

THE SOCIETY OF AMERICAN MILITARY ENGINEERS

# ARCHITECTURAL PRACTICE COMMITTEE

QUARTERLY JOURNAL

## TEACHING ARCHITECTURE TO CIVIL ENGINEERS



**BY LT COL JIM POCKOCK, USAF (RET.),  
PROFESSOR, R.A., UNITED STATES AIR**

*I have been a SAME member since 1982 when I was still a 2nd Lt. This year, I was honored to receive SAME's Urbahn Medal for contributions in architecture. I would like to think that one of those contributions has been teaching architecture to civil engineers for many years.*

You might be surprised to learn that the U.S. Air Force Academy's Department of Civil and Environmental Engineering has taught an Architectural Design course for over 25 years. The course, a design option for seniors, has been around since 1990. Over the years it has been taught and revised by four different Air Force architects and several engineers.

For most of its history, cadets in the course designed a house and learned to become proficient in a CAD program at the same time. Originally the CAD program was Au-



toCAD but in the late 1990's Lt Col Dave Alley made the switch to Autodesk Revit. In addition to the house's architectural design, the course has always included other design disciplines and building systems such as site design, foundations, structure, HVAC and electrical plans.

More recently, I recommended and made a change from designing a house to another building type. The intent was to get away from an emphasis on residential design; too many cadets designed extravagant "dream houses" for themselves. I chose a fire station, a building type that our graduates will encounter at every Air Force base and civilian community in their future. A fire station includes every type of building system and still has a residential component, while not being too large and complex for a cadet to design.

To spur the students' interest in architecture, the first assignment in the course is an architecture history presentation. Each cadet chooses an architectural style from another time and place and briefs their classmates on it. I challenge them to find design takeaways that they can incorporate into their own contemporary design.

Early in the semester we tour a local fire station and talk to the fire fighters about what they like and dislike in its design and construction. We also have a life safety lesson before the students start on their floor plans. For sustainability, we include an introduction to LEED and a brief look at the Federal Sustainable Guiding Principles.

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# WELCOME LETTER

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**Dave Packard**  
*SAME APC Chair*

Thanks to everyone who attended JETC 2018 in Kansas City! As the Architectural Practice Committee (APC) enters our sixth year, I wanted to reflect on the events the experiences we've shared and the successes we've achieved.

The APC has sought to bring value to the architectural community within the Society. While some of us are members of the American Institute of Architects, many public agency architects are not. Nonetheless, we all have the need for professional development and affiliation with fellow architects. JJ Tang sought to alleviate that gap through the establishment of the APC in 2012, tapping into the best architects in the Society, recipients of the Urbahn Medal. Since then, we have developed a cohesive committee with members located throughout the world.

The original mission statement of our Committee contains three components:

-Promote Architectural Practice within SAME.

The APC has established a strong presence within the Society through active participation in the development of top quality and relevant educational sessions at JETC, with AIA-accredited professional development opportunities.

The APC Quarterly Journal communicates information on the state of the profession in the public-private partnership that makes up the Society. Members are encouraged to share their own architectural experiences, inspiring others to do the same.

-Broaden SAME's exposure in the architectural community to attract more architects in SAME.

Quarterly calls allow APC members to discuss the state of the profession with one another and each call includes a free AIA-accredited webinar.

The APC has signed a Memorandum of Understanding with the American Institute of Architects, providing the forum for shared knowledge and issues of interest.

-Networking and mentoring.

The APC brings together representatives across the spectrum of the industry including small and large businesses, students and young members as well as seasoned professionals, and public agency employees as well as those in private practice.

The APC tracks activities locally, regionally, and nationally through APC Post Liaisons.

# WELCOME LETTER

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As we approach the “Run to 2020” and the centennial of the Society, members of the APC have added a fourth goal:

-Celebrate architectural excellence.

JJ Tang and “The Urbahn Medal Group” have participated in two annual meetings to establish a design awards program with the first recipients to be recognized at JETC 2020.

Lisa Kuruvilla is continuing her efforts to interview all recipients of the Urbahn Medal to capture the body of work represented by this illustrious group.

Paula Loomis is designing a series of banners to recognize significant works of military architecture for display at JETC 2020.

Some of my most cherished memories of the last six years are the product of meeting face to face on an annual basis as we gather at JETC. I’ve included a few photos from past APC gatherings. It is easy to get lost in professional organizations, but our social approach to professional development has allowed us to become great friends as well as associates.

I am in awe of the energy our members bring to the APC and I want to thank those who preceded me as our founding leaders and members. We welcome new faces to the committee and encourage the growth and maturity of the committee. Please join us in the family that is the APC!



*Images above from APC gatherings at past JETC*



# QUARTERLY CALL REPORT

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The Architectural Practice Committee hosted a quarterly conference call on **Wednesday, July 25, 2018 from 12:00 – 1:00 pm Eastern.**

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

The AIA credited presentation was given by Shaina Weinstein, Vice President of Engagement, Green Building Initiative and Megan Baker, Manager, Engagement and Client Support, Green Building Initiative on current work titled “Green Globes & Guiding Principle Compliance Assessment & Certification”.

APC Call participants joined the Green Building Initiative for a webinar about Green Globes, a rapidly expanding green building rating system and Guiding Principles Compliance, the first third-party assessment program designed for federal agencies to comply with federal Guiding Principles. Participants gained a solid foundation of program features, assessment areas, scoring methods, and certification benefits.

*Slides for this presentation as well as past presentations will be available in the archives of the APC web page at <http://www.same.org/Architectural-Practice>.*



**Shaina Weinstein**  
*Vice President of Engagement,  
Green Building Initiative*



**Megan Baker,**  
*Manager, Engagement & Client Support,  
Green Building Initiative*



# Green Globes & Guiding Principles Compliance Assessment & Certification Programs Webinar

July 25, 2018

## GREEN GLOBES® FOR NEW CONSTRUCTION

Join the Green Building Initiative for a webinar about Green Globes, a rapidly expanding green building rating system and Guiding Principles Compliance, the first third-party assessment program designed for federal agencies to comply with the federal Guiding Principles. Participants will gain a solid foundation of program features, assessment areas, scoring methods, and certification benefits. Familiarize yourself with Green Globes and Guiding Principles Compliance and differentiate yourself among your peers!

## CREDIT CLASS / 1 HSW COURSE FORMAT / WEBINAR

At the end of the course, participants will be able to:

- Explain the relationship of the Green Building Initiative with Green Globes and Guiding Principles Compliance.
- Review Green Globes NC surveys and the opportunity they provide for evaluating methods to achieve benefits such as energy savings, decreased maintenance costs and reduced environmental impacts.
- Describe Green Globes for New Construction assessment areas and scoring method.
- List the Guiding Principles and recognize the value in utilizing third-party verification of compliance to the Guiding Principles
- Describe the Green Globes and Guiding Principles Compliance assessment process and identify available user support tools.

# APC ACTIVITIES AT SAME JETC 2018

## KANSAS CITY, MISSOURI

Turnout for the Architectural Practice Committee meeting at the 2018 Joint Engineers Training Conference (JETC) was stronger than ever. SAME President Sal Nodjomian joined the meeting to recognize Dr. Paula Loomis for her contributions to the committee and SAME.

Information for self-guided tours of notable architecture in Kansas City was distributed to the attendees.

JJ Tang, HDR, provided an update on the design awards initiative. The objective of the design awards program will be

To improve the quality of the military built environment through recognition of designs that:

- » Improve operation efficiency, enhance mission accomplishment, and positively impact the federal agency,
- » Effectively and efficiently meet mission and user requirements,
- » Produce life cycle cost effective facilities,
- » Encourage sustainable and energy efficient designs and
- » Enhance the built environment within and around the facilities.

To align with the SAME mission statement:

- » To get more firms, agencies and people involved in SAME,
- » To increase awareness of SAME firms and agencies in the AEC industry,
- » To improve the image of the military built environment.

If you are interested in participating on this initiative, please contact JJ Tang, FAIA, FSAME; 312.914.0529 junjian.tang@hdrinc.com.

Virgil Campaneria, of Gurri Matute, Miami, FL reported the success of the Safety Assessment Program (SAP) Training session offered on Tuesday, May 22, 2018, in conjunction with other JETC activities in Kansas City. SAME and AIA co



*Top Photo: Sal Nodjomian and Dr. Paula Loomis  
Bottom Left: JJ Tang  
Bottom Right: Virgil Campaneria  
Photos by Brandon Tobias*

-hosted the event. SAP was established to address the needs of communities falling victim to natural or man-made disasters. The SAP “provides architects, engineers, building officials, and inspectors with the knowledge and protocol to evaluate homes, buildings, and infrastructure in the aftermath of a disaster. This professional expertise is provided as a volunteer service and is based on the State of California’s training program. It has benefited numerous communities, resulting in thousands of safety evaluations and saving municipalities millions of dollars.”





Dr. Jim Pocock provided the featured presentation at the meeting, sharing his thoughts and experience on “Architecture as Service”. In his presentation, Jim described his experience teaching architecture to civil engineers at the Air Force Academy and his extensive volunteer work for non-profits around the world. Jim’s words and images from his teaching experience and work with Engineering Ministries International were inspirational. He encouraged participants at the meeting to consider how we can use our own skills and experience to serve in other ways. As he so eloquently articulated, “opportunities for service are only limited by our own creativity”.

Congratulations to Jim on receiving the distinguished Urbahn Medal this year, and thank you, Jim, for your service!



Thank you to Brandon Tobias, USACE Headquarters, for organizing the annual APC JETC Outing with dinner at La Bodega and a stop at the Nelson Atkins Art Museum, and for capturing these photographs during our meeting.



*Top Photo: Dr. Jim Pocock  
Middle and Bottom Photos: Participants during APC meeting and presentation..  
Photos by Brandon Tobias*

# MEMBER NEWS

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**John Mogge, RA, F. SAME**

## **Congratulations to APC members honored during the 2018 JETC!**

John Mogge, PH. D, RA, F.SAME, USAF (Ret), a Principal at Jacobs, received the President's Medal for outstanding leadership and accomplishment in support of the SAME Strategic Plan during the President's year of office. John is a SAME Fellow, past president and member for 40 years. He is a retired United States Air Force Civil Engineer Colonel.



**Matthew Turner, AIA**

Matthew Turner, AIA, PMP, NCIDQ, LEED AP, Vice President at Yaeger Architecture Inc., received the Young Member Medal (Civilian) for outstanding leadership and accomplishments in support of the SAME mission. Matt has held a number of positions within SAME, culminating with his service as the SAME Greater Kansas City Post President in 2017. Matt's SAME portfolio includes serving as a Board Director, a post liaison to the National Architectural Practice Committee, post Treasurer, and post Vice President. In 2014, Matt also received the SAME Missouri River Regional Vice President's Medal.

# UPCOMING EVENTS

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**FEDERAL SMALL BUSINESS CONFERENCE**  
OCT 31 - NOV 2, 2018 New Orleans, LA  
[www.samesbc.org](http://www.samesbc.org) • **#SAMESBC18**

*SBC will be co-located with the Department of Veterans Affairs National Veterans Small Business Engagement*  
**3 Days. 2 Events. 1 Place. ENDLESS OPPORTUNITIES.**

The banner features a colorful geometric background with blue, green, and yellow shapes. On the left is a circular logo for the Federal Small Business Conference (SBC) presented by SAME, with the text 'FOR THE A/E/C INDUSTRY' at the bottom. The main text is in large, bold, white and blue fonts.





## ARCHITECT'S PHOTOGRAPHY CORNER

Kauffman Center for the Performing Arts, at Night. Opened 16 September 2011. Designed by Moshe Safdie, with Kansas City local firm BNIM assisting. Constructed by JE Dunn Construction Group of Kansas City. Houses two performance halls, with capacities of 1600 and 1800. Features 27 post-tensioned steel cables supporting glass ceiling and façade that offer a panoramic view of Kansas City to the south.

**Photo by: Brandon Tobias**

**Photo information: Canon 6D, 17-40mm f/4, composite in Lightroom with three 30-second exposures at f/6.3, ISO varies**



# APC Cruises to Barcelona

By Dave Packard

So sorry to have missed JETC this year. Sometimes, schedules conflict and that was the case this year as Daphne Gurri and Jose Matute celebrated 25 years of marriage while Dave Packard and Cathy Grow celebrated their 10th anniversary aboard the Disney Magic on the 2018 Trans-Atlantic Cruise from Miami to Barcelona (and ports between). While some may question what one does for 6 days at sea, I can tell you, it is glorious. No telephones, no computers, no tasks or yardwork...just relaxation in the sun. Our voyage was particularly lovely with sunny skies and smooth seas from coast to coast. We enjoyed fantastic food, great activities (Daphne and Jose took every dance lesson possible), met some new friends (including architects), and pretended we were kids again!

Land ports in Portugal and Spain offered opportunities for some extended travel and activities, local culture and cuisine, and a chance to try out some rusty language skills.

Cathy and I had never visited Barcelona, but with Daphne and Jose, who'd honeymooned there 25 years earlier AND who had the benefit of the language, we were able to explore this very walkable city in comfort and safety. As you can imagine, Barcelona is of particular interest to architects and we took every advantage to see as much as possible in the 4 days spent there.

On arrival, we took a short excursion to Montserrat, the mountaintop Benedictine monastery in Catalonia, about 30 miles from Barcelona. While our guide seemed to minimize the architectural significance of the complex, which houses one of Europe's black Madonnas, I thought the entire complex merited attention.

Architects cannot take a trip to Barcelona without visiting the simple little project by Ludwig Mies Van der Rohe, the Barcelona Pavilion. Built as the German Pavilion for the 1929 International Exposition, its minimalist and planar form of exotic stone must have been a shock to visitors, given the architecture of his contemporaries. The building, intended as a temporary exhibition, was torn down in early 1930. Using the original plans and black and white photos, the structure was reconstructed by Catalan architects in 1983. This little jewelbox is located directly across the street from the Caixaforum, originally constructed as a textile factory in 1911. In 2002, the building was converted to a contemporary art gallery with a stunning entry court by Arata Isozaki. You'd think we'd have had enough Disney after crossing the Atlantic aboard a Disney cruise ship. However, an exhibition titled "Disney. Art of Storytelling" was well worth the visit with rooms full of original Disney artwork, history of specific cartoons, and running projections of the Disney productions. I was impressed by the economy of line and color used to produce such beautiful animations. Fascinating stuff!



*Chapel at Montserrat*



*Caixaforum Barcelona, Entrance Canopy, Arata Isozaki*



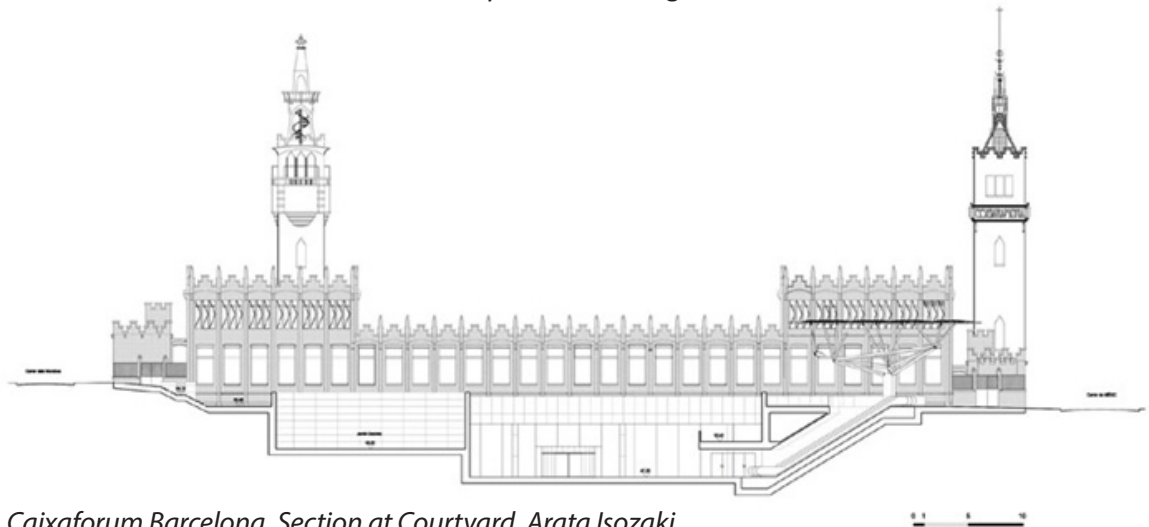
*Caixaforum Barcelona, Entrance Courtyard, Arata Isozaki*



*APC members Daphne Gurri,  
Jose Matute, and Dave Packard*

Every architect's pilgrimage to Barcelona will include visits to the works of Antonio Gaudi. The architect's masterpiece, the Basílica i Temple Expiatori de la Sagrada Família or simply, Sagrada Família. Construction began under the architect Francisco de Paula del Villar in 1882, as a traditional Gothic structure, but design was taken over by Antonio Gaudi in 1883. The building remains under construction today. As fascinating as the interiors and the exterior facades are, we spent as much time in the museum that traces the history of the structure, the principles applied, and the endless details of the building. My poor wife, Cathy Grow, endured the whole affair bravely, but hit the wall after 5 hours with three wide-eyed architects. Nonetheless, she was suitably impressed, even as a "lay" person, generously allowing us to break the 6 hour mark. In addition to Sagrada Família, we visited other structures in the vicinity of our hotel and ended up at Parc Guell, a public park in Barcelona that was designed by Gaudi and contains the residence he maintained for many years. The stone structures and buildings heavily decorated with unique Catalan mosaic tiles within the park reflect Gaudi's organic approach to architecture. The park's location high on Carmel Hill offer stunning views of the city.

Barcelona inspired conversation on the impacts of urbanism, the rich, international culture of a great European city, what makes good design and why make the effort, and the role that architects and their clients can have in "social justice", producing welcoming public spaces and affordable housing. The significance of a structure like Sagrada Família and the effects of religion and spirituality cannot be denied, and few walk away without feeling the presence and strength of something beyond our simple humanity. The trip spurred great conversations and gentle debates on topics ranging from our work and families to our beliefs and our professions. Four days in this remarkable city was not enough!!!



*Caixaforum Barcelona, Section at Courtyard, Arata Isozaki*



# CONTRIBUTIONS TO THE AE PROFESSION THROUGH THE EYES OF SAME URBAHN MEDALIST **HARLEY HIGHTOWER, FAIA**

**INTERVIEW AND ARTICLE BY LISA J. KURUVILLA, PMP, PCC, CEO AND FOUNDER OF CC PATHWAYS, INC.**

*The Society of American Military Engineers (SAME) Architectural Practice Committee (APC) in concert with American Institute of Architects (AIA) is proceeding with an article series titled "Contributions to the AE profession through the eyes of SAME Urbahn Medal recipients." This prestigious medal in honor of Max O. Urbahn, FAIA is bestowed annually to one SAME member for distinguished performance in the field of architecture. This series was initiated to increase knowledge and share lessons learned on different platforms in alignment with APC's mission of broadening SAME's exposure in the architectural community, and to achieve SAME 2020 Strategic Plan Goal #2 of providing Leadership and Mentoring. Mr. Harley H. Hightower, FAIA was interviewed by Lisa J. Kuruvilla, CEO and Founder of CC Pathways, Inc. on March 2, 2018.*

**Harley H. Hightower, FAIA – Architect is a small architectural firm offering principal architect involvement in all phases and elements of a project. With over 54 years of experience in the professions of architecture and construction, Mr. Hightower has served in a position of responsible charge of the design and construction of projects valued in excess of \$800,000,000.**



*Harley Hightower FAIA*

## **PROFESSIONAL PRACTICE**

As a young man Harley began his career in Texas as a structural draftsman and steel detailer. At that time, he hoped to develop his experience into a career in structural engineering. He received a telephone call at 3:00 am on a Wednesday from an architect friend who informed him that the large earthquake had devastated large areas of Southcentral Alaska. He was offered a job in an Alaska architectural firm, and so armed with a high school diploma and two years' experience as a draftsman began his career in architecture in Anchorage the following Monday. He sometimes suggests that he became an architect by accident, an accident of nature, "The 1964 Good Friday Earthquake". The next three to four years was spent on rebuilding and/or renovating facilities damaged or destroyed by the seismic activity.

During the next several years he worked on numerous projects in Southcentral Alaska and built experience under the supervision

of architects. By 1973 Harley met the experience requirements allowing him to sit for the Architectural Registration Exam, which he passed in 1974. During that same year, he opened the office of Harley H. Hightower, AIA - Architect.

With his new firm Harley's interests turned to design and construction in remote cold regions. Over the next 40 years plus he worked continuously north of the Arctic Circle 67° 33' 39" north latitude and numerous locations in the sub-arctic areas of Western Alaska including the Aleutian Islands. He also worked on the Svalbard Archipelago in the North Atlantic at 79° north latitude and at the Amundsen-Scott South Pole Station at 90° south latitude.

## THE GREAT M9.2 ALASKA EARTHQUAKE AND TSUNAMI OF MARCH 27, 1964



Map of southeastern Alaska showing the epicenter of the 1964 Great Alaska Earthquake (red star). On March 27, 1964 at 5:36pm local time (March 28 at 3:36 UTC) a great earthquake of magnitude 9.2 occurred in the Prince William Sound region of Alaska. The earthquake rupture started approximately 25 km beneath the surface, with its epicenter about 6 miles (10 km) east of the mouth of College Fiord, 56 miles (90 km) west of Valdez and 75 miles (120 km) east of Anchorage. The earthquake lasted approximately 4.5 minutes and is the most powerful recorded earthquake in U.S. history. It is also the second largest earthquake ever recorded, next to the M9.5 earthquake in Chile in 1960.

Source: <https://earthquake.usgs.gov/earthquakes/events/alaska1964/>





## REMOTE COLD REGIONS

Permafrost underlies an estimated 20% of the world's land surface. In Alaska, 82% of the surface is underlain by permafrost. Permafrost is defined as permanently frozen subsoil that maintains a temperature below 0°C continuously for two years or longer. The subsoil may be silts, gravel, or rock. Permafrost is generally covered by a thin layer of tundra, consisting of organics, which is seasonally frozen and defined as the active layer.

Mr. Hightower explained, "A typical construction method for buildings on permafrost is founding the structure on a pile foundation. Buildings are elevated approximately three feet above the tundra allowing natural air flow during winter months to maintain the permafrost in a frozen condition. Much of the permafrost in the Arctic is around 20° F and the piles freeze back naturally as a result the large thermal mass of the frozen ground. Buildings constructed on marginal permafrost (31°F to 31.5°F) require the installation of thermosyphons to stabilize the warmer permafrost. Thermosyphons are passive heat pumps that may be used to reduce ground temperatures during winter months when ambient temperatures are lowest. The reaction that produces the 'heat pump' effect ceases when the temperature of the ambient air exceeds the temperature of the permafrost. The goal is to stabilize the pile foundations in degrading permafrost."

Permafrost, snow drifting, high winds, severe cold, river bank and coastal erosion, river flooding, earthquakes, and Tsunamis are all common problems that challenge design professionals in Alaska. "Advancing technology and design programs such as Revit brought about greater coordination of professions prior to construction. There has also been a significant expansion of the codes providing an important safeguard."

"Probably the highlight of my career, in consideration that most of my work was in remote cold regions, was the opportunity to



Top Photo: Harley Hightower at Amundsen-Scott South Pole Station  
Bottom Photo: Utilidor in ice tunnel -55° below surface.





*Amundsen-Scott South Pole Station at 90° south latitude*

work at the coldest and remotest place on earth, the Amundsen-Scott South Pole Station during the austral summer of 2007/2008 November 15 to February 15. The transportation began aboard a U.S. Air Force C-17 out of Christchurch, New Zealand, then landing on the Ross Ice Shelf where passengers transfer to a U. S. Airforce C-130 on skis that land on an ice runway at the South Pole. I was charged with quality control for the new elevated station and several other smaller projects. In addition, I worked on planning for other projects. The temperature was  $-55^{\circ}$  F when I arrived; it warmed up to  $-35^{\circ}$  F around Christmas and was  $-55^{\circ}$  F when I departed. A small group of veterans are generally at the station. The veterans have a tradition whereby the POW/MIA flag is unfolded, the veterans at the station sign the flag, and fly it New Year's Day.



*POW/MIA flag is being displayed by Jesse Duffin, U.S. Navy Veteran and Harley Hightower, U.S. Army Veteran*

## VOLUNTEERISM

Mr. Hightower's notable contributions to the profession went beyond AIA and SAME. His commitment to transfer that knowledge through education led Joseph Notkin, 2015 Alaska AIA President to write, "He was one of the founding members of the Northern Design Program at the University of Alaska. He was a lecturer in the program for 15 years. It was an approved program in Arctic Engineering by the Alaska AELS Board that qualifies for a requirement of licensure."

Mr. Notkin went on to say, "Harley's decades long contributions to the profession of architecture and active chairmanship of many AIA Alaska committees as well as his mentoring to a generation of architects and engineers mark Harley as an extraordinary example of giving back to the design professions."

Mr. Hightower's volunteering at the University of Alaska - Anchorage establishing, guiding, and teaching in support of the Northern Design Program and the Architectural and Engineering Technology Program for 40 years was only part of the story. He also served on the State of Alaska, Board of Registration for Architects, Engineers, and Land Surveyors; the National Council of Architectural Registration Boards; the State of Alaska Department of Education committee dealing with K12 school construction statewide; and the Anchorage School District Career and Technical Education Committee. In addition, he participated in numerous formal and informal programs mentoring students at the high school and university levels and emerging professionals while encouraging them to pursue excellence and high achievement. When asked why giving back mattered so much to him, he explained. "It's so important that we share our expertise for the next generation to build on." In Alaska and the remote cold regions, we work primarily as generalists providing sound, cost effective, and functional structures. We must be able to provide design expertise on numerous building types under varying and severe conditions. Buildings must be



*Photos Courtesy of Harley Hightower*

designed and built to respond to these conditions. Relative to participation in professional organizations such as SAME and AIA Harley offered: "I have always got more out of this effort than I put into it the exchange of knowledge by association with other professionals that occurs on committee work is invaluable. I have encouraged emerging and young professional to get involved early and stay involved. Further, I have been amazed at the hard and dedicated work that volunteers in SAME and AIA accomplish. There is a saying that "America runs on volunteerism". SAME and AIA certainly subscribe to this philosophy. Mr. Hightower talked about his participation in AIA and SAME over the years. "Through association you learn so much. When you have the opportunity to participate and listen to those who are your senior, you really expedite your learning curve. Passing along knowledge is a must. When we learn from those that have been there, we are better prepared and able to give it back to the next generation by mentoring and preparing them. AIA and SAME significantly promote getting involved to advance the profession overall."

During the last decade SAME and AIA have encouraged young practitioners and emerging professionals to get involved on the local and national level. This has had a positive effect on the profession.

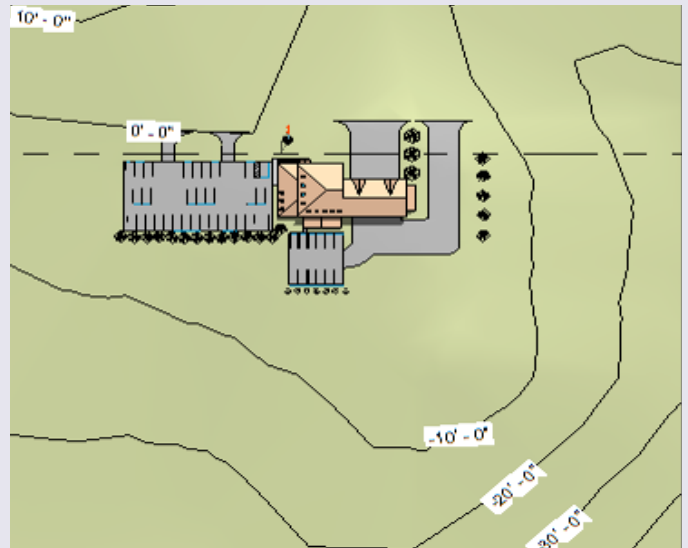
He lamented "Education is man's most important enterprise, whether formal or informal. It is the responsibility of the architect to spend a lifetime of learning and transferring that knowledge to those that follow." His advice to the next generation of professionals, "Be thorough in your work, all phases of it. Get involved. Learn from others. Pass it along."

# TEACHING ARCHITECTURE, CONTINUED

Over the course of one semester the students complete each of these individual assignments in a collaborative studio environment:

- Project scope analysis
- Bubble diagrams
- Site analysis
- Site design (first assignment in Revit)
- Schematic plans
- Preliminary floor plans
- Parametric cost estimate (using PACES software)
- 3D roof & massing model
- Conceptual structural design
- Foundation design
- HVAC system research & recommendation
- Electrical & lighting plans
- LEED scorecard (silver to gold)
- Final design presentation and drawing set

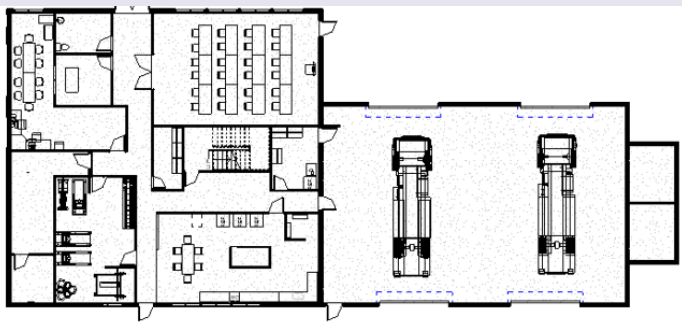
That's a lot of ground for engineering students to cover in one semester. But it's an elective course they choose and they tend to do well. The students become relatively proficient with Revit and come to understand many of the capabilities of Building Information Modeling. As they incorporate the building systems assignments with



their architectural design and add a preliminary cost estimate, the cadets have produced something like a 60% design package by the end of the semester. Their drawing set includes building sections and other construction-oriented drawings but their presentation (including renderings) emphasizes the architectural design for their client, the local fire department.

The cadets are challenged to integrate their building's architectural and building systems designs. They realize how complex the task is and how valuable the contributions are from every design discipline. Cadets start out enjoying the fact that they are creating their own, individual design. But as they work through all the discipline-specific design assignments along the way, they begin to realize that being part of a multi-disciplinary design team would be nice.

Since 1990, over 500 civil engineering students have taken this course and entered the Air Force with a better understanding of architects and architecture. They learn that their undergraduate civil engineering degree is compatible with a master of architecture degree. Beyond their Air Force careers, some graduates have been inspired to design and build their own homes. Whatever path they choose, cadets hopefully come away from this Architectural Design course with an appreciation for the role of the architect and the team of engineers and consultants that combine their talents to design a building.





# ADVICE TO AIAS

By Brandon Tobias, AIA

From July 19-22 hundreds of architecture students from across the country traveled to our nation's capital to partake in the 2018 Grassroots Conference. Hosted by the American Institute of Architecture Students (AIAS), this event provides a platform to discuss chapter leadership, business leadership, community involvement and innovation. As a member of the Emerging Architect Committee of the AIA DC Chapter, I was asked to participate in a panel discussion that addressed something I wish I had known to expect at an earlier stage in my career: failure.

Five of us, ranging in experience from ten to fifteen years, were asked to share an example of a time in our professional careers during which we had failed in some capacity or another. One panelist spoke about being fired from a position and how she turned it into a period of great growth. Another illustrated how constantly speaking out and failing to listen gave him the reputation of being arrogant and argumentative, which limited his opportunities early in his career.

My experience was slightly less dramatic, but impactful all the same. I talked about failing one of my license exams three times before finally passing it on the fourth attempt. Taking and retaking this test ended up dragging out my licensure experience to about three and a half years! While this may seem just unfortunate but not particularly noteworthy, the underlying issue with my experience was that I had taken on too many responsibilities and failed to focus on passing my exams. Rather than sticking to the study routine I had established, I allowed myself to get distracted by other opportunities. While these prospects were great in their own right, they were not necessarily time sensitive and could have been delayed until I had completed my exams.

I mention this because it is easy for people to assume that "failure to focus" only refers to our collective ability to procrastinate. We've all had days when we're more caught up in watching the World Cup from our phone, scrolling through Twitter, or planning our summer vacation, rather than focusing on the task at hand. However, I would argue that overcommitting is actually worse.



Architects have a habit of thinking they are inherently great at multitasking, but studies indicate that only 2.5% of people are capable of "super-tasking," which means doing just two things at once well. We're not even talking about doing lots of things at the same time! More often than not, though, what really happens is that we are just failing to meet our obligations on multiple commitments instead of just the one we were trying to complete in the first place.

Speaking on this panel gave me the chance to reflect back on my own mistakes and remind myself of the power of saying "no." In a time when our resources are being spread thinner and thinner, it's better to let something fall completely off your radar so you can focus on doing something well, instead of half-heartedly dragging multiple tasks across the finish line.

The AIAS Grassroots conference gave me the opportunity to promote public architecture to students that are not yet in the professional workforce. The students were engaged and excited to hear that the skills they are learning in school can be applied to many different facets of architecture. Whether that be working in a traditional firm, a public agency, a contractor's office, or even designing video games, there are plenty of opportunities for new architects to contribute to and represent the profession proudly. If you have the chance, I strongly suggest getting involved in a similar student organization or participating in local school programs to promote the field of architecture. Just make sure you let them know that they don't have to take on the world all at once, and that there is always something to learn from mistakes they will inevitably make.

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