

# EYE ON IEI

E-NEWSLETTER WINTER EDITION



INFRASTRUCTURE  
ENGINEERING | INCORPORATED

## FIRM UPDATE

### IEI Caps 20th Anniversary With a Park Bench Dedication and a Look Ahead



Friends, partners, and clients of Infrastructure Engineering helped celebrate the firm's history and growth throughout each of its five locations. IEI's Corporate Chicago office spearheaded the celebration with an open house on June 21, 2018, and subsequently, its Indianapolis office followed suit with an open house celebration in August. The firm's New York and Peoria-Springfield offices remained in their respective office spaces, but celebrated the firm's anniversary in October and November. President and CEO Michael Sutton had previously established the firm's mission to connect and support the communities it serves. In keeping with its mission and honoring 20 years of serving communities, the firm dedicated a park bench to the Chicago Park District on Saturday, December 15, 2018.



Building a successful business is an extraordinarily difficult thing to do and achieving 20 years in business is just the beginning for IEI. 2019 will have much to offer the firm and its growing clientele. Over the years, the firm's leadership has refined its business model and processes to better exemplify its core values: • Integrity • Excellence • Innovation. Prioritizing client satisfaction is a part of maintaining those values. One of the ways IEI improves its service to communities is through client feedback and we are preparing to conduct a client survey during the third quarter of 2019. High levels of engagement, service and expertise is what we strive to deliver as a firm because great engineering should not only make our clients look good, it should also give them pride and confidence in selecting our firm.



Technology and Data on The Horizon for AEC in 2019



The evolution of big-data and intelligent tools like BIM (Building Information Modeling) technology in the Architecture, Engineering and Construction (AEC) industry has changed the way AEC firms do business, and we are seeing a major transformation in the industry. Technology trends are expected to accelerate needed upgrades for national infrastructure, and firms that embrace these trends will see and prepare for the opportunities ahead. We, at IEI see three (3) technologies changing how we approach the delivery of our services:

**1. 3D Design and Modeling:** This realm has been dominated by BIM and has traditionally been thought of as a tool for architectural vertical building projects or architectural streetscape/plaza projects. However, we are seeing this more and more in transportation and utility projects that require 3D models as part of the design to allow for automated machine guidance in construction and produce more complete as-built deliverables that can be utilized for greater asset management.

- Major state agencies, tollway facilities, counties and utility companies are already implementing this trend.
- IEI has embraced it in some of our recent projects and pursuits.
- 3D modeling will soon no longer be an extra service or specialty, but the norm.

**2. Drones:** Drones have the capability to significantly improve project delivery – especially for long transportation corridors and/or difficult to access locations. IEI has recently been part of teams that have utilized drones. A few benefits of drone usage for today’s firm include:

- Project pursuits, marketing presentations, planning tools for design information, and construction documentation
- Preliminary inspections, and reducing repeat site visits
- As-built photos and public meeting presentations

**3. Big Data and Spatial Databases:** IEI and its partners are working with technology developers to better serve its program management clientele by greatly reducing redundant information systems, multiple input needs and eliminating systems that do not communicate. Information and process technology can transform how we provide asset management and program management services. This will change how annual maintenance programs and Capital Improvement Programs (CIPs) can be developed, managed and updated.

BUSINESS FEATURE

IEI’s Peoria Office Designs New MacArthur Highway Bridge



Construction is nearing completion on the MacArthur Highway Bridge Replacement project in Peoria, IL. The new MacArthur Highway Bridge over Romeo B Garrett Avenue was opened to traffic in late-fall 2018 (on schedule) and completion of the project is anticipated in Spring 2019. IEI serves as the City of Peoria’s prime design consultant for the project and works closely with the City of Peoria, the Illinois Department of Transportation (IDOT), the Federal Highway Administration (FHWA), the State Historic Preservation Office (SHPO) through the Cultural Resource Unit (CRU), consultant team members, stakeholders and the community to deliver the project design. The new bridge and retaining walls replaced the original structures that were built in 1942 and were in need of replacement. The new structures and walls were designed to closely resemble the art-deco style of the original bridge and walls. The project also supports the City of Peoria in its goal of making Peoria a more bike and pedestrian friendly city by providing a sidewalk on the west side of the roadway, bicycle lanes on the east side of the roadway, and by reducing the number of vehicle lanes on MacArthur Highway from four to two. When completed, the project will also incorporate Green Infrastructure components that will help the City of Peoria to reduce the frequency and severity of Combined Sewer Overflows (CSO).

PROJECT RECOGNITION

Illinois Tollway: Award Winning Infrastructure

**Construction Management Services Upon Request**

**Illinois Route 390 Tollway**

**2019 Engineering Excellence Award**



The Illinois State Toll Highway Authority (ISTHA) selected Infrastructure Engineering Inc. for Phase III construction management and engineering for on-call contract task orders, which required construction inspection and supervision at selected locations for various projects on the Tollway system.

IEI was assigned multiple tasks for individual projects to be constructed for the improvement of the Tollway system. Assignments included the Tollway’s Elgin O’Hare Western Access (EOWA), IL 390 and I-490 Interchange, Advance Earthwork and Frontage Road construction; landscaping along the IL 390 corridor; and a detention basin underdrain and pump station construction along IL 390. The total construction budget for IEI construction management was approximately \$26 million.

IEI’s scope of work included on-site inspection; reviewing layout of task order projects – including design changes; providing geotechnical inspection and testing; preparing records; maintaining project documentation; submitting pay estimates and change orders; and any other duties requiring the services of an engineer to complete on a timely basis and in accordance with Tollway specifications.





IEI's Chief Structural Engineer, A Pioneer Around Town



Steven Karlowski, PE, SE

the Goodman and Steppenwolf Theaters. We applaud Steve for his work, and for a passion that connects communities and changes lives. Steve is located in IEI's Corporate Chicago office.

Steve Karlowski is the Chief Structural Engineer with IEI and has been with the firm for more than 14 years. He has more than 43 years of valuable industry experience and has been a key figure in the successful completion of numerous IEI projects during his tenure with the firm. Outside of Steve's substantive career, he is also a pillar in the community. He volunteers with the USGA and PGA Golf Tournaments, spent many years working with the Chicago Thanksgiving Parade, helps out regularly at a local homeless shelter, gives tours on behalf of the Frank Lloyd Wright Trust and even dabbles in theater, volunteering with



One Senior Civil Engineer Brings Solutions To The Runway



Fadi Azab, PE

Fadi Azab is a Senior Project Engineer with more than eight years of civil aviation design, civil/site design and construction management experience. Working out of IEI's New York office, Fadi's recent success on LaGuardia's Airport Runway/Taxiway Rehabilitation project enhances IEI's portfolio of skilled engineers with aviation engineering experience. IEI's skilled and experienced teams are passionate about project challenges, and innovative ways of solving problems. Airfield design projects, in particular, present significant challenges. At first glance, runway/taxiway rehabilitation projects may appear to be simple, but busy airports like LaGuardia, can present a number of complex project challenges:

- **Civil Design**  
Civil Engineering is often the lead discipline in airfield design projects, with electrical engineering being second in terms of scope. Civil design involves heavy use of Civil 3D software to prepare Alignments, Profiles, and 3D model surfaces of the proposed Runway and associated Taxiways as well as the design of different pavements for Runway Keel (Airplane landing portion), Runway shoulders, and Taxiways.
- **Interdisciplinary Design Coordination**  
While some civil tasks will not require a lot of coordination with other engineering disciplines or airport operations, other tasks require constant coordination. One of the challenges of LGA Runway 4-22 project, is that the north portion of the runway is composed of a structural deck that extend 1800 feet into a body of water. This represented a challenge in placing new lights in the structural deck as Civil Engineering lead the effort of coordination between Electrical and Structural Engineering to ensure that the new light locations have no impact on the structural integrity of the runway deck.
- **Engineering/Airport Facility Coordination**  
LGA Airport only has two runways and is going through major redevelopment projects on, both, the landside and airside which makes the design more challenging. For example, to prepare a construction staging plan, the design team has to work early on with Airport Operations and Construction Engineers to ensure that the construction will be staged in a way that has minimal effect on airport operation while still allowing the contractor to complete the project within the proposed schedule. The key to the successful completion of any project is open communication between the various parties involved, while identifying and addressing challenges as early as possible in the design process.

The 2018 Intern Class



Once again, IEI welcomed a group of young and aspiring engineers to work as interns for the summer, 2018. Clockwise from left to right is Alexis Escutia, a Senior at John Hancock College Prep; Jennifer Trigo, a Senior at Schurz High School; Jeremiah Brown, a Senior at Kenwood Academy and Sam Alsiofi, a Freshman at Harold Washington College. This team of interns joined IEI to grow and learn about the world of engineering.

During their time with the firm, each intern took part in many activities and experienced what it is like to be an engineer. Whether it was learning CADD, or going out in the field, they found the time spent to be exciting, encouraging, and enlightening as they learned about software, engineering responsibilities and departments. They found the overall experience better than anticipated and felt very much like “part of the team.” Each intern expressed their most favorite and interesting experience from learning about various phases of engineering to understanding each department and how they collaborate for the success of the firm. The experience helped them grow both personally and academically. Kudos to IEI staff for continuing to make the internship experience both fun and educational.



VOLUNTEERISM

Connecting Communities and Changing Lives



IEI's vision is rooted in sustaining and connecting communities, which leads to dedicated, exemplary service, community involvement and leadership. The firm's 2018 involvement in the communities it serves offers no less than a well-crafted season of food and toy drives, scholastic sponsorship, and programs that set out simply to support those in need.



Throughout the year, each of the firm's five offices fills its calendar with a variety of philanthropic endeavors. Upholding the tradition, this past year, each office participated in outreach in many ways to lend a helping hand. The 2018 outreach included, but was not limited to, the 100 Black Men of New York School Drive, A Back To School Drive in Chicago, The West Harlem Development Corporation Holiday Celebration and Toy Giveaway, The 10th Annual Illinois Plane Pull in support of the Special Olympics, The Illinois Black Chamber of Commerce Heart of Christmas Toy Giveaway, IEI Chicago Corporate social committee's Feed The Hungry Program, and the Dove Recovery House for Women in Indianapolis, Indiana.



A letter from YWCA - Evanston / North Shore's President, Karen Singer, demonstrates how giving back makes a great impact: *“Our work would not be possible without your support. Because of you, more women and children have a chance for a better life. Your support helps bring real change to the fight for gender equality and racial justice, and helps create communities where individuals don’t just survive – they also have every opportunity to thrive.”* – Karen Singer, YWCA Evanston / North Shore President & CEO

This year and the years ahead, IEI will continue its tradition of supporting communities and take steps to make a difference.

About Infrastructure Engineering, Inc.

Infrastructure Engineering, Inc. (IEI) is a multi-disciplinary consulting firm that focuses on the delivery of design engineering, program management, and construction engineering and inspection services. IEI cultivates various types of engineering projects from conception and planning through implementation. The firm's goal is to create sustainable infrastructure necessary to build and connect communities, improve quality of life and encourage economic development. IEI is a DBE/MBE certified firm. Visit IEI's website at [www.infrastructure-eng.com](http://www.infrastructure-eng.com) for more information.

