

2023
20th Annual
EXCELLENCE IN
STRUCTURAL ENGINEERING
AWARDS



STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

Brent Woods (Judge 2007 thru 2023):

"I am always proud of our profession when I see the excellent work that we all do."



2023 Structural Excellence Award Competition Entries

Project Name	Location	Category	Firm
Pinal County Attorney's Office	Florence, AZ	New Buildings, Over \$10M	DLR Group
Northwest Wastewater Master Plan - Lift Station 77	Phoenix, AZ	Other	Gannett Fleming, Inc
Sky Harbor Sky Train Rental Car Station	Phoenix, AZ	New Buildings, Over \$10M	Gannett Fleming, Inc
Mayo Clinic East Vertical Expansion	Phoenix, AZ	New Buildings, Over \$10M	Meyer Borgman Johnson
P855 Expeditionary Combat Skill Student Berthing	Gulfport, MS	New Buildings, Over \$10M	Martin, White, & Griffis Structural Engineers
University of Arizona Old Chemistry Building Renovations	Tucson, AZ	Forensic/Renovation/ Retrofit/Rehabilitation	Martin, White, & Griffis Structural Engineers
Banner Desert Medical Center Women's Tower Expansion	Mesa, AZ	New Buildings, Over \$10M	PK Associates, LLC
The Beam on Farmer	Tempe, AZ	New Buildings, Over \$10M	PK Associates, LLC
IDA on McKinley	Phoenix, AZ	New Buildings, \$2M - \$10M	Schneider Structural Engineers



STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

Awards History (2004 thru 2023)

- *** Years = 20**
- **Entries** = 133
- ***** Awards = 107
 - ★ Structural Excellence = 39
 - ★ Merit Awards = 68

All AWARD WINNERS (2023 thru 2004) are listed at the end of this presentation.



STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

2023 **EXCELLENCE IN** STRUCTURAL ENIGEERING AWARDS





STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

Excellence in Structural Engineering

Award

New Buildings Over \$10 Million Dollars

Sky Harbor Sky Train Rental Car Station Phoenix, AZ

presented to Gannett Fleming, Inc.







E X C L E

Project Summary

A two-mile extension of the PHX Sky Train® connects 14 million travelers annually to the Phoenix Sky Harbor International Airport's consolidated Rental Car Center (RCC) and Ground Transportation Center. Gannett Fleming was the fixed-facilities designer for PHX Sky Train® Stage 2, providing guideway and support structure design. The Stage 2 guideway serves two new stations and a future station, including the RCC, which was built on the upper level of the existing structure. The project used a CM-at-Risk (CMAR) model to support fast-track delivery, enabling early identification and mitigation constructability issues and allowing for overlapping design and construction processes.



















STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

2023

Excellence in Structural Engineering Award

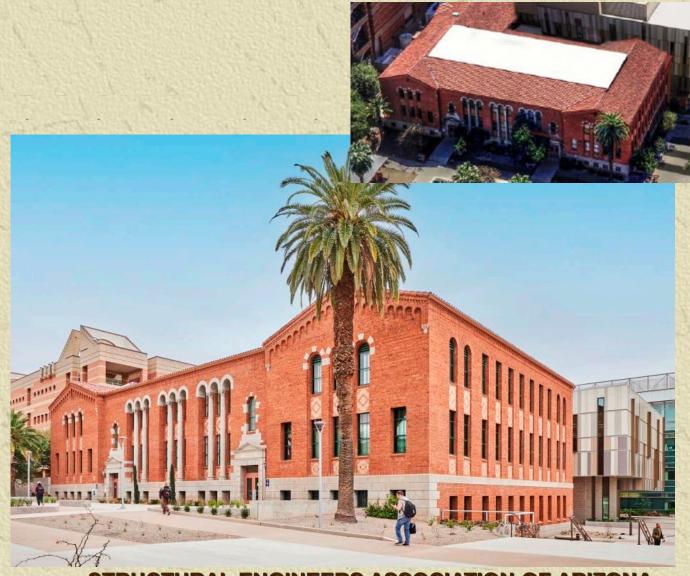
Forensic/Renovation/Retrofit/Rehabilitation

University of Arizona
Old Chemistry Building Renovations
Tucson, AZ

presented to

Martin, White & Griffis Structural Engineers, Inc.







X E L

Project Summary

After almost two years of construction and several years of planning and design, renovations of the "Old Chemistry" resulted in an innovative teaching hub including seven state-of-the-art classrooms, a new three-story auditorium, new study spaces, improved areas for the facility, staff and researchers, universally accessible entrances, sensitive historic preservation. This 75,000-GSF designbuild renovation and additions to the historic building, originally built in 1936, required creativity and innovation to preserve the historic building while constructing the new "The Commons" Building over existing tunnels.



2023



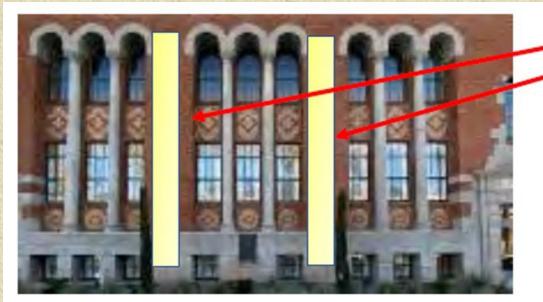




University of Arizona Student Success District

Martin, White & Griffis

E 2023



CMU piers added between lower level and 3rd level bracing wall at slab removal.





2023 Structural Excellence Award Competition Entries

2023 Excellence in Structural Engineering Awards

Project Name	Location	Category	FIRM
Sky Harbor Sky Train Rental Car Station	Phoenix, AZ	New Buildings, Over \$10M	Gannett Fleming, Inc
University of Arizona Old Chemistry Building Renovations		Forensic/Renovation/ Retrofit/Rehabilitation	Martin, White, & Griffis Structural Engineers





2023 MERIT AWARDS IN STRUCTURAL ENIGEERING













M E R I

2023

Project Summary

The design of the five-story, 56,000 SF Pinal County Attorney's Office came from a strict demand for adaptation. Every aspect of its form and composition is derived from natural forces. The design is inspired by the noble saguaro cactus. Its ribs provide structural stability and provide self-shading, which breaks sunlight up into smaller areas that shift continually, preventing any one area of a cactus skin from overheating. The building's metal panel skin is ribbed and breaks sunlight onto a shifting and larger surface area, allowing heat to shift and redistribute for longer periods until natural air convection cools the ribs.









M E R I

2023











STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

2023

Merit Award in Structural Engineering

Other Structures

Northwest Wastewater Master Plan - Lift Station 77 Phoenix, AZ

presented to

Gannett Fleming, Inc.



Northwest Wastewater Master Plan - Lift Sta.77

Gannett Fleming, Inc.

M E R I T







M E R I

2023

Project Summary

Lift Station 77 is an underground pump station with a footprint of 31'x 41' and extends 40' below surrounding grade. The function of the lift station is to provide required infrastructure support to the new development of the microchip manufacturing facility by Taiwan Semiconductor Manufacturing Company (TSMC) northwest Phoenix. The project was on a compressed construction schedule to meet the start date for TSMC. The high-profile nature of TSMC required resilience and flexibility of the design team to perform quick re-design and quick reverse engineering to meet the challenges and give a successful project completion.



Northwest Wastewater Master Plan - Lift Sta.77

Gannett Fleming, Inc.

M E R I T





Northwest Wastewater Master Plan - Lift Sta.77

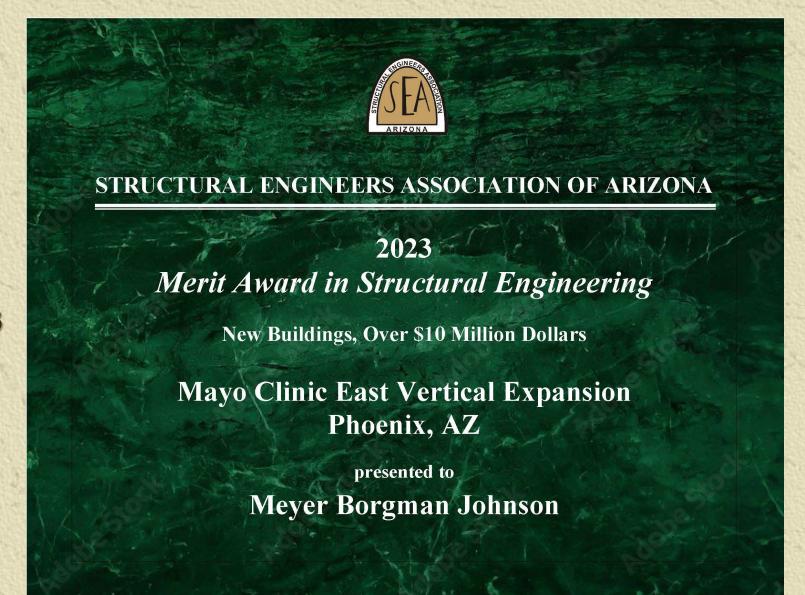
Gannett Fleming, Inc.

M E R I T













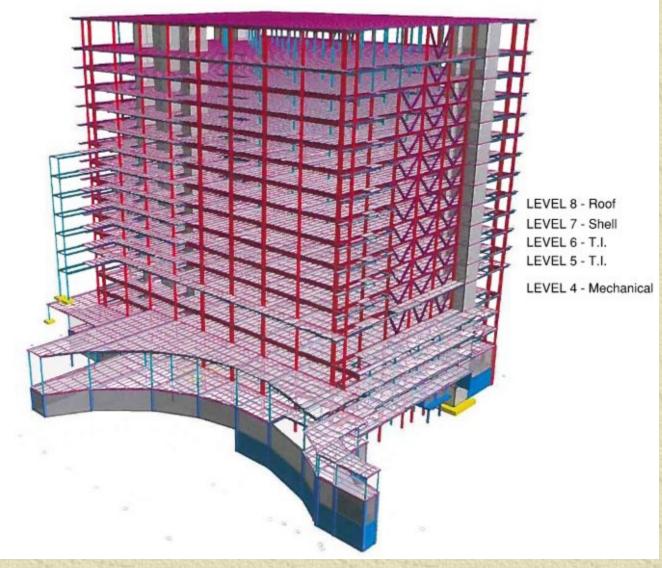


Project Summary

M E R 2023

The Mayo Clinic east vertical expansion adds over 240,000 square feet of space to the Phoenix campus. Several project approaches were used to facilitate a more efficient design and construction process, starting with "big room" planning, where all stakeholders met in a proactive, face-to-face environment. Using practices, the team focused on collaboration and innovation to drive value while meticulously budgeting target cost throughout the design. MBJ was able to identify a key integrated steel delivery process that considerably shortened the schedule. MBJ led the delivery process and all of their efforts measurably reduced the cost of the project.

















STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

2023
Merit Award in Structural Engineering

New Buildings, Over \$10 Million Dollars

P855 Expeditionary Combat Skill Student Berthing Gulfport, MS

presented to

Martin, White & Griffis Structural Engineers, Inc.



P855 Expeditionary Combat Skill Student Berthing... Martin, White & Griffis, Inc

M E R I T





P855 Expeditionary Combat Skill Student Berthing... Martin, White & Griffis, Inc

M E R I T

2023

Project Summary

The new P855 Expeditionary Combat Skills facility, used for the Bachelor Enlisted Quarters for the Naval Construction Battalion Center, is a three-story, 43,000 SF steel-framed building with perimeter masonry walls and brick veneer. Due to the extreme environmental conditions in Gulfport, Mississippi, the design criteria required the design to resist hurricane loads of 160-psf, soil classification Type E soils, and a seismic design category C. The Anti-Terrorism/Force Protection standard also required the building to be designed for progressive collapse, accomplished through the tie-force method.



P855 Expeditionary Combat Skill Student Berthing...

Martin, White & Griffis, Inc

M E R I T





P855 Expeditionary Combat Skill Student Berthing... Martin, White & Griffis, Inc

M E

2023







STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

2023

Merit Award in Structural Engineering

New Buildings, Over \$10 Million Dollars

Banner Desert Medical Center Women's Tower Expansion Mesa, AZ

presented to

PK Associates, LLC



Banner Desert Medical Center Women's Tower Expansion...PK Associates, LLC

M E R I T





Banner Desert Medical Center Women's Tower Expansion...

.....PK Associates, LLC

M E R I T

Project Summary

The 5-story vertical expansion atop the north wing of Banner Children's at Desert adds 158,000 SF of new construction for the relocated and expanded women and infant services program. The virtually co-located design and construction team worked with Banner Health to address the intricacies of the site, which included not disrupting the day-to-day operations of the active adult and pediatric medical facility that remained open throughout the construction and renovations in the existing structure being built upon. Construction type is steel frame supported on an existing structure with the footprint expansion on concrete grade beams and caissons.



Banner Desert Medical Center Women's Tower Expansion...

.....PK Associates, LLC

M E R I T





Banner Desert Medical Center Women's Tower Expansion...

.....PK Associates, LLC

M E R I T









STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

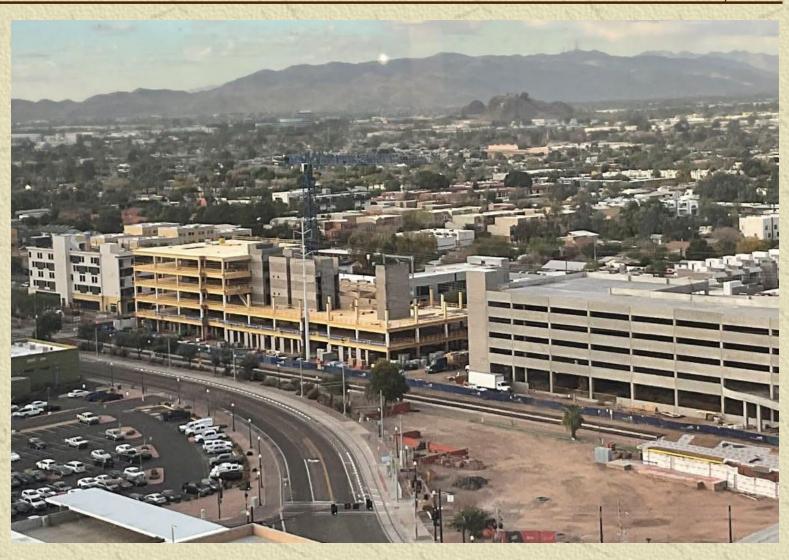
2023 Merit Award in Structural Engineering

New Buildings, Over \$10 Million Dollars

The Beam on Farmer Tempe, AZ

presented to PK Associates, LLC







M E R I

2023

Project Summary

The Beam on Farmer is the first Cross Laminated Timer (CLT) building constructed in Arizona. This 182,000 SF, 5-story office building features 13-foot exposed wood ceilings, includes many sustainable design elements, and incorporates features to promote personal wellness. The exposed CLT and glulam structure is a beautiful demonstration of natural and urban materials, and the aesthetic promotes a healthier, happier working environment. This project is made with wood, the only material that grows naturally, is renewable and can sequester carbon dioxide. This unique and sustainable project is a great addition to the thriving Tempe area.



2023



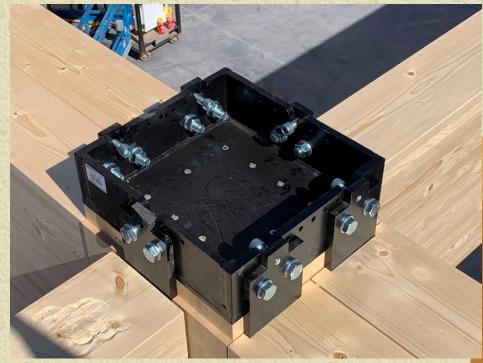


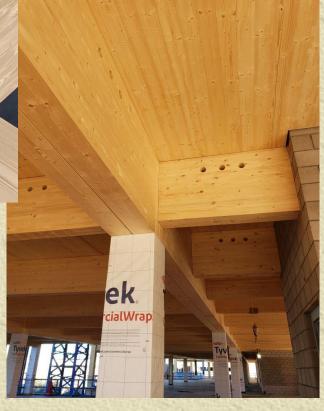
M E R





2023









STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

2023 Merit Award in Structural Engineering

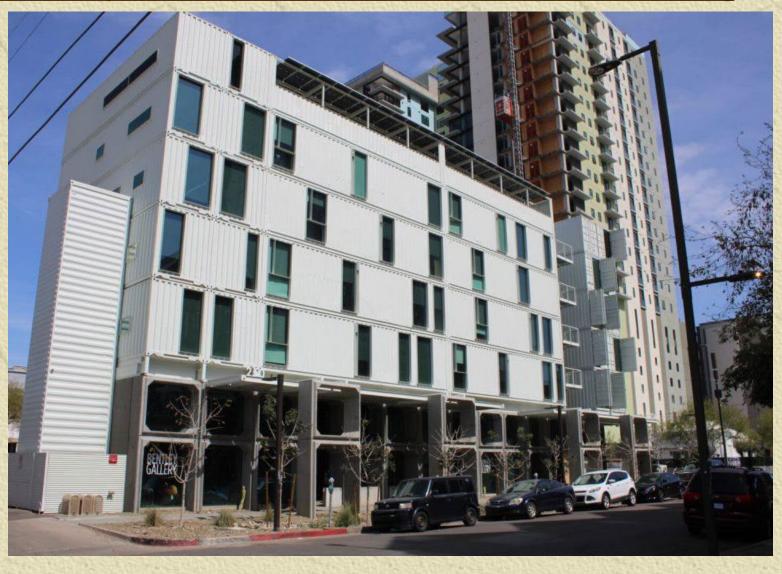
New Buildings, \$2 Million to \$10 Million Dollars

IDA on McKinley Phoenix, AZ

presented to

Schneider Structural Engineers







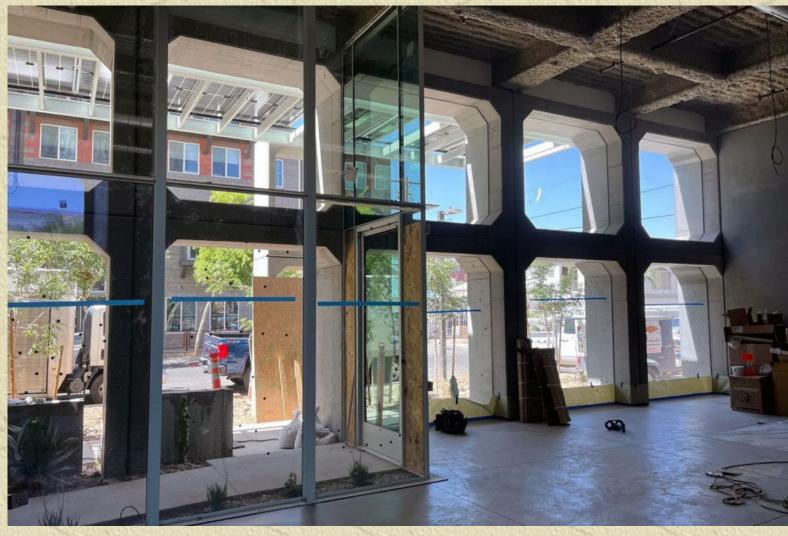
Project Summary

IDA on McKinley is currently the tallest building in North America which is constructed utilizing steel shipping containers. This new multi-family housing venture boasts 18 living units and a 2,400 square foot ground floor for commercial business space, constructed from a total of 66 40-foot recycled shipping containers and steel beams supported on custom cast culverts that are stacked two high. At the upper levels, a two-level container was created with a loft space where half of the top and the floor of the shipping containers was removed to create a two-story space.











2023 Structural Excellence Award Competition Entries

2023 Merit Awards in Structural Engineering

	Project Name	Location	Category	FIRM
Notice Control	Pinal County Attorney's Office	Florence, AZ	New Buildings, Over \$10M	DLR Group
STATE OF THE PARTY	Northwest Wastewater Master Plan - Lift Station 77	Phoenix, AZ	Other	Gannett Fleming, Inc
	Mayo Clinic East Vertical Expansion	Phoenix, AZ	New Buildings, Over \$10M	Meyer Borgman Johnson
Name of Street, or other Persons	P855 Expeditionary Combat Skill Student Berthing	Gulfport, MS	New Buildings, Over \$10M	Martin, White, & Griffis Structural Engineers
STANSON STANSON	Banner Desert Medical Center Women's Tower Expansion	Mesa, AZ	New Buildings, Over \$10M	PK Associates, LLC
to be began in	The Beam on Farmer	Tempe, AZ	New Buildings, Over \$10M	PK Associates, LLC
SERVICE STATE OF STAT	IDA on McKinley	Phoenix, AZ	New Buildings, \$2M - \$10M	Schneider Structural Engrs.



Judges, 2023

2004 thru 2023 (20 years)

- * Sal Caccavale, Retired/Committee Chair (Tucson)
- 2007 thru 2023 (17 years)
- * Brent Woods, Woods Structural (Tucson)
- 2009 thru 2016, 2018 thru 2023 (14 years)
- * Paul Scott, Retired, (Central)
- 2015 thru 2023 (9 years)
- * Janelle Perry, JP Structural (Tucson)
- 2017 thru 2023 (7 years)
- * Greg Bakkum, Bakkum Noelke (Central)
- 2021 & 2023 (3 years)
- * Andrew Netupsky, Structural Engineers Co. (Central)
- * Allan Ortega, M3 Engineering (Tucson)





- Mo Glancy, Retired City of Phoenix (Central) 2004 thru 2020 (17 years)
- ** Bruce Barrera, Retired CBH Consulting Engrs (Central) 2004 thru 2018 (15 years)
- George Stevenson, Structural Concepts (Tucson)

 2009 thru 2014, 2019 (7 years)
- * Dan Lundwall, Retired Structural Concepts (Tucson) 2006, 2008 (2 years)
- * Steven Hess, Hess Structural Engineering (Tucson) 2006 (1 year)
- ** Bill Sheely, OWP (Architect, Phoenix) 2004, 2005, 2006 (3 years)
- * Mo Modi, Modi & Company (Tucson) 2004, 2005 (2 years)
- # Henry Tom, Line & Space (Architect, Tucson)
 2004, 2005 (2 years)



SEAoA Awards Committee

WILL YOU HELP?

- In need of a Co-Chair (Full Member)
- Future Judges (Full Members)
- Contact Sal Caccavale: seccbc@cox.net





- This presentation will be available for viewing on the SEAoA website.
- Award winning projects will be featured in the upcoming 2023-2024 SEAoA quarterly newsletters.



Excellence in Structural Engineering Award

WILL THIS BE YOU?

Mark Your Calendars for March 2024 Announcement!



STRUCTURAL ENGINEERS ASSOCIATION OF ARIZONA

EXCELLENCE IN STRUCTURAL ENGINEERING

AWARD WINNERS 2022 thru 2004





- Univ. Arizona Student Success District Martin, White & Griffis
- Helios Education Foundation & Vince Roig Convening Ctr. PK Associates, LLC

- Student Athlete Performance Ctr-NAU DLR Group
- Pima Co. Historic Courthouse Renovations Martin, White & Griffis
- Adeline PK Associates, LLC
- Hyatt Centric Congress Avenue Austin PK Associates, LLC
- Mayo Clinic Phx Campus Expansion PK Associates, LLC
- JBE041 AWACS Alert Hangar Project Schneider Structural Engineers
- Mesa Gateway Control Tower Erection Schneider Structural Engineers



* Excellence in Structural Engineering

- Banner Univ.Med.Ctr Hospital Tower
 Martin, White & Griffis
- Mirabella @ ASU
 PK Associates, LLC

Merit Award in Structural Engineering

- PimaCC Transportation Center
 DLR Group
- Creighton Univ. Health Services Campus PK Associates, LLC
- Suns Verizon 5G Performance Center PK Associates, LLC
- Asante Park Library
 Pangolin Structural LLC
- Supima Agave Center
 Pangolin Structural LLC
- Airport I-10 Restoration PK Associates, LLC
- Valleywise Health Central PlantMartin, White & Griffis

2020 Award Winners

Excellence in Structural Engineering

- <u>UA Health Sciences Innovation Bldg</u>
 Martin White & Griffis
- Block 23 @ CityScape
 PK Associates, LLC
- The Watermark Tempe PK Associates, LLC
- Adaptive Reuse at 225 W. Madison The DLR Group
- NAU Kitt Recital Hall
 Meyer Borgman Johnson
- <u>UA Skaggs Bldg Addition/Renovations</u>
 Martin White & Griffis

Merit Award in Structural Engineer'g

- American Express New Canyon Bldg
 Meyer Borgman Johnson
- Desert Diamond West Valley Casino PK Associates, LLC
- CHASSE Headquarters
 Wright Engineers





Excellence in Structural Engineering

• <u>UA Bioscience Research Laboratories</u> <u>Building</u>

Martin, White, & Griffis

Bighorn Golf Clubhouse
 PK Associates, LLC

Merit Award in Structural Engineering

<u>Cruzen-Murray Library, College of Idaho</u>

Pangolin Structural LLC

 The Clayton House Wright Engineers

2018 Award Winners

Excellence in Structural Engineering

- Interdisciplidical Sciences
 Partnership Building
 Martin, White, & Griffis
- Canyon View HS, Agua Fria USD DLR Group

Merit Award in Structural Engineer's

- Tucson Air Traffic Control Tower Buehler & Buehler
- Pima Air & Space Museum Canopy Schneider Structural Engineers
- <u>Sayward North Hatchery Building</u> Structural Engineers Company



* Excellence in Structural Engineering

- OdySea Aquarium, Scottsdale, AZ
 Caruso Turley Scott
- Sky Harbor Terminal 3 Modernization Gannett Fleming, Inc.

Merit Award in Structural Engineering

- SRP Admin. Building Betterment Buehler & Buehler
- Alaska Library & Archives Museum
 Schneider Structural Engineers
- Wings Over Water, Houston, Texas
 Schneider Structural Engineers
- The Airmen Memorial Bridge Structural Concepts, Inc.
- The Mullin's Landfill Bridge Structural Concepts, Inc.

2016 Award Winners

Excellence in Structural Engineering

- Block 12, AZ State University, PK Associates, LLC
- Daniel K. Inouye Solar Telescope
 M3 Engr'g & Technology
- Headframe #1 Modifications
 Hanlon Engineer'g & Architecture

Merit Award in Structural Engineer'g

- Sonoran Passage Art Sculptures
 M3 Engr'g & Technology
- The Rey, 28-Story Apartment Bldg PK Associates
- Repair of ASR-Contaminated Piles QuakeWrap, Inc.
- Hamstra Heating & Cooling HQ
 Structural Concepts, Inc.
- Gov't of Bangladesh Flour Mill Structural Engineers Company
- Kino Parkway Overpass, 22nd St. Structural Grace, Inc.



2014 Award Winners

- * Excellence in Structural Engineering
 - Fine Ore Storage Building, Cananea,
 M3 Engr'g & Technology
 - Primary Sedimentation Basin, Budd Inlet HDR Engineering, Inc
- **Merit Award in Structural Engineering**
 - Strengthening of Communication Towers QuakeWrap, Inc.

- **Excellence in Structural Engineering**
 - McCord Hall, AZ State University, Meyer Borgman Johnson
- **Merit Award in Structural Engineering**
 - Dome Ventilation at CFH Telescope,
 M3 Engr'g & Technology
 - Terminal 5 Seismic Upgrade, LAX, Buehler & Buehler
 - <u>Parasol Building</u>,
 Schneider Structural Engineers
 - PCWIN-PECOC Building,
 Schneider Structural Engineers



* Excellence in Structural Engineering

Landscape Evolution Laboratory
 Biosphere 2, Oracle, AZ
 M3 Engineering & Technology

2012 Award Winners

* Excellence in Structural Engineering

 Interdisciplinary Science & Technology Bldg IV, Arizona State University
 Paragon Structural Design

* Merit Award in Structural Engineer'g

- <u>Unisource Energy Office Tower</u> Grenier Engineering, Inc.
- The Green Wall
 M3 Engineering & Technology



Excellence in Structural Engineering

Hoover Dam Bypass
 Mike O'Callaghan-Pat Tillman
 Memorial Bridge,
 HDR / T.Y. Lin International

* Merit Award in Structural Engineer'g

- Drop Prewett Family Park
 M3 Engineering & Technology
- <u>CityScape</u>PK Associates LLC
- Casino del SolPK Associates LLC
- Paolo Soleri Bridge
 PK Associates LLC

2010 Award Winners

Excellence in Structural Engineering

- Gogte Residence, Wall Remediation Gervasio & Associates, Inc.
- Student Recreation Center

 Expansion, UA

 M3 Engineering & Technology

M3 Engineering & Technology

Merit Award in Structural Engineer'g

- Musical Instrument Museum
 Meyer, Borgman, & Johnson
- Blast Strengthening, US Army Bldg QuakeWrap
- Jones Residence Trellis,
 Janelle Perry, LLC
- Support Facilities, Dysart Schools, Beauchamp Engineering, Inc.



* Excellence in Structural Engineering

<u>Dial / Henkel U.S. Headquarters</u>,
 Paragon Structural Design, Inc.

* Merit Award in Structural Engineer'g

- Steward WAVE Public Art Project, M3 Engr'g & Technology
- St. Katherine Greek Orthodox Church, Structural Engineers Co.
- Red Wing Bandshell, MBJ
- Jain Temple, Arun Inc.
- ASU Polytechnic Academic Complex, Paragon Structural Design
- Glendale Park & Ride, Paragon Structural Design

2008 Award Winners

* Excellence in Structural Engineering

 City of Phoenix, Downtown Civic Space Public Art Project, M3 Engineering & Technology Corp.

Merit Award in Structural Engineer'g

 Performing Arts Center, Valley Vista High School, Beauchamp Engineering, Inc.



* Excellence in Structural Engineering

- NAU Applied Research & Development Bldg.
 Schneider & Associates
- Asarco Hayden Smelter
 Structural Concepts, Inc.
- Alvernon Bridge
 Structural Concepts Inc.

Merit Award in Structural Engineer'g

 Steward Observatory GMT Test Tower

M3 Engineer's & Technology

Euclid/Park Bike-Ped OverpassHolben, Martin, & White

2006 Award Winners

Excellence in Structural Engineering

- Fox Theatre Grenier Engineerng, Inc. &
 QuakeWrap, Inc.
- Discovery Channel Telescope Enclosure –

M3 Engineer's & Technology





72



Excellence in Structural Engineering

 Dysart High School Remodel -Beauchamp Engineering, Inc.

* Merit Award in Structural Engineer'g

- Paper Airplane Project M3 Engineering & Technology
- VERITAS Optical Support Structure -

M3 Engineering & Technology

2004 Award Winners

* Excellence in Structural Engineering

- Mesa Arts Center –
 Paragon Structural Design
- St. Thomas Aquinas, Church & School -

A.V. Schwan & Assoc.

Roundhouse Gymnasium –Quake Wrap

*** Honorable Mention**

Verrado Way Bridge Structural Grace



2023

20th Annual SEAoA EXCELLENCE IN STRUCTURAL ENGINEERING AWARDS

PROGRAM END THANK YOU







