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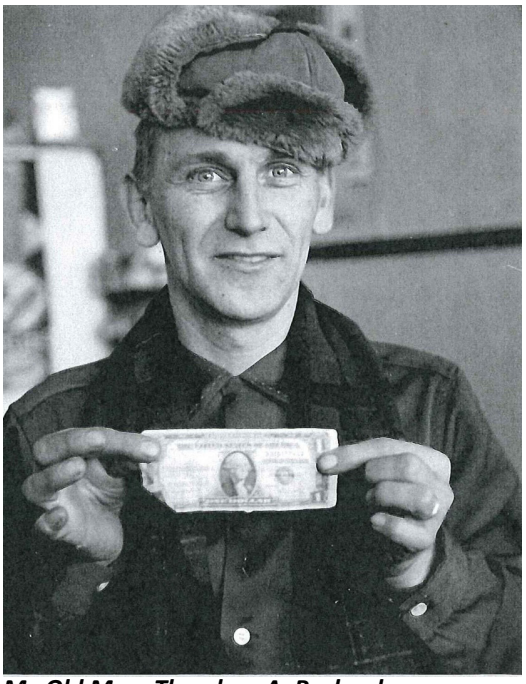
THE SOCIETY OF AMERICAN MILITARY ENGINEERS
ARCHITECTURAL PRACTICE COMMITTEE
QUARTERLY JOURNAL

REFLECTIONS ON AN ARCHITECTURAL CAREER

ARTICLE BY DAVID PACKARD



My Old Man, Theodore A. Packard

I blame this guy. He left the East Coast of the U.S.A. at high noon on March 1, 1943 aboard the fastest ship on the seas, the Queen Mary, bound in a zig-zag path to avoid enemy submarines, for Greencock, Scotland and points east. He served proudly in C Battery Anti-Aircraft Battalion until September 5, 1945. He returned to his hometown of Alpena, Michigan and went right to work in his aunt's Maytag store, selling and servicing those great old ringer machines. With a little GI Fund money, this guy attended Michigan State, studying civil engineering but never earning a degree. He married He married a German girl, daughter of immigrants who arrived in 1922. Then I came along. This guy found work in a small engineering company doing aerial photography and mapping with a CalComp plotter…the most sophisticated topographic tool available at the time. His own father was an electrical engineer employed by the largest cement plant in the world, located just on the edge of my hometown. The foundation they laid provided a bedrock of values that I've carried my entire life and planted the seed to build stuff.

1963: He decides to move his family from Michigan's Upper Peninsula and the Great Lakes to the Great Plains of Nebraska. He had developed a reputation for quality assurance in high-rise construction projects and I tagged along on occasion, marveling at the transformation from steel skeleton to finished structures.

1969: I graduate from high school where I'd demonstrated a knack for mechanical drawing. When it came time to declare a major, architecture was the choice. Of course, my old man's childhood friend, Joe Malatoris, confided that my dad 'hated architects". My dad's influence surfaced, again. Selecting a major in college is a challenge for anyone…you buy the ticket and jump aboard. A week before college, I changed my major to Civil Engineering. After two years and the effects of dormitory floormates, I was drawn (pardon the term/pun) back to architecture.

1969-1975: Undergraduate school at the University of Nebraska was a crazy mix of civil engineering, the politics of the war in Viet Nam, and a move to architecture…that magical time when anything was possible. I travelled to Brazil for the winter, taking a year plus break to earn money to finish my college degree. A summer workshop at Arcosanti revealed an aspect of architecture with a futurist perspective…an alternative to urban living not addressed in our single structure in an established context. With changes in the architecture curriculum, migrating from a 5-year professional to a 4-year associates degree, I graduated with

□ *continued on page* ***11***

INSIDE

WELCOME LETTER

CAPT Dan Cook,
Civil Engineer Corps, USN, R.A., NCARB

"Military" Architecture?!?!? YOU BETCHA!

One of my undergraduate professors did not think that military design and construction did a very good job of incorporating the highest and best of architectural principles. She was very frank in sharing her negative opinion about federal, military in particular, architecture. I think that she was well-intentioned, trying to help prepare me for what she assumed would be inevitable disappointment when confronted with what she saw as low-bid, efficiency dominated design as I prepared for my commission in the Navy. She could not have known that my first assignment as an architect in the Navy would be as a member of a team of motivated professionals that was recapitalizing the Navy's only boot camp in Great Lakes.

This revolutionary initiative relied heavily on the best architects and contractors in the Chicago-land area, the latest standards in sustainable design, best-value source selection, closely partnered teams, smart-city planning concepts, and historically sensitive aesthetics on a base with a main campus that was strongly influenced by the "City beautiful" movement. Contrary to the low expectations that she was setting for me, I have rarely, if ever, experienced the banal world that she described as prevalent in my career as an active duty, Navy (not Naval) architect.

To the contrary, I have repeatedly found that good architecture and very talented architects who serve the facility requirements supporting our national defense are critical enablers who balance a challenging problem set to achieve innovative and attractive results. My personal experience is not uncommon, and the contributions of architects to our bases and places continue to facilitate mission readiness around the world. Our profession brings together the unique understanding of programming for facility requirements, urban design principles, and contextual sensitivity along with many other valuable competencies. The wisdom of a "master builder" who integrates disciplines, leads a team to solutions, and communicates a vision are essential attributes that we celebrate and develop across our profession.

This Community of Interest (formerly Practice Committee) in SAME has been cultivating the spirit of what architects do and why collaboration contributes to the bottom line for years now. Many thanks to all who have led the way in bringing us all together. Hats off to David Packard, Laura Lavelle, and JJ Tang for the publication of this, our community's journal. This effort is a wonderful example of the natural fruits that should spring from a genuine community of interest. Members who share a passion for a profession: That's us!

I encourage those who have been supportive of this community to expand our reach. Invite more colleagues to join. Share this publication and broaden the conversation. We are a community that is as critical now as we have ever been to the emerging missions and urgency that is driving change and demanding new approaches across the DoD. Our profession is one of profound importance and critical to the integration, collaboration, and innovation of all disciplines supporting our bases. We must continue to bring the Vitruvian qualities of firmness (sound engineering), commodity (functionality), and delight (aesthetic sensibility) to the many tough problems that need solving.

As a military member, I thank those civilian partners who have dedicated their careers to our national defense. It is an honor to serve by your side and to share in reaching common goals. Our joint contribution provides for federal architecture, and even more challenging, defense architecture, that is far more sophisticated, responsive, sustainable, and innovative than many, like my former professor, would ever expect. Let's keep it up!

CAPT Dan Cook, Civil Engineer Corps, USN, R.A., NCARB

Commanding Officer, Amphibious Construction Battalion ONE, San Diego, CA

SAME San Diego Post Immediate Past President

SAME Architecture Community of Interest Navy Liaison

UPCOMING QUARTERLY CALL

The Architectural Practice Committee will host a quarterly conference call on Wednesday, October 23 2019 at 12:00 pm Eastern. Please join the meeting from your computer, tablet, or smartphone at

https://global.gotomeeting.com/join/921502013

You can also dial in using your telephone at:

Dial In: United States: +1 (571) 317-3129
Access Code: 921-502-013

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

The agenda for the quarterly conference call includes an update on committee focus area initiatives, open discussion, and a presentation providing 1 AIA-accredited HSW LU.

The presentation will be given by Ashley Blevins on a topic titled “DeMystifying Furniture's Role In Sustainability"

A mind boggling number of environmental standards exist. . .

It seems each day something is greener, better and calling louder than the standards of years past. This CEU will seek to define and compare leading sustainability programs in the market and explain the key role furniture plays within each. We wil overlay LEVEL by BIFMA's rating system and explain its aplication and relevance.

Learning Objectives include:

» Explain LEVEL by BIFMA and its key role in defining sustainable furniture
» Compare key green building programs in the market today and how LEVEL relates to each
» Understand key sustainability attributes of furniture
» Explore the future of sustainability and furniture

Ashley Blevins is a National Sales Manager for GMi Companies who is a manufacturer of the brands Ghent, Waddell, and Vividboard. After spending over a decade in marketing, specializing in dealer relations, Ashley has been responsible for expanding the national sales footprint for the GMi family of brands. Ashley is a certified presenter of CEU’s and travels the nation providing presentations that train and educate dealers, architects, and designers on skills to educate their clients and close the sale.

Ashley has found her passion in serving customers by providing value, earning trust, and turning customers into partners. Her philosophy for marketing and sales revolves around embracing change, trial and error, thinking strategically and using data to drive your next move. In her free time, you can find her enjoying the country air with her family or waving her Terrible Towel on Sundays.

PAST QUARTERLY CALL

The Architectural Practice Committee hosted a quarterly conference call on Wednesday, July 31 2019.

Deepak Aartresh presented during the last quarterly call on a topic titled “Let Algorithms do the Heavy Lifting for Standards Compliance”.

Software and Algorithms have touched every aspect of our personal lives. However, with our day-day work, the challenge of implementing and complying with standards in planning and design remains a manual, laborious, and error-prone process. Learn how the Cloud and an expert AI software-as-a-service (SaaS) can become an invaluable tool to handle the mundane while you regain control of your creative side.

Learning Objectives included:

» How other highly productive industries meet the complex challenges of compliance.
» How algorithms can assist building designers with, mundane, repetitive, and error-prone tasks.
» Why the Cloud and SaaS are key enablers to knowledge sharing and collaboration, even for AEC?Explore the future of sustainability and furniture
» Understand the possibilities of what lies beyond automated compliance.

Deepak is the founder and visionary behind Aditazz. His idea to borrow and learn from integrated circuit and chip design technologies was the impetus behind the development of a similar approach to the design and construction of complex buildings. Deepak’s vision has led Aditazz to develop a SaaS (software-as-a-service) Platform that applies computation and automation to radically improve the efficiency of planning, design, and construction of the built environment

Deepak has an M.S. degree in Electrical and Computer Engineering from Arizona State University. He currently holds eleven patents

Transformative Planning for Federal Lands

November 25-26, 2019 • Portland, Oregon

The Federal Planning Division (FPD) of the American Planning Association (APA) is pleased to host the fourth regional training workshop to provide a venue for participants to share their planning successes and concerns with colleagues from tribal nations as well as federal, state, and local agencies in a focused way that provides opportunities for learning, dialogue, and collaboration. In previous regional workshops, participants considered the theme of interagency collaboration for sustainable landscapes (Denver, 2011), interagency collaboration in changing political, economic, and regulatory environments (Washington DC, 2016), and a variety of federal planning issues related to resiliency and development (San Diego, 2017). We now hope to examine transformative models for planning federal lands.

To be transformative is to cause change. Planners working with and for federal agencies are stewards of our national lands and they have opportunities to create change in many areas. They can craft new ways to manage federal lands - from regional river ecosystems to remote military installations. They can develop new ways to engage a distracted yet oftentimes vocal public. And they can create new methods of analytics to ensure technology is harnessed for the public good. Of course, these changes occur today within the context of limited fiscal resources, intense public sentiment, and evolutionary climate change.

While federal agencies have different agendas and visions, they may benefit from the application of similar transformational strategies. Moreover, when agendas intersect, as is the case today with the federal focus on sustainability, resiliency, energy-efficiency, and resource conservation, understating ways in which positive transformation can occur becomes a way to succeed together.

About the workshop

In this FPD Regional Workshop, planners who work with and for federal, state, and local agencies will have opportunities to share their stories and learn from their colleagues. The workshop will attract an interdisciplinary and interagency group of participants from around the region working in related disciplines including planning, engineering, ecology, biology, cultural and natural resource management, architecture, landscape architecture, and environmental studies. They will deliver presentations related to the following three tracks:

Track 1. Reframing Public Processes

From the planning of national parks to the restoration of urban brownfields, planners use innovative processes to develop plans, prepare budgets, write policies, construct projects, and engage with the public. How have planners reframed their processes to more closely align with the public's interests and the changing needs of federal landscapes? What processes do planners use that best attract public engagement? Where are examples of successful processes in the Pacific Northwest or beyond that others can learn from as they embark on their own efforts? Who has been leading the federal government in terms of new processes and what do they have to teach us? How can planners move beyond "analysis paralysis" in their processes and create something meaningful and useful to guide the stewardship of public lands? Presentations in this track will focus on unique, innovative, and creative planning processes used at any scale that address ways to better manage federal lands.

Track 2. Revolutionary Planning Products

In the past, planners have been known at times to produce voluminous reports that simply collect dust on some obscure shelf in a remote corner of a federal building. Text-heavy documents, cumbersome fold-outs, and boring graphics do little to spark interest and even less to convey the compelling stories of success when it comes to planning federal lands. What are the original and engaging approaches to dissemination in this new era dominated by social media and digital devices? How have planners crafted compelling and clear products to tell their stories in ways that attract interest, support, and funding? What opportunities and limitations exist with the use of digital media, websites, social media, photorealistic imagery, and the increasing reliance on GIS mapping to produce planning products? In this track, we invite planners to question the typical mode of production or to at least critique examples of planning products in constructive and educational ways.

Track 3. Transformative Technologies

Amazon, Google, Apple, and many other major corporations use data analytics to document, track, and forecast trends in their worlds. The resulting statistics can be both enlightening and, at times, frightening. But as Mark Twain reminded us, there are liars, damn liars, and statisticians. While Mr. Twain was perhaps rightly skeptical of the use and interpretation of data to make an argument, planners cannot discount the power of data analytics and other technologies to inform and transform the way we manage, plan, use, and even dispose of federal lands. After all, federal lands are blessed with a plethora of natural resources including water, oil and gas, gold and silver, timber, and coal. How can planners use technology to help balance public access demands on federal lands where resource development is likely? How can data analytics help planners model the value of ecosystem services such as flood storage, carbon sequestration, and biodiversity? How can data analytics be used to improve asset management methodologies? Presentations in this track should explore these questions and others as they relate to the use of technology to transform the conservation and use of federal lands.

Submission Requirements

Key Dates
Deadline for abstract submission: **October 24, 2019**
Acceptance letter for abstracts (via email): October 28, 2019
Workshop: November 25, 2019, 8:00am to 6:30pm with reception from 6:30pm-8:00pm
Optional Post-Workshop Tour: November 26, 2019: 9:00am to 12:00pm (the Portland Building, the South Waterfront, and Portland's Aerial Tram)

Workshop Location
The Edith Green-Wendell Wyatt Federal Building (LEED Platinum)

Workshop Fee
None

Workshop Organizing Committee
Mark L. Gillem, PhD, FAICP, FAIA, Workshop Chair, University of Oregon and The Urban Collaborative
Paula Loomis, PhD, FAIA, FSAME, AICP, LEED AP, GGP, Workshop Co-Chair, The Urban Collaborative
Holly Workman, AICP, Workshop Coordinator, The Urban Collaborative
Jerry Zekert, U.S. Army Corps of Engineers
R. Brett James, LLA, AICP, Naval Facilities Engineering Command
Rena Schlachter, AICP, NASA
Steve Lettau, RLA, GISP, LEED GA, Onyx Group
Ken Kost, RLA, ENV SP, WSP
Todd Buchanan, P.G., PMP, GEO Consultants Corp
L. Leonard Wolner, PLA, Stanley Consultants
Sherwin Racehorse, Idaho State University
Gary Alchin, AICP, Naval Special Warfare Command
Travis Willer, Joint Base Langley-Eustis

Workshop Sponsors
The APA Federal Planning Division (confirmed)
Oregon Chapter of the APA (tentative)
Oregon Chapter of the American Institute of Architects (tentative)
Oregon Chapter of the American Society of Landscape Architects (tentative)
Portland State University (tentative)
Oregon State University (tentative)
The University of Oregon (confirmed)

Submission Requirements
Anyone interested in submitting a proposal must do so in Microsoft Word format. The submission must include the following items:

1. A presentation title of no more than 20 words
2. The presenter's name, title, agency affiliation, email, and phone number
3. **An abstract of no more than 300 words**
4. An indication of which track the paper should be assigned to (i.e. Track 1, 2, or 3)
5. American Institute of Certified Planners (AICP) Justification, which is an explanation of no more than 300 words that describes how the presentation meets AICP Certification Maintenance requirements

Justification for AICP Certification Maintenance (CM)
Criteria for the Content of CM activities. The content of CM activities must be designed to 1) meet a specific planning-related training objective; 2) teach subject matter in appropriate depth and scope for the level of the typical AICP member, a practicing planner with at least two years of professional experience; 3) be non-promotional in nature – program content must be unbiased – an organization's services or products may be discussed prior to or after the completion of the CM credit portion of the activity; 4) address demonstrated educational needs of AICP members; and 5) communicate a clearly identifiable educational purpose or objective. If participants would like their presentations to fulfill the AICP Ethics or Law requirements, please contact the Workshop Coordinator.

Criteria for the delivery of CM activities. CM activities must be led by one or more experts on the subject matter discussed during the activity. An expert as defined by the APA is a professional who has made a contribution to the profession through practice, teaching, research or publications; completed works that proclaim individuality and mastery of the principles of planning taught; and whose work demonstrates outstanding quality and professionalism. CM activities must use learning methodologies and formats that are appropriate to the activity's educational purpose or objectives. The delivery of CM activities must involve the use of materials that do not include any proprietary information. Materials used during the CM credit portion of the activity must be solely for educational purposes.

The delivery of CM activities must be timed in a manner that is consistent with the time for which the activity was registered. The delivery of CM activities must include an announcement in which AICP members are notified that their attendance is required for the duration of the activity in order to receive CM credit.

Individual presentations will be allotted 15-minutes maximum. Sessions will consist of presentations followed by a question-answer period.

Interested presenters shall email the completed proposal to the Workshop Coordinator: **Holly Workman, AICP (holly@urbancollaborative.com)**

Following a blind peer-review process, presentations may be accepted for delivery at the workshop. All presentations must be in English. All presentations will be submitted to the American Planning Association for approval for continuing education credit. It is expected that attendees will be eligible for up to 8 hours of CM credit over the course of the workshop.

The workshop is open to presenters and non-presenters. Contributors whose presentations are accepted must pre-register for the workshop and prepare their presentation for delivery using Microsoft PowerPoint software. Participants who which to attend but not present, must preregister as well. Please note that expenses associated with hotel accommodations, travel, and additional excursions are not covered and must be paid directly.

Questions
Please use the following information when making inquiries regarding the workshop:

FPD OR 2019, 800 Willamette, Suite 790, Eugene, OR 97401
Phone: 925.389.6177 Fax: 510.892.2953
E-mail: holly@urbancollaborative.com

Website: https://www.planning.org/divisions/federal/portland

STRUCTURE OF COASTAL RESILIENCE:

DESIGN FOR REBUILDING TYNDALL AIR FORCE BASE

BY JJ TANG, FAIA, F.SAME, HDR, VIRGIL CAMPANERIA, AIA, GURRI/MATUTE, STEPHEN ESSIG, PE, CCP, MOCA

THE STATE OF HURRICANE MICHAEL'S DAMAGE TO TYNDALL AIR FORCE BASE

Hurricane Michael, an October 2018, category 4 hurricane, was the third-most intense Atlantic hurricane to make landfall in the United States in terms of pressure, behind the Labor Day hurricane of 1935 and Hurricane Camille of 1969. It was the strongest storm in terms of maximum sustained wind speed to strike the contiguous United States since Hurricane Andrew in 1992. Michael was also the strongest storm on record in the Florida Panhandle, where Tyndall Air Force Base (AFB) is located. Tyndall AFB was in the direct path of Hurricane Michael and its 155-mile per hour (mph) sustained winds, which caused catastrophic damage to the base. Every structure was damaged, its airplane hangars were left largely roofless and without much of their siding, all houses sustained significant roof and siding damage, and many buildings sustained catastrophic structural failure.

THE ROOT CAUSE OF THESE DAMAGES AND THE CURRENT UFC 3-301-01 FOR WIND-RESISTANT DESIGN REQUIREMENTS

What's the root cause of these severe damages? There are three primary cause of hurricane-inflicted property damages.

- HIGH WINDS
- FLOODING RESULTING FROM THE COASTAL STORM SURGE OF THE OCEAN
- THE TORRENTIAL RAINS WHICH ACCOMPANY THE STORM

TYNDALL AIRMAN CLEANS DEBRIS
PHOTO BY TECH SGT. SARA KELLER VIA TYNDALL AFB WEBSITE

In the case of Tyndall AFB, the primary cause of the catastrophic damage was from high winds. UFC 3-301-01 Structural Engineering and local building codes provide facility design requirements meeting a specific wind load for a specific type of facility in a DoD installation. As illustrated in UFC 3-301-01, TABLE E-1 Wind Loading Data – United States, Its Territories and Possessions, the wind speed required to design for a specific risk category building varies by location and state. Because the requirements of wind-resistant construction are based largely on the history of hurricanes in a particular area and the probability of a future hurricanes, architects and engineers use them when updating local building codes and UFCs which periodically determined that wind-resistant construction for roof, walls, doors, windows, shutters are stringent in South Florida but much less rigorous in most of the Panhandle.

The UFC3-301-01 requires building design at Tyndall AFB withstand wind speed from 122 MPH for a Risk Category I facility to 144 MPH for a Risk Category III-IV facility. However, building design at HQ South COM/Miami, which is more than 10 miles inland, calls for 155 MPH for a Risk Category I facility to 178 MPH for a Risk Category III-IV facility. In addition, Homestead, which is within 2 miles of the water, calls for 158 MPH for a Risk Category I facility to 181 MPH for a Risk Category III-IV facility.

So, the root cause of these catastrophic property damages at Tyndall AFB by Hurricane Michael, a category 4 hurricane, is the fact the UFCs do not require wind-resistant construction at Tyndall AFB for a category 4 hurricane with sustained wind speed exceeding 155 MPH.

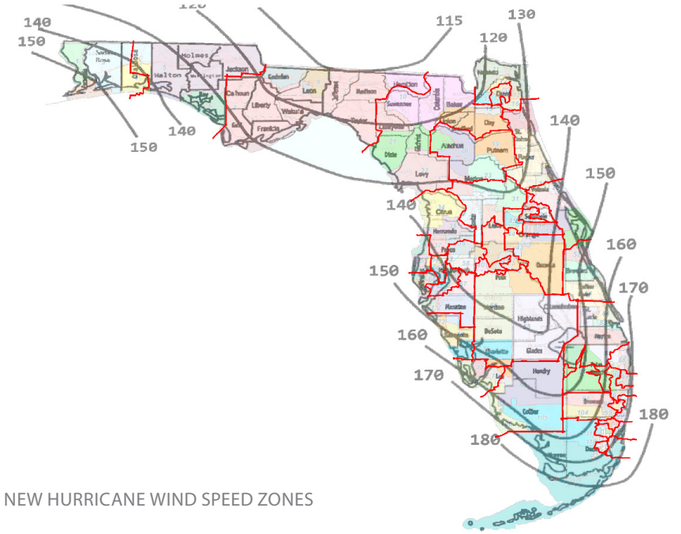
Table E-1

		Wind Speed (mph)				Wind Speed (km/h)			
		Risk Category				Risk Category			
State	Base / City	I	II	III-IV	V	I	II	III-IV	V
District of Columbia	Washington Region Bolling AFB Anacostia NS Fort McNair Marine Barracks NRL Washington NDW / Anacostia Pentagon Walter Reed	105	115	120	146	169	185	193	235
Florida	Avon Park AS	129	139	148	180	208	224	238	290
	Cape Canaveral AFS	134	146	156	190	216	235	251	305
	Eglin AFB	131	141	152	185	211	227	245	297
	Homestead	158	170	181	220	254	274	291	354
	Hurlburt Field	134	145	156	190	216	233	251	305
	NAS Jacksonville / MCSF Blount Island / Jacksonville	116	126	136	165	187	203	219	266
	NAS Key West	170	180	200	243	274	290	322	391
	MacDill AFB	133	143	151	184	214	230	243	296
	NAS Mayport	119	129	140	170	192	208	225	274
	HQ Southcom / Miami	155	167	178	216	249	269	286	348
	Orlando	127	137	146	178	204	220	235	286
	NAS Panama City	125	135	145	176	201	217	233	284
	Patrick AFB	138	150	160	195	222	241	257	313
	NAS Pensacola	142	153	165	201	229	246	266	323
	Tampa	131	140	150	182	211	225	241	294
	Tyndall AFB	122	133	144	175	196	214	232	282
	NAS Whiting								

A CASE STUDY OF FLORIDA BUILDING CODE CHANGE TO UPGRADE DESIGN STANDARDS FOR WIND-RESISTANT STRUCTURES

The most dramatic and impactful change in modern hurricane-resilient design came after Hurricane Andrew. The significant cost of the storm led to the establishment of the Florida Building Code (FBC). FBC, since hurricane Andrew and subsequent storms, has attempted to address building resilience by factoring in the effects of wind speed on structures. However, it is clear that wind speed should not be the sole factor in structural design. This results in expensive and over-designed structures that may or may not withstand a wind event because it does not always address the root causes of failures. Rather, smart efficient design that factors in the wind pressures on buildings and its components, is more cost-effective. The ability of a structure to withstand these events is contingent on the many components that make up the building envelopes. Windows, doors, applied or attached items, and penetrations of the structure need to be selected and designed with the ability to meet the established wind resistance.

To that end, Miami-Dade County established design and testing criteria for all of these systems—these criteria have since been fully adopted into the FBC. They require design professionals to factor in wind resistance by requiring design teams to calculate the effects of wind speed by converting it into wind pressure and how that impacts structures. Engineers are now asked to design to these forces, making the design less expensive and less "over-designed." Architects are then required to design systems that both meet determined pressures and also can withstand the impact of small and large missiles (debris) that have proved to be a significant cause of damage to structures, which then leads to structural failure. Adherence to these standards is proven to be effective in both limiting damage and providing a cost-effective means of constructing resilient structures.



NEW HURRICANE WIND SPEED ZONES

□ *continued on page* ***16***

STRUCTURE OF COASTAL RESILIENCE, CONTINUED

COST DIFFERENCE DELTA BETWEEN RECOMMENDED WIND-RESISTANT DESIGN STANDARD CHANGES AND THE CURRENT STANDARDS

The Cost-Benefit of increasing the wind resistance of military facilities is extremely favorable – not to mention the reduction and/or elimination of mission loss. The capital cost increase depends on the facility type and structural system (bearing wall, steel-frame or moment-resisting frame, etc.). The primary cost increases are the foundation, structure, exterior closure, and roofing systems. We ran our cost models for a baseline of 122 mph and then ran them at the top UFC wind load of 216 mph.

We looked at four different framing systems – reinforced concrete shear wall, steel concentrically braced frames, steel moment frames and reinforced concrete moment frames. We then applied the percent increase to these structural systems to the cost of the four primary building systems that are fortified for wind loads – foundation, structure, exterior closure and roofing – for a range of facility types. The cost premium to increase design loads from 122 MPH to 216 MPH design wind speed is 4% to 18% of the construction cost. A command or multi-purpose administrative facility is near the low end of the range whereas a hangar is on the high end of the range.

RECOMMENDED NEXT STEP FOR BOLD WAY FORWARD FOR 21ST CENTURY, RESILIENT DESIGN FOR REBUILDING TYNDALL AFB.

In order to successfully achieve Bold Way Forward for rebuilding Tyndall AFB into a 21st century, resilient DoD installation, we should consider the following course of actions:

1. It is imperative that we should carefully, holistically evaluate and update the current UFCs governing the standards of resilience design. Industry and government subject matter experts of coastal resilience design should form a task force to take a deep-dive study and provide Resilient Design Standards for Rebuilding Tyndall Air Force Base based.

2. The Resilient Design Standards for Rebuilding Tyndall Air Force Base should be used as the design criteria for future MILCON and SRM funded projects at Tyndall AFB rebuilding program and other coastal installations.

3. To be able to rebuild Tyndall AFB into the world-class, 21st century resilient air force installation in a condensed period of time, we should consider carefully grouping various, potentially hundreds of MILCON and SRM projects into a few cohesive campus type of design projects to execute under the guideline of newly developed Tyndall AFB master plan.

This holistic campus design approach to a large military recapitalization program is being used to design US Army Cyber Center of Excellence (CCOE) campus at Ft. Gordon is having a great result, producing a 21st c century, world class cyber school campus for DoD.

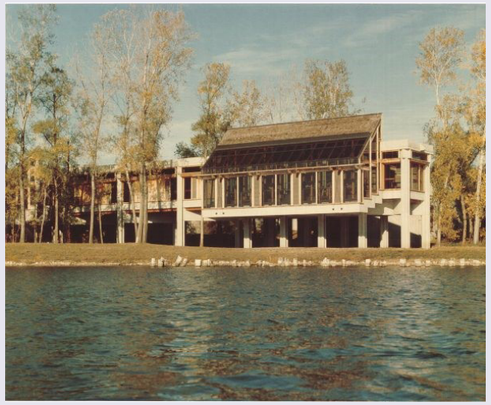
Construction Workers Survey the Base Chapel Before Demolition

U.S Air Force Photo by Staff SGT Alexandre Montes

REFLECTIONS ON AN ARCHITECTURAL CAREER, CONTINUED

(what I considered) a bit of an empty feeling…not quite an architecture graduate. I was on the street in search of a job with no real architectural experience.

The question of a career direction for architecture graduates continues to haunt me to this day. We are not really taught to consider career choices that did not involve architectural design. But, what do architects do with no experience and when mortgage rates are double digits? Many of my friends headed to Texas where the oil boom fueled major construction projects. Not me…I went to work in a bicycle shop. In part, the choice was a necessity as my bicycle was my only mode of transportation until college graduation.



Visitor Center (Viewing Galleries)
Desoto National Wildlife Refuge, 1979

Visitor Center (Watefowl Viewing Galleries)
Desoto National Wildlife Refuge, 1979

Eventually, the door opened ever so slightly, leading me down a circuitous path in the profession. With a Bachelor of Science in Architectural Studies and little real experience in the field, I accepted a summer job with the Historic American Engineering Record (HAER), recording historic structures in the State of Delaware. Railroad culverts, roundhouses, grist mills, ice houses, a range light.

1975-1980: I finally parlayed my degree and that HAER Summer Survey into a gig with the National Park Service as an historical architect, which I approached as a forensics job. That job really opened my eyes to the possibilities of a path that did not necessarily include design. I figured that, if I could keep an ancient structure from falling apart, I might be able to design a building that might stand the test of time. I learned a lot about building mechanics and left NPS when I found my supervisor was not registered in the Nebraska, leaving me without credit toward licensure.

I left federal service for the private sector and a real education in building details. Neil Astle was a Utah-born architect who designed amazing structures using dimensional cedar and board-formed concrete. One of my favorite memories in those first few years was being given the responsibility to design and detail the wooden migratory waterfowl viewing galleries that were attached to the earth-sheltered concrete Desoto National Wildlife Refuge Visitor Center.

I have never forgotten the value of understanding the potential design properties of dimensional lumber and the magic of creating structures woven of that material. It was a Neil's practice to differentiate between the function of glass windows and wood louvers with insect screen and insulated doors for ventilation and acoustic access (to enhance the experience of viewing migratory waterfowl).

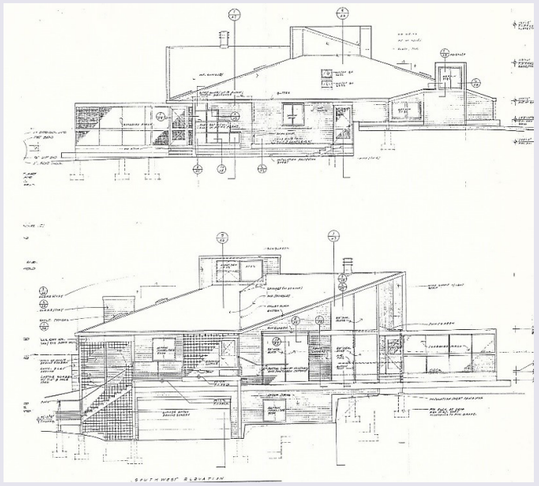
As the building industry began to wind down, I decided it was a good time to go back to school after a short stint designing residences and retail facilities with a college classmate.

1981-1983: My wife and I spent the summer of 1980 in Europe, primarily in Paris, where a college classmate from Nebraska was employed by Renzo Piano. It was an exciting time as the Centre Georges Pompidou had just been completed. We sprinkled architectural tours with other travel, covering everything from Normandy to Germany, Italy, the Mediterranean, and the beauty of the Swiss Alps between.

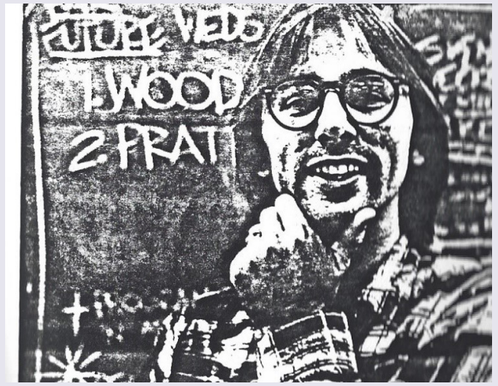
Returning in the fall of 1980 to begin graduate studies in architecture at the University of Minnesota under the influence of Ralph Rapson and a faculty made up of practitioners with a few tenured professors. Graduate school allowed me to explore design principles in much greater depth. My thesis proposed the construction of an urban hotel located in the ravaged urban core of Omaha. The process required significant research into building typology with a much more complex program combining retail, integrated hotel functions (overnight accommodations, bars, restaurants, meeting and party rooms), and residential living quarters for urban dwellers into a single structure designed (with the associated pretense) to create "landmark" replacement for a historic hotel that had been demolished in the name of urban renewal and suburban migration.

1983-1985: A short return to private practice in a small design-oriented architectural firm involved design of residences, retail, religious facilities, and commercial office space. I benefited from exposure to the full range of architecture, from schematic, conceptual, and final design, development of all contract documents (detailed

Montessori School, Omaha, NE,
Findley and Associates, 1980
Fully Passive Solar Building

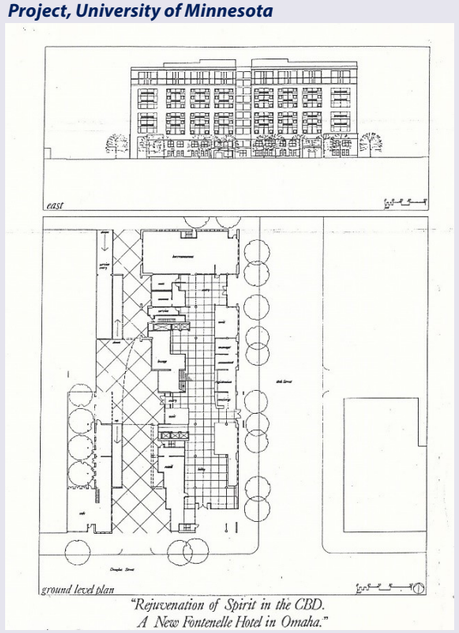


Private Residence, Sioux City, IA
Findley and Associates, 1980



Monsieur Packard, University of Minnesota, 1982

A New Fontenelle Hotel, Omaha, NE, 1983 MArch Thesis Project, University of Minnesota



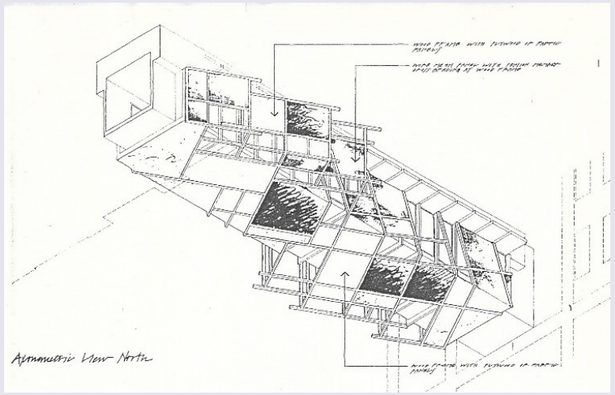
drawings and specifications from whole cloth…none of that guide spec business!), client meetings (where I learned the use of the word "we"), construction oversight and response to design issues, and even post-occupancy evaluations.

1985-2009: Just when I had given up on home ownership and raising a family (due to the sorry state of my dismal 60-hour a week salary), my wife announced that she was pregnant. Great news, but another expense I could ill afford.

During the next few months, I struggled to save but also cast about for a better paying job. The good news was my achievement of professional licensure. In a turn of good fortune, after having applied for several jobs, I was notified that I had been selected for a position as an architect with the U. S. Army Corps of Engineers, Omaha District.

I started on February 14, 1985 and our son was born on March 7…with full insurance covering the bill! I took serious heat from co-workers and peers who suggested I'd "sold out for job security". Of course, no one knows what might have been in store had I remained in private practice. I do know that my Corps career path has led me through a myriad of diverse experiences.

I started out in a multi-disciplinary design team in a highly secure environment, with responsibility for the design of hardened structures, including work within the NORAD Cheyenne Mountain Complex in Colorado Springs. The completion of a design utilizing systems furniture for the recently completed U.S Space Command Headquarters at Peterson AFB followed.



A Proposal for a Pedestrian Bridge (Competition Entry for a Celebration of de Stijl Exhibit at Minneapolis Art Institute), 1981

While additional design responsibilities kept me busy for the next few years, I was soon asked to move from architectural design to a role in project management, overseeing and guiding the work of design teams, both in-house and by Architect-Engineer contract. Project management assignments included projects for the Air Force then the Army…similar military customers but very different missions.

In 1988, the first rounds of DoD's base realignment and closure, called BRAC88 (or BRAC1), were announced. The Omaha District was responsible for several sites, including the realignment of Pueblo Army Depot; the closure of an underground Titan 2 Missile Complex near Bennett, Colorado; disposal of a military housing site near Sun Prairie, Wisconsin; and the disposal of remaining structures and property at Fort Des Moines, Iowa.

A Proposal for a Pedestrian Bridge (Competition Entry for a Celebration of de Stijl Exhibit at Minneapolis Art Institute), 1981

Each site required a National Environmental Policy Act (NEPA) action (Record of Environmental Consideration, Environmental Assessment, Environmental Impact Statement), potential and sometimes significant environmental remediation or long-term treatment, followed by real estate disposal in conjunction with local redevelopment authorities. The complexities played into the strengths of an integrator, a skillset well-suited to an architect, a trained team builder and leader. The experience would continue to serve me through several rounds of BRAC, culminating in the closure and disposal of Fitzsimons Army Medical Center in Aurora, Colorado, a BRAC95 site disposed of in 1998. The next time you visit Denver, take note of the University of Colorado Health Sciences Complex and the new VA Hospital Patience and persistence paid off when one of the first sites announced in 1988, the Titan 2 Missile Complex was finally transferred out of federal ownership in 2016, 28 years later.

U.S. Air Force Space Command Headquarters, Peterson AFB, CO, 1988 (Building design by Peckham Guyton Albers and Viets)

Urbahn Medal Presentation, JETC 2019

2008-2019: The development of strong personal relationships within USACE has served me well.

In 2008, a former supervisor invited me to move into a position as a Program Manager in the Northwestern Division, the largest geographically contiguous Division in USACE, defined by two significant watersheds, that of the Columbia River, a vertical system which used primarily for hydropower, and the Missouri River, a geographically immense system winding its way through four states with six mainstem dams providing flood control, water supply, hydropower, environmental support, recreation, irrigation, and navigation to a large Midwestern population. My specific role has been the support of the Military construction program for the Omaha and Kansas City Districts (and for a while, the Seattle District) with an array of customers including the Department of the Army, the Air Force, Defense Logistics Agency, Defense Health Agency, with occasional projects for the National Geospatial Agency, NORTHCOM, and Veterans Administration. So, I did NOT come here for "job security".

I'm not sure what I expected, but my career has been a reflection of the amazing diversity of projects, programs, and opportunities available in the career of a public servant. I didn't serve in the military service but I DID serve the military community.

MY OLD MAN, THAT GUY, INSPIRED THE CAREER I FOUND, AND I'VE NEVER REGRETTED A MOMENT.

SAME: 38 years ago, Howard Denker, a burly Project Manager in the USACE, Omaha District, put me in the Vulcan Death Grip and said, "let's go to lunch". Previously, a loyal member of the American Institute of Architects, I found a circle of friends and professionals that is both a source of pride and appreciation throughout my career as a public servant and architect.

The creation of an Architectural Practice Committee (now Architectural Practice Community of Interest) in 2012 by JJ Tang provided many of us with an outlet for expression not previously available to architects and related design professionals in the Society of American Military Engineers. In the pages of our little APC newsletter, which became the APC Quarterly Journal, we have been given the opportunity to express personal feelings and to share our collective experiences.

We've developed strong bonds with our peers and fulfilled the basic mission requirements of the APC, providing added value to architects through networking and offering AIA-accredited professional development webinars and JETC technical sessions. Along the way, I have heard multiple stories from those who were searching for and found just what they needed in our Community of Interest. My story is no different from theirs or yours.

This year, I was HONORED and HUMBLED to receive the Max O. Urbahn Medal in recognition of my service to the Society and my profession. I sincerely love the work in which I have been privileged to participate. So, thank YOU, dad, and thank YOU, my wonderful friends and associates in SAME.

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