



ASCE Illinois Section

News

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Changing the Way We Work in a Global Pandemic

Written by Sarah Dick, PE, ASCE YMG Social Media Director

Nearly a year into the COVID-19 pandemic, many businesses are still encouraging or requiring their staff to spend more time working from home. As this becomes the new normal, it is important to find ways to sustain

**Now, more than ever, it is
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productivity, communication, and quality of work, while also maintaining a work life balance. The effects of social distancing impact both the way we live and the way we work, and can lead to feelings of isolation at times. Now, more than ever, it is necessary to encourage connections and grow relationships both within our companies and within our industry.

WORKSPACE ENVIRONMENT TOOLS

One of the most noticeable issues in working from home is that our homes are often times not ideal spaces for work. From loud roommates to small spaces, it can be difficult to carve out a space that enables productivity. One solution for this challenge is to set up a space that is as physically similar as possible to an office space. Purchasing a comfortable office chair and utilizing full size monitors can go a long way towards making your home feel like an office. Some companies are even allowing their staff to take equipment home, with the goal of making this possible. In addition to setting up a designated workspace, limiting distractions is also important. Try to keep electronics and anything else you might find distracting out of your work area as much as possible.

In order to find a balance between your
(continued on page 7)

President's Notes

Brian L. Pawula, P.E., PMP



I am truly honored to be the 2021 ASCE Illinois Section President and would like to start by thanking a few people.

(1) To Megan McDonald, thank you and job well done as 2020 Section President, the year the coronavirus pandemic changed everything. (2) To the Annual Dinner Committee, the Awards Committee, and our Executive Secretary, thank you for guiding the Section through the virtual re-envisioning of our Annual Dinner. The online professional videos were amazing! (3) To 2021 Society President Jean-Louis Briaud, thank you for taking part in the videos. (4) To the incoming Board, thank you in advance for a fun year ahead.

The upcoming year as President will go by fast. Section initiatives and goals will be designed to be adaptable. The Section is thinking about our students, our associate members, and our Life Members.

For students, the Society is taking steps to help you such as (1) 50% reduction in annual dues for those 28 years old and younger and (2) in late October, the Society Board approved the right to vote for students. If members vote "yes" in the May 2021 ASCE election, students can expect to start voting in May 2022. By now, you should have already seen improvements to the Section's Mentorship Program, which is open to students and now to graduates two years out of school.

For associate members, the Section is taking steps to grow membership. Be on the lookout for the new Local Membership Champion Initiative which will strive to identify one point of contact at each firm and agency. Additionally, three of the Section's Institute Chapters (Construction, Structural, and Transportation) currently have strong connections to the Society Institutes. These connections are anticipated to lead to new engagement methods and technical opportunities locally.

For Life Members, the Society was recently contemplating raising your annual dues from \$0 to about \$125 (or 50% of the annual dues amount). The Section helped stop this by way of a formal letter. Also, don't forget about the Section's Legends Program, which has carried on with virtual evening meetings. If you want to learn more, email ASCELegends@uic.edu.

The Section is starting to organize for our 4th Report Card on Illinois Infrastructure. It will be prepared throughout 2021, and it will be released in spring 2022. There will be 10 Subcommittees including a new Stormwater Subcommittee. Each of the 10 Subcommittees is anticipated to have an average of 3 authors. So, we need about 30 volunteers! If you want to learn more, email brianp@thomas-engineering.com.

On behalf of the Illinois Section, thank you for reading and happy holidays!

ASCE Illinois Section News

ILLINOIS SECTION NEWSLETTER

E-Mailed to all ASCE-IS dues-paying members
American Society of Civil Engineers Illinois Section - Region 3

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Critical Path Method Scheduling for Design Projects

Written by Jeremy Coers, P.E.

A project schedule is a powerful tool to evaluate and report the progress of a project. In the transportation industry, when most people think of Critical Path Method (CPM) scheduling they often think of schedules for construction projects. Construction projects are especially well-suited for CPM

CPM Scheduling is useful for completing projects on-time and on-budget

schedules as work sequences and production rates are well understood and even published in estimating reference manuals. While design projects might not have as clear of a sequence, as long as there are logical relationships between the steps to complete the work, CPM schedules can be used to plan, track, and forecast a project in any phase.

The foundation of a schedule is the activity, a well-defined scope item with an assigned duration of time needed to complete that work. Each activity is sequenced within a network of activities by logical dependencies. For example, the activity ‘Agency Reviews Plans’ cannot start until the activity ‘Plans Submitted to Agency’ is complete. Once the sequence of activities is determined the CPM software identifies every logical “path” through the schedule, calculating their “length” based on the sum of the durations of the activities on

each path. The path that has the longest total sum duration is known as the critical path and any delays to an activity on the critical path will delay the completion of the project.

The most important consideration in developing a CPM design schedule is determining the level of detail that is described in the activities. At the lowest level of detail, activities would be large blocks of work like “Prepare Preliminary Plans” which could have a duration of several months. Schedules with this level of detail are effective for differentiating production periods from review periods but can be difficult to use to track actual work progress. Why has progress been stalled at 90% for the past month? Are we still on schedule? These questions are difficult to answer at this level of detail.

At the other end of the spectrum activities can be broken down into detailed steps like “Establish

Design projects can be scheduled as effectively as construction projects

Roadway Geometry”, “Develop Modeling Templates”, and “Annotate Plan Sheets” with durations on the order of 1-2 weeks each. This level of detail makes it easier to track progress but has a few drawbacks. First, many design

activities happen iteratively, and it is difficult to know how many times something will need to be modified when the schedule is first being developed, and therefore how many design cycles to build into the schedule. Second, there

Don’t get bogged down with a finely detailed schedule that requires more work to maintain than to build

are many ways to execute a project and the actual sequence may not match what was initially planned, requiring a constant updating of the schedule logic to match actual progress.

An effective method of scheduling design projects is to use lower detail activities, but to track the individual work product outside of the schedule. An activity called “Prepare Preliminary Plans” would have an accompanying spreadsheet with the individual steps that are performed. Each of the steps can be weighted as a percentage of the total activity, then as progress is noted for each step the overall percent complete for the overall task is accurately measured and reported.

When progress can be accurately reported, projects are more likely to be completed on-time and on-budget because negative trends can (continued on page 10)

Sustainable Infrastructure

Written by Pamela Whitfield, P.E.

Although it is usually billed as a modern movement, the concept of sustainability has been around for decades. Government and private industry have given steam to the green infrastructure movement, which has grown substantially since the 1970s. In recent years, sustainability has come more into the forefront of our lives as concerns over climate change have grown.

Sustainable, or green infrastructure can be found in all infrastructure sectors including buildings, en-

Green infrastructure in all sectors share the common goals that infrastructure should offer social, economic, and environmental benefits while limiting negative impacts on health and nature.

ergy, water resources, and transportation. Green infrastructure in all sectors share the common goals that infrastructure should offer social, economic, and environmental benefits while limiting negative impacts on health and nature. Sustainable buildings are energy and water efficient, have improved indoor air quality, and are built with renewable materials. The energy sector addresses sustainability by providing energy using renewable resources. Sustainable water infrastructure mimics nature to reduce

storm water runoff, treats wastewater as a resource for reuse, and manages assets to reduce water leakage in pipelines. Finally, the transportation sector aims to improve the environment by reducing

While sustainability has become more commonplace in recent years, many areas of the country still struggle to embrace this way of life. Educating the public on a greener way of life can overcome many barriers.

emissions and using recycled materials which adapting to the risks of climate change and increasing the livability of cities to provide transportation access to all citizens.

The benefits of sustainability are numerous and have positive impacts on the environment, social, and economic needs of communities in all parts of the world. The environmental benefits of reduced pollution, reduced depletion of resources, and cooling effects on urban areas inevitably provide health benefits and disaster resilience. Society benefits from sustainability by having more access to nature and recreation spaces. Greenery even reduces crime rates and builds a sense of community. The economic benefits are harder to see since the upfront costs of sustainable practices are generally higher.

For communities, the benefits include job creation, reduced utility bills, lower infrastructure maintenance and replacement costs, and lower healthcare costs.

While sustainability has become more commonplace in recent years, many areas of the country still struggle to embrace this way of life. Educating the public on a greener way of life can overcome many barriers. If people can see and understand the direct benefits to the lives, they are more likely to accept the changes needed for their neighborhoods to become sustainable. As engineers, we should con-

As engineers, we should continue to embrace sustainability and provide an example to the public for the positive impacts to the environment and quality of life for their communities.

tinue to embrace sustainability and provide an example to the public for the positive impacts to the environment and quality of life for their communities.

Pamela Whitfield, P.E. is a Civil Project Engineer at GSG Consultants. She currently serves as the Chair of the ASCE Illinois Section Urban Planning & Development Group.

104th Annual Awards Highlights

Written by Kris Salvatera, P.E., and Anne Marie Jensen, P.E.

This year marks the ASCE Illinois Section's 104th Annual Awards Ceremony. During this time of the year, we typically all get together to recognize and congratulate all the individuals and projects for their dedication and outstanding achievements in civil engineering. Above all, it is a time for us to celebrate together and remember how the

The ASCE Illinois Section Annual Awards Dinner is a time for us to celebrate together and remember how the people in civil engineering help shape our communities to be better places to live.

people in civil engineering help shape our communities to be better places to live.

Needless to say, this past year has been a challenging time for all of us to endure. The Annual Awards Dinner Committee had planned early on to host this year's annual awards dinner at the Hilton Hotel



2020 ASCE IL Section Award Plaques

Even though we cannot celebrate together in-person, the ASCE Illinois Section still recognizes and celebrates all the outstanding achievements this past year.

in downtown Chicago. Unfortunately, the COVID-19 pandemic prevented the ASCE Illinois Section from hosting a live annual dinner for the safety of our members. While the pandemic changed the way we conduct our business, it did not slow down our members' hard work and contributions this



VideoOne Productions filming Allen Staron with Clark Dietz, Inc., recipient of the Civil Engineer of the Year Award

past year. Even though we cannot celebrate together in-person, the ASCE Illinois Section still

recognizes and celebrates all the outstanding achievements this past year.

For the first time ever, the Annual Awards Ceremony was hosted as a pre-recorded virtual event. A video production company was



VideoOne Productions filming Greg Osborne with Epstein for Chicago Department of Transportation Riverview Bridge Project and its award for Sustainability in Civil Engineering Achievement

hired to film our traditional ceremony in a different way than we are used to experiencing. While following health and safety guidelines, the film crew visited ASCE Illinois Section members and 2020 ASCE Illinois Section Award Winners to record the ceremony presentations and recognize their achievements.

The virtual event started with an introductory presentation made by outgoing ASCE Illinois Section President Megan McDonald. (continued on page 6).

104th Annual Awards Highlights

(continued from page 5)

Keynote guest speaker, incoming ASCE Society President Jean-Louis Briaud presented on the vi-

The virtual event ceremony and award recognitions videos can be found on the ASCE Illinois Section website at the following link: isasce.org/awards.

sion of ASCE and swore in the Illinois Section Board for 2020-2021. President McDonald also recognized the recent ASCE National Winners and 12 ASCE Life Members, and thanked volunteers who gave their time and effort throughout the year by serving on various committees, technical institutes and the Section Board. President McDonald then passed her leadership role to the new incoming Illinois Section President, Brian Pawula. President Pawula addressed the Illinois Section



Quigley with Illinois Department of Transportation recipient of the Government Civil Engineer of the Year Award

members with his initiatives for the upcoming year and recognized the 2020 ASCE Illinois Section Award Winners.

The highlight of the virtual event was the presentations of the outstanding civil engineering achievements in various categories. There were many deserving nominations, and the Awards Committee wishes to thank all those that participated by submitting a nomination. Below are the 2020 award recipients:

- **Civil Engineer of the Year:** Allen Staron
- **Young Civil Engineer of the Year:** Muhammad Ali
- **Government Civil Engineer of the Year:** Anthony Quigley
- **Young Government Civil Engineer of the Year:** Kyle Johnson
- **Citizen Engineer of the Year:** P. Kay Whitlock
- **Construction Engineering Person of the Year:** Jared Hamilton
- **Private Sector Employer Recognition Award:** Michael Baker International, Inc.
- **Sustainability in Civil Engineering Achievement Award:** Riverview Bridge
- **Outstanding Civil Engineering Achievement Award (Under \$10M):** Redmond Reservoir Expansion
- **Outstanding Civil Engineering Achievement Award (\$10M to \$25M):** Lake Street Corridor Improvement – Utility, Streetscape, and Resurfacing
- **Outstanding Civil Engineering Achievement Award (\$25M to \$100M):** Fox Metro Water Reclamation District – CSO LTCP Phase 2 Improvements

The virtual event ceremony and award recognitions videos can be found on the ASCE Illinois Section website at the following link: isasce.org/awards. If you would like to send your own personal congratulations message to our award winners, please comment on our ASCE IL Section Facebook page (facebook.com/Illinois-Section-ASCE-157603771107643) or our LinkedIn page (linkedin.com/company/illinois-section-asce).



VideoOne Productions filming DuPage Stormwater Chairman, Jim Zay for the Redmond Reservoir Expansion project and its award for Outstanding Civil Engineering Achievement Under \$10M

Kris Salvatera, P.E. is a Senior Transportation Design Engineer with Crawford, Murphy & Tilly, Co-Chair for the ASCE Illinois Section Annual Awards Committee, and an ASCE Illinois Section Director to 2020.

Anne Marie Jensen, P.E. is a Project Manager with HNTB, Co-Chair for the ASCE Illinois Section Annual Awards Committee, and an ASCE Illinois Section Director to 2021.

Changing the Way We Work in a Global Pandemic

(continued from page 1)

work and home lives, it is also important to keep your workspace as separate from your living space as possible so the lines between work and home don't blur. In a large house, this may mean setting up a home office or using the guest room. In an apartment, this may mean setting up a small corner of the living room that is used just for work. If you have roommates or a partner at home, it may be useful to discuss setting quiet work hours and to ask them to avoid unnecessary interruptions as much as possible while you are in your workspace. At the end of the workday, separate yourself from your workspace and take some time to disconnect from work. In doing this, it becomes much easier to maintain a positive work life balance.

HELPFUL METHODS FOR DAILY ROUTINE

Routine is a part of most workdays. Another issue with working from home is finding and keeping to a routine. It can be tempting to use the pandemic to sleep in and wear pajamas all day, but maintaining a normal schedule is useful in staying motivated and engaged with your work. Getting up at the normal time every day and replacing your commute with a walk or something else that you enjoy can help get you prepared for the day. Getting dressed (yes, even when you don't have a video call) will help you keep a sense of normalcy and can make you feel more like you are at the office. Taking your normal lunch, as you would if you were in the office will give you a needed break and help you recharge for the afternoon.

ENGAGE, COLLABORATE, NETWORK

While working from home, you may find it difficult to communicate easily and consistently with your team. In an office setting it is simple to stop by a coworker's desk to ask a question, discuss a project, or even just talk about your plans for the weekend. Working from home complicates this organic source of communication and makes it necessary to find alternate ways to connect. While less personal than talking face-to-face, using office instant messenger can be a quick and easy way to informally check in with teammates. Another great option is to use video call software, such as Teams or Webex, so you can see your teammates and share screens. This can be especially useful when you are collaborating on a project and need input on something you are working on.

Ultimately, no matter how you choose to communicate, scheduling regular times to catch up is a must in order to ensure work is getting done efficiently and accurately. If you have newer staff working on your team with you, it is especially important to schedule regular meetings. This allows them an easier and more accessible way to get the help that they normally would in the office. Regular project team meetings are also critical while staff is working remotely. Getting the entire project team together to discuss any issues and to keep everyone informed about what is going on is vital to the success of the project.

In a typical workday, not every conversation is focused on work. It is also important to continue to foster relationships with your coworkers, even though you aren't seeing them every day. Something as simple as a virtual team happy

In order to find a balance between your work and home lives, it is also important to keep your workspace as separate from your living space as possible so the lines between work and home don't blur.

hour can boost morale and make people feel more connected to their coworkers. Adding games, such as trivia, to the happy hour can make it more interactive and encourage people to be more engaged. Continuing to celebrate birthdays and holidays virtually is another great way to stay connected with your teammates. Consider having these virtual meetups at varied hours of the day to accommodate employee schedules.

In addition to keeping in touch with co-workers, networking and staying connected to the industry is also important. Many organizations are offering virtual events with the goal of keeping people connected. Events such as happy hours, trivia contests, and holiday parties have all moved online. Organizations such as WTS, SEAOL, and ASCE are hosting virtual happy hours to keep their members (continued on page 8)

Changing the Way We Work in a Global Pandemic

(continued from page 7)

connected while they are physically apart. Without commute time taking up hours of the day, the pandemic has provided an excellent opportunity to get more involved in a professional society. Subscribing to various professional society newsletters can help ensure that you are not missing out on any events. Some organizations, such as ASCE and WTS, offer mentorship programs which can be a great way to connect with somebody new. Everything from committee meetings to technical presentations have been moved online. Having large meetings make it difficult to network effectively, consider having a one-on-one coffee or lunch network meeting. Since many are working from the comfort of their own homes, it makes attending

these events even more accessible and easy to do.

The pandemic has certainly created some unique challenges both in and out of the office. Adjusting to working from home may take

Adjusting to working from home may take some additional effort, but it can be done successfully by employing some of the methods discussed in this article.

some additional effort, but it can be done successfully by employing some of the methods discussed in this article. Setting up a comfortable office space and maintaining a

schedule will help keep you on track. Intentional communication with your team will ensure that your projects are being delivered on time and that they are of the same quality pre-pandemic. Investing your free time in connecting with your teammates and other industry contacts can help you maintain and grow your connections, which will ultimately broaden your career. Though you may be working alone from home, rest assured that everyone is experiencing some level of upheaval. Make sure to reach out to your teammates for support when needed.

Sarah Dick, P.E. is a Civil Engineer from Purdue University currently employed by HDR and specializing in roadway/drainage design.

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To inform Illinois Section members of the discussions at monthly Board meetings, the Section Secretary contributes this article to the newsletter. Any questions or comments on the Board activities are welcome by contacting Matt Huffman at mhuffman@cbbel.com.

■ **Treasurer’s Report**

▲ A treasurer’s report was presented at the September, October and November 2020 meetings (*all meetings were held via teleconference only due to COVID-19 response*). All reports were approved.

■ **Highlights from Illinois Section Activities and Institute/Group Reports.**

▲ **2020 Annual Awards Dinner** – The 2020 ASCE Illinois Section Annual Awards has been re-envisioned as a virtual event this year due to the ongoing COVID-19 pandemic, which is planned to be a produced video recording and will be released in mid/late November. Please see the Illinois Section’s website for this year’s award winners: <https://www.isasce.org/2020-isasce-award-winners>

▲ **ASCE Society Convention** – The 2020 ASCE Convention was held this year as a virtual event from Wednesday 10/28/2020 thru Friday 10/30/2020. ASCE Illinois Section President Brian Pawula and President-Elect Andrew Walton attended various program sessions to represent the Illinois Section. The ASCE Convention provides an opportunity to network

with civil engineers from all over the world, hear from dynamic speakers, visit virtual exhibitors, and get the insights to stay ahead in the civil engineering profession. For more information about the ASCE Society Convention, please refer to the following webpage: <https://www.asceconvention.org/>

▲ **Illinois Section Report Card Update** – The Illinois Section will be starting the planning process to perform an update to the Illinois Infrastructure Report Card for release in 2022.

▲ **ASCE Proposed Life Membership Changes** – ASCE Board proposed changes to the Life Membership requirements and the dues structure. The Illinois Section sent a letter objecting to the process used to solicit input from membership on the proposed changes. The proposed Life Membership changes were rescinded for a vote at the recent ASCE Board meeting during the ASCE 2020 Convention and the proposed changes will not go into effect at this time.

▲ **Construction Institute (CI)** – The CI hosted virtual presentations in October on a topic related to building construction and in November for underwater bridge inspection/imaging and special inspection access. For more information or if interested in joining this institute, please contact CI Chair Justin Weisberg at jweisberg@rsplaw.com.

▲ **Environmental & Water Resources Institute (EWRI)** – EWRI

events have been suspended due to the ongoing COVID-19 pandemic. Please contact EWRI Chair Steve Randolph with any questions or for information about EWRI activities at randolph@hornershifrin.com.

▲ **Geo-Institute (GI)** – The GI hosted virtual presentations in October on the lessons learned from the failure of Teton Dam and in November about the Prairie du Sac Dam in Wisconsin. Please contact GI Chair James P. Hambleton with any questions or for information about GI activities at jphambleton@northwestern.edu.

▲ **Structural Engineering Institute (SEI)** – The SEI hosted virtual presentations in September on the investigation findings of the Florida International University (FIU) bridge collapse on March 15, 2018 and in November about antiquated structural systems. Please contact SEI Chair Irsilia Colletti with any questions or for information about SEI activities at icolletti@hntb.com.

▲ **Transportation & Development Institute (T&DI)** – No virtual presentations were held. Monthly T&DI board meetings are held on the second Wednesday of the month. Please contact T&DI Chair Colleen Miller with any questions or for more information at comiller@gfnet.com.

▲ **Urban Planning & Development Group (UP&D)** – All UP&D events have been suspended due to the ongoing COVID-19 pandemic. (continued on page 10)

Secretary Report

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Please contact UP&D Pamela Whitfield with any questions or for more information at pwhitfield@gsg-consultants.com.

▲ Younger Member Group (YMG)

– The YMG hosted a virtual presentation in September on the effect of industry 4.0 on AEC. In October the YMG held a series of virtual social events ‘October Olympics’ during

each week of October. For more information about YMG activities or if interested in joining this group, please contact YMG Chair Ben Ostermann at Benjamin.Ostermann@jacobs.com.

The Illinois Section Board Meetings are held the first Monday of the month, except for holidays. The next board meeting is scheduled for December 7, 2020 and will be held via

teleconference only due to the ongoing COVID-19 pandemic. If you are interested in attending these meetings, please contact President Brian Pawula at brianp@thomas-engineering.com.

By Matt Huffman, P.E.

ASCE Illinois Section Secretary 2020-2022

mhuffman@cbbel.com

Illinois Section

Activities

LEED Green Associate (GA) Training – Webinar and Online Self-Paced Options

Date: Thursday, November 19 – Saturday, February 6th
Cost: \$200/ASCE Members can use the coupon code ‘sust’ for \$50 off if you are paying out of pocket.
<https://leadinggreen.com/online-leed-green-associate/>

ASCE IL Section SEI Lecture Series Call for Abstracts Due

Date: Thursday, December 31

SEI is seeking abstracts addressing the [\[r20.rs6.net\]](https://www.asce.org/abstracts) with an emphasis on presentations that highlight innovative topics with practical applications. Presentations that are lively, entertaining, and interactive are encouraged.

Lecture Series: September/October 2021

Who Should Submit an Abstract?

SEI encourages submissions from educators, researchers, structural engineers, bridge and building designers, firm owners, codes and standard developers, and other.

[Submit an Abstract](#)

Critical Path Method Scheduling for Design Projects

(continued from page 3)

be mitigated before their impacts are realized. Activities can be advanced earlier in the project, or more staff can be added to tasks so that they are completed sooner. These principles have been used

successfully in the construction industry for decades, and with careful planning can be equally useful for design projects.

Jeremy Coers, P.E. is a Senior Technical Manager at Michael Baker International and has nearly 20 years of experience in Roadway Design and Program Controls.