

# ACEC NEBRASKA AWARDS OF EXCELLENCE

Omaha World-Herald  
SPECIAL SECTION  
FEBRUARY 16, 2020

## NATIONAL ENGINEERS WEEK FEBRUARY 16-22, 2020

Building Omaha's future  
requires investment in  
engineering talent. **2W**

HDR Global Headquarters  
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sustainability. **5W**

Meet 2020's ACEC Nebraska  
Young Professionals of the  
Year. **11W**





# 'DIRE NEED'

Building Omaha's future requires investment in engineering talent

By SCOTT STEWART

WORLD-HERALD CORRESPONDENT

Nebraska is expected to need 15,000 new workers in the engineering and computer science fields in the next five years. That's driving investment in training programs and creating more opportunities for young people to parlay their skills in math and science into a career in engineering.

"If you have a degree, you have a position waiting for you somewhere," said Ryan King, a vice president and Omaha office manager for Farris Engineering. "If you have aspirations of being rich, this is probably not the career for you, but you will always have job security."

Omaha's high concentration of architectural, engineering and construction companies, coupled with the area's aging infrastructure, booming real estate market and strong economy, is adding to the demand for engineering services.

"As the city expands beyond its current boundaries, more engineers are going to be required," said Steve Kathol, president and CEO of Schemmer, an Omaha-based architecture, engineering and construction consultancy. "There isn't enough talent to respond to overall demand."

The solution, Kathol said, is convincing more young people to consider careers in the field.

Investments in the University of Nebraska-Lincoln College of Engineering and the Peter Kiewit Institute in Omaha are expected to boost enrollment in Nebraska engineering programs by 5,000 within the decade, a 50% increase.

"We need to be bigger to meet the workforce needs of the companies in the state and in the region," said Lance C. Pérez, engineering college dean. "If we're not growing and producing the engineering, computing and construction talent that companies need, they eventually go someplace else. They go to where the talent is."

Engineering is intimately connected to growing the Nebraska economy, Pérez said. Besides providing workers, engineering research creates new technologies that can spin off new companies or help those that adopt the improvements.

The university is working on a \$75 million



CHRIS MACHIAN/THE WORLD-HERALD

The Papillion Landing community recreation center, a project of Morrissey Engineering, opened in mid-January 2020. "The feedback we're getting from the public is, 'Man, this place is great.' That's the joy of my job," says Morrissey partner Steve Farrington, an electrical engineer.

## TOP 10 QUALITIES OF ENGINEERS

Engineering is a high-skill, high-pay, high-demand occupation. People who tend to do well in this H3 field have the following traits:

- Natural curiosity
  - Logical thinking and reasoning
  - Communication skills
  - Attention to detail
  - Creativity and innovation
  - Team player
  - Math skills
  - Problem-solving skills
  - Technical knowledge
  - Constant learner
- Source: ACEC Nebraska

renovation of the Walter Scott Engineering Center and Nebraska Hall, plus construction of an \$85 million Kiewit Hall on the east side of the engineering complex. Pérez said a facility enhancement project is also planned for Omaha's Peter Kiewit Institute. Both campuses have been hiring faculty.

Other regional schools are investing in programs to train technicians, surveyors

and others involved in jobs related to engineering, said Jeff Sockel, a senior vice president and Omaha division manager for Alfred Benesch & Company.

"We're in dire need of talent," Sockel said. "We're definitely excited to see not only the improvements that are happening for the University of Nebraska but other colleges."

Beyond growth in the field, Sockel said, retirements mean even more openings to fill in the coming years — at all levels of organizations.

Chris Dorner, who leads Thompson Dreesen & Dorner's land surveyor department, said he has been running an ad for a technician for two years and has yet to find a qualified candidate.

"Surveying is something most people just fall into," Dorner said. "If you find you like it, stick with it. You can make a great career out of it."

TD2's president, Doug Dreesen, said he was told as a young engineer that there would never be enough people in the profession. After 40 years, he said, that's still the case.

"It's a great career choice for those who are mathematically and scientifically inclined," he said. "You don't have to zero-in

on a narrow specialty. You can practice pretty generally and tailor your skills to wherever the market takes you."

Engineering, at its fundamental level, is problem-solving, Dreesen said.

"No two projects are exactly alike," Dreesen said. "We value versatility. We want you to know how to do stuff, even though you may not get to do it very often."

Steve Farrington, an electrical engineer and partner with Morrissey Engineering, said creativity is required, too — not just a knack for numbers. Many engineers spend their days working with other people, asking questions and presenting their work to the public.

"Most people don't associate creativity with electrical engineering," said Farrington. "No two building projects are alike. Each has its own considerations, which is the fun part. You need to be creative to be successful."

Good communication skills are essential, as well. "We work with architects, contractors, owners and others, and everyone has something that they're trying to achieve."



Steve Farrington



Engineering firms have distinct cultures, Farrington said. "In general, our company has a loose, adaptive culture. We do approximately 450 projects a year, and that requires everyone to be a hard-working team player in order to create a dynamic experience for our clients."

Farrington, who started out as an intern with Morrissey and joined the firm 19 years ago, especially enjoys working on projects with high community impact. He offers the recently completed Papillion Landing community recreation center as an example. "The feedback we're getting from the public is, 'Man, this place is great.' That's the joy of my job."

"The work of civil engineering is long-lived and can be in place for generations," said Nancy Pridal, CEO and president of Lamp Rynearson. "It is very gratifying to ... help develop a project that will leave a legacy."

Michael Malone, transportation department leader at JEO Consulting Group, said there's a lot of difference between the technical, management and client development paths in the field.

"Those kinds of things are all needed within our industry, at least on the consulting side," he said. "You have to figure out what it is that makes you want to wake up and go to work in the morning. If you don't find what that is, work can be a real challenge."

Farris Engineering's King loves how the job makes him use different parts of his brain each day. He said it's a great field for people who get bored easily.

"Every day, you're going to meet somebody new and have a new problem to solve," King said.

At the end of a project, there's also something new — a building, a roadway or construction that follows infrastructure improvements — that is physical evidence of a job well done.

"It is very rewarding to see how that improves society overall as citizens use those facilities that you were a big part of designing and making happen," said Schemmer's Kathol. "From my perspective, I think we've got the best profession in the world."

#### ADVICE FOR BREAKING INTO THE PROFESSION

"My advice to those who are just starting a career in engineering is threefold: 1. Apply for internships while you are still in school.

Intern experiences can help drive choices for career paths. 2. Be open to taking on diverse assignments. Getting a broad range of experiences early on can open possibilities as your career advances. 3. Get involved in professional and community organizations. Volunteer for committees and leadership positions. The relationships and experiences can build skills and as well as be fulfilling."

*Nancy Pridal, CEO and president, Lamp Rynearson*

"Great communication skills, great management skills — those can really help excel not only your career but your everyday work. Engineers who work on public infrastructure often have to speak to the public."

*Steve Kathol, president and CEO, Schemmer*

"You don't ever want to back yourself into a corner and decide too early that you're absolutely positive about what you want to do. ... I love what I do right now, but it wasn't what I planned. If I had closed that door ahead of time, if I had assumed that I wouldn't like it, who knows if I would be as happy as I am right now."

*Ryan King, vice president and Omaha office manager, Farris Engineering*

"They know that, when they graduate, they're going to change jobs, on average, seven times in a career. They have to continue to adapt and learn to remain viable."

*Lance C. Pérez, College of Engineering dean, University of Nebraska-Lincoln*

"Getting as much practical experience as you can through internships in college is definitely a way to get a leg up."

*Jeff Sockel, senior vice president and Omaha division manager, Alfred Benesch & Company*

"If you find something that you like, stick with it."

*Chris Dorner, land surveyor department lead, Thompson Dresseen & Dorner*

"You have to balance doing something for the team or doing something for the firm but also figure out what you want to do that best matches your skills, interests and career path."

*Michael Malone, transportation department lead, JEO Consulting Group*

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## ABOUT THIS SECTION

This special section is produced in collaboration with the American Council of Engineering Companies-Nebraska in conjunction with National Engineers Week, Feb. 16-22.

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We congratulate John S. Olsson, executive vice president of consulting services, for being awarded the Durham Award by ACEC/Nebraska and for adding purpose to everything we engineer. [olsson.com](http://olsson.com)





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## CHARLES DURHAM AWARD



## Large municipal projects, community-mindedness define 2020 honoree John Olsson

John S. Olsson is the 2020 winner of ACEC Nebraska's Charles Durham Achievement Award.

The honoree is executive vice president of consulting services for Olsson. In his role, he works with teams throughout the firm to identify and prioritize large public sector clients and projects. Olsson also works with the firm's practice leaders to enhance the firm's standing at the municipal and state levels.

Olsson has served in several leadership roles since joining the firm in 1989. He was named leader of the civil municipal team in 2001, became the firm's Lincoln office leader in 2007 and two years later was selected to serve on the first firmwide operations team.

Olsson exemplifies the firm's community-focused values through his involvement in various nonprofit and civic organizations. He served as president for the Nebraska Society of Professional Engineers and is a past director for ACEC Nebraska.

In 2015, Olsson helped establish the Ols-

### ABOUT THE AWARD

The Charles Durham Achievement Award was created to honor Charles Durham's leadership in the engineering profession and his community stewardship through civic involvement. Durham served as chairman and CEO of Henningson, Durham and Richardson (HDR), the international engineering and architectural firm headquartered in Omaha. Over the years, he and his wife, Marge, served in leadership roles with many community organizations and donated millions of dollars to worthy causes.

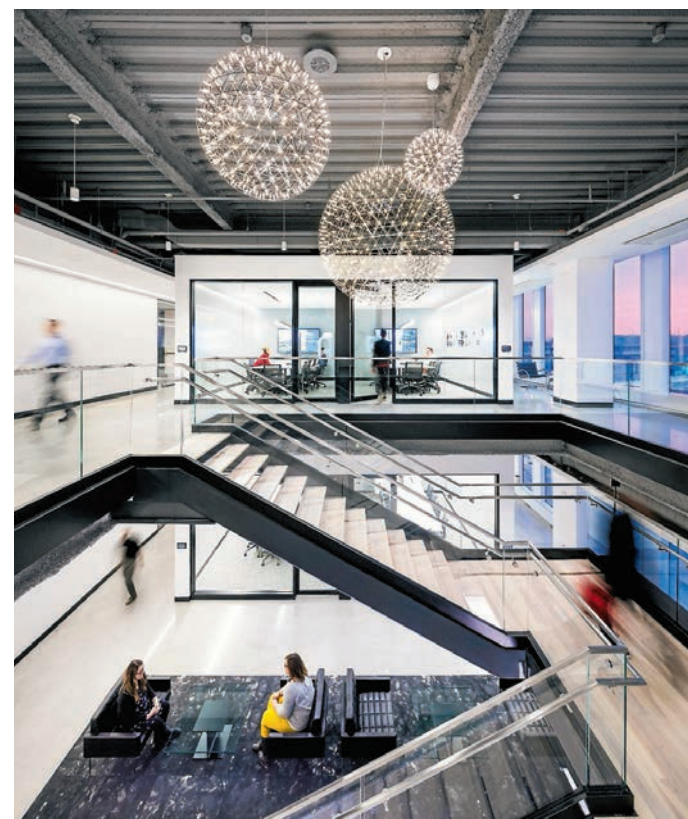
son Foundation, a 501(c)(3) private foundation that supports education, communities and the environment.

ACEC's honoree graduated with a bachelor of science degree in civil engineering from the Colorado School of Mines and earned a master's degree in engineering from the University of Nebraska-Lincoln.

He is the son of the firm's founder, John E. Olsson.



# 2020 ENGINEERING EXCELLENCE AWARDS GRAND AWARD



## HDR GLOBAL HEADQUARTERS

HDR for Noddle Companies

Headquartered in Omaha since 1917, global design firm HDR sought a new headquarters building that reflected the talents and skills of its architects, engineers and planners.

The firm partnered with owner Noddle Companies to design a 10-story, 240,000-square-foot multiuse office building at Aksarben Village. The end result is a striking building with a design that respects its context and fosters collaboration, and in which engineering plays a significant role.

This project illustrates the importance of engaging all parties early in the design process. The building's unique form is chamfered at the corners to maximize square footage on upper floors while opening walkable space on the ground level to activate engagement with the surrounding neighborhood. Rather than having "front" and "back" sides, space that would have typically been used for a loading dock was reimagined as a retail alley.

HDR committed to a rigorous, integrated design process, which resulted in the building's LEED New Construction v4 Gold-level rating. The design team achieved specific performance achievements including:

- » 68% Energy Use Intensity reduction compared to the regional average
- » 31% water use reduction



PHOTOS BY HDR

**ACEC Nebraska awarded its 2020 Excellence in Engineering Grand Award to HDR for the HDR Global Headquarters in Aksarben Village. The building earned a coveted LEED New Construction v4 Gold-level rating.**

- » 87% irrigation reduction
- » Lighting Power Density 38% better than code

- » Estimated 15% Material Carbon Impact reduction over a comparable building
- » Savings of more than 67 tons of steel by constructing the building using SidePlate steel connections, a first in Nebraska.

The building also earned a three-star rating from Fitwel — the highest rating possible for this certification that optimizes buildings to support occupant health.

**Congratulations ROB VANDERVEEN, PE**  
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**Congratulations to the ATLAS PROJECT**  
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# 2020 ENGINEERING EXCELLENCE AWARDS HONOR AWARDS

## 1201 CASS COMMERCIAL OFFICE

Alvine Engineering for Alvine and Associates

**Category winner:** Building/Technology/Systems

Currently seeking certification by the International WELL Building Institute, 1201 Cass Commercial Office was designed according to the WELL Building Standard. The owner began the project with the goal of WELL certification; therefore, the design team made that the main focus from the architectural layout and programming of the space to all MEP, fire protection and technology systems. Many of the systems required innovative solutions to achieve the owner's other goals, while remaining in compliance with WELL standards. The lighting system consists of tunable light fixtures that balance electric light with daylight to provide adequate lighting while reducing eye fatigue and encouraging a healthy circadian rhythm. The underfloor air distribution systems used throughout the office allow workstation users to have control of the airflow at each desk, promoting the WELL benefit of individual thermal comfort. The owner not only wanted to gain a better understanding of the WELL Building Standard through design and construction, but also to share the lessons and innovation with others. To accomplish this, the building is a living learning lab with MEP and technology systems on display. Visitors can view the mechanical room from a window in the lobby, the underfloor air distribution system is exposed in one conference room, and the lighting lab features changeable light fixtures for demonstrations. Perhaps the greatest measure of success for the 1201 Cass Commercial Office project is the positive feedback from employees who take full advantage of the WELL benefits that promote a healthier lifestyle overall.

## TRI-FAITH CAMPUS ABRAHAM'S BRIDGE

Olsson for the Tri-Faith Initiative

**Category winner:** Structural systems

The Tri-Faith Initiative is comprised of three intentionally co-located congregations of the Abrahamic faiths (Islam, Judaism and Christianity) on 38 acres in the Sterling Ridge development near 132nd and Pacific Streets in Omaha.



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Upper Prairie-Silver-Moores Flood Risk Reduction

The Tri-Faith Initiative's vision called for three worship-education centers, all facing one another, and a shared Tri-Faith Center to serve as a communal gathering spot for programs, events and activities. To reinforce this vision, the initiative's board of directors desired a circular boardwalk feature to physically connect the three places of worship over the stream referred to as "Hell Creek." The Olsson team's civil and structural engineers designed a 450-foot diameter feature that reinforces the geometry of the site, while its floodplain management and environmental specialists worked to make sure the structure was compliant with federal regulations. The result is an idyllic setting to cultivate community, respect and harmony.

### HASTINGS UTILITIES – AQUIFER STORAGE AND RECOVERY PROGRAM SERVICES

HDR for Hastings Utilities

**Category winner:** Water and Waste Water

At the beginning of this project, Hastings Utilities was faced with a difficult decision to provide a reliable long-term drinking water source for the community. The wells in the city were seeing high levels of nitrate and uranium. Traditional solutions included

constructing a full-scale water treatment plant, which would cost more than \$100 million and severely impact the community's utility rates. The need to develop alternative solutions to provide clean drinking water with innovative management strategies to meet current and future demands was apparent. Aquifer Storage and Recovery (ASR) is a complex, innovative and developing technology, requiring careful design and implementation to achieve desired results. In the case of HU, ASR is being used to treat high-concentration nitrate water and injecting it back in the aquifer upstream to create a water bubble that has a lower nitrate concentration. This clean water bubble is projected to move downstream to the city's drinking water wells. The ASR is a subsurface storage technology, and is more resilient and protected than alternative and traditional storage technologies. The stored water is protected from evaporation, pollutants and extreme weather events. Advanced hydro-geologic assessment techniques were used for proper selection of the site and water storage zones in the aquifer. The project provides a long-term sustainable and cost-effective solution to the community's drinking water needs.



UNL Johnny Carson Center for Emerging Media Arts Audio-Visual Systems

LEFT: JEO CONSULTING GROUP; RIGHT: MORRISSEY ENGINEERING

### UPPER PRAIRIE-SILVER-MOORES FLOOD RISK REDUCTION

JEO Consulting Group for Central Platte Natural Resources District

**Category winner:** Water Resources

The Central Platte Natural Resources District hired JEO to provide flood-risk reduction and resilience to the northwest area of Grand Island, Nebraska. The primary objective was to reduce flood risk to residential and commercial properties in the event of a 100-year storm. Estimates indicate that the completed project reduces flood damages by about \$47 million from a 100-year event. The project's secondary objective was to revise FEMA floodplain maps to accurately reflect the reduction in flood risk, including removal of about 500 homes and businesses from the regulatory floodplain. The structural flood risk reduction components include a large detention cell, four dry dams and a levee. The nonstructural efforts included a citywide public education event: the Flood Control Stroll.

In spring 2019, floodwaters tore through Nebraska, leaving many of its communities and farms destroyed, houses and livelihoods underwater, and roads, bridges and

dams washed away. And yet, Grand Island, a city historically prone to extremely severe floods, remained dry. Its resilience was possible largely in thanks to the Upper Prairie-Silver-Moores Flood Risk Reduction project.

It is estimated to have prevented more than \$90 million in damages; meaning the project essentially paid for itself almost four times over.

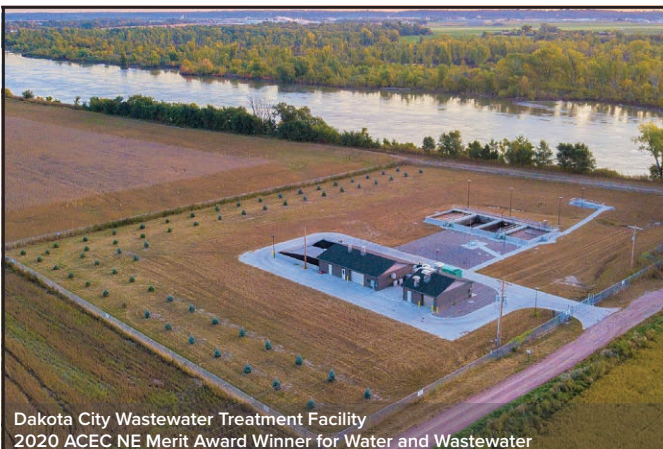
### THE ATLAS


Lamp Ryneason for NuStyle Development

**Category winner:** Special projects

How do you wipe away the images of a sterile hospital, sitting amid a sea of deteriorated parking? Developer NuStyle had a vision of what the 1972 hospital and site could become. Instead of scrapping both, a high-flying redevelopment project now takes its place — one to inspire anyone who appreciates the unexpected. This 732-unit apartment project boasts new residential amenities, commercial and green spaces, a large detention pond, landscaping and a new connection to the neighborhood north of the

Continued on page 8





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The Atlas

Continued from page 7

project via the North Freeway Pedestrian Bridge. What do you name this truly unique project? The Atlas! Nebraska-based civil engineering firm Lamp Ryneearson was an integral part of a collaborative team selected to put the project together. Researching the area's aging infrastructure and designing for the project's complex goals were elements of the team's responsibilities. Knowledge of the City of Omaha's sewer separation plan positioned Lamp Ryneearson for success. 3D scanning, traditional survey and site design "set the stage" for a winning project. Multiple studies of the urban watershed, an area of land that separates waters flowing to the Missouri River, provided information to aid in the project's layout. A Nebraska Environmental Trust grant, Tax Increment Financing and a City of Omaha alliance combined to secure the additional financial assistance needed to complete The Atlas, a public-private partnership. Who stands to gain from this urban redevelopment project? The neighborhood, the community, Boys Town Lied Learning & Technology Center, Creighton University, the environment, the local economy and the residents of this remarkable hospital-turned-home.

### PAPILLION CREEK WATER RESOURCE RECOVERY FACILITY EMERGENCY FLOOD SERVICES

HDR for the City of Omaha

Category winner: Special Projects

March 15, 2019, after days of heavy precipitation fell upon frozen ground throughout the Omaha metropolitan area, the levees adjacent to the Papillion Creek Water Resource Recovery Facility (PCWRRF) overtopped, forcing plant workers to shut down this critical wastewater treatment facility and evacuate. Within hours, a majority of the facility was submerged in more than 8 feet of floodwater, rendering critical infrastructure unusable. Even before the floodwaters receded, the city and HDR worked collaboratively to determine time frames for restoration of full facility operations, and together developed a unique process to quickly implement task orders under the city's emergency procurement methods. The team faced extraordinary conditions on a highly complex site — including no access road, no power, raw sewage across the site and high river levels causing continued security and safety concerns at the facility. The team worked collaboratively to parti-



UNMC Rooftop Solar Photovoltaic Systems

LEFT: LAMP RYNEARSON; RIGHT: MORRISSEY ENGINEERING

tion each of the highly complex elements into more manageable task orders and work items. The solutions developed by the project team were cost-effective and allowed for competitive pricing, even though there was a critical shortage of construction workers in the region due to widespread flooding. Primary treatment and solids dewatering were achieved about 1 month after the flood event, with pre-flood treatment achieved about 2 months after the flood event. This was an extraordinary effort that took 24/7 dedication from the city and entire project team.

### UNL JOHNNY CARSON CENTER FOR EMERGING MEDIA ARTS AUDIO-VISUAL SYSTEMS

Morrissey Engineering for University of Nebraska-Lincoln

Category winner: Small projects

Morrissey Engineering was retained to provide audio-visual systems design and commissioning services for the 52,000-square-foot Johnny Carson Center for Emerging Media Arts. Morrissey helped define the audio-visual system needs and use cases through meetings with faculty as well as industry influencers and advisory

board members. The facility is designed to accommodate tomorrow's technology and adaptability is taken to a whole new level. Current and emerging technologies are used together to create audio-visual systems that move the needle of possibility and improve usability.

### UNMC ROOFTOP SOLAR PHOTOVOLTAIC SYSTEMS

Morrissey Engineering for the University of Nebraska Medical Center

Category winner: Energy

Morrissey Engineering evaluated existing conditions at UNMC's Omaha Campus and developed solar array concepts that demonstrate UNMC's commitment to be carbon-neutral by 2030. Morrissey Engineering followed project development with full design and construction administration for installation of nearly 1,500 solar panels atop three UNMC campus buildings. This project is the largest rooftop solar array in Nebraska and is supported by a partnership with UNMC's electric energy provider OPPD.

Compiled by the American Council of Engineering Companies-Nebraska

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# 2020 ENGINEERING EXCELLENCE AWARDS MERIT AWARDS

## COLUMBUS 3RD AND 18TH AVENUES VIADUCTS PROJECT: GRADE SEPARATION OF RAILROAD CORRIDOR

HDR for the City of Columbus

**Category:** Transportation

Columbus was founded in 1856 and grew because of the transcontinental railroad. As Columbus expanded, the city developed north and south of the railroad and conflicts and delays associated with at-grade crossings multiplied. The Columbus Viaducts Project culminates many years of discussion on ways to improve safety, reduce delays and improve access. Six at-grade crossings qualified for grade separation. The recently completed 3rd and 18th Avenue viaducts allow Columbus and the railroad to maintain their mutually beneficial relationship.

## LOWER PLATTE RIVER DROUGHT CONTINGENCY PLAN

HDR for Lower Platte River Consortium, which consists of the Lower Platte South Natural Resources District (NRD), Papio-Missouri River NRD, Lower Platte North NRD, Metropolitan Utilities District (MUD), Lincoln Water System (LWS) and Nebraska Department of Natural Resources (NeDNR).

**Category:** Studies/Research/Consulting

The Lower Platte River is a key water supply for more than 80% of Nebraska's

population, thousands of businesses and industries, and more than 2 million irrigated acres and support habitat for threatened and endangered species. Water supplies of the Lower Platte River can be highly variable and, according to studies, could even become more pronounced. The water utilities for Omaha and Lincoln, as well as numerous smaller communities, rely heavily upon flows to meet municipal and industrial demands, with minimum flows essential for maintaining flow-dependent well fields. Other impacted sectors include irrigated agriculture, recreation, and threatened and endangered species. The consortium was able to enhance water supply reliability, leverage existing infrastructure investments, facilitate water transfers during critical shortages, and improve the area's overall resiliency to droughts.

## METRO AREA TRAVEL IMPROVEMENT STUDY

HDR for Metropolitan Area Planning Agency/ Nebraska Department of Transportation

**Category:** Studies/Research/Consulting Engineering Services

Growth in the Omaha-Council Bluffs metro area has resulted in 31% more traffic delays over the last decade. In developing the first system-wide master plan in

nearly 35 years, the MTIS team evaluated a dozen transportation strategies that do not currently exist in the metro area. A \$7.4 billion investment over the next 20 years will decrease total vehicle hours 5%, decrease delays 39%, increase transit ridership 121% and increase jobs within a 15-minute transportation trip by 19%. The team also evaluated innovative funding approaches to handle revenue shortfalls of implementation.

## NEBRASKA DOT STATEWIDE TRUCK MODEL

HDR for Nebraska Department of Transportation

**Category:** Studies/Research/Consulting Engineering Services

An HDR-led team upgraded the data-driven Nebraska Statewide Truck Model to estimate current truck volumes in parts of the state where truck count data is not available and plan for trucks on the state highway system. This data-driven approach uses anonymized GPS trip traces from thousands of trucks a day as they travel across the state. This critical model can fill data gaps in a credible and cost-effective way. The truck model has already been used to assist the department on several projects and will continue to help NDOT plan for growth and state highway system changes.

## 1201 CASS COMMERCIAL OFFICE ACOUSTICS

IP Design Group (a division of Alvine Engineering) for Alvine and Associates

**Category:** Building/Technology Systems

In this project, innovation is at the center of an acoustical design to manage sound without taking away from the aesthetics of a space. Designing the acoustics to the strict WELL Building Standard posed a variety of challenges. One of the most difficult was an acoustically comfortable lobby with a view into the mechanical room. The result is a cost-effective custom installation in which both the background noise and reverberation times perform better than originally modeled. The true measure has been the general morale and productivity in the new office space, as well as the feedback from employees and guests alike, who say that the audio quality in the space is exceptional.

## LIVE NODO TECHNOLOGY INTEGRATION

IP Design Group (a division of Alvine Engineering) for Alvine and Associates

**Category:** Building/Technology Systems

Seamless integration was the theme for the technology design of the mixed-use Live

*Continued on page 10*

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Continued from page 9

NoDo project. The audiovisual systems, on full display in the office conference rooms, allow users to share information wirelessly across screens and videoconference platforms worldwide. Managed through a touch panel, the room caters to every skill level and is fully integrated with the lighting system. The security system is likewise integrated into the electronic access control system that serves both the office and residential areas. The commercial office space recently became the first Wired Certified Platinum property in Nebraska, and one of only a handful of Wired Certified properties in the region.

### LES OPERATIONS CENTER THERMAL ENERGY PLANT

Olsson for District Energy Corporation

**Category:** Building/Technology Systems

This new geothermal-based energy production plant was built for Lincoln Electric System's Lincoln Operations Center campus plus future adjacent customers. The project includes a thermal energy facility, geothermal well field, heating and cooling systems, underground utilities and prime power generation with associated underground fuel oil tanks. Using the latest technology, the project was completed on time and \$1.8 million under budget.

### SCHRAMM EDUCATION CENTER

HDR for the Nebraska Game and Parks Commission

**Category:** Building/Technology Systems

The \$7 million Schramm Education Center completes the first stage of the State of Nebraska's Venture Parks concept, a public-private partnership designed to attract new state park visitors. The state-of-the-art education center showcases eastern Nebraska's habitat through interactive displays and a classroom with a glass garage door that spills learning into the outdoors. The existing nature center and aquarium space includes six different exhibits on Nebraska's aquatic ecosystems, and a fully automated water recirculation system improves the health of the aquatic life on display. The existing 200-seat auditorium/theater was renovated into a

vibrant, interactive visitor space with multiple A/V attractions, fact-finding challenge stations, learning spaces and areas for group involvement. The new exhibits are 80% changeable and 20% permanent.

### CITY OF YORK WATER RECLAMATION FACILITY

HDR for the City of York

**Category:** Water/Wastewater

Based on numerous criteria, including overall life-cycle costs, the City of York decided to abandon its aging wastewater facilities for a new biological nutrient removal water reclamation facility several miles from the city. In 2011, the city began working collaboratively with HDR to evaluate options for expanded treatment for more restrictive, future permitted discharge limits. Although the stricter nutrient discharge limits are not expected to be regulated for at least another 10 years, the city chose to prepare for an advanced level of treatment. Not only are the technologies noteworthy, but their applications are exceptional. Biological nutrient removal will be required in the future and this facility serves as a model for other Nebraska communities.

### MISSOURI RIVER WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS PROJECT

Jacobs for the City of Omaha

**Category:** Water/Wastewater

The Missouri River Water Resource Recovery Facility and Combined Sewer Overflow Improvements Project was identified in a Combined Sewer Overflow Long-Term Control Plan for the City of Omaha. The city plan included improvements to allow for treatment of a higher flow rate of combined sewage during wet-weather events and separate treatment of high-strength industrial wastewater. The separate treatment of high-strength industrial wastewater from the South Omaha Industrial Area resulted in a significant reduction (about 26%) in E. coli loading discharged to the Missouri River by CSOs and the plant. The ability of the MRWRRF to accept, treat and disinfect higher flowrates during wet weather is expected to further reduce E. coli loading to the river by about 52%.

### DAKOTA CITY WASTEWATER TREATMENT FACILITY

JEO Consulting Group for City of Dakota City

**Category:** Water/Wastewater

The most impactful engineering projects use proven solutions to benefit entire communities. Dakota City, Nebraska, hired JEO Consulting Group in 2016 to study its wastewater treatment facility. It was facing continuous operational and maintenance issues, reaching the end of its useful life after nearly 40 years. Additionally, it sat next to a residential area. JEO identified a site south of town for a new wastewater treatment facility. The design makes operations and maintenance more efficient and safer and sets up the community for more 40 years of growth and improved quality of life. The old site now serves as a green space for the community.

### KEEP OMAHA MOVING: 168TH STREET-WEST DODGE ROAD TO WEST MAPLE ROAD

HDR for City of Omaha

**Category:** Transportation

Northwest Omaha is rapidly growing, adding high demand to major roadways like 168th Street, specifically between West Dodge and West Maple Roads. This area carried daily traffic beyond what's typical of a three-lane roadway and experienced peak-hour congestion at the Blondo intersection, as well as difficulties for vehicles turning on and off 168th. The development and opening of Flanagan Lake near 168th and Fort Streets added to the need to increase capacity and improve safety. In 2016, plans to transform this section into a four-lane divided roadway began, widening the road and accommodating turn lanes to relieve congestion. The initial design was intended to be completed over three construction seasons, with limited access through the section. The City and HDR determined a nine-month full closure would be the most efficient, safe and cost-effective route — decreasing the timeline from three construction seasons to one. HDR created Keep Omaha Moving — a strategic plan to communicate road closures and construction updates, as well as create an open dialogue between community members and the City. This effort is now used for all roadway communications, with regular updates readily available on KeepOmahaMoving.com.

### 150TH AND WEST DODGE INTERCHANGE

HGM Associates for Lamp Rynearson, Noddle Companies, Nebraska Department of Transportation, City of Omaha

**Category:** Transportation

The sale of the Boys Town Farm and DeMarco properties in west-central Omaha have created one of the largest infill development opportunities Nebraska has ever seen. The West Dodge-150th Street interchange is situated at the north gateway to the new development and would become the grand entrance from West Dodge, one of the most highly traveled corridors in the state. The existing interchange did not allow entrance and exiting for all traveling directions, so adding a westbound exit ramp was vital to the success of the development and required the same accelerated schedule as the rest of the project. Due to a combination of early coordination with reviewing agencies and contractors, and project input from agency staff members early and often, the project was completed within the defined schedule.

### U.S. HIGHWAY 30, SCHUYLER TO ROGERS, NEBRASKA

Schemmer Associates for Nebraska Department of Transportation

**Category:** Transportation

Schemmer was retained to provide preliminary design for the reconstruction of U.S. Highway 30 to DR-2 expressway standards. The project runs from .25 mile east of County Road 13 in Colfax County to .25 mile east of County Road 19 in Dodge County. The total length is about 6 miles. The new roadway includes two through lanes in each direction with 12-foot driving lanes, 10-foot outside shoulders, 5-foot inside shoulders and a 40-foot depressed median. The alignment parallels existing U.S. 30 on the north side for four miles, then shifts north around Rogers to minimize impacts to the town. The alignment ties back in with U.S. 30 east of Rogers.

Compiled by the American Council of Engineering Companies-Nebraska



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## 2020 NEBRASKA YOUNG PROFESSIONALS OF THE YEAR

## Putting their fingerprints on the city

By SCOTT STEWART

WORLD-HERALD CORRESPONDENT

Josh Palik of Felsburg Holt & Ullevig and Rob Vanderveen of Lamp Rynearson can add 2020 Young Professional of the Year to their resumes, thanks to the American Council of Engineering Companies of Nebraska. The ACEC award recognizes the accomplishments of Nebraska engineers age 35 and younger who have contributed to the profession and have made a positive community impact. Here, Palik and Vanderveen discuss high points of their career choice.

## JOSH PALIK

Felsburg Holt &amp; Ullevig

Josh Palik is a transportation engineer and project manager with Felsburg Holt & Ullevig in Omaha. He joined the firm three years ago.

Most of his 14-year career was been focused on transportation engineering, working on roadway design projects that make life better for the traveling public. Most notably, he served as lead engineer on the City of Lincoln's 14th Street and Old Cheney Road Improvement Project.

"This technically challenging and politically charged project pushed me to grow in unexpected ways," Palik said. "Because of high public interest, I was asked to give dozens of project presentations. I found that educating the community about the value of engineering and its ability to change a situation for the better really energized me."

Other award-winning project work includes Sarpy County's Giles Road widening from 144th to 156th Streets, as well as the City of Omaha's 42nd and Q Streets roundabout design and 144th Street reconstruction from West Dodge Road to Eagle Run Drive.

Palik has served in numerous industry roles, including chapter president of the Eastern Nebraska National Society of Professional Engineers, and is active with ACEC-NE and the Lincoln-Omaha-Council Bluffs Association of Transportation Engineers.

Palik also volunteers with MathCounts and Engineering Adventures at the Salvation Army Kroc Center in Omaha.

**Q. How would you describe your job?**

A. The interesting part when you're at this point of your engineering career is that you still do design while overseeing a lot of the project as a whole. So, it involves engineering,



Josh Palik

but it also involves the business side of engineering, too, and the client management side.

**Q. What's been your favorite project?**

A. One that's been in the news a lot in Lincoln — the 14th Street and Old Cheney Road project. As lead design engineer, I oversaw five disciplines of engineering. It definitely is one project that'll stick with me for life.

**Q. Why did you go into engineering?**

A. Growing up, I thought I was going to be an architect. I realized engineering offered the opportunity to work with math and science and do something for others.

**Q. When did you realize it was the right career?**

A. I was a construction intern, and I was doing everything from survey staking to sitting in a job trailer running rock samples through strainers. I was thinking, 'Man, this is



Rob Vanderveen

somewhat neat, but there has got to be more to it.' We opened two new lanes over a bridge reconstruction on Interstate 80. Then I did a lot of smaller community projects. Seeing how happy people were with the improvements really stuck with me.

**Q. What do you see as the biggest issue facing the profession?**

A. Funding. I made a firm change during the downturn of the economy. I joined FHU at a time when there wasn't a lot of work out there (for the profession). If there's not a consistent funding stream, it's going to take a toll on our profession long term.

**Q. What advice do you have for up-and-coming engineers?**

A. Listen twice as much as you speak. The more you listen, the better you can understand and the better you will communicate. There are computers and technology where you

can do a lot of the design but we still need to make sure that we understand what, why and how we are doing.

## ROB VANDERVEEN

Lamp Rynearson

Rob Vanderveen has been a senior project engineer for two years at Lamp Rynearson in Omaha. He enjoys working on a mix of projects such as housing, schools, site plans and public improvements, and the impact they have on the community. Noteworthy clients include Omaha Public Schools, State of Nebraska, City of Omaha and land developers.

A community volunteer committed to numerous civic and philanthropic organizations, Vanderveen is co-founder of Hope Dwells, a not-for-profit that provides resources and education on homeownership to refugees. He has volunteered for Upward Bound, Boys Town, Habitat for Humanity, Public Park Cleanup, City of Omaha Flood Cleanup, Keep Omaha Beautiful, Yellow Door, Bridges Humanitarian Initiative and Helping Hands Refugee Organization.

With an eight-year career in engineering, Vanderveen has volunteered his energy and time — both within the firm and through civic and industry organizations.

**Q. When did you realize engineering was the right career for you?**

A. Seeing something happen out of nothing — that's what keeps me working here and enjoying what I do. You can drive around your city, and you can see your fingerprints all over it.

**Q. What's the biggest issue facing the profession?**

A. Everyone thinks they're a civil engineer. We're running into issues like lawsuits, where architects have designed something that is really in civil's court to design, and people are designing outside of their practice. We also have contractors who like to run with a design. I'll have spent hours modeling things, designing it in accordance with all of our regulations and meeting all the standards we want to meet, and we'll hand it over to a contractor, and they'll tweak things.

**Q. What advice do you have for up-and-coming engineers?**

A. Find a place you like to work. This is my first job out of college, and I don't plan on leaving anytime soon. There are really great people here.



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