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ASCE Illinois Section

News

Vol. 54, No. 4
Winter 2013

Chicago Named the Second City Yet Again

By Alina Carrillo, P.E.

Over the years Chicago and New York City have been in competition over everything from food and sports to culture and economy. In 1890, Chicago was chosen over New York to host the World's Columbian Exposition. In 1974, Chicago built the tallest building in the world, taller than New York's World Trade Towers and the Empire State Building. Recently, it was announced that the tallest building in the USA was no longer in Chicago, but in New York. As you will see, Chicago started the skyscraper, but it was New York that developed the technology and finally came out ahead in the end.

Before 1883, masonry structures dominated the architectural field. At only 10 stories tall in downtown Chicago, the Home Insurance Building was the first of its kind when completed in 1884. It was designed using a metal frame made of wrought iron, cast iron, and Bessemer steel. Using shelf angles on every other floor, architect and engineer William Le Baron Jenney was able to transfer the weight of each floor back to the frame, reducing the need for columns in the center of the building.

In the late 1890s, many large cities, including Chicago, set a building height limit arguing that a lower skyline was more appealing to

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Chicago Skyline

President's Notes

Patrick Lach, P.E.



Greetings and happy holidays! I am honored to begin my term as President of the Illinois Section of the American Society of Civil Engineers. I would like to thank our Past-President, **Lou Arrigoni**, for his leadership this past year and for being a great mentor to myself and the Section. With his continued hard work, the Section has remained a premier representation of civil engineers in Illinois.

ASCE Illinois Section News

ILLINOIS SECTION NEWSLETTER
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Illinois Section – Region 3

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The section has several initiatives and goals that we are pursuing this year. We are currently revamping our communications efforts to effectively provide our members with timely information in the age of instant communication. As part of this, we are in the process of updating our website to be a useful tool for our membership and to provide an important link to social media. The website is anticipated to be rolled out by January. We have also finally joined the 21st century and established a Twitter account, and a LinkedIn and Facebook page. The section is trying to better provide its members with streamlined communication so you can stay informed through a variety of mediums.

The section will continue to support its institutes and technical groups. Based on my rough math, since last October the Illinois Section and its Institutes, Technical groups and Committees held over 100 events with over 4,000 people attending and participating. This upcoming year we are again looking at over 100 events and activities so I encourage you all to attend or participate.

The Student Outreach Committee has again reached out to work with a wide range of students all over the Chicagoland area who are interested in science, technology, engineering and mathematics. We are looking ahead to the upcoming year by establishing an active working group to better facilitate planning and solicitation of volunteers. We know that everyone is extremely busy but if you have an interest in helping out some bright eyed students who are interested in engineering, please let us know.

Although we are the Illinois Section, many of our events and activities tend to be Chicago-centric where a majority of our membership resides and works.

We have also finally
joined the 21st century
and established a Twitter
account, and a LinkedIn
and Facebook page.

We have had some recent requests about extending our activities out to the western portion of our section and we plan on trying to establish a better relationship with those members. If you are reading this and reside and work in the western portion of the Section, please contact us and let us know how the Section can help you.

In March of 2013, ASCE nationally released the 2013 Report Card for America's Infrastructure. This was the four-year update to the one released in 2009 which gave our nation's infrastructure an average grade of a D. The good news of the latest update: our nation's grade rose to a D+. The bad news is that our nation needs an estimated \$3.6 trillion investment by the year 2020 to raise our grade to a B and there is currently a \$1.1 trillion funding shortfall projected. I don't know about you, but it is tough to see where this money is going to come from in the next 7 years with all of the other fiscal demands being placed on our communities, states and nation.

With this lack of projected funding, the Illinois Section has a major goal this upcoming year. We completed a state infrastructure report card for Illinois in 2010 and we have over 30 engineers volunteering their time at developing an update to be released in 2014. The section has been actively communicating

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Geosynthetic Reinforced Soil Integrated Bridge System (GRS-IBS)

By K. Keith Sargent, P.E.

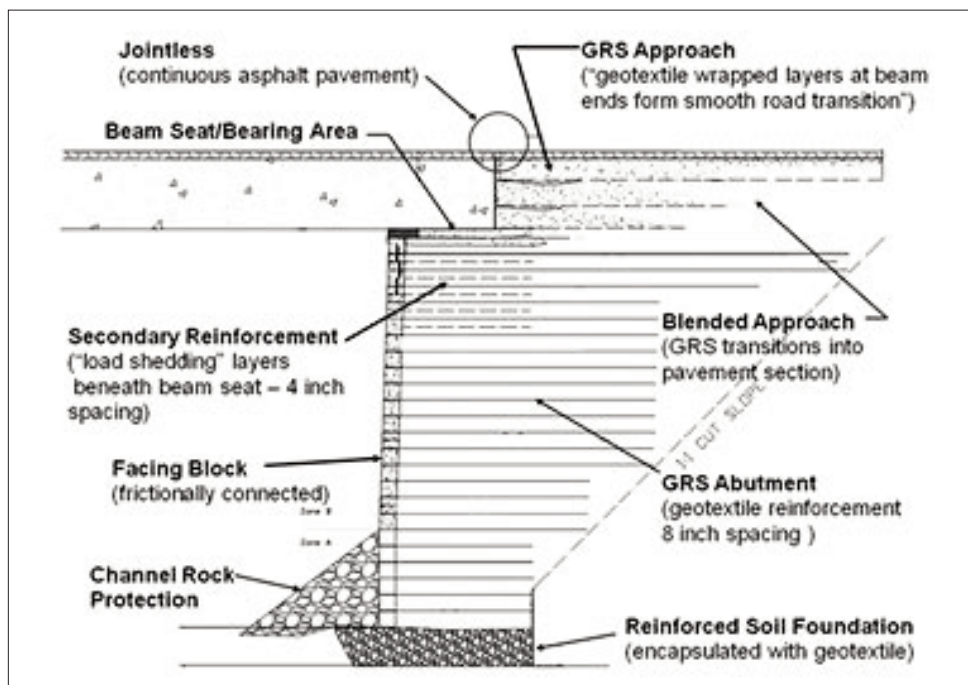
This past summer the State of Illinois's first Geosynthetic Reinforced Soil Integrated Bridge System was opened to the public on

DuPage County's Great Western Trail in the Village of Lombard. Although this bridge appears similar to bridges found throughout the state, it utilizes

The bridge superstructure, which is typically precast prestressed deck beams, can be placed directly on top of the GRS.



Great Western Trail GRS-IBS structure over Grace Street in Lombard, IL



Typical GRS abutment section.

a different bridge support and approaching roadway philosophy than conventionally found throughout the nation.

Geosynthetic Reinforced Soil (GRS) technology is a form of Accelerated Bridge Construction that uses alternating layers of compacted granular fill and geotextile to create a soil mass abutment for a bridge superstructure to sit upon. The reinforced soil mass is faced with modular blocks, which can be as simple as standard concrete masonry units, to larger decorative blocks with aesthetic appeal.

The bridge superstructure, which is typically precast prestressed deck beams, can be placed directly on top of the GRS. The Integrated Bridge System (IBS) is the same concept of alternating layers of granular fill and geotextile reinforcement but is placed behind the superstructure as a base to the approaching roadway. HMA is typically paved above the IBS and over the bridge superstructure without a construction joint, providing a smooth roadway for users.

The idea of reinforcing soil dates back thousands of years, and the Federal Highway Administration (FHWA) has applied modern technology to this ancient concept. GRS-IBS has become part of FHWA's "Every Day Counts" program, which is their initiative to

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Geosynthetic Reinforced Soil Integrated Bridge System

(continued from page 3)

Over 100 bridges have been built in the United States using GRS-IBS technology and have performed above expectations.

identify and deploy innovation to the time it takes to deliver highway projects and to the enhancement of safety during construction. Standard design and construction documents have been prepared by FHWA to assist designers and contractors with GRS-IBS.

The benefits of GRS-IBS are numerous. Due to the simplicity of the system, GRS-IBS structures can be built with minimal equipment and readily-available materials, and personnel required to construct the system are not required to be highly skilled. Construction time is reduced when compared to conventional reinforced concrete abutments, which in turn helps reduce travel disruptions to the public. Fewer materials and simple construction also lead to a system that is easy to maintain.

Most notably, construction cost is reduced due to the simple materials used, fewer labor hours needed to construct the system, and the use of common construction equipment. Typical components of conventional bridge construction can be eliminated such as piling, abutments and back walls, bridge joints, and approach slabs. FHWA quotes a cost savings of 25 to 60 percent when compared to standard pile capped abutments on deep foundations.

GRS-IBS is typically used for simple span bridges designed for standard truck loading such as the Great Western Trail structure over Grace Street in Lombard. GRS-IBS has also been



GRS construction for the Great Western Trail project in Lombard, IL.

constructed for bridges over waterways and has been proven to have minimal scour and deterioration with varying water conditions.

With a continued and growing demand for the replacement of thousands of structurally deficient and obsolete bridges throughout the nation, GRS-IBS offers an effective and economical solution for the replacement of these structures. Over 100 bridges have been built in the United States using GRS-IBS technology and have performed above expectations. FHWA is currently planning to utilize GRS-IBS on a major interstate interchange near Washington, DC.

More information on GRS-IBS technology can be found on FHWA's Every Day Counts webpage. [ASCE](#)

K. Keith Sargent P.E. is the Resident Engineer for construction of the Great Western Trail grade separation in Lombard, IL and serves as a Project Manager and Resident Engineer with Thomas Engineering Group, LLC for various bridge-related projects.



Typical GRS construction showing modular blocks, granular fill, and geotextile fabric.

97th Annual Dinner Meeting Highlights

By Stephanie A. Nurre, P.E.

The Illinois Section held its 97th Annual Dinner Meeting on Wednesday, October 16, 2013. Over 460 Section members and guests attended the event, which was held at historic Soldier Field in downtown Chicago.



Tom Waddle

Guest Emcee for the event was former Bears wide receiver and current radio celebrity, **Tom Waddle**. New ASCE Life Members and National Award winners from the Section were recognized, along with

outgoing Officers, Directors, Technical Institute and Group Chairs, and numerous Committee Chairs and Appointments. **Patrick Lach** took the reins as Section President and new Section Officers, Directors, and Technical Institute and Group Chairs were sworn in for 2014.

Over 460 Section members and guests attended the event, which was held at historic Soldier Field in downtown Chicago.

The evening was highlighted by the presentation of individual and project awards for 2013. A total of 18 nominations were received in 10 categories from members throughout the Section. All winners were chosen by a vote of the Awards Committee, which was composed of members from each of the Section's Technical Institutes or

Groups, and representatives from the Board of Directors. The Committee's selections were ratified by full Illinois Section Board of Directors.

There were many outstanding nominations, and the Awards Committee thanks all those that participated in the process! Soldier Field provided a spectacular venue and Tom Waddle kept the crowd entertained throughout the night.

CITIZEN ENGINEER OF THE YEAR

Mohsen Javadi, P.E.



Mohsen (Mo) Javadi is a Senior Associate at Bloom companies, LLC, where his focuses are on project management and business development. He developed a passion for civil engineering at an early age in high school by working in his father's construction company. He has earned his Bachelors of Science in Civil Engineering from Alabama A & M University in 1977 and MBA from the University of Scranton in 1979.

Mo's career started at Chastain and Associates, after Grad school, until he began a twenty three year engineering career with City of Chicago in 1982. While serving the City, Mo's unique personality and passion for people and the community was integral in gaining the trust of politicians, government agencies and residents. Since joining the private sector in 2004, Mo continues his focus on helping people by supporting programs such as the Illinois State Toll Highway Internship program.

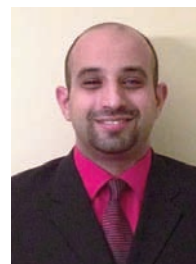
Over the last thirty-six years, Mo's leadership and professionalism led to

the successful completion of multiple projects in the Chicago-land area totaling over one billion dollars in total construction cost, including the Kingery (I-80) Expressway, projects at O'Hare and Midway Airports, the State Street reconstruction, and over 450 miles of Chicago streets and Illinois Tollway roads.

Mo has been a member of the Illinois Section of ASCE for the last ten years and volunteered as the government affairs officer for several years. Mo also has served on ACEC-IL and HACIA and has been able to help promote and grow all of the three organizations.

YOUNG GOVERNMENT CIVIL ENGINEER OF THE YEAR

Johnny Morcos, P.E.



Johnny E. Morcos received his Bachelors of Science in Civil Engineering from the University of Illinois at Chicago in 1999. He has spent his entire

career with the Chicago Department of Transportation. He is results oriented, has experience in high profile and challenging bridge projects and has built strong working relationships with engineering consultants, contractors and other transportation agencies.

His first project was the Assistant Project Manager on the four year \$250 Million Rehabilitation of the Chicago Skyway. Following the Skyway Johnny was the Project Manager for the Clark/Roosevelt Grade Separation, the North Avenue Bridge which was a hybrid cable stayed-suspension bridge,

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97th Annual Dinner Meeting Highlights

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Torrence Avenue Vertical Lift Bridge, and the three year \$300 Million Reconstruction of North South Wacker Drive Viaduct.

Currently as the Acting Chief Bridge Engineer he oversees the Capital Bridge Program, In-House Bridge Repair work, Freight and Trolley Tunnel Maintenance, Truck Overload Permits, Shoreline and Riverwalk Improvements in addition to being the Project Manager for the Wells Street Bascule Bridge Rehabilitation and the Bloomingdale Trail at The 606.

GOVERNMENT CIVIL ENGINEER OF THE YEAR

Carl Schoedel, P.E.



Carl Schoedel earned his B.S. in Civil Engineering (Magna Cum Laude) from Washington University in 1986 and a Master of Urban Planning

from Indiana University in 1995, (receiving *Outstanding Graduate Student Honors*).

With 27 years dedicated to public service, Mr. Schoedel's professional background includes extensive experience in regional transportation planning, highway engineering, and public utility management. He has conducted academic research on infrastructure and public policy, co-authoring articles for several national publications. Carl has been instrumental in developing public policy and local initiatives to provide safe & efficient transportation facilities and to safeguard public drinking water supplies.

Joining Kane County's staff in 1997, Mr. Schoedel has served the Division of Transportation as Permit Engineer and later Chief of Planning &

Programming. Carl was appointed as County Engineer in 2003 and Director of Transportation in February 2005 where he oversees a significant capital improvement program. Most notably, he oversaw the implementation of the Stearns Road Bridge corridor, a \$160 million *High Priority Project* designated in SAFETEA-LU, the Federal Transportation Bill. Carl also started Kane County's first cooperative engineering education program linking undergraduate Civil Engineering students with "real world" experience.

Carl is a Licensed Professional Engineer in Illinois and Missouri and is a past President of the Illinois Association of County Engineers (IACE). Carl is a 2011 winner of the "Top Ten Public Works Leaders of the Year" award given by the American Association of Public Works (APWA—Chicago Metro Chapter). In 2006, Mr. Schoedel was elevated to the Fellow grade of membership in the American Society of Civil Engineers (ASCE).

YOUNG CIVIL ENGINEER OF THE YEAR

Donald Oliphant, P.E.



Don has been with Christopher B. Burke Engineering, Ltd. (CBBEL) in the Water Resources Department for 11 years and has managed their

Crown Point, Indiana branch office for the past two years. He received his Bachelors of Science in Civil Engineering from the University of Evansville and his Master's of Engineering Degree in Civil Engineering from Colorado State University. Don is a Professional Engineer in both Illinois and Indiana

in addition to being a Certified Floodplain Manager, Certified Professional in Erosion and Sediment Control, and a Certified Municipal Separate Storm Sewer System Specialist. He also serves as the current treasurer for the Illinois Section of the Environmental and Water Resources Institute.

Don spends a majority of his professional time completing water resources engineering design projects and servicing the numerous CBBEL municipal partners in Northwest Indiana through reviews, planning, and administering their subdivision/stormwater control Ordinances. He has also been actively involved as the lead water resources engineer for drainage for the South Airfield landside improvements at O'Hare International Airport as part of the O'Hare Modernization Program. His tasks have included the relocation of approximately 1.5 miles of Bensenville Ditch and assisting in the permitting and analysis for the relocation of Irving Park Road.

CIVIL ENGINEER OF THE YEAR

Robert Hamilton, P.E., PTOE, EXW



By the age of 15, Bob had already decided on a career in Civil Engineering. He earned his Bachelors of Science in Civil Engineering from the University of Detroit (1972), followed by a brief tour as a USACE officer. After earning an MSCE from the University of Illinois (1973), Bob headed off to work. He later received his MBA from the Lake Forest Graduate School of Management (1984).

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97th Annual Dinner Meeting Highlights

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Bob's first five career years were with Keifer Associates, working on storm-water, utility, Deep-Tunnel and flood-control projects. He was recruited by HB&A to serve as Chief Chicago Engineer where he managed the Engineering Department and developed the firm's client base. Three years later Bob moved into independent practice, establishing Gewalt Hamilton Associates, Inc. (GHA) with his friend and colleague, Dave Gewalt.

Since the firm's founding in 1981, Bob has instilled a focus on providing superior client service to public agencies, including municipal, county and state governments, park districts, and school districts.

Since the firm's founding in 1981, Bob has instilled a focus on providing Superior Client Service to public agencies, including municipal, county and state governments, park districts, and school districts. His specialties include stormwater, water supply, municipal engineering, traffic engineering, and expert witness efforts. Bob served as President of the firm until 2011 and today is the Chairman/CEO. Today, with 80 employees, GHA continues to focus on providing superior service to both public and private sector clients.

Bob spends much of his time outside the office, tending to clients, pursuing challenging projects, and recruiting talented staff. In addition, he coached

24 seasons of youth sports, served 14 years as a Park District Commissioner, and is a volunteer pilot for Angel Flight Central, Homeland-Security and the EAA.

PUBLIC INVOLVEMENT AWARD

Younger Member Group – Illinois Chapter



The Illinois Chapter Younger Member Group (YMG) is committed to providing young engineers with opportunities to be involved in ASCE in the Chicagoland Area. YMG hosts technical dinner meetings in addition to many social and outreach events. YMG also provides local professionals with fall and spring PE review courses that are competitively priced and boast high passing rates. Opportunities for active participation in YMG are increasing with the continued growth of their committees.

The Outreach Committee includes five very dedicated members: Kendra Bleers, PE, Monica Crinion, PE, Arturo Hernandez, EIT, Kyle Pearl, EIT, and Brian Tracy, PE. Student Outreach (K-12) and Community Service were key themes for this year's events. YMG provided volunteers for several student outreach events which promote STEM careers and principles, including the Future Cities Competition, two local Mathcount competitions, and the Girl Scouts' STEMpalooza event. YMG

members also spent a day volunteering at Working Bikes, an organization that distributes bikes for transportation in developing countries. They also teamed with SAME and USACE for Chicago River Day to clean up the river bank at Lawrence Fisheries.

YMG participated in a new cornerstone event this year, CANstruction Chicago 2013. Teaming with Metropolitan Water Reclamation District (MWRD), their 13 person team spent three months designing, fundraising and constructing a life-sized "Price is Right" Wheel with 5,503 cans. The wheel was displayed for 25 days at Merchandise Mart before stocking the shelves at the Greater Chicago Food Depository. This event supports a great cause and increased ASCE's community exposure.

PRIVATE SECTOR EMPLOYER RECOGNITION AWARD

HDR Engineering, Inc.



HDR, an ASCE Illinois Section sponsor, is an employee-owned firm that provides comprehensive services in planning, engineering, architecture, and construction to clients across the United States and abroad.

Through our involvement with and sponsorship of the ASCE Illinois Section, we promote greater industry

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97th Annual Dinner Meeting Highlights

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participation for our employees. HDR encourages not only enrollment in ASCE, but active membership, including leadership positions. In fact, more than 45% of eligible HDR Illinois staff are current members of the ASCE Illinois Section. HDR provides direct support for ASCE membership in the form of:

- Paid time off to attend ASCE events
- 100% paid ASCE National and Illinois Section dues
- Generous stipend for publishing articles

HDR also values the personal benefits that Section leadership positions provide. This is a two-way street. By assuming leadership positions, HDR personnel provide value to ASCE and its members, but in turn, learn valuable lessons in leadership that can be applied to their careers. The additional value of expanding personal networks is a bonus.

HDR is very appreciative of receiving this award and will continue to support ASCE in the future.

OUTSTANDING CIVIL ENGINEERING ACHIEVEMENT OF THE YEAR AWARD – UNDER \$5 MILLION

Big Timber Road Over Pingree
and Tyler Creek Project



Big Timber Road, a two-lane rural cross section, was widened for a four-lane rural section with 10' shoulders. The widening required Tyler Creek to be relocated for approximately 1,000' and its confluence with Pingree Creek to be relocated. The existing bridges over Tyler Creek and Pingree Creek were removed and a single larger structure was constructed downstream of the new confluence. The 96' foot long bridge design used steel plate girders and integral abutments. The bridge was designed to accommodate a future add-lane project and a 14 foot wide bike path.

This project improved the vehicular traffic flow and can accommodate future multi-modal demand and reduced maintenance needs to the creeks, bridges and roadway.

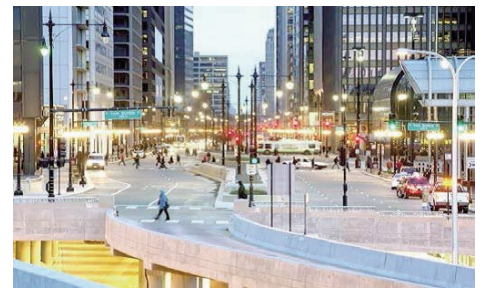
This project improved the vehicular traffic flow and can accommodate future multi-modal demand and reduced maintenance needs to the creeks, bridges and roadway. It also enhanced the environment, promoting native plants and wildlife while greatly enhancing the aesthetics of the area.

The project was completed over two construction seasons, with the new creek channel completed in 2011 and the bridge opening in summer 2012. The new Tyler Creek channel incorporated structural and natural stream bank components including boulder toes, a river-run pilot channel, pool and riffle complexes, native seeding, and compensatory floodplain storage. Tyler Creek and Pingree Creek contain

threatened and endangered fish and mussel species requiring surveys and annual sampling and coordination with Illinois Department of Natural Resources (IDNR) and US Fish and Wildlife Service (USFWS). The majority of the project was permanently stabilized with native wetland and upland plant species, including 12,000 wetland plug plantings.

OUTSTANDING CIVIL ENGINEERING ACHIEVEMENT OF THE YEAR AWARD – OVER \$5 MILLION

Wacker Drive Viaduct and
Congress Parkway Interchange
Reconstruction Project



The \$303 Million Wacker Drive Viaduct and Congress Parkway Interchange Reconstruction Project is one of the most complicated construction projects ever completed by the City of Chicago. Wacker Drive, a major multi-lane double decker roadway, has served Chicago's downtown area for over 80 years.

The Project required complex staging and monitoring to move car and pedestrian traffic through the construction zone in coordination with 14 ongoing construction projects in the Central

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97th Annual Dinner Meeting Highlights

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Business District. Since Wacker Drive also abuts major offices, the Chicago Mercantile Exchange, Lyric Opera, 18 skyscrapers, and 12 parking garages, daily access for workers and deliveries had to be accommodated.

The Project required complex staging and monitoring to move car and pedestrian traffic through the construction zone in coordination with 14 ongoing construction projects in the Central Business District.

The Project included replacement of the deteriorated viaduct structure, lifting the vertical clearance by more than one foot by utilizing a post-tensioned deck structure. The lower level service drive and through lanes were separated, alleviating congestion, expediting traffic, and improving safety. Safety on Upper Wacker Drive was significantly improved from Randolph to Congress by removing ramps to Lower Wacker Drive. The ramp at Monroe was removed and replaced with a new one-way ramp to Lower Wacker Drive.

The reconfiguration of the Congress Parkway Interchange improved traffic safety. Improvements included removing the Franklin ramp onto westbound Congress to eliminate the double-merge with the Lower Wacker Drive ramp onto westbound Congress. Additionally, the Lower Wacker ramp was reconfigured to have a longer merge lane.

The Project also incorporated lighting, ventilation, fire protection, and green space enhancements with the construction being delivered on schedule and under budget.

SUSTAINABILITY IN CIVIL ENGINEERING ACHIEVEMENT AWARD

McGrath Acura
Redevelopment Project



Terra Consulting Group was the lead civil consulting firm for the McGrath Acura Redevelopment project located at Division Street and Elston Avenue in Chicago.

The redevelopment transformed an industrial parcel that had very limited public interaction to an open, aesthetically pleasing environment that welcomes the public and celebrates its position on the Chicago River. This is the first development in this neighborhood that allows the public a close-up view of the river essentially creating a pedestrian link from the public sidewalk to the newly installed river-walk.

The new dealership has improved the local hydrologic roles of the Chicago River, embodying the environmental principals of sustainability. Traditional detention vault designs were scrapped, instead a decorative permeable paver system allowed the site to meet the stormwater requirements while giving

the dealership an aesthetically pleasing backdrop on which to display the new vehicles.

The project combined a permeable paver system with a stormwater infiltration system to address stormwater quality and quantity.

The project combined a permeable paver system with a stormwater infiltration system to address stormwater quality and quantity. Unlike most developments within the City of Chicago, the site's stormwater discharges directly to the river instead of a combined sewer. Unique design elements included:

- A green roof and direct discharge to the river.
- Additional detention/infiltration with a restrictor below the permeable paver system to control the stormwater volume.
- A wide landscape buffer along the river consisting of native plantings, trees which creates new public viewing areas.

Last June, McGrath Acura Redevelopment was awarded the Green Ribbon Award from the Friends of the Chicago River because it demonstrated a high level of river sensitive design. [ASCE](#)

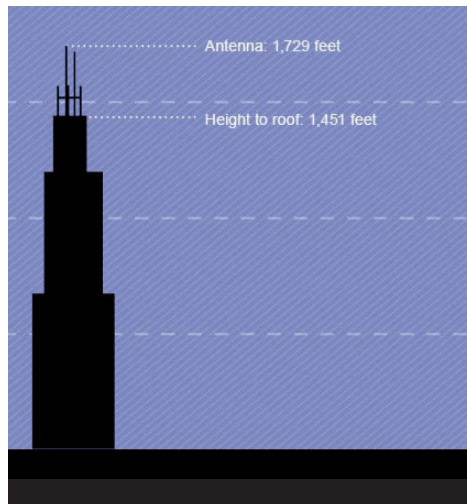
Stephanie Nurre, P.E., CFM is a Senior Water Resources Engineer at Christopher B. Burke Engineering, Ltd. and is Co-chair of the Awards and Student Outreach Committees. This article was written on behalf of the Annual Dinner and Awards Committees.

Chicago Named the Second City Yet Again

(continued from page 1)

the eye. New York City (NYC) did not set a limit and instead built the 612-foot tall Singer Building, doubling the height of the tallest building in Manhattan. At this time, large corporations were emerging throughout North America and needed large, preferably tall, office buildings. The nation was starting to accept the idea of the skyscraper, but building regulations and lack of leadership in other cities kept the tallest skyscrapers in New York City. Almost 30 years after the Home Insurance Building, NYC had nine buildings over 400-feet with five of them over 500-feet tall.

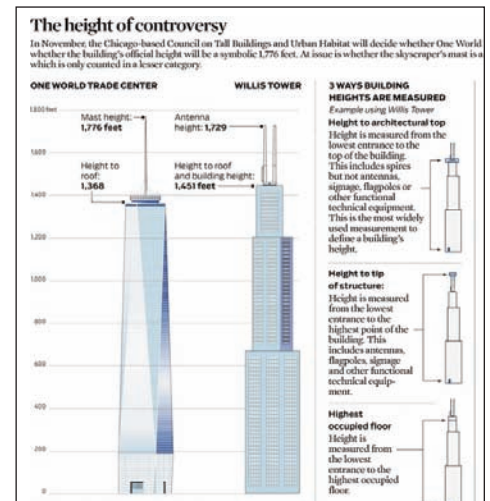
As the Woolworth Building was completed in 1913 at 792-feet tall, it was noticed that skyscrapers caused less traffic on the streets, since elevators could carry workers to meetings instead of taxis. The construction of skyscrapers increased property values and pushed smaller companies out of the central business district. It was not unusual for large office buildings, usually carrying a corporate name, to take up an entire city block at the base with “wedding cake” setbacks to allow light and air to circulate to street level. The Chrysler Building was designed in the contemporary Art Deco style became the tallest building in Manhattan at 1,046-feet tall in 1930. The Empire State Building was completed a year later at 1,250-feet tall but did not reach capacity in wake of the Great Depression. By this time, thousands of 10-20 story office buildings had appeared across the United States, but only New York City and Cleveland, Ohio had a building over 600-feet. The skyscraper had become the symbol of the Roaring Twenties, but construction came to a halt as the Depression ruined many who owned and built skyscrapers.



Willis Tower stands 1,451-feet tall.
(usatoday.com)

It was not until the 1950s that cities started to build tall again and the rest of the country finally caught up to New York. Between 1954 and 1993, the number of buildings over 500-feet tall outside of NYC went from 20 to 200. Chicago added 17 skyscrapers over 500-feet tall to the skyline including two over 1,100-feet tall before stripping the title of tallest building from NYC. The Sears Tower in Chicago became the world's tallest building in 1974 when the final girder was added to the top of the 1,451-feet tall structure.

The Sears Tower, now known as the Willis Tower, can be simply described as nine towers of various heights bundled together like a pack of cigarettes, with the tallest point more than 200-feet above the Empire State Building. The Willis Tower remained the tallest in the world for 24 years until 1998 when the title went to the Petronas Tower in Malaysia. The Willis Tower has been at the top of the list in the United States until a few weeks ago when the Council on Tall Buildings and Urban Habitat (CTBUH) ruled that One World Trade Center in New York is taller at 1,776 feet.



Willis Tower vs. One World Trade Center
(tribune.com)

Ironically, the CTBUH headquarters is located at the Illinois Institute of Technology's campus in Chicago, and has been the world's authority on tall buildings since 1969. The CTBUH recognizes building height in three different categories: height to architectural top, highest occupied floor, and height to tip. For all three categories the height is measured from the “lowest, significant, open-air, pedestrian entrance.” The architectural top includes spires included in the original design, but does not include antennae, signs, or flagpoles. The highest occupied floor is considered the highest finished floor elevation of the building, and the tip of the building includes any antennae or flagpoles attached to the building top.

One World Trade Center is a bright, slender tower with mirrored glass, quite different than the dark glass and wide, sturdy base that make up the Willis Tower. When comparing the two buildings, the Willis Tower has more square footage and wins in one of the three CTBUH categories, highest occupied floor. One World Trade Center has an

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Chicago Named the Second City Yet Again

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architectural spire at the top that extends its height to 1,776-feet above the ground, compared to the tip of the Willis Tower (including the antennae) which is only 1,729-feet from the ground. The Willis Tower has a higher occupied floor and higher observation deck providing a view 1,353-feet off the ground, compared to 1,250-feet at One World Trade Center. A similar scenario played out in 1930 when a spire was secretly added to the Chrysler Building making it 119-feet taller than the lesser known 40 Wall Street, which has a higher occupied floor.

The skyscraper started in Chicago with the Home Insurance Building becoming

the first steel structure with a free-standing frame and curtain wall design. Chicago's tallest building was the tallest in the world for over 20 years. Today, One World Trade Center in New York City stands at 1,776-feet, over 300-feet taller than the Willis Tower, and is the tallest building in the United States. There may not be a clear winner regarding which city has the best pizza, but as you can see Chicago is The Second City. **ASCE**

Alina Carrillo a site development engineer with TERRA Engineering and is the Annual Event Director for ASCE YMG.

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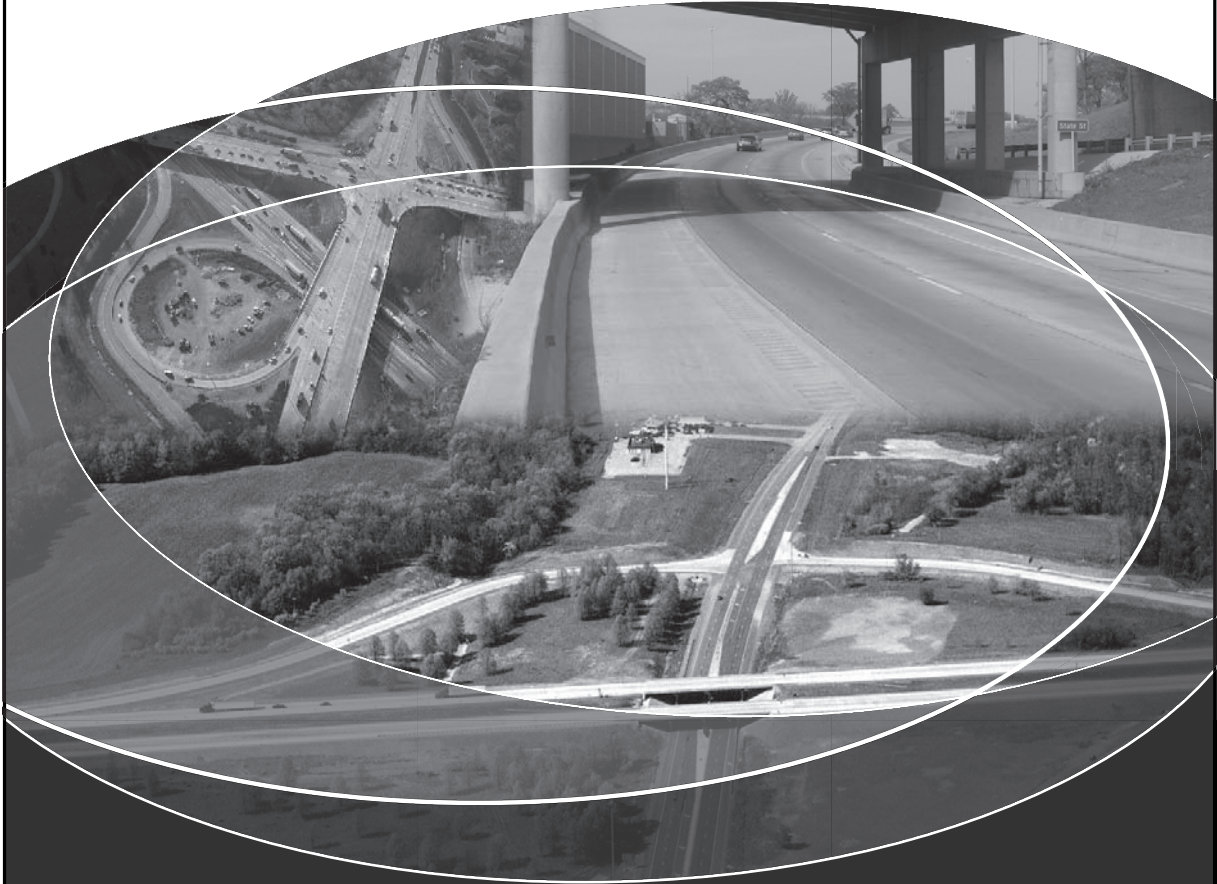
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Message from the Region Director

By John Frauenhoffer, Region 3 Director

On Monday, September 30, 2013, State Senator Toi Hutchinson (D-Olympia Fields) met with members of the IL Section of the American Society of Civil Engineers (ASCE) to discuss municipal infrastructure issues. This was an important, exciting, and highly productive meeting.

The Senator, as she expressed during the meeting, is a strong advocate of municipal infrastructure, from safer roads and water systems to related job creation, she understands the issues, shares our concerns, is a committed supporter and will be instrumental in the legislative process.



During Monday's meeting, Senator Hutchinson expressed:

- The critical need to invest in our roads, bridges and water resources;
- Recognition that the 'failure to act' is far too costly to society; and
- The recognition that expenses only grow exponentially when maintenance is neglected

Senator Hutchinson agreed to work proactively with ASCE in presenting Illinois' infrastructure needs.

In attendance were ASCE members—Christopher J. King, Robinson Engineering, Patrick Lach, Hey & Associates, Inc. and William Cussen, Haeger Engineering, LLC. [ASCE](#)



President's Notes

(continued from page 2)

with various agencies throughout the state and we are timing the release with a legislative trip to Springfield. Our report card update will be uploaded to our new and improved website and we will try to get our five minutes in the media spotlight to highlight our state's need for infrastructure investment.

Over the next year,
I would like to call on all
of you to ask for your
help moving forward.

Over the next year, I would like to call on all of you to ask for your help moving forward. We as civil engineers ultimately serve the public and its works—it is up to us to make sure the world

knows that. We tend to work in our offices and on job sites and few of us dare to step forward into the public spotlight whether it is meeting with your legislators, writing letters to the editors or participating in community and public forums.

Our state's infrastructure maintenance and improvements are severely underfunded. The financial demands that our various levels of government have to deal with are harrowing. Typically, infrastructure has garnered bipartisan support but with today's issues, many legislators do not want to be seen as supporting additional spending. As civil engineers working for the public good, we need to convince the legislators and the public that infrastructure funding is an investment, not outright spending. We also need to improve the sustainability of our infrastructure. This doesn't mean converting all of our highways to perme-

able pavement but rather engineering for the future, not the now.

As the section embarks on its goals for this year, we ask that the members of the Section do some work on your end to facilitate the discussion on our infrastructure. We are asking you to introduce yourself to your Representatives and Senators and give them a copy of the Illinois Report Card and ASCE's Failure to Act Series—which details how without infrastructure investment, the average American family will have a \$3,100 drop in personal disposable income per year. We need your help to continue the conversation and make our vision of the future a reality—an infrastructure system that is the source of our prosperity.

If you are interested in helping out the Section, please let us know. I can be reached at president@isasce.org. We always have room for one more volunteer. [ASCE](#)



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Section Activities

Engineers without Borders-USA

Engineer Change: Year-End Matching Campaign

EWB-USA organizes an annual Year-End Fundraising Campaign in order to reach out to our generous donors with a united voice and connect more people to EWB-USA's mission. This year's campaign theme is Engineer Change. From December 2nd through January 15th, donations to the Chicagoland Professional Chapter will be matched with funds from EWB-USA, doubling their impact. In addition, the chapters that raise the most money and have the most individual donations (meaning even small amounts count big) will be given an additional \$5,000 towards their funds for the year.

Visit our website to learn about our projects and make a donation using a credit card. You can also donate by check or stock option. Please contact Jeff Hamera at JLHamera@duanemorris.com if you have any questions.

Winter Book Club Social Gathering

Date: Thursday, December 12th
Time: 6:00pm – 8:00pm
Place: Cafe Iberico
737 N LaSalle
Chicago, IL

Engineers Without Borders has a quarterly book club meeting. This month's selection is "Behind the Beautiful Forevers: Life, Death, and Hope in a Mumbai Undercity" by Pulitzer Prize winner Katherine Boo. Please email Gil Cabrera at social@ewb-usa-chicago.org to RSVP or to ask any questions.

EWRI

ASCE IL Section EWRI Holiday Dinner

Date: Wednesday, December 4th
Time: 6:00 pm Cash Bar
6:30 pm Dinner
Where: Greek Islands Restaurant
Place: 200 South Halsted Street
Chicago, IL 60661
(corner of Halsted and Adams, downtown Chicago, free valet parking)
Details: All ASCE and EWRI members and guests are welcome! A donation of \$15 per person is requested to help offset the cost of the dinner. Provide payment at restaurant. We hope to see you there!
RSVP: Please RSVP by Monday, November 25th to Brian Olson at 773-693-9200 x16 or email at bolson@heyassoc.com.

ASCE IL Section EWRI Monthly Committee Meeting

Date: Tuesday, January 14th, 2014
Time: 5:30pm
Host: Michael Baker Jr., Inc.
Place: 311 W. Monroe Street, Suite 1350
Chicago, IL 60606
RSVP: Gary Paradoski at gary.paradoski@mbakercorp.com

SEI

Holiday Mixer

Please join us for an evening of socializing with your structural engineering colleagues and enjoy two hours of beer, wine and heavy appetizers!

Date: Wednesday, December 11th, 2013
Time: 5:30 pm - 7:30 pm
Place: Ovie Bar & Grill
120 North Canal Street
Chicago, IL 60661
Parking is available in the Metra Market Garage, just 1 block north of Ovie Bar & Grill.
Cost: \$35–Regular price
\$30—with donation of new or gently used winter clothing item
\$5 - Fee for Late/No RSVP

Volunteer Opportunities

Scouting Science Nights in Lake County, IL

Date: Thursday, December 5
Time: 6:30-8:00 pm
Place: North Prairie School
Winthrop Harbor

The Boy Scouts of America are still seeking volunteers for their Scouting Science Nights in Lake County. The three evening events will be filled with hands on science experiments geared toward K-8th grade children.

If you are interested in volunteering for one of the above events as an experiment

demonstrator, please contact Jim Westfall at james.westfall@scouting.org or Stephanie Nurre at snurre@cbbel.com.

2013-2014 Future Cities Competition

Mentors Needed!

This year's Future Cities theme is: Tomorrow Transit: Design a way to move people in and around your city!

Engineer mentors are still needed to work with the student teams in an advisory role. They will visit their school 6-10 times

throughout the competition, answer questions, and provide guidance to the students. Some mentors are able to communicate with their schools entirely by live webcasts, over the phone, or through e-mail.

Please visit <http://futurecity.org/region/news/mentors-needed-registered-schools> and click on the Google Earth Map link to see a list of schools seeking mentors and where they are located.

Register to be a mentor by signing up at <http://futurecity.org/register> or by e-mailing Don Wittmer at dwtittmer@hntb.com.



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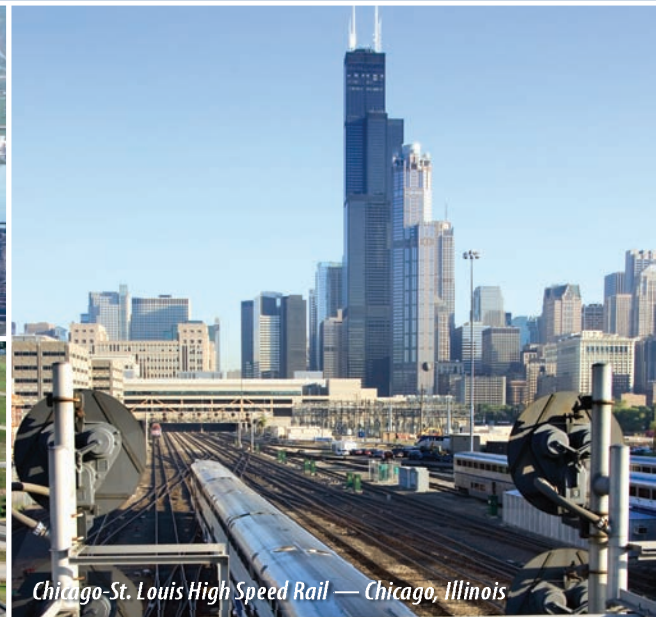
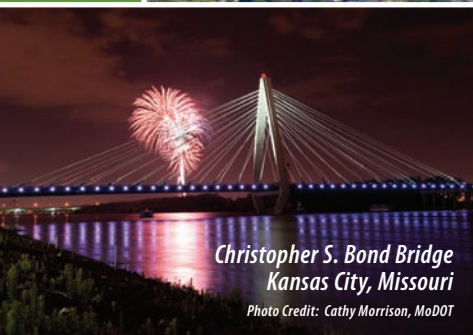
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Congratulations to the City of Chicago on the Wacker Drive Reconstruction Project. TranSystems is proud to have served as Program Manager on this project to improve access and movement along the Award-winning Wacker Drive and through the City of Chicago. This roadway and bridge project was one of the most difficult ever completed by the City, and kept 65,000 vehicles and a staggering 150,000 pedestrians moving through the construction zone daily.

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Illinois Section News & Secretary Report

N O V E M B E R 2 0 1 3

In an effort to inform Illinois Section members of the discussions at the monthly Board meetings, the Section Secretary contributes this monthly article to the newsletter. Any questions or comments on the Board activities are welcome by contacting Thera Baldauf, at thera.a.baldauf@mwhglobal.com

■ Treasurer's Report

▲ A treasurer's report was presented at the September, October and November Meetings. Treasurer Mike Mackinnon will present both the July and August treasurer's report at the September Meeting for review and approval.

■ Group Reports

▲ Groups presented a written report outlining previous and current month's activities.

■ New Business

▲ The Section approved with amendment EWRI bylaws at the November Board Meeting.

▲ The Annual DC Fly-In will be held March 18 – 20, 2014. President Lach and Treasurer Mackinnon and Secretary Baldauf will attend.

▲ ASCE Region 3, 6, & 7 Workshop will be held January 10-11, 2014 in St. Louis, Missouri. Directors Chou, Murphy and Pawula are invited to attend.

▲ Northwestern University Department of Civil and Environmental Engineering is hosting a 2014 Career Fair on Saturday,

January 25, 2014 from 10 AM to 1 PM. All firms, public service agencies and manufacturers who are CEE students are welcome. Contact Director Chou for more information.

▲ New board members were introduced and approved at the October Meeting. Jennifer Gora will serve as incoming treasurer. Incoming Directors to 2015 will be Brian Pawula, Shawn Murphy and Karen Chou (Northwestern).

▲ Matt Miller announced at the October Meeting the upcoming Future Cities Competition that will be held this coming January 2014. They are in desperate need of engineering mentors for participating schools. For those interested, please check out the Future Cities website for a schools in need of a mentor. They will also be looking for judges at large for the regional competition. The Section authorized a \$1,000 sponsorship for the competition.

▲ President Lach provided a report on a meeting with Senator Toi Hutchinson that was held in the month of September. Those also in attendance included Past Presidents Chris King and Bill Cussen. She is a big supporter of Infrastructure and the Report Card and provided good insight on fostering a better conversation with legislators. She recommended a dinner with like-minded Senators in January, before Bill deadlines are due in February. This provides the best chance for influence on new legislation. Senator Hutchinson volunteered to provide assistance and recommendations on those who should be invited. The Report Card deadline has been pushed up to try to meet the new January deadline.

▲ ISASCE Social Media Accounts – President Lach provided a report on the

integration of the Section's Social Media Accounts with the website update. Section now has a Twitter and Facebook account that will be integrated into the new website. The Illinois Section is in the process of obtaining ownership of the Illinois Section LinkedIn Page. Redesign of the webpage is underway.

■ Old Business

▲ The Annual Dinner was held on October 16 at Soldier Field. Tom Waddle, former Chicago Bears Player, emceed the awards program and delivered the keynote speech. The Section hosted 462 attendees with 90 Section members attending the tour. \$27,000 in sponsorships was raised from 32 supporting companies. Venues for the 2014 Annual Dinner are currently being vetted.

▲ Region Governor Olson provided an update on status of the Illinois Section Report Card. Sub-Committee kick-off calls were held in April. About 35 letters were sent out to government agencies and other stakeholder groups in June and July. Various report card templates were presented and reviewed by the Board. The Board elected to use the old Section template. The next major milestone is sending the drafts to ASCE National for review at the end of October. The Report Card Committee is hoping to have the final completed by January 2014 with a full release in late March or early April. The Report Card Committee will be coordinating with TFIC on coordination efforts.

▲ SPAG Grants are available for special projects issued by ASCE National.

(continued on page 23)

News and Secretary Report

(continued from page 22)

There is about \$50,000 of funding available this year to Sections and Branches. The Section would like to obtain three SPAG grants for funding 1) publishing and graphic design of the Report Card 2) Dinner with State legislators and 3) the Report Card press release coinciding with the standard Springfield drive down.

▲It was announced at the October Meeting that the new version of Water and Sewer Construction Guide is ready to be issued.

▲The Region 3 Assembly was held August 16-17 in Chicago. Directors Lazarra and Gora attended the Assembly on the Section's behalf and reported that there was a healthy discussion about the "Raise the Bar" initiative. Discussion points touched on the need for ASCE to continue to promote optimal education and internship experience, develop more effective strategies in engaging other engineering societies, focus on effective training, maintain consistent continuing education requirements for the FE and PE, and promote closer collaboration with universities on education requirements.

The resolution was voted and passed at the Assembly.

▲Getting America to Work Coalition – At the September meeting, the Board approved the Illinois Section's support of GAWC and will allow the Section's name to be added to its membership roster. It is assumed that membership will not require monetary support.

▲State of the Region - Region 3 Director John Fraenhoffer provided a report on the State of the Region during the August Meeting. He noted that the Region 3 Assembly was to be held August 16-17 in Chicago with the main discussion topic of a region wide resolution on "Raise the Bar." He hopes to gain from these discussions member feedback on the necessity for continuing education and expectations on PE requirements. Director Fraenhoffer is also building a relationship with World Business Chicago – Mayor's Infrastructure Trust to form a joint collaborative committee for a Chicago Focused Report Card. He requested that the Illinois Section Report Committee track Chicago data separately.

▲Dr. Zongzhi Li presented on the Illinois Institute of Technology 2013 Pre-Transportation Engineering Program in support of funding from the Section during the August Meeting. The PRETRANS program is designed to motivate and encourage multicultural high-school students to gain exposure to civil/transportation engineering through lectures, field trips and lab experiments. Section Board approved a donation of \$1,500 through the Minority Affairs Committee.

The Illinois Section Board Meetings are held every first Monday of every month with the exception to holidays. The next board meeting is scheduled for Monday, December 2, 2013 at 5:30pm at MWH Americas, Inc., 175 West Jackson Blvd, 19th Floor. Meetings in the first quarter of 2014 will be held on January 6, February 3, March 3 and April 7.

By Thera A. Baldauf
thera.a.baldauf@mwhglobal.com

Upcoming Events/Volunteer Opportunities

Future Cities Chicago Regional Competition

January 2014

AAAEA Essay/Poster Contest

Submissions due February 3, 2014

Chicago Architecture Foundation Family Engineering Day

February 16, 2014

IIT E-Week Expo

February 22, 2014

For all Section, Group and Committee events, check out the Section website at:

www.isasce.org/web/section/calendar.html