

BRIDGES

U.S. Infrastructure Grade Rises—Slightly

The American Society of Civil Engineers (ASCE) has given the nation's infrastructure a near failing grade of "D+" overall in its 2013 *Report Card for America's Infrastructure*, released earlier this spring. However, it shows slight progress from the "D" rating given in the last *Report Card* in 2009.

The report provides advice from the civil engineering community about the condition of U.S. infrastructure. ASCE has produced four previous reports—in 1998, 2001, 2005 and 2009—as well as the *Progress Report for America's Infrastructure*, which was released in 2003. These assessments have highlighted that America's critical infrastructure—principally its roads, bridges, drinking water systems, mass transit systems, schools and systems for delivering energy—may soon fail to meet society's needs.

Final grades were assigned based on capacity to meet future demand, condition, funding, future needs, operation and maintenance, public safety, resilience and innovation. The bridges sector earned a small improvement, to a "C+"

this year from a "C" in 2009. Nevertheless, the Federal Highway Administration (FHWA) estimates that to eliminate the nation's deficient bridge backlog by 2028, about \$20.5 billion would need to be invested annually; only \$12.8 billion is currently being spent annually.

Michael F. Britt, senior vice president and director of project development at bridge engineering firm Modjeski and Masters, commented, "Making infrastructure repair and maintenance a priority is our responsibility and obligation for today's travelers and future generations alike. With one in nine of our nation's bridges classified as structurally deficient, it is more important than ever that state and federal governments work together to solve the problem of transportation funding."

"We are making strides in the right direction, with the number of bridges classified as structurally deficient and functionally obsolete declining—but there is still much work to be done," he added.

You can view ASCE's 2013 *Report Card for America's Infrastructure* at www.infrastructurereportcard.org.

STEEL DECK

SDI Releases New Deck Quality Standard

The Steel Deck Institute (SDI) has recently developed ANSI/SDI QA/QC-2011 *Standard for Quality Control and Quality Assurance for Installation of Steel Deck*, a new standard that addresses quality in deck installation. The standard was developed with input from a broad group of designers, installers, manufacturers and code officials and underwent a rigorous consensus process under ANSI guidelines; it represents the first open and available standard that addresses steel deck installation quality.

The new standard uses a similar form to the quality assurance and quality control provisions in Section N of AISC 360-10 and Section J of AISC 341-10. It does not conflict with the composite deck installation quality requirements contained within the current AISC standards, and future AISC standards will refer to it in a user note.

The *Standard* includes requirements for required submittals, qualifications for inspection and testing personnel, and QA and QC tasks. Consolidated tables of inspection and execution tasks are provided at the end. It has been accepted as the special inspection requirements for steel deck installation in the upcoming 2015 *International Building Code*. However, it can be used immediately.

For buildings where special inspections are required, compliance with the standard can be written into the inspection plan requirements, and for buildings where special inspections under Chapter 17 of the IBC are not applicable, the commentary provides an easy and efficient way for designers to require the standard's use by including it in their project specifications with recommended modifications.

The new standard, along with all other SDI Standards, is currently available for free download at www.sdi.org.

People and Firms

- **Ruby+Associates Structural Engineers** has named **Robert Stempien, AIA**, a former **Barton Malow Construction** senior director and longtime veteran of the architecture and construction industries, as its newest vice president.
- One year after **Thornton Tomasetti** acquired Portland, Maine-based green building consulting firm Fore Solutions, the international engineering firm has expanded its Building Sustainability Practice with the addition of Bay Area-based green building consultant, **Simon and Associates, Inc.**
- **LeJeune Bolt Company** has created a Western Division. Located in Chino, Calif., the new 16,000-sq.-ft warehouse will serve California, Arizona, Nevada, Utah and New Mexico.
- **Carney Engineering Group**, a multi-discipline structural engineering firm serving the Mid-Atlantic region, has named **Joshua Eisenhauer** structural project manager. In this role, he will develop and manage a structural project team and oversee structural engineering projects through to completion.
- **buildingSMART International** has certified **Scia Engineer** as the first structural building information modeling (BIM) software to pass the organization's IFC 2x3 version 2.0 structural model exchange process. Managed by buildingSMART, IFC (Industry Foundation Classes) is a registered ISO standard (ISO/PAS 16739) developed for the exchange of BIM data. For more information, visit www.buildingsmart.org.
- **Hypertherm**, a U.S.-based manufacturer of advanced cutting systems, has opened a new 160,000-sq.-ft manufacturing facility in Lebanon, N.H. The additional manufacturing space is expected to facilitate the creation of up to 500 new jobs, including advanced machinist and engineering positions.



AISC NEWS

Shape the Future of Steel

Do you have the next great idea for a groundbreaking technology, model shop or building that could potentially revolutionize the future of the steel design and construction industry? Enter AISC's first-ever Future of Steel competition! The competition rewards and celebrates innovative ideas for the future of structural steel fabrication, erection, engineering, design and construction. And you have the opportunity to win one of three cash prizes, totaling \$2,000!

The first-place winner of the competition will receive a grand prize of \$1,000 cash; the second-place winner will receive a \$500 cash prize; and two third-place winners will receive a \$250 cash prize. In addition, the winning designs and runners-up will be displayed at the 2014 NASCC: The Steel Conference, March 26-29 in Toronto. And your design may also be featured in an upcoming issue of *MSC*.

What makes this competition truly fantastic is that there are no rules! Let your inner visionary and inventor shine; the sky's the limit! We're looking for design concepts for innovations that haven't been realized yet by the steel design and construction industry.

The only thing we ask is that your designs and graphics be sent electronically. All images should be 300-dpi JPEG, TIFF or EPS files, preferably 4 in. by 6 in. or larger. Please do not embed photographs or figures in a Microsoft Word document (or any other type) unless you have also included separate image files. AutoCAD files cannot be used; submit structural details as line drawings or high-resolution PDFs.

Competition entries can be submitted by an individual or a team. Please also include a title for your innovation and a brief description with your entry, as well

as the entrant's name(s) and/or company. All submissions represent that the entrant grants AISC an irrevocable, worldwide, paid-in-full license to publish (in both print and electronic form) all of the designs, images, drawings, graphics or electronic files provided by the entrant.

Please submit your competition entries to AISC's Carly Hurd at hurd@aisc.org by October 1, 2013. All of the entries will then be posted publicly to AISC's Facebook page at www.facebook.com/AISCdotORG, where they'll be voted on by fans. The three entries that receive the most votes will be crowned the winners!

Remember, the future of the structural steel industry lies in the areas of innovation, which is driven by great ideas. Enter the competition and you could potentially shape the future of steel! Good luck!

NSBA NEWS

2014 World Steel Bridge Symposium Call for Papers

The National Steel Bridge Alliance's 2014 World Steel Bridge Symposium will be held in conjunction with AISC's North American Steel Construction Conference (NASCC) in Toronto, March 26-29, 2014. The symposium brings together design engineers, construction professionals, academics, transportation officials, fabricators, erectors and builders to discuss

and learn state-of-the-art practices for enhancing steel bridge design, fabrication and construction techniques.

The organizers of the 2014 event—NSBA, AISC, the Structural Stability Research Council, the Canadian Institute of Steel Construction and IMCA—are interested in papers that deal with all aspects of steel bridge design and construction.

If you're interested in presenting a paper, please submit an abstract, 500 words or less, summarizing the paper. Abstracts are due by July 1 of this year. Authors of accepted papers will be notified by August 15, and completed papers must be received by November 18 for final review.

Abstracts should be sent to abstracts@steelbridges.org; the preferred format is PDF.

PROJECTS

Steel Rises at 3 WTC

Construction of Three World Trade Center, designed by Pritzker Prize-winning architect Richard Rogers, is currently underway. Expected to rise to 80 stories by 2015, the tower will include 2.8 million sq. ft of office and trading space spread across 53 floors and will also have five levels of retail space at and below grade.

The tower will consist of a reinforced

concrete core with a steel structure outside the core and will be clad in an external structural steel frame. Its safety systems will exceed New York City building code and Port Authority of New York and New Jersey requirements, and it will seek to achieve the LEED Gold rating for energy efficiency, according to the World Trade Center website (www.wtc.com). Owen

Steel Company (an AISC member/AISC certified fabricator) is the steel fabricator for the project and WSP Cantor Seinuk is the engineer of record.

The tower will be situated at the center of the various buildings around the 9/11 Memorial. The original 3 World Trade Center, a Marriott hotel, was destroyed during the collapse of the twin towers.