architect/engineer) to the user (contractor/owner) so that gaps in "quality" and "quantity" are very clearly understood. For example, in the past, the process of hand drafting or using basic CADD allowed architects to derive a detailed wall section and corresponding details from a specific area of a floor plan. The intelligence of BIM enables anyone using the model to potentially choose randomly from any building element a section or detail. If the drafting and production process is not sufficiently addressed in the native model and rigid consistency



Interior rendering of P-239 Hangar 10 expansion

applied throughout, there will be room for misinterpretation and/or conflicting data. Until we are able to go entirely paperless, the solution may still reside in relying on hard-copy prints to demonstrate adequately how a model should be interpreted or manipulated for construction.

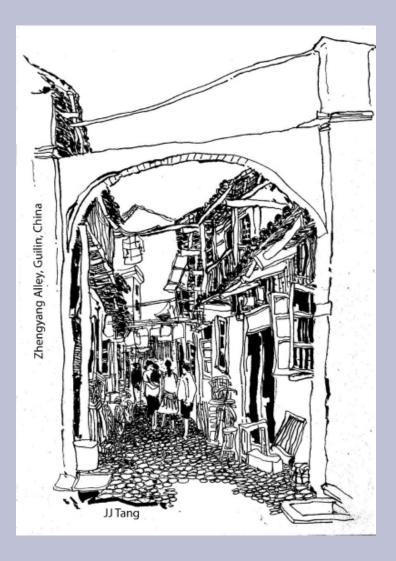
It's Not Just a Fad: We continue to applaud the USACE for its earlier adoption of BIM as the desired platform for designing its projects. We have been very encouraged by our interactions with NAVFAC NW staff and their willingness to explore the future of their Command as they complete their own adoption of a BIM Implementation Plan. We have seen firsthand the level of teamwork that takes place among designers, contractors, owners, and tenants/ users as they collaboratively develop the model's data. And, we continue to appreciate the model's power to communicate beyond 2D design.

While the primary intent of a building model is to document design, we believe these models will become increasingly valuable to building and utility owners, operators, and developers. A building model that is integrated into an asset management tool (e.g. eOMSI) used to manage equipment procurement dates, warranty information, and maintenance schedules will continue to pay dividends for the foreseeable future. The Navy should be encouraged by its early endeavors to integrate BIM, and we believe their consultants' BIM experience and knowledge will continue to facilitate the transition.

# ARCHITECT'S FIELD SKETCH CORNER

In today's architectural practice, architectural design concepts have been conveyed predominately through computer images to others. Even though these images can offer us very realistic feel for our design, but what is missing in most cases is the connection between the artistic emotion of an architect and his design product. To that end, architect's freehand sketches are the most direct translation of his design thought and emotion on paper. Therefore, it is more intimate and closer to our hearts.

- JJ Tang, AIA, APC Committee Chair



□ continued from page 1



SAME President John Mogge speaking at the 2014 Joint Engineer Training Conference (JETC)

to have this common ground with her and I think she likes it too. But in terms of other young professionals, having been there myself, a long, long time ago, I think it's really important to get a really sound idea of what working in this profession is really like-and all aspects of that. What's the daily grind like? What kind of projects and what would your initial job responsibilities be? What sort of skill sets should you really focus on developing? Such as learning tools like SketchUp or BIM. Those are things that aren't necessarily taught in school. The idea is, make sure you know what you're getting into. And once you decide that's what you really want to do, then just go for it, fervor, and be ready to take your exam as soon as possible. Get a mentor or a really strong technical mentor; as I mentioned in my notes I had one. And Pat Marcus at Eglin AFB, was more like a father to me! I was a young lieutenant and there were no other architects in the organization, it was just him and me, and he just made it his job to help me get registered. It was great! [laughs] He was pretty rough though! I used to go into his desk and hide his pens because his approach to teaching me-and this was when everything was still done on design boards and not too much automation-and he'd redline the heck out of my work and hand it to me on a Friday and tell me to have it done by Monday.

YL: What made you decide to pursue Engineering after studying Architecture in school?

JM: Because I started out in the military, the Civil Engineering career field had mostly engineers but a few planners and architects. So I was pretty unique in my group. I had unique talents in a small pool of officers. I had a lot of opportunity early on to do base planning; new base planning; planning system teams; a lot of preliminary design and project development for MILCON projects. As far as detailed design, I did enough to take my exam and get my registration but after about four years I didn't really do much detailed design anymore. After that it was more planning and development than design work. You know, after deploying to the Middle East, mainly in the early 90s, during the Gulf War, every time I came home I'd ask myself, "Is it really worth it? Why are we doing these things? It was the oil." That's what interested me in the engineering side, specifically in energy and sustainability aspects. The degree could have been from the architecture school or even the business school since my research was focused on the economics of sustainable planning, design, and construction. I'll share a personal bias one that I hold today but have held for a very long time. The bias is what motivated me to get the doctorate. Our country has the technical capacity to be energy independent and the built environment is a significant part of our energy demand. Pushing the edge of sustainability and energy will help achieve a balanced energy independence and a secure energy future. But I don't really call or present myself as an engineer as I am not a PE even though my doctorate is in Civil/Environmental Engineering from Georgia Tech. YL: I see that you joined SAME in 1980. Why did you decide to join SAME?

JM: This was just dumb luck on my part [laughs]. I owe my early SAME membership to a couple people -Colonel Thayer Allison my first commander and then a little later in my career around 1983 - MG Bud Ahearn. YL: What are the differences you've noticed between SAME and the AIA?

JM: Differences have evolved—early on the AIA was very focused on design and SAME has always been focused on military affairs and national security-both interest me but SAME has more long term importance and value to me. I stay registered and a member of AIA for a couple of important reasons: first is my belief that to be a professional and offer professional services one should be credentialed for the work they do. Being registered and having environmental certifications meets that need for me. The AIA also does an outstanding job on continuing education and the administration of one's training record. It's also an important part of my contribution to what CH2MHILL does.

SAME is more like my professional family – common beliefs, common values, common experiences and an unmatched network of professional relationship and the fabric to hold it all together. The other aspect of SAMEperhaps the most important is its commitment to the service of others. The focus areas I am communicating to our membership and asking our 29,000 members to embrace are all about helping others.

YL: Please describe your road to the SAME Presidency.

JM: There was no road to the presidency for me. That wasn't an aspiration on my part, other than to be a good member and contribute where and when I could mainly at the Post level. Someone always asked me or some need appeared and so I just helped when and where I could. In retrospect, what happened over a long time were volunteer roles as post programs leaders, a few turns of post presidency, several regional conference planning and chairing roles, a national meeting chair role, 6-7 years as the Fed Programs Engineer Chief panel moderator, a stint as a RVP-mid Atlantic, and then a national committee chair-energy and sustainability. Then one of the new governance teams identified me as a possible candidate for President-Elect and that took some thought and dialogue with my boss and our CEO-mostly because of the three year commitment, the time and the costs. SAME doesn't pay for me or my service-I donate it along with significant support from CH2MHILL. This leadership opportunity is as important to me as wearing our country's uniform was for 26 years. I only hope I can meet the expectations of our members and keep our Society strong for the next generation.

YL: The SAME mission statement changed recently; do you think it will continue to change throughout the growth of the organization?

JM: I would characterize it as just some word changes. What we adjusted was a few words to make it broader than just the military. We deliberately adjusted the mission statement to respond to many external factors with the intent of keeping the Society relevant and vibrant. It's important for all to know that the adjustment was made to recognize that our opportunity to contribute and serve was broader than just the military—that in fact it is more in line with the broader concept of national security. We were already well down that path; the word changes in the mission statement codified where we were already naturally

YL: Do you think the MOA between the organizations will benefit its members?

JM: The benefit potential is there and, yes, I think it is a good one. The SAME and the AIA have some important common ground-especially in energy and sustainability -that links us and the MOA will give us the formality needed to guide the organizational interplay. The most important benefit is to our members and that is to have meaningful programs—especially for our architects and interns. The AIA 2030 program is one SAME ought to engage in deeply. Net Zero technology is another. I think the APC will be the nucleus for encouraging more collaboration with the AIA.

YL: What do you think about committees such as the SAME APC? Do you think architects benefit from a committee like the APC within SAME?

JM: In our governance model the President-Elect's primary role is to work with the committees and councils to help guide their efforts. As a member of the APC, I think it's one of the fantastic ones and I'll commend JJ and the entire leadership team for what they have built and where they are leading us. Once my term is up, I'll be able to spend more time with you and I'm really looking forward to that.

The keys to higher engagement of our membership are: communication and meaningful programs. We are all volunteers and we all have a lot of demands on our time. Letting people know what the programs are and to have meaningful programs worthy of one's time is all it takes. You guys are doing a really good job with the communications and outreach part; that's why I'm really pleased to be part of this newsletter. And you have really good programs. For example covering the BIM topic.

YL: What are your plans after SAME Presidency? Will you stay as involved with SAME?

JM: Ya know, even though I am a planner, I don't plan much when it comes to the Society! [laughs] If there is a need and I can help, count on me because I'm "All IN" just like the song – I think it was Lifehouse right? [Cue Lifehouse music] APC





# FEATURE FIRM

In each issue of the APC's Quarterly Journal we will now be featuring an active SAME Architectural Firm by showcasing one of their projects that represents their ability and participation within the Military

community. If you are interested in being featured in an upcoming Journal, please contact:

Yvonne Lee ylee@stoaarchitects.com



# F-35 Squadron Operations Facility – Aircraft Maintenance Unit (AMU) 2

Luke Air Force Base, Arizona

STOA Architects provided full Architectural and Engineering design services for the Joint Strike Fighter (JSF) F-35 Squadron Operations/Aircraft Maintenance Unit (AMU) 2 facility located at Luke AFB, Arizona. This Design-Build project was contracted by USACE Los Angeles District and the on-site USACE Albuquerque District personnel. This project was designed to meet LEED Silver requirements of the U.S. Green Building Council (USGBC).

The new two-story 42,462 SF Squad Ops facility was designed to meet all stringent DoD and Air Force security standards including Controlled Access,

ATFP in accordance with UFC 4-010-01, AFJM 32-1071 Security Engineering and JAFAN 6/9 Physical Security Standards for Special Access Program Facilities (SAPF). Functional spaces include flight planning, secure air crew briefing/debriefing, training room, administrative offices, flight crew life support system equipment, tool room, equipment issue and a classified vault storage area. All secure areas are protected with Controlled Access and Intrusion Detection (IDS).

This project is nearing completion within the next several months and was completed for roughly \$13,766,001.



# COMMITTEE LIAISONS

The APC could not be successful without its Liaisons. Our committee is fortunate to have both Service Branch Liaisons as well as Architectural Liaisons.

These liaisons help coordinate architectural programs within their local SAME post as well as coordinating

shared programs between SAME and local architectural organizations.

If you are interested in becoming a SAME Architectural Liaison, please contact Scott for more information: richard.leister@us.af.mil

Branch	Name	Email
Army	Ed Gauvreau, USACE HQ	edmond.g.gauvreau@usace.army.mil
Navy	Kathleen Reid, NAVFAC Atlantic	kathleen.o.reid@navy.mil
Air Force	Gene Mesick, AFCEC	gene.mesick@us.af.mil

	7.11 1 01 00	gene	intesterie ustanimi				
Post	Name	Email	Company				
Alaska	Harley Hightower, FAIA	hhh@gci.net	Harley Hightower				
Albuquerque	Jim Oschwald	jim.oschwald@urs.com	URS				
Baltimore	Bill McCarthy	bmccarthy@rtkl.com	RTKL				
Dallas	Laura Lavelle	Laura.Lavelle@jacobs.com	Jacobs				
Denver	Joe Cruz, AIA, NCARB	joe@ihamail.com	Iron Horse Architects				
European Region SAME (Rhein Main, Kaiserslautern, Naples, UK)	Sandra Zettersten, AIA, DiplIng. Architektin,FSAME	SZettersten@BH-BA.com	Buchart-Horn GmbH				
Ft. Hood	Guy Homer	homer.guy@jmwaller.com	J.M. Waller Associates				
Kentuckianna	Luke Leising	luke@guidondesign.com	Guidon Design				
Kittyhawk	Drew Titone	Drew.Titone@Woolpert.com	Woolpert				
Lake Michigan	MaryAnn O'Hara	Maryanno@fgmarchitects.com	FGM Architects				
Las Vegas	Monica Gresser	mgresser@brazenarchitecture.com	Brazen Architecture				
Missouri (Whiteman & Kansas City)	Christina Przygoda	cprzygoda@yainc.com	YAEGER ARCHITECTURE				
New York City	Suzanne DiGeronimo, FAIA	sdigeronimo@digeronimo-pc.com	DIGERONIMO ARCHITECTS				
Northern Virginia	William Santer, AIA	wjs@samaha-arch.com	SAMAHA				
Omaha	Robert Hailey, Lt Col AIA, LEED GA	rhailey@hdrinc.com	HDR				
Pensacola	Yvonne Lee, Assoc AIA	ylee@stoaarchitects.com	STOA Architects				
Pikes Peak	Jim Pocock	James.Pocock@usafa.edu	USAF Academy				
Portland	Mark Gillem	mark@urbancollaborative.com	The Urban Collaborative				
San Antonio	Martin Gomez	marting@westeastdesign.com	WestEast Design Group				
Seattle	Scott Harm	sharm@belayarchitecture.com	Belay Architecture				
South Florida	Daphne I. Gurri	dgurri@gurrimatute.com	Gurri Matute PA				
St. Louis	Bill Albinson	albinson@teamfourstl.com	TeamFour/Saur				
Tampa	Steve Tozer	Steven.Tozer@hdrinc.com	HDR				
Washington DC	Franklin Kaye	fkaye@eypae.com	EYP				



## CREDITS

#### **EDITOR**

DAVID PACKARD, RA, PMP USACE, Northwestern Division 402.996.3822 david.a.packard@usace.army.mil

#### **GRAPHIC DESIGNER**

YVONNE LEE, AIA, NCARB STOA Architects, Pensacola, FL 832.978.3553 ylee@stoaarchitects.com

#### **FEATURE ARTICLE AUTHORS**

YVONNE LEE, AIA, NCARB STOA Architects, Pensacola, FL 832.978.3553 ylee@stoaarchitects.com

SCOTT HARM, AIA, NCARB Belay; A Division of POWER Engineers Consulting Scott.Harm@powereng.com

SUZANNE DIGERONIMO, FAIA, FSAME **DiGeronimo Architects** sdigeronimo@digeronimo-pc.com

Special Thanks to all who contributed to this issue of the APC Quarterly Journal.

# SAME ARCHITECTURAL PRACTICE COMMITTEE CONTACTS

#### **COMMITTEE CHAIR**

JJ TANG, AIA HDR Architecture Inc. 773.380.7900 junjian.tang@hdrinc.com

#### **COLLABORATION WITH AIA VICE CHAIR**

PAULA LOOMIS, FAIA **HQ Coast Guard Deputy Civil Engineer** 202.475.5602 paula.loomis@uscg.mil

#### ARCHITECTURAL LIAISON COORDINATOR

SCOTT LEISTER **Space Command** 719.554.5028 richard.leister@us.af.mil

#### **CONTINUING EDUCATION VICE CHAIR**

RAD DELANEY, AIA, FSAME Philadelphia, PA 267.800.8671 delaneyra@cdmsmith.com

## **COMMUNICATIONS VICE CHAIR**

DAVID PACKARD, RA, PMP USACE, Northwestern Division 402.996.3822 david.a.packard@usace.army.mil

#### SAME CONFERENCE VICE CHAIR

HOMER GUY, AIA, FSAME J.M. Waller Associates, Inc. 210.822.8006 homer.guy@jmwaller.com